SECTION 6.0 IMPLEMENTATION PROJECTS AND PROJECT PRIORITIES

Section 5 contains a thorough discussion of water management strategies and opportunities for implementation in the Region. There are many programs and projects underway to address these strategies and meet the IRWMP objectives. This section (Section 6) addresses proposed implementation projects for the near-term and long-term future, which will further Plan objectives, and help meet Statewide and regional priorities.

6.1 Types of Projects and Programs

The Watersheds Coalition of Ventura County reviewed a wide variety of types of projects and programs for possible implementation in the Region. These types of projects/programs are listed in the Table 6-1 below and are grouped into categories (e.g. water supply enhancement, water quality improvement, land use planning, etc). This list provided a starting point for selection of actual projects to be pursued in the Region to address our local objectives and the water management strategies described in Section 5.

Table 6-1

	PROJECT/PROGRAM TYPE
	Regional Programs (Applies to All Strategies)
1	Coordination of hydrologic and hydrogeomorphic models among agencies
2	Coordination, monitoring, assessment, characterization, analysis and enforcement among agencies (e.g. GIS spatial database)
3	Public-private partnerships
4	Outreach and education efforts
5	Regional coordination of water use efficiency and other programs
6	Research applicability of new, innovative solutions
7	Update IRWMP
8	Watershed Planning
	Water Supply Enhancement
	Water Distribution, Treatment and Storage
9	Rehabilitation, replacement or removal of existing facilities
10	Improved operational efficiency
	Surface Water
11	Surface reservoir or storage tank
12	Surface water diversion
	Groundwater

13	Injection wells to augment groundwater basins storage
14	Groundwater extraction facilities (wells)
15	Aquifer storage and recovery
16	Groundwater management and planning policies
17	Groundwater replenishment including spreading grounds and injection wells
	Surface and Groundwater
18	Conjunctive management of supplies
19	More efficient management of supplies
	Recycled Water
20	Recycled wastewater for irrigation or other beneficial uses
21	Increased uses for recycled water through policy change and education
	Other Sources and Options
22	Imported water
23	Desalination of brackish water or seawater
24	Rainwater collection systems (cisterns)
25	Greywater systems
26	Water banking, exchange and transfer projects
27	Inter-tie projects
	Water Demand Management (Efficiency)
28	Urban Water Use Efficiency Measures *BMP 1: Residential Survey Programs BMP 2: Residential Plumbing Retrofit BMP 3: System Water Audits BMP 4: Metering w/Commodity Rates BMP 5 Large Landscape Conservation BMP 6: High Efficiency Clothes Washers BMP 7: Public Information Programs BMP 8: School Education Programs BMP 9: Commercial Industrial Institutional BMP 10: Wholesaler Agency Assistance Programs BMP 11: Conservation Pricing BMP 12: Conservation Coordinator BMP 13: Water Waste Prohibitions BMP 14: Residential Ultra Low Flush Toilet Replacement Programs*
29	Drought contingency and emergency planning
30	Urban water management planning
31	Agricultural water-use efficiency measures (See Section 5, Water Efficiency for List of BMPs)
	Water Quality Improvement
	Sewer Treatment and Discharge Facilities
32	Build sewer collection and treatment
33	Rehabilitate or upgrade sewer treatment collection and discharge systems
34	Relocate and protect sewer collection, treatment and discharge systems - remove from vulnerable locations
	Contaminant (TMDL) Management
35	Emerging contaminant problems - monitoring and management

36	Control and/or enforce prohibitions on illegal discharge of controlled or toxic substances
37	Leaking underground storage tank remediation
38	TMDL development - Nutrients**, Toxicity**, Historic Pesticides**, Metals/Selenium**, Bacteria, Salts, Sedimentation/Siltation, Trash
39	TMDL Monitoring
	TMDL/BMP Implementation
40	Salts: remove or prohibit on-site water softening devices and other measures
41	Nutrients: replacement of problematic septic tank systems with sewer hook-ups, fertilizer application reduction and other measures
42	Future TMDL Implementation (e.g. trash, toxicity, historic pesticides, etc)
	Stormwater Management and Treatment
43	Low flow stormwater treatment
	General Water Quality Programs
44	Seawater intrusion barrier injection wells
45	Nonpoint source pollution control
46	Point-source pollution control
47	Pump and treat water for quality enhancement
48	Removal of pollutants or contaminants in drinking water supplies (source)
49	Water quality monitoring (requires coordination among sampling entities to be effective)
50	Brownfields remediation (mildly contaminated areas)
51	Wellhead protection (e.g. Proper well abandonment, development restrictions)
	Flood Management Projects
	Flood Protection Facilities and Maintenance
52	Levee construction
53	Channel improvement projects
54	Detention basins
55	Debris basins
56	Ongoing facility maintenance
57	Flood hazard mapping
58	Removal of hazards or facilities from floodways
59	Storm monitoring and modeling - flows
60	Erosion control/bank stabilization and protection
61	Land acquisition for watercourse preservation, restoration and flood management
	Ecosystem Protection and Restoration Strategies
62	Conservation Plans (a blueprint for protection of an ecosystem watershed or species)
63	Protect and enhance native ecosystem diversity

64	Control, remove and prevent invasive species
65	Protect existing habitats from degradation
66	Creation of new wetlands in appropriate hydrologic settings
67	Protect, restore and enhance existing wetlands and waterbodies
68	Urban stream restoration and revitalization
69	Land acquisition and/or easements for protection and restoration of habitat areas landscape linkages/wildlife movement
70	Protect and restore fish and wildlife migration corridors and landscape linkages; where necessary create or modify structures to facilitate fish and wildlife movement, such as fish ladders, road undercrossings, etc.
71	Restore natural hydrograph and sediment transport in local watercourses
72	Mitigation banking to offset impacts
73	Identify and collect biological resources data for comprehensive database: 1) Ecosystem function analysis 2)Water quantity and quality needs of fish and wildlife; 3)Evaluate multiple scale habitat needs of aquatic and riparian dependent species
74	Provide for long-term stewardship of natural resources, especially public land: staff, funding, organizational structure (district or conservancy) monitoring and enforcement
	Recreation and Public Access
75	Develop and maintain active and passive recreation areas related to water resources
76	Provide for appropriate public access
	Land Use Planning Programs
77	Updates and modifications to land use policies (i.e. general plan, specific plans)
78	Watercourse setback ordinances or policies (for urban and agricultural uses)
79	Riparian corridor buffers
80	Reduce impervious surface areas in new development
81	Floodplain development restrictions
82	Sensitive biological areas overlay zones
83	Evaluation of water-related impacts during development review
84	Evaluate process for reconstruction following emergencies (floods, landslides)
85	Create incentives and/or eliminate disincentives for land owners to protect and restore habitats and ecosystems on their property

Consistency with Water Management Strategies

Each of these types of projects and programs was discussed in detail at WCVC meetings and reviewed for consistency with the water management strategies. Please see Table 6-2 for a matrix containing an assessment of which of the water management strategies might be positively impacted through implementation of each type of project or program.

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
	Regional Programs (Applies to All Strategies)																					
1	Coordination of hydrologic and hydrogeomorphic models among agencies																					
2	Coordination, monitoring, assessment, characterization, analysis and enforcement among agencies (eg. GIS spatial database)																					
3	Public-private partnerships																					
4	Outreach and education efforts																					
5	Regional coordination of efficiency and other programs																					
6	Research applicability of new, innovative solutions																					
7	Update IRWMP																					
8	Watershed Planning																					
	Water Supply Enhancement																					
	Water Distribution,Treatment and Storage																					
9	Rehabilitation, replacement or removal of existing facilities	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓	✓				✓	✓	✓	✓
10	Rehabilitation, replacement or removal of existing facilities			✓		✓		✓	✓	✓			✓		✓				✓	✓	✓	✓
	Surface Water																					
11	Surface reservoir or storage tank	✓	✓	✓	✓	✓	✓	✓				✓	✓		✓			✓	✓		✓	✓
12	Surface water diversion	✓	✓	✓	✓	✓		✓		✓		✓	✓					✓	✓		✓	✓
	Groundwater																					
13	Injection wells to augment groundwater basins storage			✓		✓				✓	✓		✓		✓				✓	✓	✓	✓
14	Groundwater extraction facilities (wells)			✓		✓				✓			✓		✓				✓	✓	✓	✓

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
15	Aquifer storage and recovery			✓		✓		✓		✓	✓		✓	✓	✓				✓	✓	✓	✓
16	Groundwater management and planning policies			✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	Groundwater replenishment including spreading grounds and injection wells	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
	Surface and Groundwater																					
18	Conjunctive management of supplies			✓	✓	✓		✓		✓	✓		✓	✓	✓			✓	✓	✓	✓	✓
19	More efficient management of supplies			✓		✓		✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓
	Recycled Water																					
20	Recycled wastewater for irrigation or other beneficial uses	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓
21	Increased uses for recycled water through policy change and education	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓
	Other Sources and Options																					
22	Imported water	✓	✓	✓		✓	✓			✓	✓	✓	✓		✓		✓	✓	✓		✓	✓
23	Desalination of brackish water or seawater	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
24	Rainwater collection systems (cisterns)			✓		✓		✓	✓									✓				✓
25	Greywater systems								✓		✓											✓
26	Water banking, exchange and transfer projects	✓	✓	✓		✓	✓	✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓
27	Inter-tie projects			✓		✓				✓	✓		✓		✓			✓	✓		✓	✓
	Water Demand Management (Efficiency)																					

