Appendix A

Memorandum of Understanding for Coordination of Water Resources Planning

MEMORANDUM OF UNDERSTANDING
among the
PAJARO VALLEY WATER MANAGEMENT AGENCY,
SAN BENITO COUNTY WATER DISTRICT
and
SANTA CLARA VALLEY WATER DISTRICT
for
COORDINATION OF WATER RESOURCES PLANNING

This Memorandum of Understanding (MOU) dated October 7, 2004 is entered into among the Pajaro Valley Water Management Agency (PVWMA), the San Benito County Water District (SBCWD) and the Santa Clara Valley Water District (SCVWD) for the purpose of coordinating water resources planning activities undertaken by the three water districts.

WHEREAS, the PVWMA is a state-chartered water management district formed to efficiently and economically manage existing and supplemental water supplies in order to prevent further increase in, and to accomplish continuing reduction of, long-term overdraft and to provide and insure sufficient water supplies for present and anticipated needs within its boundaries; and

WHEREAS, the SBCWD, a water conservation and flood control district, preserves the economic and environmental wealth and well-being of San Benito County through the control, management and conservation of waters and the provision of water services in a practical, cost-effective and responsible manner; and

WHEREAS, the SCVWD manages groundwater and wholesale drinking water resources, provides stewardship for the county's vast watersheds and promotes flood protection for Santa Clara County's 1.7 million residents to achieve a healthy, safe, and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective, and environmentally-sensitive manner; and

WHEREAS, it is in the interests of the signatory Parties and the region served by the Parties that these water resources are responsibly managed and conserved to the extent feasible; and

WHEREAS, the Parties wish to coordinate their long term water supply planning efforts to ensure that the water supply benefits of conservation, water recycling, groundwater management and other water supply initiatives undertaken by each of the Parties on behalf of their constituents inure primarily to the party making the financial investment to create such programs and contribute to meeting the needs of the region; and

WHEREAS, the Parties anticipate the potential need for future agreements on specific projects or programs and with other affected agencies to further coordinate long term water supply planning;

NOW, THEREFORE, it is mutually understood and agreed as follows:

SECTION 1:
AUTHORITY OF PARTIES

1.1 The PVWMA is a state-chartered special purpose district formed under State Law pursuant to the Pajaro Valley Water Management Agency Act.

1.2 The SBCWD is a special purpose district formed under State Law pursuant to the San Benito County Water District Act.

1.3 The SCVWD is a special purpose district formed under State Law pursuant to the Santa Clara Valley Water District Act.

SECTION 2:
DEFINITIONS

The abbreviations and capitalized words and phrases used in this MOU shall have the following meanings:

2.1 **"PVWMA"** means the Pajaro Valley Water Management Agency.

2.2 **"SBCWD"** means the San Benito County Water District.

2.3 **"SCVWD"** means the Santa Clara Valley Water District.

2.4 **"Parties"** means the PVWMA, SBCWD and SCVWD.

SECTION 3:
PURPOSES AND GOALS OF THIS MOU

3.1 **Purposes and Goals:**

This MOU is to memorialize the intent of the parties to coordinate and share information concerning water supply planning programs and projects and other information, and to improve and maintain overall communication among the parties involved. It is anticipated that coordination and information sharing among the three parties will assist the agencies in achieving their respective missions in a cost-effective and environmentally responsive manner and contribute to the overall well-being of the region. Coordination and information sharing will focus on the following issue areas of water supply planning that are of common interest:

3.2 **Common Issues and Interest:**

3.2.1 Water supply programs and projects that may provide mutual benefits in improving water supply reliability and/or water quality.

3.2.2 Coordination of near-term and long-term water supply planning activities.

3.2.3 Development of regional approaches to problem-solving and issues resolution as well as to further common interests.

SECTION 4:
JOINT AGENCY PLANNING FOR PROJECTS AND PROGRAMS

4.1 **Projects and Programs Covered by this MOU:** It is the intent of PVWMA, SBCWD and the SCVWD that they coordinate and collaborate to address the common issues identified. The parties may develop and implement projects and programs individually or jointly in groupings of two or three, or enter into additional agreements in furthering those goals. Applicable projects and programs include, but are not limited to, the following:

4.1.1 Water conservation programs and other demand management programs.

4.1.2 Water recycling, desalination and groundwater basin management programs and projects.

4.1.3 Water banking, conjunctive use and transfer arrangements.

4.1.4 Storage development to improve system reliability, efficiencies, and flexibility.

4.1.5 Project and program planning and development to solicit external funding.

4.1.6 Other meritorious projects or programs consistent with the purposes of this MOU.

4.2 **Communication and Coordination:** It is the intent of the Parties to meet on at least a quarterly basis in order to carry out the purposes and goals of this MOU.

SECTION 5:
GENERAL PROVISIONS GOVERNING MOU

5.1 **Term:** The term of this MOU is indefinite. The MOU may be terminated by any of the Parties by written notice at least 45 days prior to the requested termination date.

5.2 **Construction of Terms:** This MOU is for the sole benefit of the Parties and shall not be construed as granting rights to any person other than the Parties or imposing obligations on a Party to any person other than another Party.

5.3 **Good Faith:** Each Party shall use its best efforts and work wholeheartedly and in good faith for the expeditious completion of the objectives of this MOU and the satisfactory performance of its terms.

5.4 **Governing Law:** This MOU is made under and shall be governed by the laws of the State of California.

5.5 **Rights of the Parties and Constituencies:** This MOU does not contemplate the parties taking any action that would:

5.5.1 Adversely affect the rights of any of the parties; or

5.5.2 Adversely affect the customers or constituencies of any of the parties.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding as of the day and year indicated on the first page of this MOU.

PAJARO VALLEY WATER MANAGEMENT AGENCY

By: Chris McNeish Date: 9/16/04
Charles McNeish, General Manager

APPROVED AS TO FORM:
By: Date: 9/15/04
General Counsel

SAN BENITO COUNTY WATER DISTRICT

By: Date: 9/13/04
John S. Gregg, District Manager/Engineer

APPROVED AS TO FORM:
By: Date: 9/13/04
District Counsel

SANTA CLARA VALLEY WATER DISTRICT

By: Date: 10/7/04
Stan Williams, Chief Executive Officer

APPROVED AS TO FORM:
By: Emily J. Cotter Date: October 1, 2004
Asst. General Counsel

Appendix B

Letters of Support

Juntos, Planeando Nuestro Futuro • Together, Planning Our Future

www.actionpajarovalley.org

June 30, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed Integrated Regional Water Management Plan-Implementation Grant Application

Dear Mr. McNiesh:

Action Pajaro Valley would like to extend its support of the Pajaro River Watershed Integrated Regional Water Management Implementation grant proposals and overall IRWMP planning effort. We recognize the value and importance of regional coordination and integrated planning and look forward to continuing our collaborative efforts in the process as we have a vested interest in seeing implementation of this water management approach.

The Pajaro River Watershed Integrated Regional Water Management Planning (IRWMP) process has completed its initial phase of work. In the draft IRWMP document, three immediate term and integrated programs have been identified for implementation based on the completed extensive studies, multiple benefits achieved by the programs, and readiness to proceed.

The Pajaro River Watershed strategy areas are:

- Water Supply
- Flood Management
- Non-point Source Water Quality

Action Pajaro Valley staff is in agreement and support of the implementation projects outlined in the grant. Action Pajaro Valley, a non-profit regional land use mediation organization, has committed considerable time and resources in convening the Pajaro River Watershed Integrated Regional Water Management steering committee, of which we are a member.

Action Pajaro Valley is actively convening stakeholders and science experts in the critical issue of the Pajaro River Levee Reconstruction Project. Some of the outcomes of the current stakeholder process are; coordination with Army Corps of Engineers, the local sponsors & the Resource Agencies, agreement and support for the levee bench excavation project, developing a work plan for an adaptive management maintenance program and the critical component of organizing a local financing and governance program.

Action Pajaro Valley remains committed to continuing our Pajaro River Task Force and Technical Stream Team which is leading a community wide stakeholder effort to find local consensus on the Pajaro River Flood Protection Levee Reconstruction Project. Funding through this grant program will greatly improve the chances that the community will achieve a permitted and locally funded levee project.

The bench excavation project, stakeholder involvement and the maintenance plan, and the eventual Pajaro River Levee Reconstruction Project are critical to protect the Pajaro Valley from being vulnerable to a considerable threat of catastrophic flooding in the urban and agricultural areas as well as the risk of high sediment loads flowing through the already impaired Pajaro River which drains to the Monterey Bay National Marine Sanctuary.

Action Pajaro Valley has also been engaged in watershed planning through our Agriculture/Water Supply Committee that brought together stakeholders from throughout the Pajaro Valley. The culmination of 18 months of analysis and dialogue among many representatives with differing viewpoints focused on how to solve the overdraft and seawater intrusion problem in the Pajaro Valley water basin. One of the outcomes was to encourage the PVWMA to implement ways to distribute local water within the watershed. The water recycling project and coastal distribution system are important projects for our region to address saltwater intrusion and maintain agricultural viability in the Valley.

As a regional planning organization, Action Pajaro Valley is proud to be a collaborative partner in the goal to implement key objectives for flood control, water supply and water quality and is committed to regional planning and implementation of projects that benefit this treasured place called the Pajaro Valley.

We appreciate the efforts to include us in the process and the look forward to continued collaboration in the IRWMP process. Please keep us informed of stakeholder workshops or other opportunities to participate. I can be reached by email at: lisa@actionpajarovalley.org or via phone at 831 786 8536.

Sincerely,

Lisa Dobbins

Lisa Dobbins
Executive Director

AROMAS WATER DISTRICT

P. O. Box 388
Aromas, CA 95004

July 7, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed Integrated Regional Water Management Plan-Implementation Grant Application

Dear Mr. McNiesh:

The Aromas Water District would like to extend its support of the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals. We recognize the value and importance of regional coordination and integrated planning and look forward to seeing implementation of this water management approach.

The Pajaro River Watershed Integrated Regional Water Management Planning (IRWMP) process has completed its initial phase of work. In the draft IRWMP document, three immediate term and integrated programs have been identified for implementation based on the completed extensive studies, multiple benefits achieved by the programs, and readiness to proceed. The water strategy areas are: Water Supply, Flood Management, and NPS Water Quality.

The Aromas Water District Wellhead Treatment Project is of importance to the District for the implementation of our project to improve water quality in the community. The construction of this treatment facility will address the issues with iron and manganese associated with two of the Aromas Water District wells, the San Juan Road Well and the Pleasant Acres Well. This project reduces potential demand for CVP water as an alternate supply that we could pursue.

We appreciate the efforts to include us in the process and the look forward to continued collaboration in the IRWMP process. Please keep us informed of stakeholder workshops or other opportunities to participate.

Sincerely,

Larry Cain, General Manager
Aromas Water District

Cc: Justine Wolcott, DPW Santa Cruz County
Lisa Dobbins, Action Pajaro Valley

Phone (831) 726-3155 Fax (831) 726-3951

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0028
(916) 319-2028
FAX: (916) 319-2128

DISTRICT OFFICE
100 WEST ALISAL ST., SUITE 134
SALINAS, CA 93901
(831) 759-8676
FAX: (831) 759-2961

Assembly
California Legislature

SIMÓN SALINAS
ASSEMBLYMEMBER, TWENTY-EIGHTH DISTRICT

CHAIR
LOCAL GOVERNMENT
COMMITTEES
AGRICULTURE
HOUSING & COMMUNITY DEVELOPMENT
TRANSPORTATION

July 7, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

RE: Pajaro River Watershed Integrated Regional Water Management Plan-Implementation Grant Application

Dear Mr. McNiesh:

I would like to extend my support of the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals. Regional coordination and integrated planning are essential to successful implementation of water management solutions for the residents of my District, and particularly my constituents in the Watsonville-Pajaro communities. The collaborative includes an extensive team of stakeholders working in the watershed, including the Pajaro Valley Water Management Agency, the Santa Clara Valley Water District, and the San Benito County Water District. These organizations, acting as lead for all stakeholders, have collaborated in the development of the draft Pajaro Watershed Integrated Regional Water Management Plan (IRWMP).

My constituents in the Watsonville-Pajaro communities are particularly interested in the area of flood management, which is critical to the safety and economic viability of those communities. Furthermore, this project is ready for implementation in the lower Pajaro River.

I also support this integrated regional application because it addresses the integrated water supply needs of the Pajaro Valley Water Management Agency (PVWMA). The elements related to tertiary upgrades at the Watsonville Water Treatment Plant and the PVMA's Coastal Distribution System are greatly needed to guarantee a sustainable water supply for coastal agriculture, the number one industry in the region.

Lastly, proposed solutions to Pajaro River flooding, particularly in the lower Pajaro River, have been very contentious over the years. This IRWMP would help resolve these

conflicts as it would support our local agencies' leadership and direction in addressing these issues effectively. Programs seeking to address the multiple issues of the Pajaro River watershed must address aspects of river form and function, performance based standards for maintenance, sediment management, upper watershed stormwater detention, and water quality features.

The projects included in this proposal are critical to developing permanent and effective solutions to flood management and water supply components in the Pajaro River watershed. Therefore, I urge funding of the Proposition 50 implementation grant for this region.

Sincerely,

Simón Salinas
Assemblymember, 28th District

SS/jn

Coastal Conservancy

June 30, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed Integrated Regional Water Management Plan-Implementation Grant Application

Dear Mr. McNiesh:

The State Coastal Conservancy strongly supports the grant proposal for implementation of the Pajaro River Watershed Integrated Regional Water Management Plan. The multitude of issues and jurisdictions involved in management of the Pajaro River makes regional coordination and integration of programs an absolute imperative. The Conservancy looks forward to continuing to work with local agencies and community organizations to help implement this water management plan.

Several components of the IRWMP will further the goals of the Conservancy and will build off efforts previously funded by the Conservancy.

- The Conservancy has been involved for several years with the development of a flood control program for the Pajaro, that will not only provide flood protection, but also address enhancement of aquatic and riparian habitat, potential impacts to coastal agriculture, and recreation opportunities. In 2001, the Conservancy provided a $250,000 grant to begin a community consensus building process to ensure that the Pajaro River Flood Control Project addressed community concerns and needs. The flood protection components of this program will complement the Conservancy's goals and extend the consensus process.

- The Conservancy currently has a grant to the Monterey Bay Sanctuary Foundation that includes funding for agricultural workshops to help farmers recognize existing water quality problems on their farms and identify appropriate management practices to address them. The inclusion in this IRWMP proposal for funding to implement demonstration agricultural runoff treatment projects will directly further the Conservancy's efforts.

- The Conservancy has also been involved in a statewide effort to improve passage for anadromous fish on coastal streams. The Corralitos Creek-Fish Ladder Improvement Project included in the proposal will further this statewide effort.

1330 Broadway, 11*th* Floor
Oakland, California 94612-2530
510·286·1015 *Fax*: 510·286·0470

We appreciate the efforts to include us in the process and the look forward to continued collaboration in the IRWMP process. Please keep us informed of stakeholder workshops or other opportunities to participate.

Sincerely,

Trish Chapman
Project Manager

Cc: Justine Wolcott, DPW Santa Cruz County
Lisa Dobbins, Action Pajaro Valley

September 21, 2006

Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP)

We have a unique opportunity to make proactive lasting policies and decisions that will sensitize and educate the public about the importance of the Pajaro River Watershed on both public and private lands and at the same time enhance our role as custodians of the riparian environment. These policies and decisions hopefully will provide for the protection, preservation, and restoration of the:

- **native California plants within the watershed.**
- **100-year high water mark for the Bolsa de San Felipe wetland basin and flood plain with associated wetlands and open space areas along the entire Pajaro River.**
- **native terrestrial and aquatic animal species along the entire Pajaro River and the entire watershed.**
- **native riparian forest including its expansion along the entire Pajaro River by replanting the riparian forests that have been removed and degraded over the past 150-years. The riparian forests provide the required critical habitat for the terrestrial and aquatic species, including the endangered Steelhead and amphibians. The riparian forests provide a filtration and absorption process of the waters, add nutrients to the waters, and provide upper river flood control by adding natural vegetation to the tributaries, streams, and to the river to slow the flow. The riparian forest helps provide the refilling of the groundwater aquifers and provide flood protection naturally for the lower river. A greater width of the riparian forest must be reestablished to provide natural habitats and an ecological buffer zone that will be able to sustain itself over the next 150 years.**

We respectfully request that these protections be adequately provided for throughout the entire management plan. Specifically addressing goals number 1., 2., 3., 4., and 5 of the Monterey Bay IRWMP as stated on page 21, and in section 1.2.6 Ecological Processes/Environmental Resources starting on page 45 of the May 2005 plan.

Sincerely,

Ken Bone Lana Bone

Ken and Lana Bone

Stakeholder Identification: Deeded easement for Southern Diablo Mountain Range runoff through our property into the Llagas groundwater sub-basin

3290 Godfrey Ave.
Gilroy, CA 95020
408-848-1036
fishbone1@earthlink.net

November 30, 2006

Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP) November 30, 2006 Stakeholder Workshop

RE: Letter of Shareholder Support

"The mission of the Pajaro River Watershed IRWMP is to preserve the economic and environmental wealth and well-being for the Pajaro River watershed through watershed stewardship and comprehensive management of water resources in a practical. Cost effective, and responsible manner."

Keeping in mind the above stated missio0n, we have a unique opportunity to make proactive long lasting policies and decisions that will sensitize and educate the public about the importance of the Pajaro River Watershed on both public and private lands and at the same time enhance our role as custodians of the entire riparian environment. These policies and decisions will provide for the protection, preservation, and restoration of the:

- **native Californian plants within the watershed.**
- **100-year high water mark for the Bolsa de San Felipe wetland basin (Soap Lake) and flood plain with associated wetlands and open space natural habitat areas along the entire Pajaro River.**
- **native terrestrial and aquatic animal species along the entire Pajaro River and within the entire Pajaro River watershed.**
- **native riparian forest including its reclamation and expansion along the entire Pajaro River by replanting the riparian forests that have been removed and degraded over the past 150-years.**
    - **The riparian forests provide the required critical habitat for the native terrestrial and aquatic species, including the endangered Steelhead, Red Legged Frog, and numerous amphibian species.**
    - **The riparian forests provide vegetation for the filtration and absorption process of the waters, add nutrients to the waters, and provide upper river flood control by adding natural vegetation to the tributaries, streams, and to the river to slow the flow.**
    - **This natural riparian vegetation provides habitat and should <u>not</u> be periodically removed from the river or it's tributaries. The vegetation materials should be allowed to naturally degrade over time adding to the nutrients and providing habitat in the river and it's tributaries.**

- **The riparian forest and it's vegetation helps provide the refilling of the groundwater aquifers and provide flood protection naturally for the lower river by slowing the river and slowing it's tributaries.**
- **A greater width of 100 yards of the riparian forest must be reestablished to provide natural habitats and an ecological buffer zone that will be able to sustain itself over the next 150 years.**
- **The ecological riparian buffer zone can be reestablished in part by supervised volunteers and ecological organizations and can help control livestock access to the river and it's tributaries to prevent further erosion, contamination, and pollution.**

The IRWMP must strongly support and provide a clear structure with established procedures to accept, encourage, and enhance agricultural and open space mitigation property and conservation easements to the watershed.

We respectfully request that these riparian, habitat, and ecological protections be emphasized and strongly provided for throughout the entire management plan. These recommendations specifically address the goals in the 9/21/06 revised draft Mission Goals and Objectives (page 1 of 2) Water Supply Goal:, Objectives:, and Water Quality Goal: Objectives:, (page 2 of 2) Flood Protection Goal:, Objectives:, (page 2 of 2) Environmental Protection and Enhancement Goal:, Objectives:, and number 1, 2, 3, 4, and 5 of the 2005 Monterey Bay IRWMP as stated on page 21, and in section 1.2.6 Ecological Processes/Environmental Resources starting on page 45 of the May 2005 draft plan and September 21, 2006 draft plan revisions; Water Management Strategies 1.41, page 70, Initial Prioritization and Recommendations; 1.7, page 84, Impacts and Benefits; and Appendices B – Pajaro River Watershed IRWMP Support Letters

With these suggested recommendations and modifications, we remain strongly in support of the IRWMP.

Respectfully,

Ken and Lana Bone

Stakeholder Identification: Deeded easement for Southern Diablo Mountain Range runoff through our unincorporated property into the Llagas groundwater sub-basin

Ken and Lana Bone
3290 Godfrey Ave.
Gilroy, CA 95020
408-848-1036
fishbone1@earthlink.net

February 15, 2007

Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP) February 15, 2007 Stakeholder Workshop

RE: Letter of shareholder IRWMP support reemphasizing our November 30, 2006 public input

We strongly support … "The mission of the Pajaro River Watershed IRWMP is to preserve the economic and environmental wealth and well-being for the Pajaro River watershed through watershed stewardship and comprehensive management of water resources in a practical. Cost effective, and responsible manner."

Keeping in mind the above stated mission, the IRWMP has a unique opportunity to make proactive long lasting policies and decisions that will sensitize and educate the public about the importance of the Pajaro River Watershed on both public and private lands and at the same time enhance the role as custodians of the entire Pajaro River riparian environment. These policies and decisions will provide for the protection, preservation, and restoration of the:

- **native Californian plants within the watershed.**
- **100-year high water mark for the Bolsa de San Felipe wetland basin (Soap Lake) and floodplain with associated wetlands and open space natural habitat areas along the entire Pajaro River.**
- **native terrestrial and aquatic animal species along the entire Pajaro River and within the entire Pajaro River watershed.**
- **native riparian forest including its reclamation and expansion along the entire Pajaro River by replanting the riparian forests that have been removed and degraded over the past 150-years, including the riparian forest that has been removed from the last 12 miles of the Pajaro River.**
    - **The riparian forests provide the required critical habitat for the native terrestrial and aquatic species, including the endangered Steelhead, Red Legged Frog, and numerous amphibian species.**
    - **The riparian forests provide vegetation for the filtration and absorption and transpiration process of the waters, add nutrients to the waters, and provide upper river flood control by adding natural vegetation to the tributaries, streams, and to the river to slow the flow.**

- **This natural riparian vegetation provides habitat and should <u>not</u> be periodically removed from the river, the riverbanks, or it's tributaries. The vegetation materials should be allowed to naturally degrade over time adding to the nutrients and providing required habitat in the river and it's tributaries.**

- **The riparian forest and it's vegetation helps slow the flow, provide the refilling of the groundwater aquifers, and provide flood protection naturally for the lower river by slowing the river and slowing it's tributaries during floods.**
- **A greater width of 100 yards of the riparian forest must be reestablished, replanted, and protected to provide natural habitats and an ecological buffer zone that will be able to sustain itself over the next 150 years.**
- **The ecological riparian buffer zone can be reestablished in part by supervised volunteers and ecological organizations and can help control livestock access to the river and it's tributaries to prevent further erosion, contamination, and pollution.**

The IRWMP must strongly support and provide a clear structure with established procedures to accept, encourage, and enhance agricultural and open space mitigation property and conservation easements to the Pajaro River Watershed, especially easements along the waterways to rebuild the riparian forests.

We respectfully request that these riparian, habitat, and ecological protections be emphasized and strongly provided for throughout the entire management plan. These recommendations specifically address the goals in the 9/21/06 revised draft Mission Goals and Objectives (page 1 of 2) <u>Water Supply Goal</u>: Objectives: and <u>Water Quality Goal</u>; Objectives: (page 2 of 2) <u>Flood Protection Goal</u>; Objectives: (page 2 of 2) <u>Environmental Protection and Enhancement Goal</u>; Objectives: and number 1, 2, 3, 4, and 5 of the 2005 Monterey Bay IRWMP as stated on page 21, and in section 1.2.6 <u>Ecological Processes/Environmental Resources</u> starting on page 45 of the May 2005 draft plan and September 21, 2006 draft plan revisions; Water Management Strategies 1.41, page 70, Initial Prioritization and Recommendations; 1.7, page 84, Impacts and Benefits; and Appendices B – Pajaro River Watershed IRWMP Support Letters

With these suggested recommendations, modifications, and ecological planning we remain strongly in support of the IRWMP.

Respectfully,

Ken and Lana Bone

Stakeholder Identification: Deeded easement for Southern Diablo Mountain Range runoff through our unincorporated Santa Clara County property into the Llagas groundwater sub-basin, and property owners in Santa Cruz County impacted by the Pajaro River runoff

Ken and Lana Bone
3290 Godfrey Ave.
Gilroy, CA 95020
408-848-1036
fishbone1@earthlink.net

MONTEREY COUNTY

WATER RESOURCES AGENCY

PO BOX 930
SALINAS, CA 93902
(831) 755-4860
FAX (831) 424-7935

CURTIS V. WEEKS
GENERAL MANAGER

STREET ADDRESS
893 BLANCO CIRCLE
SALINAS, CA 93901-4455

June 30, 2005

State of California Department of Water Resources
P. O. Box 942836
Sacramento, CA 95814

State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

RE: Support for Pajaro Watershed Integrated Regional Water Management Proposition 50, Project Implementation Grant Application

Proposal Reviewers,

The Monterey County Water Resources Agency is writing to support the Pajaro Watershed Integrated Regional Water Management Project Implementation Grant application under the Proposition 50 Chapter 8 program. The water management group for this Watershed Planning Collaborative includes the Pajaro Valley Water Management Agency, the Santa Clara Valley Water District, and the San Benito County Water District. Our Agency and Monterey County have been active members of the Pajaro River Watershed Flood Prevention Authority (FPA), have collaborated closely in preparation of the grant application, and have led a variety of Monterey Bay area efforts to stimulate integrated regional water management planning for the Pajaro River watershed and other watersheds linked in the Monterey Bay area.

In this grant request packet, we are particularly supportive of the goal area of Flood Management, which we believe is both critical and ready for implementation in the lower Pajaro River. We have been actively participating on the Executive Committee for the lower Pajaro Levee Re-Construction Project (along with Santa Cruz County and the U.S. Army Corps of Engineers), the Pajaro River Watershed Flood Prevention Authority (FPA), and have been a significant contributor to the consensus building efforts of Action Pajaro Valley.

Our County as a project sponsor has continually stressed the need for integrated flood management actions throughout the watershed. We are therefore also very supportive of furthering the efforts of the Soap Lake Preservation Project which was initially developed through the FPA and is also contained within this regional application. Our staff has continually stressed that the large re-construction project including bench excavation must address aspects of river form and function, performance based standards for maintenance, sediment management, upper watershed stormwater detention, and water quality features in the final project design.

Given the Corps of Engineers lack of direct authorization for such project enhancements outside of the project area of the lower river, our water agency and county staffs have worked diligently with other programs such as the IRWMP to achieve a multi-objective flood and water supply management approach throughout the Pajaro River watershed.

In addition, we are supportive of this integrated regional application because it addresses integrated water supply needs of the Pajaro Valley Water Management Agency (PVWMA). A small portion of Monterey County is within that Agency's jurisdiction: their efforts complement Monterey County's efforts to stop seawater intrusion and build a long-term, high quality water supply for an important part of the greater Monterey Bay area.

Our Agency has worked hard to build stronger communication and collaboration in the Greater Monterey Bay area in water resources management and planning. We are supportive of and a stakeholder in the Pajaro River Watershed Proposition 50 Chapter 8 Implementation Grant application, as we are in the Monterey Peninsula Water Management District's Chapter 8 applications. We are also an applicant for a Salinas Valley Chapter 8 Implementation Grant. Our three agencies have collaborated closely in defining the regions appropriate for Proposition 50 and in identifying individual project components which are high priority, complementary and not competitive.

Sincerely,

by William V. Phillips

Curtis V. Weeks,
General Manager

Cc: Charles McNiesh, General Manager, Pajaro Valley Water Management District
David Berger, General Manager, Monterey Peninsula Water Management District

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

California Regional Office
201 Mission Street Fourth Floor
San Francisco, CA 94105

tel [415] 777.0487
fax [415] 777.0244
[415] 777.0772
nature.org

July 1, 2005

Mr. Charles McNiesh
Pájaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

RE: Support for the Pájaro River Watershed Integrated Regional Water Management Implementation Grant

Dear Mr. McNiesh,

This letter is to confirm The Nature Conservancy's support of your agency's application for the Integrated Regional Water Management Implementation grant.

The Nature Conservancy has spent the last six years working to develop a focused Upper Pájaro River Conservation Area, roughly the same shape as your application's "Soap Lake" floodplain. This area offers tremendous opportunities, not only for flood management, but for the protection and improvement of wildlife habitat along the Pájaro and its tributaries.

We strongly support your efforts through this application to further the Soap Lake Floodplain Preservation Project, a goal of the four counties and many of the water agencies within the watershed. This project will help to permanently protect the only remaining wildlife movement corridor in the Santa Clara Valley linking the Mount Hamilton Range to the Santa Cruz Mountains

We also support the Upper Pájaro Ground Water Study and Restoration Feasibility Assessment & Biological Assessment. The San Benito County Water District has done significant work to develop a Groundwater Management Plan for this area. This data will help further our understanding of the dynamics of the groundwater and its relationship to critical habitat areas within this project area, and how wetland and habitat restoration projects could be integrated into future water storage projects.

This application process has furthered a public discussion of the many goals of this area and the Pájaro Valley Water Management Agency is to be commended for facilitating these discussions. The Nature Conservancy strong encourages the California State Water Resources Control Board and the Department of water Resourced to consider these grant

proposals. And we look forward to continuing to work with PVWMA and the other organizations involved in this area in the future.

Respectfully,

Lloyd Wagstaff
Mt. Hamilton Project Director

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-6528

June 29, 2005

In Response refer to:
151422SWR01SR355:JEA

Mr. Charlie McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, California 95076

Dear Mr. McNiesh:

NOAA's National Marine Fisheries Service (NMFS) is in support of the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals. We recognize the value and importance of regional coordination and integrated planning efforts. The Pajaro River Watershed Integrated Regional Water Management Planning (IRWMP) process has completed its initial phase of work.

Three immediate term and integrated programs have been identified for implementation based on extensive studies, benefits achieved, and readiness to proceed. The water strategy areas are: Water Supply, Flood Management, and NPS Water Quality. NMFS is supportive of the strategy area of Flood Management. While the other strategy areas are important, the Flood Management area is an area we have been participating in through the Executive Committee for the Lower Pajaro Levee Re-Construction Project, the Technical Stream Team sponsored by Action Pajaro Valley, and as a permitting agency. NMFS, along with the other resource agencies, have continually stressed this large project must integrate river geomorphology, performance based river corridor maintenance, eco-system restoration, sediment management, upper watershed stormwater detention, and water quality features in the project design.

The Pajaro River watershed lies within the boundaries of the South-Central California Coast (SCCC) steelhead (*Oncorhynchus mykiss*) Evolutionarily Significant Unit (ESU). Steelhead within this ESU were listed as a threatened species on August 18, 1997 (62 FR 43937, 69 FR 33102[1]), pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.).* Restoring the Pajaro River is critical to ensuring steelhead do not become extinct on the central coast. By combining flood protection features with water quality and eco-system

1 NMFS has completed comprehensive status reviews and has proposed listing determinations for 27 West Coast salmon ESUs; the proposed listing determination for S-CCC ESU steelhead is "threatened".

restoration, flood protection project can contribute to restoration of this critical resource. Given the Corps' limited authorization for such project enhancements, we have encouraged the sponsors to work with other programs such as the IRWMP to achieve a multi-objective approach.

If you have any questions concerning the above comments please contact Ms. Joyce Ambrosius at (707) 575-6064 or joyce.ambrosius@noaa.gov.

Sincerely,

Dick Butler
Supervisor, Protected Resources Division
Santa Rosa Field Office

cc: Scott Hill, NMFS
Lester Snow, DWR, Sacramento
Arthur Baggett, Jr., SWRCB, Sacramento
Lisa Dobbins, Action Pajaro
A.L. Riley, RWQCB, Oakland
Rob Floerke, CDFG, Yountville
Bruce Laclergue, Santa Cruz County
Justine Wolcott, DPW Santa Cruz County

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

In Response Refer To:
June 17, 2004 151422SWR04SR9281:JMA

Mr. Steve Palmisano
Environmental Manager
City of Watsonville
401 Panabaker Lane
Watsonville, California 95976

Dear Mr. Palmisano:

This letter serves as a follow-up to a National Marine Fisheries Service's (NOAA Fisheries) May 12, 2004, site visit to the City of Watsonville's Eureka Canyon surface water intake facility (Facility). The Facility is located in Corralitos Creek, tributary to the Pajaro River, north of the community of Corralitos, Santa Cruz County, California. The purpose of the site visit by NOAA Fisheries' engineering and Protected Resources Division's staff was to assess the Facility's current intake fish screen and water withdrawal location[1]. The Facility consists of an abraded instream concrete dam, with a fish ladder, designed to pool water into an intake pipe which is transported to a water treatment plant used for domestic consumption. The stream banks around the Facility are lined with steel plating. Corralitos Creek maintains populations of South-Central California Coast (S-CCC) Evolutionarily Significant Unit (ESU) steelhead (*Oncorhynchus mykiss*), listed as a threatened species pursuant to the Federal Endangered Species Act of 1973 (as amended).

NOAA Fisheries wishes to commend the City of Watsonville for voluntarily replacing the current screens at the Facility with a more modern screen meeting current screening criteria established by the California Department of Fish & Game and NOAA Fisheries. We anticipate the new screen will significantly reduce the likelihood of incidental take to juvenile salmonids during periods of water withdrawal than the existing screen.

NOAA Fisheries also wishes to inform the City of Watsonville that the Facility's existing fish ladder and downstream weirs are issues of significant concern. The existing fish ladder appears to be inadequately maintained and is not sized to facilitate upstream migration of S-CCC ESU adults over a wide range of stream flows. The jump pools appear too shallow and too small to ensure maximum adult steelhead passage opportunities. Furthermore, the ladder is not adequately sized to allow upstream passage by juvenile steelhead as the elevation between pools in the ladder is approximately one foot. Effective juvenile passage is prevented when elevation changes exceed six inches.

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[1] The City of Watsonville had applied for a section 404 permit, pursuant to the Clean Water Act, from the US Army Corps of Engineers in order to replace the screens. The Corps subsequently initiated section 7 consultation (File number: 28647S), pursuant to the Federal Endangered Species Act, with NOAA Fisheries on April 7, 2004, regarding potential adverse affects of the proposed action to threatened South-Central California Coast (S-CCC) Evolutionarily Significant Unit (ESU)steelhead. NOAA Fisheries concluded the project may affect but was not likely to adversely affect S-CCC ESU steelhead (File Number: 151422SWR04SR9281) on June 4, 2004.

Downstream of the ladder are a series of weirs which were presumably installed to facilitate migration up to the fish ladder as a result of streambed degradation. The Facility has created a significant change to channel elevation with the streambed upstream of the facility aggrading and degrading downstream. The weirs have created an impediment to adult passage upstream and year-round juvenile movement. At least one weir did not have a low flow notch and another had all stream flow percolating through the streambed behind it, rather than over the log.

NOAA Fisheries is concerned this facility reduces migration opportunities for S-CCC ESU steelhead in the watershed. Some of the best available habitat for steelhead in the Pajaro River watershed occurs above the City of Watsonville's Facility. The best available information indicates S-CCC ESU steelhead populations in the Pajaro River are extremely low and, therefore, maintaining access under a wide variety of flow conditions, to available habitats is important to ensure the survival of steelhead in this ESU.

Additionally, NOAA Fisheries noted the steel plating which lines the Facility appears to be deteriorating. The steel adjacent to the wetted channel appeared to be in an advanced state of deterioration as indicated by heavy rust deposits and the overall condition of the steel plating. NOAA Fisheries believes the Facility may be near-the-end of its design life and complete renovation may be necessary in the foreseeable future.

NOAA Fisheries advises the City of Watsonville to evaluate this Facility and to either renovate or repair and maintain it so it does not continue to function as an impediment to S-CCC ESU steelhead migration or instream movement. We encourage the City of Watsonville to explore the feasibility of replacing the ladder with a nature-like fishway. Nature-like fishways are designed to simulate natural stream characteristics by using natural materials to provide suitable passage conditions over a range of flows for a wide variety of fish species and other aquatic organisms. We suggest the City of Watsonville investigate available funding opportunities that could significantly reduce any financial burden to the City resulting from the renovation or repair of the Facility. A few examples of potential funding sources include:

California Coastal Conservancy
Attn: Kate Goodnight
1330 Broadway
11th Floor
Oakland, California 94612

California Department of Fish and Game
Attn: Erika Cleugh
20 Lower Ragsdale Drive, Suite 100
Monterey, California 93940

NOAA Fisheries
Community-based Restoration Program
Attn: David Landsman
777 Sonoma Avenue
Room 325
Santa Rosa, California 95404

Thank you for your cooperation in this matter. NOAA Fisheries looks forward to working with the City of Watsonville to facilitate the renovation and/or repair of the Eureka Canyon surface water intake Facility's weirs and fish ladder. If you have questions or concerns regarding this letter, please contact Mr. Jonathan Ambrose at (707) 575-6091 for permitting issues and Mr. Jonathon Mann at (707) 575-6054 for fish passage issues.

Sincerely,

Patrick J. Rutten
Santa Rosa Area Field Office Supervisor
Protected Resources Division

cc: Jim Lecky, NOAA Fisheries, Long Beach, California
David Landsman, NOAA Fisheries, Santa Rosa, California
Amanda Wheeland, NOAA Office of General Council for Enforcement and Litigation, Long Beach, California
Holly N. Costa, Corps, San Francisco, California
Serge Glushkoff, CDF&G, Younteville, California
Marcin Whitman, CDF&G, Sacramento, California
Erika Cleugh, CDF&G, Monterey, California
Kate Goodnight, California Coastal Conservancy, Oakland, California
Keith Kimes, City of Watsonville Public Works and Utilities, Watsonville, California

Pajaro River Watershed
Flood Prevention Authority
PO Box 809, Marina, CA 93933 • 831.883.3750

July 1, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed - Proposition 50 Implementation Grant

Dear Mr. McNiesh,

The Board of Directors of the Pajaro River Watershed Flood Prevention Authority would like to extend its support to the Pajaro River Watershed Proposition 50 Implementation grant application.

The proposed project would purchase underdeveloped flood-prone property in the Soap Lake area, within the Pajaro River Watershed.

Although the proposed project would not decrease expected average annual flood damage, it would prevent increases in average annual flood damages. As flood frequency and magnitude increase due to urbanization elsewhere in the watershed, a protected Soap Lake would continue to provide the current level of flood protection afforded by this floodplain.

Besides minimizing flood damages to specific parcels, flood-prone land acquisition yields a number of other important benefits. One immediate advantage is that purchasing undeveloped flood prone property eliminates the need for structural flood protection improvements (such as bank stabilization, levees, etc.) that would otherwise be needed to protect these parcels. Another benefit is that the area's natural floodplain characteristics are preserved, which in turn helps reduce downstream flooding peaks. Flood prone land acquisition also helps create recreational opportunities, maintain agricultural land and open space , preserve riparian habitat and enhance ground water quality.

For these reasons, we support this grant application.

Sincerely,

Donald F. Gage

Donald Gage
Vice Chair
Pajaro River Watershed Flood Prevention Authority

Santa Clara Valley Water District

5750 ALMADEN EXPWY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACIMILE (408) 266-0271
www.valleywater.org
AN EQUAL OPPORTUNITY EMPLOYER

July 1, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

Subject: Support for the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals

Dear Mr. McNiesh:

The Santa Clara Valley Water District (District) would like to extend its support of the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals. We recognize the value and importance of regional coordination and integrated planning and look forward to participating in water projects that improve regional water supply reliability, protect communities from drought, and help reduce dependency on Delta exports.

Specifically we strongly support the Soap Lake Floodplain Preservation Project which would maintain the flood protection provided by the natural constriction at Chittenden Pass and the Soap Lake floodplain. Currently the lower Pajaro River communities experience flooding at flows near 25,000 cubic feet per second, which is equivalent to a 25-year flood event. Without the floodplain, the 100-year flood event is predicted to increase the peak downstream Pajaro River causing significant property damage and possible loss of life. The Soap Lake Floodplain Preservation Project would prevent increases in average annual flood damages and continue to provide the current level of flood protection afforded by this floodplain.

The District has had a strong interest in this specific area of concern for the past five years. Our Board member, Director Sig Sanchez, has been a member of the Pajaro River Watershed Flood Prevention Authority since its inception in 2000. The District acquired property in Soap Lake in order to preserve the flood plain and the environmental resources therein. The project proposed in the Pajaro River Watershed Integrated Regional Water Management Implementation Grant application appropriately aligns with these efforts. If awarded, this grant will generate numerous benefits by providing 100-year flood protection in the City of Watsonville area and surrounding farmlands.

In addition to the Soap Lake Floodplain Preservation project, the District supports several other flood management and ecosystem protection projects in the grant application including the USACE Lower Pajaro River Levee Reconstruction Project, the Lower Pajaro River Bench Excavation, the Performance Based Flood Channel Maintenance and Adaptive Management Plan, the Soap Lake Drainage Patterns Study and The Nature Conservancy (TNC) Ecosystem Preservation and Restoration Studies. All of these projects are consistent with the District's mission and goals of providing environmental stewardship through the integration of environmental concerns with flood protection. We strongly support the regional coordination in each of these projects and appreciate the effort to include us in the process of implementation.

Lastly, we support the Watsonville Recycled Water Treatment facility and construction of the Coastal Distribution System. These projects were identified as early elements of our Integrated Regional Water Management Plan, because water recycling projects and other new regional water supplies support our regional water supply goal of improving regional water supply reliability, protecting communities from drought, and helping reduce the demand on imported water. Improving regional water supply reliability is consistent with the District's mission and goals of providing a reliable supply of water, now and in the future.

We encourage the California Department of Water Resources and the California State Water Resources Control Board to strongly consider the grant proposals submitted by the Pajaro Valley Watershed Management Agency. We support and advocate these efforts of collaboration which ultimately preserve and protect the water quality in our community.

Sincerely,

Stan Williams
Chief Executive Officer

sw:ck:mf
Electronic Copy of 0630a-l.doc

County of Santa Cruz

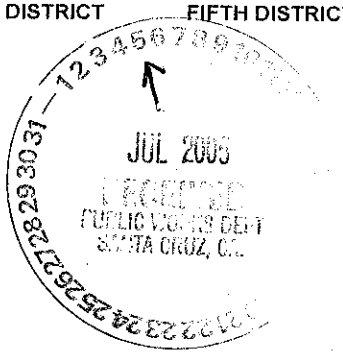
BOARD OF SUPERVISORS

701 OCEAN STREET, SUITE 500, SANTA CRUZ, CA 95060-4069

(831) 454-2200 FAX: (831) 454-3262 TDD: (831) 454-2123

JANET K. BEAUTZ	ELLEN PIRIE	MARDI WORMHOUDT	TONY CAMPOS	MARK W. STONE
FIRST DISTRICT	SECOND DISTRICT	THIRD DISTRICT	FOURTH DISTRICT	FIFTH DISTRICT

June 30, 2005



Charlie McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

RE: PAJARO WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PROPOSITION 50 PROJECT IMPLEMENTATION GRANT APPLICATION

Dear Mr. McNiesh:

I am writing to express my support for the Pajaro Watershed Integrated Regional Water Management Project Implementation Grant Application under the Proposition 50 program. This collaborative includes an extensive team of stakeholders working in the watershed such as the Pajaro Valley Water Management Agency, the Santa Clara Valley Water District, and the San Benito County Water District. These organizations, acting as lead for all stakeholders and other interest groups, have collaborated within our county in the development of the draft Pajaro Watershed Integrated Regional Water Management Plan (IRWMP).

The County of Santa Cruz is particularly interested in the area of flood management, which we believe is critical to the safety and economic viability of our communities. Furthermore, this project is ready for implementation in the lower Pajaro River. As you may be aware, for many years the County of Santa Cruz has been an active participant on the Executive Committee for the lower Pajaro Levee Re-Construction Project, the Pajaro River Watershed Flood Prevention Authority (FPA), and in the consensus building efforts of Action Pajaro Valley in order to identify effective solutions to flood management issues.

As one of the project sponsors, the County of Santa Cruz has continually stressed the need for integrated flood management actions throughout the watershed. We believe that flood management is a regional issue and that effective solutions require a comprehensive approach involving all the stakeholders in the watershed. Hence, we fully support the Soap Lake Preservation Project included in this grant application. This effort would build upon the previous work funded through the FPA.

Our staff has continually stressed that large re-construction projects such as bench excavation must address aspects of river form and function, performance based standards for maintenance, sediment management, upper watershed stormwater detention, and water quality features in the final project design. Nevertheless, given the Corps of Engineers' lack of direct authorization for such project enhancements outside of the project area of the lower river, County staff has worked diligently with other programs such as the IRWMP to achieve a multi-objective flood and water supply management approach throughout the Pajaro River watershed.

Solutions to Pajaro River flooding, particularly in the lower Pajaro River, have been very contentious over the years. This IRWMP would help resolve these conflicts as it would support our local agencies' leadership and direction in addressing these issues effectively. Lastly, I support this integrated regional application because it addresses the integrated water supply needs of the Pajaro Valley Water Management Agency (PVWMA). The elements related to tertiary upgrades at the Watsonville Water Treatment Plant and the PVWMA's Coastal Distribution System are greatly needed to guarantee a sustainable water supply for coastal agriculture which is our county's number one local industry.

The projects included in this proposal are critical to developing permanent and effective solutions to flood management and water supply components in our watershed. Therefore, I urge you to fund the Proposition 50 implementation grant for this region.

Sincerely yours,

TONY CAMPOS, Supervisor
Fourth District

	ROUTE DATA	COPY	ATT.
1	DIRECTOR	✓	
2	ASST. DIR. SPEC. SVCS.	✓	
	RECYCLING/SOLID WASTE		
	LANDFILL OPERATIONS		
3	WATER CON/FLOOD CONT.	✓	
	STORM WATER MANG.		
	CONSTRUCT. ENG.		
	SANITATION ENG.		
	WATER & WASTEWATER		
	ASST. DIR. TRANSPORT.		
	ROAD OPS. ENG.		
	PERMITS/ENCROACH.		
	DRAINAGE OPERATIONS		
	RD. MAINT. OPERATIONS		
	RDA ENG.		
	ROAD DESIGN ENG.		
	SURVEY/DEVELOPMT.		
	TRANSP/RD. PLANNING		
	ASST. DIR. ADMIN. SVCS.		
	REAL PROPERTY/FLEET		
	CSA/PRGM ADMIN.		
	SAFETY OFFICER/LIVE OAK P.		
	PERSONNEL/MIS		

Santa Cruz County
Resource Conservation District

820 Bay Avenue, Suite 128
Capitola, California 95010

sccrcd@sccrcd.org

Ph: (831) 464-2950
Fx: (831) 475-3215

July 5, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed Integrated Regional Water Management Plan-Implementation Grant Application

Dear Mr. McNiesh:

The Santa Cruz County Resource Conservaton District (SCCRCD) is writing to express its support of the Pajaro River Watershed Integrated Regional Water Management Implementation Grant Proposals. We understand that the need for regional coordination and integrated planning is vital to address water resource concerns in our area and look forward to seeing implementation of the proposed projects.

In the Pajaro watershed the agricultural industry is currently facing the implementation of the State Water Resource Control Board's Conditional Waiver of Waste Discharge Requirements (Waiver), and as part of the Waiver growers must demonstrate pollution load reductions and improvements in water quality over time. As a result of the current regulatory climate there is a need for technical resources to assist growers in the implementation of water quality protection practices. This proposal would allow the Santa Cruz County Resource Conservation District (SCCRCD) to provide technical and coordination assistance to support environmental stewardship on private agricultural lands. We recognize that on-farm management practices, and the evolution of agricultural cultural practices are essential to long-term water quality improvement, and that these resources are the key to the establishment of such practices to remediate pollution loading into the watersheds.

The SCCRCD is enthusiastic to participate in the IRWMP, as participation will increase our ability to effectively coordinate programs, share resources, partner and collaborate toward improved water quality throughout the Pajaro Watershed. This proposal is consistent with the mission of the SCCRCD to protect, conserve, and restore natural resources. In addition, the other projects that have been proposed compliment our organizations goals by increasing water supply and providing flood protection to economically valuable agricultural operations on which nearby disadvantaged communities depend.

We look forward to continued participation in the IRWMP process, and value the opportunity to work with other stakeholders to improve water quality in the Pajaro watershed. We are happy to respond to any questions you may have regarding out project, or our role in the process. Thank you for your consideration of the proposal.

Sincerely,

Arianne Rettinger
Pajaro Watershed Coordinator
Santa Cruz County Resource Conservation District

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, US ARMY CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

REPLY TO
ATTENTION OF

JUL 13 2005

Executive Office

Mr. Charlie McNiesh, General Manager
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, California 95076

Dear Mr. McNiesh:

The U.S. Army Corps of Engineers (Corps), San Francisco District is writing to support the Pajaro Valley Water Management Agency and its partners in their Pajaro River Watershed Integrated Regional Water Management Implementation Grant application under the Proposition 50 Chapter 8 program. In particular, we are supportive of the proposed flood management elements included in the Pajaro River Watershed application. These elements include the Lower Pajaro River Bench Excavation, Performance Based Flood Channel Maintenance and Adaptive Management Plan, Action Pajaro Valley Stakeholder Process, and Soap Lake Preservation Project.

Improved flood management is critical for the lower Pajaro River, an area at high risk for flooding. The Corps is partnering with Santa Cruz and Monterey Counties, along with other local agencies and interests, to develop a project to reduce the flood risk and associated flood damages in the lower Pajaro River Watershed. The tentatively recommended Corps project, subject to Congressional authorization, availability of Federal funding, and availability of Congressionally required non-Federal matching funds, would include construction of new levees, floodwalls, and other appurtenances to convey the 1% flood event (with an approximate 90% probability).

The flood management elements in the Pajaro River Watershed application are consistent with and would substantially complement and contribute to the Corps project. The bench excavation project is an important initial step to reduce flood risk and damages upon which the Corps project would build. The performance-based maintenance and adaptive management plan would form the foundation for the long-term maintenance of the bench excavation project and the Federal project. The Action Pajaro Valley Stakeholder process is critical to the development of a local financing program to fund the non-Federal share of the Corps project. Finally, the Soap Lake Preservation Project would both preserve the natural floodplain storage in the upper Pajaro River Watershed, and limit the magnitude of peak flows in the lower watershed.

Sincerely,

Philip T. Feir
Lieutenant Colonel, US Army
Commanding

CITY OF WATSONVILLE

June 27, 2005

Mr. Charles McNiesh
Pajaro Valley Water Management Agency
36 Brennan Street
Watsonville, CA 95076

SUBJECT: Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP) and Implementation Grant Proposal

Dear Mr. McNiesh:

Thank you for your continued efforts to include the City of Watsonville (City) in the Integrated Regional Water Management Planning process. The City is looking forward to continued participation in the regional process that will maintain the region's economic health and well-being.

The City is in agreement and supports the mission, goals, and objectives developed through the IRWMP process and is eager to participate in the project implementation phase. Our hope is that through the IRWMP process a sustainable water supply for the City and the surrounding area will be implemented.

As you know, the City is in the process of implementing the Watsonville Area Water Recycling Project that will help to balance the groundwater basin and eliminate seawater intrusion. Seawater intrusion currently threatens both the Pajaro Valley Water Management Agency (PVWMA) and City water supply, which is a vital element to the local economy and the agricultural industry. The City of Watsonville is an economically disadvantaged community and would be further impacted if a sustainable water supply were not developed.

The City depends on water from the Corralitos Creek for about 15% of its water supply. The IRWMP includes a project to upgrade the Corralitos Creek water diversion intake structure and fish ladder. This project will protect the long-term viability of an important surface water supply that is included in PVWMA's Basin Management Plan.

Flooding is also a major concern and economic threat to the City. In 1995, approximately $95 million in damages occurred along the Pajaro River when the levee broke in the lower watershed. Based on the IRWMP collaborative efforts to date, we are excited and optimistic that regional flood protection solutions will be implemented, including the Levee Bench Excavation Project and the Soap Lake Preservation Project.

We appreciate the efforts to include the City in the process and we envision continued participation through stakeholder workshops and other forums. If you need any information or support from the City, please contact Steve Palmisano at (831) 768-3176.

Sincerely,

Ana Ventura Phares
Mayor

Appendix C

Response to Comments on the Draft Plan

Response to the Central Coast Resource Conservation & Development (RC&D) Council's Comments on the Draft Pajaro River Watershed IRWMP

1. **Comment**: On page 2-47 there is a reference to aboriginal inhabitants, one being the Motsun group. Please check this spelling as there was, and is, a Mutsun band of Ohlone Indians.

   Response: To maintain consistency with the PVWMA Revised Basin Management Plan EIR, the alternative spelling of Motsun is used rather than the more common spelling of Mutsun.

2. **Comment**: There is a glaring lack of mention of rangeland NPS issues that are now being talked about at the RWQCB for future regulation.

   Response: The text in Section 2.5.2 has been revised. Previously there were instances in which irrigated agriculture/growers were specifically referenced though referring to agricultural uses in general would have been appropriate; this has been corrected. Additionally, the text now clearly specifies involvement of rangeland/ranchers in addressing water quality.

3. **Comment**: The Ag Waiver is listed as a project under the NPS strategy. To me the waiver is a law or regulation. The Farm and Range Water Quality Control Programs that generate plans are good examples of projects.

   Response: The project in the Draft IRWMP entitled Conditional Agricultural Waiver is different from the Conditional Waiver for Irrigated Agricultural adopted by the RWQCB. The Conditional Agricultural Waiver project is intended to capture efforts coordinated by SBCWD, SCVWD, PVWMA and other stakeholder groups that assist growers in complying with the RWQCB regulations. Acknowledging the confusion caused by the title of this project, it has been renamed the Farm and Rangeland Water Quality Management Program. As the new name suggests, the project scope has also been expanded to include rangeland NPS management in addition to irrigated land management.

4. **Comment**: Under Flood Management, the description of the Lower Llagas Creek Flood Control Project states the restoration project would be downstream of Buena Vista Avenue. The SCVWD is only considering the area downstream of Pacheco Pass Highway, as upstream of this area has 1% protection. Check with the SCVWD for a new project description.

   Response: The description of the Lower Llagas Creek Flood Control Project has been updated.

5. **Comment**: So much emphasis is put on the Regional Mobile Lab. This service is limited in scope as related to water quality and outreach to the majority of Ag producers. The Farm and Ranch Water Quality Workshops will give producers a self-developed farm and ranch plan including monitoring which is what Regional Board is looking for to comply with Ag Waiver and future TMDL compliance.

Response: The Agricultural Water Quality program is intended to address water quality issues associated with all types of agriculture – irrigated agriculture and rangeland. The program is not limited to the current scope of the Regional Mobile Lab. The description of the Agricultural Water Quality program has been enhanced to clearly identify benefits to all agricultural and rural lands.

6. **Comment**: The RCD's are mentioned as implementation partners, but I don't see the Loma Prieta RCD which covers the Santa Clara County portion of the Pajaro Watershed.

   Response: This was an oversight that will be corrected. While the Loma Prieta RCD has not had much involvement with the development of the San Benito and South Santa Clara Permit Coordination Program proposal, they will need to be included as Implementation Partners as the program scope becomes more defined.

7. **Comment**: Page 9-9 where there is mention of NRCS; use technical not technological expertise. ANR is described as the UC program assisting farmers with research oriented information. ANR is the parent organization at UC Davis, Berkeley and Riverside. In the field they are referred to as UC Cooperative Extension or UCCE Farm Advisors. These extension specialists are providing training with NRCS and RCD's on the Ag Waiver program.

   Response: Comment incorporated.

8. **Comment**: In section 15 Agency Coordination, there is no mention of NRCS or UCCE in the table, but NRCS is referenced in 15.2 under RCD. No mention of UC Cooperative Extension. Table 15-1 says it lists "Regulatory Agencies". RCD's are non-regulatory and work hard to stay that way. That should be stated or another category could be used such as non-regulatory and list RCD, UCCE, NRCS, etc.

   Response: The table has been renamed "Federal, State and Local Agencies". Both NRCS and the RCDs are now listed in the table and called out as non-regulatory agencies. The introductory text has been modified to state that while the table focuses mainly on regulatory agencies, select non-regulatory agencies formed by State and Federal legislation are also included.

Response to Pajaro/Sunny Mesa Community Services District's (PSMCSD) Comments on the Draft Pajaro River Watershed IRWMP

1. **Comment**: PSMCSD is the largest public retail water provider in northern Monterey County. Our constituents are over 90% of Mexican or Latino decent, generally low income, and the majority live within the watershed of the Pajaro Valley. The majority of our residents have Spanish as their primary language. Thousands of them live within the floodplain of the Pajaro River. We hold some of the oldest (over 80 years) appropriative groundwater rights in the Pajaro. By comparison, the Pajaro Valley Water Management Agency holds no water rights.

   Response: PSMCSD was invited to participate in the stakeholder process for the IRWMP and remains an important part of the stakeholder process. Opportunities to work together still exist. It is important that any misunderstandings are addressed as early in this process as possible.

2. **Comment**: The community of Pajaro that contains nearly 5000 of our low-income, minority customers was flooded twice in the 1990's. Yet, no hearing on this "Regional Plan" has ever been conducted here. Obviously, since many of your identified "high priority projects" including plans to drain contaminated waters away from Santa Clara and San Benito Counties and projects to take our lands for expanded flood control projects that benefit others, are planned to run right through our community, grave "environmental justice" and discrimination issues are clearly apparent in the participating agencies drive to secure grant funding from DWR. Further, the proposed high priority "groundwater management" projects may effect an illegal taking of our superior water rights without either compliance with the statutory mandates of AB 3030 planning or public notice to overlying landowners and water rights holders in our area.

   Response: Stakeholder coordination activities have included several meetings in the Pajaro Valley. In 2005, when the IRWMP planning process began, several planning meetings hosted by Action Pajaro Valley were held in the Pajaro Valley. More recently the Pajaro River Watershed Collaborative hosted a series of stakeholder workshops during the development of the current IRWMP document, and these workshops included one in the City of Watsonville.

   It is important to clarify that the inclusion of a project within one of the four water management programs is neither a recommendation for implementation of that project nor a recommendation for IRWMP grant funding. As discussed in Section 7, the Implementation Teams for each of the programs will be tasked with further developing their respective programs and evaluating the projects within those programs. Up to this point projects have only been evaluated based on degree of integration and regional opportunities. The final program recommendations developed by the Implementation Teams will take into account additional criteria such as economic feasibility, technical practicability and environmental concerns. The work of the Implementation Teams will include stakeholder involvement to allow all viewpoints to be included in the decision-making process.

3. **Comment**: The "Plan" is, by the written and stated admission of the participating agencies (the Pajaro Valley Water Management Agency, the San Benito County Water District, the Santa Clara Valley Water District, and California DWR) a plan and program to prioritize, select, fund, and develop multiple flood control and water development projects within the Pajaro River Watershed with monies from DWR. This is a "project" under CEQA. The Pajaro River and its environs are designated as habitat for federally and state listed endangered species, including steelhead trout and red legged frogs. Such a "program" is required to be fully reviewed publicly in a "programmatic EIR/EIS" prepared pursuant to CEQA and NEPA prior to the approval of the "Plan" and your preferred "High Priority Base Projects". The proponents plans to "piecemeal environmental review" among the participating agencies directly violates the CEQA requirements to fully and completely evaluate the entire cumulative impacts of this type of Regional Plan prior to its adoption by the participating agencies.

   Response: The IRWMP consists of a planning study and basic data compilation that would not result in the disturbance of any environmental resource, and is therefore exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines §15262 and §15306. If implementing a project, project proponents bear responsibility for ensuring all regulatory requirements for the project are met.

   Again, it is important to note that inclusion of projects within one of the four water management programs is not a recommendation for implementation. Please refer to the response above for additional details.

4. **Comment**: No notices of this issue were produced or distributed in Spanish. No copies of the "Plan" were prepared in Spanish, thereby making it virtually impossible for our constituents to meaningfully participate in the limited public information and comment hearing that was held in Hollister, over 25 miles away. In fact, only two members of the public appeared at that meeting, confirming the sad failure of the public notice process to inform the public of the impacts to their communities that are being discussed. Even the English version of the plan was not placed in the Pajaro Public Library. The excuse provided by the consultant and staff charged with preparing the "Plan" was CD's in English were available at the Pajaro Valley Water Management District offices. Unfortunately, fewer than 12% of the residents of Pajaro own a computer.

   Response: Pajaro Valley Water Management Agency produces a quarterly newsletter which is prepared in both English and Spanish. This newsletter is mailed to all homes within the agency's boundaries, including the Town of Pajaro. The Fall 2006 Newsletter provided information on the IRWMP process including an announcement of the stakeholder workshop to be held in Watsonville and the release of the draft IRWMP in early 2007. (This announcement was prepared in Spanish.)

   An alternate explanation for the low attendance (only 5 stakeholders attended the stakeholder workshop held during the public review period) is the success of the previous four workshops

and earlier stakeholder outreach efforts in addressing stakeholder concerns. All four of the previous workshops had higher stakeholder attendance.
The draft IRWMP was made available for viewing in both hard copy and electronically. Hard copies of the draft IRWMP were available for viewing or for loan from Pajaro Valley Water Management Agency, San Benito County Water District and Santa Clara Valley Water District's offices. The availability of the draft IRWMP in both these formats was mentioned in the newspaper advertisements announcing the public review period and the stakeholder workshop. Clarification regarding the availability of the draft IRWMP was also provided during the final workshop.

5. **Comment**: The Plan is fatally flawed because of a complete lack of environmental review, non-compliance with CEQA/NEPA and noncompliance with the public notice requirements of CEQA. PSMCSD hereby objects to the Regional Plan because the agencies that have prepared this Plan, including the Pajaro Valley Water Management Agency, the San Benito County Water District, the Santa Clara Valley Water Management Agency, and California DWR, have intentionally and directly refused to prepare a full and complete Programmatic Environmental Impact Report (EIR) prior to their scheduled adoption of this Plan. Funding for the consultants for this effort has been a significant contributing factor to the failure by these agencies to comply with CEQA. These agencies have not conducted the required CEQA review to avoid public controversy and objections to their proposals from farmers, senior water rights holders and land owners whose rights will be significantly damaged by many of the proposed "projects" in this Plan.

   Response: Please refer to the response to Comment 3 above.

Response to the County of Santa Cruz's Comments on the Draft Pajaro River Watershed IRWMP

1. **Comment**: Table 1.1, Stakeholders: The County of Santa Cruz has more involvement than just land use jurisdiction. The County also has jurisdiction over stormwater, drainage, watershed management, water resources management, and water quality protection in the unincorporated areas of the County.

   Response: Comment incorporated.

2. **Comment**: p. 2-5. The thinking regarding a "greater Monterey Bay area IRWMP" seems to have evolved further than what is described in the draft document. There is now potential for bringing in the upper Salinas watershed and northern San Luis Obispo County. And instead of another IRWMP, a central coast integrated regional water management strategy may be developed as an umbrella document coordinating the regional IRWMP's. At a minimum, qualifying language should be added to the discussion on page 2-5.

   Response: Comment incorporated.

3. **Comment**: p. 5-2: The discussion of weighting of objectives implies more objectivity than it should. There was subjectivity applied in determining the mathematical approach to be used. The mathematical formula that was chosen for weighting gives a substantially higher weighting to the highest priority goal and the objectives within that goal. Thus the goal of water supply is ranked as twice as important as water quality, 3 times as important as flooding and 4 times as important as environmental restoration. A more equitable ranking of goals might have assigned an overall score of 30, 25, 25, and 20 to the four main goals, with a mathematical breakdown of the objectives within those. Under the weighting used, projects with water supply benefits tend to rise to the top, while most flood control and environmental enhancement projects tend to be low priority.

   Response: During the development of the prioritization process, the Partners considered assigning weights to the goals more subjectively instead of applying the same formula that was applied to the objectives. However, to maintain consistency, the decision was made to apply the same weighting methodology to the goals and objectives. It is true that a level of subjectivity is introduced in selecting a formula to be used in the weighting; however, the Partners feel that there is less subjectivity in consistently applying a formula then self-allocating weights. Furthermore, the fact that the water supply goal receives a greater weight than the other goals is consistent with the priorities of the region. Additionally, the results of the prioritization process show that the projects that rise to the top are the ones with multiple areas of benefit. Even though water supply is the top ranked goal, the high priority projects consist of water supply, water quality, flood management and environmental protection and enhancement projects.

   In consideration of the comment, the text in Section 5 has been changed to say that the weighting methodology minimizes subjectivity as opposed to calling it an objective weighting methodology.

4. **Comment:** Section 5: Despite the weighting approach used, the procedure for creating integrated programs that bring in related lower priority projects and environmental enhancements seems to make sense. However, the distinction between the conjunctive water supply program and the salt management program is not completely clear, as the latter is dependent on water supply management, particularly to address seawater intrusion. For example, it is not clear how the Corralitos Creek Surface Fisheries enhancement project ties into salt management rather than conjunctive water supply management.

   Response: The Conjunctive Water Supply Management program and the Water Supply/Salt Management program are closely linked, and coordination between the programs is anticipated during implementation. The distinction between the two programs is that the Water Supply/Salt Management program addresses the impact of groundwater salinity on water supply management, whereas the Conjunctive Water Supply Management program focuses more on water supply reliability issues and the role of regional water management in addressing supply reliability. To help clarify the distinction, clarifying text has been added to Section 5.

   The Corralitos Creek Surface Fisheries Enhancement Project enables the City of Watsonville to continue to use, as well as expand, the use of its surface water intake on Corralitos Creek. The project helps to address seawater intrusion in the Pajaro Valley Groundwater Basin by maintaining the use of the City's surface water rights and avoiding additional demand on the groundwater basin. Because of its connection to salinity management in the Pajaro Valley, the project is included in the Water Supply/Salt Management program.

5. **Comment**: Overall Comment: The plan includes quite a bit, but does not include strategies needed to fully address some of the immediate and critical water resource issues within the Santa Cruz County portion of the Pajaro Watershed: implementation of Pajaro sediment TMDL, implementation of Nitrate TMDL, implementation of pathogen TMDL for Watsonville Sloughs, restoration and protection of steelhead habitat, and stormwater management. There are efforts underway to address these and it would make sense to include them in the overall plan to provide a complete picture of water management efforts in the Pajaro watershed and to facilitate additional funding of some of those efforts.

   Response: Projects included in the IRWMP which address the water resource issues identified above are the Regional Mobile Lab, the Farm and Rangeland Water Quality Management Program (originally titled the Conditional Agricultural Waiver in the Draft IRWMP) and the Santa Cruz Partners in Restoration Permit Coordination Program, which addresses TMDL implementation, and the Pajaro River Lagoon Monitoring and Levee Reconstruction Project which addresses protection of steelhead habitat. As additional water management efforts are developed, they can be submitted to the Pajaro River Watershed Collaborative. As discussed in Section 7.1.1, an update to the list of projects in the IRWMP will be published on an annual basis, as needed.

Response to the Sierra Club, Ventana Chapter's Comments on the Draft Pajaro River Watershed IRWMP

1. **Comment**: We support the stated "Pajaro River Flood Protection Plan" and believe the "system understanding" aspect of the DWR recommendations (below) should be emphasized in the IRWMP Alert Station Project found on **page 4-19**. This Project should be included in the scope of work for the USACE Watershed Study discussed on **page 15-5**. This matter has been discussed with local flood control agency as outlined in the December 3, 2006 letter from Mr. Kenn Reiller to Mr. Donald Hill, available upon request.

   Response: The description of the ALERT Station Monitoring project has been expanded, and per the suggestion, the project's support of increased understanding of flooding issues has been highlighted.

   In response to the comment, the ALERT Station Monitoring project has been added to the Pajaro River Flood Protection program. The Pajaro River Flood Protection Implementation Team will then be responsible for identifying the potential for coordination between the sponsors of the ALERT Station Monitoring project and the Pajaro River Watershed Study. The Station Monitoring project is not specifically referenced in Section 15.2, where coordination with the USACE is described, because that discussion is limited to those projects for which the USACE will be central to implementation.

2. **Comment**: We believe the definition of "conflict" pertaining to "watershed objectives" should be more clearly explained, and accordingly used to as **justification criteria** to screen candidate projects proposed for inclusion in the "Short Term Implementation" project list, which is perceived to be pre-requisite for inclusion in the adopted IRWMP, and subsequent grant funding applications as discussed on pages 3-10, 6-1 and 7-1 highlighted in the excerpts below.

   These sections outline the importance IRWMP Short Term Implementation projects to justify genuine regional benefit and sound governance to successfully compete for grant funds. The aforementioned Export Pipeline Project's in our view provides an example of how the existing justification criteria fails at this task, and needs amendments to demonstrate substance of regional benefit and institutional structure. Critical Stakeholders who have expressed concern over similar projects in the past have not been involved for various reasons, and until regional interest and cooperation are evident this project should not be proposed in IRWMP grant funding packages at this time.

   Response: It is important to clarify that the inclusion of a project within one of the four water management programs is neither a recommendation for implementation of that project nor a recommendation for IRWMP grant funding. As discussed in Section 7, the Implementation Teams for each of the programs will be tasked with further developing their respective programs and evaluating the projects within those programs. Up to this point projects have only been evaluated based on degree of integration and regional opportunities. The final program recommendations developed by the Implementation Teams will take into account additional criteria such as economical feasibility, technical practicability and environmental

concerns. The work of the Implementation Teams will include stakeholder involvement to allow all viewpoints to be included in the decision-making process.

To specifically address the concern of the Export Pipeline and other projects in the Water Supply/Salt Management program, please note that the Pajaro River Watershed Collaborative will be responsible for identifying opportunities for coordination between this program and the Conjunctive Water Supply Management program. One of the projects in the Conjunctive Water Supply Management program is the Groundwater Study & Biological Study of the Upper Pajaro River; data gained through this study will support the evaluation of the water transfers between the upper and lower watersheds and can be used in the evaluation of projects from both the Conjunctive Water Supply Management and Water Supply/Salt Management programs.

3. **Comment**: Furthermore, the stated "stakeholder process" should be viewed in two stages, involving the aforementioned **justification criteria** to screen and avoid speculative projects proposed for IRWMP Short Term Implementation. The first Stakeholder phase should be conducted independently by the project sponsor or collaborative at their own expense prior to IRWMP project consideration. Stakeholder process funding via IRWMP grant funds should be limited to projects meeting regional and institutional qualifications.

   Response: The stakeholder process for development of the IRWMP was funded in part with Integrated Regional Water Management Planning Grant funds. These funds do not extend to the implementation of the IRWMP. Nonetheless, the Partners are committed to continuing coordination with stakeholders. Stakeholder involvement will occur through the work of the Implementation Teams, which will be responsible for further evaluating projects, as well as through the Pajaro River Watershed Collaborative, which will be responsible for overall project prioritization and future updates to the plan.

The Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP) is a collaborative effort by the Pajaro Valley Water Management Agency (PVWMA), San Benito County Water District (SBCWD), and Santa Clara Valley Water District (SCVWD) to identify regional and multi-beneficial projects for the Pajaro River Watershed. On an individual basis, PVWMA, SBCWD, and SCVWD have each investigated and evaluated various water resource and environmental management options for the overall wealth and well being of the watershed within their jurisdictions. The IRWMP integrates these various efforts and investigates the greater Pajaro River Watershed area in order to identify and prioritize integrated regional projects for the watershed to maximize benefits to the broadest group of stakeholders in the region.

1 Regional Water Management Group

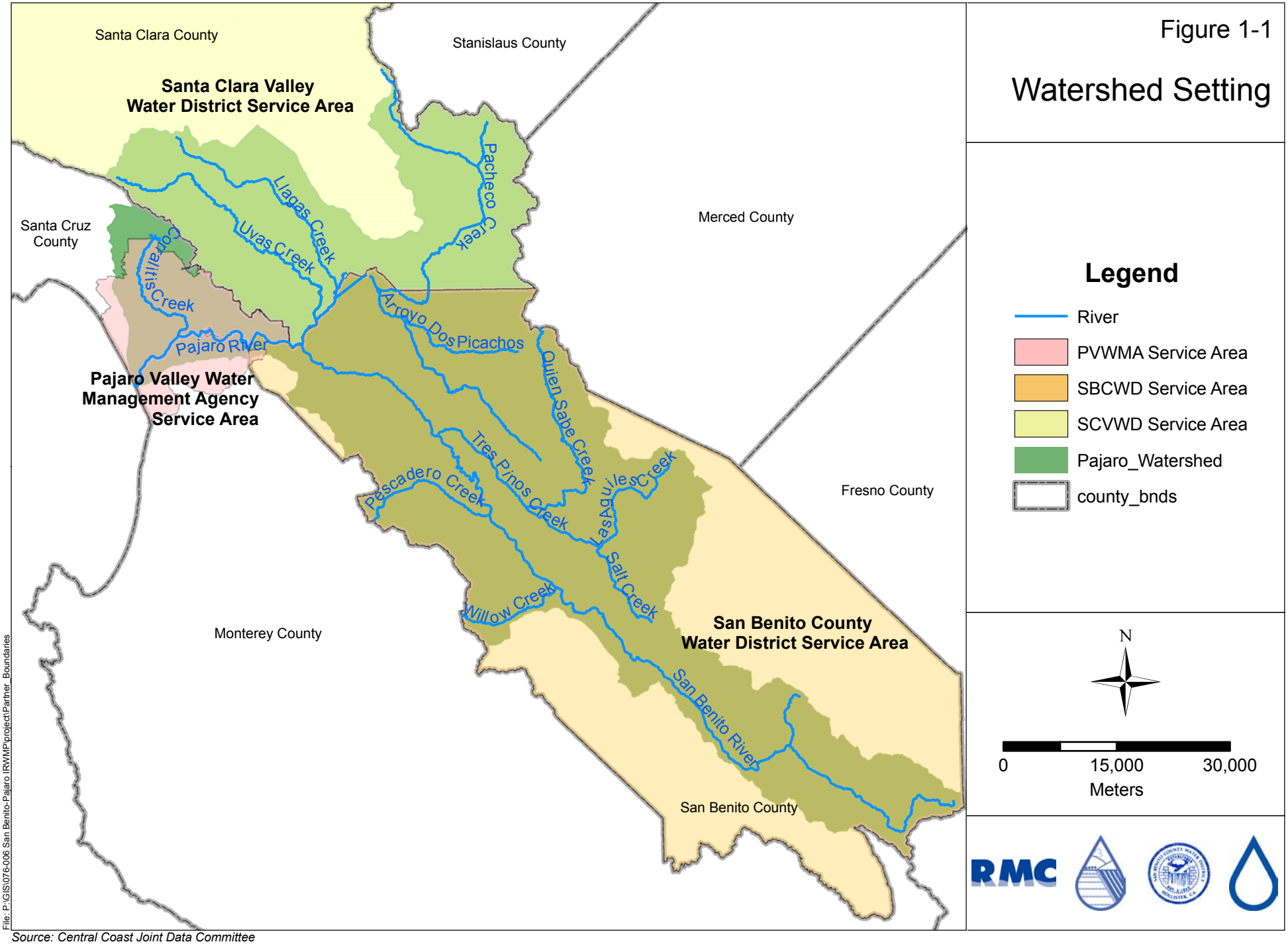
This section meets the following IRWMP Standard from the Integrated Regional Water Management Grant Program Guidelines.

> **A. Regional Agency or Regional Water Management Group** – Describe the regional water management group or regional agency responsible for development and implementation of the Plan. Include the member agencies and organizations and their management responsibilities related to water. Demonstrate that all agencies and organizations necessary to address the objectives and water management strategies of the Plan were involved in the planning process.

In October 2004, PVWMA, SBCWD and SCVWD entered into a Memorandum of Understanding (MOU) for the purpose of coordinating water resources planning and implementation activities watershed-wide (see Appendix A). These three agencies are collectively referred to as the Partners. In their role as the sponsors leading the development of the IRWMP, the Partners are more formally known as the Pajaro River Watershed Collaborative. The IRWMP is envisioned to be a living document that shall evolve and be updated in the future as projects are implemented and priorities change. As part of the IRWMP process, the Partners have met and will continue to meet regularly in order to formulate and carry out the mission, goals, objectives and strategies of the IRWMP and to solicit and encourage participation from other agencies and stakeholders in the watershed.

The on-going nature of the IRWMP process and stakeholder collaboration will facilitate conflict identification and resolution of issues within the watershed. The collaborative approach will provide a forum for identifying and evaluating water supply, water quality, groundwater and surface water management, ecosystem restoration, and other watershed issues.

Figure 1-1 illustrates the region encompassed by the Pajaro River Watershed IRWMP, and PVWMA, SBCWD and SCVWD's jurisdictions in relation to the watershed.



Source: Central Coast Joint Data Committee

1.1 Pajaro Valley Water Management Agency

PVWMA is a state-chartered special purpose district formed under State Law pursuant to the Pajaro Valley Water Management Agency Act. PVWMA was formed to efficiently and economically manage existing and supplemental water supplies in order to prevent further increase in, and to accomplish continuing reduction of, long-term overdraft and to provide and ensure sufficient water supplies for present and anticipated needs within its boundaries. PVWMA has the authority to adopt ordinances for the purpose of conserving local groundwater supplies that all public and private water purveyors within the Agency's boundaries must adhere to. The PVWMA service area is comprised of portions of three counties, which are Santa Cruz, Monterey, and San Benito Counties.

PVWMA is a Central Valley Project (CVP) water contractor that plans to connect to the Santa Clara Conduit of the San Felipe Division facilities in the future to provide CVP water to its service area. Along with SCVWD and SBCWD, PVWMA has an assigned delivery capacity from the San Felipe Division facilities.

As a member of the Pajaro River Watershed Collaborative, the PVWMA Board will be requested to adopt the IRWMP.

1.2 San Benito County Water District

SBCWD is a special purpose district formed under State Law pursuant to the San Benito County Water District Act. As a water conservation and flood control district, the SBCWD mission is to preserve the economic and environmental wealth and well-being of San Benito County through the control, management and conservation of waters and the provision of water services in a practical, cost-effective and responsible manner. The SBCWD is a CVP contractor and receives water from the San Felipe Division facilities through the Pacheco and Hollister Conduits.

As a member of the Pajaro River Watershed Collaborative, the SBCWD Board will be requested to adopt the IRWMP.

1.3 Santa Clara Valley Water District

SCVWD is a special purpose district formed under State Law pursuant to the Santa Clara Valley Water District Act. SCVWD provides wholesale water supply, stream and watershed stewardship, and flood protection for Santa Clara County. In addition, SCVWD manages the County's groundwater subbasins. The mission of the SCVWD is a healthy, safe, and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective, and environmentally-sensitive manner. SCVWD is a CVP and State Water Project (SWP) contractor and receives water from the San Felipe Division facilities through the Pacheco and Santa Clara Conduits.

As a member of the Pajaro River Watershed Collaborative, the SCVWD Board will be requested to adopt the IRWMP.

1.4 Regional Stakeholders

Since formally launching the Pajaro River Watershed IRWMP effort in early 2005, the Partners have conducted periodic stakeholder workshop. Work generated during the IRWMP process was formally presented and reviewed by stakeholder groups and the general public through these stakeholder workshops. Less formal communications and regular correspondence, such as telephone calls, emails, and letters, were another method of stakeholder input and cooperation.

The involvement of regional stakeholders has been integral to the development of the IRWMP. Because the Partners' main interests are in water supply and water quality, coordination with other agencies and organizations helped to ensure that the IRWMP accurately captured other water resource interests in the region. From the information gathered through the outreach efforts thus far, a list of stakeholders was generated, as seen in Table 1-1. The stakeholder list includes organizations dealing with all aspects of water resource management, including water supply, water quality, flood protection and environmental protection and enhancement. The stakeholder list is expected to evolve over time; therefore, additional stakeholders are expected to be identified and contacted for their participation in future IRWM planning.

As identified in the table, there are several agencies with overlying and neighboring jurisdictions and water management responsibilities. As further described in Section 2 of the IRWMP, the Collaborative is committed to continued coordination with these agencies to deliver enhanced regional planning for the greater Monterey Bay area.

Table 1-1: Stakeholders in the Pajaro River Watershed IRWMP

Stakeholder	Description of Authority/Interests
Action Pajaro Valley	Action Pajaro Valley is a nonprofit organization located in the City of Watsonville that serves as a forum for community members in the Pajaro Valley to come together and discuss long-term plans for the region. In addition to serving as a neutral facilitator during these discussions
Aromas Water District	Aromas Water District is located on the westerly edge of the PVWMA service area. This special district provides water treatment and supply service for approximately 750 customers.
Association of Monterey Bay Area Governments (AMBAG)	AMBAG was organized for the permanent establishment of a forum for planning, discussion and study of regional problems of mutual interest and concern to the counties and cities in Monterey, San Benito, and Santa Cruz Counties; and for the development of studies, plans, policies and action recommendations.
California Coastal Conservancy	The California Coastal Conservancy works with other groups to protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations.

Stakeholder	Description of Authority/Interests
Central Coast Agricultural Water Quality Coalition	This coalition is a partnership of Central Coast growers organized through their respective county Farm Bureaus. Established by the California Farm Bureau, six Central Coast counties receive grant monies to fund research and monitoring of agricultural water quality effects. The Coalition is working to identify local water quality threats and learn about economically viable water quality protection practices. The various county Farm Bureau program coordinators assist watershed groups to implement these practices.
Central Coast Regional Water Quality Control Board (RWQCB) – Region 3	The Central Coast RWQCB is a regulatory extension of the State Water Resources Control Board. The Central Coast RWQCB coordinates and controls the quality of water in its region through the protection of beneficial uses, the development of water quality objectives to protect the beneficial uses, and implementation planning to accommodate the water quality objectives. This entity was established by the Porter-Cologne Water Quality Control Act (1969), which became Division Seven ("Water Quality") of the State Water Code. The State Water Code establishes the responsibilities and authorities of the nine RWQCBs (previously called Water Pollution Control Boards) and the State Water Resources Control Board (SWRCB). The federal Clean Water Act (Public Law 92-500, as amended) provides for the delegation of certain responsibilities in water quality control and water quality planning to the states. Where the Environmental Protection Agency (EPA) and the SWRCB have agreed to such delegation, the Regional Boards implement portions of the Clean Water Act, such as the National Pollutant Discharge Elimination System (NPDES) program and toxic substance control programs
Central Coast Resource Conservation & Development Council	The Central Coast Resource Conservation & Development Council serves South Santa Clara, San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties. The council's activities focus on agritourism, steelhead habitat enhancement, water quality education, coordinated resource management and planning (CRMP) coordination and permit streamlining.
City of Gilroy	Located in South Santa Clara County, the City of Gilroy provides water service to residences and businesses. Gilroy is a South County Regional Wastewater Authority (SCRWA) Partner which provides wastewater service for the Cities of Gilroy and Morgan Hill.
City of Hollister	The City of Hollister is a major urban service area in San Benito County. The City of Hollister provides various municipal and industrial (M&I) services include wastewater collection and treatment and water supply service.
City of Morgan Hill	Located in South Santa Clara County, the City of Morgan Hill provides water service to residences and businesses. Morgan Hill is a SCRWA Partner that provides wastewater service for the Cities of Morgan Hill and Gilroy.

