

Southern Sierra Regional Water Management Group

2016 ANNUAL REPORT

TABLE OF CONTENTS

Contents

Executive Summary	1
Meetings and Outreach Activities	3
Financial Statement	9
Monitoring	10
Implementation Projects	15
Governance and IRWMP Amendments or Updates	20
Contact Information	21
Grantee Organization	21
Appendix	22
Appendix A – Regional Water Management Group Project List	23

EXECUTIVE SUMMARY

Executive Summary

OVERVIEW

In 2016, the Southern Sierra Regional Water Management Group (RWMG) continued implementation of the Integrated Regional Water Management Plan (IRWMP) which was adopted by the RWMG in November, 2014 and significantly advanced water management planning via watershed action plans and a scope of work and grant application for an IRWMP update, including a UC Merced-driven climate and hydrology research effort (see the associated watershed map in Figure 1). We advanced the implementation of our IRWMP projects via our ability to compete and submit implementation projects in 2018-19, after completing our IRWMP update and we created pathways for project funding, sophisticated research modelling, forecasting and flood, fire, drought impact analyses. These tools can be utilized by managers and communities to manage water resources for multiple interests.

In addition to regular business and meetings, the RWMG completed Watershed Action Plans for the San Joaquin and Kings river watersheds. These action plans identify common issues and challenges in the watershed and chart pathways to resolve issues through partnerships, programs, studies and projects unique and specific to each watershed. These plans were a key deliverable in our National Forest Foundation Grant.

After the Rough Fire in the Kings River Watershed, collaborative efforts emerged to monitor impacts and plan recovery efforts. This and other collaborative efforts are important components of landscape-scale management, which can garner significant funding and partnership opportunities and restore and protect water resources in the face of climate change and erratic natural processes in the Southern Sierra.

The RWMG participated in a climate change forum sponsored by DWR and other partners potentially linking upper and lower watershed water management and integrating data, research and funding. The RWMG contributed an overview of Sierra climate change impacts, vulnerabilities, potential mitigation and adaptation strategies from the IRWMP.

FINANCIAL HIGHLIGHTS

SRT completed the National Forest Foundation for their Community Capacity and Land Stewardship Program, \$12,000. On behalf of the RWMG, SRT also was awarded and completed a \$10,000 USFWS contract to develop a climate-smart project list for our Region and we utilized this funding to develop common issues and projects at a watershed scale to advance our projects, funding and adaptation to climate impacts.

OPERATING HIGHLIGHTS – MEETINGS, MONITORING AND OUTREACH

The RWMG held an additional project development, funding and integration workshop in January, and quarterly meetings in March, June, September and December.

EXECUTIVE SUMMARY

The RWMG conducted IRWMP briefings to member organizations and encouraged use and adoption of the IRWMP.

LOOKING AHEAD

In 2017, the RWMG will begin updating the IRWMP, continue implementation of the IRWMP, soliciting projects, monitoring, outreach and regular business activities.