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
28	Urban Water Use Efficiency Measures *BMP 1: Residential Survey Programs* *BMP 2: Residential Plumbing Retrofit* *BMP 3: System Water Audits* *BMP 4: Metering w/Commodity Rates* *BMP 5 Large Landscape Conservation* *BMP 6: High Efficiency Clothes Washers* *BMP 7: Public Information Programs* *BMP 8: School Education Programs* *BMP 9: Commercial Industrial Institutional* *BMP 10: Wholesaler Agency Assistance Programs* *BMP 11: Conservation Pricing* *BMP 12: Conservation Coordinator* *BMP 14: Residential Ultra Low Flush Toilet Replacement Programs*			✓		✓			✓	✓						✓	✓		✓	✓		✓
29	Drought contingency and emergency planning		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
30	Urban water management planning			✓		✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
31	Agricultural water-use efficiency measures (add BMPs)	✓	✓	✓		✓			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
Water Quality Improvement																						
	Sewer Treatment and Discharge Facilities																					
32	Build sewer collection and treatment	✓	✓	✓	✓	✓	✓			✓	✓	✓				✓	✓		✓	✓		✓
33	Rehabilitate or upgrade sewer treatment collection and discharge systems	✓	✓	✓	✓	✓	✓			✓	✓	✓				✓	✓		✓	✓		✓
34	Relocate and protect sewer collection, treatment and discharge systems - remove from vulnerable locations	✓	✓	✓	✓		✓	✓		✓	✓	✓				✓	✓		✓	✓		✓

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
	Contaminant (TMDL) Management																					
35	Emerging contaminant problems - monitoring and management	✓	✓	✓		✓		✓		✓	✓	✓	✓				✓			✓		
36	Control/enforce prohibitions on illegal discharge of controlled or toxic substances	✓	✓	✓		✓		✓		✓	✓	✓	✓				✓			✓		
37	Leaking underground storage tank remediation			✓		✓				✓		✓	✓									
38	TMDL development - Nutrients**, Toxicity**, Historic Pesticides**, Metals/Selenium**, Bacteria, Salts, Sedimentation/Siltation, Trash	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
39	TMDL Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	TMDL/BMP Implementation																					
40	Salts: remove or prohibit on-site water softening devices and other measures			✓		✓				✓	✓	✓	✓	✓		✓			✓			✓
41	Nutrients: replacement of problematic septic tank systems with sewer hook-ups, fertilizer application reduction and other measures	✓	✓			✓		✓		✓	✓		✓				✓		✓	✓		✓
42	Future TMDL Implementation (eg. trash, toxicity, historic pesticides, etc)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Stormwater Management and Treatment																					
43	Low flow stormwater treatment	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓			✓		✓	✓		✓
	General Water Quality Programs																					
44	Seawater intrusion barrier injection wells			✓		✓				✓	✓		✓	✓	✓				✓			✓
45	Non-Point source pollution control	✓	✓	✓		✓	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓		✓
46	Point-source pollution control	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓			✓		✓	✓	✓		✓
47	Pump and treat water for quality enhancement			✓		✓				✓	✓		✓	✓			✓		✓			✓
48	Removal of pollutants or contaminants in drinking water supplies (source)			✓		✓				✓	✓	✓	✓	✓					✓			
49	Water quality monitoring (requires coord. among sampling entities to be effective)			✓	✓	✓		✓		✓			✓	✓			✓		✓	✓		

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
50	Brownfields remediation (mildly contaminated areas)	✓	✓	✓		✓				✓		✓	✓				✓		✓			
51	Wellhead protection (eg. Proper well abandonment, development restrictions)			✓		✓		✓		✓	✓		✓	✓			✓		✓			
Flood Management Projects																						
	Flood Protection Facilities and Maintenance																					
52	Levee construction		✓	✓	✓		✓	✓				✓	✓			✓			✓			
53	Channel improvement projects	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓		✓			
54	Detention basins	✓	✓		✓	✓	✓	✓		✓		✓	✓			✓		✓	✓			
55	Debris basins	✓	✓		✓	✓	✓	✓		✓		✓	✓			✓	✓		✓			
56	Ongoing facility maintenance		✓	✓	✓	✓	✓	✓		✓		✓	✓			✓	✓		✓			
57	Flood hazard mapping	✓	✓		✓		✓	✓				✓				✓			✓			
58	Removal of hazards or facilities from floodways	✓	✓	✓	✓		✓	✓		✓		✓	✓			✓			✓			
59	Storm monitoring and modeling - flows	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓			✓			✓			
60	Erosion control/bank stabilization and protection	✓	✓		✓		✓	✓		✓		✓				✓	✓		✓			
61	Land acquisition for watercourse preservation, restoration and flood management	✓	✓	✓	✓	✓	✓	✓		✓		✓				✓	✓		✓			
Ecosystem Protection and Restoration Strategies																						
62	Conservation Plans (a blueprint for protection of an ecosystem watershed or species)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
63	Protect and enhance native ecosystem diversity	✓	✓		✓	✓	✓		✓	✓	✓	✓			✓	✓			✓			✓

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
64	Control, remove and prevent invasive species	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓			✓			✓
65	Protect existing habitats from degradation		✓		✓		✓		✓	✓	✓	✓			✓	✓	✓		✓			
66	Creation of new wetlands in appropriate hydrologic settings	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
67	Protect, restore and enhance existing wetlands and waterbodies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
68	Urban stream restoration and revitalization	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
69	Land acquisition and/or easements for protection and restoration of habitat areas landscape linkages/wildlife movement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
70	Protect and restore fish and wildlife migration corridors and landscape linkages; where necessary create or modify structures to facilitate fish and wildlife movement, such as fish ladders, road undercrossings, etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
71	Restore natural hydrograph and sediment transport in local watercourses	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
72	Mitigation banking to offset impacts	✓	✓				✓	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓		✓
73	Identify and collect biological resources data for comprehensive database: 1) Ecosystem function analysis 2)Water quantity and quality needs of fish and wildlife; 3)Evaluate multiple scale habitat needs of aquatic and riparian dependent species	✓	✓		✓	✓	✓			✓		✓				✓	✓		✓			
74	Provide for long-term stewardship of natural resources, especially public land : staff, funding, organizational structure (district or conservancy) monitoring and enforcement	✓	✓				✓	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓		✓
Recreation and Public Access																						
75	Develop and maintain active and passive recreation areas related to water resources.		✓		✓	✓	✓	✓		✓	✓	✓			✓	✓		✓	✓			
76	Provide for appropriate public access		✓	✓			✓			✓		✓				✓		✓	✓			

Table 6-2 Water Management Strategies Matrix By Project Type

	Project/Program Type	Applicable Water Management Strategies																				
		Ecosystem Restoration	Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Access	Stormwater Capture (and Management)	Water Conservation (Water Use Efficiency)	Water Quality Protection	Water Recycling	Wetlands Creation/Enhancement	Conjunctive Use (Management)	Desalination	Imported Water***	Land Use Planning	NPS Pollution Control	Surface Storage (Potable and Non-Potable)	Watershed Planning	Water/Wastewater Treatment	Water Transfers	*Water Supply Enhancement**
Land Use Planning Programs																						
77	Updates and modifications to land use policies (i.e. general plan, specific plans)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
78	Watercourse set-back ordinances or policies (for urban and agricultural uses)	✓	✓	✓	✓			✓		✓		✓				✓	✓		✓			
79	Riparian corridor buffers	✓	✓				✓	✓		✓		✓				✓	✓		✓			
80	Reduce impervious surface areas in new development			✓	✓	✓		✓		✓		✓				✓	✓		✓			✓
81	Floodplain development restrictions	✓	✓		✓		✓	✓		✓		✓				✓			✓			
82	Sensitive biological areas overlay zones	✓	✓				✓			✓		✓				✓			✓			
83	Evaluation of water related impacts during development review	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓		✓			✓
84	Evaluate process for reconstruction following emergencies (floods, landslides)	✓	✓		✓		✓	✓		✓		✓				✓	✓		✓			
85	Create incentives and/or eliminate disincentives for land owners to protect and restore habitats and ecosystems on their property	✓	✓	✓	✓	✓	✓	✓		✓		✓				✓	✓		✓			✓

*** Not one of the Strategies required by the Proposition 50 IRWMP Guidelines**

**** Have already been adopted in some watersheds**

*****May reduce dependence on or result in more efficient management of Imported Water**

✓ Denotes that this type of project/program *may* positively benefit this strategy when properly designed

6.2 Proposed Implementation Projects

How Projects Were Selected

The stakeholder groups (Calleguas Creek Steering Committee and Ventura Countywide Integrated Regional Water Management Group and now the Watersheds Coalition of Ventura County) have guided the selection of implementation projects. The WCVC will continue to have a key role in this process. Stakeholders first assembled a list over 150 potential implementation projects within the Region, and then proceeded to prioritize them. The prioritization was completed primarily based on the Calleguas Creek Integrated Watershed Management Plan's and the Ventura Countywide IRWM Interim Plan's Goals and Objectives. These goals are closely intertwined and all of the projects address more than one goal. In addition to these, the stakeholders weighed such factors as Statewide priorities, number of people benefiting, the urgency of the need, the environmental benefits and environmental justice (whether the project was in a Disadvantaged Community[1]). Further considerations included maintaining a balance of projects both geographically and in terms of types of water management strategies and whether the projects were foundational to implementing other priority projects. Based on this process, the list was narrowed down to the 11 projects that are included in the Step 2 Implementation Grant. These projects are listed later in this section.