Stakeholder	Description of Authority/Interests
City of San Juan Bautista	Located in San Benito County, the City of San Juan Bautista provides wastewater and water services. San Juan Bautista is a member of the Water Resource Association of San Benito County.
City of Watsonville	The City of Watsonville is a major urban service area within PVWMA. The City provides various M&I services including wastewater collection and treatment and water supply service.
County of Monterey	The County of Monterey is a government agency with land use jurisdiction within its boundaries. The County also manages water and sanitation systems in unincorporated County Service Areas. The southern portion of the PVWMA service area is in Monterey County.
County of San Benito	The County of San Benito is a government agency with land use jurisdiction within its boundaries. A significant portion of the upper Pajaro River watershed (including the San Benito River) is within San Benito County.
County of Santa Clara	The County of Santa Clara is a government agency with land use jurisdiction within its boundaries. A portion of the upper Pajaro River watershed is within Santa Clara County.
County of Santa Cruz	The County of Santa Cruz is a government agency with land use jurisdiction within its boundaries. The County of Santa Cruz also has jurisdiction over stormwater, drainage, watershed management, water resources management and water quality protection for the unincorporated areas of Santa Cruz County. The northern portion of the PVWMA service area is in Santa Cruz County.
Farm Bureaus (Monterey County, San Benito County, Santa Clara County, and Santa Cruz County)	Farm Bureaus are organized on a county, state, and national level with the county Farm Bureaus serving as the core of the organization. Santa Cruz, Monterey, San Benito and Santa Clara Counties each have their own Farm Bureau. The Farm Bureau is a voluntary, nongovernmental, nonpartisan organization of farm and ranch families seeking solutions to the problems that affect their lives, both socially and economically. The Central Coast Agricultural Water Quality Coalition is the local Farm Bureau partnership that works with growers within the Pajaro River watershed.
Land Trust of Santa Cruz County	The land trust is a community-based nonprofit organization that works cooperatively with land owners, government entities, and other organizations to protect and manage lands of significant value. Their primary focuses are protecting prime agricultural lands, protecting lands with significant habitat value, and providing effective stewardship of lands already protected.

Stakeholder	Description of Authority/Interests
Monterey Bay National Marine Sanctuary (MBNMS)	The MBNMS mission is to understand and protect the coastal ecosystem of Central California. The MBNMS is an extension of the National Oceanic and Atmospheric Administration (NOAA) National Marine Sanctuary Program (NMSP). The NMSP mission is to serve as the trustee for the nation's system of marine protected areas, to conserve, protect, and enhance their biodiversity, ecological integrity and cultural legacy. Its goals are appropriate to the unique diversity contained within individual sites. They may include restoring and rebuilding marine habitats or ecosystems to their natural condition or monitoring and maintaining already healthy areas.
Monterey County Water Resources Agency (MCWRA)	MCWRA is a special district formed to manage, protect, and enhance the quantity and quality of water and provide specified flood control services for Monterey County, and to be a leader in efficient, innovative, and equitable water resources management for the County. As a County water agency and stakeholder, MCWRA has an interest in flood prevention and water supply management of the lower Pajaro River that falls within its jurisdiction.
Pajaro River Watershed Flood Prevention Authority (PRWFPA)	PRWFPA was established in 2000 by the State of California Assembly Bill 807 to identify, evaluate, fund, and implement flood prevention and control strategies in the Pajaro River watershed, on an intergovernmental basis. Since the Pajaro River watershed covers an area within four counties (Santa Clara, San Benito, Santa Cruz, and Monterey) and four water districts (Santa Clara Valley Water District; San Benito County Water District; Santa Cruz County Flood Control and Water Conservation District, Zone 7; and Monterey County Water Resources Agency), the PRWFPA is comprised of one representative from each of the eight interested agencies. The PRWFPA is a governing body through which each member organization can participate and contribute to finding a method to provide flood protection in the watershed and promote general watershed interests. A further goal is to identify and prioritize strategies and projects that will provide multiple benefits, such as water supply, groundwater recharge, or environmental restoration and protection benefits.
Pajaro/Sunny Mesa Community Services District	Pajaro/Sunny Mesa Community Services District is a water supplier for smaller communities in the Pajaro Valley and has consolidated water delivery service for a number of mutual water companies in northern Monterey County.
Pajaro Valley Chamber of Commerce	The Pajaro Valley Chamber of Commerce promotes Watsonville and surrounding community areas and is dedicated to advancing the business success of its members.

Stakeholder	Description of Authority/Interests
Planning and Conservation League Foundation	The Planning and Conservation League Foundation mission is to ensure that California continues to be an attractive, livable, and equitable state by engaging in cutting-edge environmental public policy research, and educating and empowering local communities to understand and participate in local and state environmental decision making processes. The Planning and Conservation League Foundation also produces publications that educate the public about environmental challenges in the areas of planning, natural resource conservation, environmental protection, clean air, clean water, sustainable energy policies, and environmental justice.
Resource Conservation Districts (RCDs)	California RCDs are special districts organized under the state Public Resources Code, Division 9. The RCDs in the Pajaro Watershed are the Santa Cruz RCD, Monterey County RCD, San Benito RCD and Loma Prieta RCD. Each district has a locally elected or appointed volunteer board of directors made up of landowners in that district. Interests of the RCDs which relate to water management include water quality, wildlife habitat restoration, soil erosion control, and conservation education.
San Benito County Agricultural Land Trust	This land trust is devoted to providing financial options to landowners in order to protect the agricultural heritage of San Benito County. The land trust can protect land permanently and directly by accepting donations of conservation easements designed to meet the individual needs of landowners. As a non-profit, tax-exempt organization, the Trust is funded through membership, donations and grants.
San Benito County Chamber of Commerce	The San Benito County Chamber of Commerce is organized for the purpose of creating, promoting, and celebrating economic vitality within San Benito County by providing resources to businesses and individuals.
San Martin Neighborhood Alliance	This community alliance encompasses local topics and issues.
Santa Clara County Open Space Authority	The immediate high priorities of the Open Space Authority are preservation of open spaces and creation of greenbelts between communities, lands on the valley floor, hillsides, viewsheds and watersheds, baylands and riparian corridors. The Open Space Authority promotes land preservation to maintain the quality of life in the County and to encourage outdoor recreation and continuing agricultural activities. It promotes development and implementation of land management policies that provide proper care of open space lands and allow public access appropriate to the nature of the land for recreation.
Santa Cruz County Flood Control and Water Conservation District, Zone 7 (SCCFC&WCD)	This district is governed by the Santa Cruz County Board of Supervisors, City of Watsonville, and PVWMA. It provides flood control services to Santa Cruz County except the cities of Santa Cruz, Scotts Valley and Capitola. As a County agency and stakeholder, SCCFC&WCD has an interest in flood prevention of the lower Pajaro River that falls within its jurisdiction.

Stakeholder	Description of Authority/Interests
Sierra Club, Loma Prieta Chapter	This local chapter of the Sierra Club is committed to participating in the South Santa Clara County Habitat Conservation Plan/Natural Communities Conservation Plan. The planning area includes the Uvas-Llagas watershed, which is a tributary to the Pajaro River.
Sierra Club, Ventana Chapter	This local chapter of the Sierra Club is interested in preserving the Pajaro River and its watershed through environmental activism.
Silicon Valley Land Conservancy	The Silicon Valley Land Conservancy is a nonprofit entity formed to preserve and protect the remaining open space in Silicon Valley.
Soquel Creek Water District	This government agency provides water resource management for communities in mid-Santa Cruz County.
South County Regional Wastewater Authority	South County Regional Wastewater Authority is the regional wastewater authority for South Santa Clara County, primarily serving the Cities of Gilroy and Morgan Hill. SCRWA has partnered with the Santa Clara Valley Water District to expand water recycling in southern Santa Clara County.
South Valley Streams for Tomorrow	This organization is concerned with streams in South Santa Clara County and tributaries of the Pajaro River in Santa Clara and San Benito Counties.
Sunnyslope County Water District	Sunnyslope County Water District is a water and wastewater management district for a portion of the City of Hollister and the Ridgemark Development in San Benito County.
The Nature Conservancy (TNC)	TNC is a leading international, nonprofit organization dedicated to preserving the diversity of life on Earth. Their mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC is currently working on projects within the Pajaro River watershed that promotes private lands conservation and other conservation practices. They work with landowners, communities, cooperatives and businesses to establish local groups that can protect land.
U.S. Army Corps of Engineers (USACE)	The USACE provides engineering and environmental services throughout the nation. The Corps has plans to implement a flood protection project on the lower Pajaro River.
Water Resources Association of San Benito County	The Water Resource Association is comprised of the SBCWD, San Benito County Government, Sunnyslope County Water District, City of Hollister, and City of San Juan Bautista.
Watsonville Wetlands Watch	The Watsonville Wetlands Watch is a nonprofit community based organization dedicated to the protection, restoration and appreciation of the wetlands of the Pajaro Valley.
Wildlands, Inc.	Wildlands, Inc. is a habitat development and land management company with projects throughout California and the western United States. Wildlands is one of the nation's first private organizations to establish mitigation banks and conservation banks that protect wildlife habitat in perpetuity.

2 Regional Description

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

> **B. Regional Description** – Explain why the region is an appropriate area for integrated regional water management. Describe internal boundaries within the region (boundaries of municipalities; service areas of individual water, wastewater, and land use agencies, including those not involved in the Plan; groundwater basin boundaries, watershed boundaries, county boundaries, etc.), major water related infrastructure, and major land-use divisions. Describe the quality and quantity of water resources within the region, including surface waters, groundwater, reclaimed water, imported water, and desalted water. Describe water supplies and demand for a minimum 20-year planning horizon. Describe important ecological processes and environmental resources within the regional boundaries and the associated water demands to support environmental needs. Describe the social and cultural makeup of the regional community; identify important cultural or social values. Describe economic conditions and important economic trends within the regions.
>
> In certain cases, individual agencies or organizations may participate in different regional efforts depending on geography, Plan objectives, or other relevant factors. For such cases, the application should include an explanation of why participation in various regional efforts is appropriate.

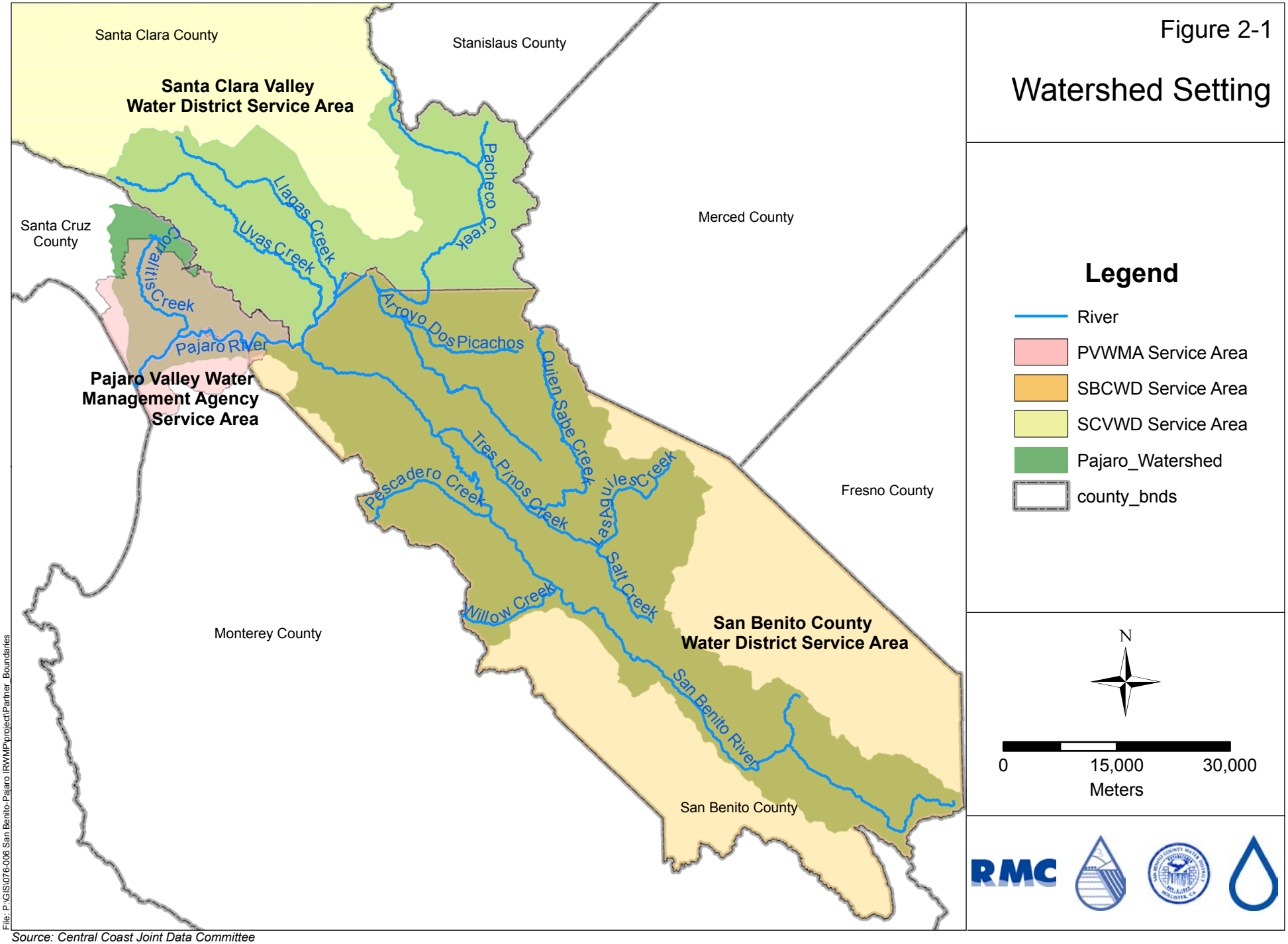
The Pajaro River is the largest coastal stream between San Francisco Bay and the Salinas River Watershed. The watershed is approximately 1,300 square miles and it includes portions of Santa Cruz, Santa Clara, San Benito, and Monterey Counties. Its large size contributes to the number of diverse environments, physical features, and land uses within the watershed. Tributaries to the Pajaro River, the largest of which is the San Benito River, serve as the major routes for surface flow and drainage throughout the watershed.

The Pajaro River coastal area has been identified by the California Coastal Commission as a Critical Coastal Area (CCA). Additionally, the Pajaro River is a tributary to Monterey Bay, a federally protected National Marine Sanctuary administered by the National Oceanic and Atmospheric Administration (NOAA). Therefore, the Pajaro River's water quality is critical to the protection and sustainability of this offshore environment.

This section summarizes the Pajaro River Watershed setting and describes issues and concerns in the watershed.

2.1 Pajaro River Watershed Relevance as an IRWMP

The Pajaro River Watershed is an appropriate area for integrated regional water management because of the mutual needs and shared resources that link the region. Many of the water supply, water quality, flood management and environmental enhancement challenges within the watershed are best addressed through cooperation of the agencies and stakeholders found within its boundaries.
The Collaborative, which is sponsoring the development of the IRWMP, includes the three major water resource agencies within the Pajaro River Watershed - PVWMA, SBCWD and SCVWD. Figure 2-1 illustrates the agencies' jurisdictions in relation to the Pajaro River Watershed. SBCWD and SCVWD service areas encompass the major tributaries to the Pajaro River and form the upper portion of the watershed. The PVWMA service area, which lies at the mouth of the watershed, forms the lower portion of the watershed.



Source: Central Coast Joint Data Committee

The relevance of the watershed in addressing specific needs is discussed below, as well as the relationship of the Pajaro River Watershed to other regional efforts.

2.1.1 Water Supply

Ensuring an adequate water supply is a critical need for the watershed. The ability to meet future demands is impacted by the heavy reliance on groundwater throughout the watershed, which has led to overdraft in some areas, as well as by the varying reliability of imported Central Valley Project (CVP) water. Successfully meeting future water supply challenges will require the coordination of the agencies within the watershed that share these issues and that can work together to develop solutions that could not be implemented on an individual agency basis.

The primary impetus for initiating the Pajaro River Watershed IRWMP was to determine how to better manage the shared water resources within the watershed. The most notable water supply connection among the three partner agencies is that PVWMA, SBCWD and SCVWD are each entitled to CVP deliveries through the San Felipe Division of the CVP system. Because of their common connection to the San Felipe Division, the Partners share an interest in improving the system reliability, efficiencies and operational flexibility.

Natural linkages exist where surface waters and groundwater bodies cross agency boundaries. As an example, in the upper watershed, SCVWD and SBCWD share a connection to the Gilroy-Hollister Groundwater Basin. This groundwater basin connection is a linkage between the two agencies in regards to groundwater management activities. The Pajaro Valley Groundwater Basin, which PVWMA relies upon, is bound by the San Andreas Fault to the east, separating PVWMA from the SCVWD and SBCWD. However, the Pajaro Valley Groundwater Basin is influenced by the Pajaro River, which drains South SCVWD and SBCWD service areas. Therefore, drainage activities within the SCVWD and SBCWD service areas influence groundwater in the PVWMA service area.

In the Partners' Memorandum of Understanding (MOU) for coordination of water resources planning, they identified water conservation, water recycling, desalination, groundwater basin management, water banking, conjunctive use, transfer agreements and storage development as common issues that could be addressed through joint long-term water supply planning.

2.1.2 Water Quality

Water quality needs within the watershed are influenced strongly by the highly agricultural nature of the area. The most significant surface water quality pollutants are sediment and nutrients which are generated through agricultural activities near rivers and creeks that run through the watershed. These pollutants are eventually carried downstream and cause water quality degradation throughout the watershed drainage area. Improving surface water quality requires the cooperation of stakeholders and agencies in all parts of the watershed.

Additionally, the quality of groundwater is an issue throughout the region. Common challenges throughout the watershed with respect to groundwater quality include salinity and nitrate management. Because the entire region relies heavily upon its groundwater resources, the various agencies have a common interest in protecting and improving the quality of the groundwater basins.

2.1.3 Flood Management

Although flooding is of the highest concern in the lower portion of the Pajaro River, effective flood management solutions must consider the entire river and its drainage area, as there are opportunities to influence downstream outcomes through upstream modifications. Because of this, the watershed is a

natural boundary for flood protection efforts. This is evident upon examining the composition of the Pajaro River Flood Prevention Authority (PRWFPA), which is a joint powers authority active in the watershed that includes representatives from the following agencies:

- Monterey County Water Resources Agency (MCWRA)
- SBCWD
- SCVWD
- Santa Cruz County Flood Control and Water Conservation District, Zone 7
- Monterey County
- San Benito County
- Santa Clara County
- Santa Cruz County

All of these agencies are working together towards solving flood management issues in conjunction with providing other watershed benefits including water supply, groundwater recharge, water quality and wildlife and riparian habitat. The United States Army Corps of Engineers is a federal agency which is also involved in flood management for the region.

2.1.4 Environmental Enhancement

There are significant opportunities for working to address riparian habitat, open space and recreation needs in the process of meeting the other water management needs of the watershed. Stakeholders have voiced the desire to make proactive lasting policies and decisions that will sensitize and educate the public about the importance of the Pajaro River Watershed and enhance the public's role as custodians of the riparian environment.

Water management policies and decisions can incorporate elements that provide for the protection, preservation and restoration of native plants, wetlands, open space, terrestrial and aquatic wildlife habitat, and riparian forest. This will require agencies involved in water supply, water quality and flood management issues in the watershed to take proactive steps to work with environmentally-focused agencies and municipalities to incorporate environmental benefits to the maximum extent possible when implementing water management projects.

2.1.5 Relationship to Other IRWMP efforts

SCVWD is also participating in the San Francisco Bay Area IRWMP. The SCVWD service area can be divided into two regions – South County and North County, which drain to Monterey Bay and San Francisco Bay, respectively. In addition to falling within different watersheds, South County and North County have fairly distinct land uses and social, cultural and economic compositions. Because South County is more aligned with the make-up of PVWMA and SBCWD and is in the same watershed, SCVWD determined that coordination with these agencies provided the best opportunity to address water management issues within its South County region, while the Bay Area IRWMP could best address issues within the Santa Clara North County region.

Additionally, the Pajaro River Watershed IRWMP is one of four detailed IRWMP efforts in the greater Monterey Bay region. All IRWMP efforts originate within four Monterey Bay regions, which can generally be described as follows:

- Northern Santa Cruz County through and including Aptos Creek, San Andreas and the Watsonville Sloughs watershed
- Pajaro River Watershed in parts of Santa Clara, San Benito, Santa Cruz, and Monterey Counties
- Salinas River Watershed in Monterey County

- Carmel River Watershed and Seaside groundwater basin in Monterey County

Collaborative efforts have been undertaken with representatives from each of the other three Monterey Bay IRWMP regional groups to ensure overlapping areas and projects are understood and coordinated. Practicality considerations and the extent of Pajaro River Watershed needs and issues led the partner agencies to decide on the Pajaro River Watershed delineation as the appropriate planning boundary. Each of the other three Monterey Bay region IRWMP efforts also considered their delineations to be appropriate; thus, the development of a greater Monterey Bay IRWMP was not determined to be the most feasible initial step. However, recognizing a need for increased coordination, collaboration and communication in the region among Public Agencies, Contributing Entities, and Regulatory Agencies an MOU for Integrated Regional Water Management in the Monterey Bay Area was developed in 2005. The desired result of the Monterey Bay IRWMP is more effectively managed resources, cost efficiencies and better service to the public. Participatory agencies plan to link and integrate the respective IRWM planning efforts and address, at a minimum, water supply, water quality, wastewater, recycled water, water conservation, stormwater/flood control, watershed planning and aquatic habitat protection and restoration on a regional scale. The region, or geographic scope, for the Monterey Bay IRWMP will include the watersheds and associated groundwater basins contributing to Monterey Bay.

The six goals established for the potential Monterey Bay IRWMP effort are:

1. To develop a comprehensive IRWMP for the Monterey Bay area that incorporates regional water supply, water quality, flood control, and environmental protection and enhancement objectives consistent with regional IRWM planning efforts currently underway;
2. To improve and maximize coordination of individual water district plans, programs and projects for mutual benefit and optimal regional gain;
3. To help identify, develop, and implement collaborative plans, programs, and projects that may be beyond the scope or capability of a single water district, but which would be of mutual benefit if implemented among multiple districts;
4. To facilitate regional water management efforts that include multiple water supply, water quality, flood control, and environmental protection and enhancement objectives;
5. To foster coordination, collaboration and communication between water districts and interested stakeholders, to achieve greater efficiencies, enhance public services, and build public support for vital projects; and,
6. To realize regional water management objectives at the least cost possible through mutual cooperation, elimination of redundancy and enhanced competitiveness for State and Federal grant funding.

More recently, in response to the State's definition of the Central Coast as a funding area for future IRWM grant programs, in February 2007 all six IRWMP planning regions within the Central Coast began discussions regarding regional cooperation within the framework of the IRWM process pursuant to Propositions 50 and 84. The six IRWMP efforts within the Central Coast are the four Monterey Bay IRWMPs, the San Luis Obispo County IRWMP and the Santa Barbara County IRWMP. Some of these sub-regions have common, overlapping water interests, but most water issues are more effectively managed within the six geographic sub-regions. Water management interests that may be coordinated across the Central Coast funding area include, but are not limited to, water conservation, water quality monitoring and improvements, fisheries restoration and drought protection. An additional area of coordination among the sub-regions will be to address the geographic areas within the Central Coast region that are not currently covered by an IRWMP.

2.2 Internal Boundaries

The Pajaro River Watershed contains numerous internal boundaries that are associated with counties, cities and special districts. The various boundaries delineate jurisdiction and responsibility for land use planning, various municipal services and water resource management. This section summarizes the major internal boundaries within the watershed.

2.2.1 Counties

The Pajaro River Watershed includes areas within the counties of Santa Clara, Santa Cruz, Monterey, and San Benito. County jurisdiction generally includes land use planning, development, tax assessment, elections, health and well being, and other services. Counties can also be responsible for water and wastewater service in unincorporated area (outside city boundaries). County boundaries in relation to the watershed are shown in Figure 2-2.

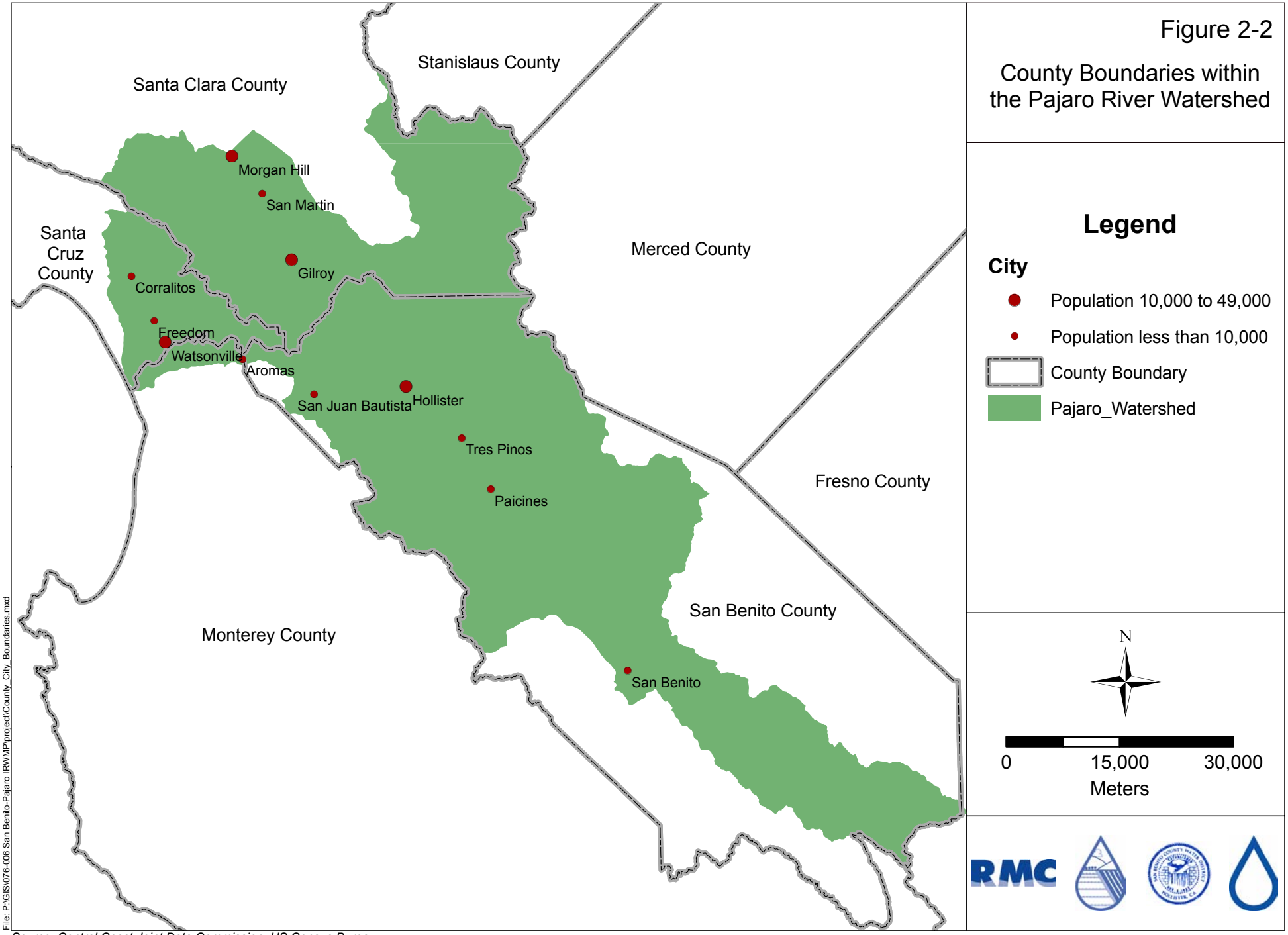
2.2.2 Cities

The major cities in the watershed are Watsonville, Hollister, Gilroy, and Morgan Hill. Figure 2-3 shows boundaries for these major cities and shows locations for other small cities throughout the watershed. Cities are typically responsible for municipal services including water and wastewater service, street and traffic maintenance, and land use planning within their service area. In some cases, special districts have been formed to provide some of these municipal services. Municipal services can also extend beyond the city boundary to serve a designated urban service boundary or other areas.

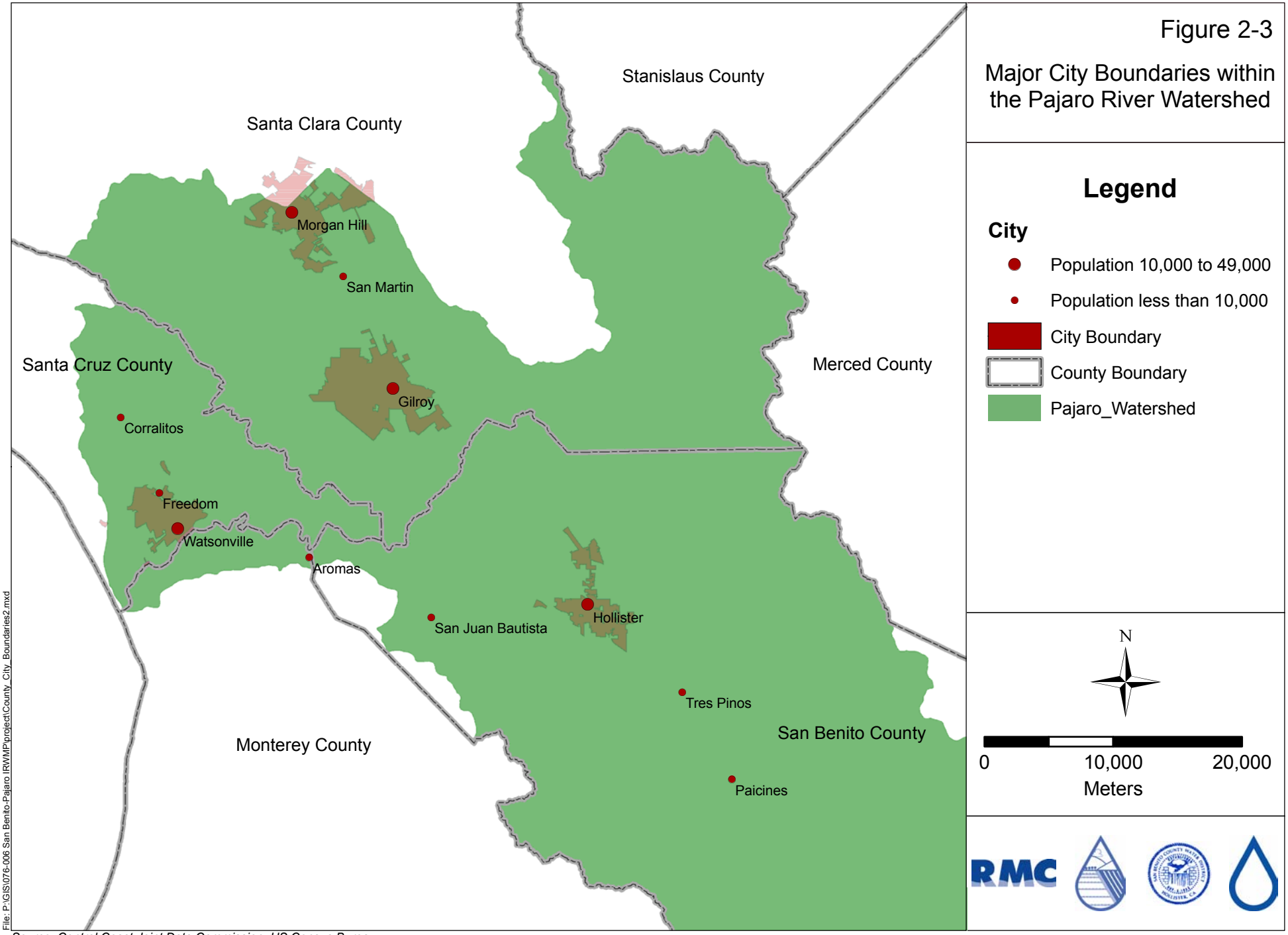
2.2.3 Special Districts

Special districts are local agencies that provide specific public services, such as water supply or flood management, within defined boundaries. Numerous special districts exist within the Pajaro River Watershed. The ones with connections to water management are discussed here. Figure 2-4 shows the general location of each of the special districts discussed below.

Special districts may provide water, or wastewater services rather than County- or City-provided municipal services. The Sunnyslope County Water District, Tres Pinos County Water District, Pacheco Pass Water District, San Martin County Water District, Aromas Water District, and Pajaro/Sunny Mesa Community Services District are six such districts within the watershed. Sunnyslope County Water District is a municipal water supplier and wastewater management agency for portions of the Hollister area, serving roughly 5,000 waster customers and 1,000 wastewater customers. Tres Pinos County Water District provides water and wastewater services to customers in Tres Pinos. Pacheco Pass Water District is responsible for operating Pacheco Reservoir, mainly to promote groundwater recharge within the District's service area. San Martin County Water District is a community water district that serves the unincorporated area of San Martin in Santa Clara County. Aromas Water District is a multi-county special district which provides municipal water service to over 900 connections in Monterey County and San Benito County. Pajaro/Sunny Mesa Community Services District provides water service to nearly 700 residential and commercial users and provides wastewater collection services for the community of Pajaro.



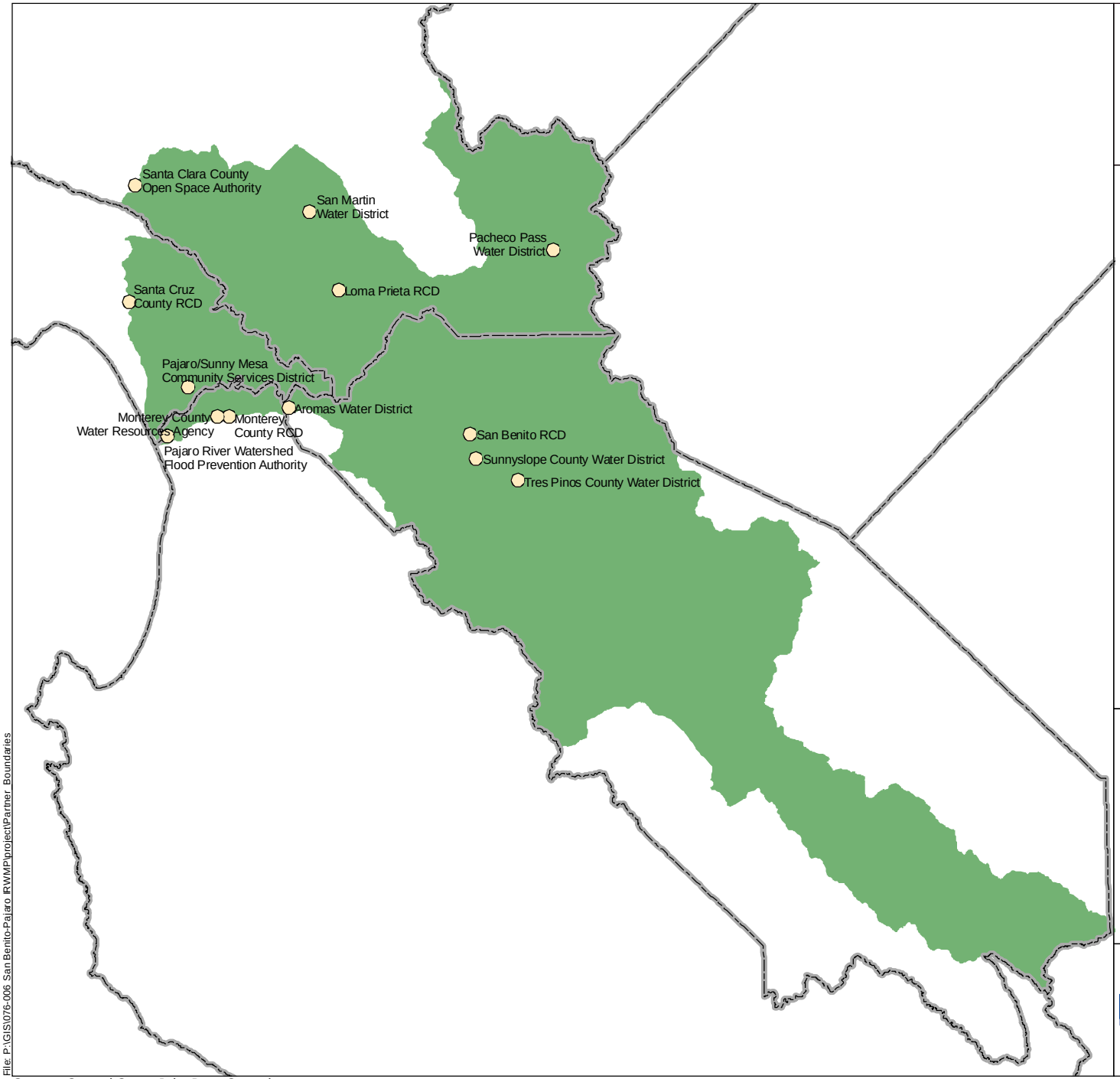
Source: Central Coast Joint Data Commission, US Census Bureau



Source: Central Coast Joint Data Commission, US Census Bureau

Figure 2-4

Special Districts



Legend

- Special Districts
- Pajaro Watershed
- County Boundaries

N

0 15,000 30,000

Meters

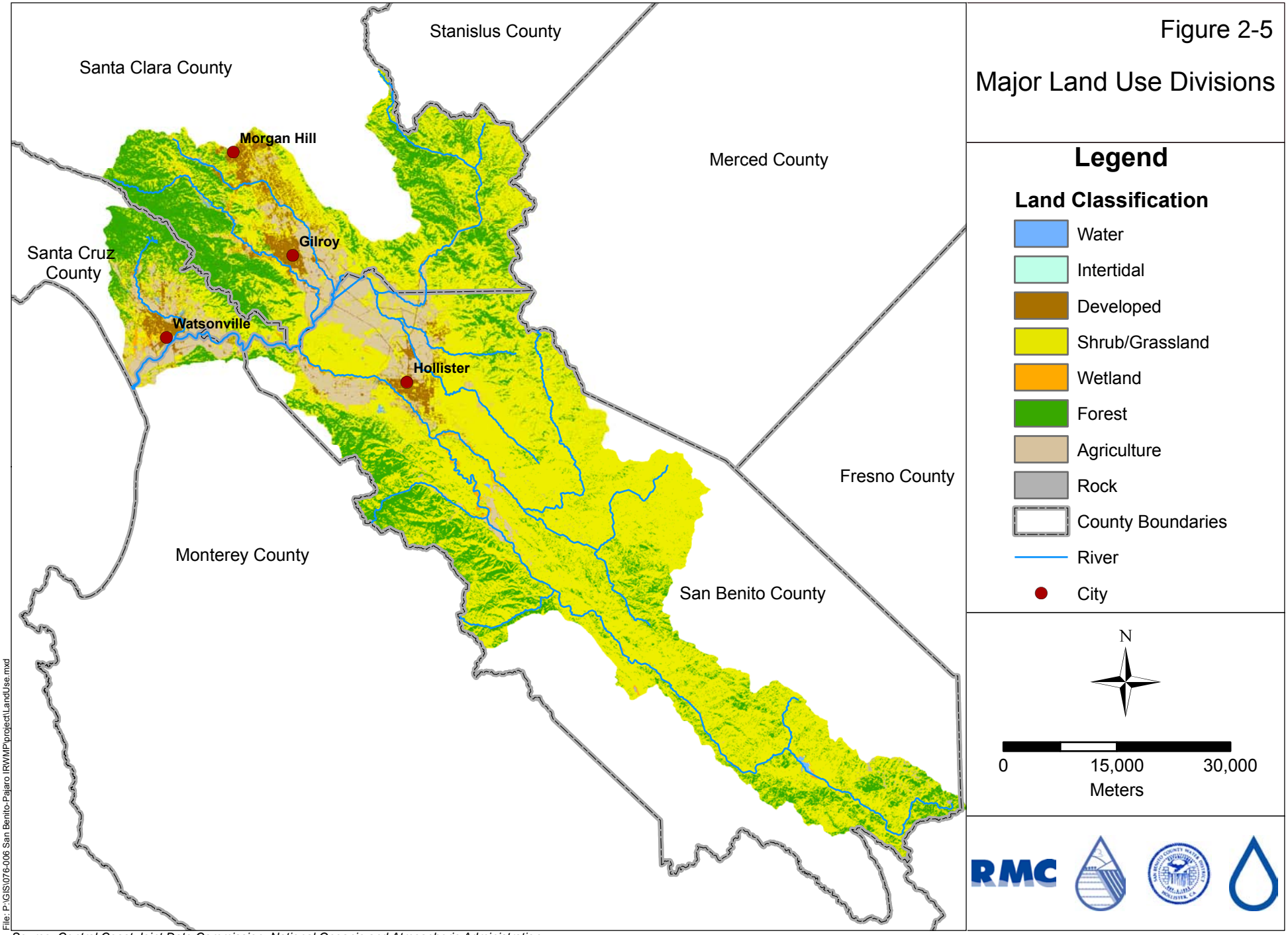
File: P:\GIS\076-006 San Benito-Pajaro IRWMP\project\Partner Boundaries

Source: Central Coast Joint Data Committee

Resource Conservation Districts (RCDs) are another type of special district with interests in water resource management. In California, RCDs are designated as special districts under the state Public Resources Code. Each RCD is comprised of a locally elected or appointed Board of Directors, whose members are also landowners within that RCD typically serve as liaisons between land owners and government agencies. They are involved with the conservation of many natural resources including water, air, soil and wildlife habitat, and they play a very important educational role within watersheds. In the Pajaro River Watershed encompasses four different RCDs –Santa Cruz County RCD, San Benito RCD, Loma Prieta RCD and Monterey County RCD.

The Santa Clara County Open Space Authority is a special district concerned with land preservation, including areas of wetlands, baylands, riparian corridors and other unique habitats in Santa Clara County. In addition to these entities, special districts of importance include those agencies that have authority to manage water supplies within the watershed. For the Pajaro River Watershed these agencies are PVWMA, SBCWD, SCVWD and the Monterey County Water Resources Agency (MCWRA). PVWMA, SBCWD and SCVWD were previously described in Section 1. MCWRA was formed under State Law pursuant to the Monterey County Water Resources Agency Act as a flood control and water agency. MCWRA authority extends throughout Monterey County, which encompasses the southern portion of the lower Pajaro River Watershed. In discussions among the sponsors of the four IRWMP efforts in the Monterey Bay region (see Section 2.1.5), it was agreed that the water management issues faced by MCWRA were best addressed through the Salinas River IRWMP. Although MCWRA is not participating in the Pajaro River Watershed IRWMP as a Collaborative partner, MCWRA is interested in this IRWMP and has and will continue to participate as an active stakeholder.

Similar to MCWRA, the Santa Cruz County Flood Control and Water Conservation District Zone 7 (SCCFC&WCD) is a special district whose jurisdiction overlaps two of the IRWMP efforts ongoing in the Monterey Bay region. Because of its interest in flood management issues within the Santa Cruz County portion of the Pajaro River Watershed, the SSCFC&WCD has participated and will continue to participate as an active stakeholder in the Pajaro River Watershed in addition to the Northern Santa Cruz County IRWMP. SBCWD, SCVWD, MCWRA, and SCCFC&WCD all have the responsibility of addressing flood control and drainage issues in their respective jurisdictions. Such responsibilities may include flood prevention, flood control project planning, drainage services, and maintenance and operations of existing flood control and drainage infrastructure. The PRWFPA, introduced earlier, is a special district formed by the State of California to identify, evaluate, fund, and implement flood prevention and control strategies in the Pajaro River Watershed, on an intergovernmental basis. PRWFPA has completed a watershed study that has identified a recommended flood program that is in the process of being implemented.



Source: Central Coast Joint Data Commission, National Oceanic and Atmospheric Administration

2.3 Land Use

Land use data are critical for identifying and evaluating a multitude of water resources management characteristics including water use, wastewater production, stormwater runoff, environmental habitats, and other natural resources.

Land use data are available from the Department of Water Resources (DWR), U.S. Geological Survey (USGS), and local government agencies. Figure 2-5 illustrates the major land use divisions for the watershed. Development within the watershed, both urban and rural, is clustered around the major cities. Agriculture and grazing are the dominant rural land uses in these areas but represent a small portion of the total watershed land use, which consists of primarily forest, shrub and grassland. Other industries outside of the urban setting include mining and timber harvesting.

General land use trends in the watershed include significant development of rural and agricultural areas associated with the sudden increase in population in the four major cities of the watershed – Watsonville, Hollister, Gilroy, and Morgan Hill. A second land use trend is a shift in the types of crop grown in the watershed. The shift is generally towards higher value crops. Both of these trends need to be addressed through regional water management planning.

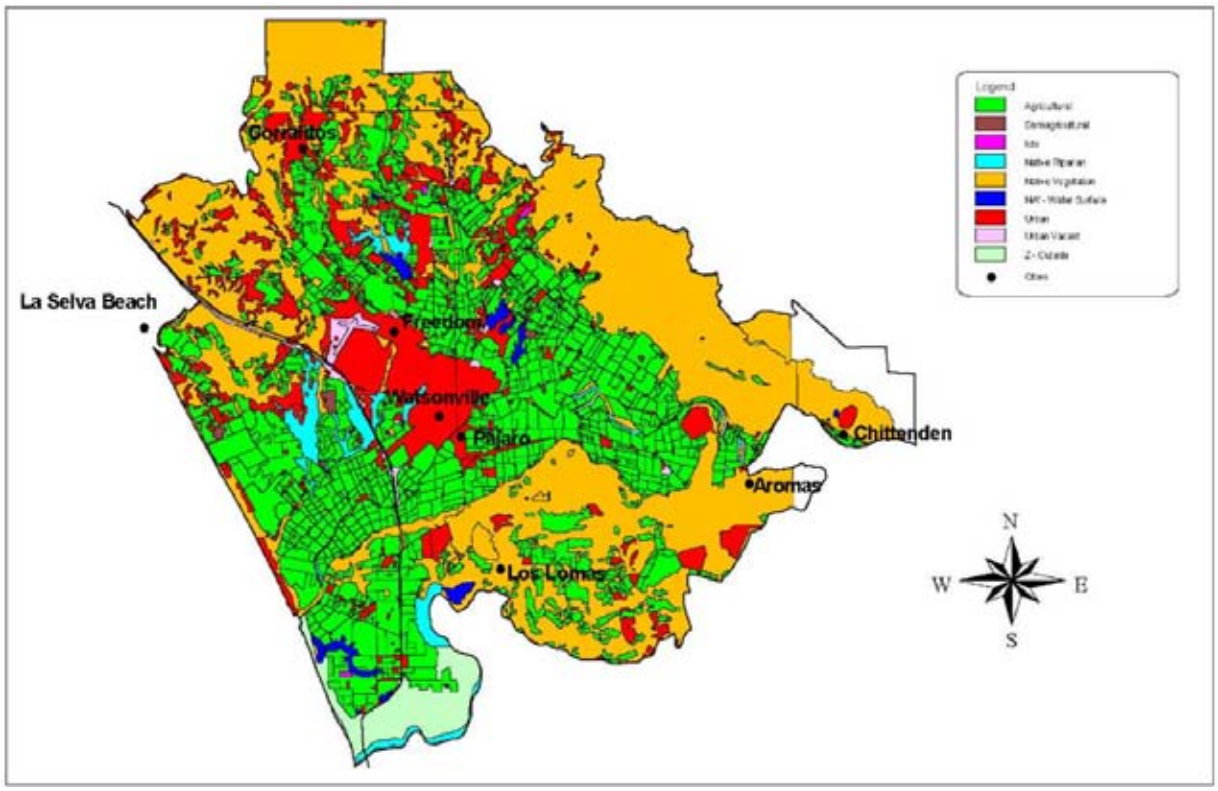
More specific regional land use data for PVWMA, San Benito County and the SCVWD South County is included in the sections below.

2.3.1 PVWMA Land Use

The primary land uses within the lower Pajaro River Watershed are agricultural, native vegetation, native riparian and urban land uses such as commercial, industrial, and residential. About one-half of all land within the PVWMA boundaries is in some type of irrigated agriculture. Native vegetation and agricultural land are the major designations throughout the Pajaro Valley, while urban use is primarily located within or adjacent to the City of Watsonville.

Department of Water Resources (DWR) land use surveys were collected for Monterey and Santa Cruz Counties for 1966, 1975, 1982, 1989, and 1997. Urban land use increases have generally resulted from the conversion of native vegetation land, not agricultural land. Urban land use has increased consistently from only 4,800 acres in 1966 to nearly 12,900 acres in 1997. This increase reflects general population growth trends throughout the State of California over the last several decades. The total agricultural land area has remained relatively constant from 1989 onward. In 1997, approximately 30,200 acres of irrigated agricultural land were within the PVWMA service area. Figure 2-6 shows the 1997 breakdown for the land uses within the PVWMA service area.

Figure 2-6: Land Use in the PVWMA Service Area



For the purposes of land use projections, it is assumed that agricultural land use will remain constant. However, there have been significant shifts in the types of crops grown in the valley. Most apparent are the increases in nursery, strawberry, and vine crops. Detailed economic and marketing surveys have not been conducted and therefore it is not certain whether the shift to high water use crops will continue. For the purposes of a future projection, it is assumed that approximately 2,000 acres of deciduous crops will be converted to berry crops by 2040, equally distributed between strawberry and raspberry crops.

2.3.2 San Benito County Land Use

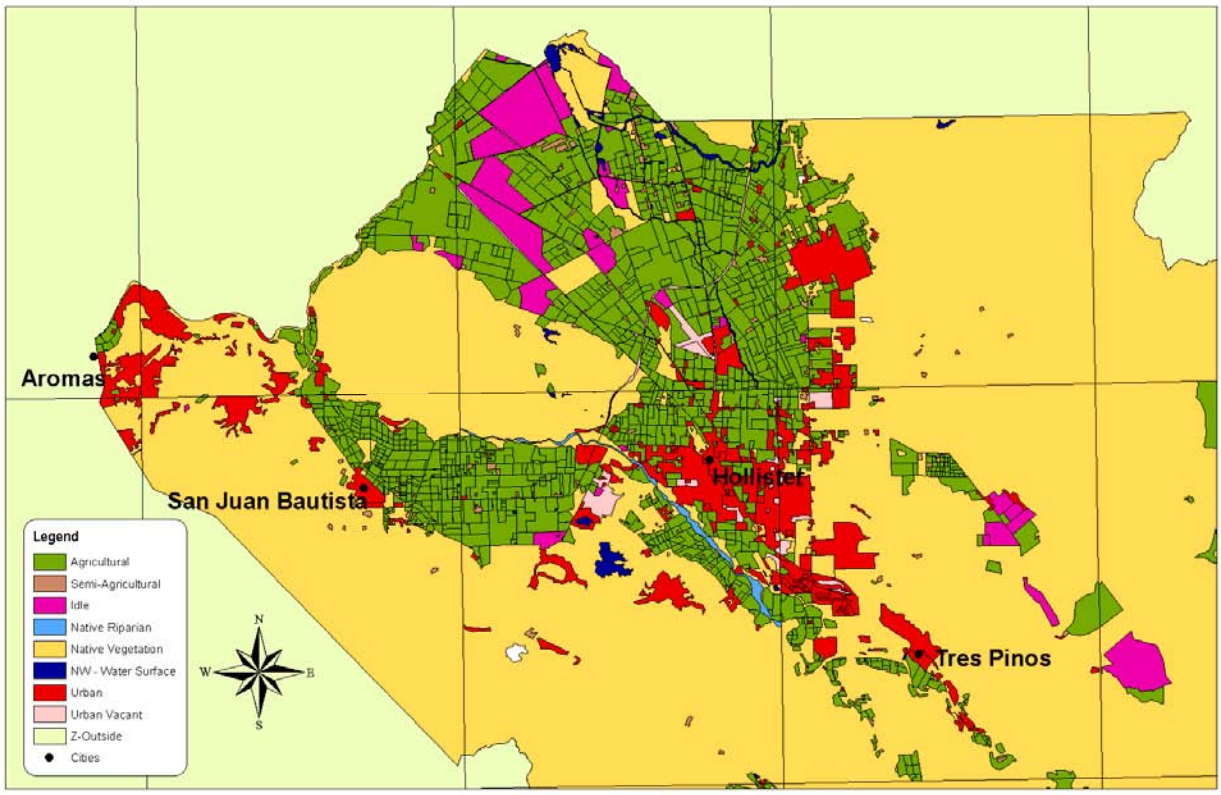
Figure 2-7 shows the major land use categories from DWR 1997 land use survey. The DWR land use data includes crop type and acreage that can be used in conjunction with other factors to estimate crop water use. Based on the *Groundwater Management Plan Update for the San Benito County Part of the Gilroy-Hollister Groundwater Basin April 2004*, irrigated agriculture in San Benito County encompassed approximately 36,000 acres in 2002. By 2022, irrigated acreage is expected to increase to 53,000 acres.

Some of the prime agricultural areas are gradually being converted to urban areas as the population is expanding. Urban land uses are primarily around Hollister and San Juan Bautista in the northern area of the County. Unincorporated residential developments exist primarily around the golf courses and on the edges of alluvial fans and foothills. Industrial areas in the unincorporated portions of San Benito County include various agricultural uses, sand and gravel mines, and munitions manufacturing facilities.

Hollister is the largest urban area in San Benito County, representing approximately 65% of the population. Areas within the City range from light to densely populated residential zones. Commercial

uses are present along major roadways especially in the downtown area. Light industrial and agricultural land uses exist in the northwestern area of the City.

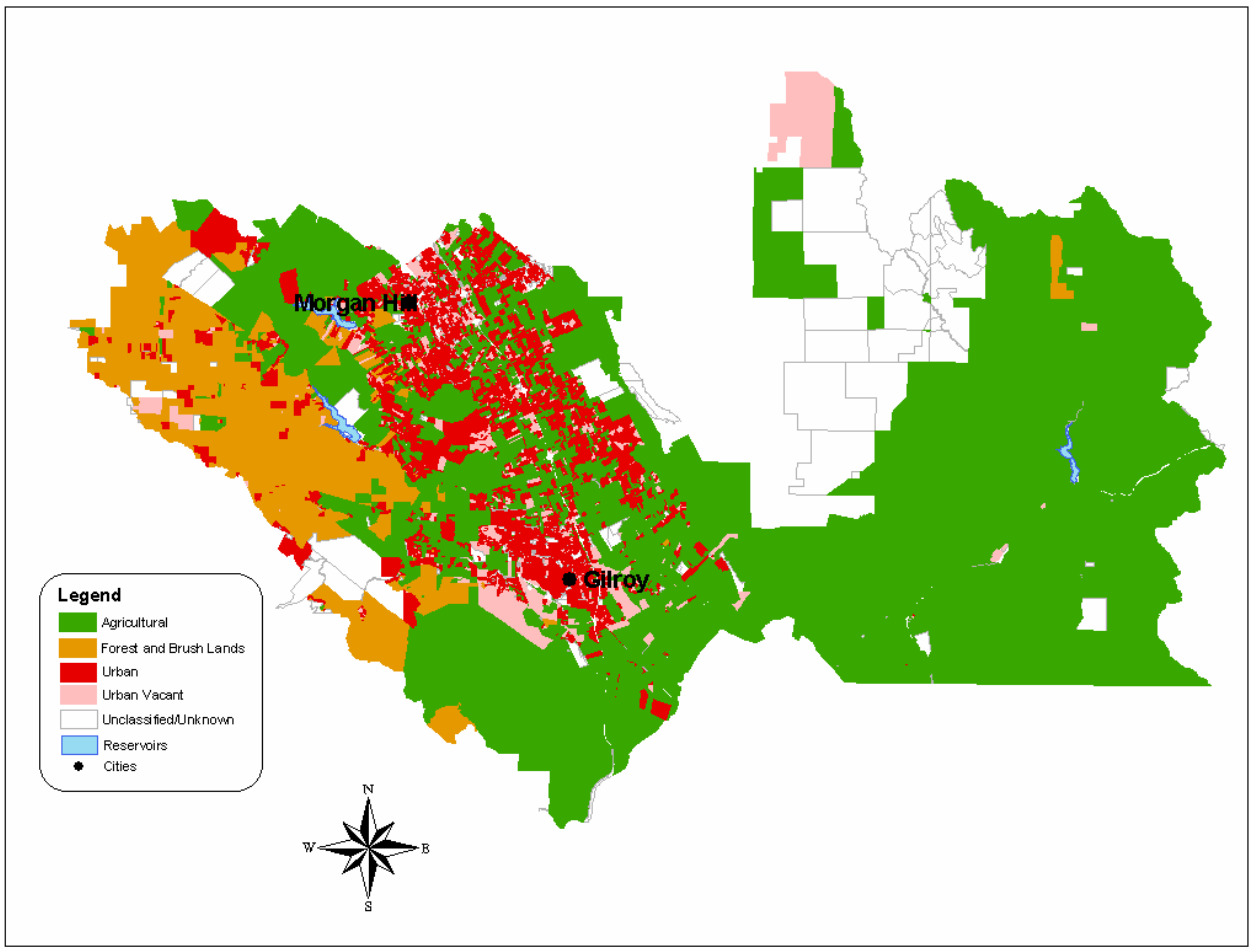
Figure 2-7: Major Land Use in San Benito County



2.3.3 SCVWD South County Land Use

No DWR land use surveys have been performed for the SCVWD service area. However, land use data are available from the Santa Clara County assessor. Gilroy and Morgan Hill are the major urban areas within SCVWD South County. Gilroy, the larger of these two cities, encompasses approximately 14,610 acres. Urban areas within Gilroy range from low-density to high-density residential zones with regions of commercial and industrial use. Gilroy and Morgan Hill are both expected grow in the future, but unlike SCVWD North County where urbanization due to the strong growth in the manufacturing and service sectors has eliminated most of the agriculture, South County is expected to maintain its agricultural roots. Like PVWMA and SBCWD, the majority of land use in South County will remain agricultural and rural residential. Figure 2-8 shows the major land use categories for South County based on Santa Clara County assessors' data.

Figure 2-8: Land Use in SCVWD South County



2.4 Water Demand

Existing and projected water demands were collected from various planning efforts by SBCWD, PVWMA and SCVWD. Major water uses in the watershed are comprised of agriculture irrigation and municipal and industrial (M&I) use. Projections from planning efforts were established based on considerations of land development, population projections, and other considerations. Table 2-1 summarizes the projected water demand for the watershed over the 20-year planning horizon.

Table 2-1: Existing and Projected Water Demand through 2025

Year	PVWMA (AFY)[a]	SBCWD (AFY)[b]	SCVWD (AFY)[c]	Pajaro River Watershed Total (AFY)
2006	72,000	72,000	50,000	**194,000**
2010	73,500	76,400	51,800	**201,700**
2015	74,600	81,800	50,700	**207,100**
2020	75,700	87,200	48,700	**211,600**
2025	76,900	92,600	50,400	**219,900**

Footnotes:

a. Source: RMC, Revised Basin Management Plan, February 2002; Acre-feet per year (AFY). Based on current water sales, the existing water demand is estimated to be closer to 50,000 AFY. Additional modeling planned for 2007 will be conducted to confirm these estimates.

b. Source: Kennedy/Jenks Consultants, Groundwater Management Plan Update for the San Benito County Part of the Gilroy-Hollister Groundwater Basin, April 2004.

c. Source: SCVWD, Urban Water Management Plan, 2005. [South County– Llagas Sub-basin].

Between 2006 and 2025, the total water demand for the watershed is projected to increase by 13%. As demonstrated in Table 2-1 the majority of this increased demand can be attributed to increasing demand in San Benito County, which is projected to increase 29% by 2025.

2.4.1 SBCWD Water Demand

SBCWD urban demand assumes that water demand will decrease one percent (1%) per year per household for the next 20 years through improved conservation and efficiency. This assumption results in a reduction in water use from 420 gpd in 2002 to 344 gpd in 2022 per household. New residential development is expected to use 312 gpd. SBCWD projections of future agricultural water demand assumes irrigated acreage will increase approximately 17,000 acres by 2022. A water use factor of 1.8 acre-feet per acre with an effective precipitation of 0.4 feet and 85% irrigation efficiency was used to make the projection.

2.4.2 PVWMA Water Demand

In the PVWMA service area urban water use will increase with projected increases in population, and agricultural water use is expected to increase steadily through the conversion of low water-use crops to high water-use berry crops. PVWMA's water demand projections account for increased conservation efforts for both agricultural and urban users.

2.4.3 SCVWD Water Demand

The SCVWD water demand estimates are for the South County portion of the service area (Llagas Subbasin). The increase in demand in the SBCWD and PVWMA service areas is balanced in part by the significant conservation efforts on the part of SCVWD, which are projected to reduce the overall water demand in Santa Clara County by 20% over the next 20 years. Table 2-1 takes into account the water conservation that is called for in the SCVWD 2003 Integrated Water Resources Plan (IWRP) "No Regrets" portfolio.

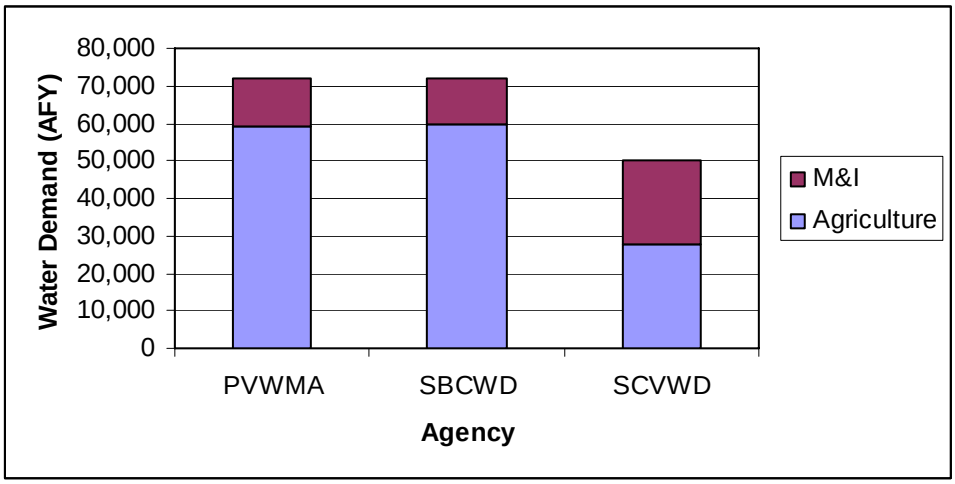
2.4.4 M&I versus Agriculture Demand

In recent years, the relative proportions of M&I use versus agricultural use for the three agencies combined was approximately 25% M&I and 75% agricultural. Figure 2-9 shows the proportions for the

individual agencies. Although annual fluctuations are expected, over the next 20 years the relative PVWMA and SCVWD M&I and agricultural usage percentages are expected to remain fairly constant, while the proportion of agriculture usage for SBCWD is expected to grow by 2-3% for SBCWD.

Water management planning on a regional level rather than on a smaller jurisdictional level can take advantage of the counter jurisdictional trends described above to develop a coordinated sustainable water management strategy.

Figure 2-9: M&I versus Agricultural Demand



2.5 Water Quality and Quantity

The region's water supplies consist of groundwater, local surface water, import surface water from the CVP, and recycled water. Major water supply and quality issues in the watershed include:

- Pajaro Valley Groundwater Basin overdraft
- Salinity and hardness in the Gilroy-Hollister Groundwater Basin
- Contaminated or poor groundwater quality throughout the watershed
- San Felipe Division water supply reliability
- Sediment and nutrients in surface water throughout the watershed

Additional water supply and quality issues are described in the following sections along with a summary description of the various supplies.

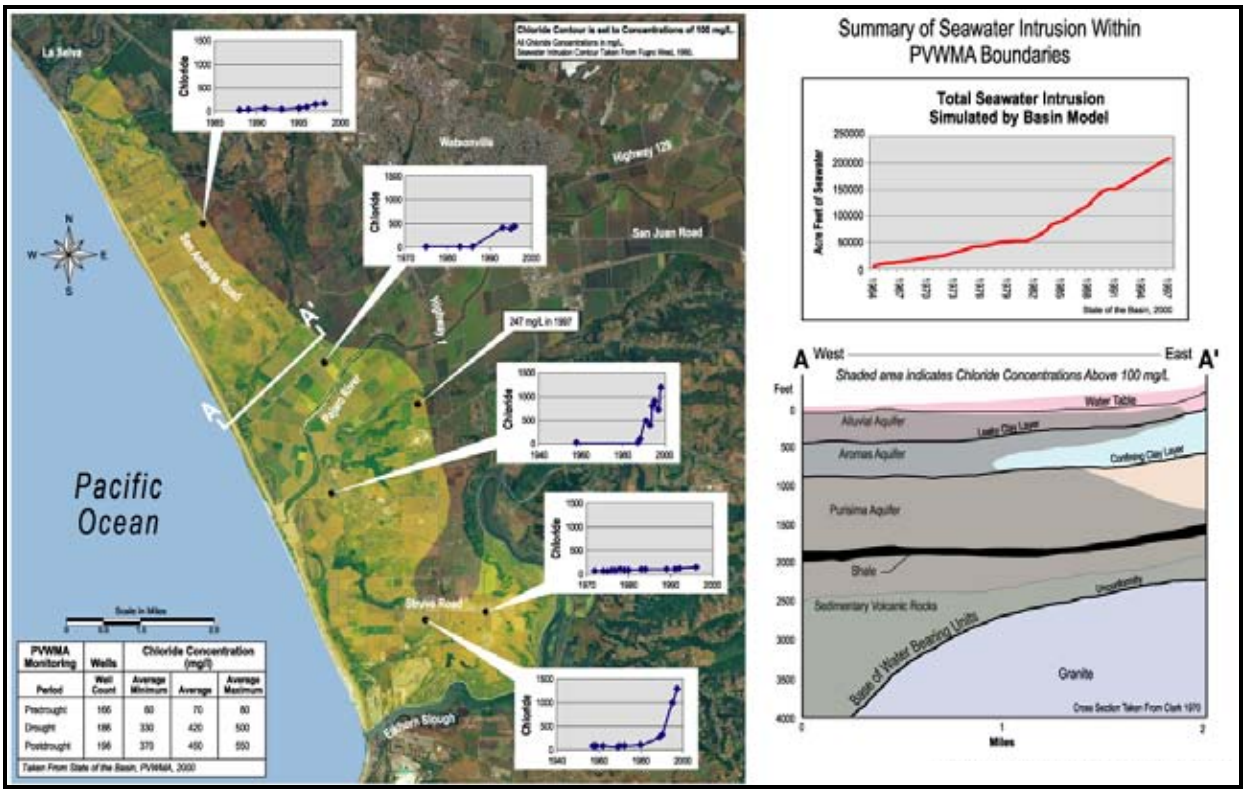
2.5.1 Groundwater Supply

Groundwater is the major water supply in the Pajaro River Watershed. PVWMA, SBCWD, and SCVWD are responsible for management of various groundwater basins in the Pajaro River Watershed. Groundwater basin characteristics of importance include water quality, supply sustainability, land subsidence, and liquefaction. The quality and sustainability of groundwater varies throughout the watershed and is dependent on management activities and local practices. Land subsidence and liquefaction issues can be associated with groundwater level management and are related to sustainable yield and groundwater basin operation.

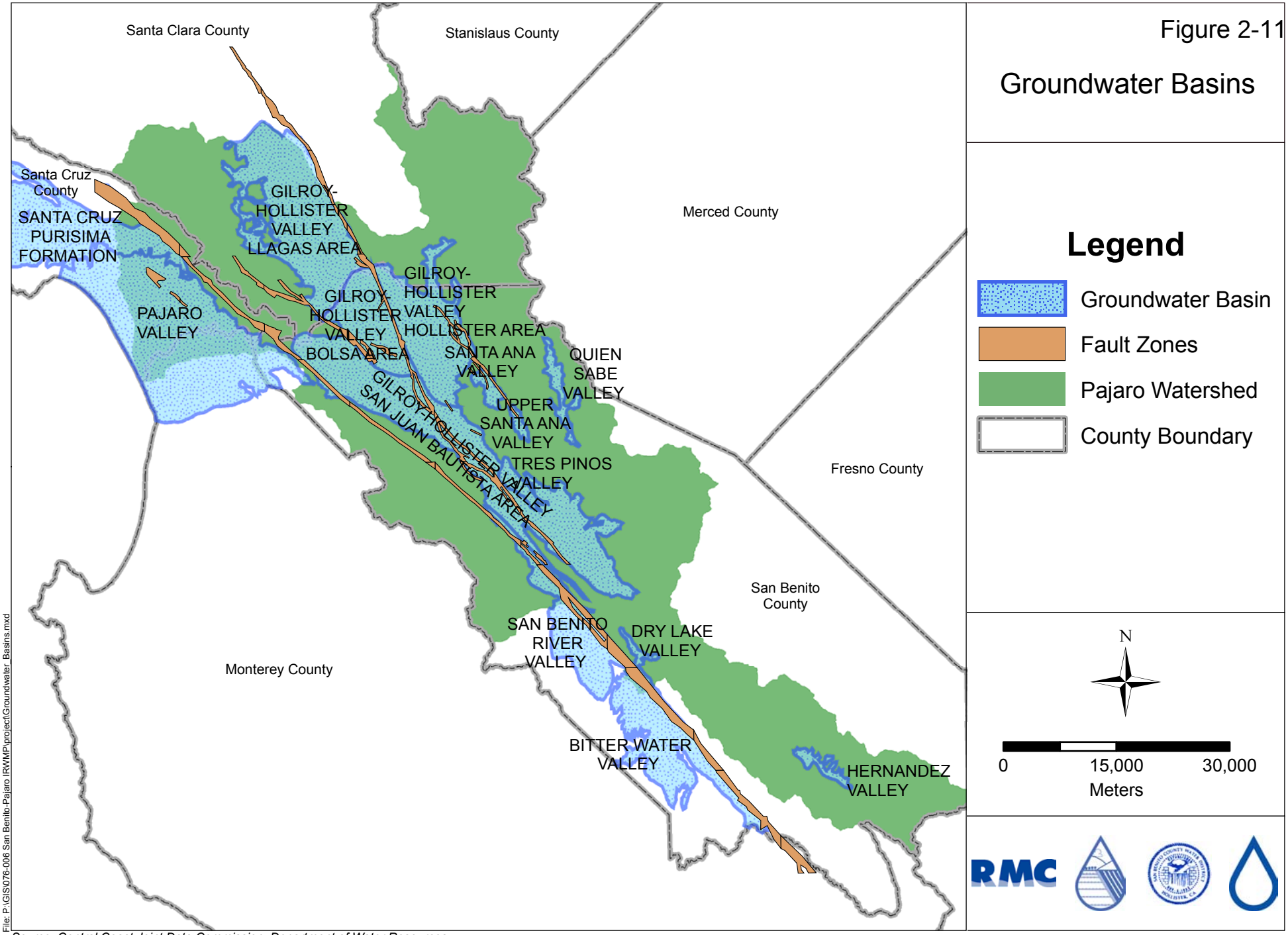
The Pajaro Valley Groundwater Basin, which is separated from the rest of the watershed's groundwater basins by the San Andreas Fault, is affected by overdraft and seawater intrusion that are impacting the quality of groundwater. 90% of total water demand is from agriculture and 8,500 acres of land near the coast are either experiencing or are threatened by seawater intrusion. Other Pajaro Valley groundwater quality concerns include nutrients, manganese, Methyl Tertiary Butyl Ether (MTBE, from underground gasoline storage tank leaks), and other contaminants. As previously described, the Pajaro Valley Groundwater Basin is influenced by the Pajaro River, which drains the upper portion of the watershed including the SCVWD and SBCWD jurisdictional areas. Therefore, collaboration by the stakeholders in the region is critical for managing the groundwater basin.

Figure 2-10 shows the extent of seawater intrusion in the lower watershed.

Figure 2-10: Coastal Seawater Intrusion



The major groundwater basin that underlies the SCVWD and SBCWD portions of the watershed is the Gilroy-Hollister Valley Groundwater Basin, which can be further subdivided into the Llagas, Bolsa, San Juan Bautista and Hollister subbasins. Portions of the Gilroy-Hollister Valley Groundwater Basin are subject to high groundwater levels; over the past few years, the groundwater table has approached or reached the land surface at several locations creating nuisance problems for existing land uses. Portions of this basin are also affected by high salinity levels, nutrients, perchlorate, MTBE, and other contaminants, which can impact the beneficial use of groundwater. Figure 2-11 shows the groundwater basins in the watershed in relation to county boundaries and fault lines.



Source: Central Coast Joint Data Commission, Department of Water Resources

Groundwater recharge occurs through natural sources as well as artificial sources. Currently, natural sources such as infiltration of rainfall, seepage of stream flow, and percolation of irrigation water are the primary sources of recharge in the Pajaro Valley Groundwater Basin. The variation in precipitation and stream flow influences how and when the Pajaro Valley Groundwater Basin is recharged. Within the SBCWD portion of the Gilroy-Hollister Valley Groundwater Basin, recharge occurs through a combination of natural and artificial sources including infiltration of rainfall, direct runoff, CVP water percolation, percolation from surface water from reservoirs, and deep percolation of irrigation water and treated wastewater effluent. Percolation of imported CVP has served as a significant source of recharge in the Hollister and San Juan Bautista sub-basins; the Bolsa sub-basin does not receive CVP water. Groundwater recharge is also promoted through releases from the Hernandez and Paicines Reservoirs which store runoff during the wet months and release during the dry season. Both artificial and natural recharge are important for sustaining groundwater supplies in the Llagas sub-basin. In an effort to balance groundwater extraction and to ensure that groundwater supplies are sustained, SCVWD operates several stretches of active in-stream recharge and four percolation ponds within the Llagas Subbasin. These artificial recharge operations employ both water from local reservoirs and imported water. The limiting factor in SCVWD's groundwater recharge operations is the extent of its infrastructure.

The quantity of groundwater available for use in the region is based on both the groundwater sustainable yields and the groundwater quality. Table 2-2 presents the groundwater quantities that are assumed for the region, and Table 2-3 summarizes groundwater quality concentration ranges for various subbasins within the Pajaro River Watershed. Specific groundwater quality issues of concern include seawater intrusion along the coast, perchlorate plumes in San Martin and Hollister, long-term groundwater salinity build up in the upper watershed, MTBE and nitrates.

Table 2-2: Groundwater Sustainable Yields

Service Area Basin	Sustainable Yield (AFY)
PVWMA	24,000[a]
SBCWD	54,000[b]
SCVWD	19,700[c]
Total	**97,700**

Footnote:

a. The sustainable yield with current pumping practices is only 24,000 AFY; however with modified practices it may increase to 48,000 AFY. (RMC, PVWMA Revised Basin Management Plan, February 2002)

b. While the sustainable yield is 54,000 AFY, the assumed beneficial yield is only 39,000 AFY due to water quality issues. (Kennedy Jenks, Groundwater Report Update for the San Benito County Part of the Gilroy-Hollister Groundwater Basin, April 2004)

c. The long-term average natural groundwater recharge in the Llagas basin was estimated to be 19,700 AFY (SCVWD communication, 2007). This is the presumed groundwater sustainable yield. SCVWD does not determine sustainable yields. To ensure that groundwater supplies are sustained, SCVWD monitors groundwater elevations. The sustainable level is considered the groundwater elevation recorded in 1987. Based on monitoring of the elevation and an assumed aquifer storage coefficient, storage within the South County groundwater basins (which includes both the Llagas and Coyote sub-basins) is estimated to have increased by 30,000 AF since 1987 (SCVWD, Groundwater Conditions 2001, July 2002)..

Table 2-3: Groundwater quality concentration ranges for Pajaro River Watershed sub-basins

Parameter	Pajaro Valley[a]	San Benito Basin Wide[b]	Llagas[c]
Chloride (mg/L)	**10-47,542**	**2.5-1,610**	**24-52**
Sulfate (mg/L)	**1-2,872**	**0.2-1,400**	**32-65**
Nitrate (mg/L)	**0.1-1,487**	**0.1-513**	**44-47**
TDS (mg/L)	**300-28,000**	**8.0-6,321**	**320-540**
SAR	**0.5-33.7**	**94-240**	**--**
Electrical Conductance (uS/cm at 25°C)	**150-43,000**	**--**	**500-715**
Aluminum (µg/L)	**111-2,200**	**0.1-13,000**	**5-51**
Arsenic (µg/L)	**1-30**	**0-540**	**<2**
Barium (µg/L)	**100-240**	**0.1-1,400**	**99-180**
Boron (µg/L)	**60-1,900,000**	**46-65,000**	**82-159**
Cadmium (µg/L)	**1-175**	**0.5-10**	**<0.5**
Chromium (µg/L)	**1-140**	**0-87**	**2-10**
Copper (µg/L)	**8-1,600**	**0-1,240**	**0.75-3.90**
Fluoride (mg/L)	**0.23-230**	**0-0.51**	**0.12-0.17**
Iron (µg/L)	**0.55-28,500**	**0-24,000**	**14-170**
Lead (µg/L)	**1-80**	**0-35**	**<2**
Manganese (µg/L)	**0.36-4,800**	**0-2,640**	**0.86-21**
Mercury (µg/L)	**0.1-5.8**	**0-30**	**<0.2**
Nickel (µg/L)	**Non-detectable**	**0.5-520**	**<2-10**
Selenium (µg/L)	**1-5**	**0.6-61**	**<2**
Silver (µg/L)	**Non-detectable**	**7-80**	**<0.5**
Zinc (µg/L)	**2-6,000**	**0.1-3,000**	**10-32**

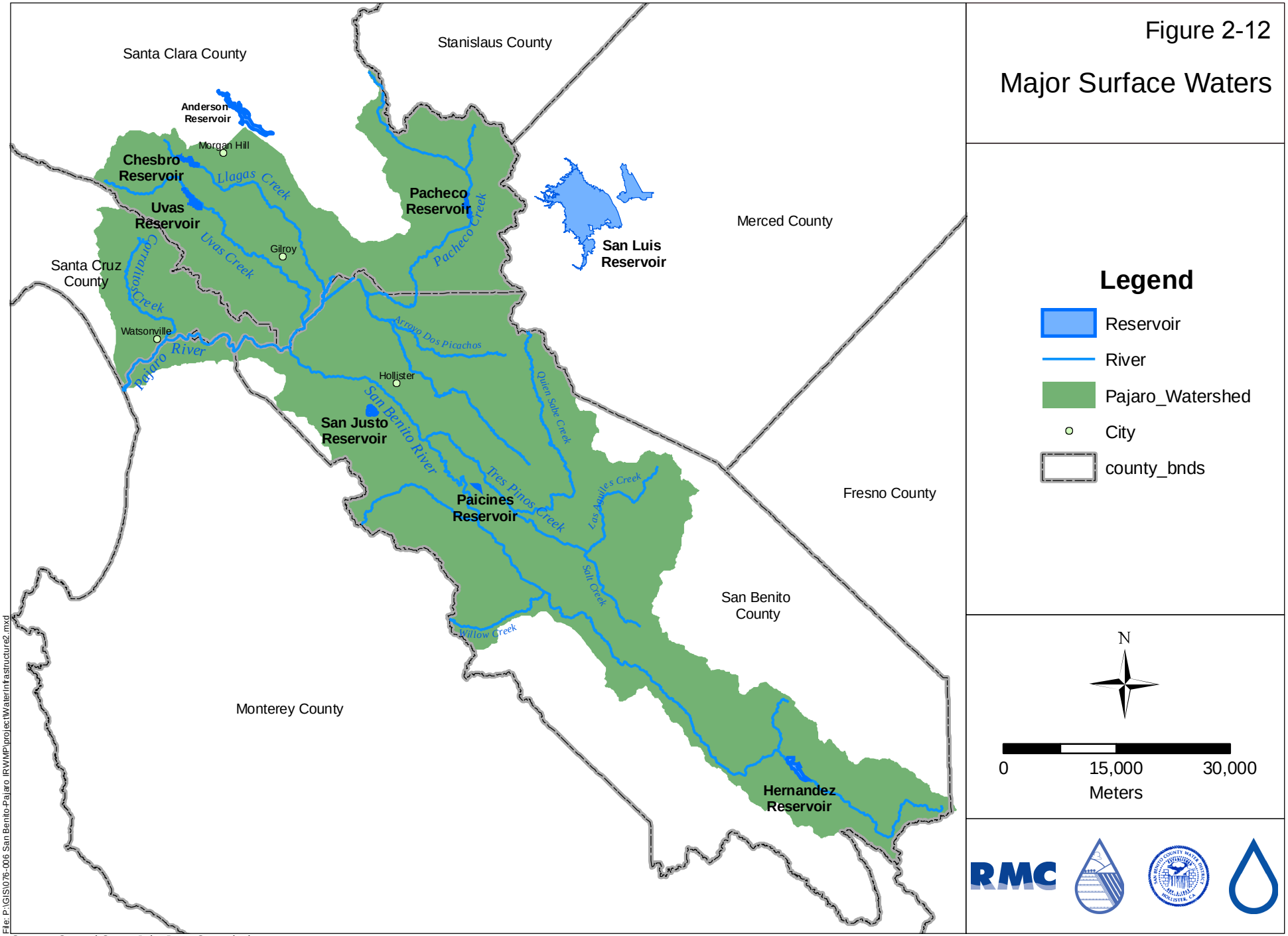
Footnotes:

a. Source: Data from PVWMA.
b. Source: Todd Engineers, *Development of a Water Quality Monitoring Program - Hollister Groundwater Basin*, June 2004.
c. Source: Santa Clara Valley Water District Groundwater Management Plan, July 2001. Values represent typical concentration ranges, or the approximate 95% Confidence Interval estimate of the true population median.

Specific groundwater quality issues of concern include seawater intrusion along the coast, perchlorate plumes in San Martin and Hollister, long-term groundwater salinity build up in the upper watershed, MTBE, and nitrates.

2.5.2 Local Surface Water

Local surface waters provide a variety of important functions and benefits in the watershed. These functions and benefits include drainage, flood protection, groundwater recharge, ecological habitats, recreation, and water supply. Important surface water characteristics include water quality, flood conveyance, and interaction with groundwater. Figure 2-12 shows the major surface waters in the watershed including reservoirs, creeks, and rivers.



Source: Central Coast Joint Data Commission

Table 2-4 provides descriptions of the major reservoirs owned by agencies within the Pajaro River Watershed. San Luis Reservoir, which lies outside of the watershed, will be discussed in greater detail in Section 2.5.3.