The WCVC identified five major goals, listed and described below, to provide guidance in selecting and prioritizing implementation projects. As can be seen from the discussions, these categories represent somewhat artificial distinctions between issues which are closely interrelated and difficult to isolate.

1. **Reduce dependence on imported water and protect, conserve and augment water supplies.**

   The Region's water supply comes primarily from two sources; surface flows and groundwater. Calleguas Municipal Water District imports State Water, which is supplied to the Cities within its boundaries. The primary issue with surface flow is capturing and storing the annual storm flows, either by surface storage in lakes or reservoirs or through groundwater basin recharge. Key concerns with groundwater supplies are maintaining the supply, through recharge, protecting groundwater basins from pollution, and improving the quality of the groundwater, which is naturally high in Total Dissolved Solids (TDS). Water supply issues also include providing the infrastructure to collect, treat, store, and transport the water, and the need to provide back-up systems that will protect water users from the Region's periodic droughts. Last but not least, implementation of this goal includes measures to use existing water supplies more efficiently.

2. **Protect and improve water quality.**

[1] Ventura County does not have any Census Tracts with a Median Household Income (MHI) of $37,994 or less. However, the County Watershed Protection District recently undertook an Income Survey, based on methodology approved by the State Water Resources Control Board, for the area within its Waterworks District #16, which is essentially coterminous with the community of Piru. MHI was found to be $21,000. Based on this data, the SWRCB recently approved a Small Community Grant as a Disadvantaged Community for Piru. An equivalent study was conducted for the community of El Rio, and MHI was found to be $24,000. For these reasons, the communities of Piru and El Rio are treated as Disadvantaged Communities, although no application for funding match is being made on this basis.

Water quality issues are closely related to water supply, since the water supplies must be of sufficient quality to permit the use of the water for its intended purpose. As noted above, specific water quality issues involve reducing or avoiding pollution from urban and agricultural uses and treating groundwater to eliminate the naturally high TDS levels.

3. Protect people, property, and the environment from adverse flooding impacts.

Management of floodwater flows is intricately involved with water supply and environmental habitat protection/ecosystem restoration, as floodwaters are retained to provide for wetlands and natural habitats and to recharge groundwater basins. Land use measures to control the types and intensities of development that occur in flood-prone areas are key. One approach to this is through widely applicable land use restrictions. A second approach is to acquire strategically situated properties, remove inappropriate land uses, and establish natural habitats where surface waters can be naturally filtered and allowed to disperse into the groundwater basins. Both of these approaches reduce the need for expensive flood control structures. To the extent flood water can be diverted, captured and treated it solves water quality challenges and creates new supply.

4. Protect and restore habitat and ecosystems in watersheds.

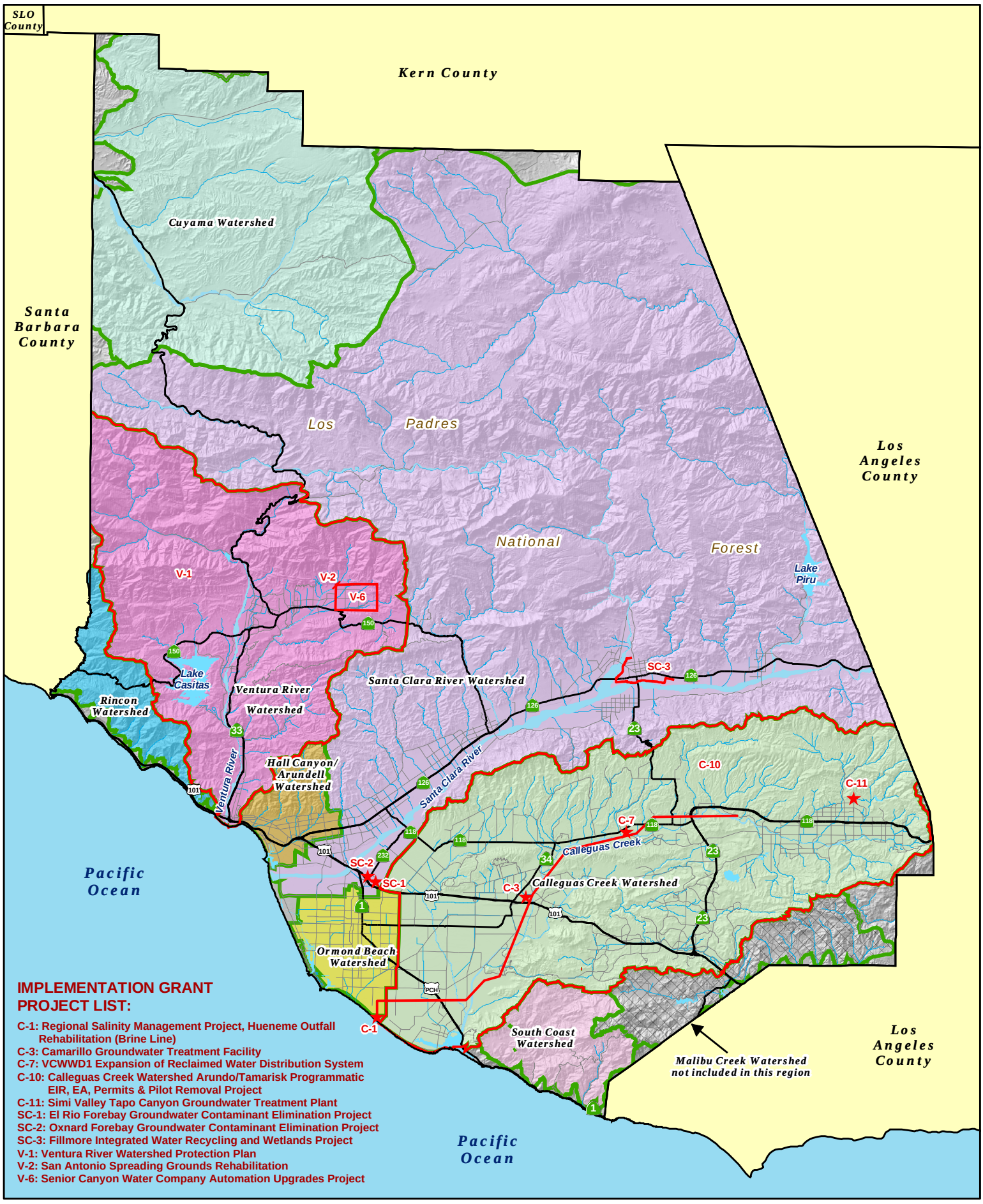
The use of water supplies to protect natural habitat and restore ecosystems is being accepted as a need equivalent to urban and agricultural uses. In fact, these uses are interrelated as wetlands may often function to filter out urban and particularly agricultural pollutants, and to provide groundwater recharge. Within the Region, this goal involves identifying and prioritizing important natural habitats and ecosystems for restoration and preservation, while factoring in additional considerations such as floodwater management and groundwater recharge.

5. Provide water-related recreational, public access, and educational opportunities.

Effective water resource management can also provide additional recreational benefits that foster respect and understanding of the region's water supply and water quality needs. Ventura County is bounded on one side by the Pacific Ocean, and residents have ample ocean-related recreational opportunities in their backyard, however, there are additional opportunities for swimming, hiking, biking, and/or boating in and along the region's fresh water reservoirs, rivers and streams that could help encourage greater stewardship of the region's watersheds. Access to these resources can offer significant educational opportunities and create public awareness about the environment and water–dependent habitats and species.

A. Step 2 Implementation Grant Application Projects, By Watershed (Near-Term)

The following projects were identified for near-term funding requests and were included in the Step 2 application submitted in June 2006 based on their high priority in addressing critical local needs and Statewide priorities, their applicability for Proposition 50 Implementation Grant funding, and their readiness to proceed. They address local objectives, Statewide priorities and will result in significant benefits to local watersheds. Please see Map #8 for project locations. These projects are identified for possible future funding, and are therefore subject to separate environmental review if and when they are funded. Please see Step 2 Application for more details.



VENTURA COUNTY
RESOURCE MANAGEMENT AGENCY
MAPPING SERVICES - GIS

WATERSHEDS COALITION OF VENTURA COUNTY
MAP 8 - PROJECT LOCATIONS

10 Miles

N

CALLEGUAS CREEK WATERSHED PROJECTS

C-1 Calleguas Regional Salinity Management Project, Hueneme Outfall Rehabilitation (Brine Line)

Project Description: The Brine Line is a cornerstone project integral to the construction of a series of brackish groundwater desalters, but also necessary for overall salt management in the Watershed. The Brine Line will provide brine disposal for the Camarillo Groundwater Treatment Facility (GWTF) (C-3) and potentially the Tapo Canyon Groundwater Treatment Facility (TCWTP) (C-11), both contained in this Proposal, as well as many other desalters described in the IRWMP. These projects cannot be implemented without the Brine Line, as the Brine Line provides the sole mechanism for brine disposal in the Watershed. Therefore, there is a strong linkage between the Brine Line and the various desalter projects during both implementation and operation.
In addition to the projects contained within the IRWMP, the Brine Line will also facilitate wetlands restoration efforts within Ventura County, by making recycled water and brines collected available for coastal wetlands restoration efforts. The Brine Line can provide a much needed water supply to sustain restored wetlands. The reliability of the water supply from the Brine Line adds significantly to the feasibility of the various wetlands projects being considered in Ventura County. Removal of arundo and tamarisk from the Watershed to be achieved by the Calleguas Arundo Removal Project (C-10) will also benefit these wetlands restoration efforts, by eradicating non-native species that can damage wetlands habitats.

C-3 Camarillo Groundwater Treatment Facility

Project Description: The Camarillo Groundwater Treatment Facility is proposed by the City of Camarillo Public Works Department and meets three of IRWMP objectives. The Camarillo Groundwater Treatment Facility is a 4 mgd brackish groundwater treatment facility. The proposed facility is in Camarillo and will be owned by the City. Reverse osmosis (RO) treatment technology will be used to produce potable quality water. Brine waste, containing concentrated salts from the RO process, would be discharged to the Brine Line and exported out of the Watershed. Camarillo currently delivers a combination of local groundwater and imported water to its customers. Imported water is provided by Calleguas. Despite the availability of groundwater extraction rights, the relatively high TDS, chloride, iron, and manganese concentrations in the groundwater require that it be blended with imported water before it can be used for potable purposes. The Pleasant Valley Groundwater Basin has experienced an ongoing decline in water quality, which is suspected to originate from overflow of poor quality water from upstream basins. Declining water quality has reduced the effectiveness of blending, such that Camarillo has removed one of its wells from regular service and decreased pumping from the remaining two wells. Over the past few years, because of water quality issues, Camarillo has not pumped its full Fox Canyon Groundwater Management Agency (FCGMA) allocation and has increased its use of imported water.

The construction of desalters, like the Camarillo Groundwater Treatment Facility, would allow brackish water that is currently unusable to be used beneficially, increasing water supply reliability and removing salts through brine disposal outside of the Watershed.

C-7: VCWWD1 Recycled Water System, Phase II - VCWWD1 Recycled Project

Project Description: The Expansion of Recycled Water Distribution System is proposed by VCWWD1 (Ventura County Water Works District #1) and would meet two IRWMP objectives of reducing dependence on imported water and improving water supply reliability. The Moorpark

Wastewater Treatment Plant (MWTP) is owned and operated by VCWWD1. The facility serves the City of Moorpark and surrounding unincorporated areas. The plant has a secondary treatment capacity of 3.0 mgd and tertiary treatment capacity of up 1.5 mgd. Tertiary treated effluent can be recycled for beneficial reuse. Currently, recycled water is being provided to one golf course off of Grimes Canyon Road. However, a Recycled Water Feasibility Study completed in 1990 demonstrated that there is a large additional potential market for recycled water from the MWTP.

Phase II of this project is intended to expand VCWWD1's recycled water distribution system to provide recycled water for use at agricultural and/or additional landscape irrigation reuse sites in the VCWWD1 service area. The project consists of a single reservoir and pipelines to distribute recycled water to agricultural and nursery customers in the service area. The reservoir will replace the existing recycled water storage ponds. The pipelines would include approximately 2065 LF of 8- to 12-inch (North Branch) and 1500 LF of 8-inch (South Branch). The project will also include extending the existing East Branch pipeline 2660 LF southward along Hitch Blvd. The proposed project would enhance VCWWD1's ability to deliver recycled water in lieu of potable water, where possible.

C-10 – Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR/EA, Permits and Pilot Removal Project

Project Description: The Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR/EA, Permits and Pilot Removal Project has been proposed by the Ventura County Resource Conservation District (VCRCD) and meets the IRWMP water quality objective through salts management and removal improvement. Arundo (*Arundo donax*) and tamarisk (*Tamarix spp.*) are non-native invasive plant species that pose significant threats to riparian habitats. Under the Calleguas Creek Watershed Arundo/Tamarisk Programmatic Environmental Impact Report (EIR)/ Environmental Assessment (EA), Permits & Pilot Removal Project, VCRCD will prepare a programmatic EIR/EA, long-term implementation plan and programmatic permits for Arundo and Tamarisk removal, as well as implement a pilot Arundo and Tamarisk removal project within the Watershed.

Arundo is a giant reed native to the Indian subcontinent and introduced by Spanish settlers to the western United States. Although historically useful for fencing, roofing, and fiber production, the benefits of arundo do not outweigh its current negative impacts on local watersheds. Arundo has the capability to spread rapidly, forming large contiguous root masses covering several acres, effectively crowding out native riparian vegetation. This results in lower biodiversity of plant life, eliminating crucial habitat for birds, fish, and other wildlife that use riparian waterways.

Tamarisk is native to south Eurasia and was introduced at the turn of the century for cultivation. It is an aggressive, woody invasive plant species that is relatively long-lived and can tolerate a wide range of environmental conditions once established. It can replace or displace native woody species, such as cottonwood, willow, and mesquite, which occupy similar habitats, especially when timing and amount of peak water discharge, salinity, temperature, and substrate texture have been altered by human activities. Stands of tamarisk generally have lower wildlife values compared to stands of native vegetation and have allelopathic effects by causing the surface soil to become highly saline, thus impeding future colonization by many native plant species.

Removal of this invasive species will increase available groundwater for riparian plants, improve riparian habitat, decrease flooding potential, reduce salinization of soils, and decrease fire hazard.

C-11 - Simi Valley Tapo Canyon Water Treatment Plant (TCWTP)

Project Description: The TCWTP will provide up to 1 mgd of potable water supply by using nano filtration to treat underutilized brackish groundwater. Currently, Ventura County Water Works District 8 (VCWWD 8) delivers over 23,500 AFY to almost 24,000 service connections. According to recent water production estimates (1999-2004), more than 96 percent of water consumed in the VCWWD8 service area is imported water. Imported water comes from the State Water Project and is supplied to VCWWD8 by the Metropolitan Water District of Southern California via Calleguas Municipal Water District.

SANTA CLARA RIVER WATERSHED PROJECTS

SC-1 - El Rio Forebay Groundwater Contaminant Elimination Project

Project Description: The El Rio Project will replace the existing septic tanks that have been identified as a source of contaminant to the Oxnard Forebay aquifer, with a conventional gravity sewer system connected to the City of Oxnard for treatment and disposal. The project includes construction of the sewer mains and laterals to the residential property lines for connection to the collection system. This project, once constructed, will transport effluent from more than 1600 septic systems in the community of El Rio to the Oxnard Wastewater Treatment Plant.

The Unincorporated El Rio community is bounded on the North by Rio Mesa High School, Strickland Tract along Central Avenue, and the Vineyard Avenue Industrial Area, on the East by Rose Avenue, on the South by Ventura Boulevard and State Route 101, and Vineyard Avenue (State Route 232) on the West. The Los Angeles Regional Water Quality Control Board (LARWQCB) mandated phasing out septic tanks in the El Rio community by January 1, 2008 (Resolution 99-13 passed on August 12, 1999, and Title 23, Division 4, Chapter 1, Article 4, Section 3934 of the California Code of Regulations). Failure to meet this prohibition may result in the residents of the El Rio community having to pay fines of up to $10,000 per day.

Disadvantaged Community Status. It should be noted that El Rio is a disadvantaged community. The County conducted a survey, using State Guidelines, of the community's Median Household Income (MHI). MHI was found to be $24,000, well below the cutoff MHI of $37,994, which is 80 percent of the State MHI.

SC-2 - Oxnard Forebay Groundwater Contaminant Elimination Project

Project Description: This project will fund the abandonment of septic systems in the Oxnard Forebay area and the connection of those residences to the public sewer treatment system.

The aquifers that currently receive the septic system effluent affect not only drinking water sources for the City of Oxnard and others, but the resurfacing of the flows potentially affects surface waters, such as the Ormond Wetlands and/or Ormond Beach. LARWQCB Resolution No. 99-13 prohibits additional septic systems in the Oxnard Forebay, and requires the removal of existing systems by 2008. The septic systems proposed for removal are located in the Oxnard Forebay.