Table 2-4: Existing Major Local Surface Supply Reservoirs

Agency/Reservoir Name	Capacity (AF)	Notes
SCVWD		
Chesbro Reservoir	7,945	Chesbro Reservoir discharges to Llagas Creek, which ties into Pajaro River. The reservoir is operated to facilitate groundwater recharge in the Gilroy-Hollister Groundwater Basin.
Uvas Reservoir	9,835	Uvas Reservoir discharges to Uvas Creek, which ties into Pajaro River. The reservoir is operated to facilitate groundwater recharge in the Gilroy-Hollister Groundwater Basin and provide flood protection.
Anderson Reservoir	90,373	Anderson Reservoir discharges to Coyote Creek, which flows to San Francisco Bay. The reservoir is operated to facilitate groundwater recharge in the Santa Clara Valley Groundwater Basin, provide an emergency source of supply to SCVWD water treatment plants, and provide flood protection. Though located outside of the Pajaro River Watershed, historically, the reservoir was connected to the Gilroy-Hollister Groundwater Basin via a pipeline.
SBCWD		
Hernandez Reservoir	18,300	Hernandez Reservoir stores runoff from the upper San Benito River and has a tributary watershed of about 85 square miles. The reservoir covers about 610 acres. The reservoir is operated to facilitate groundwater recharge in the Gilroy-Hollister Groundwater Basin and provide flood protection
Paicines Reservoir	2,870	The Paicines Reservoir is an off-stream reservoir located between the San Benito River and Tres Pinos Creek and is filled by water diverted from the San Benito River, with some water coming from water stored and released from Hernandez Reservoir.
San Justo Reservoir	10,000	San Justo Reservoir (owned by the USBR) is located 3 miles southwest of Hollister. San Justo Reservoir provides elevated operational storage and flexibility for the SBCWD CVP system.
Pacheco Pass Water District		
Pacheco Reservoir	6,143	Pacheco Reservoir discharges to North Pacheco Creek which ties into the Pajaro River. This reservoir facilitates local groundwater recharge. The reservoir is owned and operated by Pacheco Pass Water District although data collection and management is performed by SCVWD.

The State Water Resources Control Board (SWRCB) has identified a number of water bodies in the Pajaro River Watershed that suffer significant water quality impairments from a variety of pollutants that prevent their beneficial use as defined in the Regional Water Quality Control Board (RWQCB) Basin Plan. The beneficial uses affected include municipal, agricultural, and industrial water supply, ground water recharge, support of rare, threatened or endangered species, migration and spawning of aquatic organisms, and preservation of wildlife habitat, biological habitats of special significance, cold and warm freshwater habitat, as well as estuarine ecosystems.

The impaired water bodies are listed on the RWQCB Clean Water Act (CWA) Section 303(d) list of impaired water bodies for nutrient, sediment, fecal coliform, mercury, chloride, pH, low dissolved oxygen and pesticide pollutants/stressors. Table 2-5 summarizes the CWA Section 303(d) listed water bodies and the identified pollutant/stressors, as well as potential sources from the 2006 update. In total, 160.2 miles of river and creek reaches and 626 acres of reservoir are impaired. Each water body-pollutant combination must be addressed through the development of a Total Maximum Daily Load (TMDL), which determines the total pollutant load that a water body can receive without affecting beneficial use. Each TMDL includes a determination of target load allocations for each source and identifies parties that will be responsible for attaining the TMDL allocations through reductions in pollutant loading. Once a TMDL is established, it must be implemented over a time period specified in the TMDL. The status of the TMDL associated with each water body-pollutant combination is included in Table 2-5. As shown in the table, the RWQCB has completed four TMDLs in the Pajaro River Watershed: the Pajaro River (Including Llagas Creek) Nitrate TMDL, the Pajaro River (Including San Benito River, Llagas Creek and Rider Creek) Sediment TMDL, the Watsonville Slough Pathogens TMDL, and the Clear Creek and Hernandez Reservoir Mercury TMDL. The anticipated completion date for remaining TMDLs is also identified in table.

The nitrate and sediment TMDLs, completed in 2005, will have the most widespread impact on stakeholders and agencies in the watershed. These two TMDLs have identified irrigated agriculture as a significant anthropogenic source of both nitrate and sediment loading. Additional sources of sediment loading that have been identified are silviculture, urban/residential areas, streambank erosion, sand and gravel mining, rangeland/grazing, roads and landslides/natural erosion. Nitrate and sediment pose one of the most significant challenges to water quality. For instance, tributary streams to the Pajaro River feed surface water concentrations in excess of 40 (up to 80) ppm nitrate-N during the drought season. The TMDL for Nitrates is scheduled to be implemented over a 20 year period and relies upon the implementation of Farm Water Quality Plans by the landowners and operators of irrigated agriculture activities. The TMDL for Sediment has a timeframe of 45 years and focuses on the implementation of Farm and Range Water Quality Plans, renewal of existing Waste Discharge Requirements for sand and gravel mining operations and a land disturbance prohibition for pasture and rangelands, roads, animal and livestock facilities and hydromodification-related activities. As described below, a number of efforts have evolved that will help address these TMDLs. These efforts involve the participation of a diverse group of stakeholders and agencies throughout the watershed.

Table 2-5: Pajaro River Watershed CWA Section 303(d) Listed Water Bodies (2006 Update)

Water Body Name (Length/Area Impaired	Pollutant/Stressor	Potential Sources	TMDL Status
Corralitos Creek (13 miles)	Fecal Coliform	Source Unknown	Under Development: *Corralitos Creek Pathogen TMDL*
Hernandez Reservoir (626 acres)	Mercury	Surface Mining	Complete: *Clear Creek and Hernandez Reservoir TMDL for Mercury* (2004)
Llagas Creek	Chloride	Non-point Source, Point Source	Proposed 2019 Completion

Water Body Name (Length/Area Impaired	Pollutant/Stressor	Potential Sources	TMDL Status
(16 miles)	Fecal Coliform	Pasture Grazing-Riparian and/or Upland Irrigated Crop Production Agricultural Return Flows Habitat Modifications	Proposed 2019 Completion
	Low Dissolved Oxygen	Municipal Point Sources Irrigated Crop Production Agricultural Return Flows Habitat Modification	Proposed 2019 Completion
	Nutrients	Municipal Point Sources Agriculture Irrigated Crop Production Pasture Grazing-Riparian and/or Upland Agriculture-Storm runoff Agriculture-Irrigation Tailwater Agriculture-Return Flows Urban Runoff/Storm Sewers Habitat Modification Non-point Source Unknown Point Source	Complete: *Pajaro River and Llagas Creek TMDL for Nitrate* (2005)
	Sedimentation /Siltation	Agriculture Hydromodification Habitat Modification	Complete: *Pajaro River TMDL for Sediment (including Llagas Creek, Rider Creek and San Benito River* (2005)
	pH	Source Unknown	Proposed 2019 Completion
Pajaro River (32 miles)	Fecal Coliform	Pasture Grazing-Riparian and/or Upland Natural Sources Non-point Source	Proposed 2011 Completion
	Nutrients	Agriculture Irrigated Crop Production Agriculture-Storm Runoff, Subsurface Drainage, Irrigation Tailwater, Return Flows Urban Runoff/Storm Sewers Wastewater-land Disposal Channelization Removal of Riparian Vegetation Non-point Source	Complete: *Pajaro River and Llagas Creek TMDL for Nitrate* (2005)
	Sedimentation/ Siltation	Agriculture Irrigated Crop Production Range Grazing-Riparian and/or Upland Agriculture-Storm Runoff Resource Extraction Surface Mining Hydromodification Channelization Habitat Modification Removal of Riparian Vegetation Streambank Modification/Destabilization Channel Erosion	Complete: *Pajaro River TMDL for Sediment (including Llagas Creek, Rider Creek and San Benito River)* (2005)
San Benito River (86 miles)	Fecal Coliform	Source Unknown	Proposed 2011 Completion

Water Body Name (Length/Area Impaired	Pollutant/Stressor	Potential Sources	TMDL Status
	Sedimentation/ Siltation	Agriculture Resource Extraction Non-point Source	Complete: *Pajaro River TMDL for Sediment (including Llagas Creek, Rider Creek and San Benito River)* (2005)
Tequisquita Slough (7.2 miles)	Fecal Coliform	Agriculture Natural Sources Non-point Source	Proposed 2011 Completion
Watsonville Slough (6.2 miles)	Pathogens	Urban Runoff/Storm Sewers Source Unknown Non-point Source	Complete: *TMDL for Pathogens in Watsonville Slough* (2006)
	Pesticides	Agriculture Irrigated Crop Production Agriculture-Storm Runoff, Irrigation Tailwater Non-point Source	Proposed 2007 Completion

In December, 2002, the Santa Cruz County Resource Conservation District (SCCRCD) completed the *Lower Pajaro River Enhancement Plan* to assess erosion and sedimentation problems in several tributary watersheds in the Lower Pajaro River Watershed. The plan was supported by a grant jointly funded by the California Coastal Conservancy and the Central Coast RWQCB. A key goal of this enhancement plan was to work in cooperation with landowners, land managers, and agency staff to assess historical and existing conditions in order to determine principal physical factors causing significant erosion and sedimentation problems in the areas studied. The study identified enhancement strategies to address and reduce drainage and erosion problems in the study area. The Plan was reviewed by a steering committee of Lower Pajaro landowners and interest groups and by a Technical Advisory Committee of agencies and resource professionals.

A variety of alternative on-farm and bank stabilization best management practices (BMP) were presented that are used to stabilize sediment (source control) and to reduce erosion and the delivery of sediment from upland areas and waterways. All of the practices described are cost-effective methods designed to stabilize soil by primarily slowing runoff from the fields and by stabilizing stream and waterway banks that are experiencing excessive bank erosion. Sheet and rill erosion from bare fields and bank erosion from unstable drainage ditches and waterways is resulting in the most severe erosion and sedimentation problems in the Pajaro Valley region. Several of the recommended BMPs also provide additional benefits to the land by conserving soil, improving water infiltration and groundwater recharge, improving soil fertility, reducing costs for ongoing maintenance of infrastructure (access roads and drainage systems), reducing land loss, enhancing habitat and improving water quality. Practices described are well established techniques, recommended by local, state and federal resource conservation agencies, including the Santa Cruz County Resource Conservation District and the Natural Resource Conservation Service.

The Monterey Bay National Marine Sanctuary (MBNMS) *Action Plan IV: Agriculture and Rural Lands* focuses on strategies to protect water quality from potential adverse impacts of agricultural land management, while recognizing the importance of maintaining agricultural use of the lands for the long-term health of the watersheds. This is because effectively managed agricultural lands can act to slow and capture storm water runoff, provide sites for recharge, water storage and wildlife habitat, and reduce the impact of flood events. The Plan was developed and adopted with participation from over twenty stakeholders.

The aspects of agriculture that potentially impact surface water quality include erosion and sedimentation, offsite transport of chemical fertilizers and pesticides, nutrient loading and pathogen loading.

Stormwater, flooding, irrigation, and leaching can all mobilize substances that are beneficial while on-site, but become pollutants as they concentrate in neighboring streams, rivers, wetlands, and near-shore waters. Though each individual farm or ranch may contribute a relatively small amount of pollutants, the cumulative effects through the length of a watershed can be damaging. At the same time, the offsite movement of sediments, pesticides and nutrients can represent a long-term economic loss to landowners.

Many farmers, ranchers and forest landowners have already adopted a variety of management measures, including the development of Farm and Range Water Quality Plans to reduce polluted runoff. Owners and operators of irrigated agricultural lands are implementing Farm Water Quality Plans as a requirement of the RWQCB's Conditional Agricultural Waivers Program, and ranchers are voluntarily developing and implementing Range Water Quality Plans to protect water quality. Expanding and strengthening the conservation practices already begun by the industry can help protect the region's natural resources and sustain the long-term economic viability of agriculture.

2.5.3 Imported Water Supply

Import water supply from the CVP is delivered to the region through the San Felipe Division facilities, which supply water from San Luis Reservoir. The reservoir is a joint project by the United States Bureau of Reclamation (USBR) and the State of California, and provides storage for both CVP and SWP supplies. Major infrastructure for the San Felipe Division includes the Pacheco Pumping Plant, Pacheco Conduit, Santa Clara Conduit, and Hollister Conduit. The SBCWD operates San Justo Reservoir (owned by the USBR) which is used as operational storage for the San Benito CVP water system. As previously described, the SCVWD, SBCWD, and PVWMA all have CVP contracts or contract reservations. However, only SCVWD and SBCWD have existing conduits allowing for use of CVP water. To deliver its allocation of CVP water to its service area, PVWMA plans to construct an Import Pipeline Project connecting to the Santa Clara Conduit. Figure 2-13 shows the import water infrastructure located throughout the Pajaro River Watershed.

CVP water supply is designated into four categories including agriculture, M&I, exchange contractors, and environmental water. The San Felipe Division currently provides supply for agricultural and M&I designations in SCVWD and SBCWD service areas. When PVWMA connects to the system, its CVP water can only be used to supply agriculture. Table 2-6 summarizes the contract amounts for each agency from the CVP. These amounts are the maximum available, actual deliveries are hydrologically dependent.

Table 2-6: San Felipe Unit Contractors CVP Contracts

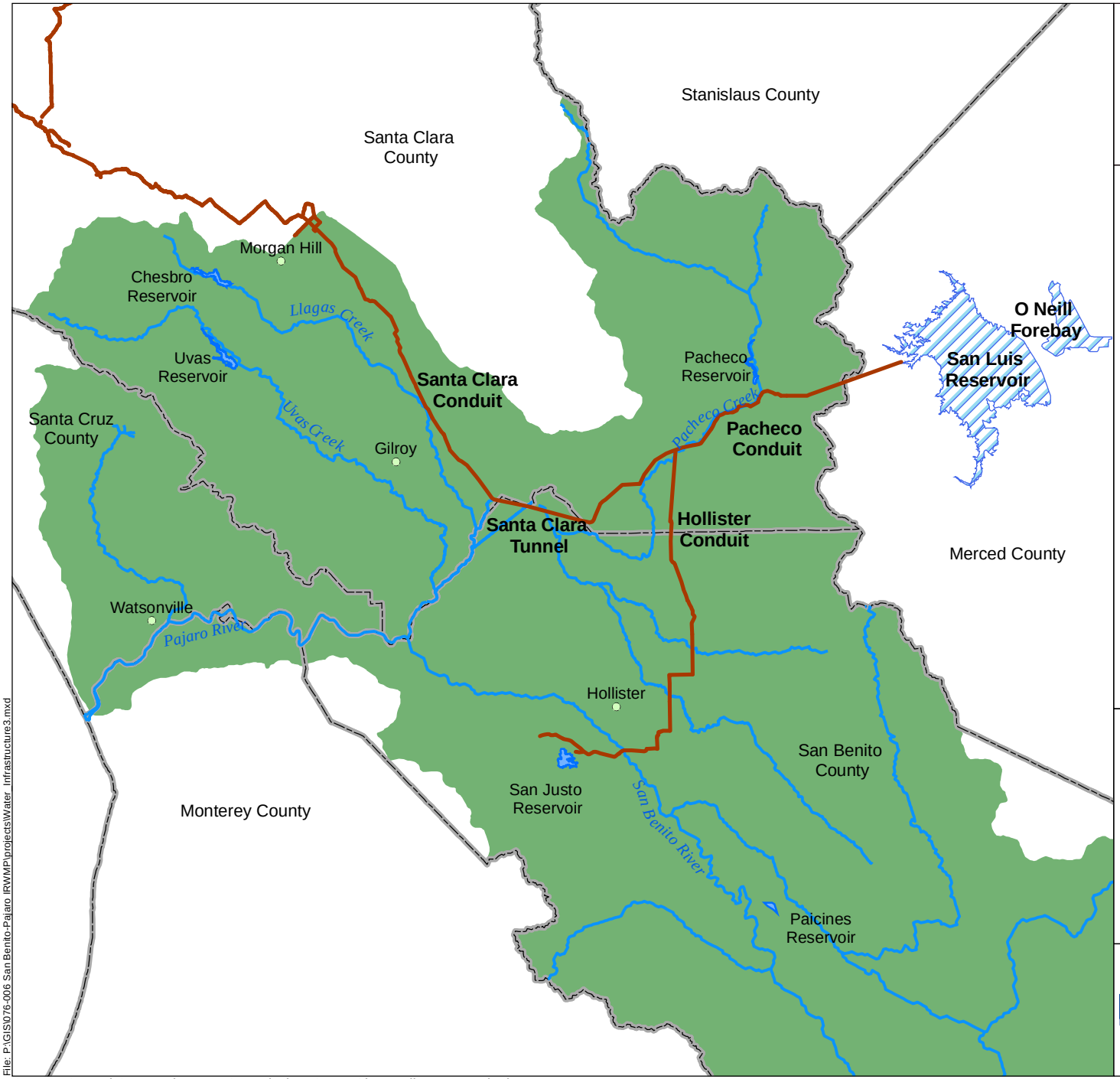
CVP Contractor	CVP Agricultural (AFY)	CVP M&I (AFY)
SCVWD[a]	22,500	130,000
SBCWD	35,500	8,250
PVWMA	6,260[b]	NA
Total	**64,260**	**138,250**

Notes:
1. NA – Not applicable

Footnotes:
a. The SCVWD CVP water is used throughout Santa Clara County.
b. Currently, the PVWMA does not have a connection to the CVP system. However, the PVWMA plans to construct a connection in the near future. PVWMA has a contract reservation for an additional 19,900 AFY which is not under contract until provisions of the CVPIA are fulfilled.

Figure 2-13

Import Water Infrastructure



Legend

- CVP Pipelines
- CVP Reservoir
- Reservoir
- River
- Pajaro Watershed
- City
- County Boundaries

N

0 10,000 20,000

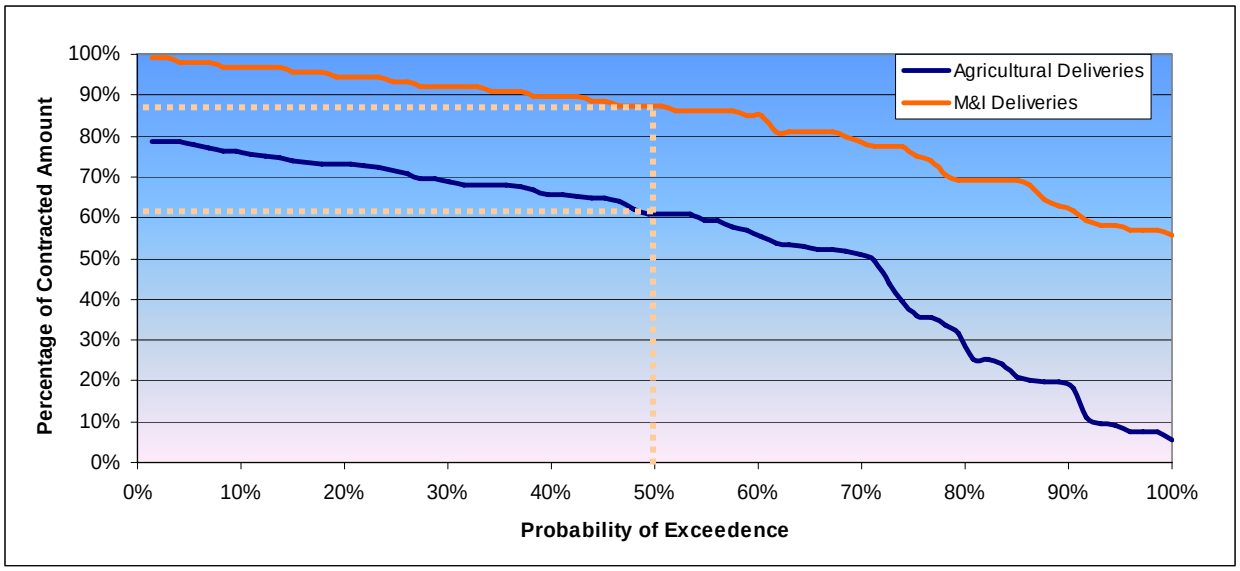
Meters

File: P:\GIS\076-006 San Benito-Pajaro IRWMP\projects\Water_Infrastructure3.mxd

Source: Central Coast Joint Data Commission, Santa Clara Valley Water District

CVP water is a hydrologically dependent supply and is subject to delivery reductions by the USBR. Figure 2-14 is a representation of deliveries that can be expected over a number of years (Based on CALSIM II Model - 2020 Level of Development [LOD]). As shown on the graph, the 50% probability of exceedance indicates that every other year CVP water is expected to have allocations greater than 61% of agriculture contract amount and 87% of M&I contract amount. The 50% probability also indicates that CVP allocations are expected to be below the 61% and 87% allocation for agriculture and M&I every other year. The 75% probability of exceedance indicates that every three out of four years the agricultural and M&I allocations are expected to exceed the 36% and 75% of the contracted amount, respectively. On average, the allocations are expected to be below these levels one out of every four years.

Figure 2-14: CVP Deliveries Probability of Exceedance to San Felipe Division



Notes:
1. Data source: MWH, *Using CALSIM II for Long-Term Planning*, October 2003.
2. Based on 2020 Level of Development.

The long-term average annual available CVP supply for agriculture (2020 LOD) is estimated to be 53% of the contracted amount. The long-term average annual M&I available supply (2020 LOD) is estimated to be 83% of the contracted amount. Table 2-7 summarizes the contract amounts and the projected annual supply availability for the SCVWD, SBCWD, and PVWMA.

Table 2-7: CVP Contract Amounts and Long-Term Average Supplies

Agency	CVP Agricultural Contract Amount (AFY)	Average Available Agricultural Supply (AFY)	CVP M&I Contract Amount (AFY)	Average Available M&I Supply (AFY)
SCVWD[a]	22,500	11,900	130,000	107,900
SBCWD	35,500	18,900	8,250	6,900
PVWMA	6,260	3,300	NA	NA
Total	**64,260**	**34,100**	**138,250**	**114,800**

Notes:
1. NA – Not applicable.

Footnotes:
a. The SCVWD CVP water is used throughout Santa Clara County.

Within the watershed, CVP water allocations are served directly for agricultural irrigation or treated and served for M&I use. SBCWD and SCVWD use the CVP water for groundwater recharge and conjunctive use programs. Table 2-8 summarizes the average CVP water quality from the San Felipe Division.

Table 2-8: CVP San Felipe Unit Water Quality

Parameter	Quality
Conductivity	
Range (uS/cm)	360-770
Expected (uS/cm)	540
TDS	
Range (mg/l)	194-420
Expected (mg/l)	299
Chloride	
Expected (mg/l)	86.2
Sodium	
Expected (mg/l)	60
pH	
Minimum	7.0
Maximum	9.0
Boron	
Maximum (mg/l)	0.2
Nitrogen	
Ammonia (mg/l)	0.1-6.3
Nitrate (mg/l as NO_3)	3.0
Bicarbonate	
Maximum (mg/l)	79
Turbidity	
Range (NTU)	1.0-12.0
Expected (NTU)	2

Notes:
1. Data collected from 1990 to 1999 from the Pacheco Pump Plant Trash Racks at San Luis Reservoir.

2.5.4 Recycled Water

The value of recycled water as a reliable, sustainable, drought-proof source of water that will help reduce dependence on imported water is well recognized among the Partners, and each agency has incorporated recycled water as an option in its water supply portfolio as discussed in below.

SCVWD, South County Regional Wastewater Authority (SCRWA), Gilroy, and Morgan Hill are partners on the South County Recycled Water Program. SCRWA's wastewater treatment plant, which is located in southeast Gilroy, has the potential capacity to produce 9 mgd of recycled water, though current wastewater treatment capacity is limited to 7.5 mgd. Existing customers use approximately 1,000 AFY of recycled water for landscape irrigation, crop irrigation and industrial use within the Gilroy area. In addition, SCRWA uses about 1,000 AFY for on-site needs. The South County partners completed a South County Recycled Water Master Plan in 2004, which identified a potential market that would more than quadruple the then current usage of 600 AFY. The Recycled Water Master Plan looked at immediate-term, short-term and long-term options for the system expansion and presented a recommended Capital Improvement Program (CIP). The immediate-term CIP, which included additional production, pumping, and storage facilities, was completed in 2006. The short-term CIP includes

additional distribution facilities to improve the reliability of the current system and enable additional use in the existing service area. The long-term CIP includes additional facilities to expand the service area. Though Morgan Hill presented opportunities for recycled water expansion, the region was not included in the CIP due to the high cost of bringing recycled water to the area. The agricultural area south of the WWTP was not included in the CIP because the Master Plan favored year-round and higher-revenue (non-agricultural) uses. The potential to add agricultural users along the SCRWA Pajaro River discharge pipeline is being considered in the current design process.

In the Pajaro Valley, the City of Watsonville in conjunction with PVWMA is implementing the Watsonville Recycled Water Treatment Facility (WRWTF) to provide recycled water for agricultural use in the coastal area. The WRWTF is part of the Watsonville Area Water Recycling Project (WAWRP), which includes treatment facilities, a distribution system, inland wells, and groundwater supply. The 4,000 AFY of recycled water produced by the current phase of the WRWTF will be blended with up to 3,000 AFY of groundwater and surface water to meet delivered water quality objectives set by local growers. This combined supply of 7,000 AFY of blended recycled water will be delivered to agricultural water users in the Pajaro Valley coastal zone, minimizing the need for coastal pumping and assisting in balancing the Pajaro Valley Groundwater Basin. Construction of the WRWTF was initiated in 2006.

Other potential recycled water projects that have been considered for the watershed are focused within the northern portion of San Benito County. A regional recycled water supply for this region would enhance regional water supply reliability as well as provide an alternative means to manage wastewater. CVP water is a key but tenuous water resource for northern San Benito County; development of a recycled water supply for this area would increase reliability of water deliveries. The use of recycled water would also relieve some of the disposal capacity challenges facing the Hollister, SSCWD and San Juan Bautista WWTPs. Current agricultural and landscape irrigation demands provide a substantial market for recycled water use. One challenge to the production and use of recycled water in this area is the ability of recycled water to meet customer's water quality targets. Achieving these targets will likely require a reduction of salt mass loading to the wastewater system via the potable water. Table 2-9 provides an estimate of existing and expected recycled water quality.

Table 2-9: Existing and Expected Recycled Water Quality

Wastewater parameter	SCRWA[a]	Hollister Domestic WWTP[b]	Watsonville[c]
pH	7.6	7.6	7.6
Chloride (mg/L)	155	285	150
Sodium (mg/L)	113	283	180
Boron (mg/l)	0.67	--	0.46
Sulfate (mg/L)	--	213	150
TDS (mg/L)	634	1,130	950
Ammonia	0.07	28.7	ND
Nitrate (mg/L)	2.2	9.3	6.1
Kjeldahl N (mg/L)	--	31.4	24
Total Nitrogen (mg/L)	3.7	2.7	--

Footnotes:

a. Average SCRWA effluent for 2001-2002.
b. The data listed are recorded in the year 2003 (January to June).
c. Weekly secondary effluent data from November 2000 to October 2001.

2.5.5 Desalted Water

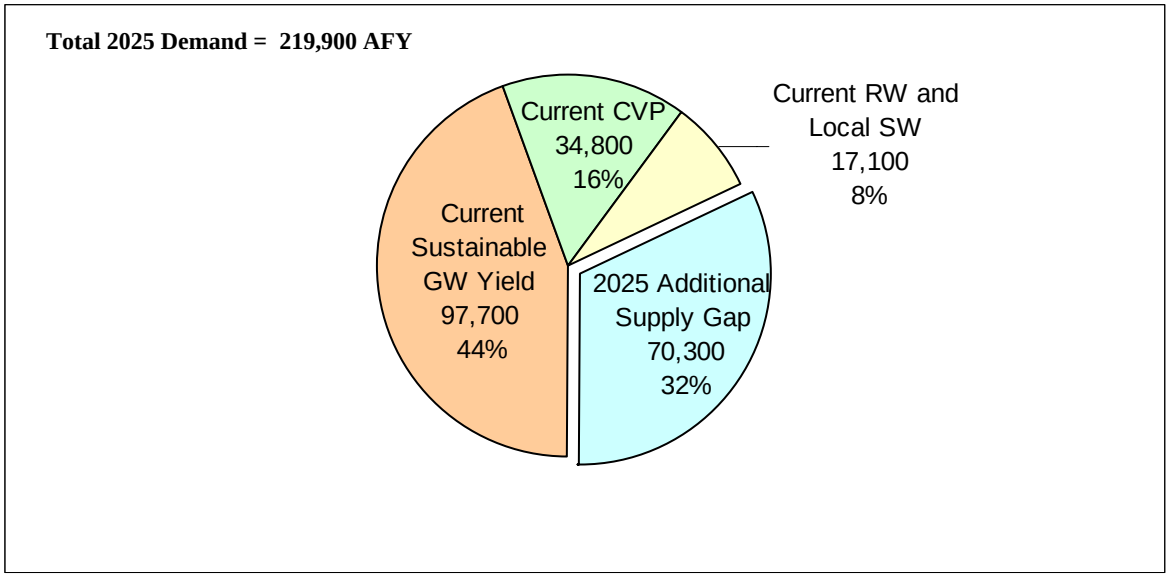
Desalination or demineralization is not currently employed within the Pajaro River Watershed, though it is currently being investigated as an option for future water supply. SBCWD and SCVWD are conducting a brackish water desalination study in the upper watershed. Pajaro/Sunny Mesa is developing a potential coastal desalination project that it hopes to market to the North Monterey area, including portions of PVWMA's service area. In the Gilroy-Hollister Groundwater Basin, where high TDS groundwater has limited the use of groundwater, demineralization is being considered by SBCWD and Sunnyslope County Water District.

2.5.6 Future Water Supply versus Demand

Figure 2-15 shows the supplies currently available for PVWMA, SBCWD and SCVWD in the Pajaro River Watershed in comparison to the forecasted demand in 2025. Groundwater sustainable yields are taken from Table 2-2. Current CVP was determined as the sum of SBCWD average available CVP M&I and agricultural supplies from Table 2-7 and the SCVWD CVP water that is used in South County for recharge of Llagas Subbasin (estimated as a long term average of 8,000 AFY) and other uses (1,000 AFY). Recycled water and other local supplies consist of PVWMA and SCVWD recycled water and surface water sources.

The supply "gap" of 70,300 identified in Figure 2-15 represents the additional supply needed to meet demand by 2025 and will form the basis for the water supply objectives of the IRWMP providing a quantitative target for future water supply projects to fulfill regionally. Prior to the IRWMP, the agencies had been conducting proactive planning to prepare to meet future demand within their service area and have developed sets of projects and options that can now be integrated through the IRWMP process for maximum effectiveness.

Figure 2-15: Currently Available and Needed 2025 Additional Supplies (AFY)



Notes:

1. Current Sustainable Groundwater (GW) Yield is taken from Table 2-2 Total.
2. Current CVP = SBCWD Average Available Agriculture and M&I Supplies (Table 2-7) + SCVWD CVP used in South County (9,000 AFY); PVWMA has no current CVP Deliveries
3. Current Recycled Water (RW) and Local Surface Water (SW) = PVWMA Corralitos Creek (1,100 AFY) + PVWMA Surface Water (1,000 AFY) + SCVWD Recycled Water (2,000 AFY) + SCVWD Recharge with Surface Water (13,000 AFY)

As shown in Figure 2-15, groundwater plays a significant role in meeting the current water supply needs of the watershed. It should be noted that the groundwater supply component is based on the sustainable "safe" yields of the groundwater basins as shown in Table 2-2. In practice, pumping beyond the safe yield is possible and has routinely been conducted in the coastal portion of the watershed to meet water demands. However, pumping in excess of the determined safe yields has led to overdraft and is not a sustainable long term practice. Future solutions may involve increasing recharge opportunities to increase the safe yield and diversifying the portfolio with recycled water, additional surface water supplies, water transfers etc.

2.6 Watershed Flooding

Flooding along the Pajaro River is a major point of conflict in the watershed. In 2000, the PRWFPA was formed through the California legislature to work with both upper and lower watershed stakeholders to investigate and develop a regional recommendation to address flooding along the Pajaro River. A watershed study has been completed with a recommended integrated set of flood projects in the lower and upper watershed to address flooding.

The Pajaro River is a perennial stream that flows between four counties. In the upper watershed, the river is the dividing line between Santa Clara and San Benito Counties. In the lower watershed, the river is the dividing line between Monterey and Santa Cruz Counties. The downstream portion of the River is channelized with a levee that runs 11.3 miles to the ocean through Santa Cruz and Monterey Counties. The levee was deemed inadequate by the U.S. Army Corps of Engineers when it first flooded in 1955. Another major flood occurred in 1995 that has resulted in a renewed urgency to increase the levee's level of flood protection. Monterey and Santa Cruz Counties provide annual maintenance of the levee system. On-going vegetation and sediment maintenance activities are done in order to provide as much flood conveyance capacity as possible, working within environmental regulatory restrictions. The levee system suffers from restricted flood carrying capacity caused by accumulated sediment deposition.

The City of Watsonville, the unincorporated town of Pajaro, and surrounding agricultural areas in Monterey and Santa Cruz Counties, are subject to flooding from the Pajaro River. In addition, the City of Watsonville and surrounding agricultural areas in Santa Cruz County are also subject to separate and independent flooding from Salsipuedes and Corralitos Creeks.

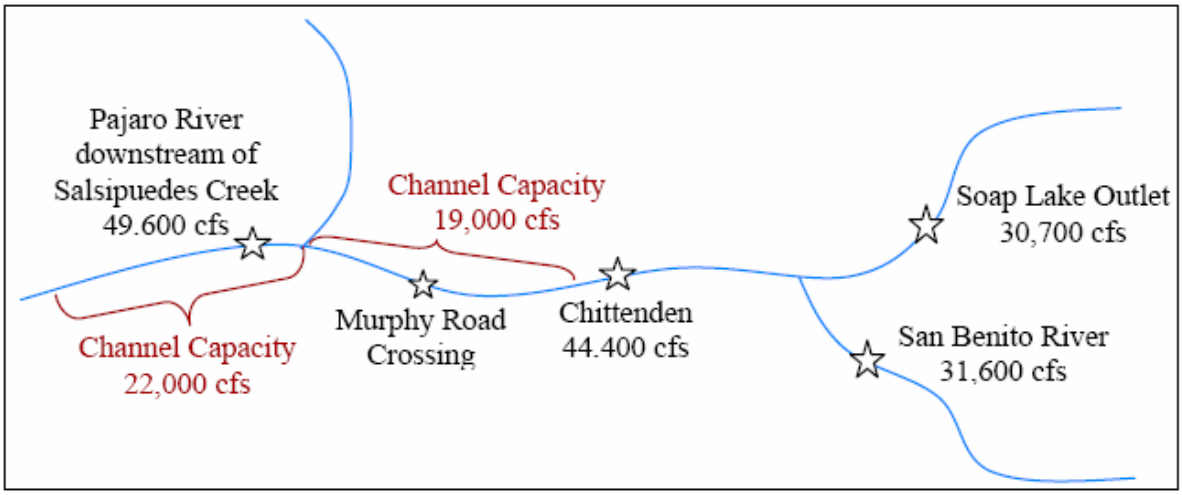
Significant flooding and associated urban and agricultural damages in Monterey County resulted from the March 1995 flood on the Pajaro River. Agricultural crop damages were estimated at $67 million for the 3,280 acres that were flooded, and urban damages in the unincorporated town of Pajaro were estimated at $28 million. In February 1998, significant flooding occurred in Santa Cruz County downstream of the urban areas of Watsonville, with an estimated $1.7 million in agricultural crop damages and $0.4 million in non-crop damages. This relatively low damage estimate is due to the fact that 800 out of 1,100 acres of land flooded were in the preparation phase and without established plantings.

The existing channel capacity in the lower reaches of Pajaro River is approximately 22,000 cubic feet per second (cfs), which is well below the expected 100-year flood event of 44,400 cfs. The following data in Table 2-10 and Figure 2-16 are excerpted from the *Pajaro River Watershed Study Phase 2 Report, RMC, April, 2003* that was produced for the PRWFPA.

Table 2-10: Hydrologic Model Peak Flows Based on General Plan Buildout Conditions

Watershed Location	Peak Model Flow Rate (cfs)		
	25-year Event	50-year Event	100-year Event
San Benito River	18,800	26,200	31,600
Soap Lake Outlet on Pajaro River	21,600	27,400	30,700
Chittenden Gage on Pajaro River	29,300	38,400	44,400
Pajaro River Downstream of Salsipuedes Creek	32,700	43,100	49,600

Figure 2-16: 100-Year Return Period Peak Design Flows on the Lower Pajaro River



Two recent legal decisions, the Arreola Decision and the Paterno Decision, have shaped flood management policy and prompted warnings to State and local government about California's flood management crisis. The Arreola Decision stems from damages in the 1995 Pajaro River flood. A white paper was prepared at the direction of the legislature after the Paterno Decision that held the State liable for flood damages caused by levee failure on the Yuba River.

2.7 Ecological Processes/Environmental Resources

The Pajaro River Watershed is a tributary to Monterey Bay, a federally protected National Marine Sanctuary administered by the National Oceanic and Atmospheric Administration. The Monterey Bay National Marine Sanctuary (MBNMS) is one of the world's most diverse marine ecosystems. It is home to numerous mammals, seabirds, fishes, invertebrates and plants. It is also a remarkably productive coastal environment. MBNMS was established for the purpose of resource protection, research, education, and public use of this national treasure. As a contributing water and sediment source, the Pajaro River plays an integral role in MBNMS health.

The Pajaro River Watershed supports a multitude of the environmental resources including biotic habitats, special status plant and animal species, cultural resources, and visual resources. Environmental resources in the Pajaro River Watershed have been investigated and documented in various planning and California Environmental Quality Act (CEQA) documents. It should be noted that the IRWMP is a planning study that would not result in the disturbance of any environmental resource. These activities are exempt from the CEQA pursuant to CEQA Guidelines §15262 and §15306. As such, programmatic environmental analysis under CEQA is not required. The environmental resources identified in this section are based on the following reports:

- *Soap Lake Floodplain Preservation Project – Draft Initial Study and Negative Declaration*, for PRWFPA, September 2004;
- *Groundwater Management Plan Update for the San Benito County Portion of the Gilroy-Hollister Groundwater Basin – Program Environmental Impact Report*, for SBCWD, May 2004;
- *Draft - Pajaro Valley Water Management Agency Revised Basin Management Plan Environmental Impact Report*, for PVWMA, October 2001; and,
- *Final EIR for the Long Term Wastewater Management Plan, Cities of Gilroy and Morgan Hill*, SCRWA, May 1990.

The Pajaro River Watershed area includes three types of habitat: agricultural, valley foothill riparian, and wetlands. Agricultural habitats are typically subject to periodic disking, planting, harvesting, and the application of herbicides, pesticides and fertilizers, which prevent the establishment of natural plant species and communities. A number of weedy plant species are associated with cultivated lands and many of these are non-native species. Agricultural lands of this type may provide occasional habitat for transient mammals, reptiles, and amphibians, and also have some value to birds. Small mammals, such as rabbits and rodents, forage in the area and may attract predators such as hawks or feral cats. Row crops with leveled fields are used as travel corridors but support no resident wildlife.

Several creeks and rivers support riparian habitat, including the Pajaro River, Llagas Creek, Uvas/Carnadero Creek, San Benito River, Miller Canal, Corralitos Creek, and other associated tributaries. Riparian and wetland areas along these water features and along various drainage ditches provide habitat and movement corridors for wildlife. Some of the wetland areas contain suitable habitat for two sensitive species known to occur in the project vicinity: the California red-legged frog and the California tiger salamander. The U.S. Fish and Wildlife Service (USFWS) published their proposal to designate critical habitat for the California tiger salamander in the August 11, 2004 Federal Register (Federal Register 2004). This proposal is for the Central California population and would designate approximately 382,666 acres of critical habitat, which includes the Soap Lake floodplain area located in the upper watershed.

San Felipe Lake, which is the central feature of the "Bolsa de San Felipe", is designated as a "California Important Bird Area" by the National Audubon Society. The Bolsa is a crossroads for birds migrating between San Francisco Bay to the north, Monterey Bay to the west and the Central Valley to the east. The Bolsa is also identified by the National Audubon Society as a "bird vagrant trap", a site where bird species far outside of their normal range appear. The fields surrounding San Felipe Lake are saturated with water during the winter months and it is possible that vernal pools could be located here. If vernal pools do exist around the lake, they could serve as potential habitat for fairy shrimp and the larval stage of California tiger salamander (SCVWD, 2003).

The Pajaro River serves as a migration pathway for adult steelhead (*Oncorhynchus mykiss*) migrating to spawning and nursery habitat in the upper watershed and for steelhead smolts (1-2 year old juveniles) migrating from that habitat to the ocean. However, because of low, warm summer streamflows and substrate dominated by sand or silt, the Pajaro River provides almost no potential rearing habitat for steelhead (Smith, 2002). Uvas, Llagas, and Corralitos Creeks provide potential spawning and rearing habitat, and Uvas provides access, spawning and rearing in all but extreme drought years. Use of Llagas Creek by steelhead is less frequent and less extensive (HRG, 1997). The entire Pajaro River Watershed provides potential habitat for several fish species and comprises one of the major drainages of the south-central California Evolutionarily Significant Unit (ESU) for the steelhead. Although once present in the Pajaro River, Coho salmon have not been present in the river since at least the late 1960s.

Table 2-11 lists the known special status plant and animal species within the Pajaro River Watershed, as identified in the CEQA documents noted above.

Table 2-11: Status and Potential Occurrence of Special-Status Plant and Animal Species

Name	Status	Habitat	Local Occurrence
Federal or State Endangered or Threatened Species			
Invertebrates			
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT	Ephemeral freshwater vernal pools	Distribution poorly known. Occurs in southern San Benito County, could occur in vernal pools in northern San Benito County.
Fish			
Tidewater goby (*Eucyclogobius newberryi*)	FE, CSSC	Shallow waters of bays and estuaries, preferably slow moving waters and quiet pools at mouth of Pajaro River. Occasional movements upstream during low flow periods of summer.	Pajaro Lagoon. Known to move up the Pajaro River in summer with farthest recorded occurrence approximately 1 mile upstream. Not likely to occur upstream beyond point at which Hwy 1 crosses the Pajaro River. Also occurs in Elkhorn Slough.
Coho Salmon (*Oncorhynchus kisutch*)	FT, SE	Rivers and creeks with regular migration access and cool, relatively flat rearing habitat.	Not documented in Pajaro River system during sampling in 1908. Detected in 1960s and 1970s in Corralitos Creek, but these may have been released hatchery fish. No juvenile Coho were collected in Corralitos Creek watershed in 1973, 1974 or 1981.
Steelhead south/central California ESU (*Onchorhynchus mykiss*)	FT, CSSC	Free-flowing coastal rivers and streams. Spawning habitat: clear, cool streams with overhanging vegetation and gravel substrate	Pajaro River and Salsipuedes and Corralitos Creeks. Main stem of the Pajaro River and Salsipuedes Creek primarily provide a corridor for migration to suitable spawning and rearing habitats upstream. Spawning and rearing occur in portions of Corralitos Creek. Distribution in San Benito County poorly known. Could occur in any tributary of the Pajaro River with unobstructed access.
Reptiles and Amphibians			
Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*)	FE, SE	Seven breeding sites known in Santa Cruz and Monterey Counties. Aquatic larvae prefer shallow areas of ephemeral ponds or pools. Adults spend most of the year underground in mammal burrows.	Ellicott Pond and vicinity, 4 mile W of Watsonville; Bennett/Struve Sloughs, 1.5 mile NNE of Moss Landing; McCluskey Slough, 2 mi N of Moss Landing and near Zmudowski State Park. Species-specific surveys have not detected this species within the Pajaro Valley.

Name	Status	Habitat	Local Occurrence
California Red-legged Frog (*Rana aurora draytoni*)	FT, SP, CSSC	Streams, freshwater pools and permanent or semi-permanent ponds with overhanging vegetation or extensive shoreline vegetation. Requires pools of 1 m depth for breeding.	Breed in permanent or semi-permanent ponds with extensive shoreline vegetation. 2 miles NNW of Moss landing just east of Zmudowski Beach, East branch of Hansen Slough, Ellicott Pond Santa Cruz Long-Toed Salamander Reserve, Elkhorn Slough Nat'l Estuarine Sanctuary, Casserley Cr. at College Lake, San Miguel Road near Murphy Crossing, west branch Struve Slough, Harkins Slough west of Watsonville, southwest of Watsonville between Watsonville Slough and Beach Rd. Potential, suitable habitat located within Pajaro Valley, Pajaro River is also a potential movement corridor to breeding sites. Found in a variety of freshwater habitats throughout San Benito County.
Birds			
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Sandy beaches on marine and estuarine shores. Salt pond levees.	Mouth of Pajaro River; Elkhorn Slough; Palm Beach N of Pajaro River; Zmudowski State Beach, S of Pajaro River, Moss Landing State Beach.
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	FC, SE	Breeds in mature riparian forests; primarily in Sierra Nevada foothills	Not found in San Benito County since 1899. Presumed absent.
California Condor (*Gymnogyps californianus)*	FE, SE	Forages for carrion over a variety of open habitats	Reintroduction program recently initiated at Pinnacles NM. Foraging individuals could occur in south San Benito County.
American Peregrine Falcon (*Falco peregrinus)*	FD, SE	Forages for other birds over a variety of habitats. Breeds primarily on rocky cliffs.	Could breed in northwestern portion of San Benito County area. Foraging individuals could occur throughout San Benito County.
Bald Eagle (*Haliaeetus leucocephalus)*	FD, SE	Forages in rivers and lakes for large fish. Does not breed locally.	Wintering birds forage at local reservoirs.
Southwestern Willow Flycatcher (*Empidonax trailii extimus)*	FE, SE	Breeds in mature riparian habitat. Now extirpated from coastal California	No recent records of breeding birds west of the San Joaquin Valley. Migrant Willow Flycatchers in San Benito County would almost certainly be the northern, unlisted, subspecies. Presumed absent.
California clapper rail (*Rallus longirostris obsoletus*)	FE, SE	Salt water marshes crossed by tidal sloughs with abundant pickleweed. Feeds in open areas on mollusks.	Elkhorn Slough. Unlikely in Pajaro Valley project area due to lack of habitat.

Name	Status	Habitat	Local Occurrence
Bell's Vireo (*Vireo bellii*)	FE, SE	Early successional riparian areas, cottonwood/willow.	Only one known record within vicinity of project area: singing male detected along Pajaro on May 29-30, 1996. The project area is not within the known historical breeding range for this species. Recovery in the project area would be highly unlikely.
Least Bell's Vireo (*Vireo bellii pusillus)*	FE, SE	Breeds in thick willow riparian groves. Range, once thought to be limited to southern California, is expanding.	Historic record of a nesting pair at the Pajaro River and Highway 101. No recent records for the Hollister area. Probably absent, however, range is expanding. Could occur in suitable habitat.
Bank Swallow (*Riparian riparia)*	ST	Requires vertical banks/cliffs with friable/sandy soils near streams, rivers, lakes or ocean to dig nesting holes.	Elkhorn Slough, mouth of Pajaro River, Vicinity of Bluff and Trafton Roads. Foraging habitat located on and adjacent to project site. Limited nesting habitat may be found in vicinity of project area, but no known nesting since 1981. No recent nesting records in San Benito County. Assumed absent during nesting season. Could forage at site during migration.
Mammals			
San Joaquin kit fox (*Vulpes macrotis mutica)*	FE, ST	Occurs in grasslands and scrublands in the San Joaquin Valley and coastal valleys in central California.	Historic records around Hollister from 1972-1975 (CNDDB). No recent local records, but could occur.
Plants			
Monterey spineflower (*Chorizanthe p. pungens*)	FT, CNPS 1B	Endemic to sandy soils of coastal habitats in southern Santa Cruz and northern Monterey Counties. Found in openings within coastal dune, coastal scrub, grassland, maritime chaparral, and oak woodland communities.	Nearest recorded occurrence at Sunset State Beach and along the adjacent coastal dune habitat. Not observed during botanical surveys likely due to the level of disturbance in the marginally suitable habitat that is present. Could occur in sandy areas along and adjacent to levees near the mouth of the Pajaro River, however, unlikely due to the compacted soils and past regular herbicide use on the tops and sides of the levees.
Robust spineflower (*Chorizanthe r. robusta)*	FE, CNPS 1B	Endemic to sandy soils of coastal habitats in southern Santa Cruz and northern Monterey Counties. Only known extant populations occur northeast of the city of Santa Cruz and near Sunset and Manresa State Beaches.	Nearest recorded occurrence at Sunset State Beach and along the immediate coastline. Could occur in sandy areas along levees near the mouth of the Pajaro River, however, considered unlikely due to the compacted soils and past regular herbicide use on the tops and sides of the levees. Not observed during botanical surveys.
Sand gilia (*Gilia tenuiflora arenaria*)	FE, ST, CNPS 1B	Endemic to the Monterey Bay Area. Found on sandy soils in openings within coastal scrub and chaparral habitats.	Nearest recorded population at Sunset State Beach. Could occur in sandy areas along levees near the mouth of the Pajaro River, however, considered unlikely due to highly compacted soils and ongoing flood control maintenance activities.

Name	Status	Habitat	Local Occurrence
Santa Cruz tarplant (*Holocarpha macradenia*)	FT, SE, CNPS 1B	Occurs on clay soils in coastal terrace or coastal prairie plant communities in the San Francisco and Monterey Bay areas.	Nearest recorded population approximately 0.15 mile west of Corralitos Creek near Freedom Blvd. Other populations found near Drew Lake, approximately 0.6 mile east of Salsipuedes Creek and Watsonville Municipal Airport, 0.5 mile west of Corralitos Creek. Not observed within the Pajaro Valley during habitat level surveys. Considered unlikely due to the lack of intact coastal prairie habitat and level of disturbance. Most of the suitable coastal prairie habitat has been graded and intensively farmed.
Yadon's rein orchid (*Piperia yadonii*)	FE, CNPS 1B	Coastal bluff scrub, closed cone coniferous forest, chaparral	Not expected, suitable habitat not present.
Federal or State Candidate Species			
Invertebrates			
Globose dune beetle (*Coelus globosus*)	FC	Undisturbed coastal sand dune habitat from Bodega Head, Sonoma County to Ensenada, Mexico.	Nearest recorded occurrence at Sunset State Beach, 1 mile N of the Pajaro River mouth at Palm Beach access; Manresa State Beach, E of Watsonville; Potrero Road access point to Salinas River State Beach
Mimic tryonia (*Tryonia imitator*)	FC	Coastal lagoons and slat marshes from Sonoma County to Ensenada, Mexico.	Bennetts Slough, Parson's Slough and Elkhorn Slough.
Birds			
Tricolored Blackbird (*Agelaius tricolor)*	FC, CSSC	Breeds near freshwater in dense emergent vegetation.	Sargent Creek, west bank of Struve Slough, just west of HWY 1, one mile south of junction of HWY 152; Hanson Slough, 1.1 mile NW of Hwy. 1 junction with HWY 129 west of Watsonville; 1.5 mile N of Sargent Creek and 1.5 N of the confluence of San Benito River and Pajaro River; western Watsonville Sloughs. Nesting colonies could be present throughout San Benito County.
Mountain Plover (*Charadrius montanus)*	FC, CSSC	Breeds in great plains, winters in Central Valley and other flat open habitats in California.	Rare winter visitor to San Benito County. Could occur on agricultural fields and other open habitats.
Warbling Vireo (*Vireo gilvus*)	CSSC	Mature riparian vegetation. Particularly cottonwood over-story and willow understory.	Fairly common breeder in project area.

Name	Status	Habitat	Local Occurrence
Reptiles and Amphibians			
California Tiger Salamander (*Ambystoma californiense*)	FC, CSSC, SP	Vernal or temporary pools in annual grasslands, or open stages of woodlands. Typically burrows in ground squirrel burrows.	Ellicott Pond and vicinity, 4 mile W of Watsonville; 1.25 mile N of Moss Landing, near Elkhorn Slough; W of Route 156, .25 S of Barnheisel Road junction Buena Vista Pond and .8 mile NE of Rancho Road. Found in grasslands and aquatic habitats throughout San Benito County.
Western Pond Turtle (*Clemmys marmorata)*	FC, CSSC, SP	Permanent or nearly permanent water in a variety of habitats.	Pajaro River just downstream from McGowan Bridge Rd; Vicinity of the intersection of Brewington Avenue and Crestview Drive, Watsonville; Watsonville Slough at Pajaro Dunes. Potential pond habitat is located within .5 miles of the Corralitos creek drainage. Western pond turtles were observed in seven locations along the Pajaro River between Watsonville and the river mouth in 1998 found in a variety of freshwater habitats throughout San Benito County.
Foothill yellow-legged frog (*Rana boylii*)	FC, CSSC	Highly aquatic.	Just upstream of study area at Brow's Valley Cr.
Plants			
Pajaro manzanita (*Arctostaphylos pajaroensis*)	FC, CNPS 1B	Sandy soils in chaparral habitat	Not expected, suitable habitat not present
Coast wallflower (*Erysimum ammophilum*)	FC, CNPS 1B	Coastal dunes	Nearest recorded occurrence in sand dune habitat at north side at the mouth of Pajaro River.
Tragrant fritillary (*Fritillaria liliacea*)	FC, CNPS 1B	Occurs on heavy soils, often serpentine derived, in valley and foothill grassland and in coastal prairie and scrub communities from Sonoma to Monterey County.	Nearest recorded population approximately 3.3 miles southeast of the Pajaro River. Not observed within the Pajaro Valley during habitat level surveys.
Congdon's tarplant (*Hemizonia parryi congdonii*)	FC, CNPS 1B	Alkaline valley and foothill grassland. Occurs on alkaline seasonally, wet soils in grassland habitat in Monterey and San Luis Obispo counties.	Nearest recorded occurrence near Kelly Lake, approximately 0.5 mile east of Salsipuedes Creek. Not observed within the Pajaro Valley during habitat level surveys. Presence on the project site considered unlikely due to the lack of undisturbed grassland habitat adjacent to the riparian zone along the project site.
Kellogg's horkelia (*Horkelia cuneata sericea*)	FC, CNPS 1B	Closed cone coniferous forest, coastal scrub, chaparral	Not expected, suitable habitat not present

Name	Status	Habitat	Local Occurrence
State Species of Special Concern			
Fish			
Monterey roach (*Lavinia symmetricus subditus)*	CCSC	Small, warm intermittent streams and isolated pools.	Occurs in San Benito River and other tributaries of the Pajaro River
Reptiles and Amphibians			
California Legless Lizard (*Anniella pulchra)*	CSSC	Sandy or loose loamy soils, including stream terraces and coastal dunes.	Could occur in San Benito River channel and similar habitats.
Black legless lizard (*Anniella pulchra nigra*)	CSSC	Sand dunes and sandy soils dominated with bush lupine and mock heather in the Monterey Bay and Morro Bay regions.	Palm Beach, McClusky Slough, Moss Landing and Salinas River mouth. Not likely to occur in project area due to lack of suitable habitat.
California Horned Lizard (*Phynosoma coronatum frontale)*	CCSC	Exposed gravely-sandy substrates usually containing scattered shrubs, clearings in riparian woodlands.	Could occur in San Benito River channel and similar habitats.
San Joaquin Whipsnake (*Masticophis flagellum ruddocki)*	CSSC	A variety of dry open habitats	Records from San Benito River channel near Hollister, and south of Hollister. Could occur elsewhere in similar habitats.
Western Spadefoot (*Scaphiopus hammondii)*	CSSC	Requires temporary rain pools for breeding. During most the year, burrows in loose soil, primarily in grasslands.	Record from aquatic habitats south of Hollister.
Foothill Yellow-legged Frog (*Rana boylii)*	CSSC	Small to moderate-sized streams and rivers with some cobble substrate.	No local records, but could occur in the southern San Benito River, Pacheco Creek, and similar habitats.
Coast Range Newt (*Taricha torosa)*	CSSC	Ponds, reservoirs, and slow-moving streams, and adjacent terrestrial habitat.	One local record southwest of Hollister. Could occur elsewhere in San Benito County.
Birds			
Cooper's Hawk (*Accipiter cooperii)*	CSSC	Breeds in riparian woodlands and wooded canyons.	Unlikely to breed within northwestern portion of San Benito County sites. Could occasionally forage throughout San Benito County.
Sharp-shinned Hawk (*Accipter striatus)*	CSSC	Nests in woodlands, forages in many habitats in winter and migration.	Winter visitor. Forages primarily over riparian and vegetated habitats.
Golden Eagle (*Aquila chrysaetos)*	CSSC, SP	Breeds on cliffs or in large trees or structures.	Could breed in southern San Benito County, and forage over entire county. Not likely to nest within northwestern portion of San Benito County.
Short-eared owl (Asio flammeus)	CSSC	Found in open treeless areas, irrigated fields, annual and perennial grasslands, meadows, saline and fresh emergent wetlands.	Mouth of Salinas River (0.2 mi south of Moss Landing). Potential, suitable habitat present on and adjacent to project site. Occurs near mouth of Pajaro in Fall.

Name	Status	Habitat	Local Occurrence
Burrowing Owl (*Athene cunicularia*)	CSSC	Grassland habitat with ground squirrel burrows (used for nesting).	Breeding records in Flint Hills and northern margin of Flint Hills. Could occur elsewhere in suitable habitat.
Ferruginous Hawk (*Buteo regalis*)	CSSC	Forages in grasslands and occasionally in other open habitats during migration and winter.	Uncommon winter visitor. Forages over grasslands and other open habitats.
Vaux's Swift (*Chaetura vauxi)*	CSSC	Nests in snags in coastal coniferous forests or, occasionally, in chimneysl forages aerially.	Likely to be present only during migration (spring and fall). Uncommon.
Northern Harrier (*Circus cyaneus)*	CSSC	Forages in open to herbaceous stages of many habitats. Found in saline and freshwater wetlands and open fields.	Occurs near mouth of Pajaro in Fall and Winter. Could breed in undisturbed grasslands. Likely to forage over a variety of open habitats.
Black Swift (*Cypseloides niger)*	CSSC	Nests on wet cliffs, often behind waterfalls. Forages aerially.	Likely to be present only during migration (spring and fall). Uncommon.
California Yellow Warbler (*Dendroica petechia brewsteri*)	CSSC	Breeds in riparian woodland and meadow edges. Favors riparian habitat, especially dense willows and cottonwoods.	Locally common along the Pajaro River, but declining within the Pajaro Valley. Uncommon breeder in mature riparian areas.
California Horned Lark (*Eremophila alpestris actia)*	CSSC	Short-grass prairie, annual grasslands, coastal plains, and open fields.	Nesting records from east and south of Hollister. Could occur in other grassland habitats as well.
Merlin (Falco columbarius)	CSSC	Uses many habitats in winter and migration.	Winter visitor. Could forage over a variety of habitats throughout county.
Prairie Falcon (*Falco mexicanus)*	CSSC	Resident in dry open country, additional migrants in winter.	Could breed in southern San Benito County, and forage over entire county. Not likely to nest within northwestern portion of San Benito County.
Yellow-breasted Chat (*Icteria virens)*	CSSC	Breeds in extensive riparian woodland habitat.	Historically known to breed along Pajaro. Has only been detected upstream of Murphy's Crossing in recent years. Uncommon breeder in mature riparian areas.
Loggerhead Shrike (*Lanius ludovicianus)*	CSSC	Resident in dry open grasslands.	Common resident throughout San Benito County.
California Gull (*Larus californicus)*	CSC	Nests in the Great Basin and San Francisco Bay area. Winters along the Pacific Coast and Central Valley.	Common winter visitor in many habitats.
Osprey (*Pandion haliaetus)*	CSSC	Forages and breeds near rivers and lakes.	Not known to breed locally. Could forage at local reservoirs.
American White Pelican (*Pelecanus erythrorhynchos)*	CSSC	Breeds primarily in Great Basin, summer visitor to the Central Valley and coastal California.	Summer visitor to local reservoirs and wetlands.

Name	Status	Habitat	Local Occurrence
Mammals			
Big-eared Kangaroo Rat (*Dipodomys elephantinus)*	CSSC	Resident in chaparral habitat and dry oak woodland habitat.	Nearly endemic to San Benito County. Not likely to occur in lowland habitats that will be affected by the GWMP Update.
California mastiff bat *(Eumops perotis californicus*)	CSSC	Forages over many habitats; requires tall cliffs or building for roosting sites.	Likely present in southern San Benito County.
Townsend's big-eared bat (*Plecotus townsendii*)	CSSC	Roosts in caves and mine tunnels in a variety of habitats.	Likely present in southern San Benito County.
Pallid bat (*Antrozous pallidus)*	CSSC	Forages over many habitats.	Likely present in much of San Benito County.
State Protected Species or CNPS Species			
Plants			
Hooker's manzanita (Arctostaphylos h. hookeri)	CNPS 1B	Sandy soils, shale and sandstone in coastal scrub and chaparral habitat	Not expected, suitable habitat not present.
Alkali milk vetch (*Astragalus tener* var. *tener)*	CNPS 1B	Alkaline soils in playas, vernal pools, and adobe clay areas in valley and foothill grassland	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
San Joaquin saltbush (*Atriplex joaquiniana)*	CNPS 1B	Chenopod scrub, meadow, playa, and valley and foothill grassland habitats, particularly in areas with alkaline substrates	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii)*	CNPS 1B	Valley and foothill grassland habitat, particularly in areas with alkaline substrates, and in sumps or distributed areas where water collects.	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
Round-leaved filaree (*Erodium macrophyllum)*	CNPS 2	Clay soils in cismontane woodland and valley and foothill grassland habitats.	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
Indian Valley bush mallow (*Malacothamnus aboriginum*)	CNPS 1B	Rocky areas in chaparral and cismontane woodland habitats; often found on burned areas.	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
Hairless popcorn-flower (*Plagiobothrys glaber)*	CNPS 1A	Wet, alkaline soils in meadows and coastal salt marshes and swamps	New project elements are within the known range of this species and suitable habitat is present within the San Benito County GWMP Update Area.
Saline clover (*Trifolium depauperatum* var. *hydrophilum*)	CNPS 1B	Marshes	Recently reported in agricultural fields adjacent to the Pajaro River in the northern San Benito County GWMP Update Area.

Name	Status	Habitat	Local Occurrence
Birds			
White-tailed Kite (*Elanus leucurus)*	SP	Resident of river valleys, riparian woodlands, and adjacent fields.	Could breed locally, and forage over a variety of habitats.
Mammals			
Ringtail (*Bassariscus astutus*)	SP	Prefers riparian and heavily wooded habitats near water.	Range poorly known. Could occur in suitable riparian habitat.
Other Special Species			
Invertebrates			
Monarch butterfly (*Danaus plexippus*)	--	Winter roosts located in wind-protected tree groves with nearby water and nectar sources.	Manresa State Beach, Palm Beach and Elkhorn Slough Ecological Reserve.
Mammals			
Salinas harvest mouse (*Reighrodontomys megalotis distichlis*)	--	Occurs in fresh and brackish water wetlands	Known only from the Monterey Bay area such as the Mouth of Salinas River. Not expected in Pajaro Valley project area, suitable habitat not present.

Notes:

1. FE = Federally listed Endangered
2. FT = Federally listed Threatened
3. FC = Federal Candidate. Sufficient biological information to support a proposal to list the species as Endangered or Threatened
4. SE = State listed Endangered
5. ST = State listed Threatened
6. SR = State listed as Rare
7. CSSC = California Species of Special Concern
8. CNPS 1A = Plants considered by the CNPS to be extinct in California
9. CNPS 1B = Plants rare, threatened, or endangered in California and elsewhere
10. CNPS 2 = Plants rare, threatened, or endangered in California, but more numerous elsewhere
11. SP = State Protected Species

Sources:

1. RMC, "Soap Lake Floodplain Preservation Project – Draft Initial Study and Negative Declaration, for PRWFPA," September 2004
2. San Benito County Water District Water Resources Association, "Groundwater Management Plan Update for the San Benito County Portion of the Gilroy – Hollister Groundwater Basin – Program Environmental Impact Report, SCH# 2002121003," May 2004
3. County of Santa Cruz, "Final Environmental Impact Report Pajaro River and Salsipuedes and Corralitos Creeks Management and Restoration Plan Plan, Santa Cruz County, California," February 2002

2.8 Cultural Resources

The Pajaro River Watershed is rich with cultural resources including various Native American and historic-period cultural sites, historic buildings and landmarks, and sites of traditional and historic significance. Generally, areas within a quarter mile of rivers and creeks have a moderate to high potential for archeological sensitivity.

Cultural resources that have been identified throughout the Pajaro River Watershed are:

- Prehistoric archeological sites – Places where Native Americans lived or carried out activities during the prehistoric period before 1769 AD;
- Historic archaeological sites – Places where human activities were carried out during the historic period between 1769 AD and 50 years ago;
- Traditional cultural properties – Places associated with the cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community;
- Historic structures – Houses, outbuildings, stores, offices, factories, barns, corrals, mines, dams, bridges, roads, and other facilities that served residential, commercial, industrial, agricultural, transportation, and other functions during the historic periods (more than 50 years ago); and,
- Paleontological resources – Fossilized remains of animals and plants, typically found in sedimentary rock units, and they provide information about the evolution of life on earth over the past 500 million years or more.

The information herein should not be considered comprehensive of the entire Pajaro River Watershed, as it originates from previous environmental documentation for specific projects and their associated project areas within the watershed. Within the scope of the IRWMP, further research to compile and document the cultural resources within the Pajaro Watershed will be performed in conjunction with environmental evaluations. Due to the sensitivity of cultural resources, specific details about the location and nature of identified cultural resources are kept confidential.

Cultural Resources in Soap Lake

The Soap Lake project area encompasses about 9,000 acres of floodplain lands upstream of the Pajaro River at Highway 101 and is split between the counties of Santa Clara and San Benito near Hollister. Research indicated that 26 recorded Native American and historic-period cultural sites have been previously identified within the Soap Lake area – 18 within Santa Clara County and 8 within San Benito County.

Native American archaeological sites located in the southern Santa Clara Valley tend to be located along creek banks, along the margin of former marshland, and near the mouths of canyons where they open into the Valley. At the time of Euro American contact, the Native Americans that lived in the area belonged to the Ohlone group of Indians. Given the environmental setting of Soap Lake and the presence of recorded prehistoric archaeological sites, there is a high potential for Native American sites in the Soap Lake area.

Other cultural resources include (but are not limited to) the following:

- The Bautista de Anza National Historic Trial, a National Historic Trail crossing the Soap Lake area;
- Miller Canal, an unlined historic canal between San Felipe Lake and the Pajaro River; and,
- Prehistoric lithic scatters within sparse to moderate density chert debitage, flaked stone and ground stone.

No single repository exists for information on fossil locations within California. Exact locations of fossils are not usually published in order to protect the resource from unauthorized collecting and subsequent loss of scientific information. Paleontological resources have been identified near Gilroy within the Soap Lake area; however, since the exact location of these resources cannot be published, it is unknown whether these resources are directly within the Soap Lake floodplain.

Human remains were identified in three sites within the Soap Lake project vicinity. In addition, one unrecorded site is a possible Native American burial/cremation site.

Cultural Resources in PVWMA Service Area

The archeological, ethnography, and historical context for the PVWMA service area consists of information about, and sites located within, the southern Santa Clara Valley and the Monterey Bay region. This information was gathered from a literature review of the October 2001 PVWMA Revised BMP EIR.

The southern Santa Clara Valley region was initially settled 4,000-7,000 years ago. Review of a prehistoric archeological site database and recent research suggest that the habitation characteristics of the inhabitants followed an early period of high mobility, proceeded by a middle period of more sedentary settlement with indication of year-round occupation and reliance on a subsistence economy which latest until 850-1500 years ago, and ending with a late or protohistoric period which showed an adaptive shift to more mobile settlement patterns with a reduction in territorial base and more usage of local resources.

For the Monterey Bay region of PVWMA, it has been proposed that two archeological population patterns existed. The Sur Pattern, which appeared more than 3,000 years ago, is thought to correspond with Hokan ancestors of the Esselen and represents an early forager subsistence strategy. The Monterey Pattern, which appeared about 2,450 year ago, corresponds with Penutian ancestors of historic Costanoan and represents a collector subsistence strategy that utilized temporal and seasonal residential bases and bases and camps.

The ethnographically documented aboriginal inhabitants of PVWMA area were part of the Ohlone (or Costanoan) language group, which extended from the San Francisco Bay area south to the southern Monterey Bay and lower Salinas River areas. Information regarding these people was obtained from records of early Spanish explorers, documents maintained at missions, the works of ethnographs and linguists, and from Native American descendants.

Four groups of original inhabitants are noted within the PVWMA project area: Tiuvta, Unijaima, Motsun, and Ausaima. The Tiuvta occupied the Pajaro River, Elkhorn Slough, and lower Salinas River areas. The Unijaima lived in the mountains and plans of the southwestern Santa Clara Valley, north of the Pajaro River, while the Motsun lived in the San Juan Valley and in the mountains southwest of the valley. The Ausaima lived in the eastern portion of the San Felipe Sink and the hills on the west side of Pacheco Pass.

Following the early inhabitants of the region, southern Santa Clara Valley and Monterey Bay experienced periods of Spanish arrival and colonization, Mexican independence and the ranchos, and Anglo-American expansion. The Spanish colonization of what was then known as Alta California occurred in the late 1700's with several land expeditions traveling through this region. After the first of the expeditions occurred, several missions were founded in the area and they were an important institution in the colonization of Alta California. The San Juan Bautista mission was founded in 1797. The purposes of the missions were to Christianize native people and to acculturate them into colonizers' Hispanic life ways. The neophytes were taught the horticultural and pastoral skills of the Hispanic tradition. This

process of culture change assimilated most of the native peoples in the area into the mission system by 1810.

San Juan Batista Mission in San Juan Batista. Source: http://gocalifornia.about.com

Soon after the mission system began, a process of land granting commenced. Granting of land, commonly called ranchos, continued through the Spanish period and began the California cattle industry. Ranchos, or large tracts of land, in the vicinity of the missions set the stage for a pastoral economy interwoven with the missions, rancheros, and neophyte populations. Spanish control of Alta California ceased in 1821 with the declaration of Mexican independence, but the political change did not occur until the mission secularizations in 1834, when native peoples were freed from missionary control. At this time, mission lands were granted to private individuals. During this time period, cattle hides and tallow were the medium of exchange in local business transactions and international trading ships. The Mexican population grew and the native population declined, and Anglo-Americans began to settle in Alta California, often marrying into Mexican families, becoming Mexican citizens, and receiving land grants.

After the Mexico-U.S. War, the 1848 treaty of Guadalupe Hidalgo formalized Mexico's capitulation, and Alta California was annexed by the United States. That same year the gold strike in the Sierra Nevada Mountains spurred a substantial migration into California that began the Anglo-American occupation of California. During this time, the Pajaro River Watershed began to change rapidly as gold-rush related immigration and land ownership disputes occurred from the transition from Mexican to U.S. authority. The latter half of the 19th century saw a continued immigration of Anglo-Americans. This influx altered the culture and economy of the area and the region as a whole, and it became the dominant culture in California. Nevertheless, the Hispanic culture continued to exist. Dispersed farmsteads slowly replaced the immense Mexican ranchos, and the farming of wheat, sugar beets, and other specialized crops slowly replaced cattle ranching as the primary economic activity in the area.

The railroad arrived in the Pajaro River Watershed in the late 1800s and agricultural activities in the region were altered with the advent of mechanized farming practices with steam-driven machinery. Larger tracts of land were farmed and land was often reclaimed from the sloughs and lowlands adjacent to the Pajaro River. Tar and asphalt were commercially exploited during the 1860's, while granite mining was started in 1900 in the Pajaro Gap area. By the 20th century, farming activities dominated both the Pajaro Valley and southern Santa Clara Valley.

2.9 Social/Cultural/Economic State

The Pajaro River Watershed social setting is rooted in the urban communities that can generally be classified as suburban and rural in character. The economic setting in the Pajaro River Watershed can generally be characterized as agriculturally based. Agricultural production and processing are the major industries throughout the watershed.

San Benito County agriculture is a $210 million industry (San Benito County 2000 Annual Crop Report). The County's farming and grazing lands are extremely productive and support a significant acreage and variety of crops. Some of the most common vegetable crops grown in the County include lettuce, bell peppers, onions, celery, and broccoli. Common orchard crops are walnuts, grapes, apricots, and apples. The City of Hollister is the major urban area in the County and is generally considered a suburban type community. The economy is based on agricultural production and processing.

Agriculture is the cornerstone of the Pajaro Valley economy and is a $400 million plus industry. Crops grown in the Pajaro Valley include strawberries, lettuce, tomatoes, broccoli and apples. Without development of a sustainable water supply, an estimated 25,660 acres of agricultural land would need to be fallowed to reduce groundwater pumping to eliminate seawater intrusion and the groundwater overdraft. The lost agricultural production has an estimated annual value of $372 million and would result in loss of approximately 11,530 jobs (USBR, August 2003). Property values would also likely plummet as land would likely be converted to range land. The City of Watsonville is the major urban area in the Pajaro Valley and can be generally classified as a suburban community. The City qualifies as a disadvantaged community with an average median household income (MHI) below 80% of the State MHI (See Section 2.10 for additional details). The City's economy is linked to the agricultural production of the region and would be impacted by losses in agricultural production.

South Santa Clara County has historically been based on agricultural production and processing. The total gross value of Santa Clara County's agricultural production was $241 million in 2003 and $256 million in 2002 (Santa Clara County Agricultural Crop Report 2003). Santa Clara County agricultural producers grow nursery and cut flower crops, vegetable, fruit, and wine grape crops, conduct milk and egg production, and livestock grazing and sales.

Major urban areas in South Santa Clara County include the City of Gilroy, City of Morgan Hill, and unincorporated San Martin. These urban areas can be generally classified as suburban and rural in nature. Gilroy is known as the "Garlic Capital of World" and the local economy has generally been based on the agricultural production of garlic, prunes, tomatoes, flowers, and onions. The Outlets at Gilroy also provide an economic base for the communities. The proximity of South Santa Clara County to the San Francisco Bay Area also facilitates commuters from Gilroy, Morgan Hill, and San Martin. There has also been an increased interest in South Santa Clara County for expansion of the technology industry.

2.10 Disadvantaged Communities

A "disadvantaged community" is defined by the State of California as a community with an annual MHI that is less than 80% of the statewide MHI [CA Water Code, Section 79505.5(a)]. Census data from 2000 were collected and reviewed to identify any disadvantaged communities in the region. The 2000 State MHI was $47,493; therefore, communities with an average MHI of $37,994 are considered disadvantaged communities.

Based on the 2000 census, the City of Watsonville is a disadvantaged community. The Pajaro River Watershed also contains a poor region, the Town of Pajaro, that does not qualify as a 'disadvantaged community' by the MHI indicator, but the Town has a Median Family Income (MFI) that is well below 80% of the state MFI.

Below are 2000 census data and MHI statistics:

California State MHI: $47,493; $37,994 = 80 % of the State MHI
Watsonville MHI: $37,617 = 79.2 % of the State MHI
Pajaro MHI: $38,315 = 80.7 % of the State MHI

Below are 2000 census data and MFI statistics:

California State MFI: $53,025; $42,420 = 80 % of the State MFI
Watsonville MFI: $40,293 = 76 % of the State MFI
Pajaro MFI: $38,315 = 70 % of the State MFI

The City of Watsonville has a per capita income of $13,205, while the state average is $22,711. Watsonville's "per capita" income is 58% of the state average. The extremely high cost of living in Watsonville has forced the average household size to increase to 3.84 persons, 34% higher than the state average of 2.87 persons.

The Town of Pajaro has a "per capita" income of $9,893. Pajaro's "per capita" income is 44% of the state average. The extremely high cost of living in Pajaro has forced the average household size to increase to 5.28 persons, 54% higher than the state average of 2.87 persons.

For comparison purposes, socioeconomic statistics for the City of Watsonville, Town of Pajaro, State of California, and the USA are listed as follows from U.S. Census Bureau year 2000 data.

Watsonville: The population of Watsonville is 44,265. The median age of 27.4 years is younger than the state median age (33.3 years) and the United States (35.3 years). Of the approximately 11,381 occupied housing units, about one-half (48.1%) are owner-occupied; the other one-half (51.9%) are rental units. The average family size is 4.26 persons, significantly higher than that of California (3.43 persons) and the United States (3.14 persons). The majority of people in Watsonville work in agriculture.

Pajaro: The town of Pajaro has a population of 3,384 and a median age of 22.8 years, also much younger than the state median. There are approximately 634 occupied housing units, the majority of which are rented (73%). The average family size in Pajaro is 5.25 persons, significantly higher than that of the United States, California, and Watsonville. Most of the employed people work in agriculture (39%).

The City of Watsonville is the major city in the lower Pajaro River Watershed. Watsonville's economy is linked to local agricultural activities, which are threatened by seawater intrusion and basin imbalance. Without the development of a sustainable water supply, the economy and well-being of the community is threatened. Also, Watsonville's economy is threatened by flooding; as a result, projects to mitigate flooding impacts are critical to the well-being of the city.

3 IRWM Plan Objectives

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

> **C. Objectives** – Identify IRWM Plan objectives and the manner in which they were determined. The Plan must address major water related objectives and conflicts within the region, including, at a minimum, water supply, groundwater management, ecosystem restoration, and water quality.

In the IRWMP process, development of objectives is a key step, as objectives provide a basis for decision making, guide work efforts, and can be used to evaluate project benefits. In the Pajaro River Watershed IRWMP process, a mission statement, goals and objectives were developed. The planning objectives are targeted outcomes which benefit the region. When implementing regional projects, the Partners will strive to meet as many objectives as possible while also recognizing that some objectives may not be fully achieved.

3.1 Mission, Goals and Objectives

A consensus based approach was used in the development of a mission statement for the Pajaro River Watershed Collaborative and associated goals and objectives for the region. During the development of the mission, goals and objectives, the Partners considered both the needs and issues identified for the region and the statewide priorities. The goals and objectives were presented to stakeholders and then refined based on stakeholder input and consensus. The results of this collaborative effort are the following mission, goals, and objectives.

MISSION: The mission of the Pajaro River Watershed Collaborative is to preserve the economic and environmental wealth and well-being for the Pajaro River watershed through watershed stewardship and comprehensive management of water resources in a practical, cost effective and responsible manner.

Water Supply Goal: Lead Integrated Regional Water Management Planning effort to improve regional water supply reliability, reduce dependence on imported water, and protect watershed communities from drought with a focus on interagency conjunctive use of regional water resources.

Objectives:

1. Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought
2. Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought
3. Provide a variety of water supply sources to meet demand
4. Optimize and sustain use of existing import surface water entitlements from the San Felipe Division
5. Optimize the use of groundwater and aquifer storage
6. Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020
7. Implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA
8. Protect existing appropriated surface water rights

Water Quality Goal: Lead Integrated Regional Water Management Planning effort to protect and improve water quality for beneficial uses consistent with regional community interests and the RWQCB basin plan through planning and implementation in cooperation with local and state agencies and regional stakeholders.

Objectives:

1. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards
2. Protect or improve the quality of water supply sources
3. Meet or exceed water quality targets established by stakeholders
4. Aid in meeting TMDLs established for the Pajaro River Watershed
5. Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects

Flood Protection Goal: Lead Integrated Regional Water Management Planning effort to ensure flood protection strategies are developed and implemented through a collaborative and watershed-wide approach and are designed to maximize opportunities for comprehensive management of water resources.

Objectives:

1. Implement flood protection projects throughout the watershed that provide multiple benefits
2. 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 event
3. Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed
4. Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate
5. Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development

Environmental Protection and Enhancement Goal: During the Integrated Regional Water Management Planning effort, the Partners will work 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 when developing water supply, water quality, and flood protection strategies.

Objectives:

1. Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies
2. Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects
3. Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects
4. 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

Some of the objectives developed for a specific goal also meet other IRWMP goals. The following discussions present the intent of each objective, and Table 3-1 illustrates how the objectives benefit multiple goals.

Table 3-1: Goals and Objective Comparison

Objectives \ Goals		Water Supply			Water Quality		Flood Protection		Environmental Enhancement	
		Improve Reliability	Reduce Dependence on Imported Water	Protection during Drought (Reduce Effects of Drought)	Protect and Improve Water Quality Consistent with Regional Community Interests	Protect and Improve Water Quality Consistent with RWQCB Basin Plan	Develop and Implement Flood Protection Strategies (Minimize Flooding Potential)	Maximize Opportunities for Comprehensive Water Resources Management	Restore/Preserve Natural Resources of Streams and Watersheds	Enhance Natural Resources of Streams and Watersheds
Water Supply	Meet 100% of M&I and agriculture demand (both current and future conditions) in wet to dry years including the first year of a drought	✓		✓						
	Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought	✓		✓						
	Provide a variety of water supply sources to meet demand	✓	✓	✓						
	Optimize and sustain use of existing import surface water entitlements from the San Felipe Division	✓	✓	✓	✓				✓	✓
	Optimize the use of groundwater and aquifer storage	✓							✓	✓
	Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020	✓	✓	✓	✓					
	Implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA	✓	✓	✓						
	Protect existing appropriated surface water rights		✓	✓						
Water Quality	Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards and policies	✓			✓	✓			✓	✓
	Meet or exceed water quality targets established by stakeholders	✓			✓				✓	✓
	Aid in meeting TMDLs established for the Pajaro River watershed				✓	✓			✓	
	Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects				✓				✓	
Flood Protection	Implement flood protection projects throughout the watershed that provide multiple benefits				✓		✓	✓	✓	✓
	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 event						✓			
	Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed						✓	✓	✓	✓
	Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate	✓			✓		✓	✓	✓	✓
	Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development							✓		✓
Environmental Enhancement	Identify opportunities to protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies				✓				✓	✓
	Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects				✓				✓	
	Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects				✓	✓			✓	✓
	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							✓		✓

3.1.1 Water Supply Objectives

The following paragraphs provide additional explanation of the objectives developed to support the water supply goal.

The Partners established the objective of meeting "100% of M&I and agriculture demands in wet to dry years" to reflect the importance of a reliable water supply. As stated in the California Water Plan, a big challenge now and for the future is ensuring that water demands are met. As with all the objectives, this objective may not be met every year, but it serves as targets for the Partners to strive towards as they implement projects.

This water supply challenge is greatest during dry years when less than average precipitation increases the pressure on supplies. In recognition of the increased obstacles faced in meeting demands during drought years, the Partners established the secondary goal of meeting "85% of M&I and 75% of agriculture demands in second and subsequent years of a drought". Because surface water supplies generally cannot be relied upon during dry years, this objective is geared towards developing supplies that are not dependent on yearly precipitation or surface water supplies that are being developed specifically to address dry year reliability.