SC-3 - Fillmore Integrated Water Recycling and Wetlands Project

Project Description: This project is an integrated project to improve drinking water quality, reduce salt contamination from water softeners, improve wastewater treatment and, provide

for distribution of recycled water. The project will construct a domestic water softening plant, a state-of-the-art wastewater treatment plant, and a recycled water distribution system; and initiate a ban on new or replacement home brine discharging water softeners.

VENTURA RIVER WATERSHED PROJECTS

V-1 - Ventura River Watershed Protection Plan

Project Description: The Ventura River Watershed Protection and Supply Plan is a comprehensive plan aimed at integrating basin-wide issues such as water supply reliability, groundwater recharge, habitat restoration, water quality, and flood management. More than 25 local stakeholders have identified the development of this watershed plan as a top priority. This stakeholder group includes wholesale water providers, retail water suppliers, environmental organizations, groundwater management agencies, Cities, the County of Ventura, special districts, unincorporated communities, a homeowner's association, and community members.

V-2 - San Antonio Spreading Grounds Rehabilitation

Project Description: The project will rehabilitate abandoned diversion works and spreading basins adjacent to San Antonio Creek to increase groundwater recharge in the Ojai Valley Groundwater Basin. The project will also improve fish passage past the point of the current damaged diversion structure and low-flow crossings. A depth-discrete monitoring well, which will be constructed near the spreading grounds, will permit monitoring of the effectiveness of the spreading grounds.

The abandoned diversion works and spreading grounds are located east of the City of Ojai in the bed and banks of San Antonio Creek, just downstream of the Hermitage Road low-flow crossing. The spreading grounds are located on a 10-acre parcel owned by the Ventura County Watershed Protection District (VCWPD). These spreading grounds were destroyed when they were filled with sediment in conjunction with the VCWPD's construction of a debris basin on San Antonio Creek. The diversion works are located on land that was once part of the Ladera Family Trust, but is currently owned by Gene Valiulis. A portion of the property owned by Ron Asquith is also traversed by the diversion channel.

V-6 - Senior Canyon Water Company Automation Upgrades Project

Project Description: The project will convert Senior Canyon Water Company's water supply, distribution, and treatment system from a manual to an automated one. Upgrades will include the installation of instrumentation, controls and programming equipment. The automatic upgrades will increase the reliability of Senior Canyon Water Company's operations.

This project will allow Senior Canyon to better manage and develop its own groundwater supplies due to improved treatment and measurement capability. It will create greater efficient conjunctive use of local ground and surface water supplies. Senior Canyon presently relies heavily on Casitas Municipal Water District's (Casitas) surface water supply. Casitas no longer approves new water allocation requests unless new water supplies are identified. In recent years Casitas has increased the amount of water it is providing to Senior Canyon due to the low reliability of that system. Senior Canyon Water Company's improved water reliability and water savings will help meet its own water supply requirements more efficiently and make it less reliant on Casitas' surface water.

The proposed project will consist of installing instrumentation and controls to allow for water measurement capability using flow meters and remote automation by installing a command and control system with Senior Canyon's operations. This project would improve Senior Canyon's water conveyance efficiency. It would increase the reliability of Senior Canyon's water supply for its own customers making it less reliant on Casitas' water.

The project upgrades will include:

a. Modifying Senior Canyon's existing filters from manual operations to automatic.

b. Building a new chloramination facility with automatic operation and proper redundancy and power backup and storage facilities to meet the requirements of the surface water treatment rule and the disinfection byproducts rule.

c. Installation of automatic monitoring and reporting equipment, which will transmit the operation and monitoring back to a control office located at the Casitas Water Treatment Plant and Casitas office. Casitas will be immediately notified of any problems and will then identify them so they can be automatically responded to by a certified operator as appropriate.

d. Add backup electrical supply to ensure facilities run during power outages; and provide a system of radios or landlines to get the control and monitoring information back to the control center.

B. Step 1 Implementation Grant Applications

The following list of projects were included in the Step 1 Implementation Grant applications (July 2005) for the Ventura Countywide Integrated Regional Water Management Plan Group and the Calleguas Creek Steering Committee, but were not included in the Step 2 application due to the funding limitation placed on the Step 2 application for each Region (a maximum of $25 million). Those projects in the Calleguas Creek Watershed were formally approved by the Calleguas Creek Steering Committee and adopted as part of the Calleguas Creek IRWM plan by the participating jurisdictions.

The projects described below, along with other projects previously proposed, are subject to additional review by each Watershed Committee and the Watersheds Coalition of Ventura County for consideration of future IRWM grant funding. A determination of future funding sources for those projects will also be made.

CALLEGUAS CREEK WATERSHED PROJECTS

C-2 - Renewable Water Resource Management Program for the Southern Reaches of Calleguas Creek Watershed (RWRMP).

Project Description: The RWRMP for the Southern Reaches of the Watershed is a joint effort between Camrosa Water District, Camarillo Sanitary District, and the City of Thousand Oaks. It would involve an integrated set of facilities to reduce reliance on imported water supplies while improving water quality through the managed transport of salts out of the Watershed; thus, it meets all three IRWMP objectives. The RWRMP seeks to manage salts through a systems approach. To the extent possible, the RWRMP will address the salt imbalance by reducing salts introduced into the Watershed, removing salts currently disposed into the creek system, distributing water to move salts down gradient and out of the Watershed, introducing high quality water into the creek system to increase its capacity to carry salts that cannot otherwise be intercepted, and finally capturing and disposing of concentrated salts that would not otherwise move out of the Watershed.

The Watershed's hydrology is complex and dynamic. In order to evaluate the RWRMP's ongoing effect on sub-watershed salt balances, a monitoring and adaptive management element is included. The initial phase includes the establishment of automated monitoring points on the creek to measure flow and salt concentrations. By collecting data on an ongoing basis, the agencies could track and evaluate how best to move additional salts out of the Watershed. Collected data will be analyzed regularly for comparison to water quality objectives and project-specific improvement criteria. Data, analysis results and conclusions will be shared with stakeholders through the Calleguas Creek Watershed planning process. A continuous inventory of the inputs and outputs of salts to each sub-watershed will be maintained to document the relative success in transporting salts out of the Watershed. The RWRMP is designed to be implemented incrementally so that water quality impacts and future actions can be evaluated at each phase.

C-4 - South Las Posas Desalter

Project Description: The South Las Posas Basin Regional Desalter is proposed by the Calleguas Municipal Water District and meets three critical IRWMP objectives. The South Las Posas Basin Regional Desalter would be a 5 mgd brackish groundwater treatment facility. The desalter would be located in Moorpark. Reverse Osmosis (RO) treatment technology would be used to produce potable quality water. Brine waste, containing concentrated salts from the RO process, will be discharged to the Brine Line and exported out of the Watershed.

This area currently receives a combination of local groundwater and imported water to its customers. The South Las Posas Groundwater Basin has been virtually full since 1983. Despite the availability of water and the presence of potential users, the relatively high TDS and chloride concentrations in the groundwater require that the water be treated before it can be used for potable purposes. The construction of desalters, like the South Las Posas Regional Desalter, will allow brackish water that is currently unusable to be used beneficially, increasing water supply reliability, and removing salts through brine disposal outside of the Watershed.

C-5 - Somis Desalter

Project Description: The Somis Desalter is proposed by the Calleguas Municipal Water District and meets three important IRWMP objectives. The Somis Desalter will be a brackish groundwater treatment facility, similar to the South Las Posas Basin Regional Desalter (Project 4). The Somis Desalter will have a capacity of 2 mgd and be located west of the South Las Posas Basin Regional

Desalter in Somis. The Somis Desalter is expected to be constructed after the South Las Posas Basin Regional Desalter is completed. RO treatment technology will be used to produce potable quality water. Brine waste, containing concentrated salts from the RO process, will be discharged to the Brine Line and exported out of the Watershed.

This area currently receives a combination of local groundwater and imported water. The South Las Posas Groundwater Basin has been virtually full since 1983. Despite the availability of water and the presence of potential users, the relatively high TDS and chloride concentrations in the groundwater require that the water be treated before it can be used for potable purposes. The construction of desalters, like the Somis Desalter, will allow brackish water that is currently unusable to be used beneficially, increasing water supply reliability and removing salts through brine disposal outside of the Watershed.

C-6 - West Simi Desalter

Project Description: The West Simi Desalter is proposed by the City of Simi Valley (City) and meets all three critical IRWMP objectives. The City operates five dewatering wells in the western portion of the City to lower the groundwater table and relieve nuisance water to houses and other occupied structures. Approximately 3 mgd are pumped and discharged to the Arroyo Simi. With construction of the West Simi Desalter, the City will capture this brackish water for treatment (desalting) and recover the water for beneficial use as potable water.

The West Simi Desalter is a brackish groundwater treatment facility with a capacity of 3 mgd. Groundwater pumped from the five dewatering wells will be conveyed to a central location, where the desalter would use RO treatment technology to produce potable quality water. Brine waste, containing concentrated salts from the RO process, will be discharged to the Brine Line and exported out of the Watershed.

The City currently delivers imported water, provided by Calleguas, to its customers. Due to its saline quality, the Simi Valley Groundwater Basin is not currently used as a source of potable water by the City. Despite the availability of water and the presence of potential users, the relatively high TDS and chloride concentrations in the groundwater require that the water be treated before it can be used for potable purposes. The construction of desalters, like the West Simi Desalter, will allow brackish water that is currently unusable to be used beneficially, increasing water supply reliability, and removing salts through brine disposal outside of the Watershed.

C-8 - Simi Valley Regional Recycled Water System

Project Description: The Simi Valley Regional Recycled Water System is proposed by VCWWD8 and meets two of the IRWMP objectives of reducing dependence on imported water and improving water supply reliability. The Simi Valley Regional Recycled Water System involves the construction of new distribution facilities consisting of recycled water pipelines and two new reservoirs that will serve major users within the VCWWD8's service area. The project will connect with existing recycled water infrastructure, including the Simi Valley Water Quality Control Plant (SVWQCP), a pump station, and a pipeline from the SVWQCP to the Simi Valley Landfill.

Approximately 7500 feet of 12-inch and 10,700 feet of 24-inch recycled water pipelines will be constructed to expand the existing distribution system to new recycled water users and a new 2 mg recycled water reservoir. The 12-inch pipeline would connect to the proposed recycled water reservoir at the SVWQCP and proceed westward to properties planned for commercial and mixed uses and a future connection with VCWWD1. The remainder of the 24-inch pipeline will proceed eastward to supply a second 2 mg reservoir and the Simi Valley Town Center Mall, where the recycled water will be used for landscape irrigation. Existing facilities with potential recycled water

demands, such as Pre-Con Products and California West Ready Mix, would also be served. Another major potential recycled water use is the North Park Nature Preserve and Village development, which has a projected recycled water demand of 1780 AFY. The proposed facilities will deliver tertiary effluent produced by the SVWQCP. It is estimated that almost 2000 AFY of recycled water could be delivered upon completion of the project for both existing and planned future users.

C-9 - Conejo Creek North Fork – Wildwood Park Water Management Enhancement Project

Project Description: The Conejo Creek North Fork - Wildwood Park Water Management Enhancement Project (Wildwood Project) has been proposed by the Mountains Recreation and Conservation Authority (MRCA) and meets two IRWMP objectives to improve water supply reliability and manage and remove salts. The Wildwood Project will improve approximately 2900 feet of the north fork of Conejo Creek. The objectives of the project are to enhance and create wetland habitat, restore a portion of the Conejo Creek Watershed, provide for stormwater capture, increase groundwater recharge and infiltration, and improve water quality from stormwater runoff of the surrounding housing area.

The project site drains approximately 263 acres of residential development. The project entails daylighting and dechannelizing the pipe and channel on the Ventura County Watershed Protection District (VCWPD) property that runs between Avenida de los Arboles and Wildwood Avenue. A natural channel will be created on the northwestern portion of Wildwood Park, owned by Conejo Recreation and Park District (CRPD), which will divert the water directly into the creek on the south side of Avenida de los Arboles in Wildwood Park.

On these two properties, as well as on the Conejo Open Space Conservation Agency property adjacent to the VCWPD property, native vegetation will be planted to create riparian and wetland habitat and an upland habitat buffer. The wetlands and restored channel will provide increased stormwater infiltration and improved water quality entering Wildwood Park. Restoration of disturbed upland habitat will offer more onsite water retention. Small wetlands, in the form of meanders, will be created within the parameters prescribed by a fluvial geomorphologist. The MRCA has a full-time, staff fluvial geomorphologist, who will oversee the project.

Improvements on the properties include the removal of hard bank sides on the west side of the channel on VCWPD land and on the east side of the creek on CRPD land, the removal of drain pipes, followed by regrading and the installation of riprap, planting native vegetation, and fencing, as necessary.

This project seeks to create approximately five acres of prime riparian woodland habitat. The riparian habitat restoration objectives are to increase the area and diversity of riparian and riparian-adjacent habitats on the site in order to maximize the number and diversity of native bird species breeding or otherwise occupying the site. This consists of creating a willow-cottonwood riparian woodland, including native understory plant species, mature trees, open water, shorelines, and adjacent shrub elements, providing varied bird habitat.

Some bird species, such as common yellowthroat, song sparrow, spotted towhee, California towhee, Bewick's wren, and black-headed grosbeak, are expected to colonize, and possibly breed, in the early stages of riparian restoration projects such as this one. As the riparian woodland grows, several woodpecker and hummingbird species could move in. Several species of hawks (such as Cooper's, red-tailed, and red-shouldered) could also colonize the site as the woodland matures even more, as the different hawk species rely on various structural aspects of trees.

An adaptive management plan has been integrated into the project to monitor and adapt post-project operations. Water quality testing will be completed every year at the upstream and downstream ends of the project. Data from the testing would be made available on the MRCA website and to all other government entities and the public.

SANTA CLARA RIVER WATERSHED PROJECTS

SC-4 - Piru Wastewater Treatment Plant Upgrade/Contaminant Elimination

Project Description: The 30 year-old Piru Wastewater Treatment Plant (PWTP) needs to be upgraded to meet the Regional Water Quality Control Board discharge requirements. On January 29, 2004, the Los Angeles Regional Water Quality Control Board (LARWQCB) issued Order No. R4-2004-0032 directing Waterworks District No 16 to upgrade the plant to meet the standards set forth in the Order by March 2007. The upgraded/expanded PWTP will consist of an influent pump station, flow meter, flow equalization basin/pump station, preliminary screening, membrane bioreactor system, utility water system, percolation ponds for effluent disposal, aerobic digester, vacuum-assisted sludge drying beds, and emergency power system. Effluent will be disposed from the PWTP through percolation, or in the future effluent may be recycled for beneficial uses in periods of drought**.**

SC-5 - Conjunctive Use Irrigation Well

Project Description: Construction of an irrigation well to implement conjunctive use of water for agricultural purposes. Currently, farmers annually construct an earthen push-up dam to capture surface flows for irrigation purposes. This is not an optimal approach since construction of the dam is frequently delayed due to Department of Fish and Game and NOAA concerns. In addition, these concerns also may require that diversion be ceased before the end of the irrigation season, thus negatively impacting agriculture.

This project will aid critical habitats and species in two ways: by eliminating the need for the annual construction of the earthen dam, with accompanying disruption of the local habitat, and by eliminating diversion of surface flows, thus allowing the water to remain within the natural habitat. The project will also enhance water supply reliability by ensuring farmers a stable, reliable source of water for irrigation of crops.

SC-6 - West Ventura County Water Supply Reliability

Project Description: Connect the water systems for the Cities of Ventura and Oxnard by constructing approximately 22,000 feet of 20-inch pipeline between the City of Ventura's Saticoy Conditioning Facility at Wells Road and Telephone Road across the highway 118 bridge over the Santa Clara River at Saticoy to the City of Oxnard Del Norte Blending Station #4 on Rose Avenue south of Central Avenue. Provide appropriate metering and pumping facilities.

SC-7 - Santa Clara Habitat Restoration, Water Quality Improvement & Floodplain Expansion

Project Description: This project will focus on habitat enhancement and restoration that will also result in flood hazard and non-point pollution reduction and groundwater recharge along the Santa Clara River in Ventura County. Habitat enhancement and restoration is critical on this river as it is the last large river that still remains in a generally natural state on the south coast of California. Some parts of the river are nearly one-half mile wide.

The South Coast Region is the most biologically diverse Region in all of North America yet its natural areas have been and continue to be replaced by human-related uses. It is estimated that 95 percent of the wetlands in the Region have already been lost. Therefore, the many native species that need wetland habitat to survive are relegated to a tiny fraction of the range they once had. Wetland destruction continues today. There is an opportunity in the Santa Clara River Watershed to protect an intact riparian system that is home to as many as 22 State and/or Federally listed species including the southern California steelhead, unarmored stickleback, red-legged frog, arroyo toad, least bells vireo, and southwestern willow flycatcher. One researcher called the Santa Clara River the mother lode of the few remaining southern California steelhead trout.

By acquiring lands that are prone to flooding or could be encouraged to flood during high-flow events, the threat of downstream flooding can be greatly reduced. Reducing downstream flood hazard by increasing the floodplain in selected areas will greatly reduce or eliminate the need to construct expensive flood control structures that are detrimental to riparian systems. The expanded floodplain will be converted or restored to riparian habitat where appropriate.

Additionally, some of these properties and/or other acquired properties will include habitat restoration that will be designed to collect local agricultural runoff in specially designed bio-treatment ponds. These ponds will contain appropriate native riparian plants that will naturally filter and remove sediment and contaminants before the water enters the river or groundwater. This portion of the project will be conducted in conjunction with the new NPS pollution program being implemented by the LARWQCB. The goal is to attain TMDL standards compliance for a group or groups of farms in the Watershed.