Increasing water supply reliability and operational flexibility is important to ensuring that water demands can be met, and diversification of water supplies is essential to increasing reliability and flexibility. The objective to "provide a variety of water supply sources to meet demand" captures the value of diversifying the region's water supply portfolio. This objective is intended to encourage the development of untapped supplies for the watershed.

"Optimizing and sustaining the use of existing import surface water entitlements from the San Felipe Division" is included as an objective because the Partners each hold CVP entitlements and their shared connection to the CVP system through the San Felipe Division presents significant opportunities for optimizing the use of CVP import water in the region. Sustaining the use of CVP water is important given the current deficit in water supplies for the region; this is especially true for PVWMA. PVWMA is in need of new water supplies to bring its groundwater basin into balance, but if the agency does not exercise its right to its current assignment of CVP water through Mercy Springs, its right to that water will expire in 2017. This objective is designed to encourage coordination among the Partners in use of CVP import water to maximize the benefit that can be gained from each of the agency's contract options.

The objective to "optimize the use of groundwater and aquifer storage" promotes the use of groundwater management and conjunctive use in water supply planning. This objective encourages the Partners to consider the use of groundwater from a regional perspective as both a supply source and a storage area. It also captures the intent of the Partners to coordinate groundwater and surface water management activities locally and regionally. Management of these supplies on a regional basis can aid in addressing the current imbalance between areas of the watershed which are hindered by high groundwater conditions and areas of the watershed facing overdraft conditions. Optimizing the use of groundwater and aquifer storage involves capturing the potential synergies offered from coordinated management and use of the groundwater basins.

Recycled water is valued as a local, drought-proof water supply. By establishing the objective to "target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020", the Partners are promoting the continued development of this reliable supply.

The objective to "implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA" is a reminder to the Partners to continue to pursue water use reduction activities as

appropriate. Increasing water use reductions for users that have already increased water use efficiency is difficult, but water conservation is one of the most effective ways to manage demands and the Partners are committed to continuing conservation measures.

The purpose of the objective to "protect existing appropriated surface water rights" is aimed at maintaining rights to local surface waters. Maintaining the option to use surface waters for water supply provides flexibility in water supply planning.

3.1.2 Water Quality Objectives

The following paragraphs provide additional explanation of the objectives developed to support the water quality goal.

The objective to "meet or exceed all applicable groundwater, surface water, wastewater and recycled water quality regulatory standards" is included in recognition of the importance of complying with regulations. This objective is intended to promote, at a minimum, compliance with all regulations.

The objective to "protect and improve the quality of water supply sources" applies to both the quality of source waters and delivered water. This objective encompasses source water protection to prevent contaminants from entering water supply sources as wells as activities that improve the quality of source or delivered water supplies. This objective recognizes the value in going beyond regulatory compliance for sustaining the long-term usability of water supply sources.

The objective to "meet or exceed water quality targets established by stakeholders" recognizes the importance of providing water supplies that meet users' water quality requirements, even those that go beyond regulatory requirements. This objective is especially important for expanding the use of recycled, where user water quality requirements are frequently more stringent than some regulatory standards.

The objective to "aid in meeting TMDLs established for the Pajaro River Watershed" refers to TMDLs, which are either established or being established by the Central Coast RWQCB for the region. Various TMDLs currently exist on the Pajaro River mainstem and its tributaries. This objective encompasses activities that protect or improve the quality of water bodies subject to TMDLs but may not achieve regulatory compliance. The objective to "minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects" is intended to protect the region's water bodies from pollutant loading that is not already captured in the TMDLs.

3.1.3 Flood Protection Objectives

The following paragraphs provide additional explanation of the objectives developed to support the flood protection goal.

The Partners' commitment to protecting communities throughout the watershed from floodwaters is expressed in the objective to "implement flood protection projects throughout the watershed that provide multiple benefits." While all three Partners do not have flood management responsibilities within their charter, all three participate in the Pajaro River Watershed Flood Prevention Authority (FPA), and the importance of developing and implementing flood protection strategies for the watershed is recognized by each of the Partners. Specifying multiple beneficial projects is a reflection of the Partners' desire to move away from the single-purpose flood management projects of the past and move towards the implementation of flood protection projects that can also incorporate water supply, water quality and environmental protection elements.

The objective to "reach consensus on the Pajaro River Flood Protection Project to protect existing infrastructure and land uses from flooding and erosion from the 100-year event" is worded specifically to

stress the importance of achieving consensus in implementing a flood protection project for the Pajaro River. Developing a solution to the flooding issue of the Lower Pajaro River is a watershed-wide issue.

Maintaining flood attenuation properties of the watershed is necessary to preventing further increases in storm flows. The objective to "work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed" addresses this need, and it also emphasizes the necessity of working with stakeholders to make land use decisions that are appropriate for the region.

To maximize the benefits from flood management projects, the DWR Floodplain Management Taskforce recommended pursuing adaptive management approaches which adjust to changing conditions and improved understanding of flooding issues. The objective that the Partners developed to correspond to this recommendation is the objective to "develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing where appropriate".

The objective to "provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development" addresses multi-objective flood protection projects not covered by the first objective.

3.1.4 Environmental Protection and Enhancement Objectives

The following paragraphs provide additional explanation of the objectives developed to support the environmental protection and enhancement goal.

The environmental protection and enhancement objectives reflect the Partner's commitment to preserve the environmental wealth of the watershed. In most cases, the environmental objectives are written such that the Partners will aid in identifying opportunities for environmental partnerships, though they will not implement environmental projects themselves.

The objective "to identify opportunities to enhance the local environment, and protect, enhance and/or restore natural resources consistent with urban and agricultural land uses, when developing water management strategies" encourages the development of environmental enhancements to projects through partnerships. Maintaining consistency with urban and agricultural land uses was specified in recognition of the potential for conflicts between the broad base of stakeholders.

The next objective, "Minimizing adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species, and archaeological/historic sites when implementing strategies and projects", reflects the Partners' commitment to support and, where appropriate, participate in the preservation of the region's environmental and cultural well-being. This objective is also met through environmental documentation required for project implementation.

The Pajaro River drains to Monterey Bay, which is a federally protected marine area that supports a diverse marine ecosystem. To continue protection of this critical resource, the Partners developed the objective "to identify opportunities to protect, enhance or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects".

Because recreational elements can often be well paired with water resource management projects, the Partners included the objective "to 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". As with the first objective,

maintaining consistency with public use and property rights was specified to avoid potential conflicts between stakeholders.

3.2 Prioritization of the Goals and Objectives

Since the goals and objectives will be used to guide the Partners and their stakeholders in the evaluation and ranking of projects proposed for implementation under the IRWMP process, the Partners recognized a need to prioritize the goals and objectives. Clearly defining the priorities of the region allows for a more objective prioritization process for proposed projects.

The Partners came to agreement on the priorities of the region by first looking at the priorities for their own service area. This exercise allowed the Partners to identify those areas where they shared the strongest connections and to engage in discussions on how the regional priorities should be shaped. All the goals and objectives are important to the region. Thus, the prioritization is relative rather than an absolute determination of importance.

The goals and objectives, as they were presented in Section 3.1, are listed in order of priority.

3.2.1 Water Supply Prioritization

The water supply goal was given the highest priority of the four goals because the primary purpose for the formation of each of the three Partner agencies was to manage water supplies for their constituents. . In addition, a focus on water supply reliability is consistent with IRWM program preferences to support and improve local and regional water supply reliability. The first two objectives that fall under this goal (i.e. meeting 100% of M&I and agricultural demands in wet to dry years and meeting 85% of M&I and 75% of agricultural demands) were ranked as the first and second priorities, respectively; again the reasoning being that PVWMA, SBCWD and SCVWD were formed for the purpose of providing a water supply to reliably meet the demands of their respective jurisdictions. Providing a variety of water supply sources to meet demands was ranked third because developing and maintaining a diverse portfolio of water supply sources provides "insurance" against not being able to meet demands due to problems with a single source. A variety of sources also provides more opportunities for conjunctive management. CVP entitlement is the one water supply source that ties all three agencies together, and as such, it follows that optimizing and sustaining the use of entitlements from the San Felipe Division is ranked as the fourth highest water supply objective for the region. Optimizing the use of groundwater and aquifer storage is ranked fifth because a regional conjunctive use strategy including optimization of the San Felipe Division requires strategic management of the groundwater basins. The recycled water targets were ranked sixth since recycled water provides yet another way to reduce dependence from CVP supplies, but unlike the optimization of groundwater and aquifer storage which ranked fifth, the recycled water opportunities are currently more individual agency efforts than regional programs. Although all three of the Partners recognize the value of conservation in water supply management, the implementation of water conservation programs was ranked seventh for the region because each of the agencies continues to aggressively pursue water conservation strategies individually and regional priorities are focused on areas that show greater, untapped benefits. Finally, protecting existing appropriated surface water rights was ranked eighth because surface water rights, outside of the import surface water entitlements, are more an individual agency issue than a regional issue.

3.2.2 Water Quality Prioritization

The water quality goal was given the second highest priority for the region, just behind the water supply goal, because PVWMA, SBCWD and SCVWD each face water quality issues that affect their water supply management strategies and water quality is an integral part of water supply reliability. Additionally, addressing water quality issues is a significant focus of the statewide priorities. Of the

water quality objectives, meeting or exceeding all applicable regulatory standards was ranked first. This ranking reflects the importance of water quality in meeting water demands; at a minimum, the appropriate regulations for a given water resource must be met if it is to be used as a water supply source. The Partners also are interested in going beyond simply meeting or exceeding regulatory standards. The Partners recognize the intrinsic value in protecting and improving the quality of their water supply sources and ranked it as their second water quality objective. The third water quality objective is to meet or exceed stakeholder water quality targets that are not already achieved by higher ranked objectives of meeting applicable water quality standards and protecting and improving water quality. The objective to aid in meeting TMDLs established for the Pajaro River Watershed was ranked fourth because it is a statewide priority and because PVWMA, SBCWD and SCVWD all have 303(d) listed, impaired water bodies in their regions. Minimizing impacts from stormwater was given the lowest water quality priority for the region, which is consistent with the prioritization for each of the Partners.

3.2.3 Flood Protection Prioritization

The flood protection goal was ranked third among the regional goals. Flood protection is an important issue for the watershed, but the Partners have different levels of responsibility for flood protection and flood protection is not an IRWM program preference. The general flood protection objective, which covers flood protection projects throughout the watershed, was ranked as the first priority. The more specific Pajaro River Flood Prevention Project was given second priority. The high priority of the objective to reach consensus on the Pajaro River Flood Prevention Project reflects an understanding that a regional, watershed-wide approach will be necessary to implement a project that protects existing infrastructure and land uses from a 100-year event. Working with stakeholders to preserve existing flood attenuation by implementing land management strategies was ranked third in recognition of the importance flood attenuation plays in the Pajaro River Flood Prevention Project, as well as mitigating some development impacts. Developing approaches for adaptive management was ranked fourth since this objective works to maintain the flood protection properties of implemented projects; maintaining the benefits of implemented projects prevents the need for additional projects. The flood protection aspects are of greater importance than providing additional community benefits, which was ranked fifth.

3.2.4 Environmental Protection and Enhancement Prioritization

The environmental protection and enhancement goal, which is ranked fourth, represents the Partners' commitment to look for opportunities to incorporate environmental elements into their water management projects. Of the four objectives under this goal, the two which speak to protection of environmental resources throughout the watershed are ranked first and second. The objective to identify opportunities to enhance the local environment and protect, enhance and/or restore natural resources reflects the desire of the Partners and their stakeholders to provide environmental benefits throughout the watershed, and this objective was given the highest priority among the environmental objectives. In some cases, enhancement and restoration will not be possible, and the best that can be done is protection through minimization of adverse effects; the objective covering this situation was given second highest priority. Protection of the Monterey Bay National Marine Sanctuary marine life specifically was ranked third after the general protection of natural resources throughout the watershed. Finally, identifying opportunities for recreational elements was ranked fourth out of the four objectives. The Partners would like to create opportunities for open spaces, trails, parks and other recreational projects but this work is not within their jurisdiction and is considered secondary to the objectives that work towards preserving habitats and biological resources.

3.3 Conflicts

Regional water management conflicts within the Pajaro River watershed arise where inconsistencies between proposed water management strategies and watershed objectives exist. Recognizing these inconsistencies is a step toward cooperative planning that will aid in the prioritization of integrated water management strategies for the region and will allow the Partners to minimize and resolve potential conflicts.

The major potential for conflict between water management strategies and watershed objectives exists under the environmental protection and enhancement objective to "minimize adverse effect on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects." Generally, water management strategies that include construction or involve infrastructure as potential projects have the potential to conflict with biological and cultural resources; strategies which will likely involve construction efforts include water supply reliability, groundwater management, water recycling, desalination, imported water, surface storage, water and wastewater treatment, conjunctive use, storm water capture and management, flood management and recreation and public access. Though efforts will be made to minimize the effects of construction, to avoid sensitive habitat and to enhance the environment where practicable, the potential for conflict does exist.

Other conflicts between water management strategies and watershed objectives can arise where projects which are focused on addressing the objectives within one goal fail to meet key objectives within other goals. For example, a desalination or recycled water project that is developed to increase water supply for the region may meet numerous water supply objectives; however it should also take into account associated water quality objectives. Proposed water supply projects which cannot meet the water quality objective of "meeting or exceeding water quality targets established by stakeholders" can lead to conflicts between suppliers and their proposed markets. The imported water strategy, which is intended to meet water supply objectives, can conflict with water quality objectives through the introduction of foreign salts into the basin; this may be viewed as a conflict with the objective to "protect or improve the quality of water supply sources." Similarly, water and wastewater treatment and recycled water strategies that lead to increased salt loading to the groundwater basin can cause conflict with that water quality objective.

Additionally projects which are focused on local solutions without considering the regional perspective or projects competing for the use of common resources can be a source of conflict. Examples of projects which may run into this type of conflict in implementation are the Levee Reconstruction Project, the North San Benito County Regional Recycled Water Project and the San Juan Bautista Surface Water Treatment Plant. The Levee Reconstruction Project is an example of a project that some stakeholders feel is too narrowly focused; these stakeholders have expressed concern that the project, which is intended to provide flood protection along the lower Pajaro River Watershed, should be expanded to include studies to reduce flows and sediment loads in the upper watershed. The North San Benito County Regional Recycled Water Project and the San Juan Bautista Surface Water Treatment Plant are two projects that have conflicting project plans. Both projects are considering the use of the CVP distribution system in SBCWD for water deliveries; however, because recycled water and potable water distribution systems cannot be connected, these two projects cannot both be implemented as originally envisioned by their proponents. For additional details of these projects, please refer to Section 4.

A growing area of concern is the potential for conflicts between agricultural food safety interests and various types of water management strategies. Additional research is needed to evaluate potential sources of crop contamination and the relationship between environmental protection strategies and food safety. However, various agricultural industry guidelines are now encouraging growers to develop "clean" fields

by removing any non-crop vegetation that could attract wildlife; these guidelines are being created in response to the increasing pressure to address food safety problems and the fear that wildlife near cropland is a significant threat. At the same time that growers are being asked to consider the use of bare soil buffers, they are also being regulated by the Central Coast RWQCB to reduce the water quality impacts from their operations. Unfortunately best management practices such as filter strips, vegetative buffer strips, grassed waterways and constructed wetlands, which have been implemented by farmers to comply with the RWQCB's Conditional Agricultural Waiver program and which continue to be promoted by local agencies and conservation organizations, directly conflict with the push to remove non-crop vegetation. The development of recreation and public access trails alongside croplands is also viewed as a potential threat to food safety. Conflicts could arise if recreational projects fail to consider the surrounding urban and agricultural land uses.

It is clear that there exists the potential for regional water management conflicts within the Pajaro River watershed. Identifying these conflicts early in the process and working together to develop solutions to minimize or eliminate the conflict could result in a mutually acceptable or enhanced solution that furthers the goals and objectives of the originally conflicted parties.

Through the IRWMP collaborative efforts, it is envisioned that the stakeholder process will bring together conflicting parties, foster conflict understanding and discussion, provide a forum for conflict resolution, build consensus, and identify mutually beneficial strategies. Ultimately, the hope is to mitigate conflict to the extent practicable while optimizing the potential for integrated strategies with multiple benefits. Resolution of conflicts will be a critical task in the implementation of the IRWMP.

4 Water Management Strategies

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

> **D. Water Management Strategies** – Document the range of water management strategies considered to meet the objectives.

In order to meet the many objectives identified for the Pajaro River Watershed IRWMP, several water management strategies were considered. Strategies can address multiple IRWMP objectives and each represents a different approach towards addressing needs in water supply, water quality, flood management and environmental protection and enhancement. The strategies considered for inclusion in the IRWMP include all of the strategies suggested in the IRWM Grant Program Guidelines. They are:

- Water Supply Reliability
- Groundwater Management
- Water Recycling
- Desalination
- Imported Water
- Surface Storage
- Water and Wastewater Treatment
- Water Transfers
- Conjunctive Use
- Water Conservation
- Water Quality Protection and Enhancement
- Stormwater Capture and Management
- NPS Pollution Control
- Flood Management
- Ecosystem Restoration
- Environmental and Habitat Protection and Improvement
- Recreation and Public Access
- Wetlands Enhancement and Creation
- Watershed Planning
- Land Use Planning

To begin the process of strategy development, the Collaborative reviewed planning efforts previously completed throughout the watershed and coordinated with stakeholders to identify additional planning efforts and projects being considered. The list of identified projects was then categorized by water management strategy. Most projects employ a combination of water management strategies; however, each project was categorized based on the water management strategy it most effectively addresses. Strategies and projects were then compared to the IRWMP objectives developed and outlined in Section 3.

Table 4-1 shows the comparison of strategies and projects versus objectives. This table was utilized as a screening matrix to identify strategies and projects that meet multiple objectives and provide integrated benefits.

Table 4-1: Strategies/Projects and Objectives Comparison

Strategies/Project \ Objectives	1) Water Supply								2) Water Quality					3) Flood Management						4) Environmental Protection and Enhancement			
	Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought	Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought	Provide a variety of water supply sources to meet demand (current and future)	Optimize and sustain use of existing import surface water entitlements from the San Felipe Division	Optimize the use of groundwater and aquifer storage	Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020	Implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA	Protect existing appropriated surface water rights	Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	Protect or improve the quality of water supply sources	Meet or exceed water quality targets established by stakeholders	Aid in meeting TMDLs established for the Pajaro River Watershed	Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management	Implement flood protection projects throughout the watershed that provide multiple benefits	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 event	Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed	Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate	Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development	Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies	Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects	Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects	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
Water Supply Reliability																							
South County Resources Management Program	✓							✓												✓	✓	✓	
Corralitos Creek Surface Fisheries Enhancement Project	✓		✓					✓	✓	✓	✓									✓	✓	✓	
Groundwater Management																							
SBCWD Groundwater Recharge with CVP and Local Sources	✓	✓		✓	✓			✓															
Tres Pinos Water Improvement Project	✓	✓	✓		✓																		
Tile Drains for Localized Groundwater Level Management										✓													
Tree Belt Evapotranspiration																				✓			
SCVWD Groundwater Recharge with CVP and Local Sources	✓	✓		✓	✓			✓		✓													
Main Avenue and Coyote-Madrone Pipeline Repair	✓	✓		✓	✓			✓		✓	✓												
Church Avenue Diversion	✓	✓			✓			✓		✓	✓										✓		
San Pedro Rock Columns	✓	✓		✓	✓						✓												
East Little Llagas Dams	✓	✓			✓																		
PVWMA Groundwater Recharge with CVP and Other Imported Supplies	✓	✓	✓	✓	✓																		
Coastal Distribution System	✓	✓	✓	✓	✓			✓		✓	✓									✓			
Inland Distribution System	✓		✓	✓	✓			✓															
Harkins Slough	✓		✓		✓			✓		✓													
Artesian Well Water Recovery	✓	✓	✓		✓																		
Well Recovery along Pajaro River	✓		✓		✓																		
Water Recycling																							
Watsonville Recycled Water Treatment Facility	✓	✓	✓			✓			✓	✓	✓											✓	
South County Recycled Water Program	✓	✓	✓			✓			✓	✓	✓												
North San Benito County Regional Recycled Water Project	✓	✓	✓			✓			✓	✓	✓												
Sunnyslope Recycled Water Project	✓	✓	✓			✓			✓	✓	✓												
Desalination																							
SBCWD Groundwater Demineralization	✓	✓	✓		✓				✓	✓	✓												
Sunnyslope Groundwater Demineralization	✓	✓	✓		✓				✓	✓	✓												
North Monterey County Desalination Project	✓	✓	✓						✓	✓													
Imported Water																							
PVWMA CVP Contract Reservation	✓		✓	✓							✓												
Mercy Springs Option Agreement	✓	✓	✓	✓							✓												
Pajaro Valley Import Pipeline	✓	✓	✓	✓						✓	✓												
San Luis Reservoir Low Point Project	✓	✓		✓						✓	✓												
Spot Market Transfers and Other Option Agreements	✓	✓	✓							✓	✓												
Purchase of Additional CVP, SWP or Other Water Contracts	✓	✓	✓							✓	✓												
San Felipe Division Operation and Maintenance Improvements	✓	✓		✓																			
Surface Storage																							
Uvas Reservoir Reoperation	✓				✓			✓						✓			✓			✓	✓		
Chesbro Reservoir Reoperation	✓				✓			✓						✓									
Pacheco Reservoir Reoperation	✓	✓			✓			✓						✓						✓	✓		
San Justo Reservoir Rehabilitation	✓	✓		✓	✓																		
Hernandez Reservoir Reoperation	✓	✓			✓			✓						✓						✓	✓		
Paicines Reservoir Rehabilitation	✓	✓			✓			✓												✓	✓		

Strategies/ Project \ Objectives	1) Water Supply								2) Water Quality					3) Flood Management					4) Environmental Protection and Enhancement			
	Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought	Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought	Provide a variety of water supply sources to meet demand (current and future)	Optimize and sustain use of existing import surface water entitlements from the San Felipe Division	Optimize the use of groundwater and aquifer storage	Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020	Implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA	Protect existing appropriated surface water rights	Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	Protect or improve the quality of water supply sources	Meet or exceed water quality targets established by stakeholders	Aid in meeting TMDLs established for the Pajaro River Watershed	Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects	Implement flood protection projects throughout the watershed that provide multiple benefits	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 event	Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed	Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate	Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development	Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies	Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects	Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects	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
Water and Wastewater Treatment																						
Morgan Hill Package Plant	✓			✓					✓													
San Juan Bautista Surface Water Treatment Plant	✓			✓		✓			✓	✓	✓											
Morgan Hill Wellhead Treatment	✓	✓			✓				✓	✓	✓											
Aromas Water District Wellhead Treatment	✓	✓			✓				✓	✓	✓											
Hollister Groundwater Softening	✓	✓	✓		✓				✓	✓	✓											
Hollister Wastewater Treatment Plant Improvements						✓			✓	✓	✓											
Sunnyslope Wastewater Treatment Plant Improvements						✓			✓	✓	✓											
Tres Pinos Wastewater Improvement Project									✓	✓												
SCRWA Discharge Pipeline						✓			✓	✓												
Water Transfers																						
CVP water transfers within the San Felipe Division	✓		✓	✓																		
Non-CVP Water Transfers and Banking Agreements	✓	✓	✓	✓	✓			✓														
River Conveyance	✓		✓		✓														✓			
Conjunctive Use																						
Groundwater and Surface Water Blending	✓	✓	✓		✓				✓	✓	✓											
Arroyo Dos Picachos	✓		✓					✓		✓	✓									✓		
Arroyo Los Viboras	✓		✓					✓		✓	✓									✓		
Pacheco Creek	✓		✓							✓	✓									✓		
Cienega Valley	✓	✓	✓		✓					✓	✓									✓		
Water Conservation																						
Agricultural Water Conservation	✓	✓					✓			✓		✓										
Urban Water Conservation	✓	✓					✓															
Water Conservation Studies, Research, Pilot Programs and Future Projects	✓	✓					✓															
Water Quality Protection and Improvement																						
Regional Mobile Lab	✓	✓					✓		✓	✓	✓	✓								✓	✓	✓
Ranchette Series							✓		✓	✓	✓	✓	✓				✓			✓	✓	✓
Nitrate Management Program									✓	✓	✓	✓	✓									✓
Salinity Education Program										✓	✓											
Water Softener Rebate Program										✓	✓											
Solvent and Toxins Liaison Program									✓	✓												
Pumped Groundwater Placed into Pajaro River					✓					✓	✓											
Export Pipeline					✓					✓	✓											
Recharge Area Protection Program					✓					✓			✓									
Stormwater Capture and Management																						
Constructed Wetlands Treatment									✓	✓	✓	✓	✓							✓	✓	✓
Tequisquita Slough Wetland Treatment Project									✓	✓	✓	✓	✓							✓	✓	✓
Stormwater Treatment through Industrial WWTP									✓	✓	✓	✓	✓									
NPS Pollution Control																						
Santa Cruz Partners in Restoration Permit Coordination Program									✓	✓	✓	✓	✓			✓	✓			✓	✓	
San Benito and South Santa Clara Permit Coordination Program									✓	✓	✓	✓	✓			✓	✓			✓	✓	
Conditional Agricultural Waiver							✓		✓	✓	✓	✓	✓			✓	✓			✓	✓	✓
Green Valley Watershed Stream Bank Stabilization									✓	✓	✓	✓	✓				✓			✓	✓	✓
Coward Creek Stream Bank Stabilization									✓	✓	✓	✓	✓				✓			✓	✓	✓
Vegetative Buffer Strips									✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓

Strategies/ Project / Objectives	1) Water Supply								2) Water Quality					3) Flood Management					4) Environmental Protection and Enhancement			
	Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought	Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought	Provide a variety of water supply sources to meet demand (current and future)	Optimize and sustain use of existing import surface water entitlements from the San Felipe Division	Optimize the use of groundwater and aquifer storage	Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020	Implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA	Protect existing appropriated surface water rights	Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	Protect or improve the quality of water supply sources	Meet or exceed water quality targets established by stakeholders	Aid in meeting TMDLs established for the Pajaro River Watershed	Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects	Implement flood protection projects throughout the watershed that provide multiple benefits	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 event	Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed	Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate	Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development	Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies	Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects	Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects	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
Flood Management																						
Soap Lake Floodplain Preservation Project					✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Levee Reconstruction Project									✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
ALERT station monitoring														✓				✓				
Upper Llagas Creek Flood Protection Project										✓		✓		✓			✓		✓	✓		✓
Lower Llagas Creek Flood Protection Project (Capacity Restoration)												✓	✓	✓			✓	✓	✓	✓	✓	✓
Uvas Creek Flood Protection												✓	✓	✓			✓	✓	✓	✓	✓	✓
San Juan Basin Surface Drainage									✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	
Ecosystem Restoration																						
Restoration of the Upper Pajaro River Floodplain					✓												✓	✓	✓	✓	✓	✓
Tar Creek Bridge Replacement and Bank Stabilization											✓	✓					✓		✓	✓	✓	
Pajaro River Lagoon Monitoring																			✓	✓	✓	
Coroto Pit Restoration																			✓	✓		✓
Environmental and Habitat Protection and Improvement																						
Watsonville Slough Enhancement																			✓	✓		✓
Tick Creek Riparian Enhancement											✓	✓	✓				✓		✓	✓		
Uvas Creek Fish Passage at Silva Crossing														✓			✓	✓	✓	✓	✓	✓
Bolsa Road Fish Ladder																			✓	✓	✓	✓
Stream and Watershed Protection Program										✓							✓	✓	✓	✓	✓	
Adopt-a-Creek											✓								✓	✓		
Watershed Stewardship Grant Program										✓	✓							✓	✓	✓	✓	
Recreation and Public Access																						
Open Space Authority Acquisitions																			✓			✓
Trails, Parks & Open Space Grant																			✓			✓
Pajaro River Access at the Watsonville Treatment Plant																			✓	✓		✓
Pajaro River Parkway														✓				✓	✓	✓		✓
San Benito River Parkway																			✓			✓
Wetlands Enhancement and Creation																						
College Lake Wetland and Stream Restoration										✓									✓	✓		
Watershed Planning																						
Groundwater Study & Biological Assessment of the Upper Pajaro River					✓													✓	✓	✓	✓	
Historic Ecological Study of the Upper Pajaro																	✓		✓	✓	✓	
Pajaro River Watershed Council																			✓	✓	✓	✓
Pajaro River Watershed Study									✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

The water management strategies considered to meet the range of objectives in the IRWMP are described in more detail in the following sub-sections. The projects assigned to each of the water management strategies are also introduced. Numerous projects have been identified through review of previously completed planning efforts and coordination with stakeholders to identify additional projects that are being considered as part of current planning efforts. To be included in the IRWMP, a project must have a project sponsor that is willing to lead implementation of the project and must be defined with enough detail to be compared with the IRWMP objectives. It is important to note that planning projects are not included. As discussed in Section 13, several important planning projects are on-going in the watershed, and some existing plans will be updated in the future. The projects that are recommended in these plans will be considered in future updates of the IRWMP.

4.1 Water Supply Reliability

The water supply reliability strategy seeks to provide adequate water supplies consistently within the region over a wide range of conditions. Projects which aid in meeting M&I and agriculture demands under current and future conditions may be considered as employing the water supply reliability strategy. In the Pajaro River Watershed, the projects categorized under this strategy are focused on preserving existing water rights and the ability to exercise those rights. One significant issue affecting the future use of water rights is the requirement to maintain sufficient flows to support fisheries. As many of the surface waters in the region serve as steelhead migratory paths, ensuring that projects maintain adequate fish passage is critical to ensuring that these surface waters can be relied upon as water supply sources.

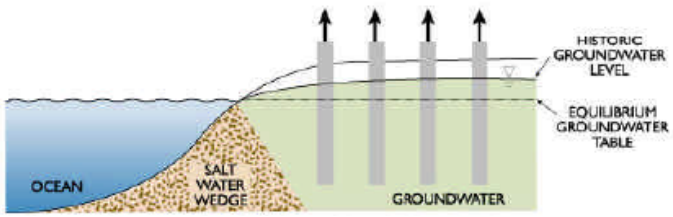
The projects categorized under the water supply reliability strategy are:

South County Resources Management Program. The goal of this project is to develop a fisheries management plan covering water supply operations and maintenance of SCVWD facilities located in the Pajaro River Watershed including Uvas and Chesbro Reservoirs. Scientific investigations, operational analysis, and stakeholder involvement will be used to develop a fisheries management plan that provides protection to central coast steelhead trout, an important anadromous fisheries resource located within the watershed. This project will evaluate water temperature, habitat availability and quality, barriers to passage and other factors to develop a management strategy for water supply operations that optimizes the availability of suitable habitat for steelhead trout. The project helps protect SCVWD's surface water rights in the Uvas and Llagas Watersheds and ensure the reliability of that source.

Corralitos Creek Surface Fisheries Enhancement Project. This project, which includes several phases, will make modifications at the City of Watsonville's intake on Corralitos Creek necessary to maintain flows adequate to support fish populations and to allow for the expansion of the associated treatment plant. The modifications to the surface water intake facilities are necessary to meet NOAA Fisheries' current design criteria. Without the modifications, the City of Watsonville would jeopardize both its current withdrawals from Corralitos Creek as well as any potential increases to its diversions. The three phases of this project include new intake screens and flow studies, fish ladder improvements and conversion to a membrane filtration plant.

4.2 Groundwater Management

Groundwater management is a significant strategy in the Pajaro River Watershed since groundwater is a major component of supply throughout the region. Groundwater management aims at addressing various challenges, from



preserving the groundwater basins as a major water supply source to managing groundwater levels.

The projects categorized under the groundwater management strategy are:

SBCWD Groundwater Recharge with CVP and Local Sources. Groundwater recharge is currently ongoing in SBCWD through natural direct percolation, artificial direct percolation with CVP water and in-lieu recharge through the use of CVP water. This SBCWD Groundwater Recharge with CVP and Local Sources project would extend SBCWD's groundwater recharge operations to include additional recharge opportunities for artificial direct percolation with CVP and local sources and local sources and injection of CVP or local sources through aquifer storage and recovery (ASR) wells.

Tile Drains for Localized Groundwater Management. In some areas, groundwater management must be employed to address high groundwater tables that threaten infrastructure and beneficial use of land. In areas such as the San Juan Basin, where clay layers prevent groundwater percolation, SBCWD is considering the Tile Drains for Localized Groundwater Management project, which would include installation of tile drains (perforated pipes) above the clay layers to collect groundwater and drain it to the surface. This project must be coordinated to ensure that the problem is not merely being transferred to downstream areas with similar high groundwater issues.

Tree Belt Evapotranspiration. This is a project being considered by SBCWD to manage local high groundwater levels in agriculture areas. The project calls for planting of high water consumption vegetation in strategic areas to take up excess groundwater and lower groundwater levels.

SCVWD Groundwater Recharge with CVP and Local Sources. Groundwater recharge is currently ongoing in SCVWD through both natural recharge and artificial recharge with local and CVP water. In addition to several site specific projects, which are described below, the SCVWD Groundwater Recharge with CVP and Local Sources project is intended to continue pursuing opportunities to reduce water supply shortages in the Llagas Subbasin through additional recharge projects. This project aims to increase SCVWD's total recharge capacity in the Subbasin by 11,000 AFY.

Main Avenue and Coyote-Madrone Pipeline Repair. This project would repair or replace approximately 4,500 feet of the Main Avenue Pipeline, which connects Anderson Reservoir in northern Santa Clara County to the Main Avenue Recharge Ponds, and approximately 2,500 feet of the Coyote-Madrone Half-Road Pipeline connects the Santa Clara Conduit with the Madrone Recharge Pond. The Main Avenue Pipeline is currently out of service, and the Coyote-Madrone Half-Road Pipeline cannot be operated at full capacity due to a number of issues related to the pipeline construction. This project also includes upgrades to piping and valves connecting different segments of the pipelines and reaches of the Madrone Channel recharge facility. Currently, the SCVWD can only deliver water from the Santa Clara Conduit to the ponds. This project will enable the District to deliver Anderson Reservoir water to both sets of ponds, as well as increase the volume of recharge.

Church Avenue Diversion. Currently, the full recharge capacity of the Church Avenue Percolation Ponds is not being utilized. This project would allow SCVWD to realize the entire capacity of the ponds, which will help to preserve the existing water rights for Chesbro and Uvas Reservoirs.

San Pedro Rock Columns. Recharge capacity at SCVWD's San Pedro Recharge Pond is currently limited by clay soils and down-gradient septic systems. Through this project SCVWD will use rock columns as a conduit past the clay layers to increase recharge without affecting the nearby septic system operations.

East Little Llagas Dams. The East Little Llagas Dams project will construct spreader dams along East Llagas Creek to increase recharge capacity from the creek.

PVWMA Groundwater Recharge with CVP and Other Imported Supplies. PVWMA is aggressively pursuing in-lieu groundwater recharge opportunities. Because the area has limited local water supply options, PVWMA's groundwater recharge project is focused on CVP and other potential supplies imported to the Pajaro Valley from the upper Pajaro River Watershed. The use of ASR is also being considered as an option for the PVWMA Groundwater Recharge with CVP and Other Imported Supplies project. ASR was included and studied in the PVWMA's adopted Basin Management Plan and accompanying EIR.

Coastal Distribution System. The Coastal Distribution System (CDS) is a key element of groundwater management for PVWMA. The CDS will aid in groundwater management in the form of in-lieu operations, where alternative sources of water will be delivered to coastal groundwater pumpers *in lieu* of withdrawing from the basin. In-lieu recharge in coastal areas is most effective at addressing the threat of seawater intrusion, as it eliminates coastal pumping that is drawing seawater inland. The CDS project provides the necessary infrastructure to deliver alternate supply sources to coastal pumpers.

Inland Distribution System. The Inland Distribution System is PVWMA's inland version of the CDS. The Inland Distribution System will provide the necessary infrastructure to deliver alternative supply sources to inland pumpers in the Pajaro Valley *in lieu* of withdrawing from the basin. This project would provide a 'banked' supply of groundwater that could be delivered to coastal pumpers in critically dry years.

Harkins Slough Optimization Project. As a measure to increase the use of local supply sources and decrease coastal users dependence on the groundwater basin, PVWMA began treating and pumping water from Harkins Slough to a recharge basin for seasonal storage until the irrigation season. The PVWMA has permits to divert and recharge up to 2,000 AFY annually, but typically can only recharge 1,000 during wet years. Sediment settling to the pond bottom has reduced percolation at the recharge basin, and operational data suggests the clay layers beneath the pond are not as contiguous as believed during project design resulting in low yields from the shallow recovery wells surrounding the pond. The Harkins Slough Optimization Project aims to increase the low yield of the existing facility by optimizing the existing facilities and installing wells at lower aquifer depths.

Artesian Well Water Recovery. To improve the management of high groundwater tables near the confluences of Uvas Creek and San Benito River with the Pajaro River, the seasonal capture of existing artesian flows for agricultural supply is being considered by PVWMA. The captured water could be delivered to PVWMA via pipeline or river conveyance.

Well Recovery along Pajaro River. In the past, PVWMA has evaluated the feasibility of using wells along the Pajaro River to withdraw water from the river. The locations previously investigated were found to be technically infeasible; however due to stakeholder interest in this project and the opportunities for river conveyance of water from the upper watershed, PVWMA may consider additional investigations in the future.

4.3 Water Recycling

Water recycling is an effective strategy for creating a local, reliable, drought-proof water supply from the treatment and reuse of wastewater. In addition to reducing dependence on imported water through the creation of a locally controlled supply, water recycling can also provide water quality benefits and resolve effluent disposal issues.

The projects categorized under the water recycling strategy are:

Watsonville Recycled Water Treatment Facility. PVWMA, in conjunction with the City of Watsonville, is implementing the Watsonville Recycled Water Treatment Facility (WRWTF) Project. The initial phase of the project is the construction of a recycled water facility adjacent to the existing Watsonville WWTP that will have the capacity to produce 4,000 AFY of recycled water. To meet stakeholder water quality targets, the initial phase also includes blending with 3,000 AFY of groundwater and surface water. A second phase envisioned for the WRWTF is the addition of nitrification/denitrification facilities and seasonal storage facilities so that recycled water may be produced year round. The third phase under consideration for the WRWTF is demineralization of recycled water.

South County Recycled Water Program. This project which is a joint effort between SCVWD, SCRWA, and the Cities of Gilroy and Morgan Hill, would aid in implementing the short- and long-term Capital Improvement Program (CIP) developed for the South County Recycled Water Program system expansion. The short-term CIP includes additional distribution facilities to improve the reliability of the current system and enable additional use in the existing service area. The long-term CIP includes additional facilities to expand the service area. Implementing the short and long-term CIP will more than double the use of recycled water in this area, to an estimated total of approximately 4,000 AFY.

North San Benito County Regional Recycled Water Project. This project, which is a joint effort among the City of Hollister, SBCWD and the Water Resources Association of San Benito County, would implement water recycling with a regional perspective within northern San Benito County. The proposed treatment facility would be located at the Hollister Domestic WWTP and the proposed market is agricultural users and landscape irrigators around the San Juan Valley. The near-term production is anticipated to be 2,300 AFY.

Sunnyslope Recycled Water Project. As part of its wastewater treatment facility upgrades, Sunnyslope County Water District is considering implementing a recycled water project. Water recycling will aid in disposal capacity issues for Sunnyslope County Water District while also providing an alternative source of water for the Ridgemark Golf Course, freeing up potable water for other uses in the region. The project is currently envisioned to provide 300 AFY of recycled water.

4.4 Desalination

Desalination is a specific water treatment strategy that has gained more attention within the watershed in recent years. It can help address the high TDS levels found in many of the groundwater supplies that make them unsuitable for potable and irrigation use. Additionally, demineralization of recycled water can be performed to enhance the quality of recycled water supplies. For the upper watershed desalination is becoming an increasingly important consideration in regional salt management. In the lower watershed, proximity to the ocean provides an opportunity for creation of a new local supply through seawater desalination.

The projects categorized under the desalination strategy are:

SBCWD Groundwater Demineralization. Desalination efforts to date include the partnership of SBCWD and SCVWD to complete the Pajaro River Watershed Groundwater Desalination Feasibility Study. This study is exploring groundwater desalination options within SBCWD, including potential locations for groundwater extraction and treatment, assessments of desalination technology and brine management

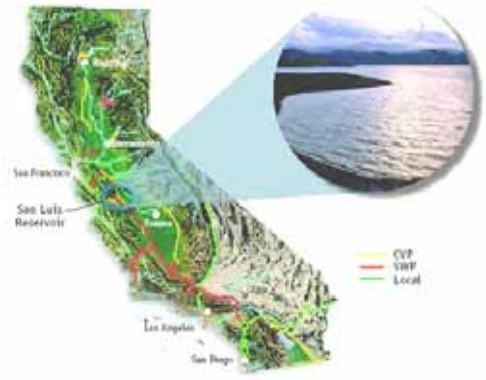
options and identification of potential markets. The SBCWD Groundwater Demineralization Project resulting from this study is anticipated to create 3,000 AFY of new water supply.

Sunnyslope Groundwater Demineralization. Sunnyslope County Water District is considering the demineralization of groundwater as a source of local water supply. In addition to creating a high quality source of water, this project would assist with meeting salinity requirements set forth in the District's Waste Discharge Requirements.

North Monterey County Desalination Project. The North Monterey County Desalination Project, which is a seawater desalination project being proposed by Pajaro/Sunny Mesa Community Services District in coordination with Poseidon Resources Corporation. The desalination facility would be located at Moss Landing, which lies outside of the Pajaro River Watershed, but the proposed market extends through the Monterey Peninsula to areas of Pajaro/Sunny Mesa Community Services District and PVWMA. The project is envisioned to create 21,000-23,000 AFY of supply through the construction of a 20 mgd seawater desalination plant.

4.5 Imported Water

The imported water strategy entails the utilization of water from outside the region. In the Pajaro River watershed, this strategy consists of accessing additional CVP or SWP water as well as ensuring the imported water currently in use is being used in the most efficient manner. Other specific actions include addressing water quality issues related to imported water and facilitating inter-regional transfers of imported water. The imported water strategy addresses both water supply and water quality objectives.



The projects categorized under the imported water strategy are:

PVWMA CVP Contract Reservation. USBR is reserving 19,900 AFY of CVP Irrigation contract supply for PVWMA. Negotiations with USBR for the reserved 19,900 AFY have been delayed as USBR has been prohibited from entering new contracts until it meets certain environmental requirements stipulated by the Central Valley Project Improvement Act (CVPIA) of 1992. The PVWMA CVP Contract Reservation project would pursue access to the reserved 19,900 AFY, which is a key component of PVWMA's adopted Basin Management Plan and accompanying EIR/EIS

Mercy Springs Option Agreement. PVWMA participated in an existing joint assignment contract for 6,260 AFY of CVP Irrigation water from the Mercy Springs Water District. To maintain its rights in the 6,260 AFY joint assignment of CVP irrigation water from Mercy Springs Water District, PVWMA must take delivery of all or a portion of the assignment by the dates specified in the option agreement with SCVWD, PVWMA and Westlands Water District – all partners in the joint assignment. If PVWMA does not develop facilities to take delivery of water or find other means to exercise its right to the water by 2019, SCVWD and Westlands Water District will be the sole contractors receiving water under the joint assignment. Currently, SCVWD and Westlands Water District share the supply with 25% to SCVWD and 75% to Westlands and SCVWD has the option to take delivery of dry year supplies. SCVWD and Westlands will continue to share the supply with 25% to SCVWD and 75% to Westlands if PVWMA does not take deliveries by 2019.

Pajaro Valley Import Pipeline. The PVWMA Import Pipeline Project, long under consideration, would provide PVWMA with a connection to the CVP system that would allow it to take delivery of water from the San Felipe Division of the CVP. The import pipeline would also serve as a connection to water supplies from within the upper watershed if developed by SBCWD and/or SCVWD.

San Luis Reservoir Low Point Project. Imported CVP water is stored at the San Luis Reservoir. Currently, state and federal water projects cannot fully utilize water stored in San Luis Reservoir without impacting the reliability of water deliveries to San Felipe Division contractors. The location of the San Felipe Division intake, Delta operations, system-wide demands and diminished water quality together reduce project water supplies south of the Delta. These constraints are collectively known as the San Luis low-point problem. This project, which is under consideration by SCVWD, SBCWD, San Luis Delta Mendota Water Authority and USBR, will help ensure that the maximum delivery and usage of imported water is possible.

San Felipe Division Operation and Maintenance Improvements. The aging infrastructure used to transport water throughout the San Felipe Division is in need of upgrades. The San Felipe Division Operation and Maintenance Improvement project is envisioned to increase the efficiency of the system. This project would include upgrades to Pacheco Pumping Plant and additional infrastructure and potential operational changes for San Justo Reservoir. SCVWD and SBCWD are preparing an Asset Management Plan to achieve and maintain reliability of the San Felipe Division.

Spot Market Transfers and Option Agreements. Spot market transfers from outside the hydrologic region would be performed on an as needed basis to meet demands in times of critical shortfalls. Any transfers of CVP water must be approved by USBR. One-year transfers of irrigation water typically can be accomplished under the USBR's programmatic NEPA documentation, with application CEQA exemptions, and can be accomplished fairly quickly. However, identifying willing sellers in the spot market is uncertain. Option agreements for CVP water may be made in advance and are longer term. Transfer are facilitated through the use of these pre-arranged and pre-approved (by USBR) agreements that allow agencies to rapidly transfer water once the decision has been made to exercise a purchase option. A regional partnership among PVWMA, SBCWD and SCVWD to collectively purchase spot market transfers and/or option agreements could reduce the risks of over- or under-purchasing by the individual agencies, and reduce costs.

Purchase of Additional CVP, SWP or Other Water Contracts. If long-term water demands cannot be met using projected water supply portfolios, the purchase of additional CVP, SWP or other water contracts may be pursued. Purchases of additional water contracts are subject to institutional, legal, operational, and other constraints.

4.6 Surface Storage

In the Pajaro River Watershed, the surface storage strategy primarily involves modifications to existing surface storage reservoirs; however, it could also eventually include construction of new storage facilities. Modifications at existing reservoirs could be of either a structural or operational nature and would be made to allow water from these facilities to be put to more optimal use from a watershed standpoint. This includes improving the ability to coordinate releases from the reservoirs to better coincide with peak irrigation periods, groundwater recharge opportunities and required reservoir

maintenance schedules. At the current time, construction of new facilities is not planned; however, future evaluations under this strategy may consider the development of new reservoir sites.

The projects categorized under the surface storage strategy are:

Uvas Reservoir Reoperation. Uvas Reservoir, located along Uvas Creek, has a 9,835 AF capacity. Although SCVWD has a surface water right of 14,000 AFY on Uvas Creek, this full amount is not captured in the reservoir during many years. Alternative operation regimes, termed reservoir reoperations, could allow SCVWD to better realize the full complement of water rights available. Reoperations, consistent with the South County Resources Management Plan described previously, would involve management of releases from the dam to maximize regional water supply or local groundwater recharge opportunities.

Chesbro Reservoir Reoperation. Chesbro Reservoir, located along Llagas Creek, has a 7,945 AF capacity. Opportunities for reoperations at Chesbro Reservoir are not as significant as at Uvas Reservoir; however, SCVWD is considering improvements to the management of this reservoir to enhance local conditions.

Pacheco Reservoir Reoperation. Pacheco Reservoir, located along the north fork of Pacheco Creek, has a 6,143 AF capacity. 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. This project would require coordination with Pacheco Pass Water District, which manages releases from Pacheco Reservoir.

San Justo Reservoir Rehabilitation. San Justo Reservoir has 10,000 AF capacity, but is currently limited to 7,000 AF because of seepage. Its role is to provide operational storage for the SBCWD CVP system. Rehabilitation of the reservoir to eliminate seepage would allow SBCWD to realize the full capacity of the reservoir and allow for greater flexibility in local operations.

Hernandez Reservoir Reoperation. Hernandez Reservoir, located along the San Benito River, has an 18,300 AF capacity. Water is released from the reservoir by SBCWD for percolation along the San Benito River. Because of high groundwater levels downstream that limit recharge, the water captured in the reservoir cannot be fully utilized. Reoperations would allow more of this water to be utilized through regional water supply opportunities.

Paicines Reservoir Rehabilitation. Paicines Reservoir is on off-stream reservoir located between San Benito River and Tres Pinos Creek. SBCWD is considering rehabilitation of the reservoir to decrease water losses and ensure full utilization of the 2,870 AF capacity. The reservoir loses significant quantities of water due to seepage.

4.7 Water and Wastewater Treatment

Water and wastewater treatment is a strategy based on improving the quality of water through various treatment processes. In the Pajaro River Watershed, this strategy deals with two major issues – water quality and effluent management.

Water treatment can apply to imported, local surface and groundwater sources. To supply M&I users with CVP water, the water must first be treated to potable standards; these types of projects are included in the water and wastewater treatment strategy. In some areas, water treatment will address groundwater impairment either from natural sources or anthropogenic sources that have caused degradation or loss of

existing potable groundwater supplies. The water and wastewater treatment strategy is related to the desalination strategy since desalination relies on treatment processes to remove TDS.

Wastewater treatment addresses challenges of effluent disposal, particularly those that arise in the closed inland groundwater basins. It is closely linked to the recycled water strategy as treatment to produce recycled water is one option that allows for mutually beneficial disposal of effluent. For the Pajaro River Watershed, wastewater projects are grouped in the water and wastewater treatment strategy with treatment plant improvements and disposal.

Morgan Hill Package Plant. The Morgan Hill Package Treatment Plant is being proposed as an additional water supply for the City of Morgan Hill. The project would provide a package plant to treat CVP water for supplemental M&I supply. Currently, the City relies solely on groundwater for water supply

San Juan Bautista Surface Water Treatment Plant. The City of San Juan Bautista Surface Water Treatment Plan identifies construction of a new water treatment plant which would allow the blending of treated CVP water with groundwater from the San Juan Basin to create additional water supply.

Morgan Hill Wellhead Treatment. The Morgan Hill Wellhead Treatment project would aid in management of the existing perchlorate contaminant plume in southern Santa Clara County. Removing perchlorate through wellhead treatment systems will help restore full use of contaminated groundwater supplies for the City of Morgan Hill.

Aromas Water District Wellhead Treatment. The Aromas Water District is planning to implement the Aromas Water District Wellhead Treatment project that will reduce naturally occurring concentrations of iron and manganese to meet the secondary maximum contaminant level (MCL). By providing a wellhead treatment facility to treat the 300 AFY of groundwater supplied by two existing wells, the Aromas Water District will ensure continued use of their local supplies.

Hollister Groundwater Softening. This SBCWD project, which would serve the Hollister urban area, would treat groundwater to reduce TDS and hardness levels. Softening is being considered as an alternative to demineralization. The Hollister Groundwater Softening project would pump groundwater from wells in the San Juan subbasin to a centralized treatment plant.

Hollister Wastewater Treatment Plant Improvements. To meet effluent disposal needs, the City of Hollister is proposing improvements to their existing Domestic WWTP in order to create a regional plant. The Hollister Regional WWTP would expand treatment capacity from 2.69 mgd to 5.0 mgd. The expansion would include an upgrade of the treatment process to incorporate membrane bioreactor technology.

Sunnyslope Wastewater Treatment Plant Improvements. Sunnyslope County Water District has entered into discussions with the City of Hollister to negotiate potential connection to the Hollister Regional WWTP, which will result from the Hollister Wastewater Treatment Plant Improvements. However, in a parallel process, the District has also been considering upgrades to its Ridgemark wastewater facilities. As an alternative to connecting to the Hollister Regional WWTP, the District may implement a new treatment process to meet its new, more stringent Waste Discharge Requirements.

Tres Pinos Wastewater Improvement Project. The current treatment system for the Tres Pinos County Water District consists of treatment, evaporation and percolation ponds, which may be inadequate for

meeting future needs and regulatory requirements. A long-term solution for wastewater management would include exploring options for upgrading the system to more advanced forms of treatment such as a Sequencing Batch Reactor.

SCRWA Discharge Pipeline. This project would provide for limited winter discharge if SCRWA's percolation ponds are at capacity. The SCRWA Discharge Pipeline provides expanded recycled use opportunities as well as an alternative wastewater disposal method for SCRWA. The potential to add agricultural users along the SCRWA Discharge Pipeline is being considered in the current design process.

4.8 Water Transfers

The water transfers strategy adds flexibility to the management of water supplies and ensures the most efficient use of supplies by addressing imbalances that can occur throughout the watershed in demand versus supply.

The projects categorized under the water transfers strategy are focused on water transfers within the region. They are:

CVP Water Transfers within the San Felipe Division. The prospect of PVWMA, SBCWD and SCVWD all being physically connected to the San Felipe Division facilities led to the recommendation for coordinated imported water operations and the development of a San Felipe Division water transfer and banking agreement.

Non-CVP Water Transfers and Banking Agreements. The pressing need for water in the lower watershed combined with the high groundwater levels in the upper watershed presents a unique opportunity for transfers and banking opportunities between the upper and lower watershed. Water transfers to the Pajaro Valley could include groundwater, recycled water or surface water. This water could be banked in PVWMA through in-lieu groundwater recharge.

River Conveyance. The river conveyance project was conceived as potential means of transferring water from the upper watershed to the lower watershed. Initial studies suggest significant technical difficulties with this project; however, it has been considered by PVWMA and is of interest to stakeholders. Supplies to be conveyed through river conveyance would be limited to non-CVP supplies. Though technically feasible, the conveyance of CVP water using river conveyance is not technically practical given the loss of head when the water is discharged from the CVP system to the river that would then have to be recovered in pumping water out of the river.

4.9 Conjunctive Use

Conjunctive use is the coordinated management and use of groundwater and surface water resources to increase water supply reliability and water supply system flexibility, and reduce dry year demand deficits, overdraft, and subsidence. Because of this, conjunctive use is closely linked to the groundwater management, surface storage, and imported water strategies. Groundwater and surface water sources can have different advantages and disadvantages, often relating to timing or water quality. Conjunctive use projects are designed to take advantage of the more favorable aspects of either source that exist and use that to help offset or minimize the disadvantage of the other, allowing the fullest use of both. The most common example is using imported or surface water supplies to buildup storage reserves of groundwater, which can then be relied upon during dry years, or to or avoid overdraft and subsidence. This can be done through recharge of surface and imported water via percolation or injection or through "in-lieu" usage.

The blending of poor quality groundwater with high quality surface water is an example of beneficial conjunctive use in areas of the watershed where high TDS discourages the use of groundwater alone.

The projects categorized under the conjunctive use strategy are:

Groundwater and Surface Water Blending. This project is being considered by SBCWD mainly for the San Juan Basin and would involve blending the high TDS groundwater with better quality imported or local surface water to make it suitable for agricultural use.

Arroyo Dos Picachos. SBCWD has an existing water right of 4.75 cfs between December 1 and May 1 from Arroyo Dos Picachos, totaling up to 1,422 AFY. Historically SBCWD exercised its right to this water through in-stream groundwater recharge; however changes in land use has decreased the channel length that can be used for percolation. Instead of continuing the in-stream percolation, SBCWD is considering diversions from Arroyo Dos Picachos for M&I use in the City of Hollister. This project would require modifications to an existing diversion structure on the stream, construction of pipelines to deliver water to a new water treatment plant and ASR facilities to store excess water.

Arroyo Los Viboras. There is potentially up to 1,377 AFY of unadjudicated, seasonal water rights available from Arroyo Los Viboras. SBCWD is considering pursuing these rights as additional supply for M&I use in the City of Hollister. This project would require similar infrastructure as described under the Arroyo Dos Picachos project. Additionally, this project would require coordination with Pacheco Pass Water District, which has an existing diversion structure on the stream.

Pacheco Creek. On Pacheco Creek, there are opportunities for SBCWD to utilize unused water rights as well as a possible transfer of some existing water rights. This project would require similar infrastructure as described under the Arroyo Dos Picachos project. Additionally, this project would require coordination with Pacheco Pass Water District, which manages releases from Pacheco Reservoir.

Cienega Valley. This project would involve rehabilitation and replacement of a damaged pipeline that historically had delivered groundwater from Cienega Valley to the City of Hollister. The Cienega Valley project would include construction of additional pipeline to connect the Cienega system to the CVP system at the Hollister Conduit. This would restore full delivery of the City's 489.41 AFY maximum diversion. Under the proposed project, the City would exchange its Cienega Valley water for SBCWD's CVP water. The City would take CVP water further upstream, and SBCWD would deliver blended Cienega Valley and CVP water further downstream.

Tres Pinos Water Improvement Project. Tres Pinos County Water District is planning a series of improvements and upgrades to its water supply system that include construction of a 500,000 gallon storage tank, drilling of new wells to augment current supplies and pipeline improvements for fire flows.

4.10 Water Conservation

Water conservation is an essential strategy used by many agencies and municipalities to lower the ultimate water demands within the Pajaro River Watershed. It is an efficient strategy as water conserved represents a saving of all the accompanying costs to the region - financial, energy-related and otherwise - associated with delivery and treatment of that water. Water conservation helps to meet water supply objectives and it also can assist in meeting water quality objectives by eliminating excess runoff.

Conservation is implemented through a number of measures related to either agricultural or urban settings and include water use efficiency studies, water metering programs, tiered water rates, agricultural irrigation audits, grower education and demonstration projects, weather-based irrigation controller program, low flow and high efficiency appliance rebates and conservation ad campaigns. Many of the conservation activities are on-going and will continue into the future. Projects that implement this strategy usually consist of a set of water conservation activities that are offered as programs by the Partners, agencies and municipalities to their customers. Although traditionally these water conservation programs have been offered individually by entities, the Partners are attempting to integrate individual efforts where possible, to gain greater public awareness and approval, and cost efficiency.

The projects categorized under the conservation strategy are:

Agricultural Water Conservation Measures. This Agricultural Water Conservation Measures is a category of projects that focus on modifying growers' practices and promoting efficient crop irrigation management. It consists of education and outreach programs which are sponsored by a number of agencies including the Partners, RCDs and Farm Bureaus, a water use efficiency nursery program offered by SCVWD and irrigation equipment improvement and soil moisture monitoring programs through SBCWD.

Urban Water Conservation Measures. The Urban Water Conservation Measures project consist of public outreach programs, rebate programs for water conservation devices, residential water surveys, plumbing retrofits, system water audits, irrigation technical assistance, evapotranspiration-based irrigation controller pilot programs and water efficient technologies programs. This project promotes the continuation of these measures by PVWMA, SBCWD and SCVWD.

Water Conservation Studies, Research, Pilot Programs and Future Projects. Development and testing of innovative technology and practices is also an important component of water conservation. The Water Conservation Studies, Research, Pilot Programs and Future Projects project category encompasses a wide variety of activities and programs that are being undertaken by PVWMA and SCVWD to develop improved, more efficient and acceptable methods for water conservation.

4.11 Water Quality Protection and Improvement

The water quality protection and improvement strategy involves actions to prevent the degradation of water quality and promote prompt and appropriate cleanup when contamination has occurred. For surface water this is accomplished mainly by reducing the impacts of urban and agricultural runoff. For groundwater it involves protecting basins from pollutants such as nitrate and solvents and preventing the buildup of TDS.

The projects categorized under the water quality protection and improvement strategy are:

Regional Mobile Lab. The Regional Mobile Lab project is envisioned to be an extension of the five-county Integrated Program for Irrigation and Fertilization Management, called the Ag Mobile Lab. The Ag Mobile Lab was a grant funded project that provides irrigation and fertilization management assistance for farmers and nurseries in Santa Clara, San Benito, Santa Cruz, Monterey and San Mateo Counties. Funding for this project ended in March 2007. Through the Regional Mobile Lab, PVWMA, SBCWD and SCVWD would continue to provide technical services to farmers and nurseries on a one-on-one basis. This strategy also has a substantial educational and assistance component that focuses on

teaching management practices and providing tools that can be used to protect water quality and improve water use efficiency. The tools the Regional Mobile Lab provides to irrigators support compliance with Conditional Agricultural Waivers.

Ranchette Series. The Ranchette Series is a program run by the RCDs in conjunction with SBCWD, SCVWD and PVWMA. It is similar to the Regional Mobile Lab; it encompasses a variety of water quality workshops targeting landowners with small acreages. Topics vary depending upon available funding and may include wells and groundwater protection, septic system management, hazardous materials management, manure management, erosion control, native plant identification and uses, irrigation management, integrated pest management, and composing. The Ranchette Series project proposes to continue providing educational assistance to small landowners on water quality and environmental protection.

Nitrate Management Program. This project provides groundwater protection and management through education of the community on nitrate issues, including exposure risk, sources of nitrate loading, and management measures. SBCWD, SCVWD and PVWMA have each conducted individual nitrate management efforts that focus on promoting practices that reduce nitrate loading. The primary emphasis has been on agricultural loading, but other sources such as septic systems and non-agricultural fertilizer use have also been addressed. In addition, SCVWD is considering a residential treatment system rebate program to reduce exposure to nitrate. This project would combine the Partners' efforts.

Salinity Education Program. Salinity education programs are being implemented individually by a number of agencies. Through this project, PVWMA, SBCWD and SCVWD would develop a joint Salinity Education Program targeting both agricultural and municipal users. The program will help users to understand the importance of salt management and how to minimize their impacts on the salt balance. The main focus for the agricultural community will be on managing salt additions from fertilizers, and for M&I users it will focus on water softening.

Water Softener Rebate Program. SBCWD and SCVWD are coordinating on a Water Softener Rebate Program, which provides a financial incentive to encourage customers to replace old, inefficient water softeners with new, water- and energy-efficient water softeners that also reduce salt loading to wastewater systems. This project can be expanded to include PVWMA.

Solvent and Toxins Liaison Program. SCVWD has established the Solvent and Toxics Liaison Program which addresses activities that use chlorinated solvents that can contaminate the Santa Clara Valley groundwater basin. It provides peer review and monitoring of progress of the many cleanups currently underway, including the Olin Perchlorate cleanup in the Llagas Groundwater Subbasin. As part of this program, SCVWD participates in advisory committees, provides comments to regulatory agencies and engages in stakeholder forums.

Groundwater Conveyance via the Pajaro River. This project under consideration by SBCWD would be used as a groundwater quality management program for the SBCWD groundwater basins. The Pumped Groundwater Placed into the Pajaro River project would evaluate the feasibility of pumping groundwater containing high concentrations of salts and exporting that water out of the county using the Pajaro River instead of through a pipeline. That water could then be treated to remove the salts and used as a blending source and/or delivered directly to agricultural water users in the Pajaro Valley.

Export Pipeline. The Export Pipeline project would evaluate the feasibility of a pipeline that would carry groundwater and/or some potential combination of treatment concentrate, wastewater effluent, agricultural drainage runoff or pumped groundwater between Hollister or the San Juan Valley and the City of Watsonville. That water could then be treated to remove the salts and blended and/or delivered

directly to agricultural water users in the Pajaro Valley. An important aspect of this approach is the potential to utilize the City of Watsonville's existing ocean outfall.

Recharge Area Protection Program. The Recharge Area Protection Program is a joint effort by the County of Santa Cruz and PVWMA that will protect groundwater quality by preserving areas of groundwater recharge through land acquisition, basin maintenance, sediment control, zoning and education and outreach programs.

4.12 Stormwater Capture and Management

Although the flood management and NPS pollution control strategies also address stormwater impacts, the stormwater capture and management strategy is more narrowly defined around the capture, detention, and/or treatment of high peak flows associated with wet weather events. Usually, stormwater capture and management is employed as a specific sub-strategy within the broader flood management and NPS pollution control strategies. Projects employing stormwater capture and management address flood management and water quality objectives and can also offer excellent opportunities to assist in achieving environmental protection and enhancement objectives.

The projects categorized under the stormwater capture and management strategy are:

Constructed Wetlands Treatment. Constructed Wetlands are being proposed by SBCWD along the San Benito River to remove sediments, solids and nutrients from stormwater prior to discharge to the river. These wetlands could also be designed to be multi-functional and accommodate subsurface drainage and municipal wastewater flows as well as stormwater.

Tequisquita Slough Wetland Treatment Project. The Resource Conservation District is implementing the Tequisquita Slough Wetland Treatment Project, which is a constructed wetlands designed to address sediment and nutrient TMDLs while also restoring native plants and habitat.

Stormwater Treatment through Industrial WWTP. While constructed wetlands and detention basins represent a more decentralized approach towards stormwater management, the City of Hollister has centralized treatment of stormwater (collected in an existing combined system) at the Hollister Industrial WWTP. There have been discussions regarding separation of the stormwater and industrial wastewater collection systems.

4.13 Non-Point Source Pollution Control

The non-point source pollution (NPS) control strategy, which is closely tied to the water quality protection and improvement strategy, aims to protect water quality by reducing the impact of pollutants that are not attributable to single point sources. Non-point source pollution is most challenging to address precisely because it occurs on a widespread scale throughout the watershed and because responsibility can be more difficult to assign. In the Pajaro River Watershed, NPS pollution control is a concern mainly because of agricultural runoff, but urban runoff, mining activities, habitat modification and channel erosion have also been identified as potential NPS sources. The NPS pollution control strategy works to reduce the impact from NPS sources and aids in meeting TMDLs established for the region.

The projects categorized under the non-point source pollution strategy are:

Farm and Rangeland Water Quality Management Program. One of the most significant opportunities for NPS pollution control in the Pajaro River Watershed is with agricultural sources. The Farm and Rangeland Water Quality Management Program, which would be led by SBCWD, SCVWD and PVWMA in conjunction with various agricultural and conservation groups, would address NPS pollution by helping agricultural and rural land owners develop and implement water quality management plans for their operations. For owners and operators of irrigated lands, this project assists with the requirements of the RWQCB's Conditional Agricultural Waiver. For owners and operators of rangelands, this project allows for voluntary participation and education of water quality issues and best management practices to address NPS pollution and prepare for potential regulation from the RWQCB in the future.

Santa Cruz Partners in Restoration Permit Coordination Program. This project sponsored by the Santa Cruz Count RCD will address agricultural non-point source pollution by streamlining the permitting process for best management practices (BMPs) designed to prevent and reduce transport of sediment, nutrients and pesticides. The program supports TMDL implementation and agricultural waiver compliance.

San Benito and South Santa Clara Permit Coordination. This project is modeled after the Santa Cruz Partners in Restoration Permit Coordination Program. Sponsored jointly by the San Benito RCD and Santa Cruz County RCD, this project would extend the streamlined permitting process for BMPs to the greater Pajaro Watershed.

Green Valley Watershed Streambank Stabilization. The Santa Cruz County RCD has proposed the Green Valley Watershed Streambank Stabilization project as a demonstration project for streambank stabilization techniques. The project will improve a section of stream along Casserly Creek that has a deeply incised channel, excessive bank erosion and little riparian vegetation.

Coward Creek Streambank Stabilization. This is another streambank stabilization demonstration project proposed by the Santa Cruz County RCD. The project will be implemented along Coward creek in an area where the stream is being severely undercut and is causing erosion related loss of land to adjacent properties.

Vegetative Buffer Strips. This project sponsored by SCVWD uses available NPS program funds to work with Santa Clara County landowners to identify regions that could benefit from the installation of vegetative buffer strips. Vegetative buffer strips protect water quality by serving as buffers between receiving waters and nearby land uses. These buffer strips also aid in groundwater recharge by capturing overland flow and drawing the water downward.

4.14 Flood Management

The flood management strategy is intended to protect infrastructure and property from flooding. In the Pajaro River Watershed, effective flood management involves consideration of the entire region in developing solutions. Projects employing the flood management strategy support the IRWMP flood management objectives.

The projects categorized under the flood management strategy are:

Soap Lake Floodplain Preservation Project. This project sponsored by the Pajaro River Watershed Flood Prevention Authority provides non-structural flood protection through preservation of approximately 9,000 acres of agricultural lands in the Soap Lake Floodplain. The floodplain provides natural flood storage and attenuation for the Pajaro River Watershed and reduces the flow that needs to be carried through the downstream channel.

Levee Reconstruction Project. This project is a joint effort among Santa Cruz County, Monterey County, the U.S. Army Corps of Engineers (USACE) and Action Pajaro Valley. The project is intended to increase levee flow capacity from 22,000 cfs to 44,000 cfs, which will provide conveyance of the 100-year flood event, protecting local communities in the lower Pajaro River Watershed from flood damage. The project is an integration of several efforts. The first phase includes excavation of benches within the river channel and a stakeholder process to ensure local funding will be available for the actual reconstruction of the levees, which is the second phase of the project.

ALERT Station Monitoring. Through the ALERT Station Monitoring project, SCVWD, SBCWD, Monterey County Water Resources Agency and the City of Watsonville will install additional flood warning stations at key locations in the Pajaro River Watershed that monitor and transmit precipitation, water level data and other parameters to provide early warning of potential flooding events. The project proposes the addition of 15 real-time monitoring sites to develop a more comprehensive monitoring network and to address current data gaps exists. This project will enhance the watershed's flood forecasting capabilities, increase understanding of flooding issues and allow for performance evaluation of flood control projects.

Upper Llagas Creek Flood Protection Project. This SCVWD project will provide 100-year level of flood protection in the urban areas of Morgan Hill and 5- to 10-year level of flood protection in the agricultural areas of Gilroy and San Martin. In addition, the project includes channel stabilization measures to reduce erosion and sedimentation in Llagas Creek to improve stream habitat for fish and wildlife while also improving water quality.

Lower Llagas Creek Flood Protection Project. The Lower Llagas Creek Flood Protection Project is a restoration project to address reduced capacity in the levee system which extends along the Lower Llagas Creek from downstream of Pacheco Pass Highway south to the confluence with the Pajaro River. SCVWD is currently in the project planning phase. The project may include removal of certain existing levee reaches thus widening the floodplain and minimizing flooding impacts

Uvas Creek Flood Protection. This project sponsored by SCVWD involves management of the levees along Uvas Creek.

San Juan Basin Surface Drainage. SBCWD has proposed surface water detention and drainage alternatives in the San Juan Basin area that can be integrated with an existing Caltrans reconstruction plan for Highway 156 between San Juan Bautista and Hollister. This plan will provide surface water detention and water quality benefits to a tributary of the Pajaro River, thereby assisting with stormwater runoff quality concerns and also reducing peak flows from the San Juan Basin into the Pajaro River.

4.15 Ecosystem Restoration

Projects employing the ecosystem restoration strategy aim to return ecosystems that have been altered by past actions to their original state.

The projects categorized under the ecosystem restoration strategy are:

Restoration of the Upper Pajaro River Floodplain. This project sponsored by The Nature Conservancy (TNC) involves the development of a restoration plan for the wildlife corridor between the Mountain Hamilton Range and the Santa Cruz Mountains.

Tar Creek Bridge Replacement, Bank Stabilization. This project provides for bridge removal, bank stabilization and installation of riparian vegetation along an acute bend of Tar Creek located within Soap Lake. Tar Creek is a designated steelhead stream. By removing the bridge's supporting wood and concrete and associated bank debris, SCVWD will enhance the viability of this reach for steelhead passage. Additionally, riparian vegetation will be installed for bank stabilization and stream shading.

Pajaro River Lagoon Monitoring. The Pajaro River Lagoon Monitoring project is a comprehensive monitoring plan that includes bathymetry, fish, water quality and snowy plover monitoring. This project, which is being led Santa Cruz County Flood Control and Water Conservation District, will provide a better understanding of the lagoon's ecosystem.

Coroto Pit Restoration. Through this project, Graniterock Company will deed six acres of previously pit-mined land to San Benito County. San Benito County is considering using this land to create passive recreational opportunities including hiking and bird-watching, to protect and restore naturally occurring wetlands and mud flats, to create and protect habitats for birds, amphibians and reptiles and to create passive recreational opportunities including hiking and bird-watching.

4.16 Environmental and Habitat Protection and Improvement

Environmental and habitat protection and improvement is a strategy that is employed to address the potential loss of habitat resulting from increasing development and population density. In the Pajaro River Watershed, the protection and restoration of habitat for steelhead is a major focus of this strategy. There are many opportunities to create multi-benefit projects by employing this strategy as an integral component of other strategies including water supply reliability, groundwater management, stormwater capture and management, NPS pollution control, flood management, and wetlands enhancement and creation.

The projects categorized under the environmental and habitat protection and improvement strategy are:

Watsonville Slough Enhancement. This project is a partnership between Santa Cruz County, the City of Watsonville and PVWMA, and would provide a scenic network of trails that would include wildlife viewing lookout and interpretive displays. Besides serving as a recreational area, the Watsonville Slough Enhancement project protects areas of Watsonville Slough and aims to promote the importance of natural settings and resource conservation.

Tick Creek Riparian Enhancement. This project sponsored by SCVWD provides for riparian vegetation along approximately 2,000 lineal feet of creek channel. Tick Creek runs amidst land currently in agricultural and pasture usage. Installation of appropriate vegetation will enhance the creek corridor by providing a buffer from adjacent land use, provide erosion protection of creek banks and increase population of native flora on site.

Uvas Creek Fish Passage at Silva Crossing. This SCVWD project will remove and retrofit the existing culvert system. This roadway creek crossing has been identified by fishery biologists, regulatory staff and others as a significant barrier to up-migrating fish in the Uvas-Carnadero Creek watershed system. Ten culvert pipes have been installed over the years in an effort to address increased flows in the creek but not with fish passage as an objective. The system also requires retrofitting because the existing culvert system remains inadequate during high flows.

Bolsa Road Fish Ladder. Through this project, SVWD will improve the fish passage conditions at the Union Pacific Railroad Bridge crossing on Uvas Creek at Bolsa Road in Gilroy. The original design of the ladder called for fish to be able to swim into the first baffle of the ladder at lower flows. Over the years the creek has downcut several feet so that now at lower flows fish must jump into the first baffle. This condition has reduced the effectiveness of the ladder and made fish passage through the ladder more difficult at the commonly occurring lower flows.

Stream and Watershed Protection Program. This program, sponsored by SCVWD, is an environmental land preservation program in Santa Clara County that helps protect the county's streams and associated wetlands. The program allows the District to conduct routine stream and canal maintenance while providing mitigation credits for wetland impacts from these maintenance activities. This program provides opportunities for willing sellers of stream-bearing lands to preserve the ecologic condition of their property. The program also promotes partnerships among SCVWD, park and open space agencies and land conservation organization to acquire land.

Adopt-a-Creek. The Adopt-a-Creek program is a volunteer program led by SCVWD that encourages Santa Clara County residents to take an active role in helping to preserve the health and beauty of the region's creeks. Implementation of the program is mainly volunteer-based with community members assisting in the maintenance of creeks by removing debris, litter and trash found along creeks. This project promotes awareness of the Adopt-a-Creek program in order to minimize the impact urbanization has on waterways and keeps creek from becoming overwhelmed by pollution.

Watershed Stewardship Grant Program. This grant program supports community-based, non-profit organizations in watershed stewardship efforts to enhance ecosystem health, water supply and water quality in Santa Clara County. In addition to encouraging cooperation among SVWD, community groups, private businesses and local government agencies, this program also promotes awareness, education and research related to ecosystem sustainability.

4.17 Recreation and Public Access

The recreation and public access strategy considers the opportunities for open spaces, trails, parks and other recreational opportunities that promote watershed stewardship. Recreation and public access projects may simply involve the development of recreational areas alongside lakes, rivers or wetlands whereby visitors can gain an appreciation for water resources simply through their interaction with the natural environment, or they can encompass a stronger education aspect through installation of interpretative signs or educational facilities. For the Pajaro River Watershed, projects grouped under the recreation and public access strategy are mainly of the former type. Projects of the latter type are categorized under the environmental and habitat protection and improvement strategy.

The projects categorized under the recreation and public access strategy are:

Open Space Authority Acquisitions. This project would continue land acquisitions by the Open Space Authority, which to date has preserved 9,000 acres of land in Santa Clara County. The Open Space Authority works to preserve open spaces and create greenbelts between communities. It encourages recreation and continued agricultural activities. Among the Open Space Authority acquisition goals is the preservation of wetlands and riparian corridors.

Trails, Parks & Open Space Grant. This project is designed to assist SCVWD in its goal of providing public access to 70 miles of trails or open spaces along creeks. The Trails, Parks & Open Space Grant is offered biennially. It encourages development of trails, parks and open spaces to increase public access to and enjoyment of public areas for increased recreational opportunities.

Pajaro River Access at the Watsonville Treatment Plant. Public parking and river access is being implemented in conjunction with the recycled project at the Watsonville Treatment Plant. This project will create river access for kayaks alongside the facility and provide trails from the plant to integrate with existing recreational trails.

Pajaro River Parkway. This project would expand current recreational opportunities along the Pajaro River. The City of Watsonville plans to incorporate public access and recreational opportunities with the Levee Reconstruction Project through the Pajaro River Parkway project.

San Benito River Parkway. This project would expand current recreational opportunities along the San Benito River. The City of Hollister and County of San Benito are considering integrating the San Benito River Parkway project with a mine restoration project along San Benito River.

4.18 Wetlands Enhancement and Creation

Wetlands can provide various functions within a watershed. While serving as habitat for numerous flora and fauna, wetlands aid in groundwater recharge, stream water quality protection and flood attenuation. The wetlands enhancement and creation strategy emphasizes the use of wetlands as wildlife habitat. Other types of projects employing the wetlands enhancement and creation may be found in the stormwater capture and management, NPS pollution control, flood management, ecosystem restoration, environmental and habitat protection and improvement and recreation and public access strategies.

The one project categorized under the wetlands enhancement and creation strategy is:

College Lake Wetland and Stream Restoration. The College Lake Watershed drains the northeastern region of the PVWMA service area through a network of streams, which include Green Valley, Casserly and Hughes Creeks. College Lake is a seasonal water body created when seasonal flows collect in a natural, fault-controlled depression. To reduce impacts of flooding on agricultural lands, the College Lake Reclamation District actively manages flows into and out of College Lake by impounding water during winter months and pumping water out during the spring. The seasonal management of College Lake provides ideal conditions for waterfowl in the winter and is a popular bird-watching site. Additionally, College Lake is used during the migration periods of adult steelhead and smolt. The

College Lake Wetland and Stream Restoration project is being proposed to provide a preliminary planning tool to direct future long-term planning and development activities in the area that can achieve an array of environmental and social benefits to the area.

4.19 Watershed Planning

The watershed planning strategy includes those projects that are specifically designed to take a broader, regional perspective on water resource management or which are aimed at meeting all of the watershed's goals.

The projects categorized under the watershed planning strategy are:

Groundwater and Biological Assessment of the Upper Pajaro River. This project promotes integration of environmental restoration with the development of water supply, water quality and flood protection projects throughout the greater Pajaro River watershed. Through implementation of this project, TNC will provide the detailed scientific information to fill in existing data gaps concerning the hydrogeologic and biological functions of the upper Pajaro River.

Historic Ecological Study of the Upper Pajaro. SCVWD and The Nature Conservancy are coordinating on the Historic Ecological Study of the Upper Pajaro, which proposes to research the historic ecological and physical characteristics of the Upper Pajaro River Watershed. The project synthesizes data to provide a scientific basis for future stream restoration and management.

Pajaro River Watershed Council. The mission of the Pajaro River Watershed Council is to coordinate local interests, identify natural resource issues, develop solutions, and implement projects ensuring a sustainable and quality watershed. This project provides continued support for a public forum to discuss issues related to watershed management.

Pajaro River Watershed Study. The purpose of the Pajaro River Watershed Study would be to complement the ongoing development of the Pajaro River Flood Control Project by investigating management measures that are important to improving the overall public acceptability of the flood damage reduction project, but are outside of the scope of the project authorization. The Pajaro River Flood Control Project was authorized in 1966 as a single-purpose flood damage reduction project. As a single-purpose project, only flood damage reduction benefits can be used to justify Federal investment in the project; however, stakeholders have identified other outputs, such as geomorphic stability and steelhead habitat improvements, that are important for overall public acceptability of the project. The watershed study provides a means to investigate these other outputs. The watershed study would also provide information that will complement the ongoing Soap Lake Preservation Project and other proposed water resources projects in the Pajaro River Watershed.

4.20 Land Use Planning

Land use planning was considered as a strategy for meeting IRWMP objectives. However projects that exhibit the land use planning strategy can be captured under other strategies, which they more effectively address. For example, the Recharge Area Protection Program, which limits land uses in areas sensitive to groundwater contamination, was grouped under the water quality protection and improvement strategy, and the Soap Lake Floodplain Preservation Program, which preserves existing land uses to maintain flood attenuation properties, was categorized as a flood management project. Though the Partners were able to identify some purely land use planning strategies such as general plan updates, they decided not to include land use planning as a distinct water management strategy in the IRWMP. Rather land use plans,

policies and ordinances set forth by the various cities, counties and districts will be used as guidance documents in the development of other strategies. Coordination of this IRWMP with local land use agencies is further described in Section 13.

5 Integration

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

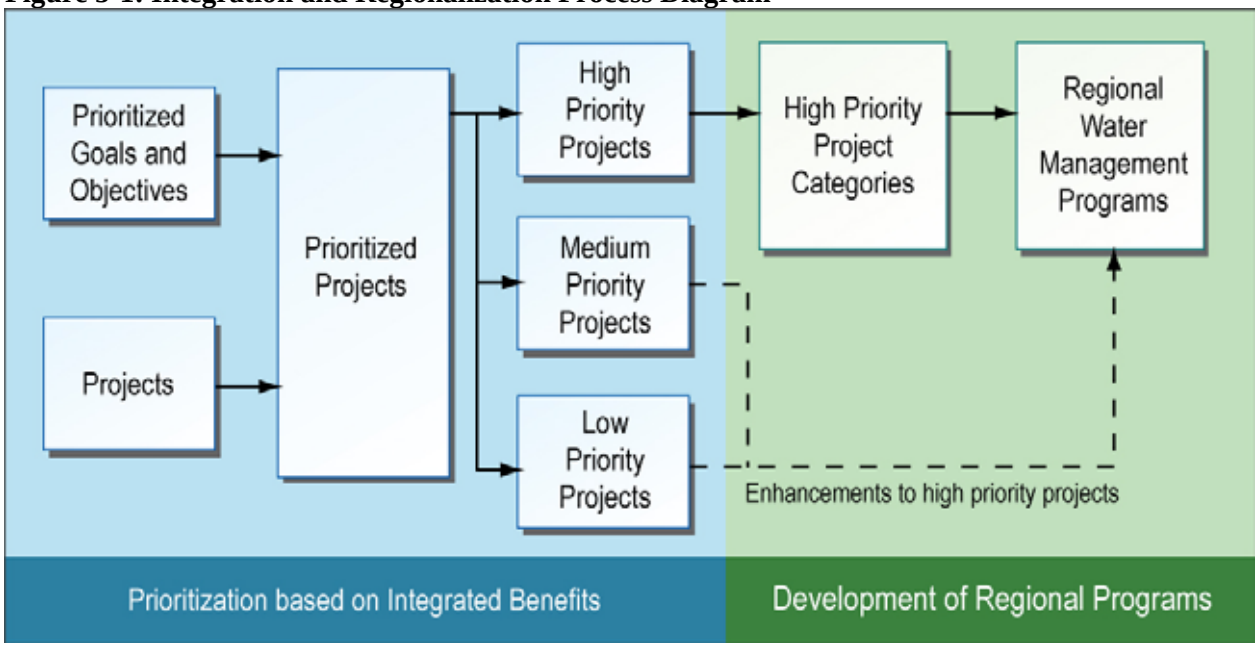
> **E. Integration** – Present the mix of water management strategies selected for inclusion in the Plan and discuss how these strategies work together to provide reliable water supply, protect or improve water quality, and achieve other objectives. Include a discussion of the added benefits of integration of multiple water management strategies.