Increasing the size of the functioning floodplain and creation of the bio-treatment ponds will have the added benefit of increased groundwater recharge. As flooding occurs in the areas of the expanded floodplain habitat, some of the water will be detained long enough to percolate into the ground eventually reaching subsurface aquifers. Similarly, water retained and treated in the bio-treatment ponds will also percolate, thereby increasing groundwater recharge.

In addition to the many benefits this project provides, it is also highly cost-effective. Hard bank flood protection can cost $3000 per linear foot. Acquisition of the floodplain can prevent flooding without the need for these expensive structures. An example of the greater cost efficiency can be found in an existing project on land recently purchased by The Nature Conservancy. The property contains 110 acres of which 30 are in agriculture with the rest in the river channel. The agriculture portion of the property is protected by a large rock levee nearly 3000 feet long. This levee would cost roughly $9 million to construct today but protects land worth only $800,000. Using $3000/linear foot to construct a levee is equivalent to purchasing a 1.24 mile wide buffer along the river - assuming farmland costs $20,000 per acre.

None of the project benefits can be accomplished without acquiring the lands that will be restored to prime habitat, increased floodplain, bio-treatment ponds, and water recharge areas.

SC-8 - Watercourse Setback Ordinance

Project Description: The Planning Division of the County of Ventura will complete and take through the Board of Supervisors a Watercourse Setback Ordinance that will limit and define the types of land uses that would be allowed adjacent to watercourses. Specific issues that will be addressed include:

a. Area(s) covered by ordinance. It is probable that the ordinance will be based on 100- and 500-year floodplain areas. Most regulations would apply to 100-year floodplains; some might be applicable to 500-year floodplains. Applicability to other areas, such as wetlands, would be examined.
b. Types and intensity of land uses allowed.

VENTURA RIVER WATERSHED PROJECTS

V-3 - Ventura River Sewer Trunk Relocation

Project Description:

The project consists of the installation of a new 8-inch sewer line to replace an existing sewer line in the Ventura River. The new sewer line will be located adjacent to the river within an existing residential community served by the sewer line. The new sewer line will be 3180 feet long and will be located in existing private roadways.

The line was constructed in 1963 as apart of the Meiners Oaks Sewer System. At that time construction along the edge of the river bottom was less costly than through the residential community adjacent to the river. Today, the line is threatened by the meandering of the Ventura River. The river is moving towards the eastern bank and will be subject to erosion and damage. The resulting sewage spill will affect the Ventura River, the coast downstream of the river, and a number of water companies.

Most of this existing pipeline is in an easement on property owned by the Ojai Valley Land Conservancy. This area is also targeted as a disposal area for material taken from the Matilija Dam removal project. Removal of the pipeline and easement from the Conservancy's land will allow the Conservancy to restore it to a natural habitat without having to accommodate the Ojai Valley Sanitary District's need for maintenance access with heavy equipment.

V-4 - Ventura River/Meiners Oaks Sewer Trunk Relocation

Project Description:

The project consists of the removal of the existing 18-inch sewer line crossing the Ventura River which has been replaced by a new inverted siphon. The new siphon is working satisfactorily, and the old line can be abandoned. A portion of the line is in the low-flow channel. The river is also a meandering river and the low-flow channel moves. The line was constructed in 1963 as a part of the Meiners Oaks Sewer System. At that time Highway 150 and all utility lines crossed the river bottom. Today, the roadway and all utilities have been removed from the river bottom.

The sewer line is several feet below the elevation of the riverbed of 1963. The low-flow channel has moved significantly to the east and dropped over the past 40 years. The pipeline is now exposed on the surface of the low-flow channel and will become a dam in the river as the riverbed drops further. The riverbed is expected to drop another 2 feet over the next 50 years if the Matilija Dam is not removed.

A dam in the Ventura River is an impediment to the passage of the steelhead trout, an endangered species. This project will improve wildlife habitat by removing this potential dam. This existing pipeline is in an easement on property owned by the County of Ventura.

V-5 - Ojai Meadows Preserve Habitat Restoration and Flood Control Plan

Project Description: A segment of State Highway 33 adjacent to Nordhoff High School (Ojai Unified School District - OUSD) seasonally floods, thereby restricting (or cutting off completely) traffic flow to local neighborhoods and the high school, which is Ojai Valley's emergency evacuation center. Adjoining this area is the Ojai Meadows Preserve. The owner of the preserve, the Ojai Valley Land Conservancy (OVLC), is in the process of restoring the Preserve to wetlands. This project will revise drainage patterns in the project area to avoid flooding of the highway and high school and improve wetland hydrology for restored wetlands on the Ojai Meadows Preserve. Some groundwater recharge is anticipated as a result of allowing the runoff to collect and pool in the wetland areas. The wetlands on the Preserve will provide additional filtration before excess water is ultimately discharged into the Ventura River approximately 0.7 mile west of the Ojai Meadows Preserve.

Although OVLC has completed much of the conceptual master planning for the Ojai Meadows Preserve, OVLC seeks funds not only for necessary additional plan modifications (engineering/grading design) but also for implementation of the actual restoration work. OVLC also seeks funds to assist in the cost of relocating or realigning portions of the existing sewer lines on the property, as the Ojai Valley Sanitary District will not cover any of these costs.

The Ojai Meadows Preserve property will need to be graded and re-contoured to the specifications developed per the Master Plan (and/or any necessary recent modifications). This is a significant task if the wetland restoration effort and the streambank/channel modifications are to occur properly. This task will be closely integrated with the OUSD's grading plan which brings water to the OVLC's property boundary. Also, this re-contouring must be closely coordinated with hydrologists and engineers with Caltrans in order for the flooding at Highway 33 to be properly addressed and not conflict with the wetland restoration and riparian corridor development efforts. The re-grading work will be subcontracted to a licensed contractor through a bid process.

To accommodate increased storm runoff capacity, OVLC plans to widen the existing stream channels on the Preserve (while also converting them to riparian corridors) and to channel the attenuated storm flow into catch basins (vernal pools/retention ponds/wetland habitat). This work will be contracted through a bidding process to firms specializing in this type of construction.

The project also embraces wildlife, educational and recreational benefits. The project has the support of many local agencies and organizations including the City of Ojai, the Ojai Chamber of Commerce, Caltrans, the Ventura Audubon Society, Ventura County Fire Department, the Red Cross, former State Senator Jack O'Connell, former Assemblywoman Hannah-Beth Jackson, and Supervisor Steve Bennett.

The plan will allow for holding basins, filters for impurities, catch basins, open "filtering" swales, vernal pools, trail ways, and long-term maintenance. The plan will also coordinate activities between the various agencies of the overall project such as: Caltrans, State Department of Fish and Game, Ventura County Planning Department, Ventura River Authority, Ventura Water Quality Board, Ventura County Watershed Protection District, Ojai Valley Sanitary District, Ventura County Fire Department, U.S. Army Corps of Engineers, Regional Water Quality Control Board and the City of Ojai. The CEQA process will be followed for this project as prescribed by the State of California and any negative impacts will

be mitigated. Based on experience with local permitting agencies, and specifically the nature of this project, the OVLC will be required to obtain various permits from the aforementioned agencies.

V-7 - Lower Ventura River Habitat Restoration and Enhancement

Project Description: This project will perform habitat restoration and enhancement along the lower five miles of the Ventura River up to and including the estuary, and in order to make this possible, acquire land and conservation easements in the 100-year floodplain along this reach of the river. Funding from this grant would be applied towards acquisition, restoration planning, and wetland restoration upon a piece of property that will be identified by a comprehensive prioritization process.

The restoration of historic wetlands and riparian vegetation will directly benefit sensitive species in the area, particularly the endangered southern California steelhead trout. Additional benefits include reduction of downstream flooding through wetland floodwater retention, elimination of costs for property protection on floodplain land that would otherwise be developed, water quality improvement through wetland restoration, and water conservation through prevention of consumptive activities on the land. A future phase of this project – not a part of this grant request - will involve the development of a passive recreation river parkway with interpretive facilities once a contiguous corridor along the river has been protected.

V-8 - Steelhead Enhancement Project

Project Description: The Steelhead Enhancement Project (SEP) will reduce threats to steelhead; seek to secure a long-term water supply; implement and verify State and Federal regulatory requirements for the steelhead and the Robles Fish Passage Facility; enhance communication and coordination between the Casitas Municipal Water District, resource agencies, and other stakeholders in the Ventura River Basin; and consolidate steelhead enhancement activities in the Ventura River Basin. Specifically, SEP is designed to enhance southern California steelhead in the basin by:

a. Working cooperatively and in conjunction with Federal, State, and local agencies to preserve, enhance and restore southern steelhead and their habitats.

b. Promoting the recovery of southern California steelhead and other listed species, preventing the need for further listing, and generally improving habitat conditions for fish and wildlife.

c. Implementing an adaptive management approach wherein biological information and data will be gathered, reviewed, and incorporated into enhancement activities.

d. Determine whether or not enhancement of southern California steelhead in the Ventura Basin is being achieved.

e. Assist with activities that enhance other species in the basin. These activities may include:

1) Reviewing the existing physical and biological information.
2) Reviewing status information.
3) Reviewing conservation recommendations.
4) Recommend changes in the collection, analysis, and interpretation of relevant information.

C. Proposed Future Projects

Process For Developing Additional Project Ideas for Future Implementation

The WCVC has begun the process of recommending future projects and project concepts to help achieve the objectives of this IRWMP. Appendix G contains a list of future specific projects and conceptual projects, some of which were developed several years ago and others more recently, that need to be further analyzed and coordinated with the sponsoring agencies. These projects will be tied to specific water management strategies, and will address long-term needs and objectives in each of the Watersheds.

Early in 2007 the WCVC will begin the process of reviewing and prioritizing the proposed projects and project concepts. They will be reviewed at the watershed level, through the Watershed Committees, for how well they meet watershed objectives, water management strategies and other identified priorities. These projects will also be assessed for how well they are integrated within and across watersheds to provide multiple benefits. A database has been developed for all projects to display and manage this information.

2007 IRWM Plan Addendum

By June of 2007, the WCVC will release the first update to the IRWMP, in the form of an addendum, which will include the projects selected for future implementation and the potential funding sources. The addendum will include all projects which have been assessed and prioritized, by the watershed committees and the WCVC.

The IRWM Plan is a dynamic planning document. There will be an ongoing process for keeping this proposed project list up-to-date, through regular bi-annual updates with additional revision as needed before major grant applications, as conditions change, funding is identified, projects are implemented and objectives revised.

6.3 Impacts and Benefits of Plan Implementation

There are many positive impacts and benefits associated with the integration of strategies to manage water and environmental resources within watersheds. The primary benefit of plan development and implementation is the creation of an institutional structure for Integrated Regional Water Management Planning—the Watersheds Coalition of Ventura County (WCVC). The WCVC has already made significant progress by establishing a forum in the Region for water management planning, drafting regional objectives, assembling a comprehensive list of potential implementation projects and prioritizing it, and overseeing the planning and implementation grant application process.

Establishment of the WCVC, and the two groups that preceded it (Ventura Countywide Integrated Regional Water Management Plan Group and Calleguas Creek Steering Committee) has already resulted in substantial benefits, by bringing together the numerous disparate water interests within the Region into a single, unified group with a common purpose and direction. WCVC members have cooperated to prepare many of the parts of the Plan, identifying regional issues, priorities, and specific projects designed to address these problems. Implementation of projects and programs designed to improve local water supplies and management will be more successful as a result of this high level of cooperation among the agencies that must work together to implement them.

CEQA Review: Development and Implementation of the IRWM Plan will provide a positive benefit to residents, businesses, irrigators and the environment through the resulting improvement to one of the most important resources in the Region – water. As such, it has been determined that the Plan is exempt from CEQA. The following provisions under CEQA apply: Statutory and categorical exemptions.

Statutory Exemption (15262 for Feasibility and Planning Studies)
Categorical Exemptions (15306-Information Collection, 15307-Actions by Regulatory Agencies for Protection of Natural Resources, and 15308-Actions by Regulatory Agencies for Protection of the Environment.)

The projects and programs contained in this IRWMP have been identified for possible future funding. It is important to note that these specific implementation projects or programs will be subject to separate CEQA review once funding is secured.

6.4 Beneficiaries and Financing Options for Plan Implementation

The potential beneficiaries for the WCVC Integrated Regional Water Management Plan and related programs and projects are all water users and residents, water agencies, local, State and Federal agencies, businesses, the environment, agriculture and others within the jurisdictions served by these projects . These beneficiaries are represented by members of the WCVC. Initial funding of $96,000 for the VCIRWMP/WCVC effort was provided by Group members under a Memorandum of Understanding. The VCIRWMP Group was successful in applying for a Planning Grant under Proposition 50, Chapter 8 to fund the remaining costs of developing the final IRWM Plan. In-kind contributions were provided by Calleguas Municipal Water District on behalf of the Calleguas Creek Steering Committee to advance the plan and implementation proposal.

As previously mentioned, the WCVC submitted an application for a Step 2 Implementation Grant under Proposition 50, Chapter 8. Additional funds for operation and maintenance of implemented projects and programs included in this grant application, will be provided by local agencies through matching funds. The sources of these funds include: water and sanitary district general funds, system replacement reserve funds, and enterprise funds; general funds from local Cities, organizations, County departments; private organizations fundraising and member dues, etc.
In early 2007 the WCVC will initiate a process to further refine the list of proposed projects and identify financing options for each project.

6.5 Consistency with and Implementation of Statewide Priorities

The following table (Table 6-3) contains an assessment of which Statewide Priorities are met by the individual proposed projects submitted in the WCVC Step 2 Grant Application; further detail regarding consistency with Statewide Priorities can be found in Attachment 13 of the Step 2 Grant Application. Please see Table 6-4 for an assessment of the consistency of the proposed projects in the Step 2 application with the IRWMP objectives and the water management strategies.

Table 6-3
Step 2 Implementation Grant Projects
Consistency with Statewide Objectives

Project No.	Project	1. Reduce conflict between water users or resolve water rights disputes	2. Implementation of TMDL	3. Implementation of RWQCB WMI	4. Implementation of SWRCB's NPS Pollution Plan	5. Assist in meeting Delta WQ Objectives	6. Implementation of recommended floodplain management, desalination, and recycling task forces	7. Address environmental justice concerns	8. Assist in achieving the goals of CALFED Bay-Delta Program
C-1	Calleguas Regional Salinity Management Project (Brine Line), Hueneme Outfall Rehabilitation	✓	✓	✓	✓	✓	✓		✓
C-3	Camarillo Groundwater Treatment Facility	✓	✓	✓	✓	✓	✓		✓
C-7	VCWWD1 Expansion of Reclaimed Water Distribution System	✓	✓	✓	✓	✓	✓		✓
C-10	Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR, EA, Permits & Pilot Removal Project	✓	✓	✓	✓		✓		
C-11	Simi Valley Tapo Canyon Groundwater Treatment Plant	✓	✓	✓	✓	✓	✓		✓
SC-1	El Rio Contamination Elimination Project	✓		✓	✓			✓	
SC-2	Oxnard Forebay Contamination Elimination Project	✓		✓	✓	✓			✓
SC-3	Fillmore Integrated Recycled Water and Wetlands Project	✓	✓	✓		✓	✓		✓
V-1	Ventura River Watershed Protection Project	✓	✓	✓	✓	✓	✓	✓	✓
V-2	San Antonio Spreading Grounds Rehabilitation	✓		✓		✓			✓
V-6	Senior Canyon Automation Upgrades Project	✓				✓			✓
	Summary of Overall Program	✓	✓	✓	✓	✓	✓	✓	✓

Table 6-4: Relationship of Proposed Projects to Water Management Strategies and IRWMP Objectives

Project No.	Project Title	Ecosystem Restoration*	Environmental and habitat protection and improvement*	Water Supply Reliability*	Flood management*	Groundwater management*	Recreation and public access*	Storm water capture and management*	Water conservation*	Water quality protection and improvement*	Water recycling*	Wetlands enhancement and creation*	Conjunctive use	Desalination	Imported water	Land use planning	NPS pollution control	Surface storage	Watershed planning	Water and wastewater treatment	Water transfers	Reducing Dependence on Imported Water and Protect, Conserve and Augment Water Supplies	Protect and Improve Water Quality	Protect People, Property and the Environment from Adverse Flooding Impacts	Protect and Restore Habitat and Ecosystems in Watersheds	Provide Water-Related Recreational, Public Access and Educational Opportunities
		IRWMP Program Guidelines Water Management Strategies*																				IRWMP Objectives				
C-1	Calleguas Regional Salinity Management Project (Brine Line), Hueneme Outfall Rehabilitation	√	√									√			√					√		√	√		√	
C-3	Camarillo Groundwater Treatment Facility			√		√					√		√	√	√					√		√	√			
C-7	VCWWD1 Expansion of Reclaimed Water Distribution System										√				√							√				
C-10	Calleguas Creek Watershed Arundo/Tamarisk Programmatic EIR, EA, Permits & Pilot Removal Project	√	√		√					√	√					√							√	√	√	
C-11	Simi Valley Tapo Canyon Groundwater Treatment Plant					√				√					√					√		√	√			
SC-1	El Rio Contamination Elimination Project					√				√													√			
SC-2	Oxnard Forebay Contamination Elimination Project	√	√			√				√		√											√		√	
SC-3	Fillmore Integrated Recycled Water and Wetlands Project	√	√								√	√				√				√		√	√		√	
V-1	Ventura River Watershed Protection Project	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√			√			√	√	√	√	√
V-2	San Antonio Spreading Grounds Rehabilitation		√	√		√									√							√			√	
V-6	Senior Canyon Automation Upgrades Project			√		√			√						√					√		√				

* Asterisked items are per CWC 79562.5 and 79564