All of the water management strategies and projects included in the IRWMP were introduced in Section 4. This section presents the process by which the myriad of projects were screened to identify those that present the highest integrated benefit for the watershed. Additionally, this section discusses how the resulting high priority projects were further integrated and regionalized through the formation of regional water management programs. Integration of projects into regional water management programs promotes coordinated implementation and allows for more effective consideration of regional needs.

5.1 Integration and Regionalization Process

To ensure the long-term usefulness of the IRWMP, the Partners worked to create a well-defined integration and regionalization process that can be applied consistently over time. As regional needs change or as projects are implemented, the list of water management projects will evolve and the IRWMP will have to be dynamic to accommodate these changes. Some projects will be removed from the list after they have been implemented, and others may be removed from the list if future analyses determine they are infeasible. Still other projects may be added to the list as new alternatives are developed to meet unsolved regional needs. While the list of projects included in the IRWMP will continually change, the process for identifying integrated projects and further integrating projects to develop regional programs will not change. Figure 5-1 illustrates this two stage process.

Figure 5-1: Integration and Regionalization Process Diagram



5.1.1 Prioritization Based on Integrated Benefits

The first of the two stages in the integration and regionalization process is the prioritization of projects based on integrated benefits. There are three steps involved in the project prioritization: 1) prioritization and weighting of the goals and objectives, 2) scoring of projects against objectives, and 3) development of high, medium and low project priorities.

Step 1. Prioritization and Weighting of Goals and Objectives

As described in Section 3, the Partners prioritized the goals and objectives for the watershed in order to provide a measure for prioritizing projects. The four goals established for the Pajaro River Watershed, in order of priority as described in Section 3, are:

1. **Water Supply Goal:** Lead Integrated Regional Water Management Planning effort to improve regional water supply reliability, reduce dependence on imported water, and protect watershed communities from drought with a focus on interagency conjunctive use of regional water resources.

2. **Water Quality Goal:** Lead Integrated Regional Water Management Planning effort to protect and improve water quality for beneficial uses consistent with regional community interests and the RWQCB basin plan through planning and implementation in cooperation with local and state agencies and regional stakeholders.

3. **Flood Protection Goal:** Lead Integrated Regional Water Management Planning effort to ensure flood protection strategies are developed and implemented through a collaborative and watershed-wide approach and are designed to maximize opportunities for comprehensive management of water resources.

4. **Environmental Protection and Enhancement Goal:** During the Integrated Regional Water Management Planning effort, the partners will work 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 when developing water supply, water quality, and flood protection strategies.

The same prioritization process was applied to the objectives within each goal, as described in Section 3.

The next task in the prioritization process was to develop a weighting tool to assign weights to each of the goals in accordance with their prioritized ranking. To be consistent with the prioritization of the goals, the water supply goal should receive the greatest weight, followed by water quality, then flood protection and finally environmental protection and enhancement. Desiring a weighting method that minimizes subjectivity, the Partners chose to use a mathematical formula to assign weights to each of the goals. The formula took into account both the number of goals as well as the rank of each goal. This formula was:

$$\frac{\frac{1}{i}}{\sum_{m=1}^{n}\left(\frac{1}{m}\right)}$$

where, n = number of goals
i = rank of goal

There are four Pajaro River Watershed IRWMP goals, therefore n=4 in the equation. Using the water supply goal as an example, since it is ranked number one of the four goal, i=1 in the equation. Applying the formula to determine the weight of the water supply goal:

$$\frac{\frac{1}{1}}{\sum_{m=1}^{4}\left(\frac{1}{m}\right)} = \frac{1}{\frac{1}{1}+\frac{1}{2}+\frac{1}{3}+\frac{1}{4}} = \frac{1}{1+0.5+0.33+0.25} = 0.48$$

Therefore, the top-ranked water supply goal was assigned 48% of the total possible points. Using 100 points as the basis, the assigned weight for each of the goals is:

1. Water Supply = 48 points
2. Water Quality = 24 points
3. Flood Protection = 16 points
4. Environmental = 12 points

Next, weights were assigned to each of the objectives within the four goals using the same methodology. The total number of objectives within a goal and the rank that the Partners had assigned to each of those objectives were considered.

Table 5-1 summarizes the results of the weighting methodology, and it clearly shows that the relative weights of the goals and the objectives matches the prioritization of the goals and objectives established in Section 3. The results also show that, although water supply was the highest goal, there are objectives within other goals that received a higher weight than some of the water supply objectives. For example, the highest priority water quality objective received a higher weight than all but one of the water supply objectives. This 'overlap' of weights across goals demonstrates that, although water supply was ranked the highest priority, water supply, flood protection, and environmental protection are still very important when considering and prioritizing projects. Furthermore, it demonstrates that a project with integrated benefits across all four goals will be scored higher in priority and subsequently will be more likely to be recommended for implementation.

Table 5-1: Weighting of the Goals and Objectives

Goal / Objective	Points
Water Supply	48
1. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	17.7
2. Protect or improve the quality of water supply sources	8.8
3. Meet or exceed water quality targets established by stakeholders	5.9
4. Aid in meeting TMDLs established for the Pajaro River Watershed	4.4
5. Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects	3.5
6. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	3.0
7. Protect or improve the quality of water supply sources	2.5
8. Meet or exceed water quality targets established by stakeholders	2.2
Water Quality	24
1. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards	10.5
2. Protect or improve the quality of water supply sources	5.3
3. Meet or exceed water quality targets established by stakeholders	3.5
4. Aid in meeting TMDLs established for the Pajaro River Watershed	2.6
5. Minimize impacts from stormwater through implementation of established Best Management Practices or other stormwater management projects	2.1
Flood Protection	16
1. Implement flood protection projects throughout the watershed that provide multiple benefits	7.0
2. 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 event	3.5
3. Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed	2.3
4. Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions	1.8
5. Provide community benefits beyond flood protection such as public access	1.4
Environmental Protection and Enhancement	12
1. Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies	5.8
2. Minimize adverse effects on biological and cultural resources , including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects	2.9
3. Identify opportunities to protect, enhance, or restore habitat to support Monterey Bay marine life in conjunction with water supply, water quality or flood protection projects	1.9
4. 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	1.4

Step 2. Scoring of Projects against Objectives

The next step in the prioritization process is the scoring of projects against objectives. A matrix, which is illustrated in Section 4, was constructed to compare each project with the IRWMP goals and objectives. In this matrix, projects received a checkmark under each objective for which the project proponents could demonstrate that their project met the intent. For each checkmark a project received it was then credited with the full number of points associated with that objective. At this point of the project screening, a degree of benefit assessment was not applied; rather projects were assessed based on the degree of integration, which was judged by the range of objectives they help to fulfill. Using this scoring methodology, projects that address higher priority objectives rank higher than ones that address lower priority objectives, and the projects which score the highest are those that are able to address multiple goals and objectives.

By purposely not assessing the degree of benefit as part of the project scoring, it allowed projects of varying magnitude and size and across a variety of water management strategies to be compared against each other. Also, it demonstrates that small projects that provide integrated benefits can be considered a high-priority. The Partners decided that degree of benefit assessment would be best performed when comparing smaller groups of projects; this assessment is left as a task of the Implementation Teams, which are discussed in Section 7.

Step 3. Development of High, Medium, Low Project Priorities

The final step in the prioritization process is the development of project priorities. For this step, the Partners elected to use a three-tier system to group the projects into high, medium and low priorities. Project scores were used in determining the project priorities. The high priority projects are those that score above the 75th percentile. The medium priority projects are those that score between the 25th percentile and the 75th percentile. The low priority projects are those that score below the 25th percentile. The decision to categorize projects in this manner was driven by the desire to use the high priority designation to emphasize the most highly integrated, multi-objective projects that offer significant potential to meet the region's highest priority needs. In contrast, the low priority projects tend to be single purpose projects that address lower priority issues in the region.

While the project prioritization process does result in a ranking of projects and the designation of high, medium and low project priorities, it is important to note that these ranks and designations are not equivalent to implementation priorities. As will be discussed below, all the projects regardless of project priority will be considered further in the next stage of the integration and regionalization process – development of regional programs.

The results of the prioritization process for the current set of projects in the IRWMP are presented in Table 5-2.

Table 5-2: Project Priorities and Scores

Priority	Project	Score
High	Regional Mobile Lab	61.5
	Coastal Distribution System	57.1
	Watsonville Recycled Water Treatment Facility	56.6
	Corralitos Creek Surface Fisheries Enhancement Project	55.7
	SBCWD Groundwater Demineralization	55.2
	Sunnyslope Groundwater Demineralization	55.2
	Hollister Groundwater Softening	55.2

	Groundwater and Surface Water Blending	55.2
	South County Recycled Water Program	54.7
	North San Benito County Regional Recycled Water Project	54.7
	Sunnyslope Recycled Water Project	54.7
	Morgan Hill Wellhead Treatment	49.3
	Aromas Water District Wellhead Treatment	49.3
	Soap Lake Floodplain Preservation Project	48.3
	North Monterey County Desalination Project	48.2
	Pacheco Reservoir Reoperation	47.9
	Hernandez Reservoir Reoperation	47.9
	Cienega Valley	47.6
	San Juan Basin Surface Drainage	45.7
	Pajaro Valley Import Pipeline	45.6
	Main Avenue and Coyote-Madrone Pipeline Repair	45.4
	Pajaro River Watershed Study	45.3
	San Juan Bautista Surface Water Treatment Plant	44.4
	Church Avenue Diversion	43.9
	Non-CVP Water Transfers and Banking Agreements	42.5
	SCVWD Groundwater Recharge with CVP and Local Sources	41.9
Medium	Farm and Rangeland Water Quality Control Program	41.2
	Spot Market Transfers and Other Option Agreements	41.2
	Purchase of Additional CVP, SWP or Other Water Contracts	41.2
	Paicines Reservoir Rehabilitation	40.9
	Uvas Reservoir Reoperation	40.9
	PVWMA Groundwater Recharge with CVP and Other Imported Supplies	40.3
	Mercy Springs Option Agreement	40.3
	Vegetative Buffer Strips	40.1
	San Luis Reservoir Low Point Project	39.7
	Levee Reconstruction Project	39.5
	Ranchette Series	38.9
	Morgan Hill Package Plant	38.5
	San Pedro Rock Columns	37.9
	Arroyo Dos Picachos	37.5
	Arroyo Los Viboras	37.5
	Agricultural Water Conservation	36.9
	Santa Cruz Partners in Restoration Permit Coordination Program	36.8
	San Benito and South Santa Clara Permit Coordination Program	36.8
	SBCWD Groundwater Recharge with CVP and Local Sources	36.6
	Green Valley Watershed Stream Bank Stabilization	36.4
	Coward Creek Stream Bank Stabilization	36.4
	Tres Pinos Water Improvement Project	35.9
	Artesian Well Water Recovery	35.9
	Pacheco Creek	35.3
	Harkins Slough	34.6
	Constructed Wetlands Treatment	34.6
	Tequisquita Slough Wetland Treatment Project	34.6
	San Justo Reservoir Rehabilitation	34.4
	Inland Distribution System	33.7

	River Conveyance	32.9
	PVWMA CVP Contract Reservation	31.5
	San Felipe Division Operation and Maintenance Improvements	30.9
	South County Resources Management Program	30.5
	Chesbro Reservoir Reoperation	30.4
	East Little Llagas Dams	30.0
	Urban Water Conservation	29.0
	Water Conservation Studies, Research, Pilot Programs and Future Projects	29.0
	CVP water transfers within the San Felipe Division	28.0
	Well Recovery along Pajaro River	27.1
	Lower Llagas Creek Flood Protection Project (Capacity Restoration)	26.9
	Uvas Creek Flood Protection	26.9
	Upper Llagas Creek Flood Protection Project	26.8
	Nitrate Management Program	25.9
	Stormwater Treatment through Industrial WWTP	24.0
	Hollister Wastewater Treatment Plant Improvements	22.3
	Sunnyslope Wastewater Treatment Plant Improvements	22.3
	Uvas Creek Fish Passage at Silva Crossing	22.2
	Watershed Stewardship Grant Program	20.8
	Stream and Watershed Protection Program	19.1
	SCRWA Discharge Pipeline	18.8
	Restoration of the Upper Pajaro River Floodplain	18.7
	Tick Creek Riparian Enhancement	18.7
Low	Tar Creek Bridge Replacement and Bank Stabilization	18.5
	Pajaro River Parkway	18.5
	Tres Pinos Wastewater Improvement Project	15.8
	Solvent and Toxins Liaison Program	15.8
	Groundwater Study & Biological Assessment of the Upper Pajaro River	15.5
	College Lake Wetland and Stream Restoration	14.0
	Historic Ecological Study of the Upper Pajaro	12.4
	Pumped Groundwater Placed into Pajaro River	12.3
	Export Pipeline	12.3
	Adopt-a-Creek	12.2
	Bolsa Road Fish Ladder	12.0
	Pajaro River Watershed Council	12.0
	Recharge Area Protection Program	10.9
	Pajaro River Lagoon Monitoring	10.6
	Coroto Pit Restoration	10.1
	Watsonville Slough Enhancement	10.1
	Pajaro River Access at the Watsonville Treatment Plant	10.1
	Salinity Education Program	8.8
	Water Softener Rebate Program	8.8
	ALERT station monitoring	8.4
	Open Space Authority Acquisitions	7.2
	Trails, Parks & Open Space Grant	7.2
	San Benito River Parkway	7.2
	Tree Belt Evapotranspiration	5.8
	Tile Drains for Localized Groundwater Level Management	5.3

5.1.2 Development of Regional Programs

The second of two stages in the integration and regionalization process is the development of regional programs. There are three steps involved in the development of regional programs: 1) categorization of high priority projects into regional water management programs, 2) integration of medium and low priority projects into the programs, as appropriate, and 3) enhancement of the programs with environmental projects, as appropriate.

Step 1. Categorization of High Priority Projects

Creating regional water management programs around groups of high priority projects requires an identification of common issues which provide linkages among projects and a recognition of regional benefits that may accrue from coordinated planning and implementation of projects. The Partners recognize that some projects can be placed in more than one program due to their highly integrated nature; however, thinking ahead to program implementation, the Partners decided that projects should be limited to one program to avoid confusion or potential conflicts between program implementation plans. Therefore, in cases where a project fits more than one program, a decision had to be made regarding which set of projects could benefit the most from coordination with the project in question. Referencing back to each program's primary objectives can aid in the decision of which program projects should be placed into; the primary objectives for each program are defined using a subset of the IRWMP objectives.

The Partners have also wrestled with the fact that some high priority projects may not fit within a regional program either because those projects do not present opportunities for regional coordination or because those projects require coordination with a larger region than what has been defined in this IRWMP. While the majority of the high priority projects can and have been incorporated into regional water management programs, the Partners have accepted that some projects do not present opportunities for regional partnerships at this time and others will have to be pursued in other forums such as the Greater Monterey Bay IRWMP. The North Monterey County Desalination Project is an example of a high priority project that deals with a larger region than has been defined in this IRWMP.

The number of programs developed as a result of the categorization of high priority projects step is dependent on the type of projects in the IRWMP and the regional opportunities they present. In the current IRWMP, this process resulted in four program areas. In future updates to the IRWMP, the current set of four programs may be modified or new programs may be developed depending on types of projects being proposed and the regional needs at that time.

Step 2. Integration of Medium and Low Priority Projects

Once the high priority projects have been categorized into regional water management programs, the next step is to integrate medium and low priority projects into those programs where synergies can be identified. To facilitate this integration process the Partners developed two criteria, both of which must be met in order for a lower priority project to be placed into one of the regional programs. These criteria are: 1) the project must fit with the program and its primary objectives, and 2) the project must add to the net primary benefit provided by the program or provide additional areas of benefit. For the first criterion, a preliminary test of whether or not this criterion is being met would be to compare the objectives of the proposed project with the program's objectives, which are based on IRWMP objectives. Whether or not the project fits the theme of the program is a more subjective evaluation, but generally a reviewer that has a basic understanding of the proposed project and the program should be able to determine a nexus between the project and the theme of the program; if the nexus is unclear, the project probably does not meet the criterion. For the second criterion, a project must be able to demonstrate one of two situations – either the project must increase the magnitude of benefit offered in one of the program's primary

objectives (e.g. further increase groundwater recharge capacity for a program that has as one of its primary objectives "optimize the use of groundwater and aquifer storage") or it must bring in additional objectives that are not already addressed through the program (e.g. incorporating conservation measures into a water supply program that does not have a checkmark under the objective to "implement water conservation programs for both M&I and agricultural uses consistent with the CVPIA"). Medium and low priority projects must meet both criteria to be added to the program.

Step 3. Environmental Enhancement of the Programs

The integration of environmental enhancements into the regional water management programs was purposely created by the Partners as a distinct step from the integration of medium and low priority projects. Often times, environmental projects are single purpose projects that will not meet the primary objectives of a program; however there still may be opportunities to integrate an environmental project with one of the projects in the program. To be consistent with the environmental protection and enhancement goal and its supporting objectives, this final "enhancement" step was added.

The four regional water management programs that have been developed through this IRWMP are:

- Conjunctive Water Supply Management
- Water Supply/Salt Management
- Agricultural Water Quality
- Pajaro River Flood Protection

Additional details of these programs can be found in the discussion below.

5.2 Regional Water Management Programs

The following section describe the regional water management programs that were formed through the integration and regionalization process, as described was presented in the preceding sections. Each subsection below introduces one of the regional water management programs, provides the rationale for the program's formation, identifies the primary objectives of the program and lists the high priority projects that form the base of the program, the lower priority projects that have been integrated into the program and the environmental enhancements to the program. The linkages among the projects in each program are discussed further in Section 7.

Figure 5-2 summarizes the information presented below.

5.2.1 Conjunctive Water Supply Management Program

The Conjunctive Water Supply Management program is an integrated regional water supply program that combines a variety of water management and infrastructure projects to provide flexibility in water supply, increase storage and distribution and enhance water supply management throughout the region. The potential for intraregional water transfers was the original impetus for the regional partnership among PVWMA, SBCWD and SCVWD. The Conjunctive Water Supply Management Program honors this concept by bringing together water supply projects that provide opportunities for regional water transfers with the infrastructure necessary to accommodate the transfer and banking. Coordination of the projects within this program will also optimize the use of water supplies sources available throughout the watershed.

The focus of the Conjunctive Water Supply Management is on water supply. The primary objectives of the program are:

- Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought
- Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought
- Provide a variety of water supply sources to meet demand
- Optimize and sustain use of existing import surface water entitlements from the San Felipe Division
- Optimize the use of groundwater and aquifer storage

The high priority projects which form the base of the Conjunctive Water Supply Management program are:

- Aromas Water District Wellhead Treatment
- Church Avenue Diversion
- Hernandez Reservoir Reoperation
- Main Avenue and Coyote-Madrone Pipeline Repair
- Non-CVP Water Transfers and Banking Agreement
- Pacheco Reservoir Reoperation
- Pajaro Valley Import Pipeline
- South County Recycled Water Program
- SCVWD Groundwater Recharge with CVP and Local Sources

The lower priority projects which have been integrated into the Conjunctive Water Supply Management program are:

- Chesbro Reservoir Reoperation
- CVP Water Transfers within the San Felipe Division
- Mercy Springs Options Agreement
- Paicines Reservoir Rehabilitation
- PVWMA CVP Contract Reservation
- PVWMA Groundwater Recharge with CVP and Other Imported Supplies
- San Felipe Division Operation and Maintenance Improvements
- San Justo Reservoir Rehabilitation
- SBCWD Groundwater Recharge with CVP and Local Sources
- SCRWA Discharge Pipeline
- Urban Water Conservation
- Uvas Reservoir Reoperation

The one environmental enhancement identified for the Conjunctive Water Supply Management program is:

- Groundwater Study & Biological Assessment of the Upper Pajaro River

5.2.2 Water Supply/Salt Management Program

The Water Supply/Salt Management program is an integrated water supply program that encompasses a variety of water supply projects which all address salinity management issues. For the upper watershed, salinity management is focused on water supply and wastewater disposal projects that without proper management can intensify salt loading in the Gilroy-Hollister Groundwater Basin, where use of groundwater is hindered by high salinity levels. In the lower watershed, salinity management is mainly in

response to overdraft of the Pajaro Valley Groundwater Basin, which has resulted in seawater intrusion. The Water Supply/Salt Management Program promotes coordination among the agencies considering projects to address these salinity issues. Though the physical sources of the salinity differ between the basins, there is potential to implement regional facilities to address both areas as well as for information sharing and coordination between agencies. This program brings the appropriate players together to collaborate on these issues.

The Water Supply/Salt Management and Conjunctive Water Supply Management programs are closely tied. The decision to form these two distinct programs as opposed to establishing one overarching water supply program was made in order to make more manageable and focused sets of projects. The distinction between the two programs is that the Water Supply/Salt Management program addresses the impact of groundwater salinity on water supply management, whereas the Conjunctive Water Supply Management program focuses more on water supply reliability issues and the role of regional water management in addressing supply reliability. A number of the water supply projects in the Water Supply/Salt Management program could have been included in the Conjunctive Water Supply Management program due to their potential to make new water supplies available for regional transfers. However, these projects were placed in the Water Supply/Salt Management to first allow for evaluation of the projects in relation to the other salinity management projects proposed for the region. After the Water Supply/Salt Management program has been refined and the program recommendations are established, further coordination with the Conjunctive Water Supply Management program is anticipated.

The Water Supply/Salt Management program addresses both water supply quantity and quality concerns. The primary objectives of the program are:

- Optimize the use of groundwater and aquifer storage
- Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020
- Meet or exceed all applicable groundwater, surface water, wastewater and recycled water quality regulatory standards
- Protect or improve the quality of water supply sources
- Meet or exceed water quality targets established by stakeholders

The high priority projects which form the base of the Water Supply/Salt Management program are:

- Cienega Valley
- Coastal Distribution System
- Corralitos Creek Surface Fisheries Enhancement Project
- Groundwater and Surface Water Blending
- Hollister Groundwater Softening
- North San Benito County Regional Recycled Water Project
- San Juan Bautista Surface Water Treatment Plant
- SBCWD Groundwater Demineralization
- Sunnyslope Groundwater Demineralization
- Sunnyslope Recycled Water Project
- Watsonville Recycled Water Treatment Facility

The lower priority projects which have been integrated into the Water Supply/Salt Management program are:

- Export Pipeline
- Salinity Education Program
- Water Softener Rebate

The one environmental enhancement identified for the Water Supply/Salt Management program is:

- Pajaro River Access at WRWTF

5.2.3 Agricultural Water Quality Program

The Agricultural Water Quality program is built around the Regional Mobile Lab, which is an existing regional water quality program. The Regional Mobile Lab began as a five county program that included Santa Clara, San Benito, Santa Cruz, Monterey and San Mateo Counties. Funding for this program ended in March 2007. SCVWD, SBCWD and PVWMA and a wide range of stakeholders are interested in continuing this successful type of program within the Pajaro River Watershed. Although the Agricultural Water Quality program is based upon the Regional Mobile Lab, the program will not be limited to the scope of that one project. Whereas the Regional Mobile Lab focuses on irrigated agriculture, the Agricultural Water Quality program will address all agricultural and rural land uses. As its name suggests, the program's main benefit will be in the area of water quality; however, it also provides opportunities to integrate water supply and environmental projects.

The primary objectives of the Agricultural Water Quality program are:

- Implement water conservation practices for both M&I and agricultural uses consistent with the CVPIA
- Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards
- Protect or improve the quality of water supply sources
- Meet or exceed water quality targets established by stakeholders
- Aid in meeting TMDLs established for the Pajaro River Watershed

The high priority project which forms the base of the Agricultural Water Quality program is:

- Regional Mobile Lab

The lower priority projects which have been integrated into the Agricultural Water Quality program are:

- Agricultural Water Conservation
- Farm and Rangeland Water Quality Management Program
- Nitrate Management Program
- San Benito and South Santa Clara Permit Coordination Program
- Santa Cruz Partners in Restoration Permit Coordination Program
- Vegetative Buffer Strips

The environmental enhancements identified for the Agricultural Water Quality program are:

- Stream and Watershed Protection Program

- Tick Creek Riparian Enhancement

5.2.4 Pajaro River Flood Protection Program

The Pajaro River Flood Protection Program is a comprehensive program that was developed to prevent flood damage to homes, businesses and agricultural lands along the Pajaro River and capitalizes on opportunities to address multiple objectives including environmental restoration, economic development, and appropriate pubic access and use of the Pajaro River corridor. The program is built upon a combination of the high priority flood related projects that represent the type of watershed planning approach necessary to manage flooding along the Pajaro River. This program is also closely aligned with the integrated regional process completed by the Pajaro River Watershed Flood Prevention Authority (FPA). The FPA goal was to identify, evaluate, fund, and implement 100-year flood prevention and control strategies in the Pajaro River watershed on an intergovernmental basis.

The primary objectives of the Pajaro River Flood Protection program are:

- Implement flood protection projects throughout the watershed that provide multiple benefits
- 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 event
- Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed
- Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate
- Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies
- Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects

The high priority projects which form the base of the Pajaro River Flood Protection program are:

- Pajaro River Watershed Study
- Soap Lake Floodplain Preservation Project
- San Juan Basin Surface Drainage

The lower priority projects which have been integrated into the Pajaro River Flood Protection program are:

- ALERT Station Monitoring
- Levee Reconstruction Project
- Lower Llagas Creek Flood Protection Project

The environmental enhancements identified for the Pajaro River Flood Protection program are:

- Historic Ecological Study of the Upper Pajaro
- Open Space Authority Acquisitions
- Pajaro River Parkway

- Restoration of the Upper Pajaro River Floodplain
- San Benito River Parkway
- Trails, Parks, and Open Space Grants

Figure 5-2: Regional Water Management Programs

Conjunctive Water Supply Management

High Priority Base Projects:
- Aromas Water District Wellhead Treatment
- Church Avenue Diversion
- Hernandez Reservoir Reoperation
- Main Avenue and Coyote-Madrone Pipeline Repair
- Non-CVP Water Transfers and Banking Agreement
- Pacheco Reservoir Reoperation
- Pajaro Valley Import Pipeline
- South County Recycled Water Program
- SCVWD Groundwater Recharge with CVP and Local Sources

Lower Priority Add-ons:
- Chesbro Reservoir Reoperation
- CVP Water Transfers within the San Felipe Division
- Mercy Springs Option Agreement
- Paicines Reservoir Rehabilitation
- PVWMA CVP Contract Reservation
- PVWMA Groundwater Recharge with CVP and Other Imported Supplies
- San Felipe Division Operation and Maintenance Improvements
- San Justo Reservoir Rehabilitation
- SBCWD Groundwater Recharge with CVP and Local Sources
- SCRWA Discharge Pipeline
- Urban Water Conservation
- Uvas Reservoir Reoperation

Environmental Enhancements:
- Groundwater Study & Biological Assessment of the Upper Pajaro River

Water Supply/Salt Management

High Priority Base Projects:
- Cienega Valley
- Coastal Distribution System
- Corralitos Creek Surface Fisheries Enhancement Project
- Groundwater and Surface Water Blending
- Hollister Groundwater Softening
- North San Benito County Regional Recycled Water Project
- San Juan Bautista Surface Water Treatment Plant
- SBCWD Groundwater Demineralization
- Sunnyslope Groundwater Demineralization
- Sunnyslope Recycled Water Project
- Watsonville Recycled Water Treatment Facility

Lower Priority Add-ons:
- Export Pipeline
- Salinity Education Program
- Water Softener Rebate

Environmental Enhancements:
- Pajaro River Access at WRWTF

Agricultural Water Quality

High Priority Base Projects:
- Regional Mobile Lab

Lower Priority Add-ons:
- Agricultural Water Conservation
- Farm and Rangeland Water Quality Management Program
- Nitrate Management Program
- San Benito and South Santa Clara Permit Coordination Program
- Santa Cruz Partners in Restoration Permit Coordination Program
- Vegetative Buffer Strips

Environmental Enhancements:
- Stream and Watershed Protection Program
- Tick Creek Riparian Enhancement

Pajaro River Flood Protection

High Priority Base Projects:
- Pajaro River Watershed Study
- Soap Lake Floodplain Preservation Project
- San Juan Basin Surface Drainage

Lower Priority Add-ons:
- ALERT Station Monitoring
- Levee Reconstruction Project
- Lower Llagas Creek Flood Protection Project

Environmental Enhancements:
- Historic Ecological Study of the Upper Pajaro
- Open Space Authority Acquisitions
- Pajaro River Parkway
- Restoration of the Upper Pajaro River Floodplain
- San Benito River Parkway
- Trails, Parks and Open Space Grants

6 Regional Priorities

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

> **F. Regional Priorities** – Include near-term and long-term priorities for implementation of the Plan. Discuss the process for modifying priorities in response to regional changes.

Through the implementation of the IRWMP, the Partners are seeking to address regional priorities beyond the individual sets of priorities that exist within agencies, cities, counties and other stakeholders. Regional priorities take into account the collective needs of the watershed and are reflected in the IRWMP goals and objectives. As discussed in Section 5, the prioritization of the goals and objectives allows for project prioritization and forms the basis of the integration and regionalization process. Section 5 also presented the regional water management programs that have been developed around those projects identified as high priorities. This section will discuss how the water management programs and the integration and regionalization process will be used for near-term and long-term implementation of the IRWMP.

6.1 Near-Term Implementation

The near-term priority for implementing the IRWMP will be to continue the development and implementation of the water management programs that were formed through the integration and regionalization process. Thus far, a number of projects have been grouped into the following four near-term implementation programs:

Conjunctive Water Supply Management

- Aromas Water District Wellhead Treatment
- Chesbro Reservoir Reoperation
- Church Avenue Diversion
- CVP water transfers within the San Felipe Division
- Groundwater Study & Biological Assessment of the Upper Pajaro River
- Hernandez Reservoir Reoperation
- Main Avenue and Coyote-Madrone Pipeline Repair
- Mercy Springs Option Agreement
- Non-CVP Water Transfers and Banking Agreement
- Pacheco Reservoir Reoperation
- Paicines Reservoir Rehabilitation
- Pajaro Valley Import Pipeline
- PVWMA CVP Contract Reservation
- PVWMA Groundwater Recharge with CVP and Other Imported Supplies
- San Felipe Division Operations and Maintenance Improvements
- San Justo Reservoir Rehabilitation
- SBCWD Groundwater Recharge with CVP and Local Sources
- SCVWD Groundwater Recharge with CVP and Local Sources
- SCRWA Discharge Pipeline
- South County Recycled Water Program
- Urban Water Conservation
- Uvas Reservoir Reoperation

Water Supply/Salt Management

- Cienega Valley
- Coastal Distribution System
- Corralitos Creek Surface Fisheries Enhancement Project
- Export Pipeline
- Groundwater and surface water blending
- Hollister Groundwater Softening
- North San Benito County Regional Recycled Water Project
- Pajaro River Access at WRWTF
- Salinity Education Program
- San Juan Bautista Surface Water Treatment Plant
- SBCWD Groundwater Demineralization
- SSCWD Groundwater Demineralization
- Sunnyslope Recycled Water Project
- Water Softener Rebate
- Watsonville Recycled Water Treatment Facility

Agricultural Water Quality

- Agricultural Water Conservation
- Farm and Rangeland Water Quality Management Program
- Nitrate Management Program
- Regional Mobile Lab
- San Benito and South Santa Clara Permit Coordination Program
- Santa Cruz Partners in Restoration Permit Coordination Program
- Stream and Watershed Protection Program
- Tick Creek Riparian Enhancement
- Vegetative Buffer Strips

Pajaro River Flood Protection

- ALERT Station Monitoring
- Historic Ecological Study of the Upper Pajaro
- Levee Reconstruction Project
- Lower Llagas Creek Flood Protection Project
- Open Space Authority Acquisitions
- Pajaro River Parkway
- Pajaro River Watershed Study
- Restoration of the Upper Pajaro River Floodplain
- San Benito River Parkway
- San Juan Basin Surface Drainage
- Soap Lake Floodplain Preservation Project
- Trails, Parks, and Open Space Grants

Identification of the near-term implementation programs is critical to meeting the needs for the region. The programs above have been identified as having the most significant impact on meeting the highest priority needs of the watershed. With limited funding resources, the focus of the regional agencies must be on those projects that can provide the greatest degree of benefit. For these reasons, these programs make up the near-term implementation programs.

As progress is made in the implementation of the near-term programs and projects, there may be a shift in the regional needs and priorities. Therefore, there must be a process for consideration of other watershed projects or new projects for elevation into the near-term implementation priority. The process for consideration of these shifting needs, priorities and projects is described in Section 6.4 Adaptive Management.

Implementation of the projects from each of the four near-term implementation programs will aid in addressing regional needs and provide momentum to continue the IRWMP process. Based on their ability to meet multiple IRWMP goals and objectives and their readiness to proceed during the Proposition 50 funding cycle, eight of the near-term implementation projects were included in the Pajaro River Watershed Proposition 50 Implementation Grant and will receive funding. These projects are:

Conjunctive Water Supply Management

- Aromas Water District Wellhead Treatment Project
- Groundwater Study & Biological Assessment of the Upper Pajaro River

Water Supply/Salt Management

- Coastal Distribution System
- Corralitos Creek Surface Fisheries Enhancement Project
- Watsonville Recycled Water Treatment Facility

Agricultural Water Quality Program

- Santa Cruz Partners in Restoration Permit Coordination Program

Pajaro River Watershed Flood Protection Program

- Soap Lake Floodplain Preservation Project
- Levee Reconstruction Project

The implementation of these projects could affect the regional priorities and would have to be considered through the Adaptive Management Process described in Section 6.4.

6.2 Long-Term Implementation

The standing long-term priority for implementation of the IRWMP is for the Partners to continue to work together to ensure that the goals and objectives of the IRWMP are met and that changes in regional priorities and needs are reflected in future updates to the IRWMP. The Partners are committed to this long term process and will accomplish this through an adaptive management process as described in Section 6.4. As the near-term implementation proceeds, many projects from the current set of regional water management programs will be implemented. Thus, as progress is made, the remaining projects will need to be reviewed and re-prioritized and new projects will be accepted for incorporation into the process. This reprioritization process is likely to occur every two years to be proactive and responsive to all of the implementation progress made in the watershed.

There are many projects that make up the long-term implementation program. These projects fall into two categories:

1. Long-Term Implementation Project with Independent Agency Implementation
2. Long-Term Implementation Project with Coordinated Inter-Agency Implementation

The first grouping would be those projects that are not identified within any of the regional near-term implementation programs but are critical for an individual agency or subregion and may be implemented

independent of the IRWMP. Independent implementation of these projects could have an impact on the needs and priorities of the region and would have to be considered through the Adaptive Management Process when reassessing the priorities for the region.

The second grouping would be those projects that do not have an independent agency or subregion supporting the project and requires the support of the IRWMP for implementation. These projects remain on the list of long-term implementation watershed projects until such time that a reassessment of the project priorities through the Adaptive Management Process warrants an elevation to the near-term IRWMP program or removal from the list.

6.3 Project Prioritization Process

To aid in the development of an implementation plan, a prioritization process (described in Section 5) has been used to rank projects and classify them into three levels of priority. The first step in this process is to score each project based on the IRWMP objectives addressed by the project. The score given for each objective is weighted according to the priority given to that objective. This step produced a ranked set of projects that were then assigned into three categories according to their score: High Priority (75 percentile or higher), Medium Priority (from 25th percentile up to, but not including 75th percentile) and Low Priority (below 25th percentile). The next step involved formation of the water management programs driven by the high priority projects with regional opportunities. Each of the resulting four programs is a high priority for near-term implementation.

6.4 Adaptive Management

The Pajaro River Watershed water management programs were developed based on analysis of regional needs and defined project benefits. As implementation proceeds, regional needs may change and actual project benefits and outcomes may vary from expectations. The Partners will employ a process of adaptive management to enable flexible decision making that can account for these variables and provide future updates to the IRWMP. Adaptive management involves a system of monitoring, assessment, feedback and response in order to ensure future decisions are informed by actual experience gained from implementation and that modifications will be made to existing priorities and projects to allow the IRWMP to remain optimally effective.

Coordination with project sponsors and other regional stakeholders will be an important part of the adaptive management process. As the IRWMP evolves, the Partners will continue to look to stakeholders for input and feedback on program performance.

6.4.1 Assessment of IRWMP Implementation Responses

Water management in the region can be viewed as a system that will respond to IRWMP implementation. Measuring these responses requires a set of monitoring tools or key indicators. For example, a successful response to the near-term implementation projects will be improved water supply reliability; reduction of seawater intrusion; increased capacity of the Lower Pajaro River to accommodate flows; attenuation of flows in the Upper Pajaro River Watershed during storm events; and measurable water quality improvements in a number of rivers and creeks. Periodic assessments of the effectiveness of IRWMP implementation will be performed by comparing actual project responses to expected responses. These assessments will be supported by a monitoring program that includes activities such as: monitoring of groundwater levels and salinity; measurements of lower Pajaro River flow volume and water levels; and sampling of water quality at rivers and creeks. This monitoring program will be supported by data collected by existing monitoring activities and supplemented with additional measures as necessary.

The State's Project Assessment and Evaluation Plan (PAEP) format will be used to develop the IRWMP implementation monitoring program. The planned monitoring, assessment and performance measures will aid in the demonstration that the projects will meet their intended goals, achieve measurable outcomes, and provide value to the State of California. Assessments may show that the programs and projects meet, exceed or fall short of expectations.

Based on the results of these assessments, adjustments to regional priorities or project sequencing may be necessary. For instance, successful elimination of seawater intrusion through the Water Supply/Salt Management program will allow priorities to shift to other water supply issues in the watershed. This could result in a change of composition of the other programs or in the development of new programs. In turn, performance criteria and monitoring systems will be updated to allow future assessments to provide comparisons most valuable for measuring implementation responses that are appropriate for the updated set of implementation projects.

Some performance measures proposed for assessing implementation responses at a programmatic level are shown in Table 6-2. This table illustrates examples of performance measures and how they are related to the selected goals, outcomes, and targets of the four water management programs. The specific measurement tools and methods that will be used in measuring performance will depend on the projects that are implemented

Table 6-3 through Table 6-10 provide the PAEPs for the near-term implementation projects which have been awarded funding from the Proposition 50 Implementation Grant.

Table 6-2: Examples of Project Performance Measures Used to Assess Implementation Responses

Program	Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
Conjunctive Water Supply Management	Increase water supply reliability through increased flexibility in water management	Optimize the use of locally available supplies	Water supply portfolios	Diversification of water supply portfolios Proportion of supplies that are imported versus local	Maintain at least 3 different water supplies in each of the Partner agencies' portfolios Develop uses for local water sources that have not yet been captured
		Optimize storage capacity	Annual groundwater reports documenting sustainable yield	Change in groundwater sustainable yields	Maintain or increase groundwater sustainable yields

Program	Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
		Avoid groundwater overdraft	Annual groundwater reports documenting groundwater elevations	Change in groundwater levels	Maintain or increase groundwater elevations
Water Supply/Salt Management	Increase water supply reliability through salt management	Seawater intrusion front stays at the 2008 location	Water quality data from PVWMA monitoring wells in and near the seawater intrusion front	Percent change in chloride concentrations each year	5 or less wells in the coastal zone taken out of production between 2008 and 2012 due to adverse water quality
		Preserve the use of groundwater resources	Annual groundwater reports documenting water quality and sustainable yield	Percent change in TDS concentrations each year	Increase use of Gilroy-Hollister subbasins with high TDS Maintain or increase groundwater sustainable yield
		Help customers to take ownership of their role in salt management	Recycled water deliveries Customer surveys	Acre-feet of recycled water delivered Changes in customer behavior/attitude	Recycled water use to make up 5% of total water use by 2010 Majority of customers surveyed to acknowledge importance of salt management

Program	Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
Agricultural Water Quality	Aid in meeting TMDL requirements and improve water quality currently impacted by agricultural practices	Reduce agricultural non-point source pollution and achieve TMDL implementation milestones	Water quality data from stream monitoring and TMDL monitoring	Percent reductions in nitrate, sediment, pesticide, and coliform levels.	Meet TMDL milestones established for the Pajaro River Watershed
Pajaro River Flood Protection	To minimize the risk of flooding in the Lower Pajaro River	Protect from the 100 year flood event	Acres of floodplain preserved	Reduced flood damage reports and claims	Elimination of flood damages for less than 100 yr. flood

6.4.2 Changes in Priorities and Project Sequencing

Regional priorities may change in response to both IRWMP implementation outcomes and to evolving regional water management needs. The project monitoring and assessment process described above will guide modifications to the IRWMP based on observed implementation results. The continuing stakeholder process will allow for IRWMP updates to reflect changes in local water management needs and priorities. Changes may also be necessary to respond to updates to City and County General Plans, or other newly completed local planning documents.

Some additional examples of changes that could impact regional priorities in the future are:

- Changes in imported water availability
- Identification of additional water conservation opportunities
- Modifications in projected land use
- Successful elimination of seawater intrusion
- Completion of TMDLs by the RWQCB
- Development of alternative flood control options
- Technological advancements (e.g. desalination)
- Status of endangered species
- Observed watershed impacts to the Monterey Bay National Marine Sanctuary
- Climate change/global warming
- Implementation of projects

As discussed above in Section 6.2, it is anticipated that projects will be reprioritized every two years, which provides time for projects to be completed and allows for incorporation of new projects. The integration and regionalization process, described in Section 5, will be used to re-evaluate the priorities. The process is easily re-applied to any set of projects.

This IRWMP has developed an initial set of prioritized projects from which implementation will proceed. A monitoring approach for assessing the IRWMP response to implementation proceeds is defined. An adaptive management process will be used allow feedback based on the response assessments to be incorporated into the ongoing decision making process. This will allow for periodic adjustment of

regional priorities based on actual operational experience and results as well as changing needs and conditions at both a local and watershed level.

Table 6-3: Project Performance Measures for the Watsonville Recycled Water Treatment Facility and Coastal Distribution System Projects

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Prevent additional seawater intrusion in the Pajaro Valley groundwater basin	Seawater intrusion front stays at the pre-project implementation location	1. Water quality data from PVWMA monitoring of 50 wells in and near the seawater intrusion front 2. Records of groundwater extractions from 850 wells in PVWMA service area	1. Percent change in chloride concentrations from year to year 2. Percent change in groundwater extractions from year to year.	Standard lab methods for water quality testing GAMA Program methodology will be followed, when applicable	5 or less wells in the coastal zone are taken out of production between 2008 and 2012 due to adverse water quality
2. Improve Regional Water Supply Reliability	1. Provide a diversity of water supply sources to meet current demand 2. Provide a diversity of water supplies to support planned growth and anticipated increases in agricultural demand	1. Records of agricultural requests for water deliveries 2. Records of groundwater extractions from 850 wells in PVWMA service area.	1. Percent change in water deliveries 2. Percent change in groundwater extractions	1. Flowmeter at WRWTF effluent distribution pump station 2. Well metering performed by individual well owners and compiled by PVWMA	1. Net positive change in PVWMA water deliveries in 2008 and 2009 and positive or zero change from 2010 on 2. Net negative change in groundwater extractions in 2008 to 2012 and negative or zero change from 2013 on
3. Deliver agricultural water to meet water quality guidelines established by Pajaro Valley stakeholders	Provide a new water supply that is acceptable to users	1. Water quality measurements at the Recycled Water Treatment Facility 2. Water quality measurements from CDS monitoring sites	Difference between measured water quality concentrations and goals for Total Dissolved Solids, Sodium, and Chloride	1. Standard lab methods for water quality testing 2. Water quality guidelines as developed by the PVWMA Water Quality and Operations Committee	Meet or exceed targets established by stakeholders for Total Dissolved Solids, Sodium, and Chloride in 90% of water samples
4. Minimize adverse effects on biological resources including habitats supporting sensitive plant or animal species	Reduction in wastewater discharges to the Monterey Bay National Marine Sanctuary (MBNMS)	Agricultural delivery records of blended recycled water	Percent change in wastewater discharges to MBNMS compared to pre-project implementation records	Flowmeter at WRWTF effluent distribution pump station	Reduce wastewater discharges to the MBNMS by 4,000 AFY by the second year of operation of RWF

Table 6-4: Project Performance Measures for the Corralitos Creek Surface Fisheries Enhancement Project

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Improve fish passage in Corralitos Creek	Improved protection of fish, including young spawn, in Corralitos Creek	1. Records of flow monitoring in Corralitos Creek 2. Visual inspections of fish usage of ladder	1. Verification of design flows 2. Increase in fish sightings downstream of the fish ladder	1. Existing USGS gages in Corralitos Creek 2. Corralitos Creek Visual inspection records	1. Consistency between fish ladder and surface water intake design flows and actual creek flows 2. 10% increase in fish sightings compared to pre-project implementation
2. Demonstrate Corralitos Creek can support an increase in surface water diversions without adversely affecting creek aquatic life	NOAA acceptance of adequate fish passage via the fish ladder to allow expansion of the surface water intake	Reports on visual inspections of fish passage post-project implementation supplied to NOAA.	Acceptance from NOAA of the success of the fish ladder project	Letter of Acceptance for NOAA	Receipt of Acceptance from NOAA within 1 year of project implementation

Table 6-5: Project Performance Measures for the Aromas Water District Wellhead Treatment Project

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Supply water that meets Secondary Maximum Contaminant Loads for manganese	Reduction in the local community's exposure to manganese	Measure water quality parameters at the water treatment plant before delivering to customers as required by DHS	Percent change in manganese concentrations compared to pre-project implementation	1. Standard lab methods for water quality testing 2. DHS Drinking Water Program Annual Report	Meet the Secondary MCL standard for Manganese in 90% of water samples
2. Improve Regional Water Supply Reliability	1. Provide a diversity of water supply sources to meet current demand 2. Provide a diversity of water supplies to support planned growth and anticipated increases in agricultural demand	Records of water deliveries to customers	Percent change in water deliveries	1. Customer billing records 2. DHS Drinking Water Program Annual Report	Net positive change in water deliveries for first year after project implementation and net zero change from the second year on

Table 6-6: Project Performance Measures for the Groundwater Study & Biological Assessment of the Upper Pajaro River

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Identify opportunities to protect, enhance, and/or restore natural resources when developing water management strategies	Opportunities for habitat enhancement and restoration within the upper Pajaro River watershed identified and integrated into projects being developed throughout the watershed	1. Documentation of new hydrologic, hydrogeologic and geomorphic data in annual Groundwater Study reports 2. Documentation of critical habitats in the Biological Assessment report and limiting factors to restoration/enhancement 3. Completion of the Finalized Groundwater Study & Biological Assessment Report highlighting areas well suited for habitat restoration/enhancement	New findings influence water management plans	Survey SBCWD and SCVWD planners to judge usefulness of report (i.e. does the report impact water management planning)	SBCWD and SCVWD promote use of the Finalized Groundwater Study & Biological Assessment Report in project planning
2. Minimize adverse effects on biological resources, including riparian habitats and habitats supporting sensitive plant or animal species by identifying areas of critical habitat	Recognition of regions throughout the upper Pajaro River watershed which are critical habitat for sensitive species, including steelhead, California red-legged frog and California tiger salamander	Documentation of critical habitats in the Biological Assessment report	Increased awareness of regions of critical habitat	Comparison of findings in the Finalized Groundwater Study & Biological Report with existing environmental documentation, including GWMP Update PEIR, the Soap Lake Floodplain Preservation Project – Draft Initial Study and Negative Declaration and the Final EIR for the Long Term Wastewater Management Plan for the Cities of Gilroy and Morgan Hill	Broad acknowledgment of locations characterized as biological resources

Table 6-7: Project Performance Measures for the Lower Pajaro River Levee Reconstruction Project

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Implement a multipurpose flood control program that protects property, improves water quality, improves storm water capture and percolation, removes invasive species and improves wildlife habitat	1. Removal of parcels from NFIP requirements 2. Improvement (from current state) in habitat with reduced invasive species	Task A & B: 1. Design deliverables; Construction documentation; FEMA LOMRs 2. Management and maintenance reports	Task A & B: 1. Reduced flood damage reports and claims 2. Management and maintenance reports	Task A & B: 1. Model results 2. Adaptive Management Manual	Task A & B: 1. Remapping of FEMA floodplains by 2015 2. Sustainable native habitat level within flood channel by 2015
2. Improve the flood carrying capacity of the existing levee system	Task B: 1. Reduce the flood stage within the levee system by excavating excess sediment from the Pajaro River benches to reduce flood risk until setback levees are in place 2. Reduction in costs associated with flooding	Task B: 1. Completion of project excavation 2. Elimination of flood damages for less than 100-year flood (upon Phase 2 completion); Reduction in flood damages (upon Phase 1 completion)	Task B: 1. Excavation records and off-haul volumes 2. Reduction in damage claims and overtopping sightings	Task B: 1. Model system based on actual volume and location of sediment removed 2. Comparison of historic overtopping sightings and damage claims to post-construction sightings and claims	Task B: 1. Removal of 322,000 cubic yards of sediment from banks of river 2. Phase 1: 10% reduction in claims Phase 2: 100% reduction in claims
3. Provide a better habitat and naturally performing floodplain	Task B: 1. Re-establish channel flow levels at two-year bank-full capacity 2. Natural movement of sediment out of the river channel system 3. Natural meandering of river within levee bounds	Task B: 1. Flooding of benches during two-year event 2. Reduction of erosion and sediment deposits indicative of sediment imbalance within channel 3. Shifted low flow thalweg not due to human interference	Task B: 1. Flooding of all benches 2. Reduced costs for sediment maintenance 3. Model results and field surveys to track thalweg migration and future alignments	Task B: 1. Adaptive Management Manual surveys and reports	Task B: 1. Self-sustaining floodplain ecosystem 2. Naturally stable channel within 5 years of project completion 3. Shifted thalweg within 5 years of project completion
4. Benefit fish and wildlife by decreasing velocity in the channel and creating velocity refuge, overbank resting areas, and still water areas in the widened floodplain	Task B: Provide velocity refuge for species during high flow events	Task B: Assessment of less stressed species during high flow events	Task B: Assessment of improved conditions	Task B: Modeling of overbank velocities; Field measurements	Task B: Reduction of overbank velocity to species friendly level
5. Aid in meeting TMDLs for the Pajaro River watershed.	Task B: Reduce sediment load	Task B: Turbidity water quality sampling reports	Task B: Reduction in sediment load during normal and high flow events	Task B: Adaptive Management Manual surveys and reports; Water quality samples and analysis SWAMP data formatting will be used, as applicable.	Task B: Removal of Pajaro River from 303d list for sediment
6. Reach consensus on a project necessary to protect existing infrastructure from flooding and erosion from the 100-year flood event	No public objections from agencies or community to the proposed final levee reconstruction project	Task A: Signed agreement between Task Force members supporting final project recommendation	Task A: Task Force and Stream Team Meeting Summaries	Task A: Regular meetings and discussions to reach consensus on contentious issues	Task A: Project design, permitting, and documentation with no objections from Task Force members or groups represented by Task Force members
		Task B: Publicly accepted final design documents	Task B: Letters of support and positive feedback from public and agencies	Task B: Regular stakeholder meetings to receive comments, explain design, and resolve differences	Task B: Project design, permitting, and documentation with no objections from public or agencies

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
7. Minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing where applicable	Develop a management plan that is sensitive to stream functions beyond flood control	Task A: Identification of methods to incorporate other stream functions into a flood control project	Task A: Task Force and Stream Team Meeting Summaries	Task A: Comparison between original and final design	Task A: Provide a proposal to maintain existing stream functions while allowing additional flood control
		Task B: Incorporation of project elements that allow streams to maintain functionality beyond flood control	Task B: Letters of support and positive feedback from public and agencies	Task B: Comparison between original and final design	Task B: Incorporate project components to allow existing stream functions to continue in addition to providing additional flood capacity
8. Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation, natural resources restoration and economic	Final project design will have multiple community benefits	Task A: Task Force and Stream Team Meeting Summaries	Task A: Evaluation of final design for multiple benefits	Task A: Comparison between original and final design, Evaluation of maintenance reports	Task A: Identification of two significant additional benefits beyond flood protection
		Task B: Public support partially attributable to additional community benefits	Task B: Identification of additional benefits through design or project meetings	Task B: Comparison between original and final design, Adaptive Management Manual surveys and reports	Task B: Identification of two significant additional benefits beyond flood protection
9. Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects	1. Minimization of impacts to habitat during construction and post-implementation 2. Minimization of impacts to surrounding farmland during construction and post-implementation	Task A: Task Force and Stream Team Meeting Summaries; Management and maintenance reports	Task A: Final report from Task Force; Habitat and species updates in maintenance reports; Land use reduction from initial design	Task A: Comparison between original and final levee and bench design; Evaluation of maintenance reports	Task A: 1. Practical habitat impact minimization 2. Reduction of agricultural land take to publicly acceptable levels
		Task B: Comments from public and agency review of design for habitat and land use impacts	Task B: Habitat and species updates in maintenance reports; Land use reduction from initial design	Task B: Review of design drawings and impacts identified through CEQA; Adaptive Management Manual surveys and reports	Task B: 1. Practical habitat impact minimization 2. Reduction of agricultural land take to publicly acceptable levels
10. Increase open spaces, trails, parks along creeks and other recreational projects in the watershed by incorporating opportunities into the water supply, water quality or flood protection projects	Task A: Identification of recreational opportunities for additional project benefits for the community	Task A: Task Force and Stream Team Meeting Summaries	Task A: Inclusion of recreational opportunities in the final project design	Task A: Comparison of project design stages and components; Identification of opportunities for open spaces, trails, and parks along creeks	Task A: Identification of at least one recreational project component that is incorporated into the flood protection design if practicable.
	Task B: Incorporation of recreational opportunities for additional project benefits for the community	Task B: Additional recreational opportunities available to public due to implementation of project	Task B: Feedback through stakeholder process to determine whether or not recreation opportunities would be used	Task B: Comparison between original and final levee and bench design	Task B: Incorporation of at least one recreational project component if practicable
11. Maintain and to the extent practicable, enhance the local environment and contribute to the long-term sustainability of agricultural, commercial, industrial and urban land uses and activity within the basin	Improve the environment and long-term sustainability of the region through implementation of the project	Task A: Task Force and Stream Team meeting summaries and analysis of benefits	Task A: Identification of potential to improve conditions in the local environment and long-term sustainability of the regions industries	Task A: Comparison between original and final levee and bench design	Task A: Identify 10 acres of improved habitat over current conditions; Identify plan to reduce cost of flood protection by 10% over current NFIP requirements
		Task B: Analysis of benefits provided by implementation of the project	Task B: Quantification of improved conditions in the local environment and long-term sustainability of the regions industries	Task B: Adaptive Management Manual reports and surveyed conditions to identify additional habitat areas; Demonstrate reduced flood risk costs	Task B: Generate 10 acres of improved habitat over current conditions; Reduce cost of flood protection by 10% over current NFIP requirements

Table 6-8: Project Performance Measures for the Soap Lake Floodplain Preservation Project, Phase 1

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Maintain the existing flood protection benefits provided by the Soap Lake floodplain	Maintain the existing hydrologic and hydraulic conditions of the Soap Lake Floodplain for flood water attenuation and storage	Formation of natural detention "lake" in the Soap Lake area during storm flow events	No change in existing 100-year flood water level downstream	Pajaro River stage data at Chittenden (upstream of Watsonville)	Prevent increases in downstream flood flow magnitude
2. Ensure flood protection strategies are developed and implemented through a collaborative and watershed-wide approach and are designed to maximize opportunities for comprehensive management of water resources	Collaborative, comprehensive approach to floodplain and other water resources management within the Pajaro River watershed	Stakeholder meetings conducted to examine water resources needs, goals, and objectives, and to develop stakeholder consensus on integrated management strategies to address needs, goals and objectives	Multi-agency and multiple stakeholder agreement on flood protection and other water resources strategies and management, and the development of applicable management strategies	Regular collaborative meetings, meeting minutes, and stakeholder letters of support	Soap Lake Project works in conjunction with other water resources projects in the watershed and supports a collaborative effort watershed-wide
3. Preserve existing flood attenuation by implementing land management strategies throughout the watershed	Preserve 100-year Soap Lake floodplain (9,100 acres) with the collaboration of local communities, landowners, land use authorities, and other stakeholders	Local land use agency involvement and interest; Land use stakeholder meetings and collaboration; Landowner willingness to sell and to implement conservation easement provisions	Development of local community land use ordinances and general plan statements for the preservation of Soap Lake; Continued easement and land acquisitions and landowner compliance with easement provisions	1. Implement land use ordinances in local government and discuss preservation in general plans 2. Track the amount of acreage preserved by implementation partners and examine acreage remaining to be protected (utilize mapping of parcels)	Preserve approximately 700 acres of the 100-year Soap Lake floodplain in Phase I
4. Provide community benefits beyond flood protection, such as public access, open space, recreation, agricultural preservation, and economic development	Soap Lake Project implementation will preserve agricultural lands and open space, and spawn other multi-beneficial projects within the Soap Lake area	Community- and stakeholder- coordinated meetings with implementation partners to develop community projects	Community consensus and agreement on project alternatives, as developed through meetings and coordination	1. Community meeting agendas and minutes. 2. Community benefits planning documents and maps illustrating proposed projects. 3. Track acreage of agriculture protected through easement acquisition (acreage summaries and mapping)	Over duration of Phase I, preserve agricultural lands and open space in perpetuity, and identify/propose at least one public access and one recreational opportunity to benefit community within the protected Soap Lake floodplain
5. Aid in meeting Total Maximum Daily Loads established for the Pajaro River watershed	Reduce sediment load	Results of water quality sampling monitoring program(s)	Reduction in sediment during flood events	Water quality samples and analysis downstream of Soap Lake floodplain (Monitoring Plan to be developed)	Removal of Pajaro River from 303d list for sediment
6. Minimize impacts from storm water through implementation of established Best Management Practices or other detention projects	Minimize impacts of storm water with detention	Implementation of Soap Lake Project to preserve natural detention capabilities of floodplain	Land acquired in fee title or conservation easement with appropriate provisions to protect natural storm water attenuation and storage capabilities of the area	Downstream monitoring of storm water flow levels at Chittenden and in levees through Watsonville area	Once constructed, the downstream Corps' Levee Project shall maintain 100-year peak flood flows by working in conjunction with the upstream detention provided by the Soap Lake floodplain
7. Identify opportunities to protect, enhance, and/or restore natural resources when developing water management strategies	Protect, enhance, and/or restore natural resources	Preservation of parcels significant to biological community and significant to groundwater recharge	Biological and groundwater assessments of Soap lake	1. Biological surveys and groundwater level monitoring in Soap Lake area and summary reports 2. Target acreages for resource importance and track acquisitions	Among acquisition of Phase I, attempt to acquire targeted parcels for their biological and groundwater recharge significance through land and easement acquisitions

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
8. Identify opportunities for open spaces, trails, parks along creeks and other recreational projects in the watershed to be incorporated with water supply, water quality or flood protection projects	Identify recreational opportunities in the Soap Lake floodplain	Community- and stakeholder- coordinated meetings with implementation partners to develop community projects	Community consensus and agreement on project list/alternatives, as developed through meetings and coordination	1. Community meeting agendas and minutes 2. Community list and map of possible recreation opportunities	Identification of at least one community recreational project within the protected Soap Lake floodplain by the end of Phase I
9. Project elements should maintain and to the extent practicable, enhance the local environment and contribute to the long-term sustainability of agricultural, commercial, industrial and urban land uses and activity within the basin	Improve the environment and long-term sustainability of the region through implementation of the project	Analysis of benefits provided by implementation of the project	Quantification of improved conditions in the local environment and long-term sustainability of the regions industries	1. Track land use changes (if any) utilizing mapping techniques 2. Track land use changes (if any) utilizing acreage summaries	Preserve, in perpetuity, all lands acquired in Phase I of the Soap Lake Project for the long-term sustainability of local community economy

Table 6-9: Project Performance Measures for the Santa Cruz Partners in Restoration Permit Coordination Program

Project Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets
1. Aid in meeting Total Maximum Daily Loads established for the Pajaro River watershed	Reduce agricultural non-point source pollution through the implementation of management practices that are specifically designed to prevent and reduce the transport of sediment, nutrients, and pesticides into waters of the state	Water quality results from monitoring program for nutrients, pesticides and sediment	Percent reduction in transport of nutrients, pesticides and sediment to the Pajaro River	1. Revised Universal Soil Loss Equation 2. EPA developed STEPL Model 3. Land use and pollutant load models developed with assistance from local experts at UC Santa Cruz 4. Monitoring Plan (to be developed) SWAMP data formatting will be used, as applicable	1. 30% reduction in nitrate, phosphorus and fine sediment loads from pre-project implementation levels 2. 90% reduction in pesticides and coarse sediment loads from pre-project implementation levels
2. Implement projects that contribute to the long-term sustainability of agricultural land uses	1. Widespread implementation of agricultural best management practices 2. Minimize maintenance costs for landowners	1. Landowners implementing State approved conservation practices and serving as demonstration projects to garner additional support 2. Landowners educated through successful implementation of projects 3. Modifications in landowners application rate, frequency and timing of operations and maintenance tasks	1. Number of projects implemented 2. Number of landowners educated through demonstration projects 3. Reduction in landowners' maintenance costs considering both time and resources	1. Survey of landowners	1. 8 projects implemented by 2008 2. Increase in landowners acceptance and desire to implement best management practices 3. Majority "satisfactory" responses from landowners who have implemented practices

7 Implementation

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

> **G. Implementation** – Identify specific actions, projects, and studies, ongoing or planned, by which the Plan will be implemented. Identify the agency(ies) responsible for project implementation and clearly identify linkages or interdependence between projects. Demonstrate economic and technical feasibility on a programmatic level. Identify the current status of each element of the plan, such as existing infrastructure, feasibility, pilot or demonstration project, design completed, etc. Include timelines for all active or planned projects and identify the institutional structure that will ensure Plan implementation.

As described in Section 6, the near-term priority for implementation of the IRWMP recommendations will be continued development and implementation of the four water management programs that were formed through the integration and regionalization process. The long-term priority for implementation of the IRWMP recommendations will be for the Partners to continue to work together to ensure the goals and objectives of the IRWMP are met and that changes in regional priorities and needs are reflected in future updates to the IRWMP. Central to the success of the IRWMP in the near-term and long-term is the continued coordination among the Partners through the Pajaro River Watershed Collaborative.

This section identifies the role of the Collaborative in implementation, the additional agencies with whom implementation of the regional water management programs must be coordinated and additional details to be considered in implementation of each program.

7.1 Implementing Agencies and Responsibilities

7.1.1 Pajaro River Watershed Collaborative

The Pajaro River Watershed Collaborative initially came together under an MOU in October 2004 that formalized PVWMA, SBCWD and SCVWD's intent to work together to coordinate water resources planning in the Pajaro River Watershed. In this MOU the Partners committed to meet at least quarterly in order to coordinate and share information. During the development of the IRWMP, the Partners chose to convene more often, meeting on a biweekly and sometimes weekly basis. These frequent meetings exemplify the rigor of the process the Partners undertook to ensure they developed a practical and long-lasting roadmap for the region.

Much of the success of the Pajaro River Watershed Collaborative can be attributed to the group's structure. During development of the IRWMP, the Partners found that the small size of the Collaborative provided the flexibility necessary to adapt to changes quickly and efficiently and allowed for more frequent meetings when necessary. Additionally, the Partners found that pairing their small group with a wide range of stakeholders was important in ensuring differing viewpoints were captured in the planning process. By conducting an extensive stakeholder and public outreach process, which is discussed in detail in Section 14, the Collaborative has provided opportunities for all interested to be involved. Given the effectiveness of the Collaborative during development of the IRWMP, the Partners intend to maintain the same organizational structure during implementation.

<u>Near-Term Implementation – Program Facilitation</u>

As the focus of the IRWMP process shifts from plan development to near-term implementation, the Partners will return to quarterly meetings, and their role as the Collaborative will be to facilitate the

implementation of the Conjunctive Water Supply Management, Water Supply/Salt Management, Agricultural Water Quality and Pajaro River Flood Protection programs. They will also be responsible for coordinating overall IRWMP implementation.

Program facilitation will include the following five roles:

Inclusion of Project Sponsors. The first duty of the Collaborative in implementation of the IRWMP recommendations will be to engage with the sponsors for each of the projects within the regional water management programs. All of the project sponsors were invited to participate as stakeholders in the development of the IRWMP, and many of them are already engaged in the IRWMP process. However, not all the stakeholders have been actively involved in the process, and there are some agencies that are not familiar with the intent of the IRWMP or the recommended programs. For those entities that fall into the latter category, the Collaborative will be tasked with helping them understand the local and regional benefits of their participation in the IRWMP as well as encouraging them to become involved in the implementation process. To accomplish this, the Partner whose jurisdiction encompasses the project under consideration will be responsible for arranging a formal meeting with the appropriate persons. If attempts to engage a project's sponsor are unsuccessful, the Partners will still attempt to take that project into account as programs are implemented, but opportunities to integrate and regionalize the project will be limited without direct involvement from the project sponsor.

Formation of Implementation Teams. Once all the project sponsors for a particular program have been contacted, the Collaborative will assist the sponsors in forming Implementation Teams. Some organizations may be represented in more than one team, but each regional water management program will have its own unique team responsible for implementing their respective programs. The major tasks of the Implementation Teams are discussed in Section 7.1.2.

Management of Implementation Teams. Each of the Partner agencies in the Collaborative will be involved in several of the Implementation Teams. As Implementation Team members, the representatives of PVWMA, SBCWD and SCVWD will be like any other project sponsor; they will help establish meeting schedules, structure team meetings and develop communication protocols. It will not be their responsibility to manage team interactions nor will they be given control of the teams. However, as members of the Collaborative, the Partners will be responsible for ensuring progress is being made in each of the programs and for providing oversight as necessary to support the Implementation Teams. The Collaborative's quarterly meetings will serve as forums for the Partners to report on the progress of the various programs with which they are involved. It will be the responsibility of the Collaborative to facilitate solutions to problems the Implementation Teams might encounter, such as losing sight of their program's primary objectives or needing a moderator to resolve team conflict. The Collaborative will also ensure that the Implementation Teams maintain an effective stakeholder process, as the Implementation Teams will serve as the primary means of stakeholder participation for near-term implementation.

Additional Program Integration. The Collaborative is tasked with identifying opportunities for further integration between programs. During the formation of the regional water management programs, the Partners already identified projects with opportunities for integration into more than one program. To avoid the potential for conflicts between programs, the decision was made to limit each project to one program. As program implementation plans are put forth by the Implementation Teams, the Partners will review the new project definitions and if opportunities for integration still exist, the Partners will be responsible for continuing discussions among the appropriate project sponsors. For example, the Partners anticipate further coordination to occur between the Water Supply/Salt Management program and the Conjunctive Water Supply Management program. The suite of projects that arise from the Water Supply/Salt Management program are certain to include new water supply projects. Depending on how

the Water Supply/Salt Management Implementation Team frames these projects there may be potential for regional water transfers, and this should be coordinated with the projects from the Conjunctive Water Supply Management program.

Project Prioritization. The Partners have been very clear that the intent of the IRWMP is to provide a framework to identify and implement projects that address common water resource needs in a coordinated manner; they did not simply want to create a vehicle to obtain funding for projects. However, the Partners are aware that funding mechanisms (e.g. Proposition 84) do exist to support projects in IRWMPs, and they recognize that they need a process to determine which projects will move forward when grant funding opportunities arise. The final task of the Collaborative as part of near-term implementation will be prioritizing projects for funding. To be positioned well for funding the Partners generally expect planning activities for projects to be completed, CEQA/NEPA compliance to be completed or near completion and design to be either completed or near completion. At a minimum projects must demonstrate this readiness to proceed in order to be considered for funding recommendations. Moreover, projects must demonstrate compliance with the applicable grant requirements. The funding priority given to projects will depend greatly on the funding guidelines. Consistency with the grant program preferences and the economic benefit of a project (or impact of not implementing a project) will be the primary evaluation criteria for developing funding recommendations. The Implementation Partners' project prioritization will also be taken into account to ensure the ranking of projects in the funding recommendation align with the priorities given to projects within each of the regional water management program.

Long-Term Implementation

In addition to assessing progress of near-term implementation efforts, the Partners will continue to coordinate on long-term IRWMP implementation issues during the Collaborative's quarterly meetings. An on-going responsibility of the Collaborative will be to continually update the list of projects in the IRWMP. At the quarterly meetings the Partners will keep each other informed of new projects being proposed by their respective agencies, new projects brought forth by regional stakeholders, implemented projects which can be removed from the project list and other projects that can be taken off the project list. The Partners will keep track of these changes and will publish an update to the list of projects in the IRWMP on an annual basis or as needed. Updates to the project prioritization and set of regional water management programs will occur less frequently. As discussed in Section 6, the Partners realize that, as projects are implemented or evolve and as regional needs change, project priorities may shift, but understanding the effort involved in reprioritizing and reassessing programs, the Partners want to limit this process to a two year cycle.

Continued participation from stakeholders will be integral to the long-term success of the IRWMP, and as such, the Collaborative is committed to maintaining stakeholder involvement. In addition to coordinating with stakeholders to maintain the list of projects in the IRWMP, the Collaborative will conduct workshops whenever updates to the project prioritization are made, new regional water management programs are developed or the IRWMP report is updated. The Collaborative will keep stakeholder informed of these workshops by sending announcements to through the stakeholder distribution list that was compiled during the development of the IRWMP report.

7.1.2 Implementation Teams

Each of regional water management programs will be associated with an Implementation Team that will assist with near-term implementation of the IRWMP recommendations. The role of the Implementation Teams is to further evaluate the projects within their respective regional water management programs, to make final program recommendations and to lead implementation efforts for the projects included in their

final recommendations. Because the Implementation Teams will be responsible for coordinating implementation efforts for their recommended projects, it is important for each team to have representation from the agencies or organizations sponsoring those projects. Table 7-1 identifies the agencies and organizations who are anticipated to be members of the Implementation Teams.

Table 7-1: Anticipated Implementation Team Members

Conjunctive Water Supply Management	Water Supply/Salt Management	Agricultural Water Quality	Pajaro River Flood Protection
• Aromas Water District • Pacheco Pass Water District • PVWMA • SBCWD • South County Regional Wastewater Authority • SCVWD • The Nature Conservancy	• City of Hollister • City of San Juan Bautista • City of Watsonville • PVWMA • SBCWD • SCVWD • Sunnyslope County Water District	• California State University – Monterey Bay • Central Coast Agricultural Water Quality Coalition • Central Coast RWQCB • Loma Prieta RCD • PVWMA • Monterey RCD • San Benito RCD • Santa Cruz RCD • SBCWD • SCVWD • UC Cooperative Extension Farm Advisors	• Action Pajaro Valley • City of Watsonville • Monterey County Water Resources Agency • Open Space Authority • Pajaro River Watershed Flood Prevention Authority • San Benito County • Santa Cruz County, Department of Public Works • SBCWD • SCVWD • The Nature Conservancy • U.S. Army Corps of Engineers

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The lists of Implementation Team members identified in Table 7-1 is not intended to be exclusive. Each agency or organization listed in Table 7-1 is involved with at least one of the projects that was carried forward from the integration and regionalization process. As the regional water management programs are refined the need to bring in additional Implementation Team members may be identified.

While the Implementation Team members will be limited to those groups that are able to assist with project implementation, opportunities for involvement from other stakeholders will be provided. The Implementation Teams will be responsible for keeping stakeholders informed of the work being completed during the near-term implementation and inviting stakeholders to provide input as the teams carry out their tasks.

The first task of the Implementation Teams will be to develop an evaluation process to assess the ability to implement each project and potential trade-offs between projects. Up to this point projects have only been evaluated based on their degree of integration and regional opportunities. During the development of the integration and regionalization process, the Partners debated whether to include an evaluation of projects considering degree of benefit and other issues such as economical feasibility, technical practicability and environmental concerns. In the end, they decided that this evaluation was best performed by each Implementation Team. Since each regional water management program has its own set of objectives by which projects should be judged, this approach allows the evaluation process to be

tailored to each program. The only element that the Partners have currently specified is a requirement that each evaluation process contain a benefit cost analysis.

Using the results of the evaluation process, the Implementation Teams will arrive at a suite of projects that are suited for implementation through the IRWMP. This suite of projects may include all the projects initially placed into the regional water management programs or a smaller subset of those projects. The Implementation Teams will then be tasked with evaluating the recommended suite of projects' ability to collectively meet the primary objectives of their program. As part of this step, they will assess if additional lower priority projects should be brought into the program. Similar to the integration of medium and low priority projects during the integration and regionalization process performed by the Partners, to bring up additional projects the Implementation Teams must demonstrate that the projects fit with their program and its primary objective and that the projects add to the net primary benefit provided by the program. If additional projects are integrated into the program they must also undergo a degree of benefit assessment.

Once the Implementation Teams reach consensus on the final project recommendations for their program, they will outline a program implementation schedule, develop a program financing plan and then lead the implementation efforts for their various projects.

The Implementation Teams will also be tasked with prioritizing projects within their programs. These project priorities will be used by the Collaborative should outside funding opportunities arise.

7.2 Conjunctive Water Supply Management Program

The Conjunctive Water Supply Management program addresses water supply reliability throughout the Pajaro River Watershed by enhancing water supply management. As the name implies, the program will focus on conjunctive use of groundwater, local surface water and imported water as a strategy for providing flexibility and reliability in water supply, storage and distribution. Water supplies can be put to most efficient use by optimizing the use of existing water supply sources, making locally-controlled sources available for regional use, developing infrastructure to allow for intraregional transfers and increasing the use of available storage capacity and infrastructure. As illustrated in Table 7-2, each of the projects considered for inclusion in the Conjunctive Water Supply Management program exhibit one or more of these characteristics, with the exception of the Groundwater Study & Biological Assessment of the Upper Pajaro River which was added as an environmental enhancement to the program.

Table 7-2: Linkages among Projects in the Conjunctive Water Supply Management Program

Project	Optimize the use of water supply sources	Make locally controlled sources available for regional use	Develop infrastructure to allow for intraregional transfers	Increase the use of available storage capacity and infrastructure	Provide environmental enhancement
Aromas Water District Wellhead Treatment	✓				
Chesbro Reservoir Reoperation	✓			✓	

Project	Optimize the use of water supply sources	Make locally controlled sources available for regional use	Develop infrastructure to allow for intraregional transfers	Increase the use of available storage capacity and infrastructure	Provide environmental enhancement
Church Avenue Diversion	✓			✓	
CVP water transfers within the San Felipe Division		✓			
Groundwater Study & Biological Assessment of the Upper Pajaro River					✓
Hernandez Reservoir Reoperation	✓			✓	
Main Avenue and Coyote-Madrone Pipeline Repair	✓			✓	
Mercy Springs Options Agreement		✓			
Non-CVP water transfers and banking agreement		✓			
Pacheco Reservoir Reoperation	✓	✓		✓	
Paicines Reservoir Rehabilitation	✓			✓	
Pajaro Valley Import Pipeline			✓		
PVWMA CVP Contract Reservation		✓			
PVWMA Groundwater Recharge with CVP and other imported supplies				✓	
San Felipe Division Operation and Maintenance Improvements	✓			✓	
San Justo Reservoir Rehabilitation	✓			✓	
SBCWD Groundwater Recharge with CVP and local sources				✓	
SCRWA Discharge Pipeline	✓	✓	✓		
SCVWD Groundwater Recharge with CVP and local sources	✓				
South County Recycled Water Program	✓	✓			
Urban Water Conservation	✓	✓			
Uvas Reservoir Reoperation	✓			✓	

7.2.1 Conjunctive Water Supply Management Program - Economic and Technical Feasibility

Requiring the Conjunctive Water Supply Management Implementation Team to further evaluate each of the projects as discussed in Section 7.1.2 ensures that only cost effective and technically sound projects will be selected for inclusion in the final program recommendations.

In addition to selecting cost effective projects, economic feasibility also depends on the financing plan and the capability of the rate payers/customers to support the financial plan. The ability to raise water rates, sell municipal bonds and obtain grant funding is also a consideration of the economic feasibility. For additional details on the financing plan for projects being implemented refer to Section 11.

Conjunctive use on a local scale has been practiced effectively by many agencies. The same coordinated management and use of groundwater and surface water resources can be applied on a regional scale. Understanding the technical constraints involved with the use of each of the region's water supplies is key

to effective management. The technical methods and data used in development of the Conjunctive Water Supply Management program are discussed in Section 9.

7.2.2 Conjunctive Water Supply Management Program - Current Status and Timeline

The projects included for consideration in the Conjunctive Water Supply Management program are in various states of development as regional projects. Their status is summarized in Table 7-3.

Table 7-3: Current Status of Projects in the Conjunctive Water Supply Management Program

Project	Status as Regional Project*
Aromas Water District Wellhead Treatment	Beginning Implementation
Chesbro Reservoir Reoperation	Planning Stage
Church Avenue Diversion	Planning Stage
CVP water transfers within the San Felipe Division	In Design
Groundwater Study & Biological Assessment of the Upper Pajaro River	Beginning Implementation
Hernandez Reservoir Reoperation	Planning Stage
Main Avenue and Coyote-Madrone Pipeline Repair	Planning Stage
Mercy Springs Option Agreement	In Design
Non-CVP water transfers and banking agreement	Planning Stage
Pacheco Reservoir Reoperation	Planning Stage
Paicines Reservoir Rehabilitation	Planning Stage
Pajaro Valley Import Pipeline	Design Completed
PVWMA CVP Contract Reservation	Planning Stage
PVWMA Groundwater Recharge with CVP and other imported supplies	Planning Stage
San Felipe Division Operation and Maintenance Improvements	Planning Stage
San Justo Reservoir Rehabilitation	Planning Stage
SBCWD Groundwater Recharge with CVP and local sources	Planning Stage
SCRWA Discharge Pipeline	In Design
SCVWD Groundwater Recharge with CVP and local sources	Planning Stage
South County Recycled Water Program	In Design
Urban Water Conservation	Planning Stage
Uvas Reservoir Reoperation	Planning Stage

*Note: The status reflects the project in terms of the regional program. PVWMA Groundwater Recharge, SBCWD Groundwater Recharge, SCVWD Groundwater Recharge and Urban Water Conservation are all being implemented in some form, but additional planning is being conducted to enhance their regional benefits and linkages to other projects.

After the Implementation Team reaches consensus on the final project recommendations, project definitions including current status and timeline, necessary facilities, benefits of implementation and budget will be developed along with the overall program implementation schedule and program financing plan.

The timelines for the two Conjunctive Water Supply Management projects which are currently beginning implementation are presented below.

Figure 7-1: Aromas Water District Wellhead Treatment Implementation Schedule

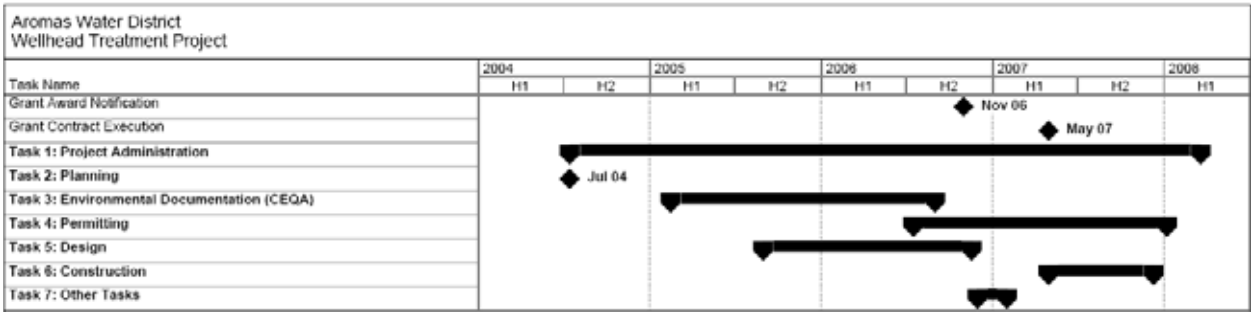
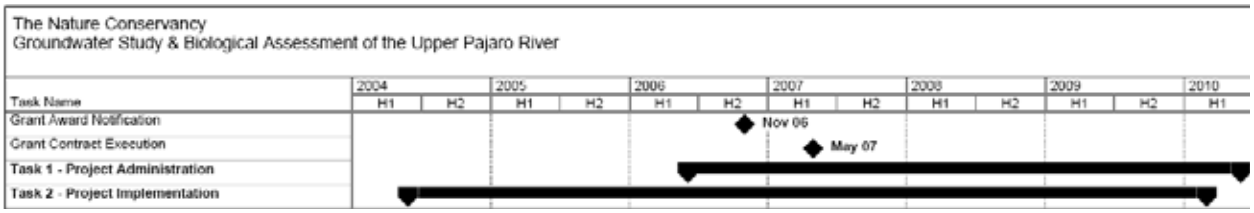


Figure 7-2: Groundwater Study & Biological Assessment of the Upper Pajaro River Implementation Schedule



7.3 Water Supply/Salt Management Program

The Water Supply/Salt Management program addresses water supply reliability throughout the Pajaro River Watershed through the implementation of projects that have a mutual interest in water supply reliability and water quality. Water quality challenges which may be addressed through this program are minimizing the introduction of foreign salts to the groundwater basin, maximizing the use of groundwater from basins with high TDS content, minimizing the TDS content of water delivered to customers, maximizing customer tolerance to TDS content and complying with waste discharge requirements for salinity. As illustrated in Table 7-4, each of the projects considered for inclusion in the Water Supply/Salt Management program address one or more of these challenges, with the exception of the Pajaro River Access at WRWTF which was added as an environmental enhancement to the Watsonville Recycled Water Treatment Facility.

Table 7-4: Linkages among Projects in the Water Supply/Salt Management Program

Project	Minimize the introduction of foreign salts to the groundwater basin	Maximize the use of groundwater from basins with high TDS	Minimize the TDS content of water delivered to customers	Maximize customer tolerance to TDS content	Comply with waste discharge requirements for salinity	Provide environmental enhancement
Cienega Valley	✓		✓			
Coastal Distribution System	✓					
Corralitos Creek Surface Fisheries Enhancement Project	✓					
Export Pipeline	✓				✓	
Groundwater and surface water blending	✓	✓	✓			
Hollister Groundwater Softening		✓	✓			
North San Benito County Regional Recycled Water Project					✓	
Pajaro River Access at WRWTF						✓
Salinity Education Program	✓			✓	✓	
San Juan Bautista Surface Water Treatment Plant			✓			
SBCWD Groundwater Demineralization	✓	✓	✓			
SSCWD Groundwater Demineralization	✓	✓	✓			
Sunnyslope Recycled Water Project				✓		
Water Softener Rebate	✓				✓	
Watsonville Recycled Water Treatment Facility	✓			✓		

7.3.1 Water Supply/Salt Management Program - Economic and Technical Feasibility

Requiring the Water Supply/Salt Management Implementation Team to further evaluate each of the projects as discussed in Section 7.1.2 ensures that only cost effective and technically sound projects will be selected for inclusion in the final program recommendations.

In addition to selecting cost effective projects, economic feasibility also depends on the financing plan and the capability of the rate payers/customers to support the financial plan. The ability to raise water and wastewater rates, sell municipal bonds and obtain grant funding is also a consideration of the economic feasibility. For additional details on the financing plan for projects being implemented refer to Section 11.

Each of the projects in the Water Supply/Salt Management program has been evaluated as part of local agency planning efforts, and they have all proven to be technically feasible alternatives. However, additional work is required by the Implementation Partners to determine which of the alternatives are the most technically viable. The technical methods and data used in development of the Conjunctive Water Supply Management program are discussed in Section 9.

7.3.2 Water Supply/Salt Management Program - Current Status and Timeline

The projects included for consideration in the Water Supply/Salt Management Management program are in various states as summarized in Table 7-3.

Table 7-5: Current Status of Projects in the Water Supply/Salt Management Program

Project	Status as Regional Project*
Cienega Valley	Planning Stage
Coastal Distribution System	Beginning Implementation
Corralitos Creek Surface Fisheries Enhancement Project	Beginning Implementation
Export Pipeline	Planning Stage
Groundwater and surface water blending	Planning Stage
Hollister Groundwater Softening	Planning Stage
North San Benito County Regional Recycled Water Project	Planning Stage
Pajaro River Access at WRWTF	Beginning Implementation
Salinity Education Program	Planning Stage
San Juan Bautista Surface Water Treatment Plant	In Design
SBCWD Groundwater Demineralization	Planning Stage
SSCWD Groundwater Demineralization	Planning Stage
Sunnyslope Recycled Water Project	Planning Stage
Water Softener Rebate	Planning Stage
Watsonville Recycled Water Treatment Facility	Beginning Implementation

*Note: The status reflects the project in terms of the regional program. The Salinity Education Program and Water Softener Rebate projects are both being implemented in some form, but additional planning is being conducted to enhance the linkages of these projects to other projects.

After the Implementation Team reaches consensus on the final project recommendations, project definitions including current status and timeline, necessary facilities, benefits of implementation and budget will be developed along with the overall program implementation schedule and program financing plan.

The timelines for the four Water Supply/Salt Management projects beginning implementation are presented below. Only three schedules are shown because the Pajaro River Access at WRWTF schedule has already been integrated into the Watsonville Recycled Water Treatment Facility.

Figure 7-3: Coastal Distribution System Implementation Schedule

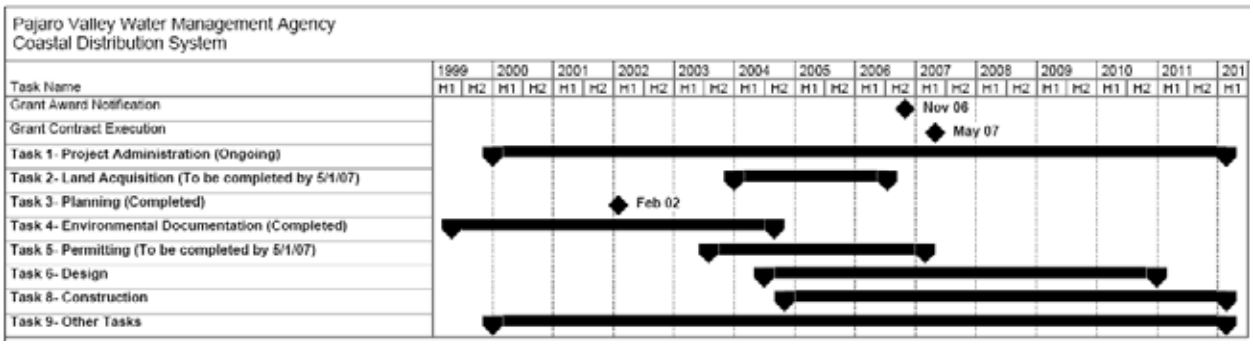


Figure 7-4: Corralitos Creek Surface Fisheries Enhancement Project Implementation Schedule

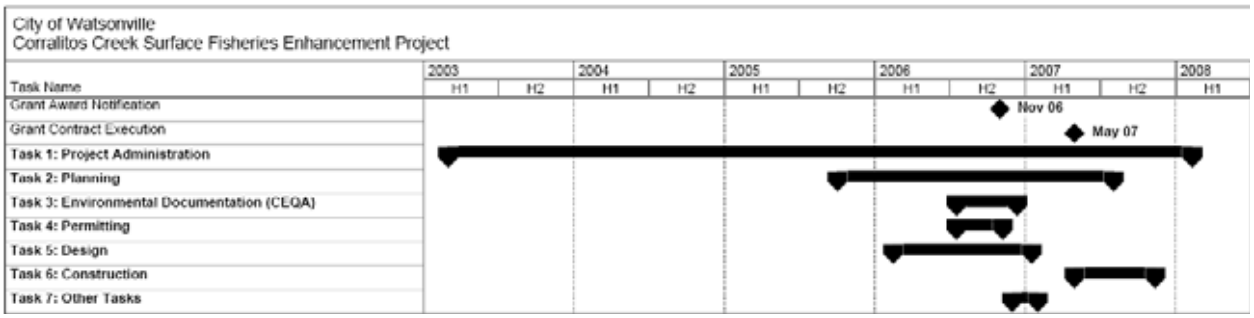
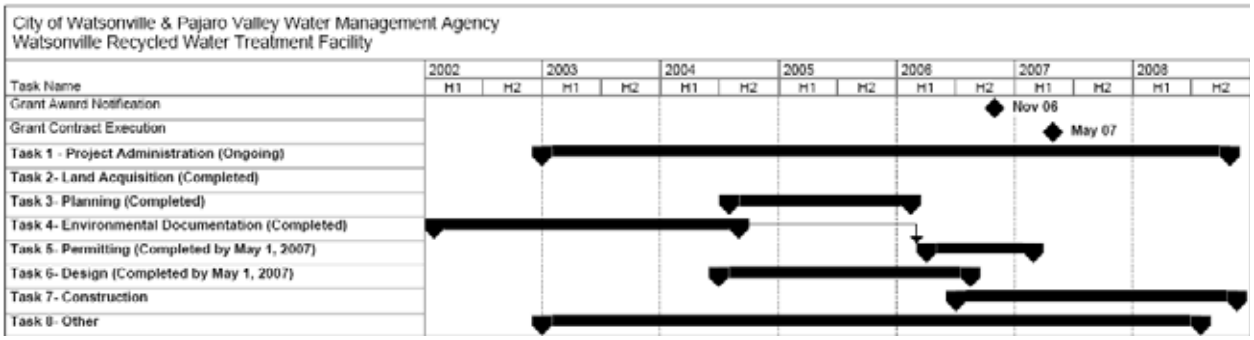


Figure 7-5: Watsonville Recycled Water Treatment Facility (including Pajaro River Access at WRWTF) Implementation Schedule



7.4 Agricultural Water Quality Program

The Agricultural Water Quality program addresses water quality impacts resulting from agricultural, rangeland and rural land practices in the watershed. The Pajaro River Watershed was identified by the RWQCB as having significant water quality impairment for nutrient, sediment, fecal coliform, pathogens and pesticide pollution. Though agricultural sources are not the only contributors of these pollutants, they are considered a major contributor. Various groups throughout the watershed have completed studies and have developed methods to reduce the water quality impact from agricultural, rangeland and other rural land uses. These methods range from educating landowners on their role in water quality protection to providing technical assistance to landowners who wish to modify their practices to implementing best management practices. As illustrated in Table 7-2, each of the projects considered for inclusion in the Agricultural Water Quality program incorporates one or more of these methods, with the exception of the Stream and Watershed Protection Program which was added as an environmental enhancement to the program.

Table 7-6: Linkages among Projects in the Agricultural Water Quality Program

Project	Educate landowners on their role in water quality protection	Provide technical assistance to landowners who wish to modify their practices	Implement best management practices	Provide environmental enhancement
Agricultural Water Conservation	✓	✓		
Farm and Rangeland Water Quality Management Program	✓	✓	✓	
Nitrate Management Program	✓			
Regional Mobile Lab	✓	✓		
San Benito and South Santa Clara Permit Coordination Program		✓	✓	
Santa Cruz Partners in Restoration Permit Coordination Program		✓	✓	
Stream and Watershed Protection Program				✓
Tick Creek Riparian Enhancement			✓	✓
Vegetative Buffer Strips			✓	

7.4.1 Agricultural Water Quality Program - Economic and Technical Feasibility

Requiring the Conjunctive Water Supply Management Implementation Team to further evaluate each of the projects as discussed in Section 7.1.2 ensures that only cost effective and technically sound projects will be selected for inclusion in the final program recommendations.

In addition to selecting cost effective projects, economic feasibility also depends on the financing plan. Because these projects are not associated with the development of water infrastructure that would justify raises in the water rate, grant funding will be a significant consideration in making this program economically viable. For additional details on the financing plan for projects being implemented refer to Section 11.

The technical methods and data used in development of the Agricultural Water Quality program are discussed in Section 9.

7.4.2 Agricultural Water Quality Program - Current Status and Timeline

The projects included for consideration in the Conjunctive Water Supply Management program are in various states of progress as summarized in Table 7-7

Table 7-7: Current Status of Projects in the Agricultural Water Quality Program

Project	Status as Regional Projects*
Agricultural Water Conservation	Planning Stage
Farm and Rangeland Water Quality Management Program	Planning Stage
Nitrate Management Program	Planning Stage

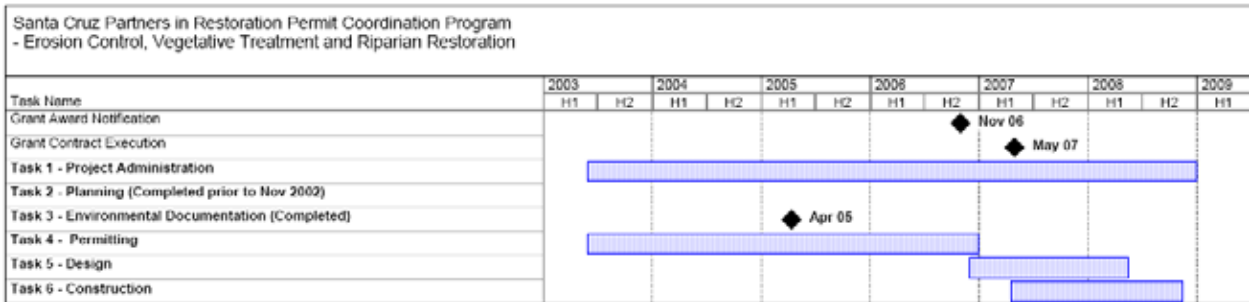
Project	Status as Regional Projects*
Regional Mobile Lab	Planning Stage
San Benito and South Santa Clara Permit Coordination Program	Planning Stage
Santa Cruz Partners in Restoration Permit Coordination Program	Beginning Implementation
Stream and Watershed Protection Program	Planning Stage
Tick Creek Riparian Enhancement	Planning Stage
Vegetative Buffer Strips	Planning Stage

*Note: The status reflects the project in terms of the regional program. Agricultural Water Conservation, Farm and Rangeland Water Quality Management Program, Nitrate Management Program, Regional Mobile Lab, Stream and Watershed Protection Program and Vegetative Buffer Strips are all being implemented in some form, but additional planning is being conducted to enhance their regional benefits and linkages to other projects.

After the Implementation Team reaches consensus on the final project recommendations, project definitions including current status and timeline, necessary facilities, benefits of implementation and budget will be developed along with the overall program implementation schedule and program financing plan.

The timelines for the Agricultural Water Quality project which is currently beginning implementation is presented below.

Figure 7-6: Santa Cruz Partners in Restoration Permit Coordination Program Implementation Schedule



7.5 Pajaro River Flood Protection Program

The Pajaro River Flood Protection program is a multi-objective flood management program which addresses flood protection along the Pajaro River using a watershed planning approach. As part of its multi-objective nature the program ties elements of flood protection with water quality enhancement, environmental enhancement and recreational opportunities. As illustrated in Table 7-8, each of the projects considered for inclusion in the Pajaro River Flood Protection program incorporates one or more of these methods.

Table 7-8: Linkages among Projects in the Pajaro River Flood Protection Program

Project	Provide flood protection	Provide water quality enhancement	Provide environmental enhancement	Provide recreational opportunities
ALERT Station Monitoring	✓			
Historic Ecological Study of the Upper Pajaro			✓	
Levee Reconstruction Project	✓	✓	✓	
Lower Llagas Creek Flood Protection Project	✓		✓	
Open Space Authority Acquisitions			✓	
Pajaro River Parkway				✓
Pajaro River Watershed Study	✓	✓	✓	
Restoration of the Upper Pajaro River Floodplain			✓	
San Benito River Parkway				✓
San Juan Basin Surface Drainage	✓	✓		
Soap Lake Floodplain Preservation Project	✓	✓	✓	✓
Trails, Parks, and Open Space Grants			✓	✓

7.5.1 Pajaro River Flood Protection Program - Economic and Technical Feasibility

Requiring the Pajaro River Flood Protection Implementation Team to further evaluate each of the projects as discussed in Section 7.1.2 ensures that only cost effective and technically sound projects will be selected for inclusion in the final program recommendations.

In addition to selecting cost effective projects, economic feasibility also depends on the financing plan. The ability to sell municipal bonds and obtain grant funding is also a consideration of the economic feasibility. For additional details on the financing plan for projects being implemented refer to Section 11.

The technical methods and data used in development of the Pajaro River Flood Protection program are discussed in Section 9.

7.5.2 Pajaro River Flood Protection Program - Current Status and Timeline

The projects included for consideration in the Pajaro River Flood Protection program are in various states of progress as summarized in Table 7-9.

Table 7-9: Current Status of Projects in the Conjunctive Water Supply Management Program

Project	Status as Regional Projects*
ALERT Station Monitoring	Planning
Historic Ecological Study of the Upper Pajaro	Planning Stage
Levee Reconstruction Project	Beginning Implementation
Lower Llagas Creek Flood Protection Project	Planning Stage
Open Space Authority Acquisitions	Planning Stage
Pajaro River Parkway	Planning Stage
Pajaro River Watershed Study	Planning Stage
Restoration of the Upper Pajaro River Floodplain	Planning Stage
San Benito River Parkway	Planning Stage
San Juan Basin Surface Drainage	Planning Stage
Soap Lake Floodplain Preservation Project	Beginning Implementation
Trails, Parks, and Open Space Grants	Planning Stage

*Note: The status reflects the project in terms of the regional program. The Open Space Authority Acquisitions and Trails, Parks and Open Spaces Grants projects are both being implemented in some form, but additional planning is being conducted to enhance their regional benefits and linkages to other projects.

After the Implementation Partners reach consensus on the final project recommendations, project definitions including current status and timeline, necessary facilities, benefits of implementation and budget will be developed along with the overall program implementation schedule and program financing plan.

The timelines for the two Pajaro River Flood Protection projects which are currently beginning implementation are presented below.

Figure 7-7: Levee Reconstruction Project Implementation Schedule

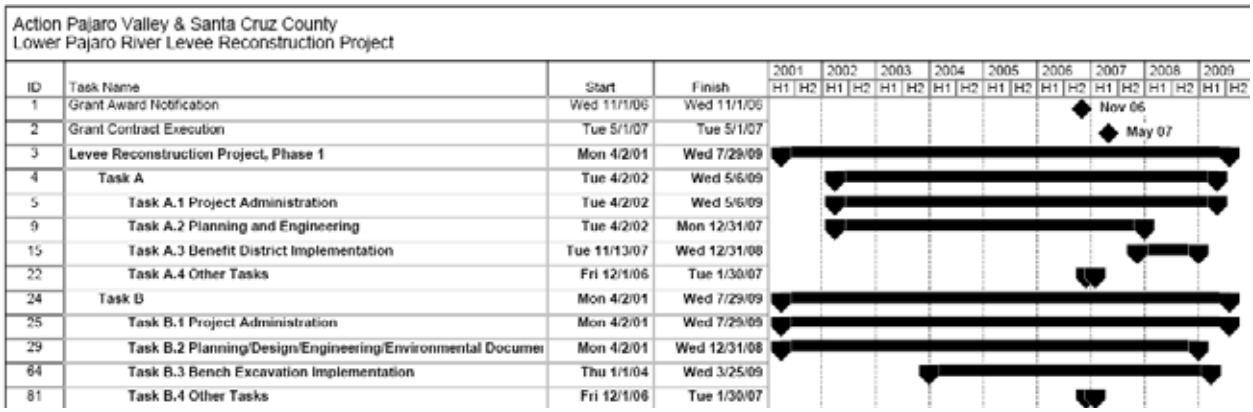
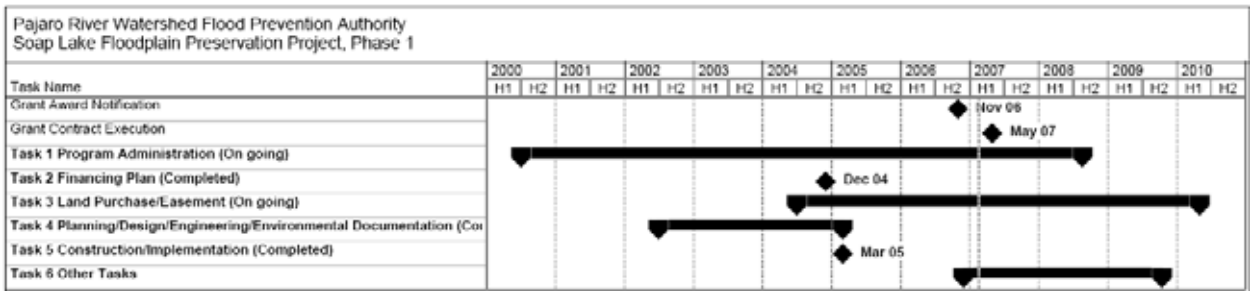


Figure 7-8: Soap Lake Floodplain Preservation Project Implementation Schedule



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 programs 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.

This IRWMP consists of a planning study and basic data compilation that would not result in the disturbance of any environmental resource. These activities are exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines §15262 and §15306. As such, programmatic environmental analysis under CEQA is not required. Furthermore, implementation of each short term priority project included in the IRWMP will be the responsibility of the project proponent and any applicable project partners. If implementing a project, project proponents bear responsibility for ensuring all regulatory requirements for the project are met.

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 is working together to address the water quality problems in the river. High TDS concentration 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.	Optimization requires cooperation among the three San Felipe Division contractors, SBCWD, SCVWD, and PVWMA.
Optimize the use of groundwater and aquifer storage.	This watershed objective is most effectively addressed through regional cooperation. Coordination among agencies allows for conjunctive management on a regional scale, which increases storage options for the region. Additionally, in areas where agencies utilize a common groundwater basin, cooperation ensures that projects implemented locally fully consider the regional benefits and/or impacts.
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.
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.

Objective	Need for Regional Solutions
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 regional 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 has been developed for the development of the greater Monterey Bay IRWMP.

Interregional benefits and impacts associated with specific projects may 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 potential benefits and impacts associated with implementation of the recommended IRWMP programs.

Note that this IRWMP consists of a planning study and basic data compilation that would not result in the disturbance of any environmental resource, and is therefore exempt from the CEQA pursuant to CEQA Guidelines §15262 and §15306. If implementing a project, project proponents bear responsibility for ensuring all regulatory requirements for the project are met.

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 goal.

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 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. Other potential project impacts include alterations to stream flows and loss of land due to facility construction.

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

Project	Benefits
Aromas Water District Wellhead Treatment	• 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	• Improve local reservoir operation conditions
Church Avenue Diversion	• 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	• 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	• 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	• Increase water available for regional use • Provide better management of high groundwater levels
Pajaro Valley Import Pipeline	• Increase flexibility of water supply deliveries and banking for Partner agencies.
Main Avenue and Coyote-Madrone Pipeline Repair	• Allow delivery of Anderson Reservoir water for groundwater recharge at Main Avenue and Madrone ponds. • Increase the recharge capacity of the ponds.

Project	Benefits
Mercy Springs Options Agreement	• Increase the imported water supply available to the region. PVWMA has the option to take the full 6,260 AFY beginning in 2009. If PVWMA does not exercise its right to the water only 1,565 AFY (25% of the total) will be available to the region through SCVWD's assignment.
Non-CVP Water Transfers and Banking Agreements	• Address supply imbalances between upper and lower watersheds. • Allow for improved flexibility of water management among the Partners and other water agencies.
PVWMA CVP Contract Reservation	• Increase the delivery of imported water to meet demands and increase water management flexibility
PVWMA Groundwater Recharge with CVP and Other Imported Supplies	• Create a reliable, uninterruptible supply. • Allows for capitalization of wet year surplus to provide for drought year shortage contingencies.
Pacheco Reservoir Reoperations	• Increase water available for regional use. • Provide better management of high groundwater levels.
Paicines Reservoir Rehabilitation	• Preserve water supply currently being lost to seepage. • Increase operational flexibility of the reservoir.
San Felipe Division Operation and Maintenance Improvements	• Increase service level and reliability of San Felipe Division facilities for importing CVP supplies. • Maximize utilization of available CVP supply.
San Justo Reservoir Rehabilitation	• Preserve 3,000 AFY currently being lost to seepage. • Increase operational flexibility of the reservoir.
SBCWD Groundwater Recharge with CVP and Local Sources	• Create a reliable, uninterruptible supply. • Allows for capitalization of wet year surplus to provide for drought year shortage contingencies.
SCRWA Discharge Pipeline	• Provides expanded recycled water use opportunities.
SCVWD Groundwater Recharge with CVP and Local Sources	• Create a reliable, uninterruptible supply. • Allows for capitalization of wet year surplus to provide for drought year shortage contingencies.
South County Recycled Water Program	• Optimization of existing, local water resources. • Reduce need for imported water and importation of salt into watershed.
Urban Water Conservation Measures	• 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.
Uvas Reservoir Reoperations`	• 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.

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 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. Other potential project impacts include loss of land due to facility construction and changes in groundwater levels.

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

Project	Benefits
Cienega Valley	• Would restore a local supply source, increasing reliability and decreasing dependence on imported water.
Coastal Distribution System	• 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.
Corralitos Creek Surface Fisheries Enhancement Project	• 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.
Export Pipeline	• Helps optimize use of existing, local water resources.
Groundwater and Surface Water Blending	• Reduce overall levels of delivered water TDS for blended agricultural supply.
Hollister Groundwater Softening	• Reduce TDS and hardness and eliminate the need for residential water softeners.
North San Benito County Regional Recycled Water Project	• 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.
Pajaro River Access at WRWTF	• Increase public access to rivers, including disadvantaged communities. • Enhance public acceptance of the Watsonville Recycled Water Treatment Facility.
SBCWD Groundwater Demineralization	• 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	• 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	• 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 Bautista Surface Water Treatment	• 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	• Optimization of existing, local water resources. • Reduce need for imported water and importation of salt into watershed. • Reduce effluent salt loading to groundwater basin.
Water Softener Rebate	• Decrease salt loading stemming from water softener use. • Provide water and energy savings.

Project	Benefits
Watsonville Recycled Water Treatment Facility	• 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 agriculture and rural land uses. 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 benefits of implementing this program and the associated projects. Potential project impacts include the loss of land for development.

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

Project	Benefits
Agricultural Water Conservation Measures	• Reduces water demand from agricultural sector. • Reduces agricultural runoff and leaching.
Farm and Rangeland Water Quality Management Program	• Encourages practices that will reduce agricultural runoff and leaching. • Development of Farm Water Quality Plans.
Nitrate Management Program	• Improved management and control of agricultural related nitrogen compounds.
Regional Mobile Lab	• Provides a convenient resource for education, training and site-specific services to farmers and growers.
San Benito and South Santa Clara Permit Coordination Program	• Facilitation of BMP implementation by providing a streamlined permitting process.
Santa Cruz Partners in Restoration Permit Coordination Program	• Facilitation of BMP implementation by providing a streamlined permitting process.
Stream and Watershed Protection Program	• 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	• 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	• 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 benefits of implementing this program and the associated projects. Potential project impacts include relocation of residences, loss of land for facility construction, and increased recreational use of water bodies.

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

Project	Benefits
ALERT Station Monitoring	• Provide early warning of potential flooding events to communities, including disadvantaged communities. • Early flood warning system could reduce flood damages and losses.
Historical Ecological Study of the Upper Pajaro	• Provide a scientifically sound basis for future stream restoration and management decision making.

Project	Benefits
Levee Reconstruction Project	• 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. ▪ 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 permittable 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.
Lower Llagas Creek Flood Protection Project	• 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	• 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	• Improves access to recreational opportunities for disadvantaged community of Watsonville.
Pajaro River Watershed Study	• 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.
Restoration of the Upper Pajaro River Floodplain	• Restore and preserve wildlife habitat corridor. • Maintain flood attenuation characteristics of the floodplain.
San Benito River Parkway Plan	• Improved access to recreational opportunities.
San Juan Basin Surface Drainage	• Mitigate the effects of stormwater runoff through improved detention and natural treatment. • Integrates water quality benefits into a planned Caltrans project.
Soap Lake Floodplain Preservation Project	• 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.
Trails, Parks, and Open Space Grants	• Increase public access to open space, natural areas, and rivers and creeks, including disadvantaged communities.

8.3 Disadvantaged Community Benefit

Major needs of the disadvantaged community of Watsonville and the low income Town of Pajaro can be met through implementation of the regional water management programs. The continuing IRWMP process will continue to take into account and be responsive to the needs of disadvantaged communities.

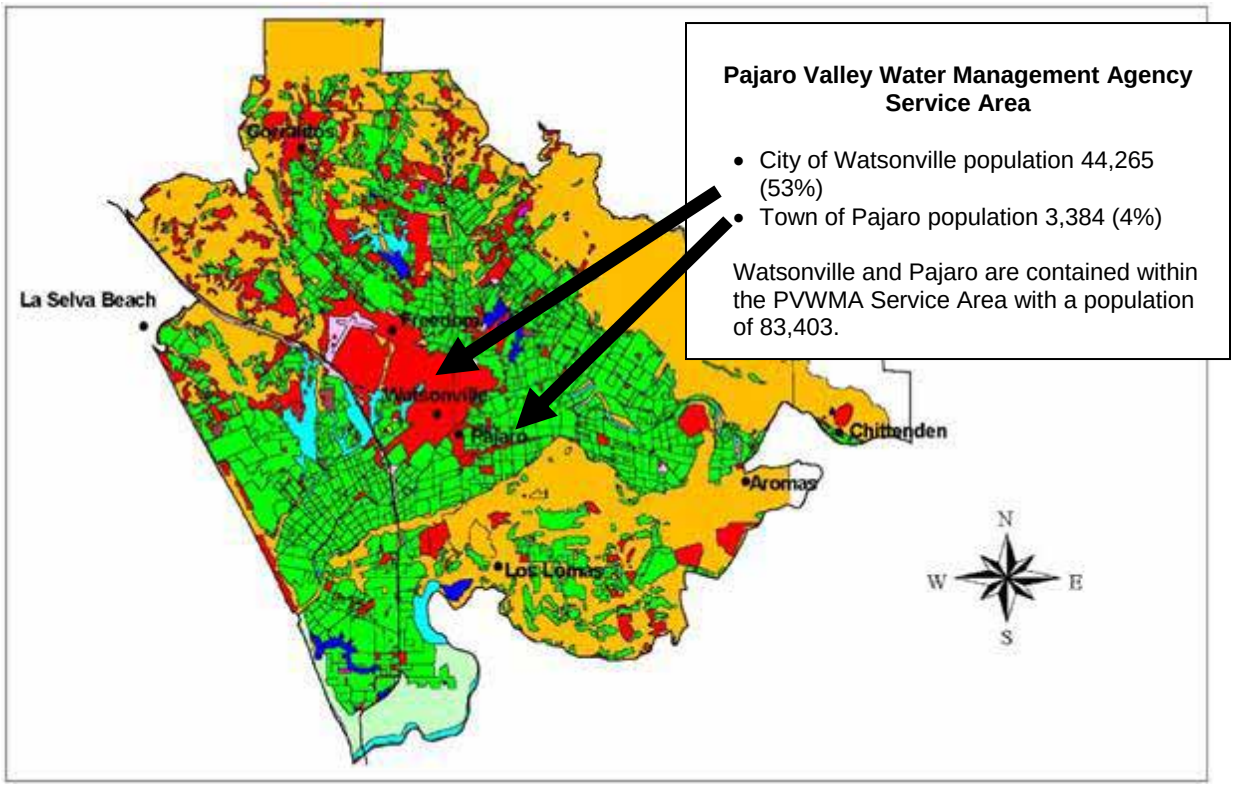
The benefits to disadvantage communities will involve four main categories of benefit:

- Increased Water Supply Reliability
- Assitance to the Agricultural Community
- Improved Water Quality
- Flood Protection

8.3.1 Increased Water Supply Reliability Benefits to Disadvantaged Communities

The Conjunctive Water Supply Management and Water Supply/Salt Management programs both address water supply reliability issues for the region, and both include projects that can benefit the disadvantaged communities within 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 Assistance to the Agricultural Community in Disadvantaged Communities

The Agricultural Water Quality program will benefit the disadvantaged communities by providing assistance to the agricultural community, which comprises a significant portion of the region. If the Lower Pajaro River Watershed were a county, it would rank fifth in agricultural production in California. The area generates $177 million annually. 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. Agriculture is also the number one industry for residents of the Town of Pajaro. The Agricultural Water Quality program will provide assistance to the agricultural community within these disadvantaged communities to improve their operations. Through education and technical assistance, implementation of the Agricultural Water Quality program will help farmers and ranchers implement conservation practices. For farmers these practices can reduce the amount of top soil lost and decrease their application of pesticides, nutrients, and irrigation water, thereby reducing their overall operating costs and costs to the consumer and allowing growers to compete more effectively in the marketplace. For both farmers and ranchers, implementation of the program will also provide assistance in meeting new and proposed regulatory requirements from the Regional Water Quality Control Board that target the water quality impacts of agricultural operations.

8.3.3 Improved Water Quality around Disadvantaged Communities

Because the City of Watsonville and the Town of Pajaro are located along the lower Pajaro River, their use of the river is dependent not only on the water management practices of their two communities, but also on the activities of upstream communities. The impairment of the Pajaro River for beneficial uses including municipal and domestic water supply, water contact recreation and non-contact water recreation is the result of both local and regional conditions and necessitates a regional solution. Implementation of the Agricultural Water Quality program will benefit the disadvantaged communities in the lower Pajaro River Watershed by coordinating with organizations throughout region to address water quality impacts.

8.3.4 Flood Protection Benefits to Disadvantaged Communities

Within the Pajaro Valley, the region of benefit for the Pajaro River Flood Protection program 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 approxiately 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.

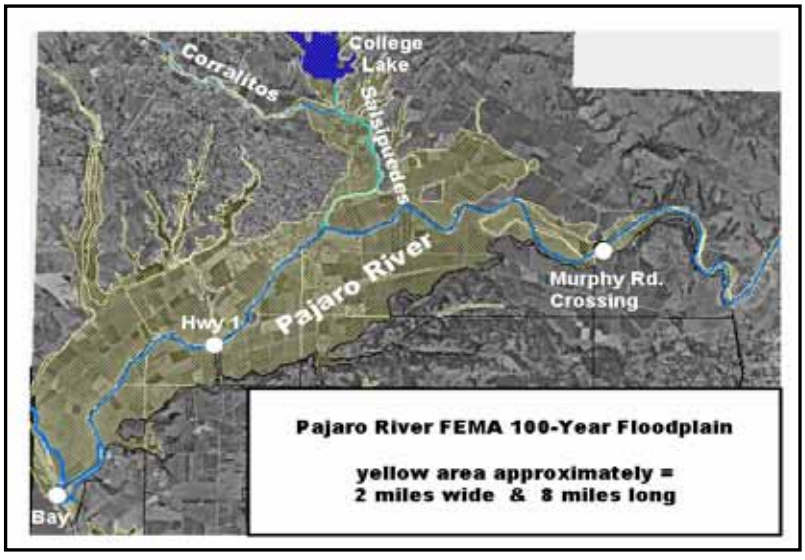


Figure 8-2: Pajaro River FEMA Floodplain

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 and urban areas of the Town of Pajaro. Population calulations 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 8-2). 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 disadvanataged 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.

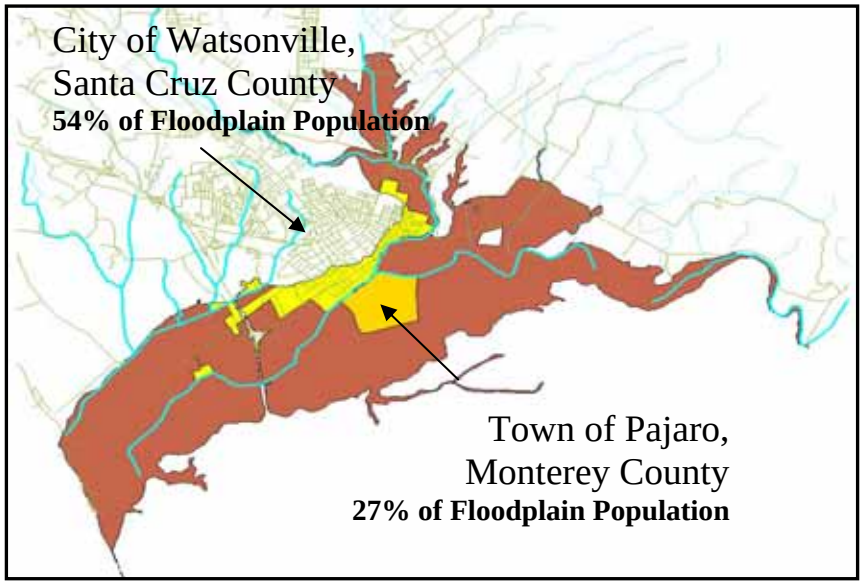


Figure 8-3: Floodplain Disadvantaged Communities

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%

In addition to the physical flood protection benefits of the Pajaro River Flood Protection Program, the program emphasizes concensus building. One of the program's primary objectives is to "reach consensus on the Pajaro River Flood Protection Project necessary to protect infrastructure and land uses from flooding and erosion from the 100-year event." The Pajaro River Flood Protection Implementation Team stakeholder process will include outreach efforts to allow all stakeholder, including the disadvantaged communities, to provide input and to foster consensus. Additionally, one of the projects in the Pajaro River Flood Protection Program that has received State funding is the Levee Reconstruction Project has a significant stakeholder component. The Levee Reconstruction Project includes a consensus building process with stakeholders in the lower Pajaro River Watershed to ensure that the residents, including those in the City of Watsonville and the Town of Pajaro, are involved in development of the recommended flood control project.

9 Technical Analysis and Plan Performance

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

I. Technical Analysis and Plan Performance – Include a discussion of data, technical methods, and analyses used in development of the Plan. Include a discussion of measures that will be used to evaluate Project/Plan performance, monitoring systems that will be used to gather performance data, and mechanisms to adapt project operations and Plan implementation based on performance data collected.

This section is organized by program and describes technical analysis and measurement of plan performance on a program level. Plan implementation would be affected if projects or programs were unable to meet expected performance criteria as determined through the monitoring measures described below. In such cases, changes in project sequencing or priority or substitution of alternate projects may be necessary as described previously in Section 6.

9.1 Conjunctive Water Supply Management Program- Analysis and Performance

The PVWMA Revised Basin Management Plan (Revised BMP), the Groundwater Management Plan Update for the San Benito County Portion of the Gilroy-Hollister Groundwater Basin (GWMP Update) and the SCVWD Integrated Water Resources Plan (IWRP) provide the technical basis for the formation of the Conjunctive Water Supply Management Program. These plans document water supply options available to PVWMA, SBCWD and SCVWD, respectively, and discuss constraints involved with the use of each of the agencies' current water supplies. Additional technical information will be developed as the other specific projects within this program progress through the planning stages.

9.1.1 Data, Technical Methods and Analyses

The Revised BMP evaluated various alternatives to reliably meet water supply needs in the Pajaro Valley. Currently PVWMA relies exclusively on local waters to meet their demands. Of the 71,000 AFY of local water used, virtually all (69,000 AFY, or over 97%) is drawn from a chronically overdrafted groundwater system. The current levels and patterns of groundwater use are leading to declining groundwater levels, salt water intrusion, and the loss of coastal area wells. The Revised BMP included modeling of the groundwater basin with the Pajaro Valley Integrated Groundwater and Surface Water Model (PVIGSM). The PVIGSM was developed in 1998 to assess the behavior of the groundwater basin under current baseline conditions and to assess the merits of alternative strategies to balance the basin. It is a dynamic finite element model that simulates the balance of groundwater in the Pajaro Valley basin using geologic and hydrologic conditions, current pumping conditions, water supply and demand conditions, and other basin characteristics. The model uses numerical algorithms to solve coupled differential equations and creates a mass balance within the model grid. Model results showed that new water supply projects totaling 18,500 AFY in conjunction with conservation and coastal groundwater pumping management would increase the sustainable groundwater supply and balance the groundwater basin. Both economic and non-economic factors were considered in the evaluation of alternatives and selection of the recommended suite of projects and management activities. The PVIGSM is being updated and converted to MODFLOW. Coupled with detailed pumping information, the new model will provide a much more refined tool for evaluating and documenting water use scenarios within the basin.

The recommendations of the Revised BMP focused on the optimization of local water supplies as a first step, followed by acquisition and importation of external water supplies to meet remaining demands and balance the basin. Projects in the Conjunctive Water Supply Management program, which are related to the recommendations of the Revised BMP, are:

- Aromas Water District Wellhead Treatment
- CVP water transfers within the San Felipe Division
- Import Pipeline
- Mercy Springs
- Non-CVP water transfers and banking agreements
- PVWMA CVP Entitlement
- PVWMA Groundwater Recharge with CVP and other imported supplies

The Aromas Water District Wellhead Treatment project is an example of the optimization of local water sources. The Aromas Water District, which serves the unincorporated community of Aromas within PVWMA's jurisdiction, relies entirely on local groundwater wells. Preserving the use of these wells to meet local demand benefits the entire Pajaro Valley because the Aromas Water District will not have to rely on imported supplies. There is, however, naturally occurring manganese in the groundwater in concentrations above the Secondary Maximum Contaminant Level (SMCL) of 0.05 mg/L, and to continue use of the groundwater, the Aromas Water District is under mandate by the California Department of Health Services (DHS) to reduce the concentration of manganese. The Aromas Water District Wellhead Treatment project will construct a wellhead treatment facility to remove manganese from two of the district's wells, thereby allowing the Aromas Water District to sustain the use of its local supply.

CVP water transfers within the San Felipe Division, Import Pipeline, Mercy Springs, Non-CVP water transfers and banking agreement, PVWMA CVP Entitlement and PVWMA Groundwater Recharge with CVP and other imported supplies all relate to importing water to meet remaining demands. Importing water requires both water supplies (CVP water transfers within the San Felipe Division, Mercy Springs, Non-CVP water transfers and banking agreements and PVWMA CVP Entitlement) and infrastructure to deliver and store that water (Import Pipeline and PVWMA Groundwater Recharge with CVP and other imported supplies). The CVP water transfers within the San Felipe Division project relies on PVWMA, SBCWD and SCVWD's common rights to imported water through the San Felipe Division of the CVP system and the USBR's accelerated transfer agreements. Transfer of CPV water must be approved by USBR, which can be a process that takes months and even years. The USBR does, however, allow for accelerated transfer agreements within a hydrologic region. This is a process that SBCWD and SCVWD have taken advantage of in the past, and the same practice could be extended to include PVWMA. Of course a method for conveying the CVP water to PVWMA would have to be put in place. The San Felipe Division was originally constructed with a provision to serve CVP water to the Pajaro Valley, but no facilities were ever constructed to connect PVWMA to CVP. The Revised BMP's recommended alternative to correct this issue is the Import Pipeline. The Import Pipeline involves the construction of a 23-mile import pipeline for transport of CVP water from the Santa Clara Conduit to PVWMA. The Revised BMP initially identified Mercy Springs and PVWMA CVP Entitlement as the main sources of water for the Import Pipeline. The Non-CVP water transfers and banking agreements strategy is the corollary to the CVP water transfers within the San Felipe Division and the Import Pipeline. Recognizing that the Import Pipeline presents a major opportunity for multi-purpose and multi-benefit enhancements, the Partners have initiated discussions on other water supplies that may be transferred through the pipeline.

The GWMP Update evaluated alternatives to meet water demands in San Benito County keeping in mind the County's water quantity and quality constraints. Two issues identified in the GWMP update that can be effectively addressed through the regional conjunctive use strategy proposed in the Conjunctive Water Supply Management program are the existing imbalance of areas of high and low groundwater and the frequent reduction of long-term imported water supplies.

Projects in the Conjunctive Water Supply Management program that are supported by the analyses in the GWMP Update are:

- Hernandez Reservoir Reoperation
- Pacheco Reservoir Reoperation
- Paicines Reservoir Rehabilitation
- San Felipe Division Operations and Maintenance Improvements
- San Justo Reservoir Rehabilitation
- SBCWD Groundwater Recharge with CVP and local sources
- Groundwater Study & Biological Assessment of the Upper Pajaro River

Both Hernandez Reservoir and Pacheco Reservoir are operated to promote groundwater recharge; however, high groundwater levels exist downstream of both these reservoirs, limiting their effectiveness. Reoperation of these reservoirs is being considered to help address the imbalance in groundwater levels throughout San Benito County. Paicines Reservoir is also operated for groundwater recharge during dry seasons; however at full capacity Paicines Reservoir loses roughly 2 AF of water per acre of surface area per month. Paicines Reservoir Rehabilitation would help with the imbalance of groundwater levels by restoring the full storage capacity of Paicines Reservoir, which in turn restores the ability to control releases for recharge on San Benito River and Tres Pinos Creek. San Justo Reservoir also suffers from seepage issues; storage in this reservoir has been reduced by 3,000 AF because of seepage. San Justo Reservoir Rehabilitation would combat the issue of frequent reduction of long-term imported water supplies by maximizing the use of SBCWD's CVP water supply when the water is available. San Felipe Division Operations and Maintenance Improvements would also maximize the use of CVP water deliveries by increasing the reliability of the San Felipe Division infrastructure; the improvements would protect against shutdowns or service reductions and maintain flexibility in the timing of deliveries. SBCWD Groundwater Recharge with CVP and local sources also addresses the issue of future reductions in imported water supplies by increasing recharge during years when water is available and drawing upon those supplies in years when CVP deliveries are reduced. The completion of the Groundwater Study & Biological Assessment of the Upper Pajaro River can also assist in increasing the understanding of surface water and groundwater interactions in the Gilroy-Hollister Groundwater Basin.

The SCVWD IWRP analyzed water supply options for SCVWD including some specific South County analyses. Recommendations from the SCVWD IWRP include securing SCVWD's baseline supplies – which include existing water supplies such as groundwater basins, reservoirs, imported water supplies, water use efficiency programs and water utility infrastructure. Projects in the Conjunctive Water Supply Management program which are related to the recommendations of the SCVWD IWRP are:

- Chesbro Reservoir Reoperation
- Uvas Reservoir Reoperation
- South County Recycled Water Program
- Church Avenue Diversion
- Main Avenue and Coyote-Madrone Pipeline Repair
- SCVWD Groundwater Recharge with CVP and local sources

SCVWD wants to maximize the use of local supplies in order to decrease vulnerability to risk; Chesbro Reservoir Reoperation, Uvas Reservoir Reoperation and South County Recycled Water Program are all focused on increasing the use of locally available supplies. The reservoir reoperations projects can accomplish this by increasing the amount of water captured from the Uvas Creek and Llagas Creek watersheds. The South County Recycled Water Program maximizes the use of local water by first improving the reliability and capacity of the current recycled water system and then constructing the necessary facilities to expand the service area. Based on the recommendations of the SCVWD IWRP, SCVWD is also maximizing recharge in the Llagas Subbasin. An analysis performed comparing different water supply options for South County showed that additional recharge and conservation is the most cost effective option for meeting future water supply shortages when compared with additional recycled water (beyond that already planned) and surface water treatment. To increase understanding of the natural groundwater recharge and groundwater operational storage in South County, SCVWD recently calibrated its Llagas Groundwater Flow Model. This model supports the development of projects such as the Church Avenue Diversion, Main Avenue and Coyote-Madrone Pipeline Repair and SCVWD Groundwater Recharge with CVP and local sources, which are being considered to increase recharge in the Llagas Subbasin.

9.1.2 Measures and Monitoring for Program Evaluation

The performance of the Conjunctive Water Supply Management program will be evaluated based on its ability to meet the primary objectives of the program:

- Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought
- Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought
- Provide a variety of water supply sources to meet demand
- Optimize and sustain use of existing import surface water entitlements from the San Felipe Division
- Optimize the use of groundwater and aquifer storage

The measures used to evaluate the program progress will include groundwater modeling, comparisons of the current water supply portfolios against corresponding water supply portfolios following implementation of the program, and comparisons of the water supply portfolios after implementation with water demand projections. Specific targets for the program are outlined in Table 9-1.

Table 9-1: Conjunctive Water Supply Management PAEP Table

Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
Increase water supply reliability through increased flexibility in water management	Optimize the use of locally available supplies	Water supply portfolios	Diversification of water supply portfolios Proportion of supplies that are imported versus local	Maintain at least 3 different water supplies in each of the Partner agencies' portfolios Develop uses for local water sources that have not yet been captured

Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
	Optimize storage capacity	Annual groundwater reports documenting sustainable yield	Change in groundwater sustainable yields	Maintain or increase groundwater sustainable yields
	Avoid groundwater overdraft	Annual groundwater reports documenting groundwater elevations	Change in groundwater levels	Maintain or increase groundwater elevations

The monitoring system necessary for this program is already in place since each of the Partner agencies already has a groundwater monitoring program that is used to collect groundwater level data. No other hard infrastructure/monitoring equipment is necessary to measure program performance.

9.2 Water Supply/Salt Management Program- Analysis and Performance

The Revised BMP and GWMP Update are the two main plans that provide the technical basis for the Water Supply/Salt Management program. These plans document water supply management challenges within the region resulting from water quality constraints.

9.2.1 Data, Technical Methods and Analyses

As discussed previously, development of the recommendations of the Revised BMP included modeling of the Pajaro Valley Groundwater Basin using the PVIGSM. Groundwater levels in the Pajaro Valley groundwater basin vary annually depending on weather conditions, recharge, groundwater pumping and other factors. However, the groundwater levels in the Pajaro Valley have generally been in long-term decline due to groundwater pumping in excess of the basin's natural recharge. Pumping the groundwater in excess of the recharge has led to reduced groundwater levels near the coast which has allowed seawater to intrude. As seawater encroaches into the fresh groundwater basin, water quality is degraded and wells must be abandoned. The results of PVIGSM showed that managing coastal groundwater pumping and introducing 18,500 AFY on new water supply to the Pajaro Valley can halt seawater intrusion and bring the basin back into balance.

The projects in the Water Supply/Salt Management program which are related to the recommendations of the Revised BMP are:

- Coastal Distribution System
- Watsonville Recycled Water Treatment Facility
- Corralitos Creek Surface Fisheries Enhancement Project

The Coastal Distribution System was developed as a specific demand management recommendation in the Revised BMP; it will allow the delivery of up to 18,500 AFY of water supplies to agricultural lands in the coastal zone of PVWMA's service area, permitting those users to stop groundwater pumping. The

location for the Coastal Distribution System was selected through a long evaluation process to minimize the total number of turnouts, pipe length and system headloss while accommodating the needs of growers. The Watsonville Recycled Water Treatment Facility is another project that was specifically recommended in the Revised BMP, and it is closely linked to the Coastal Distribution System. The Watsonville Recycled Water Treatment Facility will treat 4,000 AFY of wastewater to meet Title 22 recycled water requirements, achieve stakeholder water quality requirements by blending with 3,000 AFY of inland groundwater and surface water and establish a committed demand for 7,000 AFY of blended water to be delivered to coastal growers through the Coastal Distribution System. The Corralitos Creek Surface Fisheries Enhancement Project supports the recommendations of the Revised BMP by allowing the City of Watsonville to continue to operate its surface water intake facilities on Corralitos Creek. The City's current intake facility does not meet NOAA's current requirements for fish passage. Implementation of the Corralitos Creek Surface Fisheries Enhancement Project will ensure the City can continue to use its surface water rights instead of switching to the overtaxed groundwater basin. The Corralitos Creek Surface Fisheries Enhancement Project also includes considerations for increasing withdrawals from Corralitos Creek from 1,100 AFY to 2,100 AFY; this extra 1,000 AFY would represent a new water supply that could be credited towards the 18,500 AFY of new supplies needed for PVWMA.

A number of issues identified in the GWMP Update relate to the Water Supply/Salt Management program. On the water quantity front these include the existing and pending inability to adequately dispose of wastewater, and on the water quality side these include the increasing total dissolved solids due to the accumulation of salts in the basin, the hardness of urban supplies and the use of water softeners by end users that add additional salts to the basin. To address these issues, the GWMP Update suggested managing water resources to minimize imported salts, protecting groundwater resources from infiltration of salts and delivering M&I and agricultural water that meets the needs of the end users particularly with respect to TDS, hardness and Sodium Adsorption Ratio (SAR). Projects in the Water Supply/Salt Management program that address the issues and needs raised in the GWMP Update are:

- Cienega Valley
- Hollister Groundwater Softening
- San Juan Bautista Surface Water Treatment Plant
- SBCWD Groundwater Demineralization
- Sunnyslope Groundwater Demineralization
- Groundwater and Surface Water Blending
- North San Benito County Regional Recycled Water Project
- Sunnyslope Recycled Water Project
- Water Softener Rebate Program
- Salinity Education Program

Cienega Valley, Hollister Groundwater Softening, San Juan Bautista Surface Water Treatment Plant, SBCWD Groundwater Demineralization and Sunnyslope Groundwater Demineralization address the issue of hardness of urban supplies; each of these projects represents an alternative that satisfies M&I customers by providing water with very low TDS. Projects like Groundwater and Surface Water Blending, North San Benito County Regional Recycled Water Project and Sunnyslope Recycled Water Project take a different approach to meeting customers' desire for low TDS water; these projects produce water that meet the needs of end users but also aim to gain customer acceptance of water with higher TDS. The North San Benito County Regional Recycled Water Project and Sunnyslope Recycled Water Project also address the issue of wastewater disposal. The Water Softener Rebate Program targets the addition of foreign salts by encouraging customers to replace their water softeners with new ones that reduce salt loading to the basin. Finally, the Salinity Education Program addresses to some degree all of the salt issues raised in the GWMP Update, as this project aims to educate customers on all aspects of

salinity – from their impact on wastewater discharge requirements to how to deal appropriately with hard water.

The Pajaro River Access at WRWTF was added as an environmental enhancement to the Watsonville Recycled Water Treatment Facility. The technical feasibility of this project was assessed in conjunction with the design of the Watsonville Recycled Water Treatment Facility.

9.2.2 Measures and Monitoring for Program Evaluation

The performance of the Water Supply/Salt Management program will be evaluated based on its ability to meet the primary objectives of the program:

- Optimize the use of groundwater and aquifer storage
- Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020
- Meet or exceed all applicable groundwater, surface water, wastewater and recycled water quality regulatory standards
- Protect or improve the quality of water supply sources
- Meet or exceed water quality targets established by stakeholders

The measures used to evaluate the program progress will include groundwater modeling, recycled water production and stakeholder feedback. Specific targets for the program are outlined in Table 9-2.

Table 9-2: Water Supply/Salt Management PAEP Table

Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
Increase water supply reliability through salt management	Seawater intrusion front stays at the 2008 location	Water quality data from PVWMA monitoring wells in and near the seawater intrusion front	Percent change in chloride concentrations each year	5 or less wells in the coastal zone taken out of production between 2008 and 2012 due to adverse water quality
	Preserve the use of groundwater resources	Annual groundwater reports documenting water quality and sustainable yield	Percent change in TDS concentrations each year	Increase use of Gilroy-Hollister subbasins with high TDS Maintain or increase groundwater sustainable yield
	Help customers to take ownership of their role in salt management	Recycled water deliveries Customer surveys	Acre-feet of recycled water delivered Changes in customer behavior/attitude	Recycled water use to make up 5% of total water use by 2010 Majority of customers surveyed to acknowledge importance of salt management

The main monitoring system necessary for this program is already in place since each of the Partner agencies already has a groundwater monitoring program that is used to collect groundwater level and water quality data. Additional infrastructure that should also be installed are recycled water meters for monitoring the use of recycled water. No other hard infrastructure/monitoring equipment is necessary to measure program performance. However, a method of surveying customers will be necessary to monitor changes in behavior.

9.3 Agricultural Water Quality Program- Analysis and Performance

The Agriculture Water Quality program was developed to respond to the finding of the Central Coast RWQCB that agricultural activities represent one of the most significant impacts to water quality in the watershed. This conclusion is supported by a wealth of monitoring data and has been confirmed by source analysis and modeling performed during development of TMDLs established in the watershed. The RWQCB, in conjunction with federal and university sponsored research, has identified areas in which to focus efforts and have developed a number of technically sound and proven methods and practices that growers and landowners can implement to minimize their impacts on water quality. Additionally, as part of the implementation plans for the TMDLs, the RWQCB has identified parties responsible for implementing actions that will reduce pollutant loading, and agricultural and rural land users are among those facing increased regulation. Examples of the RWQCB new regulations include the Conditional Waiver for Irrigated Agriculture, the proposed Watsonville Slough Livestock Waste Discharge Prohibition and the proposed Pajaro River Watershed Land Disturbance Prohibition which would affect grazing, farm animal and livestock activities. The Agricultural Water Quality program has been developed around efforts to improve agricultural operations and to help agricultural and rural land owners meet regulations resulting from the RWQCB's TMDL implementation plans.

9.3.1 Data, Technical Methods and Analyses

The RWQCB Watershed Management Initiative (WMI) and the Nitrate, Sediment and Pathogen TMDLs contain the majority of data and analyses that support the need for the Agricultural Water Quality Program. These documents also contain potential activities and projects, including those incorporated into the conditional agriculture waiver requirements, that will address the impacts of agriculture on water quality and which form the basis of the Agricultural Water Quality Program.

The WMI is a document that sets priorities and guides the near term efforts and focus of the RWQCB. It is based on a watershed approach and recognizes that non-point sources must be addressed across the watershed in coordinated fashion to meet the water quality objectives of the RWQCB Basin Plan. The Pajaro River watershed is identified as one of six targeted watersheds in the WMI. The most recent WMI update (2004) targeted the effects of agricultural on water quality as a first priority, based on a synthesis of a number of documents, including the 303(d) listings and the associated TMDLs. The projects in the Agricultural Water Quality program that address the priorities of the WMI include:

- Regional Mobile Lab
- Agricultural Water Conservation
- Farm and Rangeland Water Quality Management Program
- Nitrate Management Program
- Vegetative Buffer Strips

The Nitrate, Sediment and Pathogen TMDLs cite a number of sources for monitoring data and analysis that support the 303(d) listings for the Pajaro River, Llagas Creek and San Benito River. These include the Central Coast Ambient Monitoring Program (CCAMP), *The Establishment of Nutrient Objectives, Sources and Impacts, and Best Management Practices for the Pajaro River Llagas Creek, Pajaro River Nutrient Loading Assessment, Qualitative and Quantitative Analysis of Degradation of the San Benito River* and the *Pajaro River Watershed Water Quality Management Plan*. Land use analysis and modeling was performed during TMDL development using resources such as the Multi-Resolution Land Characteristics (MRLC) data set and EPA pollutant models to establish the link between the observed water quality data and pollutant sources identified in the watershed. This confirmed the strong correlation between agricultural and rural land use and nitrate and sediment loading and corresponding impacts on water quality. For example, the Nitrate TMDL concluded that cropland was the primary source of nutrients to the Pajaro River based on data that showed that elevated nitrate levels were found adjacent to croplands. The TMDLs also provide implementation plans that present potential actions and activities that can be considered to implement the TMDL requirements. These recommendations are guided by the earlier technical analysis and will be focused on targeting the pollutant sources, activities and locations that are determined to have the most impact on water quality. Projects in the Agriculture Water Quality Program that will substantially implement TMDLs will be:

- Regional Mobile Lab
- Farm and Rangeland Water Quality Management Program
- Nitrate Management Program
- San Benito and South Santa Clara Permit Coordination Program
- Santa Cruz Partners in Restoration Permit Coordination Program
- Vegetative Buffer Strips
- Tick Creek Riparian Enhancement.

The Agriculture Water Quality Program supports achieving the TMDLs and addressing the impacts of agriculture on water quality through a number of projects designed to assist land users and agricultural growers in voluntarily implementing best management practices or in meeting regulatory requirements. These projects have been developed in part based on research conducted by a variety of organizations that exist to support the attainment of improved water quality through improved practices. The irrigation practices and nutrient management strategies taught in the Regional Mobile Lab are based on tried and tested practices and are being constantly modified and improved from insights gained by participants during the implementation of the program over the years.

The Farm and Rangeland Water Quality Management Program is designed to help participants develop water quality plans for their operations while exposing them to proven and scientifically sound techniques. The program is well supported by technical studies conducted by organizations dedicated to the development of improved methods for managing the water quality impacts of agriculture and rural land uses. Both the NRCS and the UC Cooperative Extension (UCCE) support recommended practices presented through this program. The USDA Natural Resources Conservation Service (NRCS) provides techincal expertise in areas related to soil erosion, water supply and water quality; support from the NRCS will be coordinated through the local RCDs. The UCCE Farm Advisors is a network of UC researchers that conduct agricultural research, including issues of water quality, and deliver the results directly to farmers.

The Farm and Rangeland Water Quality Management Program is developed to model the voluntary development and implementation of ranch water quality plans that were initiated in the 1990s with the SWRCB approval of the California Rangeland Water Quality Management Plan (CRWQMP). As part of the CRWQMP, the UCCE Farm Advisors and NRCS developed a Ranch Water Quality Short Course that

teaches ranchers about nonpoint source pollution associated with ranching and assists ranchers with the development of plans. The Farm and Range Water Quality Management Program addresses both agricultural impacts from cropland and rangeland. For growers, the program focuses on assistance with the requirements of the RWQCB's Conditional Agricultural Waiver program. The educational component of the waiver requirements is supported through courses that teach a wide selection of crop-specific water quality management practices designed to meet the specific needs of a particular setting. To assist in the farm water quality management plan development component of the Conditional Agricultural Waiver requirements, participants are provided with template water quality plans and learn how to complete nonpoint source site-assessments that integrate production goals with water quality, habitat conservation and soil conservation goals. Finally, for implementation of farm water quality plans, potential BMPs are taken from the NRCS Handbook of Conservation Practices which details well researched practices and describes the appropriate settings and conditions for each BMP, the advantages and disadvantages, costs and a rating of effectiveness by pollutant type. For ranchers, the program will promote voluntary implementation and preparation for potential regulations from the RWQCB.

Other water quality plans expand upon the implementation plans presented in the TMDLs. The Pajaro River Watershed Water Quality Management Plan is an endeavor by AMBAG. It includes (1) identification and assessment of the most significant NPS pollutant types and sources throughout the watershed; (2) identification of recommended strategies for minimizing NPS pollution and (3) includes a watershed-wide plan for implementation of the recommended strategies. The Lower Pajaro River Enhancement Plan is a plan for reducing the effects of sedimentation on the Lower Pajaro River. The Santa Cruz Partners in Restoration Permit Coordination Program will facilitate the implementation of this plan, and the San Benito and South Santa Clara Permit Coordination Program will build upon successful implementation of NPS pollution prevention in the lower watershed to assist the upper watershed.

9.3.2 Measures and Monitoring for Program Evaluation

The performance of the Agricultural program will be evaluated based on its ability to meet the primary objectives of the program:

- Implement water conservation practices for both M&I and agricultural uses consistent with the CVPIA
- Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards
- Protect or improve the quality of water supply sources
- Meet or exceed water quality targets established by stakeholders
- Aid in meeting TMDLs established for the Pajaro River Watershed

The measure used to evaluate the program progress will be TMDL monitoring. The TMDL monitoring will directly evaluate performance related to surface water loading, and will provide an indirect evaluate of performance related to groundwater quality. Specific targets for the program are outlined in Table 9-3.

Table 9-3: Agricultural Water Quality PAEP

Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
Aid in meeting TMDL requirements and improve water quality currently impacted by agricultural practices	Reduce agricultural non-point source pollution and achieve TMDL implementation milestones	Water quality data from stream monitoring and TMDL monitoring	Percent reductions in nitrate, sediment, coliform and pesticide levels.	Meet TMDL milestones established for the Pajaro River Watershed

As part of both the conditional agricultural waiver requirements, a water quality monitoring plan needs to be put in place to measure success. The conditional agricultural waiver allows for individual or cooperative monitoring efforts. For the purposes of evaluating this program's progress toward achieving desired outcomes, this program will rely on cooperative monitoring efforts developed in response to the conditional agricultural waiver requirements. Tools such as the Revised Universal Soil Loss Equation, EPA developed STEPL Model and land use and pollutant load models developed with assistance from local experts at UC Santa Cruz will be used to evaluate the monitoring results.

9.4 Pajaro River Flood Protection Program

The Pajaro River Flood Protection Program is supported by the Pajaro River Watershed Flood Prevention Authority's Pajaro River Watershed Study, the Pajaro River Planform Study and the Pajaro River Bench Excavation Analysis.

9.4.1 Data, Technical Methods and Analyses

The Pajaro River Watershed Study is a four phased evaluation. The four phases included stream flow modeling, identification and evaluation of alternatives, selection of projects, and preliminary design of projects. Phase 1 of the study included development and calibration of a hydrologic and sediment model to evaluate flood conditions, various land use scenarios, and sediment impacts. The models were also developed to facilitate evaluation of flood protection alternatives and to inform decision makers on the hydraulic aspects of alternatives. The hydrologic model developed for the watershed study was named the Pajaro River to the Ocean Flood Model (PRO-FLO). PRO-FLO is a combination of two existing models, Hydrologic Engineering Center Flood Hydrograph Package (HEC-1) and Hydrologic bay Engineering Center River Analysis System (HEC-RAS). These models were chosen for their proven track record as being appropriate tools in cases such as this study, for their general acceptance by the public, engineers and planning experts, and also because they are publicly available. The sediment model developed for the watershed study was named the Pajaro River to the Ocean Sediment Generation and Transport Model (PRO-SED). The model was designed to generate river reach profiles to determine where sediment scour and deposition occur during flooding events of various intensities. The model creates a hydrograph and, based on initial sediment data, calculates the location and magnitude of the sediment transport. PRO-SED uses MIKE11 software to model the sediment transport. MIKE11 consists of a one-dimensional, unsteady-flow hydrodynamic module coupled with a sediment transport module. The model is widely accepted, both internationally and within California, and has been approved by FEMA for use in flood studies. Phase 2 of the watershed study included development and analysis of project alternatives. Fourteen projects were identified, packaged with the USACE projects, and evaluated with respect to flood protection level, benefits, impacts, implementation issues, and costs. Of the fourteen projects, the Soap Lake Floodplain Preservation Project was identified as a key component to maintain the existing level of downstream discharge. From the Phase 2 evaluation, nine alternatives packages were identified (each

alternative package included the Soap Lake Preservation Project and a USACE's Levee Reconstruction Project with varying levels of flood protection) with potential to meet the desired 100-year flood protection. With the Soap Lake Preservation Project as a common element of all the alternatives, implementation of the preservation project was recommended. However, an overall recommended alternative could not be selected, as the overall alternative is dependent on the ultimate design that the USACE recommends for its project. Other projects in the Pajaro River Flood Protection Program that support the objective of maintaining the floodplain include Open Space Authority Acquisitions, Restoration of the Upper Pajaro River Floodplain and Trails, Spaces and Open Space Grants.

The Pajaro River Stable Planform Study – Pajaro River Channel Planform and Channel Forming Discharge Analysis was completed by USACE in 2003. This report recommended four methods, including lowering bench excavations for restoring the Lower Pajaro River Channel to its original bankfull dimensions. To further develop a bench excavation alternative, technical analysis was performed by Northwest Hydraulic Consultants (NHC) Inc. and documented in a letter report: *File #50275; RE: Pajaro River Bench Excavation Analysis; October 20, 2004*. This study analyzed sediment excavation as follows: "As requested, NHC Inc. has evaluated the sensitivity of Pajaro River water surface profiles between Highway 1 and Murphy's Crossing to channel vegetation conditions and partial excavation of benches located between the channel and levees."… "The concept evaluated involves the excavation of benches on both sides of the river to create a new bench elevation no lower than the water surface profile of the two-year flood. The entire width of bench would not be excavated. Only bench areas extending beyond a minimum buffer width, measured from the existing levee toe, would be excavated. The purpose of the buffer is to reduce the potential of bank erosion undermining the levee toe." The report continues with a determination that over 322,000 cubic yards of bench sediment can be removed from the system. This would result in an overall increase in conveyance capacity for the model reaches. The technical analysis includes cross section figures and the plan view map set of the excavation areas. These documents combined form the basis for the bench excavation phase of the Levee Reconstruction Project.

The Pajaro River Parkway Plan is a technical evaluation to identify public access and recreational opportunities that can be incorporated into the Levee Reconstruction Project. The plan will include an evaluation of expanding recreational opportunities within the Pajaro River levee reconstruction project area, engaging with the public, outreach and negotiation with land-owners, development of alternatives, cost estimates, benefit analysis, environmental constraints analysis, and implementation plan. The San Benito River Parkway Plan similarly studied opportunities for expanding recreational opportunities along the San Benito River, potentially in conjunction with a mine restoration project along the San Benito River. Projects in the Pajaro River Flood Protection Program that are manifestations of these plans are the Pajaro River Parkway and San Benito River Parkway projects...

9.4.2 Measures and Monitoring for Program Evaluation

The performance of the Pajaro River Flood Protection program will be evaluated based on its ability to meet the primary objectives of the program:

- Implement flood protection projects throughout the watershed that provide multiple benefits
- 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 event
- Work with stakeholders to preserve existing flood attenuation by implementing land management strategies throughout the watershed
- Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions, and enhancing when appropriate

- Identify opportunities to enhance the local environment and protect, enhance, and/or restore natural resources, consistent with urban and agricultural land uses, when developing water management strategies
- Minimize adverse effects on biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects

The measures used to evaluate the program progress will include flow and water level monitoring, damage reports after flooding events and stakeholder feedback on enhanced recreational and habitat viewing opportunities. Specific targets for the program are outlined in Table 9-4.

Table 9-4: Pajaro River Flood Protection PAEP

Program Goals	Desired Outcomes	Output Indicators	Outcome Indicators	Targets
To minimize the risk of flooding in the Lower Pajaro River	Protect from the 100 year flood event	Acres of floodplain preserved	Reduced flood damage reports and claims	Elimination of flood damages for less than 100 yr. flood

A monitoring protocol for the Pajaro River Flood Protection would include provisions for measuring sediment deposition and erosion, vegetation growth or loss, and levee wear. Other monitoring measures would include the amount of damage claims and overtopping sightings experienced during wet weather events. A key measure of project success would involve removal of the area from the FEMA 100 year floodplain. For floodplain preservation, monitoring would include tracking the total acreage acquisition of property or development rights in the Soap Lake area.

9.5 Adapting Project Operations

Project operations will be modified periodically through an adaptive management process that will involve analysis of monitoring data for all measures and comparison to the proscribed targets for each of the water management programs. Project adaptation could involve:

Conjunctive Water Supply Management Program

- Modifications to conveyance sizing for projects still in design;
- Identification of additional water banking options to improve system water supply reliability;
- Identification of additional storage, groundwater recharge, or recycled water options;
- Gathering of additional or alternative performance data.

Water Supply/Salt Management Program

- Modification of treatment parameters such as filter and/or membrane loading, media composition, plant sizing and consideration of alternate treatment processes;
- Improvements in communications methods and avenues to urban residents, farmers and landowners; and,
- Gathering of additional or alternative performance data.

Agricultural Water Quality Program

- Adjustments to BMP placement, sizing and design parameters;
- Improvements in communication methods and avenues to landowners and farmers;
- Identification of additional opportunities for demonstration projects and collaborative efforts; and,
- Gathering of additional or alternative performance data.

Pajaro River Flood Protection Program

- Development of an Adaptive Management Manual that specifies the most efficient flood channel maintenance schedule;
- Modifications of flood channel maintenance techniques for vegetation thinning, sediment removal and sandbar breaching;
- Use of improved methods for environmentally friendly sediment removal methods;
- Adjustment to patterns of land parcel acquisition in the floodplain;
- Modifications to allow improved recreational and habitat function in conjunction with flood protection projects;
- Improvements in communications methods and avenues to urban residents, landowners and recreational interests; and
- Gathering of additional or alternative performance data.

10 Data Management

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

> **J. Data Management** – Include mechanisms by which data will be managed and disseminated to stakeholders and the public, and include discussion of how data collection will support statewide data needs. At a minimum assess the state of existing monitoring efforts for water quantity and water quality, and identify data gaps where additional monitoring is needed. If the plan includes a water quality component, include a discussion of the integration of data into the SWRCB Surface Water Ambient Monitoring Program and Groundwater Ambient Monitoring and Assessment Program.

10.1 IRWMP Data Dissemination

Data generated and collected during the course of the IRWMP process has been and will continue to be managed to ensure that it will be available to fulfill the needs of stakeholders, the state, and the general public. The mechanisms for data dissemination that have been employed to date are described below. It is anticipated that all of these mechanisms will continue into the future.

Dissemination of data to stakeholders, agencies, and the public is integrated into the IRWMP process through stakeholder and Partner agency meetings, newspaper announcements, handouts, e-mail notices, and agency contacts available to provide data files to any requester. Regular stakeholder workshops have served as the main venue for distributing information to stakeholders. Data have also been shared between the three Partner agencies at weekly meetings. Other information and data are disseminated to agency boards and committees with the presentation of Plan components and progress given by Partner agency staff and grant staff. Lastly, California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes also allow public review of data as individual projects move from planning to implementation phases.

The internet is also being utilized for data dissemination. Public meeting dates and tentative agendas are posted on the existing Partner agency websites, as well as other pertinent information. Annual reports are posted on the Partner agency websites once available. Whenever possible, reports and data are made available in electronic format. Other relevant data from this IRWMP process is provided to stakeholders online through Partner websites. The web addresses are: PVWMA (www.pvwma.dst.ca.us), SCVWD (www.valleywater.org) and SBCWD (www.sbcwd.com).

Because of the proactive distribution and sharing of data, to date there have not been a significant number of requests for data. The IRWMP Collaborative is committed to satisfying future requests for information. Information and data can be requested by stakeholders through the Partner agencies via email or written requests, and at public meetings and IRWMP stakeholder workshops.

10.2 Coordination to Support Statewide Data Needs

Where opportunities for data sharing exist, the Collaborative will coordinate with state and federal monitoring and data management efforts to determine specific reporting requirements and formats. Table 10-1 describes three statewide efforts, the Surface Water Ambient Monitoring Program (SWAMP), the Groundwater Ambient Monitoring Assessment (GAMA), and the California Environmental Resources Evaluation System (CERES). Where appropriate, data received during the IRWMP process will be

managed in a format that is compatible with these databases to facilitate efficient submission. This will include ensuring that proper quality control and quality assurance of data has been performed.

Table 10-1: State Monitoring and Data Management Programs

Program	Program Manager	Description
California Environmental Resources Evaluation System (CERES)	California Resources Agency	The goal of CERES is to improve environmental analysis and planning by integrating natural and cultural resource information from multiple contributors. It includes an environmental information catalog and a natural resources project inventory.
Groundwater Ambient Monitoring and Assessment (GAMA)	SWRCB	The GAMA program monitors groundwater for a broad suite of chemicals at very low detection limits. Monitoring and assessments for priority groundwater basins are to be completed every 10 years.
Surface Water Ambient Monitoring Program (SWAMP)	SWRCB	SWAMP is a statewide monitoring effort to assess the conditions of surface waters. In addition to monitoring conducted under the program, SWAMP also hopes to capture information collected under TMDL, Non-Point Source and Watershed Project Support systems.

Currently, each of the three Partner agencies generates surface water quality data and an annual groundwater report that can be submitted and utilized for statewide data needs. All groundwater and surface water data reports developed as part of Project Assessment and Evaluation Plans (PAEP) for State-funded projects will also be compatible with CERES, SWAMP, and GAMA reporting requirements and formats. PAEPs will be developed for each State-funded project consistent with State requirements and compatible with State formats.

10.3 Data Gaps

Available data sets and reports have been reviewed for their applicability to the IRWMP and statewide data needs and for identification of data gaps. Data gaps represent areas where sufficient information to inform decision making is lacking. Because the identification of information needs can lead to the development of new projects, identifying areas where data gaps exists can be an important part of enhancing watershed understanding.

An example of a data gap for the region is the need for improving understanding of how groundwater and surface water interact in the upper watershed. Filling this data gap is crucial to a obtaining a more complete understanding of the Pajaro River Watershed in the context of developing ecosystem restoration plans and assessing the impact local water management projects may have on the environmental resources in the region. In the case of the upper Pajaro River Watershed, the Groundwater Study & Biological Assessment of the Upper Pajaro River Project was developed to gather data and clarify the groundwater-surface water interactions and the potential impacts to environmental resources. This project has been identified as a high-priority project necessary for satisfying the data gap.

Another example of a data gap identified by stakeholders concerns the relation of the upper watershed to the lower watershed in terms of flood management. Stakeholders have suggested that a comprehensive analysis of sediment conditions along the San Benito River, a major tributary to the Pajaro River, is necessary to fully understand flood capacity in the lower Pajaro River Watershed. Additionally, they have suggested a need for additional data in order to predict and manage flood flow elevations in the

upper Pajaro River. The Pajaro River Watershed Study is envisioned to address these data needs. This project has been identified as a high-priority project necessary for satisfying the data gap.

To date, the Partners have assessed the state of existing water quality and water quantity monitoring efforts within the watershed and no further data gaps have been found that require additional monitoring at this time. Various planning reports and efforts have been the basis of this decision, and the existing background information and studies have provided the preliminary water management projects (or water management strategies) considered in this IRWMP. These projects were also examined for their viability for incorporation into greater integrated and multi-beneficial water management programs. If determined to be necessary through the development of PAEPs for State-funded projects, other monitoring programs shall be designed and implemented by project proponents.

For data gaps relating to the region's environmental or cultural resources, more information will be developed in conjunction with the CEQA and NEPA processes required during project environmental compliance processes.

10.4 Future Data Management

Data collection and review will continue to be an on-going activity throughout the IRWMP process as new project and planning information and data are developed, completed, or become available. Regionalization of stakeholder efforts was a primary focus of this process in order to reduce duplicate data collection efforts, to identify opportunities for partnership, and to reduce costs. An example of such an effort is the regional partnership (Regional Mobile Lab) to assist and educate growers in regards to water conservation and nitrate management practices throughout the watershed. Data management will be conducted for all projects that are implemented through implementation grant funding, and will be strongly encouraged for all projects included in the IRWMP.

Data collected for the Pajaro River Watershed IRWMP will be utilized in any eventual Monterey Bay Area IRWMP, along with the data collected in other relevant IRWMP efforts. It is critical that all data gaps for each IRWMP effort be identified and addressed prior to integration with a greater Monterey Bay Area IRWMP so that this larger effort may focus on identifying, evaluating, and recommending solutions to meet greater regional needs.

Managing the list of projects in the IRWMP is another component of future data management. As projects are added or removed from the list of projects under consideration for the region, the IRWMP should be modified accordingly. The Partners will keep track of new projects that have been submitted for inclusion in the IRWMP as well as projects which have been implemented or are no longer under consideration, and the Partners will publish, on an annual basis or as needed, an updated list of projects.

11 Financing

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

> **K. Financing** – Identify beneficiaries and identify potential funding/financing for the Plan implementation. Discuss ongoing support and financing for operations and maintenance of implemented project.

This section describes the funding/financing options for the implementation of IRWMP programs. Financing plans include a variety of mechanisms including state grant funding, federal grant funding, and local financing from the sale of municipal bonds, low interest loans, land assessments, water rates, and other sources.

11.1 State Funding Opportunities

In November 2002, voters in the State of California passed the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. The Water Bond provides over a billion dollars for the planning and implementation of water projects. The various grant programs available through Proposition 50 are described in Table 11-3 on the following pages. Chapter 8 of Proposition 50 authorized the state to fund $500 million for IRWM projects of which approximately $380 million was made available for IRWM grants during two funding cycles.

The intent of the IRWM Grant Program is to encourage integrated regional strategies for management of water resources and to provide funding, through competitive grants, for projects that protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. The IRWM Grant Program is administered jointly by DWR and SWRCB and is intended to promote a new model for water management (DWR Grant Program Guidelines, November 2004).

The Pajaro River Watershed received a $500,000 Chapter 8 IRWM planning grant for completion of this process and IRWMP document. At the time, the state expected that there would only be a single round of planning funds. However, after significant comments from regional stakeholders, the state is considering another round of planning funds. These funds could be used to enhance the IRWMPs, engage additional stakeholders in the IRWMPs (disadvantaged communities, in particular), and/or expand the regional boundaries of the IRWMPs. If so, the Pajaro River Watershed could consider a request for additional funds, possibly in conjunction with other Central Coast regions.

The Pajaro River Watershed also received a $25 Million Chapter 8 IRWMP implementation grant for construction of the following eight high-priority recommended projects from the IRWMP.

Table 11-1: Proposition 50, Chapter 8 Funding for Pajaro River Watershed Projects

Project	Implementing Agency	Grant Amount
Grant Contract Administration	PVWMA	$ 250,000
Watsonville Recycled Project	City of Watsonville	$ 4,425,300
Coastal Distribution System Project	PVWMA	$ 7,064,640
Corralitos Creek Fisheries Project	City of Watsonville	$ 722,700
Aromas Wellhead Treatment Project	Aromas Water District	$ 166,320
Upper Pajaro Groundwater Study	The Nature Conservancy	$ 84,150
Levee Reconstruction Project, Phase 1		
Consensus, Benefits, Governance	Action Pajaro Valley	$ 604, 624
Bench Excavation and Mgmt Manual	Santa Cruz & Monterey Counties	$ 6,712,466
Soap Lake Floodplain Preservation	Flood Prevention Authority	$ 4,425,300
Erosion Control, Veg Treatment, Riparian	Resource Conservation District	$ 544,500
	Total	$ 25,000,000

In addition to the Proposition 50 implementation grant funds, each of these eight projects has demonstrated an appropriate level of local financing and other grant funds for the remainder of the project costs. Other state funds for these projects are identified in Table 11-2. The local financing measures are described in Section 11.3.

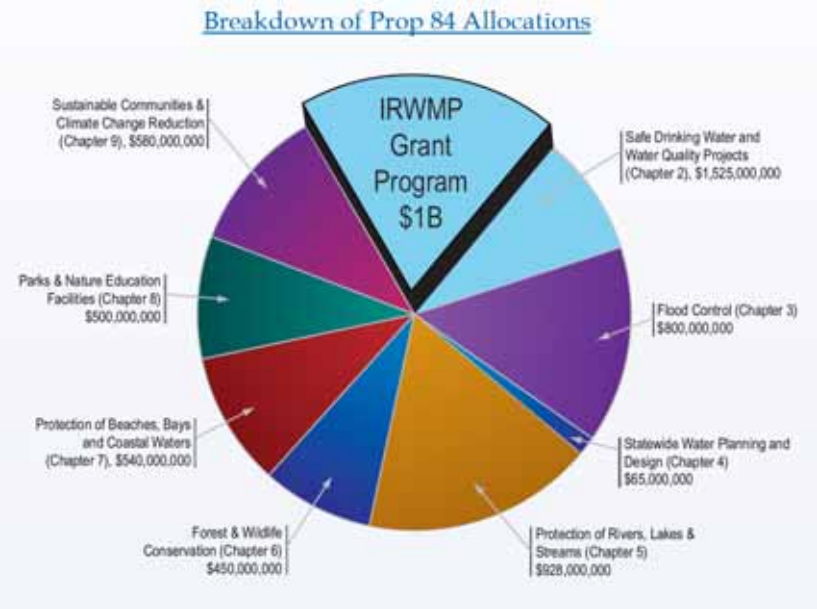
Table 11-2: Additional State Funding for Pajaro River Watershed Projects

Project	Implementing Agency	Other State Funds
Watsonville Recycled Project	City of Watsonville	
Coastal Distribution System Project	PVWMA	Prop 13 DWR Grant Prop 13 DWR Loan SWRCB Loan
Corralitos Creek Fisheries Project	City of Watsonville	Coastal Conservancy Grant
Aromas Wellhead Treatment Project	Aromas Water District	
Upper Pajaro Groundwater Study	The Nature Conservancy	
Levee Reconstruction Project, Phase 1		
Consensus, Benefits, Governance	Action Pajaro Valley	
Bench Excavation and Mgmt Manual	Santa Cruz & Monterey Counties	
Soap Lake Floodplain Preservation	Flood Prevention Authority	Prop 13 DWR Flood Protection Corridor Program Grant Department of Conservation Grant
Erosion Control, Veg Treatment, Riparian	Resource Conservation District	Coastal Conservancy Grant CSUMB/UCSC Contributions

Most of the state's Proposition 50 funds have been distributed at this time and the state is currently considering the early distribution of the remaining Chapter 8 IRWMP implementation funds. If these funds remain available, Pajaro River Watershed IRWMP project recommendations can be considered for future funding through this program.

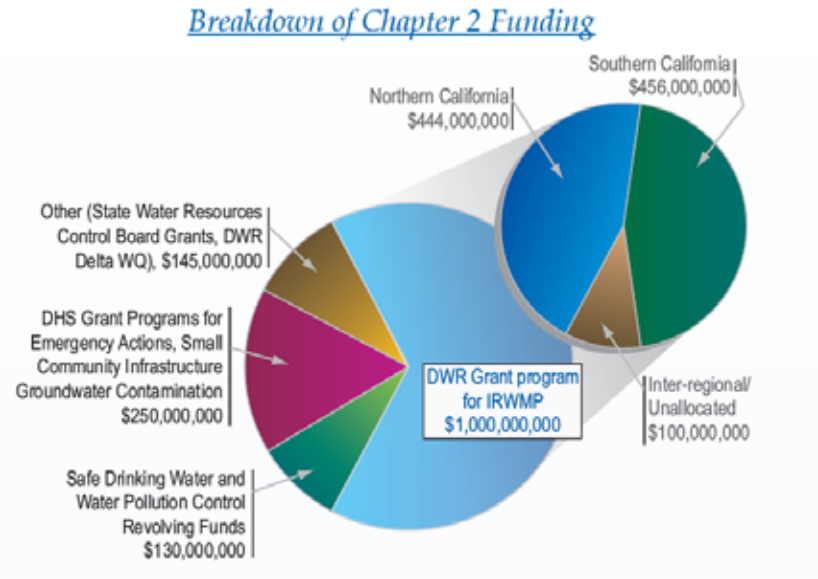
Proposition 84 is one of two California water bonds approved by voters in November 2006. Proposition 84 provides $5.4 billion for water, wastewater and flood protection agencies. Proposition 84 provides funds for planning and implementation of critical water resource management facilities and programs, including funding of surface water storage facilities. Figure 11-1 shows of the Proposition 84 allocations.

Figure 11-1: Proposition 84 Allocations



One billion dollars is allocated to Chapter 2 for a DWR grant program to assist public agencies in meeting long-term water needs. Chapter 2 funds are split between Northern and Southern California. Projects can include delivery of safe drinking water and protection of water quality and the environment. Projects must have been included in an IRWMP process. Up to $50 million dollars is allocated for regions to develop, update, or improve IRWMPs.

Figure 11-2: Proposition 84, Chapter 2 Northern versus Southern Split

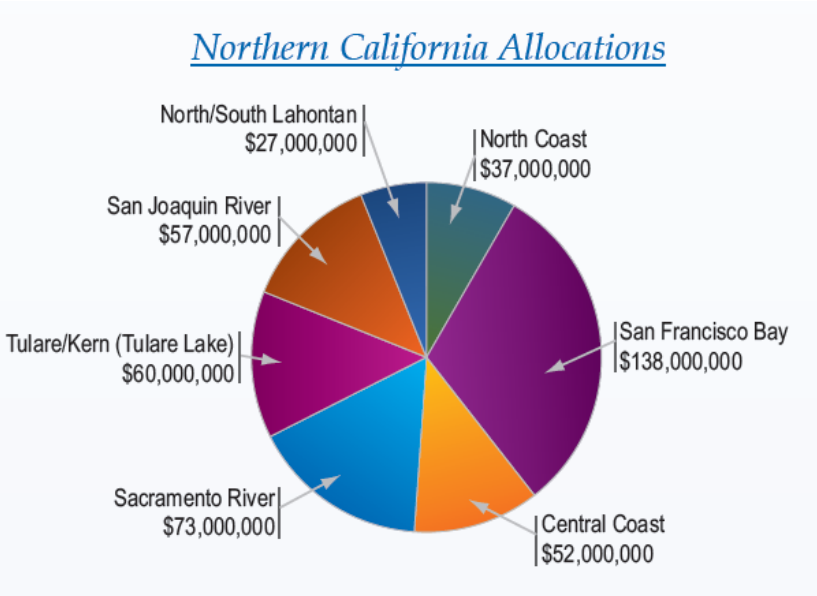


The Northern and Southern allocations is further split by hydrologic regions as shown in Figure 11-3. The Pajaro River Watershed is considered part of the Central Coast Region which is allocated $52,000,000. Other IRWMP regions included in the Central Coast are:

- North and Central Santa Cruz County
- Salinas River Watershed
- Monterey Peninsula
- San Luis Obispo County
- Santa Barbara County

These regions have initiated discussions to develop strategies for an equitable distribution of the Central Coast funds. If consensus can be reached, these recommendations will be made to the state for consideration. The Pajaro River Watershed is well positioned to receive an equitable portion of these allocated funds. In addition to the regional allocations, there is $100 million in inter-regional, unallocated funds that could be available to the Pajaro River Watershed.

Figure 11-3: Proposition 84 Northern California Allocations



As part of the implementation of the IRWMP, Pajaro River Watershed projects will be evaluated for their eligibility for additional funding through other chapters of Proposition 84. If projects can be funded through other chapters, that can help preserve the regional allocations for those projects that can only receive funding through the IRWMP Chapter 2.

Proposition 1E is the second California water bonds approved by voters in November 2006. Proposition 1E, the Disaster Preparedness and Flood Prevention Bond Act of 2006, allocates $300 million to DWR to fund stormwater flood management projects that meet the following requirements:

- Have a nonstate cost share of not less than 50 percent
- Are not part of the State Plan of Flood Control
- Are designed to manage stormwater runoff to reduce flood damage and where feasible, provide other benefits, including groundwater recharge, water quality improvement, and ecosystem restoration
- Comply with applicable regional water quality control plans
- Are consistent with any applicable integrated regional water management plan

Several of the projects within the Pajaro River Flood Protection Program meet all of these requirements and are well positioned to compete for grant funds from this program.

Finally, during implementation of the IRWMP, implementation teams will continue to identify additional state funding opportunities to help support the recommended projects in the IRWMP.

Table 11-3: Proposition 50 Funding Opportunities

AMOUNT	PROGRAM	AGENCY
$100 million	Expenditures, grants, and loans for projects that restore and protect the water quality and environment of coastal waters, estuaries, bays and near-shore waters, and groundwater, consistent with the Coastal Non-Point Source Program. Not less than $20 million for priority actions in the Santa Monica Bay Restoration Plan. Funds to supplement, not supplant, the Coastal Non-Point Source Program.	SWRCB §79543 CH. 5
$30 million	Grants to local public agencies, local water districts, and nonprofit organizations for the acquisition from willing sellers of land and water resources to protect water quality in lakes, reservoirs, rivers, streams, and wetlands in the Sierra Nevada-Cascade Mountain Region.	Secretary §79544 CH. 5
$100 million	Statewide competitive grants for the following projects: • Desalination of ocean or brackish waters • Pilot and demonstration projects for the treatment or removal of a list of specified contaminants • Drinking water disinfecting projects using ultraviolet technology and ozone treatment Not less the $50 million for desalination projects and eligible projects must provide 50% matching funds or donated services from non-state sources. Projects selected based on demonstrated need for new or alternate water supplies, project readiness, and the degree which the project avoids or mitigates adverse environmental impacts. Preference given to projects with ecosystem restoration or water quality benefits. Grant awards limited to $5 million/project	DWR §79545 CH. 6 Contaminant and Salt Removal Technologies
$825 million	Expenditures and grants for: • $50 million for surface water storage planning and feasibility studies • $75 million for water conveyance facilities specified in §79190(d)(2)(B) of the California Water Code (CWC) • $70 million for Delta levee restoration • $180 million for water supply reliability projects • $180 million for ecosystem restoration program implementation with no less than $20 million for projects to assist farmers in integrating agricultural activities with ecosystem restoration • $90 million for watershed program implementation • $180 million for urban and agricultural water conservation, recycling, and other water use efficiency projects All appropriation shall include money for independent scientific review, monitoring, and assessment. All projects shall be consistent with the CALFED Programmatic Record of Decision. Priority shall be given to projects that achieve multiple benefits across CALFED program elements. Real property will be acquired from willing sellers Water supply reliability projects include groundwater management and storage, water transfers, and acquisitions of water for the environmental water account (EWA). Projects must be implemented expeditiously and provide near-term benefits – provide benefits no later than March 8, 2009. Local agencies located in the delta export service areas eligible grant recipients. Grant awards approved by the Governor. For FY 2004-05 and beyond, not less than 50% of the water acquisition funds will be expended for long-term water purchase contracts, permanent water rights, and associated costs. Annual reports by the California Bay-Delta Authority to the Legislature on acquisition of long-term purchase contracts and permanent water rights. Not more than 5% of the funds may be used for administrative costs	For the balanced implementation of the CALFED Bay-Delta Program §79550 CH. 7 CALFED Bay-Delta Program

Source: DWR Proposition 50 Summary

AMOUNT	PROGRAM	AGENCY
$500 million	Joint DWR & SWRCB competitive grant program for projects to protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. Water management projects must include at least 1 of the following elements: • Programs for water supply reliability, water conservation, and water use efficiency. • Storm water capture, storage, treatment, and management. • Removal of invasive non-native plants, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands. • Non-point source pollution reduction, management, and monitoring. • Groundwater recharge and management projects. • Contaminant and salt removal through reclamation, desalting, and other treatment technologies. • Water banking, exchange, reclamation, and improvement of water quality. • Planning and implementation of multipurpose flood control programs that protect property; and improve water quality, storm water capture and percolation; and protect or improve wildlife habitat. • Watershed management planning and implementation. • Demonstration projects to develop new drinking water treatment and distribution methods. On-stream surface water storage facilities or off-stream storage other than urban groundwater recharge percolation ponds are not eligible. Negative environmental impacts from river or stream channel modifications projects must be fully mitigated and prior to award DWR or SWRCB must determine whether the environmental impacts will be fully mitigated. Mitigation or environmental enhancement costs are eligible costs. Prior to developing program guidelines DWR & SWRCB will hold a public meeting to solicit input on program scope, procedures, and content of the solicitation and evaluation guidelines which will be developed jointly and will be posted on each agency's web site. SWRCB will use the procedures developed for the Santa Ana Watershed Program to establish procedures to selecting projects. DWR shall establish standards for integrated regional water management plans (IRWMP), which at a minimum address major water related objectives and conflicts of the watersheds in the region covered by the plan, including water supply, groundwater management, ecosystem restoration, and water quality elements. DWR grants shall be made to projects that are consistent with an adopted IRWMP, but consistency may be waived until January 1, 2007 if the applicant is in the process of developing an IRWMP. SWRCB grants shall be made to project that are consistent with an adopted IRWMP which is designed to improve regional water supply reliability, water recycling, water conservation, water quality improvement, storm water capture and management, flood management, recreation and access, wetlands enhancement and creation, and environmental and habitat protection and improvement. DWR & SWRCB will give preference to groundwater management and recharge projects which meet groundwater management plan requirements or include development of such a plan. DWR shall require that projects include matching funds which may be waived for disadvantaged communities. SWRCB shall require matching funds or donated services from non-state sources. SWRCB shall fund the development of at least one integrated coastal watershed management plan. Grant awards limited to $50 million for a single grant. Not less than 40% of funds shall be awarded to Northern California and not less than 40% of the funds shall be awarded to Southern California. SWRCB funds shall comply with the Integrated Watershed Management Program. Funds are split 50% to DWR and 50% to SWRCB with the following set asides: • DWR – $250 million, with not less than $20 million to competitive grant awards for groundwater management and recharge projects to enhance water supply in rapidly growing areas of the state (counties with a population increase of 2.4% or more in 2002) with limited access to imported water. Of the $20 million, $10 million is to be award to Northern California and $10 million to Southern California, with preference given to projects outside of the Metropolitan Water District of Southern California that are infill projects within 1 mile of established residential and commercial development. • SWRCB - $250 million with not more than $50 million for comprehensive statewide groundwater monitoring.	DWR and SWRCB §79560 CH. 8 Integrated Regional Water Management

Source: DWR Proposition 50 Summary

AMOUNT	PROGRAM	AGENCY
$140 million	Grants for the acquisition from willing sellers of land and water resources, including acquisition of conservation easements, to protect regional water quality, protect & enhance fish & wildlife habitat, and to assist local public agencies in improving regional water supply reliability.	Wildlife Conservation Board (WCB) §79565 CH. 8
$20 million	Grants for canal lining and related projects necessary to reduce Colorado River water use pursuant to the California Colorado River Water Use Plan adopted by the Colorado River Board of California.	DWR §79567 CH. 9 Colorado River
$50 million	Acquisition, protection, and restoration of land and water resources necessary to meet state obligations for regulatory requirements related to California's allocation of water supplies from the Colorado River. Funds may not be used to supplant or pay for regulatory mitigations obligations of private parties. All real property will be acquired from willing sellers.	WCB §79568 CH. 9

$200 million	Expenditures and grants for protecting coastal watersheds as follows:
	• $120 million – State Coastal Conservancy (CC) for coastal watershed protection
	• $20 million – CC for the San Francisco Bay Conservancy Program for coastal watershed protection
	• $40 million – Santa Monica Mountains Conservancy split as follows:
	  ○ $20 million for protection of the Los Angeles watershed upstream of the northernmost boundary of the City of Vernon and
	  ○ $20 million for protection of the Santa Monica Bay and Ventura County coastal watersheds.
	• $20 million – San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy for protection of the San Gabriel and Lower Los Angeles watersheds.
	
	10% of the money allocated in each category will be used for grants to promote public access to and participation in the conservation of land, water, and wildlife resources. Eligible projects include:
	• Training and research for watershed protection & water conservation conducted by nonprofit organizations with preference give to nonprofits working in collaboration with the University of California & public water agencies
	• Nature Centers in or adjacent to above-reference watersheds, that provide wildlife viewing, outdoor experiences, and conservation education programs to the public & students, with priority given to projects operated by or in coordination with nonprofit organization and are designed to serve children from urban areas that lack access to natural areas & outdoor education programs.
		Various agencies
		
		§79570
		CH. 10
		Coastal Watershed and Wetland Protection

$750 million	Acquisition, protection, and restoration of coastal wetlands, upland areas adjacent to coastal wetlands, and coastal watershed lands in or adjacent to urban areas. Eligible projects are limited to: • Acquisition, protection, and restoration of coastal wetlands identified in the CC's Southern California Coastal Wetlands Inventory, as of January 1, 2001 (with limitations) or coastal wetlands identified for acquisition, protection, and restoration in the San Francisco Baylands Ecosystem Habitat Goals Report and upland areas adjacent to those wetlands. • Acquisition, protection, and restoration of coastal watershed and adjacent lands located in Los Angeles, Ventura, and Santa Barbara Counties. Projects in the Santa Monica Mountains Zone will be funded by a grant from the WCB to the Santa Monica Mountains Conservancy. Projects in the Baldwin Hills area will be funded by a grant from the WCB to the Baldwin Hills Conservancy. Not less than $300 million shall be expended or granted for projects in Los Angeles and Ventura Counties. With the remaining funds the WCB shall give priority to the acquisition of at least 100 acres of upland mesas adjacent the state ecological reserved in the Bolsa Chica wetlands, Orange County. Not more than $200 million may be expended or granted to projects in the San Francisco Bay area and any project in the San Francisco Bay area may be funded by a grant from the WCB to the CC. Purchase prices are not to exceed the fair market value of the property with the fair market value determined by an appraisal by a licensed appraiser & approved by the WCB and the Department of General Services. All real property will be acquired from willing sellers.	WCB §79572 CH. 10

Source: DWR Proposition 50 Summary

11.2 Federal Funding Opportunities

Several of the projects in the IRWMP programs have received federal funding. Federal funding for the projects that are currently being implemented is identified in Table 11-4. These and other federal programs will continue to be considered when developing implementation strategies for the Pajaro River Watershed IRWMP projects.

Table 11-4: Federal Funding for Pajaro River Watershed Projects

Project	Implementing Agency	Federal Funds
Watsonville Recycled Project	City of Watsonville	USBR Title XVI
Coastal Distribution System Project	PVWMA	USBR Title XVI
Corralitos Creek Fisheries Project	City of Watsonville	Coastal Conservancy Grant
Aromas Wellhead Treatment Project	Aromas Water District	
Upper Pajaro Groundwater Study	The Nature Conservancy	
Levee Reconstruction Project, Phase 1		
Consensus, Benefits, Governance	Action Pajaro Valley	
Bench Excavation and Mgmt Manual	Santa Cruz & Monterey Counties	US ACE
Soap Lake Floodplain Preservation	Flood Prevention Authority	
Erosion Control, Veg Treatment, Riparian	Resource Conservation District	NRCS 319 Grant

11.3 Local Financing

With limited state and federal funding, most of the project costs must be paid from local sources. There are several local funding sources and strategies available to agencies for project financing. Typically, a project financing plan will include a variety of sources, as demonstrated in the project financing plans described in Section 11.4.

Local financing mechanism utilized by Pajaro River Watershed agencies include:

- Municipal Bonds
- Water Rates
- Fees
- Augmentation Charges
- Loans
- Private Entities Cost Sharing

11.4 Project Financing Plans

Several of the projects in the IRWMP recommended programs are currently being implemented and have financing plans in place. The financing plans for the following projects have been prepared and are described in the following sections:

Conjunctive Water Supply Management Program

- Aromas Water District Wellhead Treatment
- Groundwater Study & Biological Assessment of the Upper Pajaro River

Water Supply/Salt Management Program

- Watsonville Recycled Water Treatment Facility
- Coastal Distribution System
- Corralitos Creek Surface Fisheries Enhancement Project

Agricultural Water Quality Program

- Erosion Control, Vegetative Treatment and Riparian Restoration Project

Pajaro River Flood Protection Program

- Soap Lake Floodplain Preservation Project
- Lower Pajaro River Levee Reconstruction Project

11.4.1 Aromas Water District Wellhead Treatment Facility Financing Plan

The Aromas Water District (AWD) plans to use a Revenue Bond to fund the proposed matching funding of $419,000 for implementation of the project. The revenue bond will be repaid thorough water rate increases to customers. The water rate increase is estimated to be $7.0 per month. The AWD received a grant award of $166,320 through Proposition 50, Chapter 8 to provided financing for the remaining capital expenditures for the project.

The AWD service area is the direct beneficiary of the project and customers will receive a high quality water supply. The project also meets statewide priorities including reduction of demand for Central Valley Project water which is the other option for meeting water quality objectives. Related to reduced demand for CVP water, the PVWMA service area also benefits as they would be the primary entity responsible for providing CVP water to AWD.

Table 11-5: Aromas Water District Funding Sources

Funding Element	Funding Estimate
Aromas Water District Revenue Bond	$419,000
Proposition 50, Chapter 8 Funding	$166,320
Total Funding	**$575,320**

O&M Funding

O&M Funding for this project would be paid through rates assessed by AWD.

11.4.2 Groundwater and Biological Assessment Studies of Upper Pajaro River

The work completed to date for the Groundwater Study and Biological Assessment of the Upper Pajaro River was funded as part of the work performed by SBCWD in the preparation of the Final Program Environmental Impact Report for the Groundwater Management Plan (PWMP) Update for the San Benito County Portion of the Gilroy-Hollister Groundwater Basin. This Plan is intended to manage the Basin's water supply and water quality at a program level over a 20-year period, through 2022. Costs for this EIR were $215,000 and were completely paid for from SBCWD's internal funding sources.

Additional work has been completed and was funded in part by private grants to TNC and the TNC operating budget. Additional funding will allow TNC to integrate the data obtained through SBCWD's PEIR with data from PVWMA and SCVWD in order to identify opportunities for environmental

protection and enhancement. TNC will receive grant funding through Proposition 50, Chapter 8 to fund the additional work for this study.

Table 11-6: Groundwater Study and Biological Assessment Funding Sources

Funding Element	Funding Estimate
San Benito County Water District GWMP	$215,000
Private Grant to TNC	$133,750
TNC Operating Budget	$66,120
Requested Proposition 50, Chapter 8 Funding	$84,150
Total Funding	**$499,020**

O&M Funding
Since this is project consists of a study and assessment, there will be no O&M costs after project completion.

11.4.3 Watsonville Recycled Water Treatment Facility and Coastal Distribution System

The basis of financing of the Watsonville Recycled Water Treatment Facility and Coastal Distribution System were established in the PVWMA *Revised Basin Management Plan* dated February 2002. The beneficial area of these two projects is the entire PVWMA Service Area. This area includes the City of Watsonville, a disadvantaged community, which relies on the local agriculturally based economy that would be sustained by the BMP program.

Funding Sources
The PVWMA would fund the Watsonville Recycled Water Treatment Facility and Coastal Distribution System projects through a variety of funding mechanisms, which include selling municipal bonds, securing low interest loans, ongoing collection of agency fees, and securing grants.

An $11.0 million low interest loan from the SWRCB Seawater Intrusion Control Loan Program has been awarded to the PVWMA to construct a portion of the distribution system and supplemental wells. The loan is to be paid back over 20 years at an interest rate of 2.7%. The loan is administered as reimbursement for project expenditures as approved by the SWRCB.

The Watsonville Recycled Water Treatment Facility and associated project elements are eligible for Title XVI grant funding from the USBR. Title XVI grant funding is a part of the USBR water reclamation and reuse program authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Title XVI of Public Law [P.L.] 102-575, as amended). Under the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992, the USBR is authorized to participate in all of the authorized water recycling projects at funding levels up to 25% of the total project cost. However, Section 1631 limits the Federal contribution to a maximum of $20 million (1996 dollars) per project (USBR website, November 2001). Based on the estimated cost of $71.9 million (Spring 2001) from the *Watsonville Area Water Recycling Project Feasibility Study*, the Recycled Water Treatment Facilities and associated elements would be eligible for approximately $18 million in grant money from the USBR. However, based on meetings with the USBR, it is recognized that the Project and associated elements will

be funded according to actual implementation costs, therefore grant funding is expected to be 25% of the actual construction costs for the project.

Funding for the project may be through the sale of a 30-year municipal bonds, augmentation fees or loans. Similar to a loan, the PVWMA would repay the principal with interest over a 30-year period. An investment bank would administer the sale of the bond for the PVMWA. A bond equal to $121.6 million (Spring 2001 value) will be needed to finance the project. This assumes $11 million from the SWRCB and $18 million from the USBR and includes the financial and bond sales cost.

Table 11-7 summarizes the identified funding sources for the project.

Table 11-7: Revised BMP Funding Sources

Funding Element	Funding Estimate ($ Millions)
Water Recycling Grant (Title XVI)	$18.0
SWRCB Seawater Intrusion Loan	$11.0
Municipal Bonds[a]	$121.6
Total Funding	**$150.6**

Footnotes:
a. Spring 2001 value of Municipal Bonds needed to fund the Revised BMP.

Since the development of the financing plan, the PVWMA has been awarded a grant from the DWR for $21.6 million, which will go toward funding portions of the CDS and will reduce the municipal bonds required for the project elements.

Also, PVWMA applied for and received Proposition 50 Chapter 8 funding for the Recycled Water and CDS elements and the amount of municipal bonds necessary to fund the project will be reduced. This will result in a subsequent reduction in revenue needs which are described below. Table 11-8 summarizes the additional funding that may be available for the project elements.

Table 11-8: Additional Revised BMP Funding Sources

Funding Element	Funding Estimate ($ Millions)
Prop 13 Grant	$21,600,000
WRWTF Proposition 50, Chapter 8 Funding	$4,425,300
CDS Proposition 50, Chapter 8 Funding	$7,064,640
Additional Funding	**$33,089,940**

Revenue Sources

The bonds and loans would be recovered through an augmentation charge to customers in the Pajaro Valley. PVWMA would set the augmentation charge at a rate necessary to fund the projects.

Several alternate water rate plans were evaluated in the Revised BMP. The recommended rate plan was a differential flat rate that would result in one augmentation charge for individuals who pump groundwater, and a second, higher flat delivered water charge for those who receive delivered project water. Based on the estimated cost of the recommended PVWMA BMP, the proposed rate structure would be (RMC, 2002):

- Augmentation Charge $158/AF
- Delivered Water Charge up to $316/AF

These estimated charges were cited directly from the Revised BMP and are based on the estimated capital cost $150.6 million and an annual O&M cost of $4.4 for the recommended BMP. The charges assume that the City of Watsonville receives Title XVI grant funding of $18 million. The charges have not been adjusted according to cost estimate modifications in this report. Final charges will depend on actual labor and material costs, competitive market conditions, site conditions, final project scope, implementation schedule, and other variables.

PVWMA historically has not delivered water to customers, but rather has managed the groundwater basin. The current augmentation charge is levied against water that the user pumps from the groundwater basin. Retailers, such as the City of Watsonville, would pay the augmentation charge for the water that is pumped from the groundwater basin and would then pass this cost along to customers through its water rates. The construction and operation of the Harkins Slough project is the first instance where the PVWMA delivers water, and then charges an interim delivered water charge for that supply.

O&M funding

O&M costs for all of the Water Supply Program projects associated with the Revised BMP have been accounted for in devising the rate structure above and would be funded though the user water fees mechanism. These include the annual O&M costs for the CDS, which has been estimated to be $800,000, and the WRWTF, with estimated costs of $1M.

11.4.4 Corralitos Creek Surface Water Intake Enhancement Financing Plan

The City of Watsonville's Water Fund will be used to implement the project. Approximately $457,650 is planned to be budgeted from the Water Fund. Current water rates provide the revenue for the City's Water Fund which is used for operations and maintenance activities. The City's residential water rates are: $0.97/unit (100 cubic feet) for tier 1 (up to 12 units) and $1.27/unit for over 12 units.

The project will be funded in part by a $100,000 State Coastal Conservancy grant but needed additional grant funding in order to move forward with construction. This project was part of the Proposition 50 implementation grant and will receive $722,700. The estimated capital costs of the project are $1,110,000. Table 11-9 summarizes the funding sources for the project.

O&M Funding

Annual maintenance costs are estimated to be $5,000 and are expected to be budgeted from the City's Water Fund.

Table 11-9: Corralitos Creek Surface Water Intake Enhancement Funding Sources

Funding Element	Funding Estimate
City of Watsonville Water Fund	$457,650
State Coastal Conservancy Grant	$100,000
Proposition 50, Chapter 8 Funding	$722,700
Total Funding	**$1,280,350**

Residents of the City of Watsonville, a disadvantaged community, and the PVWMA service area are the primary beneficiaries of the project as alternative water supplies would not need to be constructed. The project will also help protect fisheries and endangered species.

11.4.5 Erosion Control, Vegetative Treatment, and Riparian Restoration Financing Plan

Funding sources for the project include $241,759 from a 319(h) Vegetative Treatment Systems and Farm Water Quality Plan Implementation Grant and NRCS Staff time and Farm Bill Cost Share assistance funds, Central Coast Agriculture Water Quality Coalition, Community Alliance with Family Farmers and growers and landowners. An additional $222,475 was received from a Coastal Conservancy grant and $544,500 from Proposition 50, Chapter 8 grant. These grants, along with matching funds from landowners and others will finance the $1,224,684 project costs.

Expected beneficiaries will be the RWQCB, MBNMS, TMDL compliance, landowner/grower grower costs, wildlife and Ag Waiver Compliance. With the protection of environmental resources, the project also has recreational and community benefit in regard to enjoyment of the environment by the local community. Table 11-10 summarizes the funding sources for the project.

Table 11-10: Erosion Control, Vegetative Treatment, and Riparian Restoration Funding Sources

Funding Element	Funding Estimate
319(h) Vegetative Treatment Systems and Farm Water Quality Plan Implementation Grant and NRCS staff time	$241,759
Coastal Conservancy Grant	$222,475
Matching Funds from landowners and others	$215,950
Proposition 50, Chapter 8 Funding	$544,500
Total Funding	**$1,224,684**

O&M Funding

O&M costs for the Erosion Control, Vegetative Treatment and Riparian Restoration Project will be paid by the landowners on whose properties the vegetative management practices are implemented.

11.4.6 Soap Lake Floodplain Preservation Project Financing Plan

Implementation of the Soap Lake Floodplain Preservation Project is not possible without money to acquire property when it is on the market. Having available funding is especially important when conservation of their land and land use practices is not the land owner's primary motivation to sell. If other buyers are interested in purchasing the land, a competitive situation could be established. Having funds available to acquire the land quickly could be a key factor in whether the sale will preserve the land or develop the land. This section provides a conceptual level estimate of the cost and financing of the Soap Lake program and outlines funding options from five sources. A three phased implementation strategy has been developed for the project recognizing the project duration is dependent on the availability of land and funds.

Required Funding

The approximate cost to acquire the 100-year Soap Lake floodplain is $60 million but could be as low as $50 million or as high as $180 million in today's dollars. This value is provided in today's dollars to provide a reference to implementing agencies for the magnitude of money that will be needed to implement the project. The estimate is based on the best available unit costs and numerous assumptions about which parcels would be acquired through easements and which would be acquired by fee title. An easement was assumed to be $5,000/acre and a fee title acquisition was assumed to be $12,000/acre. It was assumed that only about 15% of the floodplain was acquired in fee title.

Due to the duration of the Project, it is difficult to predict the total cost in today's dollars. Not only will the Project likely last for decades, which will impact the value of the dollar, but there are many other factors as well. One of the major factors is demand for the land, regardless of the use. The more demand there is for the land, the higher the price will be. The converse is true as well. Acquisitions of parcels for preservation or other uses also impact the cost of the land. It would require a qualified appraisal to determine the impacts of a given acquisition on the value of the surrounding properties. As with many other commodities, land is often available at a discounted rate when purchased in large quantities. If more than one parcel can be acquired at a time from a single owner, such a discount may be available. Finally, the total cost of the land is sensitive to the acquisition method since fee title acquisitions are so much more expensive. Should more or less of the floodplain be acquired in fee title than assumed, the overall price could be higher or lower than the estimate provided here.

To date, a number of federal and local funding sponsors have been identified. Table 11-11 summarizes the funding source anticipated for Phase 1 of the project. The table includes the $4,425,300 in grant funding from Proposition 50, Chapter 8.

Table 11-11: Phase 1 Soap Lake Flood Plan Preservation Project Funding Sources

Funding Element	Funding Estimate
Carnadero Preserve: Dept. of Conservation	$1,420,000
Carnadero Preserve, Santa Clara Valley Water District	$2,800,000
Carnadero Preserve, Santa Clara County Open Space Authority	$500,000
Silacci Property, Santa Clara County Open Space Authority	$1,550,000
Taylor Ranch, Santa Clara County Open Space Authority	$500,000
Taylor Ranch, NRCS	$820,000
Taylor Ranch, California Department of Conservation	$820,000
TNC, DWR Flood Protection Corridor Program	$3,271,000
Proposition 50, Chapter 8 Funding	$4,425,300
PRWFPA Proposition 13	$1,338,750
PRWFPA Partner Agency Contributions	$960,000
Total Funding	**$18,405,050**

Future Revenue/Funding Options

Potential future funding sources for the implementation of the Soap Lake Floodplain Preservation Project include:

1) Implementing partners;
2) Government and private grants;
3) Landowner incentive programs;
4) Development-based funding/programs; and
5) Local tax-based funding/programs.

Landowners are also a critical part of the funding process, as they may contribute to the implementation process through donations of land in fee title or conservation easement, or bargain sales of fee or easements. Land donations from owners are possible but can not be relied upon. A combination of bargain sales, non-debt (such as grants) and debt-leveraged funding (such as bonds) are proposed since multiple funding sources and mechanisms may provide funding stability over the duration of this project. A key element in the Soap Lake Floodplain Preservation Project is the immediate availability of funds to purchase easements or properties when they become available. A combination of all the funding mechanisms will likely be required to provide funding stability and fully implement the Soap Lake Project. Funding for Phase 2 and 3 will be identified in the future as implementation plans for these phases are developed.

O&M Funding

There are no significant O&M costs for land/easement acquisition of Soap Lake. However, there are on-going costs associated with post-acquisition compliance. Maintenance work on the purchased land parcels will be funded by the individual holders of the titles/easements. The administrative work, consisting of overseeing easement provision compliance, record keeping and preparation of status has been estimated to cost $64,000 per year. This will be funded by PRWFPA through annual member contribution.

11.4.7 Lower Pajaro River Levee Reconstruction Project Financing Plan

The Pajaro River Levee Reconstruction Project, Phases 1

The Pajaro River Levee Reconstruction Project is jointly sponsored by the U.S. Army Corps of Engineers (USACE), and two local sponsors, the County of Santa Cruz, and the County of Monterey. The share split for the project is approximately 75% federal and 25% local. The local sponsor counties will pay for land easements, rights of way, relocations, and disposals (LERRDs) that are estimated to be $32.6 million. The local sponsors will also pay for 5% of construction that is estimated to be $7.9 million. The total local share for the project is estimated to be $40.5 million dollars. The total federal share is estimated to be $117 million, with a total project cost of $157.5 million.

Phase 1

Phase 1 of the project includes:

- Task A is a Stakeholder Process that includes: 1) community consensus process; 2) a public outreach and survey program leading to a successful benefit assessment vote for the project; 3) development of a local governance structure.
- Task B includes: 1) Agreement on and Ratification of an Adaptive Management Maintenance Manual for on-going maintenance of the existing and new levee system; and 2) Bench Excavation, Phase 1

For Phase 1 work, planning, engineering and design, and the related environmental work for the overall project are generally an ACOE responsibility. The federal spending is subject to congressional approval. An increased level of federal spending on the project is rigorously supported by Congressman Farr and the local sponsors.

Funding Sources Phase 1

Task A

The stakeholder process is being led by a local community group, Action Pajaro Valley (APV). APV is a non-profit community group. The revenue source for APV is grants, cost sharing agreements and fund-raising activities. Approximately $438,920 has been budgeted as matching funds for Task A. The match includes APV funds spent since 2003 for planning and materials related to community consensus building, public outreach, meeting facilitation, and production of public relations materials for the Pajaro River Levee Reconstruction Project. The Proposition 50, Chapter 8 grant for completion of this project element is $604,625. Consultants are being utilized for meeting facilitation, and community outreach, particularly as they relate to public opinion and information needs relative to achieving a successful 218 benefit assessment vote on the project Table 11-12 summarizes the funding for the Community Consensus, Benefit Assessment, and Local Governance.

Table 11-12: Task A - Community Consensus, Benefit Assessment, and Local Governance Funding Sources

Funding Element	Funding Estimate
APV Grants, Cost Sharing Agreements, Fund Raising	$438,920
Proposition 50, Chapter 8 Funding	$604,625
Total Funding	**$1,043,545**

O&M Funding

Task A is a stakeholder process and there are no O&M costs associated with it.

Task B

The Adaptive Management Maintenance Manual and the Phase 1 Bench Excavation Project is primarily led by the two local sponsors, the County of Santa Cruz and the County of Monterey. Match funds for the project include expenditures by the two local sponsors and the USACE, the federal partner. Match funding expenditures to date have included planning, engineering, design, and the initial environmental work. Matching funding for the project by the USACE is $2,580,000 which funded planning, engineering, design and initial environmental work for the EIR/EIS.

The two counties plan to collectively fund the remaining work for the planning, engineering and design, and construction for the Bench Excavation Project, Phase 1 from their respective Levee Funds. This also includes development of the Adaptive Management Maintenance Manual. Table 11-13 summarizes the funding for the Pajaro River Bench Excavation Project. The bulk of the Proposition 50 grant is for construction dollars to implement the first phase of the Bench Excavation Project.

Table 11-13: Task B – Pajaro River Bench Excavation Project Funding Sources

Funding Element	Funding Estimate
USACE	$2,580,000
Santa Cruz County and Monterey County Levee Funds	$4,394,901
Proposition 50, Chapter 8 Funding	$6,712,466
Total Funding	**$13,687,367**

Phase 1 Revenue Sources

Revenue for the Levee fund comes from the Santa Cruz County Flood Control and Water Conservation District, Zone 7, and the Monterey County Water Resources Agency, Zones 1 and 1A. These two benefit assessment zones support existing maintenance, planning, design, and construction activities. The annual operating budget for the Santa Cruz County Flood Control and Water Conservation District, Zone 7, is $1.2 million annually. The budget for levee work for the Monterey County Water Resources Agency, Zones 1 and 1A is approximately $350,000 annually.

Phase 1 O&M Funding

Phase 1 O&M costs will be funded through the Levee fund of the SCCFC&WD and the MCWRA as described above. The source of the fund will be charges to land users in the benefit assessment zones.

12 Statewide Priorities

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

> **L. State Priorities** – Identify statewide or State agency priorities that will be met or contributed to by implementation of the Plan, proposal, or specific projects. Describe how the Plan, proposal, or specific projects were developed pursuant to Statewide Priorities.

Statewide priorities address recognized water supply, water quality, and environmental issues for California. As defined in Section F of the Integrated Regional Water Management Grant Program Guidelines (dated November 2004), the statewide priorities are as follows:

1. Reduce conflict between water users or resolve water rights disputes, including interregional water rights issues;
2. Implementation of Total Maximum Daily Loads that are established or under development;
3. Implementation of Regional Water Quality Control Board (RWQCB) Watershed Management Initiative Chapter, plans and policies;
4. Implementation of the SWRCB Non-point Source (NPS) Pollution Plan;
5. Assist in meeting Delta Water Quality Objectives;
6. Implementation of recommendations of the floodplain management task force, desalination task force, recycling task force of state species recovery plan;
7. Address environmental justice concerns; and,
8. Assist in achieving one or more goals of the CALFED Bay-Delta Program.

Consideration of all statewide priorities, along with regional issues and priorities was integral to the development of the Pajaro River Watershed IRWMP mission, goals, objectives, and project strategies. The Pajaro River Watershed IRWMP assists in meeting all eight statewide priorities. The discussion in this section demonstrates how the integrated, multi-beneficial programs of the Pajaro River Watershed IRWMP support statewide water resources management recommendations. The projects that assist in meeting these recommendations are also included in the following discussion.

12.1 Reduce conflict between water users or resolve water rights disputes, including interregional water rights issues

Implementation of the IRWMP will result in a reduction in current and future conflicts over groundwater rights and CVP use among water users in the Pajaro River Watershed, as well as conflicts between water supply and environmental interests. Potential conflicts are being resolved through the IRWMP process by the implementation of projects and by bringing agencies and stakeholders together in a common forum to discuss conflicts and identify potential alternatives that are acceptable to all concerned parties.

12.1.1 Potential Conflicts

Major water use related conflicts in the Pajaro River watershed are related to groundwater supply and use, groundwater quality and seawater intrusion, imported CVP water needs, and flood protection project implementation. Additional discussion on water related conflict is also found in Section 3 – IRWMP Objectives.

12.1.2 Groundwater conflicts

In the Pajaro Valley Groundwater Basin, potential conflicts over groundwater exist due to the overdraft condition of the aquifer, which has led to seawater intrusion and a decline in groundwater quality. As groundwater pumping provides the majority of supply in this area and urban and agricultural demands are expected to increase by 9,000 AFY by 2040, the potential for conflict over the increasingly limited resource will only increase with time. The potential for conflict is exacerbated by the fact that the impacts of the over-drafted groundwater basin and seawater intrusion are experienced mainly by the coastal users. Since inland users are mostly insulated from the effects of overdraft and seawater intrusion, this had led to conflicting perspectives and priorities on the issue.

The **Coastal Distribution System** in conjunction with the **Import Pipeline** project will address the problem of overdraft by eliminating coastal pumping. Groundwater pumping model simulations conducted using the PVIGSM showed that elimination of coastal pumping reductions would double the groundwater basin yield, generating a significantly higher increase in the groundwater basin yield than basin-wide reductions. This helped to resolve a potential point of conflict over where pumping reductions should be instituted and the stakeholders achieved consensus on moving forward with these two projects.

12.1.3 Imported Water Conflicts

Another potential conflict is related to the use of CVP imported water. SBCWD, SCVWD and PVWMA are CVP water contractors. Since the long-term average availability of CVP water is less than the amounts contracted for (83% of M&I entitlements and 55% of agricultural entitlements), there is not enough water to meet all contractor's full allocations during periods of low availability. This creates potential conflicts among CVP water users within the region, as well as conflicts with other CVP water users throughout the state. While both SBCWD and SCVWD have existing CVP connections, PVWMA is planning to construct an import pipeline for delivery of CVP supplies, which will create increased demands on the CVP water system and create additional potential conflicts over CVP water use.

Projects that reduce the demand for imported water through creating local supply or through conservation will directly reduce conflicts over imported water. These include many of the projects in the Conjunctive Water Supply Management and Water Supply/Salt Management Programs such as the **Aromas Water District Wellhead Treatment** project, **Watsonville Recycled Water Treatment Facility**, the **Corralitos Creek Surface Fisheries Enhancement** project, the **North San Benito County Regional Recycled Water Project**, and the **Sunnyslope Recycled Water Project**. The **SBCWD** and **SCVWD Groundwater Recharge with CVP and Local Resources** projects will allow for storage of water during wet years, so that it may be used during dryer years, when the potential for conflict is highest. Facilitating water transfers is another method that can help reduce conflict over imported water. **CVP Water Transfers within the San Felipe Division** will allow for resolution of short term conflicts by allowing agencies to maintain more flexibility in the timing of delivery. **Non-CVP Water Transfers and Banking Agreements** may help agencies make up for short term deficits in imported water by taking advantage of local surpluses available from other agencies. The **San Felipe Division Operations and Maintenance Improvements** will improve the reliability of the facilities used to import water to the region thereby reducing the potential for conflict by avoiding shutdowns and service reductions. All of these projects will reduce the potential conflict by matching the increasing demand with new local supply or through improved imported water timing and/or storage.

12.1.4 Water Usage Conflicts

Water agencies, environmental organizations and other stakeholders often have different sets of water management related missions and goals which can present another source of potential conflict within the watershed. For example, environmental issues such as maintenance of fish habitat and adequate flows for steelhead migration can be at odds with diversions of water for supply. Another conflict stems from the fact that the public recreation and open space needs of cities, stakeholders groups and conservancies are not the primary focus of agencies that are conducting water supply, water quality and flood management planning. The local use of water can also conflict with interests outside the watershed, for example, use of CVP water can affect the San Francisco Bay-Delta ecological system, setting up further potential for conflict between CVP water users and organizations with concerns over riparian habitat in the Delta.

To resolve these conflicts, the Pajaro Watershed IRWMP process has brought stakeholders representing diverse interests together and areas where competing interests exist have been identified. Based on this, stakeholders are working together to propose projects that will help resolve conflicts or are modifying existing projects, where possible, to achieve additional objectives in order to gain broader acceptance. Projects that can address the public access, recreation and habitat needs espoused by many stakeholders are being coordinated with water supply, water quality and flood protection related projects and being incorporated into water management programs, where appropriate. The **Corralitos Creek Surface Fisheries Enhancement Project** resolves a conflict between fish habitat and water supply by ensuring that the surface water intake for the City of Watsonville on Corralitos Creek will not interfere with the migration of steelhead. The **Stream and Watershed Protection Program** and **Tick Creek Riparian Enhancement** are being implemented by SCVWD in the Agricultural Water Quality Program. These projects will improve habitat and preserve open space while simultaneously improving agricultural water quality.

12.1.5 Flood Management Conflicts

Flooding along the Pajaro River is a point of conflict in the watershed. A major barrier delaying the implementation of flood protection projects has been conflict between local residents, project sponsors and regulatory agencies that permit new flood control projects about the appropriate flood protection methodology to be implemented.

Conflict over flood management in the watershed has been addressed by creating a forum where input from all stakeholders can be heard and consensus can be achieved on projects that will provide an effective and acceptable solution to flood management. The **Pajaro River Watershed Study** was initiated in support of this process and is a comprehensive study of the entire watershed to identify actions and projects necessary to reduce flooding on the Lower Pajaro River. By examining the entire watershed, stakeholders are reassured that the most appropriate and efficient solutions are identified, which will help reduce conflict. It demonstrated that flood management requires coordination throughout the watershed and identified the **Soap Lake Floodplain Preservation Project**, which is being implemented in the upper watershed as a critical project for reducing flooding in the Lower Pajaro River. Perhaps the most substantial barrier to flood protection agreement has been the conflict between local residents of the Pajaro Valley, project sponsors and the State and federal regulatory agencies that permit new flood control projects. The approach taken in the **Levee Reconstruction Project** of building community consensus through the APV Task Force meetings and creating a multi-objective project aims to reduce this conflict.

Potential conflict over the costs, construction, and impacts of flood control facilities is being reduced by including projects that can address flood control while offering other benefits such as water quality, habitat, open space and recreational needs. The Pajaro River Flood Protection Program contains a

significant number of projects related to open space acquisition, trail creation and habitat restoration. The **Pajaro River Parkway** will identify public access and recreational opportunities that can be achieved in conjunction with implementation of the **Levee Reconstruction Project**. Many goals of **Open Space Authority Acquisitions**, such as preservation of wetlands and riparian corridors will also help maintain the proportion of undeveloped areas within the watershed, which will reduce peak flows during flood events. The **Restoration of the Upper Pajaro River Floodplain** will develop a plan for restoration of a wildlife corridor that will also preserve undeveloped land valuable for flood attenuation. **Vegetative Buffer Strips** can offer water quality and flood attenuation benefits. All of these multi-use projects will ensure that projects undertaken for flood management will have a net positive impact.

12.1.6 IRWMP Conflict Resolution

The Conjunctive Water Supply Management, Water Supply/Salt Management and Pajaro River Flood Protection Programs will address the statewide priority that calls for reducing conflict between water users. It will accomplish this by implementing projects at a regional level to ensure that all agencies and stakeholders have access to a reliable supply of water for domestic use and for meeting environmental habitat needs. Flood management related conflicts are addressed through development of mutually accepted projects that can offer multiple benefits beyond flood control.

The IRWMP stakeholder process has already helped to resolve conflict by bringing together parties with differing needs and perspectives and providing a forum for conflict resolution. This will help to foster understanding and discussion, build consensus, and identify mutually beneficial strategies as the IRWMP process continues in the future. The end goal is to mitigate conflict to the extent practicable while optimizing the potential for implementing integrated strategies with multiple benefits.

12.2 Implementation of Total Maximum Daily Loads that are established or under development

Working to meet TMDLs established for the Pajaro River watershed is a specific IRWMP objective listed under the IRWMP water quality goal. Pollutants of concern in the Pajaro River watershed, as listed on the 2002 California Water Act Section 303(d) List of Water Quality Limited Segments, are chloride, mercury, nutrients, pathogens, pesticides, sediment, and fecal coliform (See Table 2-5). To date, four TMDLs have been developed in the Pajaro River watershed and approved by the Central Coast RWQCB. These include a Nitrate TMDL for Pajaro River and Llagas Creek, a Sediment TMDL for the Pajaro River that includes its tributaries: the San Benito River, Llagas Creek, and Rider Creek, a Pathogen TMDL for Watsonville Slough and a Mercury TMDL for Clear Creek and Hernandez Reservoir. A fecal coliform TMDL is currently in progress for the Pajaro River. The Nitrate, Sediment and Pathogen TMDLs are addressed by the IRWMP through the Agricultural Water Quality Program, which contains multi-benefit projects that address TMDL requirements while also providing environmental enhancement and open space benefits.

12.2.1 Agricultural Pollutant Sources

For the Pajaro River Nitrate, Sediment and Pathogen TMDLs, agriculture land use is listed as a major source of the pollutants causing impairments. The Pajaro River Nitrate TMDL source analysis identifies irrigation runoff carrying nitrogen compounds from fertilizers and manure as a major pollutant source. The Pajaro River Sediment TMDL identifies agricultural runoff from irrigated agriculture, pastures and rangeland as contributors to sediment loading. Sedimentation occurs when eroded soils are washed into rivers, streams and creeks. This erosion is enhanced in the Lower Pajaro area, where crops are often

planted by the edge of streams and drainage ditches that carry runoff to Pajaro river and its tributaries. Loss of riparian vegetation due to encroachment of crops or grazing practices is another consequence of agriculture that has led to destabilization of stream banks and increased erosion. The Watsonville Slough Pathogen TMDL identifies livestock and land applied manure as two of the sources of pathogens, and associated land uses for these sources are grazing and irrigated agriculture. Agriculture is also a source of fecal coliform and pesticides, both of which will be addressed in future TMDLs.

12.2.2 TMDL Implementation

The Agricultural Water Quality Program will directly assist in implementing the Pajaro River Watershed TMDLs by addressing nonpoint source agricultural water quality through a number of projects. The **Regional Mobile Lab** will encourage the implementation of agricultural irrigation and fertilization practices throughout the watershed that will assist in attaining TMDL objectives by reducing both runoff and the amounts of pollutants that are present in the runoff. The **Farm and Range Water Quality Management** Program is designed to ensure that agricultural dischargers can meet Central Coast RWQCB requirements for runoff management by providing training, education and assistance in developing water quality plans. The **Santa Cruz Partners in Restoration Permit Coordination Program** will streamline the permitting process for BMPs which directly support TMDL implementation. **Vegetative Buffer Strips** is a specific example of a BMP that will capture and treat runoff. The **Stream and Watershed Protection Program** is an environmental land preservation program in Santa Clara County that may allow SCVWD to acquire land adjacent to tributaries that are included in the TMDLs to serve as buffers from the effects of land use and to protect banks from erosion. Tick Creek is a tributary to the Parajo River which is surrounded by agricultural and pasture land use. The **Tick Creek Riparian Enhancement** Project will create a buffer through the planting of riparian habitat vegetation along 2,000 feet of the creek to protect the creek from agricultural runoff and streambank erosion.

Some projects contained in the Pajaro River Flood Protection Program will also contribute towards implementation of the Sediment TMDL. The *Sediment Transport Characteristics of Reach Four of the Pajaro River Flood Plan*, completed in June of 2005, presented model results that indicate that benches remove sediment more effectively than the same channel without benches. The **Levee Reconstruction Project** will create benches that will remove 322,000 cubic yards of sediment and will promote sediment deposition onto the benches instead of on the channel bottom. This is an effective way to remove sediment from the water column and is preferable to letting the sediment settle to the bottom of the channel. Once on the benches, the sediment can be removed from the river system and potentially be put to beneficial uses. The **Soap Lake Floodplain Preservation Project** will also help meet requirements of the Sediment TMDL. Sediment reduction benefits are achieved through maintenance of the floodplain. During high flow events the river jumps its banks and floods the surrounding agricultural fields. In the over banks, the high roughness coefficient and shallow flow path cause the velocity to decrease significantly. This causes less turbulence and allows more time for the suspended sediments to fall out of suspension. When the flood waters recede they do so slowly enough not to re-suspend the sediments. Should the natural Soap Lake floodplain be destroyed, much of the floodplain benefit for sediment deposition would also be eliminated.

The Agricultural Water Quality Program includes a number of projects that will directly address TMDL requirements in the watershed. As TMDL implementation is in the early phases, it is expected that these projects will lead the way for water quality protection and will serve to guide future projects that will ultimately become part of this IRWMP. Projects associated with the Flood Protection Program will offer sediment management opportunities which will also assist in TMDL implementation through reduction of sediment loads.

12.3 Implementation of Regional Water Quality Control Board (RWQCB) Watershed Management Initiative Chapter, plans and policies

The priorities of the Central Coast Regional Water Quality Control Board (RWQCB) are found in the RWQCB's Water Management Initiative Chapter (WMI), which is updated periodically. The WMI Chapter is used by the RWQCB as a funding planning tool; funding priorities for each of the region's targeted watersheds and the region as a whole are established in the WMI Chapter. The 2004 update of the WMI lists seven categories of activities and associated priorities for the RWQCB:

1) Agriculture: Addressing water quality impacts of irrigated agriculture;
2) TMDLs: Developing and implementing TMDLs throughout the region;
3) Urban Runoff: Addressing urban runoff that causes beach closures and implementing Phase II of the NPDES Stormwater Program;
4) Point Source Regulation: Streamlining point-source permit writing, renewals, and several existing Waste Discharge Requirements and performing inspections;
5) Basin Planning: Developing riparian corridor policies and reviewing and developing water quality objectives;
6) Monitoring: Maintaining the Central Coast Ambient Monitoring Program and integrating data from the agricultural cooperative monitoring program; and
7) Clean Up: Overseeing clean-up of perchlorate, MTBE, military bases, hazardous waste, and underground storage tanks

The WMI provides a list of specific targeted projects and activities that support some of these priorities for Region 3 and for the Pajaro River Watershed as shown in Table 12-1.

Table 12-1: RWQCB WMI Targeted Projects and Activities

Watershed	Targeted Projects and Activities
Region-wide	1. Projects that support implementation of the Conditional Waiver for Irrigated Lands ("agricultural waiver"), including a. Projects that support implementation of the Cooperative Monitoring Program b. Projects that support development and implementation of farm water quality management plans for irrigated operations to address irrigation management, nutrient management, pesticide management and erosion control c. Projects that implement and test the effectiveness of management practices 2. Projects that implement approved or developed TMDLs 3. Projects that support development of scheduled TMDLs
Pajaro River Watershed	1. Projects supporting agricultural waiver implementation 2. Riparian and wetland protection and restoration

The Pajaro River Watershed is also one of eight priority watersheds identified by the Central Coast Region which serves to amplify the importance of implementing the WMI. The priority watersheds were selected since they are experiencing significant water quality problems and also have a high level of existing local efforts and commitments to addressing the problems. The Pajaro River Watershed is one of the eight targeted watersheds for the Central Coast region. Water quality issues facing the Pajaro River watershed were identified in the WMI as erosion and sedimentation, pesticides, nutrients, heavy metals, pathogens, streambed flow alterations, endangered habitat, and riparian vegetation removal.

The integrated water management strategies of this IRWMP will help meet RWQCB priorities #1, #2, #5, #6 and #7 through implementation of projects that fall under the categories that are listed in Table 12-1. These projects are discussed by RWQCB priority below.

12.3.1 Addressing water quality impacts of irrigated agriculture

As discussed previously, in the Central Coast region many of the observed impacts on water quality are due to agricultural irrigation. Accordingly, the RWQCB has placed high priority on addressing agricultural water quality impacts and has created conditional agricultural waiver requirements that regulate waste discharges on agricultural lands that affect water quality in the Pajaro River watershed. The **Farm and Range Water Quality Management Program** will ensure that these requirements are met through the region and provides education, training and the development of a water quality plan that will provide growers and rural land owners with the tools necessary to reduce nutrient, sediment and pesticide pollutant discharges into water bodies. Education is an important component of the program, as well as demonstration projects and assisting in implementation. The **Regional Mobile Lab** and the **Santa Cruz Partners in Restoration Permit Coordination Program** provides assistance to growers that will allow them to meet the conditions of the conditional agricultural waiver requirement. The **Stream and Watershed Protection Program and** the **Tick Creek Riparian Enhancement** also serve to address water quality impacts of agricultural irrigation by taking land adjacent to streams out of service and providing buffers to current land use. Acquisition of land to help create riparian corridors through **Open Space Authority Acquisitions** will closely support riparian corridor policies.

12.3.2 Developing and implementing TMDLs throughout the Region

In the Pajaro River Watershed, the implementation of TMDLs related to nutrient, sediment and pesticides is almost always linked to addressing agricultural water quality impacts because of the prevalence of agricultural land use in the watershed. As discussed in Section 12.2.2, the Agricultural Water Quality Program will assist in implementation of a number of TMDLs in the watershed, consistent with the high priority that is given to TMDL implementation by the RWQCB.

12.3.3 Developing riparian corridor policies

There are a number of IRWMP projects that will contribute to enhancing riparian habitat and will contribute to the RWQCB priority of establishing policies for riparian corridor improvement. The **Groundwater Study and Biological Assessment of the Upper Pajaro River** will provide a better understanding of habitat restoration alternatives in conjunction with surface and groundwater supply considerations. This will inform the RWQCB's development of appropriate riparian corridor policies. The **Corralitos Creek Surface Fisheries Enhancement** project will protect steelhead in Corralitos Creek. The **Soap Lake Floodplain Preservation Project** will also support riparian corridor improvement by preserving a large area of natural habitat.

12.3.4 Maintaining the Central Coast Ambient Monitoring Program and integrating data from the agricultural cooperative monitoring program

All projects implemented within the IRWMP will have a monitoring plan that will be used to measure project performance. Monitoring data from the projects will be generated throughout the watershed and this data can be coordinate with the agricultural cooperative monitoring program and utilized by the Central Coast Ambient Monitoring Program (CCAMP) to develop a clearer picture of water quality and track the effectiveness of water quality improvement activities.

12.3.5 Overseeing clean-up of perchlorate, MTBE, military bases, hazardous waste, and underground storage tanks

Long term implementation of the IRWMP will address many groundwater pollutant issues in the Pajaro Valley and the Gilroy-Hollister Valley Groundwater Basins, which have water quality issues stemming from MTBE and perchlorate contamination. Projects for treatment of groundwater pollutant plumes and for oversight of leaky underground storage tanks have been proposed for long-term implementation of the IRWMP.

12.4 Implementation of the SWRCB Non-point Source (NPS) Pollution Plan

The SWRCB specific priorities focus on implementation of its NPS Program Plan. NPS pollution is the leading cause of water quality impairment in California and the nation. In order to address NPS pollution in California, the SWRCB, in conjunction with the nine RWQCBs and the California Coastal Commission (CCC), developed the *Plan for California's Nonpoint Source Pollution Control Program* (NPS Program Plan). The vision of the NPS Program Plan, which addresses both surface water and groundwater quality, is "to reduce and prevent NPS pollution so that the waters of California support a diversity of biological, educational, recreational, and other beneficial uses."

The Pajaro River and several of its tributaries are among the CWA Section 303(d) list of impaired waters. Implementation of the IRWMP and its associated water management strategies will support the NPS Program Plan goal of managing NPS pollution for watersheds that contain water bodies on the CWA Section 303(d) list by addressing NPS pollution issues at the watershed and local levels.

The NPS Program Plan identifies a number of management measures (MMs). These MMs provide goals for the management of NPS pollution to which various management practices are applied. Table 12-2 presents the MMs and various water management strategies that will assist in meeting the SWRCB NPS Pollution Plan.

Table 12-2: Coincidence of the Pajaro Watershed IRWMP with the NPS Program Plan

Management Measure	IRWMP Project
Agriculture MM 1A, Erosion and Sediment Control - MM 1A addresses NPS problems associated with soil erosion and sedimentation. Where erosion and sedimentation from agricultural lands affects coastal waters, landowners shall design and install a combination of practices to remove solids and associated pollutants in runoff during all but the larger storms. Alternatively, landowners may apply the erosion component of a Conservation Management System (CMS) as defined in the USDA Field Office Technical Guide.	**Farm and Range Water Quality Management Program –** This program promotes education and motivation for farmers and ranchers to implement on-farm BMPs that aid in reducing erosion and improving sediment control, among other benefits. **Santa Cruz Partners in Restoration Permit Coordination Program** – This program will facilitate the implementation of BMPs on agricultural land that will target the reduction of nutrient, sediment, and pesticide loading to surface waters. **Tick Creek Riparian Enhancement** - This project is designed to minimize erosion on agricultural lands adjacent to Tick Creek through vegetation buffers.
Agriculture MM 1F, Irrigation Water Management – MM 1F promotes effective irrigation while reducing pollutant delivery to surface and ground waters. Pursuant to this measure, irrigation water would be applied uniformly based on an accurate measurement of crop water needs and the volume of irrigation water applied, considering limitations raised by such issues as water rights, pollutant concentrations, water delivery restrictions, salt control, wetland, water supply and frost/freeze temperature management. Additional precautions would apply when chemicals are applied through irrigation.	**Regional Mobile Lab** – The Regional Mobile Lab is an educational and technical assistance program that will provide farmers and ranchers with the necessary tools and site specific data to achieve an irrigation schedule that is optimal for their land and crops. **Farm and Range Water Quality Management Program –** SBCWD and PVWMA are educating and assisting farmers and ranchers to implement on-farm practices that aid in water use efficiency, among other benefits. **Agricultural Water Conservation** - Irrigation water management is closely tied to water conservation and will be assisted by measures such as CIMIS data dissemination, soil moisture monitoring and irrigation equipment improvement.

Management Measure	IRWMP Project
Agriculture MM 1G, Education/Outreach - MM 1G aims to implement pollution prevention and education programs to reduce NPS pollutants generated from the following activities where applicable: • Activities that cause erosion and loss of sediment on agricultural land and land that is converted from other land uses to agricultural land; • Activities that cause discharge from confined animal facilities to surface waters; • Activities that cause excess delivery of nutrients and/or leaching of nutrients; • Activities that cause contamination of surface water and ground water from pesticides; • Grazing activities that cause physical disturbance to sensitive areas and the discharge of sediment, animal waste, nutrients, • and chemicals to surface waters; • Irrigation activities that cause NPS pollution of surface waters.	**Regional Mobile Lab** – The Regional Mobile Lab is an educational and technical assistance program that will educate farmers and ranchers on practices they can implement that will reduce agricultural runoff in the form of sediments, pesticides and nutrients. **Farm and Range Water Quality Management Program –** SBCWD and PVWMA are educating and assisting farmers and ranchers to implement on-farm practices that aid in water quality protection practices, among other benefits. **Agricultural Water Conservation** – This project contains a significant educational component and water conservation ultimately reduces the amount of runoff that occurs.
Urban Areas MM 3.3A, Runoff from Existing Development – MM 3.3A is designed to develop and implement watershed management programs to reduce runoff pollutant concentrations and volumes from existing development. These programs include: 1) identification of priority local and/or regional watershed pollutant reduction opportunities (e.g., improve existing urban runoff control structures); 2) schedule for implementing appropriate controls; 3) means to limit destruction of natural conveyance systems; and 4) preservation, enhancement, or establishment of buffers along surface water bodies and their tributaries.	**Soap Lake Floodplain Preservation Project** – This project provides a surface water quality benefit by minimizing sediment deposition in the Pajaro River channel and sediment transported downstream.

Management Measure	IRWMP Project
Hydromodification MM 5.3A, Eroding Streambanks and Shoreline – MM 5.3A addresses the stabilization of eroding streambank and shorelines in areas where streambank and shoreline erosion creates a polluted runoff problem. Bioengineering methods such as marsh creation and vegetative bank stabilization are preferred. Streambank and shoreline features that have the potential to reduce polluted runoff shall be protected from impacts, including erosion and sedimentation resulting from uses of uplands or adjacent surface waters. This MM does not imply that all shoreline and streambank erosion must be controlled; the measure applies to eroding shorelines and that constitutes an NPS problem in surface waters.	**Levee Reconstruction Project** – The bench excavation portion of this project will restore the channelized stream to a more naturally functioning ecosystem with the creation of a two-year (bankfull) floodplain and vegetated over banks. These modifications will enhance the natural geomorphic processes within the channel, aiding in the reduction of erosion problems that lead to NPS issues. **Stream and Watershed Protection Program** – This program initiates the first step in addressing streambank erosion through acquisition of the land adjacent to streams in Santa Clara County. **Tick Creek Riparian Enhancement** – This project will help to prevent the effects of hydromodification as it creates a 2,000 foot long vegetation buffer that will protect Tick Creek from the effects of agricultural land use and pasturing that surround the creek.
Wetlands, Riparian Areas and Vegetated Treatment Systems MM 6A, Protection of Wetlands/Riparian Areas – MM 6A is intended to protect the existing water quality improvement functions of wetlands and riparian areas as a component of NPS programs.	**Soap Lake Floodplain Preservation Project -** The proposed project would prevent future encroachment near the riparian corridor. **Stream and Watershed Protection Program** – By acquiring land adjacent to streams, this program will protect riparian areas from the effects of anthropogenic activities that can lead to erosion and discharge of polluted runoff. **Tick Creek Riparian Enhancement** – This project will protect and enhance the water quality improvement function along Tick Creek by creation of a stand of riparian vegetation along 2,000 lineal feet of the creek.
Wetlands, Riparian Areas and Vegetated Treatment Systems MM 6B, Restoration of Wetlands/Riparian Areas – MM 6B refers to the recovery of a range of functions that existed previously by reestablishing hydrology, vegetation, and structure characteristics. Damaged or destroyed wetland and riparian areas should be restored where restoration of such systems will significantly abate polluted runoff.	**Groundwater Study and Biological Assessment of the Upper Pajaro River -** The groundwater study will synthesize data from existing studies and expert opinion on groundwater and other hydrological attributes that are required to develop a watershed-wide habitat restoration plan for the upper Pajaro River and tributaries, including riparian, wetland, grasslands, and sustainable farming zones.

Management Measure	IRWMP Project
Wetlands, Riparian Areas and Vegetated Treatment Systems MM 6C, Vegetated Treatment Systems – MM 6C promotes the installation of vegetated treatment systems (e.g., artificial or constructed wetlands) in areas where these systems will serve a polluted runoff-abatement function. Vegetated filter strips and engineered wetlands remove sediment and other pollutants from runoff and wastewater, and prevent pollutants from entering adjacent water bodies. Removal typically occurs through filtration, deposition, infiltration, absorption, adsorption, decomposition and volatilization.	**Soap Lake Floodplain Preservation Project** - Protection of the floodplain will promote opportunities for creation and enhancement of wetlands, particularly at the confluence of the creeks found there, including the Pajaro River and the Carnadero Creek; Pajaro River and Llagas Creek and San Felipe Lake and Tequisquita Slough. **Vegetative Buffer Strips** – This program will identify sites throughout the watershed that are suitable for the installation of vegetative buffer strips that will remove sediment, nutrients, bacteria and other pollutants of concern.
Wetlands, Riparian Areas and Vegetated Treatment Systems MM 6D, Education/Outreach – MM 6D promotes the establishment of programs to develop and disseminate scientific information on wetlands and riparian areas and to develop greater public and agency staff understanding of natural hydrologic systems—including their functions and values, how they are lost, and the choices associated with their protection and restoration.	**Groundwater Study and Biological Assessment of the Upper Pajaro River** - The groundwater study will synthesize data from existing studies and expert opinion on groundwater and other hydrological attributes that are required to develop a watershed-wide habitat restoration plan for the upper Pajaro River and tributaries, including riparian, wetland, grasslands, and sustainable farming zones. The biological assessment will identify habitat requirements for sensitive species and identify the current and potential extent of suitable aquatic, riparian and terrestrial habitats, determining known and potential distributions of sensitive species, assessing suitability of soils and groundwater levels in areas where restoration projects are being considered, and identifying limiting factors for habitat restoration

12.5 CALFED Priorities

The mission of the CALFED Bay-Delta Program is to develop and implement a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta System. To carry out this mission CALFED developed four primary objectives: 1) restore the ecosystem, 2) provide water supply reliability, 3) improve water quality, and 4) stabilize Delta levees.

Three objectives of the CALFED Bay-Delta Program, ecosystem restoration, water supply reliability, and water quality, are addressed through the water management strategies of this IRWMP, as shown in Table 12-3. Only one CALFED Bay-Delta Program objective that is not addressed through the IRWMP pertains to Delta levee system integrity because this objective is not applicable to the Pajaro Watershed.

Reducing the overall demand of water conveyed through the Delta will benefit all four primary objectives. Since a large proportion of CVP water is transported through the Delta, the most significant contribution of the Pajaro River watershed towards achieving CALFED priorities will be from reducing dependence on CVP imported water.

The CALFED objectives are supported by 11 major program elements:

- Water Management
- Storage
- Conveyance
- Water use Efficiency
- Water Transfers
- Environmental Water Account
- Drinking Water Quality
- Watershed Management
- Levee System Integrity
- Ecosystem Restoration
- Science

The IRWMP will employ a number of these CALFED program elements within its programs and projects including water management, storage, water use efficiency, water transfers, drinking water quality, watershed management, ecosystem restoration and science. CALFED program elements employed by the IRWMP are also shown in Table 12-3.

Table 12-3: Coincidence of the Pajaro Watershed IRWMP with CALFED Bay-Delta Program Objectives

CALFED Primary Objectives	IRWMP Project	CALFED Program Elements employed by IRWMP
Water Supply Reliability • Assist local partners in developing 500,000 to 1 million acre-feet of groundwater storage. • Pursue planning and other actions at state and federal level to expand surface storage capacity by up to 3.5 million acre-feet. • Optimize water conveyance facilities in the Delta and in other locations to maximize flexibility, protect water quality and fish species, and increase water supply reliability. • Invest in local projects that boost water use efficiency through annual water conservation and recycling competitive grants/loan program. • Streamline water transfer approval process and develop an effective water transfer market that protects water rights, the environment and local economies.	**Agricultural Water Conservation –** Conservation efforts in agricultural areas throughout the watershed increase water use efficiency and improve water supply reliability. **Watsonville Recycled Water Treatment Facility** – This project establishes a new water supply for the watershed using recycled water. **Coastal Distribution System** – The CDS optimizes water conveyance throughout the Pajaro Valley, maximizing supply flexibility and increasing water supply reliability. **Corralitos Creek Surface Fisheries Enhancement** – This project improves fish passage around the Corralitos Creek diversion facility, ensuring that water can continue to be withdrawn from Corralitos Creek. **Groundwater Study and Biological Assessment of the Upper Pajaro River** – This project will enhance water supply reliability by optimizing water conveyance facilities to protect species while increasing water supply reliability. **Import Pipeline –** This project will optimize water conveyance throughout the Pajaro River watershed. Elements envisioned as part of this project include development of groundwater storage, creation of new sources of water through desalination and water recycling and optimization of CVP import water use through water transfers. San Felipe Division Operations and Maintenance Improvements – This project will optimize water conveyance throughout the Pajaro River watershed by improving the reliability of the existing San Felipe Division facilities and maintaining flexibility in the timing of deliveries.	▪ **Water Management** ▪ **Water Use Efficiency** ▪ **Drinking Water Quality** ▪ **Watershed Management** ▪ **Ecosystem Restoration** ▪ **Science**

CALFED Primary Objectives	IRWMP Project	CALFED Program Elements employed by IRWMP
Ecosystem Restoration • Implement aggressive measures to improve Delta water quality and water quality science. • Restore habitat in the Delta and its tributary watersheds. • Improve fish passage though modification or removal of dams, improved bypasses and ladders.	**Corralitos Creek Surface Fisheries Enhancement** – This project will update the Corralitos Creek facility's surface water intake and fish ladder to improve fish passage. **Tick Creek Riparian Enhancement** – This project will improve riparian habitat through the planting of riparian vegetation along Tick Creek. **Groundwater Study and Biological Assessment of the Upper Pajaro River** - The groundwater study will synthesize data from existing studies and expert opinion on groundwater and other hydrological attributes that are required to develop a watershed-wide habitat restoration plan for the upper Pajaro River and tributaries, including riparian, wetland, grasslands, and sustainable farming zones. This may lead to improved fish passage within the San Felipe system.	▪ **Water Management** ▪ **Watershed Management** ▪ **Ecosystem Restoration** ▪ **Science**
Water Quality • Develop and implement source control and drainage management programs. • Invest in treatment technology.	**Import Pipeline Project** – This project is envisioned to contain several elements to improve water quality. Various treatment technologies are being considered such as desalination of groundwater, advanced treatment of recycled water and blending of water. A brine disposal option for the import pipeline is also being considered in conjunction with these treatment technologies.	▪ **Water Management** ▪ **Water Use Efficiency** ▪ **Drinking Water Quality**

12.6 Implementation of recommendations of the floodplain management task force, desalination task force, recycling task force of state species recovery plan;

The DWR's mission is to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments. To meet these objectives DWR has a number of task forces – the Flood Management Task Force, the Desalination Task Force, and the Water Recycling Task Force – that focus on various aspects of water resource management. Each task force provides recommendations for adoption by the State and local agencies. The connection between the water management strategies in this IRWMP and each of the task force's recommendations are summarized below in Table 12-4, Table 12-5, and Table 12-6.

12.6.1 Floodplain Management Task Force

In 2002, the State of California Floodplain Management Task Force recommended floodplain management strategies that are designed to reduce flood losses and maximize the benefits of floodplains. The Task Force defined floodplain management as including "actions to the floodplain to reduce losses to human resources within the floodplain and/or protect benefits to natural resources associated with floodplains and flooding." Some sample actions as stated by the Task Force to support floodplain management include the following activities:

1. Minimizing impacts of flows;
2. Maintaining or restoring natural floodplain processes;
3. Removing obstacles within the floodplain voluntarily or with just compensation;
4. Keeping obstacles out of the floodplain;
5. Educating and planning for emergency preparedness; and,
6. Ensuring that operations of floodwater management systems are not compromised by activities that interfere with, or are damaged by, design floods of these systems.

The recommendations of this Task Force revolved around the following three themes: 1) Better understanding of, and reducing risks from, reasonably foreseeable flooding, 2) Multi-objective management approach for floodplains, and 3) Local assistance, funding, and legislation. Table 12-4 below describes Pajaro River watershed projects that assist in meeting Floodplain Management Task Forces recommendations.

Table 12-4: Coincidence of the Pajaro Watershed IRWMP with Floodplain Management Task Force Recommendations

Floodplain Management Task Force Recommendations	IRWMP Project
Multi-Objective Management - Promote a MOM approach to flood management projects. State and local agencies should approach flood management as part of multi-objective watershed management. Where feasible, these projects should provide adequate protection for natural, recreational, residential, business, economic, agricultural, and cultural resources and protect water quality and supply.	**Soap Lake Floodplain Preservation Project** – In addition to providing flood protection benefits for the Lower Pajaro River, this project provides benefits of surface water quality, groundwater recharge, open space preservation, riparian corridor protection, agricultural preservation and creation and enhancement of wetlands. **Vegetative Buffer Strips** – This project will be implemented across the watershed as suitable sites are identified. As the main objective of this BMP is to capture and detain, as well as treat runoff, it can also contribute to flood attenuation when properly situated. **Pajaro River Parkway** – This project will examine the feasibility of incorporating a recreational element to the Lower Pajaro River Levee Reconstruction Project. **San Benito River Parkway** – This project will expand recreational opportunities along the San Benito River in conjunction with a mine restoration project that will assist in flood management.

Floodplain Management Task Force Recommendations	IRWMP Project
Flood Management Approach for Ecosystem Restoration and Agricultural Conservation – While providing for public safety and flood damage reduction, flood management programs and projects should maximize opportunities for agricultural conservation and ecosystem protection and restoration, where feasible. When land is being considered for use in a flood management project or program, the following should be addressed equitably: • Conserve productive agricultural land and natural habitat; • Promote the recovery and stability of agriculture; • Promote the recovery and stability of native species populations, and overall biotic community diversity; • Provide for natural, dynamic hydrologic, and geomorphic processes; • Increase and improve the quantity, diversity, and connectivity of native habitat; • Eliminate or mitigate negative redirected impacts to neighboring landowners; and • Evaluate and address economic impacts to local communities and regions.	**Soap Lake Floodplain Preservation Project** – In addition to providing flood protection benefits for the Lower Pajaro River, this project provides benefits of surface water quality, groundwater recharge, open space preservation, riparian corridor protection, agricultural preservation and creation and enhancement of wetlands in the Upper Pajaro River watershed. **Open Space Authority Acquisitions** – This project focuses on acquisitions that are intended to preserve agricultural use, open space and riparian habitat. Easements or purchases being considered on flood plain areas will be coordinated to ensure that opportunities for flood management can be maximized. **Restoration of the Upper Pajaro River Floodplain –** Opportunities for flood management that can be incorporated into the habitat restoration plan developed by this project will be identified and integrated into the plan, where possible. The project considers habitat restoration in the floodplain between the Mount Hamilton Range and the Santa Cruz Mountains.
Nonstructural Approaches, Restoration and Conservation of Agriculture and Natural Lands – In planning new or upgraded floodwater management programs and projects, including structural projects, local and State agencies should, where appropriate, encourage nonstructural approaches and the conservation of the beneficial uses and functions of floodplains. It is recognized that some structural approaches provide needed flood protection and opportunities for agricultural conservation and ecosystem protection and restoration.	**Soap Lake Floodplain Preservation Project –** This project is a nonstructural approach which is being implemented with the Levee Reconstruction Project to provide 100-year flood protection for communities along the Lower Pajaro River.
Protection of Floodplain Groundwater Recharge Areas – Permitting agencies should consider the impacts of land-use decisions on the capacity of the floodplain to recharge groundwater.	**Soap Lake Floodplain Preservation Project -** Flooding of the Soap Lake floodplain will continue to provide percolation into the groundwater and recharging of the aquifer.

Floodplain Management Task Force Recommendations	IRWMP Project
Tools for Protection of Flood-Compatible Land Uses – The State should identify, develop, and support a variety of tools for the protection of flood-compatible land uses. These tools should be developed in consultation with, and be made available to, private landowners, local governments, and non-governmental organizations. Examples of such tools can include: Easement/fee acquisition programs, management payments, land exchanges/bank,incentives for placing new development outside of the floodplain, safe harbor policy, adjacent landowner protections, stewardship incentive payments, voluntary agriculture wildlife habitats, habitat conservation plans, natural community conservation programs, and special area management plans.	**Open Space Authority Acquisitions –** The acquisition goals of the Open Space Authority (Authority) include valley floor preservation that can include wetlands, riparian corridors and agricultural preservation. Acquisitions are accomplished through fee purchases or conservation easements and are done by the Authority or by local agencies with assistance from the Authority.
Multi-Jurisdictional Partnerships – The State should encourage multi-jurisdictional partnerships when floodplain management projects are planned and implemented. Jurisdiction-based projects provide localized solutions, when a greater benefit might be achieved if the project adopted a watershed-wide approach. Communities and jurisdictions should work together to develop, implement, and monitor watershed-wide floodplain management programs.	**Levee Reconstruction Project** – This project is a multi-jurisdictional project. The Local Governance subtask to this project will aim to formalize this partnership with the creation of a cross-jurisdictional governing body that can oversee the project. **Soap Lake Floodplain Preservation Project –** This project exemplifies the watershed-wide approach to floodplain management. The project was developed through a four-county (eight-agency) collaborative approach. Conservation easements for the Soap Lake which lies in the Upper Pajaro River watershed are being acquired in order to provide flood protection in the Lower Pajaro River watershed. **San Juan Basin Surface Drainage –** This project is a partnership between SBCWD, San Benito County and CALTRANS that will allow planned work along a major highway to be performed in a manner that also enhances drainage and reduces local flooding.

Floodplain Management Task Force Recommendations	IRWMP Project
Proactive and Adaptive Management of Floodplains – State and local agencies should manage floodplains proactively and adaptively by periodically adjusting to current environmental, economic, hydraulic, and biological conditions and in response to new scientific information and knowledge. If new or additional flood management projects alter the size of a floodplain, cities and counties should evaluate all of their objectives for the area removed from or added to that floodplain.	**Groundwater Study & Biological Assessment of the Upper Pajaro River –** This study will provide information about the habitat requirements for sensitive biological species in the Upper Pajaro River watershed, which will help guide future habitat restoration opportunities that can be linked to efforts for flood management.
New and Existing Funding Sources – State and local governments should increase and leverage federal programs, as appropriate, and encourage local, State, federal, public, nongovernmental, and other private cost sharing to achieve equitable and fair financing of multi-objective floodplain management actions and planning.	**Levee Reconstruction Project** – This project involves working with stakeholders to identify local cost sharing for flood management implementation as a match to the USACE federal funding.

12.6.2 Desalination Task Force

A primary finding of the State of California Water Desalination Task Force is that "economically and environmentally acceptable desalination should be considered as part of a balanced water portfolio to help meet California's existing and future water supply and environmental needs" (Department of Water Resources, *Water Desalination Findings and Recommendations*, October 2003). This Task Force also determined that significant value can be gained from desalination, and can also provide numerous benefits, which are listed below.

1) Providing a supplemental water supply to meet present year and projected demands;
2) Replacing water lost from other sources and relieving drought conditions;
3) Aiding in water supply reliability, and providing a high quality potable water supply;
4) Reducing groundwater overdraft and restoring use of polluted groundwater; and,
5) Replacing water that can otherwise be used for river and stream ecosystem restoration.

Additionally, the Task Force outlined forty-one (41) key findings related to the evaluation of desalination for a region, which include brackish groundwater findings, seawater and estuarine findings, planning and permitting findings, and other general desalination findings. Major recommendations were made based on the aforementionedfindings. The recommendations for desalination are related to energy and the environment, planning and permitting, funding, and other general conclusions. Table 12-5 below describes Pajaro River watershed projects that assist in meeting Desalination Task Forces recommendations.

Table 12-5: **Coincidence of the Pajaro Watershed IRWMP with Desalination Task Force Recommendations**

Desalination Task Force Recommendations	IRWMP Project
Include desalination, where economically and environmentally appropriate, as an element of a balanced water supply portfolio, which also includes conservation and water recycling to maximum extent practicable.	**SBCWD Groundwater Demineralization** – This involves the desalination of high TDS groundwater for potable and agricultural uses and as part of a larger plan for salt management to allow for continued use of the groundwater resources in the basin. **SSCWD Groundwater Desalination** – SSCWD is considering groundwater desalination as part of its water supply portfolio in addition to treated CVP water.
Results from monitoring at desalination projects should be reported widely for the broadest public benefits. Encourage opportunities to share information on operational data. Create a database and repository for storing and disseminating information.	**SBCWD Groundwater Demineralization** – Monitoring results from this project will be incorporated into the data management structure of the IRWMP and will be disseminated to the public and other interested parties.
Compare reasonable estimates of benefits, costs and environmental impacts for desalination with those for other water supply alternatives realistically available for that area.	**SBCWD Groundwater Demineralization** – Groundwater desalination, which this project represents, is being considered as a toolbox element within the context of a Groundwater Management Plan, which is a comprehensive examination of all water supply options available in the San Benito Portion of the Gilroy-Hollister Groundwater Basin.
Where feasible and appropriate, utilize wastewater outfalls for blending/discharging desalination brine/concentrate.	**Import Pipeline** – A long term component being considered for this project could involve utilization of a portion of the import pipeline capacity for brine transport or the construction of a dedicated parallel brine line that would allow for delivery of brine concentrate from inland desalination operations to the coast to be possibly discharged at the Watsonville WWTP outfall.

Desalination Task Force Recommendations	IRWMP Project
Evaluate all new water supply strategies including desalination based upon adopted community General Plans, Urban Water Management Plans, Local Coastal Plans, and other approved plans that integrated regional planning, growth and water supply/demand projections. Environmental reviews should ensure that growth related impacts of desalination projects are properly evaluated.	**SBCWD Groundwater Demineralization** – Groundwater desalination, which this project represents, is being considered as a toolbox element within the context of a Groundwater Management Plan, which is a comprehensive examination of water supply options available in the San Benito Portion of the Gilroy-Hollister Groundwater Basin and is linked to local plans. **SSCWD Groundwater Desalination** – The recommendation to consider groundwater desalination, was determined through the SSCWD Long-Term Wastewater Management Plan, which is a long term plan that takes into account the needs of the community. **Hollister Groundwater Softening** – This project is contained in the Hollister Urban Area Water and Wastewater Master Plan.

12.6.3 Recycled Water Task Force

The State of California Recycled Water Task Force focus is on the following recycled water components:

1) Plumbing code and cross connection;
2) Public information, education, and outreach;
3) Funding and CALFED coordination;
4) Regulations and permitting;
5) Science and health, and indirect potable reuse; and,
6) Economics.

Several white papers have been produced by this Task Force to address the above topics in recycled water for California water users. Table 12-6 below describes Pajaro River watershed projects that assist in meeting Recycled Water Task Forces recommendations.

Table 12-6: Coincidence of the Pajaro Watershed IRWMP with Recycled Water Task Force Recommendations

Recycled Water Task Force Recommendations	IRWMP Project
Federal cost sharing legislation to support development of projects should be pursued	**Watsonville Recycled Water Treatment Facility** and **Coastal Distribution System** – Both of these projects have secured Title XVI funding.
Public participation should be incorporated in all phases of project planning in order to justify water recycling on fundamental needs or community	**Watsonville Recycled Water Treatment Facility** – Public participation was an integral part of the project planning. The Water Quality & Operations

Recycled Water Task Force Recommendations	IRWMP Project
desire.	Committee, which is a group made up of farmers, local land owners and other interested members of the public, coordinated with PVWMA throughout the planning phase. PVWMA hosted strategic public outreach meeting during development of the project, and the PVWMA's bimonthly board meetings are open to the public.
Local agencies should adopt well defined local recycled water ordinances.	**Watsonville Recycled Water Treatment Facility –** A recycled water use ordinance will be developed prior to project start-up. **Import Pipeline** - This project could incorporate the adoption of local recycled water ordinances. One of the objectives of the IRWMP is to target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020.
Within the current legal restrictions, local agencies should consider publicity campaigns to educate consumers regarding the impacts of self-regenerative water softeners and promote the use of off-site regeneration by service companies. They should also consider financial incentives to upgrade older inefficient appliances to the current standards.	**Water Softener Rebate –** This is a direct incentive program offered by SBCWD and SCVWD that will provide partial reimbursements for customers that install more efficient water softeners. **Salinity Education Program –** Through this program, customers learn about the contribution of water softeners to the high TDS problems in the groundwater basins and are directed to programs such as water softener rebates.

12.7 Environmental Justice

Statewide priorities for Environmental Justice include ensuring that disadvantaged communities have access to the decision making process and that these populations do not suffer disproportionately from negative health effects and environmental degradation. The IRWMP ensures environmental justice occurs and will implement projects that attempt to improve access to a reliable water supply and protection from flood in the disadvantaged community of Watsonville. See Section 14.5 for a detailed discussion on Environmental Justice.

12.8 Acknowledgement of All Statewide Priorities

The Pajaro River Watershed IRWMP is consistent with all eight of the Statewide Priorities. The four water management programs contain projects that will substantially address these priorities, while also meeting the identified needs, goals and objectives of the stakeholders in the watershed. The multi-beneficial strategies and integrated programs actively developed by the Partners and many stakeholders in the Pajaro River region demonstrate the breadth and depth of understanding of the issues facing this watershed and the matters of the State.

The Conjunctive Water Supply Management Program and the Water Supply/Salt Management Programs will reduce conflict throughout the watershed by ensuring that ample, reliable supplies of high quality are

available to meet future demands. These programs will also implement recommendations of the Recycled Water and Desalination Task Forces through projects that maximize local supplies through these two strategies. Projects within the water supply programs also meet CALFED Bay-Delta Program Objectives through projects that increase water supply reliability.

The Agricultural Water Quality Program will squarely address three of the statewide priorities related to water quality: implementation of TMDLs, implementation of the RWQCB WMI, and implementation of the SWRCB NPS Plan. Addressing the impacts of irrigated agriculture on water quality is a high priority for the watershed. The projects within this program are focused on decentralized efforts to eliminate the effects of nutrients, sediment, pesticides, bacteria and other pollutants throughout the watershed. Education, training and natural treatment BMPs are main components of the program, which is consistent with TMDL implementation plan recommendations, WMI targeted projects and activities and NPS management measures.

The Pajaro River Flood Protection Program is structured to take advantage of multi-objective, non-structural type solutions that are emphasized by the Floodplain Management Task Force. It has been developed to maximize opportunities for habitat restoration, open space and recreation benefits in conjunction with offering flood management benefits. Many of the projects within the program involve joint efforts by multiple agencies and stakeholders coordinating across jurisdictions to develop the most effective and acceptable solutions possible. The Pajaro River Flood Protection Program will not only aid in maintaining the natural floodplain hydrologic, hydraulic, and geomorphic characteristics and sediment issues of the river, but will also ensure that flood prevention measures, such as those outlined by the Floodplain Management Task Force, are implemented to protect life, agricultural industries, resources, and disadvantaged and low income communities downstream. The integrated flood protection strategies will further the Floodplain Management Task Force's efforts to minimize impacts of flows and maintain and restore floodplain processes.

The Water Supply/Salt Management Program will address many of the Desalination Task Force recommendations through its groundwater demineralization projects. Groundwater is an important water supply component in the upper watershed and groundwater demineralization has been assessed in context of all other water supply options and found to be an essential strategy for maintaining a balanced and reliable water portfolio. The program also contains recycled water projects, a water softener rebate and salinity education programs that will meet many of the Recycled Water Task Force recommendations, including the recommendation to reduce the impacts of self-regenerating water softeners.

As demonstrated throughout the breadth and depth of this IRWMP, the goals of the Statewide Priorities can be realized and achieved within the Pajaro River watershed. The innovative strategies and implementation programs developed by Pajaro River Partners and stakeholders will meet, with a significant degree of certainty, the Priorities set forth by the State Water Resources Control Board and the Department of Water Resources. Through implementation projects, these priorities can be achieved for the waters of the State. It is with a high degree of certainty that implementation of the integrated Pajaro River watershed strategies will demonstrate and attain the Priority results desired for the waters of the State of California.

13 Relation to Local Planning

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

> **M. Relation to Local Planning** – Discuss how the IRWM Plan relates to planning documents and programs established by local agencies. Demonstrate coordination with local land-use planning decision-makers. Discuss how local agency planning documents relate to the IRWM strategies and the dynamics between the two planning documents. Discuss the linkages between the Plan and local planning documents.

The Pajaro River Watershed IRWMP process is designed to meet the collective needs of cities, counties, water and wastewater agencies and other stakeholders in the region. These entities have been involved in many planning efforts to develop goals and plans related to land use and water management issues. The planning documents created from these efforts serve as an important foundation for the IRWMP. The IRWMP has integrated the goals, objectives and programs contained in these documents to ensure that it is consistent with local issues and needs.

The Pajaro River Watershed IRWMP process was borne out of Collaborative discussions regarding regional needs, proposed projects, and teaming for regional effectiveness. With the recognition that multiple agencies had shared needs and similar objectives, the Collaborative began aggressively working toward developing a regional plan and programs that could bring about integrated projects for the benefit of many stakeholders. This effort is supported by the MOU described in Section 1 that was signed by all Partners to support regional water resources management planning. This MOU demonstrated their dedication to joint coordination of local water resources planning efforts.

13.1 IRWMP Relationship to Local Planning Documents

The IRWMP was developed in coordination with local agencies and the planning documents that have been produced for the Pajaro River Watershed region. These include General Plans, Urban Water Management Plans, and other plans covering a number of areas such as recycled water, groundwater management, water resources, and environmental enhancement. The relevance of these documents to the IRWMP is discussed below and summarized in Table 13-1. Studies, analyses and assessments which directly support these plans are also shown. Coordination and collaboration occurred through meetings, teleconferences, workshops, and personal communications (See Section 14 – Stakeholder Involvement) with agencies and entities identified in this table to understand their various efforts, planning goals and objectives, and proposed water management strategies. This table is not intended to be a comprehensive list of every report reviewed, but does reflect many of the documents and efforts within the Pajaro River watershed. Table 13-1 also includes some plans that are currently being prepared. In the future, local planning efforts will be incorporated into the IRWMP through an ongoing local planning review process that will identify additional documents, efforts, and projects throughout the implementation of the IRWMP. Water management strategies employed within these plans are shown in Table 13-2.

Table 13-1: Major Planning Documents Utilized for IRWM Planning

Document Title/Description	Publication Date	Agency/Entity	Relation to IRWMP
General Plans			
City of Gilroy General Plan	June 2002	City of Gilroy	Provides list of Cities' policies, goals and actions for land use, water conservation, water reclamation, flood control, habitat protection and open space preservation
City Hollister General Plan	December 2005	City of Hollister	
City of Morgan Hill General Plan	July 2001	City of Morgan Hill	
City of Watsonville General Plan	February 2006	City of Watsonville	
Monterey County Draft General Plan 2006	August 2006	Monterey County	Provides list of Counties' policies, goals and actions for land use, water conservation, water reclamation, flood control, habitat protection and open space preservation
San Benito County General Plan		San Benito County	
The Santa Clara County General Plan (1995-2010)	December 1994	Santa Clara County	
Santa Cruz County General Plan	1994	Santa Cruz County	
Urban Water Management Plans			
City of Watsonville Urban Water Management Plan UWMP 2005	February 2006	City of Watsonville	Provides understanding of Watsonville urban water needs, management, and planning objectives
Hollister Area UWMP	July 1999	Sunnyslope County Water District, City of Hollister, and SBCWD	Provides understanding of Hollister urban water needs, management, and planning objectives
SCVWD UWMP	December 2005	SCVWD	Provides understanding of Santa Clara County water needs and management strategies
Other Plans			
Biological Assessment Pajaro River and Salsipuedes and Corralitos Creeks Management and Restoration Plan Santa Cruz County, California	September 2001	County of Santa Cruz	Provides understanding of biological and restorative plans within the Pajaro River
City of Hollister Long-Term Wastewater Management Plan	December 2005	City of Hollister	Provides plan for wastewater treatment, effluent management and recycled water for the City of Hollister. Identifies projects and schedule of implementation.
Hollister Urban Area Water and Wastewater Master Plan (HUAWWMP)	In Preparation	City of Hollister, San Benito County and SBCWD	Will provide understanding of the water and wastewater needs of the Hollister urban area as well as a plan for implementation for meeting those needs
Lower Pajaro River Enhancement Plan: For Green Valley, Casserly, Hughes, Tynan, Coward, and Thompson Creeks	December 2002	Santa Cruz County Resource Conservation District	Directly related to Erosion Control, Vegetative Treatment, and Riparian Restoration Project, which is part of the Pajaro River Water Quality Program

Document Title/Description	Publication Date	Agency/Entity	Relation to IRWMP
Pajaro River Watershed Study Reports Phase I Phase II Phase III Phase IV	July 2002 April 2003 February 2005 March 2005	Pajaro River Watershed Flood Prevention Authority (PRWFPA)	Directly related to Soap Lake Floodplain Preservation Project, Pajaro River Flood Protection Program
Pajaro River Watershed Water Quality Management Plan	June 1999	Association of Monterey Bay Area Governments	Provides understanding of AMBAG water quality management goals
Revised Basin Management Plan (BMP)	February 2002	PVWMA	Directly related to the Pajaro Valley Water Supply Program
Santa Clara Valley Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP)	In preparation	Cities of Gilroy, Morgan Hill, and San Jose, Santa Clara Valley Transportation Authority, SCVWD	Will provide understanding of habitat needs for endangered species and determine appropriate land use strategies
SBCWD Groundwater Management Plan Update for the San Benito County Part of the Gilroy-Hollister Groundwater Basin	May 2004	SBCWD and Water Resource Association of San Benito County	Provides understanding of San Benito groundwater issues and management plans for the Gilroy-Hollister groundwater basin
SCVWD Groundwater Management Plan	July 2001	SCVWD	Provides understanding of groundwater basins and management objectives for SCVWD jurisdiction.
SCVWD Integrated Water Resources Planning Study 2003 - Draft	2003	SCVWD	Provides understanding of SCVWD water management plans in Upper Pajaro River watershed
South County Recycled Water Master Plan	October 2004	SCRWA & SCVWD	Provides understanding of South Santa Clara County plans for recycled water availability and use
South County Water Supply Plan (SCWSP)	In preparation	SCVWD	Will provide specific strategies for ensuring a reliable supply of high quality water in southern Santa Clara County; being prepared in conjunction with local land use agencies
Water Quality Control Plan for Central Coastal Basin (Basin Plan)	2000	Central Coast RWQCB	Provides understanding of the surface- and groundwater quality objectives of the Central Coast RWQCB.
Analyses, Assessments, Reports and Studies			
Salsipuedes Creek Maintenance Analysis (File #50275)	February 2005	Santa Cruz County Flood Control and Conservation District Zone 7	Provides technical understanding of Salsipuedes Creek hydrology, hydraulics, and sedimentation and further understanding of Lower Pajaro River watershed dynamics and maintenance activities

Document Title/Description	Publication Date	Agency/Entity	Relation to IRWMP
Pajaro River Bench Excavation Analysis 1 (Supplemental) & Analysis 2	February 2004 October 2004	Santa Cruz County Flood Control and Conservation District Zone 7	Directly related to the Lower Pajaro River Bench Excavation Project, Pajaro River Flood Protection Program
Pajaro River Bench Excavation Project, Tree Resource Evaluation/ Sediment Excavation Impact Assessment	May 2005	Santa Cruz County Public Works Department	Directly related to the Lower Pajaro River Bench Excavation Project, Pajaro River Flood Protection Program
File #50275; Memo, RE: Pajaro River Bench Excavation Analysis;	October 2004	Santa Cruz County Flood Control and Conservation District Zone 7	For technical understanding of the Pajaro River Bench Excavation Project
Soap Lake Floodplain Preservation Project – Draft Initial Study and Negative Declaration	September 2004	PRWFPA	Directly related the Soap Lake Floodplain Preservation Project, Pajaro River Flood Protection Program
Watsonville Area Water Recycling Project Feasibility Study	August 2004	City of Watsonville and PVWMA	Directly related to the WRWTF & CDS projects, Pajaro Valley Water Supply Program
Technical Report for an Iron and Manganese Treatment Facility at the San Juan Road Well Site for the Pleasant Acres and San Juan Road Wells	August 2004	Aromas Water District	Provides understanding of the Aromas Wellhead Treatment Project
San Benito County Regional Recycled Water Project Feasibility Study Report - Draft	May 2004	SBCWD and Water Resource Association of San Benito County	Provides understanding of San Benito County Recycled Water project plans
Pajaro River Flood Control Project Alternative Formulation Briefing Document (F4a Milestone)	April 2004	USACE, San Francisco District	Directly related to the USACE Pajaro Levee Reconstruction Project, Pajaro River Flood Protection Program
Pajaro River Bench Excavation Analysis 1 (File #50275)	January 2004	Santa Cruz County Flood Control and Conservation District Zone 7	Directly related to the Lower Pajaro River Bench Excavation Project, Pajaro River Flood Protection Program
San Felipe Preventive Maintenance Shutdown, Final Study/Environmental Assessment	August 2003	SCVWD	For understanding of the environmental issues surrounding San Felipe Preventative Maintenance Shutdown
Pajaro River Stable Planform Study – Pajaro River Channel Planform and Channel Forming Discharge Analysis	July 2003	USACE	For recommendations regarding lowering bench elevations as one of four methods proposed for restoring the Pajaro River channel to its original bankfull dimensions
SCVWD Groundwater Conditions 2002/2003	January 2005	SCVWD	For understanding of existing groundwater conditions in SCVWD jurisdiction

Document Title/Description	Publication Date	Agency/Entity	Relation to IRWMP
Final Environmental Impact Report Pajaro River and Salsipuedes and Corralitos Creeks Management and Restoration Plan, Santa Cruz County, California	February 2002	County of Santa Cruz	For understanding of the environmental impacts of environmental and restorative plans for the Pajaro River and tributaries
Draft - Pajaro Valley Water Management Agency Revised Basin Management Plan Environmental Impact Report	October 2001	PVWMA	Provides understanding of environmental issues surrounding the Pajaro Valley Water Supply Program
Action Plan IV: Agriculture and Rural Lands Water Quality Protection Program	October 1999	Monterey Bay National Marine Sanctuary	Provides understanding of the MBNMS water quality protection program, which has aided in the development of the Pajaro River Water Quality Program
Final EIR for the Long Term Wastewater Management Plan, Cities of Gilroy and Morgan Hill	May 1990	South County Regional Wastewater Authority	Provides understanding of Gilroy and Morgan Hill wastewater management plans/needs

Table 13-2: IRWMP Water Management Strategies Contained in Planning Documents

	Ecosystem Restoration	Environmental & habitat protection & improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation & Public Access	Stormwater Capture & Management	Water Conservation	Water Quality Protection& Improvement	Water Recycling	Wetlands Enhancement & Creation	Conjunctive Use	Desalination	Imported Water	Land Use Planning	NPS Pollution Control	Surface Storage	Watershed Planning	Water & Wastewater Treatment	Water Transfers	
City of Gilroy General Plan	X	X	X	X	X	X	X	X	X	X					X	X			X		
City of Hollister General Plan	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X		
City of Morgan Hill General Plan	X	X	X	X	X	X	X	X	X	X	X			X	X	X		X	X		
City of Watsonville General Plan	X	X	X	X	X	X	X	X	X	X	X			X	X	X		X	X		
Monterey County Draft 2006 General Plan																					
San Benito County General Plan		X		X		X	X	X											X		
Santa Clara County General Plan	X	X		X	X	X	X		X		X					X		X	X		
Santa Cruz County General Plan																					
City of Watsonville Urban Water Management Plan (UWMP)			X					X		X				X							
Hollister Area UWMP			X		X			X	X	X				X					X		
SCVWD UWMP			X		X			X	X	X		X		X			X	X	X	X	
Biological Assessment Pajaro River and Salsipuedes & Corralitos Creeks Management & Restoration Plan				X																	
City of Hollister Long Term Wastewater Management Plan (City of Hollister)			X		X				X	X									X		
Hollister Urban Area Water and Wastewater Management Plan (HUAWWMP)			X		X				X	X									X		
Lower Pajaro River Enhancement Plan	X	X				X								X	X		X				
Pajaro River Watershed Study Reports	X	X		X		X	X				X			X	X		X				
Pajaro River Watershed Water Quality Management Plan															X		X				
Revised Basin Management Plan (BMP)				X			X								X						
Santa Clara Valley Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP)	X	X												X							
SBCWD Groundwater Management Plan Update for the the San Benito County Part of the Gilroy-Hollister Groundwater Basin			X		X						X	X					X	X			
SCVWD Groundwater Management Plan					X				X									X			
SCVWD Integrated Water Resources Planning Study (IWRP) 2003			X		X			X	X	X		X	X	X			X		X	X	
South County Water Supply Plan (SCWSP)		X	X		X			X	X	X		X		X	X		X		X	X	
South County Recycled Water Master Plan			X						X	X											
Water Quality Control Plan for the Central Coastal Basin (Basin Plan)			X	X	X	X	X	X	X	X					X	X		X	X		

13.1.1 General Plans

The IRWMP has been coordinated with the elements of local General Plans through the stakeholder involvement of cities and counties within the Pajaro River Watershed. General Plans provide land use, environmental, economic, administrative, and other pertinent information with regard to the use, need, quantity, quality, and management of water resources within a particular jurisdiction. General Plans also chart existing and future goals and objectives to be accomplished for the communities they describe, and can provide valuable insight into the needs, priorities, and values of the local community. These elements have been considered and have helped to shape the water resources management needs identified in this IRWMP for the communities of the Pajaro River watershed.

To assist in development of the IRWMP, the General Plans of the major cities (Gilroy, Hollister, Morgan Hill and Watsonville) and all of the counties (Monterey, San Benito, Santa Clara and Santa Cruz) that comprise the region were reviewed. The IRWMP goals of water supply, water quality, flood protection and environmental protection and enhancement are consistent with local needs expressed in the General Plans as discussed below.

Water Supply Goal
The IRWMP Water Supply goal contains objectives of meeting future water demand, promoting water conservation and increasing recycled water usage. These objectives mirror planning goals as expressed in the General Plans. All General Plans describe plans for future growth and recognize the need for a reliable water supply to support the projected growth. Water conservation is emphasized in all of the General Plans as an important strategy for meeting water supply. The expanded use of recycled water is specifically called for in the General Plans of the Cities of Gilroy, Hollister and Watsonville.

Water Quality Goal
All of the General Plans stressed the need for maintaining high levels of water quality, and this is supported through objectives contained in the IRWMP Water Quality Goal. One of the major water quality issues listed in the General Plans of Monterey County and the City of Watsonville is seawater intrusion, which has been brought on by overdraft of the groundwater basin. Prevention of seawater intrusion is implicit within the IRWMP water quality objectives, consistent with action items found in these General Plans. The IRWMP objective of minimizing impacts from stormwater through Best Management Practices is consistent with all of the cities' General Plans and many of the Counties' General Plans which specify actions such as the use of stormwater detention basins and the preservation of permeable surfaces for stormwater management.

Flood Protection Goal
Flood Mitigation is recognized as a high priority item by the City of Watsonville, Santa Cruz County and Monterey County in their General Plans, consistent with the IRWMP emphasis on achieving flood protection in the Lower Pajaro area of the watershed in the immediate term. Goals, actions and policies consistent with other IRWMP Flood Protection objectives such as protecting infrastructure from a 100-year flood; preserving and enhancing ecologic and stream functions; and providing community benefits beyond flood protection can be found in all sections of the General Plans that discuss flood control.

Environmental Protection and Enhancement Goal
The IRWMP objectives under the Environmental Protection and Enhancement Goal are consistent with provisions listed in all of the General Plans regarding habitat restoration, open space and protection of the Monterey Bay. The Gilroy General Plan contains specific implementation actions to preserve and protect natural resource and habitat areas, which include both Uvas Creek and Llagas creek riparian communities, preserve greenbelts and recreational lands. Other General Plans call for actions consistent with IRWMP

projects such as wetland restoration programs and removal of non-native plants. The IRWMP objective of supporting Monterey Bay marine life is consistent with a section in the City of Watsonville's General Plan that recognizes the Monterey Bay as a National Marine Sanctuary and calls for specific actions to protect it.

13.1.2 Urban Water Management Plans

The IRWMP has been coordinated with various Urban Water Management Plans (UWMPs) that have recently been updated in the Pajaro River Watershed to comply with State of California requirements. UWMPs take into account city and county population growth projections developed at the local level and link these directly to the assessment of water supply needs. The UWMPs rely in part on other planning documents such as general plans and land use plans to provide these projections. The projected water demands from the UWMPs are utilized in the IRWMP to determine regional water supply needs. UWMPs also take into account local conservation and recycled water planning and provide a greater understanding of water needs and issues faced by local water agencies and communities.

13.1.3 Other Plans

Other plans in the Pajaro River Watershed consist of efforts to address specific water management issues. Some of these plans have already taken steps to consolidate local planning efforts and address specific issues such as water supply, groundwater, wastewater, and habitat restoration on a sub-regional basis within the Pajaro River Watershed. In most cases, these are multi-agency efforts that involve the participation of a number of stakeholders. Thus, these sub-regional plans have achieved certain levels of integration and stakeholder consensus and provide an important foundation for development of the IRWMP. Projects recommended in sub-regional plans have already been coordinated at the sub-regional level and can be considered excellent candidates for implementation of the IRWMP. Examples of sub-regional plans are described below.

Pajaro Valley Revised Basin Management Plan

Lower Pajaro River Valley issues of seawater intrusion, water supply and water recycling have been determined as high priority issues through the IRWMP process. The Revised BMP is the result of a comprehensive planning effort to determine solutions to those issues and its incorporation into the Water Supply Program ensures that the IRWMP will address the local needs identified for that area of the watershed. As an indicator of the importance of the BMP, the City of Watsonville's General Plan specifically calls for the city to participate in the BMP.

Groundwater Management Plan Update for the San Benito County Portion of the Gilroy-Hollister Groundwater Basin

The Groundwater Management Plan (GMP) Update addresses groundwater issues such as groundwater quality, high groundwater levels and limited wastewater effluent disposal options, which are a priority in the San Benito County area. Many of the objectives described in the GMP Update are represented in the IRWMP objectives. The IRWMP includes a number of near- and long- term projects that were drawn from the GMP Update project toolbox.

Santa Clara Valley Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP)

The HCP and NCCP are currently under development. They are a partnership between SCVWD, the County of Santa Clara, Santa Clara Valley Transportation Authority, and the cities of Gilroy, Morgan Hill

and San Jose. These partners, in collaboration with the U.S. Fish and Wildlife Service, California Department of Fish and Game, National Oceanic and Atmospheric Administration (NOAA Fisheries) and other resource agencies and stakeholder groups will develop long-range plans in specified areas of Santa Clara County where land development activities and the continued survival of endangered, threatened, or other species of concern are in conflict. The goal of these plans is to provide the means for conservation of these species, thereby contributing to their recovery while allowing for compatible and appropriate development to occur. This is consistent with many of the IRWMP objectives listed under the Environmental Protection and Enhancement goal and both plans will provide additional implementation opportunities for meeting these objectives when complete.

South County Water Supply Plan

The South County Water Supply Plan (SCWSP) is being prepared by SCVWD and will develop a long-term water supply plan for southern Santa Clara County. The planning effort is a follow-up to the IRWP 2003, but will be specific to South County. It represents a collaborative effort between SCVWD, the cities of Morgan Hill and Gilroy and the County of Santa Clara. It will focus on the Uvas/Llagas watershed, with emphasis on the Llagas Groundwater Sub-basin. 15 stakeholders have been identified to date that will participate in development of the SCWSP. The SCWSP will be coordinated with Pajaro River Watershed IRWMP implementation, as well as other efforts in South County. The SCSWP will address objectives related to water supply reliability, water quality, cost, and environmental and community benefits. The planning effort will consider conservation, water recycling, reservoir storage, groundwater recharge and banking, dry-year transfers, treatment and re-operations. When complete, the SCWSP will provide a coordinated strategy of implementation which will help achieve the IRWMP water supply and water quality goals.

The IRWMP will strive to include all possible existing local and sub-regional plans and projects and to integrate these at the scale of the Pajaro River Watershed Region to identify additional opportunities for linkages and integration between sub-regions.

13.1.4 Central Coast RWQCB Basin Plan

The Central Coast RWQCB Basin Plan contains goals for protecting and enhancing all basin waters, allowing unrestricted use of surface waters, efficient management of wastewater, and utilization of recycled water and reducing man-made erosion. These goals are all reflected in the IRWMP objectives. In addition, implementation of the IRWMP will contribute directly towards helping meet these goals. For instance, the Pajaro Valley Water Supply Program includes water recycling as an essential component. The Pajaro River Water Quality Program has a number of projects that provide for TMDL implementation and NPS pollution management, which is a major water quality focus of the Central Coast RWQCB.

13.2 Coordination with Land Use Decision Makers

Projected land use changes impacts water management as different land uses require different water management strategies. The cities and counties are the major land use decision makers in the watershed. Coordination with cities and counties as well as other land use decision makers occurred through the stakeholder process and allowed land use considerations to be fully incorporated into the IRWMP while also ensuring that future land use decisions necessary for successful IRWMP implementation will be supported at the local level. Additional coordination will be achieved through consideration of local plans currently under development such as the HCP, HUAWWMP and the SCWSP, whose recommendations will reflect land use considerations. IRWMP coordination with cities and counties is most evident through

their direct involvement in IRWMP Programs. The cities of Aromas and Watsonville have responsibility for a number of Water Supply Program projects. The Flood Protection Program has been coordinated with all four counties and their respective flood management agencies through their representation on the PRWFPA, which developed the Soap Lake Floodplain Preservation project. The counties of Santa Cruz and Monterey are the local sponsors, in coordination with the Army Corps Engineers, for another Flood Protection Program - the Lower Pajaro River Levee Reconstruction. The SCCRCD provides coordination with various landowners for a number of projects in the Water Quality Program.

Land use decision maker coordination and involvement with the IRWMP will ensure that regional priorities and efforts developed by the IRWMP are 1) consistent with local land use plans and 2) will be supported through local decisions and updates to General Plans.

13.3 Linkages and Interaction with Local Plans

The IRWMP has been built upon a number of previously completed planning documents. The role of the IRWMP is to consolidate the projects and programs within these documents and allow them to be considered and prioritized at a regional level through the stakeholder process. Local plans can then be updated to account for the impact of regional implementation on local planning. For instance, the City of Watsonville will need to update its General Plan as specified water supply and flood control actions become implemented through the IRWMP. As the Soap Lake Floodplain Preservation Project proceeds, the Counties of San Benito and Santa Clara may need to update their General Plans and add the goal of maintaining flood attenuation benefits of the Soap Lake floodplain. Mechanisms for maintaining active stakeholder involvement (discussed in Section 7) will help to ensure that these updates occur as the opportunities arise.

13.4 IRWMP Implementation of Local Plans

The projects included in the IRWMP programs will effectively implement many of the local plans that are its foundation and serve as sources of projects. This includes the BMP, the Pajaro River Watershed Studies, the GMP Update, the SCWSP, the HCP, the Lower Pajaro River Enhancement Plan and the Pajaro River Parkway Plan. The IRWMP projects will also implement many actions called for in the cities' and counties' General Plans, such as reduction of groundwater overdraft, water conservation, water recycling, flood protection, habitat restoration and open space creation. Some examples of specific General Plan policies or actions implemented by IRWMP projects are placing development restrictions in flood areas (City of Gilroy), wetlands preservation and enhancement (City of Hollister), and upgrades to the Corralitos filter plant (City of Watsonville).

13.5 Conclusions

The Pajaro River Watershed IRWMP has been designed to combine and build upon the strategies and recommendations of local planning documents. As demonstrated by the consistency of the IRWMP with local plans and the implementation of projects that help achieve local objectives, the IRWMP has been developed as an extension to and integration of, rather than a substitution for, local planning efforts. To avoid conflict with local efforts, stakeholder involvement has been and will continue to be an integral part of the IRWMP process. Stakeholder workshops have been conducted to provide a forum for interaction and collaboration and to allow the IRWMP to interface with local planning efforts. Such stakeholder involvement and participation ensures that local agency planning (and their respective goals and objectives) are represented and considered in the Pajaro River Watershed IRWMP process. Local planning strategies are at the heart of this IRWMP and have played a dynamic role in its development.

In many instances, local planning efforts will overlap IRWMP boundaries and include planning that affects multiple IRWMP regions. This is particularly true with the Pajaro River Watershed IRWMP where the Pajaro River centerline is utilized as a boundary between multiple counties, each of which has a responsibility to manage shared surface and groundwater resources in these respective areas. With multiple IRWM planning efforts underway, coordination is occurring between all Monterey Bay planning efforts and will be on-going. Planning for these shared areas is being performed conjunctively, and any project proposed in an overlap area will be proposed for implementation by only one IRWMP effort, but may be spoken to in other regional IRWMP documents. One example is Watsonville Slough, a water body within the County of Santa Cruz, a Central Coast Region Priority Critical Coastal Area, and a tributary to the Pajaro River near its mouth to Monterey Bay. Santa Cruz County has developed a Resource Conservation and Enhancement Plan for Watsonville Slough, and as part of their Santa Cruz County IRWMP, will propose a strategy for plan implementation. The Pajaro River Watershed IRWMP Collaborative has and will continue to participate as an interested stakeholder in the Watsonville Slough plan and implementation; however, the project is not included in the Pajaro River Watershed IRWMP as it is an ongoing Santa Cruz County project and will be covered within the Santa Cruz County IRWMP effort.

Existing planning documents and current planning efforts are, and will continue to be, an integral part of the IRWMP process. As previously described, existing planning documents were reviewed to identify needs and issues in the region and were used to develop IRWMP goals, objectives, strategies, and integrated implementation programs. Together, local planning documents and stakeholder input have provided the basis to complete the IRWMP development effort and have provided direction to the Collaborative with regard to the most feasible and beneficial water management strategies to pursue.

14 Stakeholder Involvement

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

> **N. Stakeholder Involvement** – Identify stakeholders included in developing the Plan. Identify how stakeholders were identified, how they participate in planning and implementation efforts, and how they can influence decisions made regarding water management. Include documentation of stakeholder involvement such as inclusion of signatory status or letters of support from non-agency stakeholders, i.e. those who have not "adopted" the Plan. Include a discussion of mechanisms and processes that have been or will be used to facilitate stakeholder involvement and communication during implementation of the Plan. Discuss watershed or other partnerships developed during the planning process. Discuss disadvantaged communities within the region and their involvement in the planning process. Discuss efforts to identify and address environmental justice needs and issues within the region. Identify possible obstacles to Plan implementation.

The Pajaro River Watershed IRWMP process is built upon the premise that future implementation of an IRWMP would not be possible unless the strategies and options were first identified, prioritized and developed by the affected stakeholders. As a result, stakeholder involvement is a central element to the Pajaro River Watershed IRWMP process and implementation success will necessarily involve water management strategies that address the concerns of local communities and reflect the public's interests and values within the watershed.

Stakeholder involvement is a central element to the Pajaro River Watershed IRWMP process. With this in mind, numerous stakeholder groups throughout the Pajaro River Watershed were identified and contacted, and several public announcements were published in regional newspapers to reach the general public. These outreach efforts were successful in obtaining stakeholder input during the planning process. Stakeholders have participated through various stakeholder meetings and regular correspondence with the Collaborative to develop, influence, and complete the IRWMP. It is anticipated that active stakeholder involvement will continue during implementation of the IRWMP.

14.1 Stakeholder Identification

Stakeholders were identified through discussions with local agencies and organizations with jurisdiction, projects, and stakeholder experience in the Pajaro River Watershed. Stakeholders identified to date include those shown in Table 14-1. This list will continue to expand as additional stakeholders are identified during the implementation of the IRWMP. A special effort has been made to identify and involve disadvantaged communities in the region, such as residents of the City of Watsonville, and the county-level disadvantaged communities of Freedom, Pajaro, Paicines, and San Juan Bautista. These communities were encouraged to be actively involved in the planning process and to proactively address environmental justice concerns. Stakeholder meetings were held in locations throughout the watershed to encourage widespread participation and to accommodate stakeholders with limited resources and opportunities to travel to meetings.

The IRWMP process has focused on identifying as broad a range of stakeholders as possible. Previously, stakeholder groups coalesced around project- or community-driven efforts which tended to be more narrowly focused on specific water management strategies developed by various agencies and organizations in the watershed. There is increasing awareness that it is beneficial to integrate the efforts of these stakeholders groups. Catastrophic events, such as Pajaro River flooding, have heightened awareness

of the necessity of local communities to collaborate in developing effective water management strategies throughout the region. Furthermore, stakeholders recognize the need to work together given their shared dependence on limited local water supplies in the watershed. Additionally, stakeholders are already teaming up to maintain water quality levels that meet various beneficial uses by implementing such programs as agricultural water quality and irrigation mitigation programs. Other stakeholders have demonstrated a desire to collaboratively implement environmental restoration and habitat protection in the Pajaro River Watershed. All of these efforts demonstrate willingness to pool resources and act collaboratively to develop water management strategies that provide multiple benefits to the watershed and its communities. The Pajaro River Watershed IRWMP process has created a forum for many of these stakeholders to come together to work collaboratively on their shared and/or overlapping issues. In order to make this forum most effective, steps have been taken to identify as many of the potential stakeholders with water management interests in the Pajaro River Watershed as possible, and to make them aware of the IRWMP process.

Table 14-1: Stakeholders for Pajaro River IRWMP

Stakeholder	Description of Authority/Interests
Action Pajaro Valley (APV)*	APV was involved in development of the IRWMP document to produce a public- and stakeholder-friendly document with high quality graphics and text. This is critical to the success and public support for the integrated plan.
Agricultural Water Quality Coalition	The Central Coast Agricultural Water Quality Coalition is a partnership of Central Coast growers organized through their county Farm Bureaus. The Coalition is working to identify local water quality threats and learn about economically viable water quality protection practices.
Aromas Water District*	Located on the westerly edge of the PVWMA service area, the Special District provides water treatment and supply service for approximately 750 customers.
Association of Monterey Bay Area Governments (AMBAG)*	AMBAG was organized for the permanent establishment of a forum for planning, discussion and study of regional problems of mutual interest and concern to the counties and cities in Monterey, San Benito, and Santa Cruz Counties; and for the development of studies, plans, policy and action recommendations.
California Coastal Conservancy	The California Coastal Conservancy, established in 1976, is a state agency that uses entrepreneurial techniques to purchase, protect, restore, and enhance coastal resources, and to provide access to the shore. It works in partnership with local governments, other public agencies, nonprofit organizations, and private landowners.

Stakeholder	Description of Authority/Interests
Central Coast Regional Water Quality Control Board (RWQCB) – Region 3	The Central Coast RWQCB is a regulatory extension of the State Water Resources Control Board, which was established by the Porter-Cologne Water Quality Control Act (1969), which became Division Seven ("Water Quality") of the State Water Code. The State Water Code establishes the responsibilities and authorities of the nine RWQCBs (previously called Water Pollution Control Boards) and the State Water Resources Control Board (SWRCB). The federal Clean Water Act (Public Law 92-500, as amended) provides for the delegation of certain responsibilities in water quality control and water quality planning to the states. Where the Environmental Protection Agency (EPA) and the SWRCB have agreed to such delegation, the Regional Boards implement portions of the Clean Water Act, such as the NPDES program and toxic substance control programs. The Central Coast RWQCB coordinates and controls the quality of water in its region through the protection of beneficial uses, the development of water quality objectives to protect the beneficial uses, and implementation planning to accommodate the water quality objectives.
Central Coast Resource Conservation & Development Council	The Central Coast Resource Conservation & Development Council serves South Santa Clara, San Benito, Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties. The council's activities focus on agritourism, steelhead habitat enhancement, water quality education, coordinated resource management and planning (CRMP) coordination and permit streamlining.
Chamber of Commerce – Pajaro Valley	Chamber of commerce providing service to strengthen the diverse business and agricultural environment, economic climate and quality of life in Watsonville.
Chamber of Commerce - San Benito	Chamber of commerce providing resources for business and individuals within San Benito County.
City of Gilroy	Located in South Santa Clara County, the City of Gilroy provides water service to residences and businesses. Gilroy is a South County Regional Wastewater Authority (SCRWA) Partner which provides wastewater service for the Cities of Gilroy and Morgan Hill.
City of Hollister	The City of Hollister is a major urban service area in San Benito County. The City of Hollister provides various municipal and industrial (M&I) services include wastewater collection and treatment and water supply service.
City of Morgan Hill	Located in South Santa Clara County, the City of Morgan Hill provides water service to residences and businesses. Morgan Hill is a SCRWA Partner that provides wastewater service for the Cities of Morgan Hill and Gilroy.
City of San Juan Bautista	Located in San Benito County, the City of San Juan Bautista provides wastewater and water services. San Juan Bautista is a member of the Water Resource Association of San Benito County.
City of Watsonville*	Major urban service area in the PVWMA service area. City provides various M&I services including wastewater collection and treatment and water supply service.
County of Monterey	County government with land use jurisdiction within its boundaries. The County also manages water and sanitation systems in unincorporated County Service Areas. The south portion of the PVWMA service area is a part of Monterey County.

County of San Benito	County government with land use jurisdiction within its boundaries. A significant portion of the upper Pajaro River watershed (including the San Benito River) is within San Benito County.
County of Santa Clara	County government with land use jurisdiction within its boundaries. A portion of the upper Pajaro River watershed is within Santa Clara County.
County of Santa Cruz	County government with land use jurisdiction within its boundaries and jurisdiction over stormwater, drainage, watershed management, water resources management and water quality protection for the unincorporated areas of Santa Cruz County. The northern portion of the PVWMA service area is in Santa Cruz County.
Farm Bureaus (Monterey County, San Benito County, Santa Clara County and Santa Cruz County)	The Farm Bureau is organized on a county, state and national basis, with the county Farm Bureaus serving as the core of the organization. Santa Cruz, Monterey, San Benito and Santa Clara each have their own Farm Bureau. The Farm Bureau is a voluntary, nongovernmental, nonpartisan organization of farm and ranch families seeking solutions to the problems that affect their lives, both socially and economically.
Land Trust of Santa Cruz County	The Land Trust of Santa Cruz County is a community-based nonprofit organization that works cooperatively with land owners, government entities and other organizations to protect and manage lands of significant value.
Monterey Bay National Marine Sanctuary (MBNMS)	The MBNMS mission is to understand and protect the coastal ecosystem of Central California. The MBNMS is an extension of the National Oceanic and Atmospheric Administration (NOAA) National Marine Sanctuary Program (NMSP). The NMSP mission is to serve as the trustee for the nation's system of marine protected areas, to conserve, protect, and enhance their biodiversity, ecological integrity and cultural legacy. Its goals are appropriate to the unique diversity contained within individual sites. They may include restoring and rebuilding marine habitats or ecosystems to their natural condition or monitoring and maintaining already healthy areas.
Monterey County Water Resources Agency (MCWRA)	MCWRA is a special district formed to manage, protect, and enhance the quantity and quality of water and provide specified flood control services for Monterey County. Their interest is to be a leader in efficient, innovative and equitable water resources management for the County.
Pajaro River Watershed Flood Prevention Authority (PRWFPA)*	PRWFPA was established in 2000 by the State of California Assembly Bill 807 to identify, evaluate, fund, and implement flood prevention and control strategies in the Pajaro River Watershed, on an intergovernmental basis. Since the Pajaro River Watershed covers an area within four counties (Santa Clara, San Benito, Santa Cruz, and Monterey) and four water districts (Santa Clara Valley Water District; San Benito County Water District; Santa Cruz County Flood Control and Water Conservation District, Zone 7; and Monterey County Water Resources Agency), the PRWFPA is comprised of one representative from each of the eight interested agencies. The PRWFPA is a governing body through which each member organization can participate and contribute to finding a method to provide flood protection in the watershed and promote general watershed interests. A further goal is to identify and prioritize strategies and projects that will provide multiple benefits, such as water supply, groundwater recharge, or environmental restoration and protection benefits.

Pajaro/Sunny Mesa Community Services District	A community service district and water supplier for smaller communities in the Pajaro Valley. (Note: Throughout the Pajaro River Watershed IRWMP process, Pajaro/Sunny Mesa Community Services District (PSMCSD) was identified as a watershed stakeholder and has been invited to attend stakeholder gatherings through email announcements provided to the entire stakeholder list of contacts. In addition to these attempts to gain PSMCSD participation, a formal meeting was scheduled in September 2006 where PVWMA met with PSMCSD, at which point PSMCSD declined to participate in the process over concerns that this meeting came too late in the IRWMP development process. Nevertheless, the IRWMP will attempt to take into account the considerations of PSMCSD where possible and will continue outreach efforts during IRWMP implementation.)
Planning and Conservation League Foundation (PCLF)*	The PCLF mission is to ensure that California continues to be an attractive, livable, and equitable state by engaging in cutting-edge environmental public policy research, and educating and empowering local communities to understand and participate in local and state environmental decision making processes. PCLF also produces publications that educate the public about environmental challenges in the areas of planning, natural resource conservation, environmental protection, clean air, clean water, sustainable energy policies, and environmental justice.
Resource Conservation Districts (RCDs)*	California RCDs are special districts organized under the state Public Resources Code, Division 9. The RCDs in the Pajaro Watershed are the Santa Cruz RCD, Monterey County RCD, San Benito RCD and Loma Prieta RCD. Each district has a locally elected or appointed volunteer board of directors comprised of landowners in that district. Interests of the RCDs that relate to water management include water quality, wildlife habitat restoration, soil erosion control, and conservation education.
San Benito Agricultural Land Trust	The San Benito Agricultural Land Trust is devoted to providing financial options to landowners in order to protect the agricultural heritage of San Benito County. The Trust can protect land permanently and directly by accepting donations of conservation easements designed to meet the individual needs of landowners.
San Martin Neighborhood Alliance (SMNA)	The mission of the SMNA is to protect San Martin's rural atmosphere, support positive controlled growth, promote neighborhood identity and vitality, ensure an influential voice in the local governing body, and provide members with information so that they can play an active, informed role in finding solutions to our neighborhood concerns.
Santa Clara County Open Space Authority	The Authority is comprised of the cities of Campbell, Milpitas, Morgan Hill, Santa Clara and San Jose, as well as much of the unincorporated areas of Santa Clara County. Its mission is the preservation of open space and creation of greenbelts between communities, lands on the valley floor, hillsides, viewsheds and watersheds, baylands and riparian corridors.
Santa Cruz County Flood Control and Water Conservation District, Zone 7 (SCCFC&WCD)	District governed by the Santa Cruz County Board of Supervisors, City of Watsonville, PVWMA. Provides flood control services to Santa Cruz County except the cities of Santa Cruz, Scotts Valley and Capitola.

Sierra Club, Loma Prieta Chapter	Local chapter of the Sierra Club committed to participating in the a South Santa Clara County Habitat Conservation Plan/Natural Communities Conservation Plan. The planning area includes the Uvas-Llagas watershed, which is a tributary to the Pajaro River.
Sierra Club, Ventana Chapter	Local chapter of the Sierra Club with interests in preserving the Pajaro River and its watershed through environmental activism.
Silicon Valley Land Conservancy (SVLC)	SVLC is a private non-profit agency that collaborates with other agencies and organizations to protect much of the natural habitat and agricultural land of Silicon Valley. SVLC has acquired, maintained, and preserved almost 1,550 acres in the Silicon Valley.
Soquel Creek Water District	Local government agency that provides water resource management for communities in mid-Santa Cruz County. The district provides water to over 45,000 customers.
South County Regional Wastewater Authority (SCRWA)	SCRWA is the regional wastewater authority for South Santa Clara County, primarily serving the Cities of Gilroy and Morgan Hill. SCRWA has partnered with the Santa Clara Valley Water District to expand water recycling in southern Santa Clara County.
South Valley Streams for Tomorrow	Organization concerned with streams in South Santa Clara County and tributaries of the Pajaro River in Santa Clara and San Benito Counties.
Sunnyslope County Water District (SSCWD)	Water and wastewater management district for a portion of the City of Hollister and the Ridgemark Development in San Benito County.
The Nature Conservancy (TNC)*	TNC is a leading international, nonprofit organization dedicated to preserving the diversity on life on Earth. Their mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC is currently working on projects within the Pajaro River Watershed that promotes private lands conservation and other conservation practices. They work with landowners, communities, cooperatives and businesses to establish local groups that can protect land.
U. S. Army Corps of Engineers (USACE)	The USACE provides engineering and environmental services throughout the nation. The Corps has plans to implement a flood protection project on the lower Pajaro River.
Water Resources Association of San Benito County	The Water Resource Association is comprised of the SBCWD, San Benito County Government, Sunnyslope County Water District, City of Hollister, and City of San Juan Bautista.
Watsonville Wetlands Watch	The Watsonville Wetlands Watch is a nonprofit community-based organization dedicated to the protection, restoration and appreciation of the wetlands of the Pajaro Valley.
Wildlands Inc.	Wildlands, Inc. is a habitat development and land management company with projects throughout California and the western United States. Established in 1991, Wildlands is one of the Nation's first private organizations to establish mitigation banks and conservation banks that protect wildlife habitat in perpetuity.

* A member of this organization participates in the Stakeholder Steering Committee, described in Section 14.2.

14.2 Partnerships

A number of other partnerships evolved over the course of the development of the IRWMP. The formation of the Collaborative is a prime example. The Collaborative itself was involved in a number of other partnerships at both the community and regional level.

A Stakeholder Steering Committee was assembled in February 2005 to facilitate Pajaro River Watershed IRWMP coordination and collaboration with the most interested parties. This committee provided a

forum for on-going discussion and stakeholder input, and provided review and stakeholder oversight throughout the initial IRWMP development process. Participating entities of the Stakeholder Steering Committee include representatives of each of the Partner agencies (PVWMA, SBCWD, and SCVWD) and members of other agencies and organizations as noted in Table 14-1.

On a community scale, Action Pajaro Valley (APV) was formed in September 1998 with an Advisory Board of over 50 community leaders representing over 20 stakeholder groups. The mission of APV is "to facilitate an on-going collaborative process for planning and creating a positive future for all residents of the Pajaro Valley". APV has grown into an organized effort involving a partnership of people from many sectors of the Pajaro Valley. The Collaborative began working with APV in early 2005 as an avenue for greater community exposure and stakeholder involvement.

On a regional scale, the Collaborative has been working with the Pajaro River Watershed Flood Prevention Authority (PRWFPA), an eight-agency Joint Powers Authority spanning the four counties and four water districts of the Pajaro River Watershed. Two of the partners, SCVWD and SBCWD, are members of the PRWFPA. This organization was established to provide flood protection and promote general watershed interests such as identifying and prioritizing strategies and projects that will provide multiple benefits with regard to water supply, groundwater recharge, and environmental restoration and protection benefits. The PRWFPA is another key working group that has assisted the IRWMP effort in developing water management strategies that meet multiple stakeholders' goals and objectives.

Another partnership formed during IRWMP development was the integration of the RCDs. The Santa Cruz RCD and San Benito County RCD previously developed water management strategies for implementation within the Pajaro River Watershed with support mainly from the Natural Resources Conservation Service (NRCS). The RCD has now joined the efforts of the Collaborative, APV, and the Stakeholder Steering Committee to implement those strategies on a broader scale as part of the integrated programs developed through the IRWMP process. It was important to the Collaborative and all stakeholders that RCDs' needs were heard and their water management strategies considered.

Ultimately, it is envisioned that the Pajaro River Watershed IRWMP will coordinate with other regioins throughout the Central Coast that are developing their own IRWMPs. In 2005, three agencies – Monterey County Water Resources Agency, Monterey Peninsula Water Management District, and PVWMA took the lead in developing and enacting a MOU for Integrated Regional Water Management in the Monterey Bay area. The goal of the Monterey Bay IRWMP is to more effectively manage resources and costs, and to better serve the public with regard to water resources management across the entire Monterey Bay region. More recently in February 2007, the six IRWMP planning regions in the Central Coast began discussions regarding regional cooperation within the framework of the IRWM process pursuant to Propositions 50 and 84.

14.3 Stakeholder Participation

Stakeholder participation has been, and will continue to be, essential to the Pajaro River Watershed IRWMP process and stakeholders have participated in all phases of IRWMP development. Stakeholder participation has been influential in determining the path of the IRWMP, aiding in the decision making process from initial planning stages through strategy integration, and will aid in the Collaborative's efforts to identify the most advantageous water management strategies to be implemented for years to come. In fact, initial decisions to pursue an immediate-term implementation phase were initiated by the readiness of stakeholder-led efforts/projects and joint efforts to collaborate on the development of water management programs.

14.3.1 IRWMP Events and Activities

A series of public IRWMP stakeholder meetings were held in 2006 and 2007 to allow interested parties a forum in which to share their ideas and concerns and to address the Partners. The meetings were organized along major IRWMP topics as shown in Table 14-2.

Table 14-2: IRWMP Public Meetings

Date	Meeting Topic	Agenda
8/02/06	IRWMP Mission, Goals and Objectives	• Pajaro River Watershed Issues • IRWMP Process Overview • IRMWP Goals and Objectives
9/21/06	Water Management Strategies	• Revised Goals and Objectives • Water Management Strategies • Overview of Prioritization Process
11/30/06	Integration and Prioritization	• Project Prioritization • Recommendation Process
2/15/07	Recommendations	• Recommended Programs
3/14/07	Draft IRWMP	• Presentation of Draft IRWMP

The stakeholder meetings provided a forum to identify, discuss, and resolve regional conflicts associated with projects. These meetings also provided provide an opportunity to share information, discuss IRWMP progress, review key deliverables, collect comments and input, and gain consensus. Stakeholders were provided ample opportunities to shape the IRWMP, including a period of public review of the Draft IRWMP prior to adoption.

In addition to the dedicated IRWMP meetings, stakeholder involvement has been facilitated through a variety of events and activities, including workshops, board meetings and presentations, group meetings, and personal communications. Table 14-3 summarizes the major stakeholder coordination activities held during the development of the IRWMP.

Table 14-3: Stakeholder Coordination Activities

Stakeholder Coordination Activity	Agenda	Stakeholders Involved
Meeting with South County Regional Wastewater Authority TAC *October 2004*	Inform Stakeholders of IRWMP. Discuss projects.	SCVWD SCRWA City of Gilroy City of Morgan Hill
Pajaro River Watershed Flood Prevention Authority *Various Dates (every other month)*	Inform Stakeholders of IRWMP. Discuss projects and development of Pajaro River Flood Protection program.	SCVWD SBCWD Santa Cruz County The Nature Conservancy Monterey County Water Resources Agency (MCWRA)
Water Resources Association of San Benito County Board Meeting *Various Dates (bimonthly)*	Inform Stakeholders of IRWMP. Discuss on projects.	SBCWD City of Hollister Sunnyslope County Water District City of San Juan Bautista General Public
San Benito County Water District Board Meetings	Inform Board and Public of IRWMP. Discuss projects and development of	SBCWD General Public

Stakeholder Coordination Activity	Agenda	Stakeholders Involved
Various Dates (bimonthly)	regional water management programs.	
Pajaro Valley Water Management Agency Board Meetings *Various Dates (bimonthly)*	Inform Board and Public of IRWMP. Discuss projects and development of regional water management programs.	PVWMA General Public
Santa Clara Valley Water District Board Meetings and Board Advisory Committee Meetings *Various Dates in Fall 2006 and Spring 2007*	Inform Board and Public of IRWMP. Discuss projects and development of regional water management programs.	SCVWD General Public
Santa Cruz County Board of Supervisors Meetings *Various Dates (bimonthly)*	Inform Board and Public of IRWMP. Discuss projects and development of the Pajaro River Flood Protection Program.	Santa Cruz County Board of Supervisors Santa Cruz County Planning, Public Works & Environmental Health Services General Public
Pajaro River Watershed Council Meetings *Various Dates (quarterly)*	Inform Stakeholders of IRWMP. Discuss on projects.	San Benito County Farm Bureau SBCWD San Benito County SCVWD Watershed Institute CSUMB Santa Cruz County Monterey Bay National Marine Sanctuary City of Gilroy Monterey County Farm Bureau USDA, NRCS Sierra Club, CNPS TNC General Public
Action Pajaro Valley Stakeholder Workshop *Various Dates in 2005*	Inform Stakeholders of IRWMP process and Prop. 50 Chapter 8 Funding Processes. Discuss projects. Collect information and data on other potential projects. Discuss strategies for on-going collaboration for IRWMP process. Discuss Mission, Goals, and Objectives. Discuss Projects and Strategies. Discuss Stakeholder Process. Discuss Implementation Grant Proposal. Discuss project prioritization, project benefits, and matching funds.	PVWMA SCVWD SBCWD Action Pajaro Valley Santa Cruz County Board of Supervisors – Districts 2 & 4 SCCFC&WCD City of Watsonville The Nature Conservancy Resource Conservation District Monterey County Water Resources Agency (MCWRA) AMBAG

14.3.2 Stakeholder Communications and Outreach

Stakeholders were kept well informed of opportunities for involvement in IRWMP development. Phone and email contact lists were used to distribute information and notices of upcoming meetings. The IRWMP stakeholder meetings were advertised in five major newspapers with coverage spanning all the communities in the watershed.

Other stakeholder outreach efforts have included presentations and attendance at related conferences, workshops, board meetings, and other venues that include audiences with potential interest in Pajaro River Watershed activities such as regional agencies, organizations and community members. One example was a board presentation given in May 2006 at the 3rd Annual Regional Water Forum held by AMBAG. Such presentations and attendance provided wide dissemination to the public about the efforts of the Collaborative to develop the IRWMP.

Numerous letters of support have been received by the Collaborative for the Pajaro River Watershed IRWMP effort. The letters of support are included in Appendix B. These letters demonstrate and confirm that stakeholders are on-board and have a willingness to participate, engage, and work diligently to develop an integrated management plan for the water resources of the Pajaro River Watershed.

The Collaborative also received several comment letters on the IRWMP. In addition to hosting a series of workshops through which stakeholder input was solicited, following the completion of the Draft IRWMP, the Collaborative provided a three week public review period during which stakeholders were invited to provide additional comments. Appendix C provides a record of the comments received and the responses.

Following the completion of the IRWMP report, ongoing stakeholder coordination and involvement will be necessary to support the vision and efforts outlined in the plan as well as implementation of the regional water management programs. Various stakeholder collaboration activities are anticipated to support this including: inclusion of stakeholders in the Implementation Teams for each regional water management program, periodic meetings with stakeholders to present planning and implementation updates and solicitation of new stakeholder projects as they emerge. Ultimately, stakeholders involved in the IRWMP effort will be responsible for the effective implementation of the regional water management programs.

14.4 Disadvantaged Community Involvement

A “disadvantaged community” is defined by the State of California as a community with an annual median household income (MHI) that is less than 80% of the statewide MHI [CA Water Code, Section 79505.5(a)]. Census data from 2000 were collected and reviewed to identify any disadvantaged communities in the region. The 2000 State MHI was $47,493; therefore, communities with an average MHI of $37,994 are considered disadvantaged communities. Based on the 2000 census data, the City of Watsonville is a disadvantaged community. For a more detailed discussion of this determination, please refer to Section 2 – Regional Background, Disadvantaged Communities.

The City of Watsonville is a stakeholder in the IRWMP process and is actively involved in the planning and implementation of the integrated water management strategies. Since Watsonville’s economy is tightly linked to local agricultural activities, which are threatened by seawater intrusion, groundwater basin water supply imbalance and flooding, the development of a sustainable water supply and flood mitigation projects will aid in the sustainability of the local economy and well-being of the community in the future.

The City of Watsonville is actively participating as a stakeholder and implementation partner in the IRWMP process. Each of the three implementation programs discussed previously would provide disadvantaged community benefits, such as water supply reliability, water quality management, and flood protection, to the City of Watsonville and its economy. Additional discussion of the benefits to Disadvantaged Communities is included in Section 8 – Impacts and Benefits.

14.5 Environmental Justice

Environmental justice is addressed by assuring that all stakeholders have access to the decision-making process and that minority and/or low-income populations do not bear disproportionately high and adverse human health or environmental impacts. The impact of the IRWMP on disadvantaged and minority communities was examined and summarized below:

- The major environmental justice issue for the region is the impact to the disadvantaged community of Watsonville and the Town of Pajaro. As discussed in Section 14.4, the City of Watsonville was actively involved in the IRWMP development, which ensured that the needs and concerns of its residents were represented in the decision-making process. Representatives from the Town of Pajaro, though not actively involved in the IRWMP development, were invited to participate in the process. Furthermore, as identified in Section 8, near-term implementation of the IRWMP through the four regional water management programs offers benefits to both the City of Watsonville and Town of Pajaro.

- Additional environmental justice concerns were examined through PVWMA's Revised BMP in accordance with Executive Order 12898 and U.S. Bureau of Reclamation policy. The analysis conducted for the Revised BMP Environmental Impact Statement (EIS) looked at effects on employment and water rates and construction impacts. The EIS analysis determined that without new water supply projects for the coast, agricultural production would be reduced, and jobs within the agricultural sector would be lost. The majority of these jobs are held by economically disadvantaged minorities. Implementation of the Conjunctive Water Supply Management and Water Supply/Salt Management programs will ensure that the water supplies needs of the Pajaro Valley are addressed , thereby promoting the continuation of high levels of agricultural productivity in the Pajaro Valley. Implementation of these programs would preserve jobs for low income minorities, a beneficial impact.

- An increase in water rates will likely accompany the implementation of projects in the Water Supply/Salt Management Program, but the increase is not expected to significantly affect minority or low-income populations. The City of Watsonville provides potable water service to the urbanized areas of the Pajaro Valley (the City and the unincorporated communities of Pajaro, Freedom and Corralitos). The City will reimburse PVWMA for a share of the project costs through a pass-through charge added to the water bills of the City's customers. Though the City's water rate will increase, it is still projected to be below the water rates charged throughout the rest of Santa Cruz County.

- Construction of project facilities will create short-term environmental impacts (noise, dust, traffic disruption) at neighboring land uses. An analysis of the areas affected by construction of project facilities determined that these construction nuisance impacts will not be borne predominantly by any minority population or low-income group.

- In addition to the environmental justice considerations in the Revised BMP EIS, the USACE will have to perform a similar analysis in the Levee Reconstruction Project EIS, which is currently being developed.

14.6 Consensus Building

The major obstacles that could hinder implementation of the IRWMP are opposition from the various stakeholders throughout the watershed and from permitting agencies that have authority within the region. To minimize these obstacles, the Collaborative has adopted a consensus building approach. All stakeholders – from local interest groups to regulatory agencies – have been invited to participate in the IRWMP planning process. Providing a forum to address stakeholder concerns during the development of the IRWMP will reduce the potential for conflicts during the implementation phase.

Consensus building will be integral to implementation of the Flood Protection Program because a local cost share is needed to pay for construction and on-going operations and maintenance of the Levee Reconstruction Project. Establishing local funding for flood protection projects requires a vote of property owners and local voters to institute a self-imposed tax and this will require achieving community consensus on a locally preferred plan. The Community Consensus, Benefit Assessment Vote and Local Governance subtask of the Levee Reconstruction Project focuses on gaining the public involvement and agreement critical obtaining voter approval for funding and ensuring that the Levee Reconstruction Project, which is a central component of the Flood Protection Program, can move forward.

Where project impacts are identified, mitigation measures will be necessary. The measures which could be required in order to obtain regulatory approval for projects may serve as obstacles to plan implementation. To minimize regulatory obstacles, the Collaborative will coordinate with local, state and federal regulatory agencies early in the process to determine necessary, corrective actions. Further discussion of agency coordination is provided in Section 15 - Coordination.

15 Agency Coordination

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

> **O. Agency Coordination** – Identify State or federal agencies involved with strategies, actions, and projects. Identify areas where a State agency or other agencies may be able to assist in communication or cooperation, or implementation of Plan components or processes, or where State or federal regulatory decisions are required for implementation.

In order to adequately plan and implement the integrated water management strategies recommended herein, it is vital to the success of this IRWMP effort that the appropriate federal, state, and local regulatory and jurisdictional agencies be actively involved. Traditionally, participation of these agencies occurred on a project-specific basis, depending on the requirements and needs of each effort. In the integrated planning process, however the role of these agencies was identified proactively and the potential involvement of each agency during IRWMP implementation was determined. The first form of involvement is to help coordinate and/or communicate the IRWMP to other stakeholders within the region. Another form of involvement is to assist in implementation of the IRWMP through facilitation or active project involvement. The final form of involvement is through granting of necessary regulatory approvals. In many cases, a given agency can be involved in IRWMP implementation in all of these ways. This section describes the state, federal and local agencies active in the Pajaro River Watershed and identifies opportunities for their involvement and assistance in IRWMP implementation through coordination, communication, project implementation, and regulatory approval.

15.1 State and Federal and Local Agencies in the Pajaro River Watershed

As discussed in the Stakeholder Involvement section (Section 14), state and federal agencies and local land use planning agencies, (namely County and City planning, public works, and flood control departments) have been engaged through a variety of stakeholder activities. These activities have included stakeholder meetings, workshops, Board presentations, and personal communications (via email and telephone).

Table 15-1 identifies agencies that will be central to implementing the IRWMP. At the State and Federal level, the table focuses mainly on agencies with regulatory jurisdiction; however select non-regulatory agencies that were formed from State and Federal legislation have also been identified. At the local level, the table identifies those agencies that take part in land-use planning and decision-making activities. The table describes the jurisdictional authority or interest of each agency as well as coordination efforts that have been either completed or planned. Coordination and involvement of these agencies with the IRWMP effort will continue throughout implementation.

Table 15-1: Federal, State and Local Agencies

Agency	Jurisdiction/Interest	Completed or Planned Coordination/Interaction
Federal		
U.S. Army Corps of Engineers (USACE)	Protection, preservation, and enhancement of waters of the U.S.	Collaboration through Pajaro River Watershed Study and federal sponsor of the Levee Reconstruction Project.
NOAA National Marine Fisheries Service	Protection, preservation, and enhancement of fisheries, endangered species and habitat	Participation through APV stakeholder process and permitting coordination through the Levee Reconstruction Project, PVWMA Revised Basin Management Plan (BMP), Corralitos Creek Surface Fisheries Enhancement Project, South County Resources Management Plan (SCRMP), Santa Clara Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP)
U.S. Fish and Wildlife Service	Protection, preservation, and enhancement of fisheries, endangered species and habitat	Participation through APV stakeholder process and permitting coordination through the Levee Reconstruction Project, BMP, SCRMP, HCP and NCCP.
U.S. Bureau of Reclamation (USBR)	Manage, develop, and protect water and related resources in an environmentally and economically sound manner.	Permitting coordination through BMP and funding coordination through Watsonville Recycled Water Treatment Facilities and Coastal Distribution System; CVP water transfers within the San Felipe Division
U.S. Environmental Protection Agency	Responsible for protecting human health and the environment. Develops and enforces regulations, provides funding assistance, performs environmental research and education. Manages Superfund program and cleanup of contaminated sites.	Administering federal grant funded work for perchlorate cleanup that impacts water supply, Main Avenue and Coyote-Madrone Pipeline Repair.
Monterey Bay National Marine Sanctuary	Resource protection, research, education, and public use of the Federally protected 276 miles of marine area offshore of California's central coast, stretching from Marin to Cambria	Invitation to participate in IRWMP process and coordination through permitting of near-term water supply projects.
United States Department of Agriculture Natural Resources Conservation Service (NRCS)	Manage natural resource conservation programs that provide environmental, societal, financial and technical benefits. Provide assistance to private landowners and managers. (Non-regulatory agency)	Participation through technical support provided to the RCDs.

Agency	Jurisdiction/Interest	Completed or Planned Coordination/Interaction
State		
SWRCB	Preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations	Meetings and planned collaboration on SWAMP and GAMA, permitting and financing coordination through BMP and permitting coordination through Corralitos Creek Fisheries Enhancement Project; Regional Mobile Lab; grant funding of South County Recycled Water Program expansion
DWR	Manages the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments. Operates and maintains the State Water Project, including the California Aqueduct, provides dam safety and flood control services, assists local water districts in water management and conservation activities, promotes recreational opportunities, and plans for future statewide water needs.	Coordination through Pajaro River Levee Reconstruction Project, BMP Proposition 13 grant, and Proposition 50 Planning and Implementation Grants
Central Coast RWQCB	Protection and management of surface water and groundwater.	Workshop participation. Planned coordination on the Farm and Rangeland Water Quality Management Program. Oversight on perchlorate cleanup.
California Coastal Commission	Protection, preservation, and management of the California Coast and resources.	Participation through APV stakeholder process and permitting coordination through Levee Reconstruction Project and BMP.
California Department of Fish and Game	Protection, preservation, and enhancement of endangered species and habitat.	Participation through APV stakeholder process and permitting coordination through Levee Reconstruction Project and BMP, HCP and NCCP
Resource Conservation Districts (RCDs)	Interest in water management including water quality, wildlife habitat restoration, soil erosion control, and conservation education. (Non-regulatory agencies representing Monterey, San Benito, Santa Clara, and Santa Cruz Counties)	Workshop participation and overall participant in IRWMP process.
Local		
City of Gilroy	Land use planning, provides water and sewer service to Gilroy residents.	Invitation to participate in IRWMP process. Coordination through the Cities partnership with SCWRA. Involvement in the South County Recycled Water Master Plan, HCP and NCCP.
City of Hollister	Land use planning, provides water, sewer and wastewater services to Hollister residents.	Invitation to participate in IRWMP process. Coordination through the Cities partnership with SCWRA. Involvement in the Hollister Groundwater Softening project, Cienega Valley, the Hollister Area Urban Area and Wastewater Master Plan, HCP and NCCP.

Agency	Jurisdiction/Interest	Completed or Planned Coordination/Interaction
City of Morgan Hill	Land use planning, provides water service to Morgan Hill residents.	Invitation to participate in IRWMP process. Coordination through the Cities partnership with SCWRA. Involvement in the South County Recycled Water Master Plan, HCP and NCCP.
City of San Juan Batista	Provides water and wastewater services.	Invitation to participate in IRWMP process. Coordination through the Water Resources Association of San Benito County. Involvement through the San Juan Batista Surface Water Treatment Plant.
City of Watsonville	Provides water, wastewater collection and treatment and recycled water services to the residents of Watsonville.	Active participant in the IRWMP process. Lead agency for the Corralitos Surface Fisheries Enhancement, Recycled Water Treatment Facility and Pajaro River Parkway projects.
Santa Cruz County	Land use planning	Collaboration through Pajaro River Watershed Study, Steering Committee participation, project proponent, permitting coordination through PVWMA BMP, and future Monterey Bay Area IRWMP participation.
Santa Cruz County Flood Control and Water Conservation District	Flood control and water conservation for a portion of Santa Cruz County	Collaboration through Pajaro River Watershed Study, Steering Committee participation, project proponent, and future Monterey Bay Area IRWMP participation.
San Benito County	Land Use Planning	Collaboration through Pajaro River Watershed Study and Steering Committee participation.
San Benito County Water District	Water conservation and flood control for San Benito County	Collaboration through Pajaro River Watershed Study and Steering Committee participation.
Monterey County	Land Use Planning	Collaboration through Pajaro River Watershed Study, Steering Committee Participation, permitting coordination through PVWMA BMP, and future Monterey Bay Area IRWMP participation.
Monterey County Water Resources Agency	Manages, protects, and enhances the quantity and quality of water and provides specified flood control services	Collaboration through Pajaro River Watershed Study, Steering Committee participation, permitting coordination through PVWMA BMP, and future Monterey Bay Area IRWMP participation.
Santa Clara County	Land Use Planning	Collaboration through Pajaro River Watershed Study and permitting coordination through BMP, South County Water Supply Plan.
Association of Monterey Bay Area Governments	Forum for local cities and counties to work together to solve local challenges	Collaboration through Pajaro River Watershed Study, Steering Committee participation, and future Monterey Bay Area IRWMP participation.

15.2 Communication, Coordination and Project Implementation Assistance

State and federal agencies can actively assist in communication and coordination of IRWMP efforts that fall under areas of their jurisdictional authority. The involvement of state and federal agencies is also critical in facilitating IRWMP implementation, which can be done through endorsement of projects, participating in regional working groups and through direct project funding and implementation. This section discusses the participation of active state and federal agencies in the Region and describes how their future involvement will assist in implementation of the IRWMP.

U.S. Army Corps of Engineers

USACE has been heavily involved over the last 40 years in developing flood protection strategies for the Lower Pajaro River. The **Levee Reconstruction Project** is the culmination of the planning that was conducted and the project is now being implemented as part of the IRWMP. USACE coordinated this project with the **Pajaro River Watershed Study**, which focused on developing floodplain management strategies for the Upper Pajaro River. Because flood control projects in the Upper and Lower Pajaro are linked, the continued cooperation of USACE is essential for success of the Pajaro River Flood Protection Program. Additionally, USACE has conducted public meetings on the project. Continuing these public forums will be critical to provide ongoing communication about the project itself and to convey the additional benefits that are gained from implementation of the project within the context of integrated regional planning. Also, USACE funding of 65% of the project costs is critical for the implementation of the Levee Reconstruction Project. FEMA is another federal agency for which coordination is necessary as it defines the floodplain for the Pajaro River Watershed.

NOAA National Fisheries Marine Service, U.S. Fish and Wildlife Service and the Monterey Bay National Marine Sanctuary

The participation of the NOAA National Fisheries Marine Service, the U.S. Fish and Wildlife Service and the Monterey Bay National Marine Sanctuary in the watershed is necessary because these agencies are responsible for protecting fisheries and marine life, which can suffer from the unintended negative effects of water management projects. Coordination with these agencies is important for the **Levee Construction Project**, **Corralitos Creek Fisheries Enhancement Project**, Watsonville **Recycled Water Treatment Facilities Project**, **Import Pipeline**, **Coastal Distribution System, Non-CVP water transfers and banking agreement, Santa Cruz Partners in Restoration Permit Coordination Program, Soap Lake Floodplain Preservation Project, Lower Llagas Creek Flood Protection Project** and the **Pajaro River and San Benito River Parkway** projects.

U.S. Bureau of Reclamation

USBR is responsible for managing the CVP system and allocation and fulfillment of CVP contracts. Coordination with the Mid-Pacific Region of USBR will be vital for any projects in the watershed related to imported water such as the **Import Pipeline**, **PVWMA CVP Entitlement**, **Coastal Distribution System, and Cienega Valley.** USBR will play a key role in the **CVP water transfers within the San Felipe Division,** and will be important in communicating with the agencies involved in explaining the transfers agreements and maintaining proper accounting so that a fair, transparent and efficient market based system can be achieved. The USBR is also involved in the **Watsonville Recycled Water Treatment Facility** and **Coastal Distribution System** through its Title XVI funding.

Central Coast Basin RWQCB

The Central Coast Basin RWQCB is responsible for communicating the requirements for the conditional agricultural waivers to growers and for explaining the water quality benefits of meeting the waiver

requirements to the public. As the RWQCB is the primary regulatory agency for water quality, the stakeholders will rely on it to sanction the solutions, partnerships and methods in the IRWMP that are proposed for addressing issues such as NPS pollution and TMDL compliance. This will include most of the projects within the Agricultural Water Quality Program such as the **Regional Mobile Lab**, **Farm and Range Water Quality Management Program**, **Santa Cruz Partners in Restoration Permit Coordination Program** and **San Benito and South Santa Clara Permit Coordination Program.**

Resource Conservation Districts

The four RCDs are special districts created under state law. In the Pajaro River Watershed, they have been active in dealing with issues in the areas of water quality, wildlife habitat restoration, soil erosion control and conservation. RCDs have developed working relationships with a diverse array of stakeholders in the Region (including other state and federal agencies), and thus have served as an important resource for stakeholder coordination and communication. An example is the SCCRCD, which has relationships with:

- Farm Bureau
- California Department of Conservation
- California Department of Forestry and Fire Protection
- California Department of Parks and Recreation
- U.S. Environmental Protection Agency
- Department of Water Resources
- State Water Resources Control Board
- Regional Water Quality Control Board
- Coastal Conservancy
- California Department of Fish and Game
- The Nature Conservancy
- Santa Cruz Land Trust
- Bureau of Land Management
- California State University at Monterey Bay
- Local community colleges
- United States Department of Agriculture Natural Resources Conservation Service
- UCCE Farm Advisors

Because of these relationships, the RCDs can serve as a center of coordination for these other agencies on IRWMP issues related to resource conservation. The RCDs can also assist in implementation of the IRWMP through projects and are the lead agencies on the **Santa Cruz Partners in Restoration Permit Coordination Program** and the **San Benito and South Santa Clara Permit Coordination Program** and are partner agencies on the **Regional Mobile Lab**. These projects require high levels of landowner and agricultural grower support which can be effectively coordinated through the RCDs.

Other State and Federal Agencies

State and Federal agencies can also assist in implementation by providing funding opportunities. This includes the funding for Proposition 50, Chapter 8 and Proposition 84 funds earmarked for integrated regional water management planning but also includes more focused programs such as ones for recycled water, desalination and stormwater treatment. SWRCB, DWR, USEPA and USBR are the federal and state agencies that provide the most significant funding opportunities for the Pajaro River Watershed (see Section 11) and close coordination should be maintained with these agencies to identify future funds for implementation.

The State and Federal agencies in the Pajaro River Watershed that can assist in the implementation of this IRWMP have been identified. Proactive coordination with the appropriate agencies will ensure that

projects receive endorsement and support and can prevent issues from arising later that can block implementation. The implementation plan for the IRWMP described in Section 7 includes provisions for the continued coordination of state and federal agencies as well as specifying specific opportunities for gaining the involvement of these agencies for improving coordination and communication and project implementation.

15.3 Regulatory Support

Regulatory and jurisdictional agency involvement is vital to the eventual implementation of the water management programs, projects and integrated water management strategies identified in this plan. Many of the projects will require some level of regulatory approval or oversight and will fall under the purview of one or more of the agencies listed in this section. The on-going IRWMP effort will continue to communicate, coordinate, and collaborate at all steps of the process with the appropriate local, State, and Federal agencies in their regulatory roles where necessary. Participation by these agencies at an early stage will streamline the regulatory process, and ensure that the implementation of projects will not be unnecessarily delayed.

There are a number of IRWMP projects that illustrate the advantages of such participation:

- **Corralitos Creek Surface Fisheries Enhancement**, which is subject to NOAA National Marine Fisheries oversight, has obtained a scientific assessment from that agency which will guide the implementation of the project so that the project can meet the requirements for constructing proper fish diversion structures.
- The USACE is both an active participant in the **Levee Reconstruction Project** as well as an approving agency for the project through its jurisdiction over projects that impact waters of the United States, which includes the Pajaro River. Its participation will greatly facilitate federal approval.
- The **Santa Cruz Partners in Restoration Permit Coordination Program** is an excellent example of an effort to streamline the regulatory process at a watershed level. It was designed to address the fact that implementing certain habitat restoration projects such as streambank restoration can often require going through as many as eight different environmental regulation processes administered by a variety of agencies, which presents an ironic obstacle. The program provides landowners and agricultural growers access to a single coordinated process of regulatory approval for permitting restoration related BMPs.
- The **San Benito and South Santa Clara Permit Coordination** project is a similar project for the upper watershed.
- Regulatory coordination with DHS will be necessary for projects that involve drinking water standards or adherence to Title 22 reclaimed water standards such as **Aromas Water District Wellhead Treatment**, **Watsonville Recycled Water Treatment Facility**, **North San Benito County Regional Recycled Water** and the **Sunnyslope Recycled Water Project**.

Several actions can be taken to streamline regulatory and permitting processes for the IRWMP components. These may include preliminary consultations with individual regulatory agencies and joint workshops between the appropriate regulatory representatives and Pajaro River Watershed IRWMP stakeholders. Such coordination would facilitate the permitting and regulatory decision process by identifying action items to be addressed by stakeholders. Such involvement by federal, state, and local agencies will assist the IRWMP effort to be more efficient during overall program implementation.

Table 15-2 lists the range of potential permits and approvals that will be needed, are in the process of being obtained, or have been obtained from the appropriate regulatory and jurisdictional agencies for Pajaro River Watershed IRWMP implementation projects. Several of the project teams are already working with the appropriate regulatory agencies and working through the permitting and/or approval

process. Depending on the specific action required, certain permits and approvals will be pursued by each implementing party/stakeholder for their respective projects; for success, this process will necessitate clear communication, collaboration, and close coordination with the regulatory agencies.

Table 15-2: Potential permits and/or approvals needed for IRWMP strategies implementation.*

Agency/Organization	Permit or Approval	Action Requiring Permit/Consultation
Federal		
U.S. Army Corps of Engineers	Section 404 Permit	Impacts to wetlands and/or waters of the United States
U.S. Bureau of Reclamation	Acquire additional CVP supplies, compliance with National Environmental Policy Act	CVP water deliveries, Connection to Santa Clara Conduit, CVP water transfers; O&M
U.S. Fish and Wildlife Service; National Marine Fisheries Service	Consultation and Coordination under Endangered Species Act	Construction in wetland and upland areas where federally listed species may be present, operations of some facilities
State		
California Coastal Commission	Coastal Development Permits	Projects within local Coastal Commission jurisdiction
California Department of Fish and Game	1601 Streambed Alteration Agreement	Alteration of streambeds during construction
California Department of Health Services	Title 22 Report Approval	Recycled Water treatment and delivery, Wellhead treatment; Desalination
California OSHA Mining and Tunneling Unit	Mining and Tunneling Permit	Trenches or excavations deeper than 5 feet
Caltrans	Encroachment Permits	Construction under California State Highways
Central Coast Regional Water Quality Control Board	401 Certification or Waiver Low Threat Discharge Permit Comments on Title 22 Report	Potential for water quality impairment from sediment discharge to waterways during construction, dewatering and disposal at construction sites, consultation with DHS on Title 22 Report, water recycling, desalination
State Water Resources Control Board	National Pollutant Discharge Elimination System (NPDES) General Permit Storm Water Pollution Prevention (SWPP); Change in Place of Use; water rights permitting.	Construction and grading of areas greater than 1 acre, authorization for use of CVP water in the PVWMA service area, and authorization to divert Harkins Slough and Corralitos Creek surface waters.

Agency/Organization	Permit or Approval	Action Requiring Permit/Consultation
Local		
Cities of Gilroy, Hollister, Morgan Hill, San Juan Batista and Watsonville; Monterey County, San Benito County, Santa Clara County, and Santa Cruz County	Development Permit	Construction projects within City and County limits
County Flood Control and/or Public Works	Encroachment Permit Approval	Construction affecting levees and drainage ditches
County Health Services, SCVWD (for Santa Clara County)	Well Drilling Permit, Grading Permit, Development and Coastal Development Permits, Riparian Exclusion Permit, Encroachment Permit	New well construction or decommissioning and construction projects within County jurisdiction and local coastal zone.
Private Industry		
PG&E	Infrastructure Review; Encroachment Permit	Construction within right-of-way for overhead electrical wires and potentially under buried pipelines
Telecommunications & Cable Companies	Infrastructure Review; Prior Notification to Construction	Construction near or crossing buried lines
Union Pacific Railroad/Southern Pacific Railroad	License Agreement or Easement; Right of Entry	Cross railroad tracks, parallel tracks; conduct surveys, enter the railroad right-of-way

* Table adapted from PVWMA Revised BMP Environmental Impact Report, October 2001.

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Appendices

ACRONYMS AND ABBREVIATIONS

AF	Acre-feet
AFY	Acre-feet per year
ALERT	Automated Local Evaluation in Real Time
AMBAG	Association of Monterey Bay Area Governments
APV	Action Pajaro Valley
BMP	Best Management Practice
BP	Before Present
CCA	Critical Coastal Area
CDS	Coastal Distribution System
cfs	Cubic feet per second
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CNPS	California Native Plant Society
Collaborative	Pajaro River Watershed Management Collaborative
Corps	U.S. Army Corps of Engineers
CSSC	California Species of Special Concern
CVP	Central Valley Project
CWA	Clean Water Act
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ESU	Evolutionary Significant Unit
FC	Federal Candidate
FE	Federally listed Endangered
FEMA	Federal Emergency Management Agency
FT	Federally listed Threatened
GAMA	Groundwater Ambient Monitoring Assessment
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
LOD	Level of Development
M&I	Municipal & Industrial
MBNMS	Monterey Bay National Marine Sanctuary
MCWRA	Monterey County Water Resources Agency
MHI	Median Household Income
MOU	Memorandum of Understanding
MTBE	Methyl Tertiary Butyl Ether
NFIP	National Flood Insurance Program
NMSP	National Marine Sanctuary Program
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPS	Non-Point Source
QA/QC	Quality assurance and quality control
Partners	Pajaro Valley Water Management Agency, San Benito County Water District and Santa Clara Valley Water District
PCLF	Planning and Conservation League Foundation
PRWFPA	Pajaro River Watershed Flood Prevention Authority
PVWMA	Pajaro Valley Water Management Agency

RCDs	Resource Conservation Districts
RWQCB	Regional Water Quality Control Board
SBCWD	San Benito County Water District
SCCFC&WCD	Santa Cruz County Flood Control and Water Conservation District, Zone 7
SCRWA	South County Regional Wastewater Authority
SCVWD	Santa Clara Valley Water District
SE	State listed Endangered
SP	State Protected
SR	State listed as Rare
SSCWD	Sunnyslope County Water District
ST	State listed Threatened
SWAMP	Surface Water Ambient Monitoring Program
SWP	State Water Project
SWRCB	State Water Resources Control Board
TM	Technical Memorandum
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
UCCE	University of California Cooperative Extension
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
WAWRP	Watsonville Area Water Recycling Project
WRA	Water Resources Association
WRDA	Water Resources Development Act
WRWTF	Watsonville Recycled Water Treatment Facility
WWTP	Wastewater Treatment Plant