Bobby Kamansky

Regional Water Management Group Coordinator

January, 2017

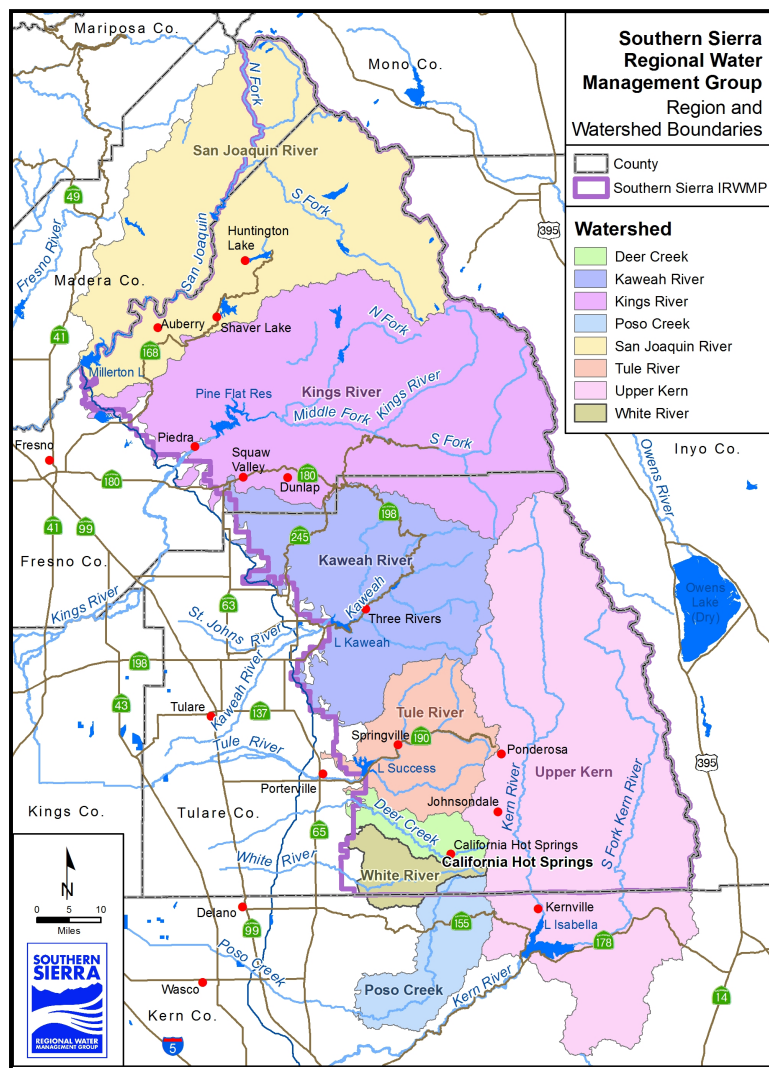


Figure 1 – Southern Sierra Region watershed and community map

MEETINGS AND OUTREACH ACTIVITIES

Meetings and Outreach Activities

The RWMG held quarterly meetings in March, June, September and December and a Project Development Workshop, in January. At the December, 2016 meeting, the RWMG determined that a formal workshop where all members and interested parties can collaborate and learn what they can do to fund, integrate and make their projects regional, and climate smart. The workshop components and the goals included:

1. Introduction and discussion the upcoming implementation grant opportunities;
2. Discussion of projects and provide feedback to project proponents on integration, regional nature and competitiveness;
3. Discussion and recommendation of work plan for project implementation and projects to move forward.

The meetings and workshop were successful in developing additional projects and promoting RWMG work and funding for projects.

During the January meeting, UC Merced proposed a project providing a number of new studies and data to gain progress toward regional objectives.

After the Rough Fire in the Kings River Watershed, collaborative efforts emerged among multiple partners, lead by the US Forest Service, to monitor impacts and plan recovery efforts (see Figure 2). These partners and programs will assist in understanding and modelling Kings River hydrology, drought, fire and flood impacts and provide a collaborative basis for planning and implementation.

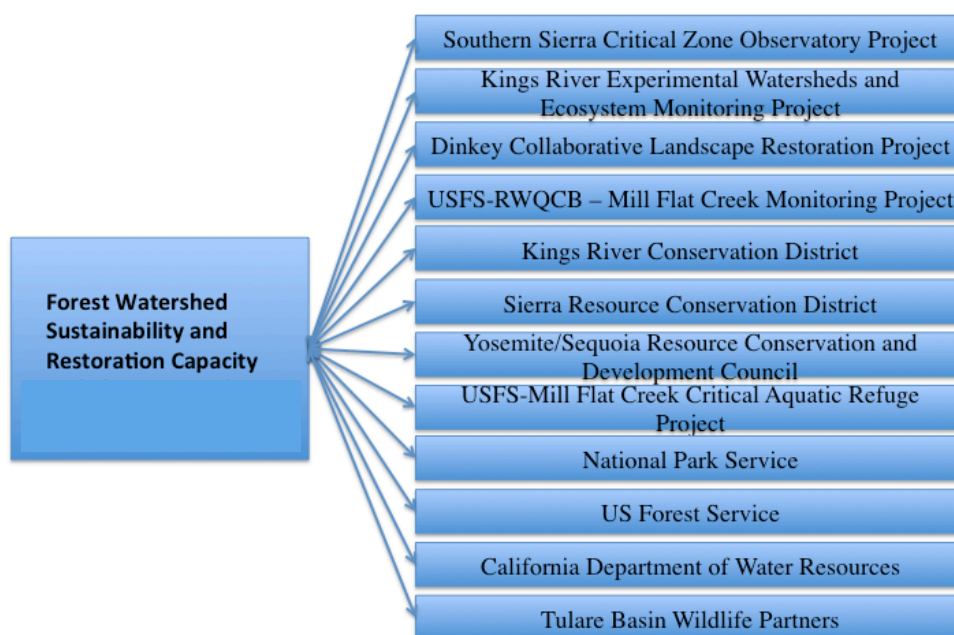


Figure 2. Multiple agencies interested in and contributing to watershed sustainability and capacity.

MEETINGS AND OUTREACH ACTIVITIES

The RWMG's Kings River Watershed Action Plan highlighted the need for collaboration and projects to monitor, evaluate and predict events and create methods to respond. Meanwhile, the Southern Sierra Region is under an exceptional drought and unprecedented tree mortality, in addition to large fires, and potential floods. This makes our combined resources especially important in responding to these conditions and events (see Figure 3). These conditions also offer a perspective on water management during droughts and tree mortality, as it relates to watershed hydrology and water balance.

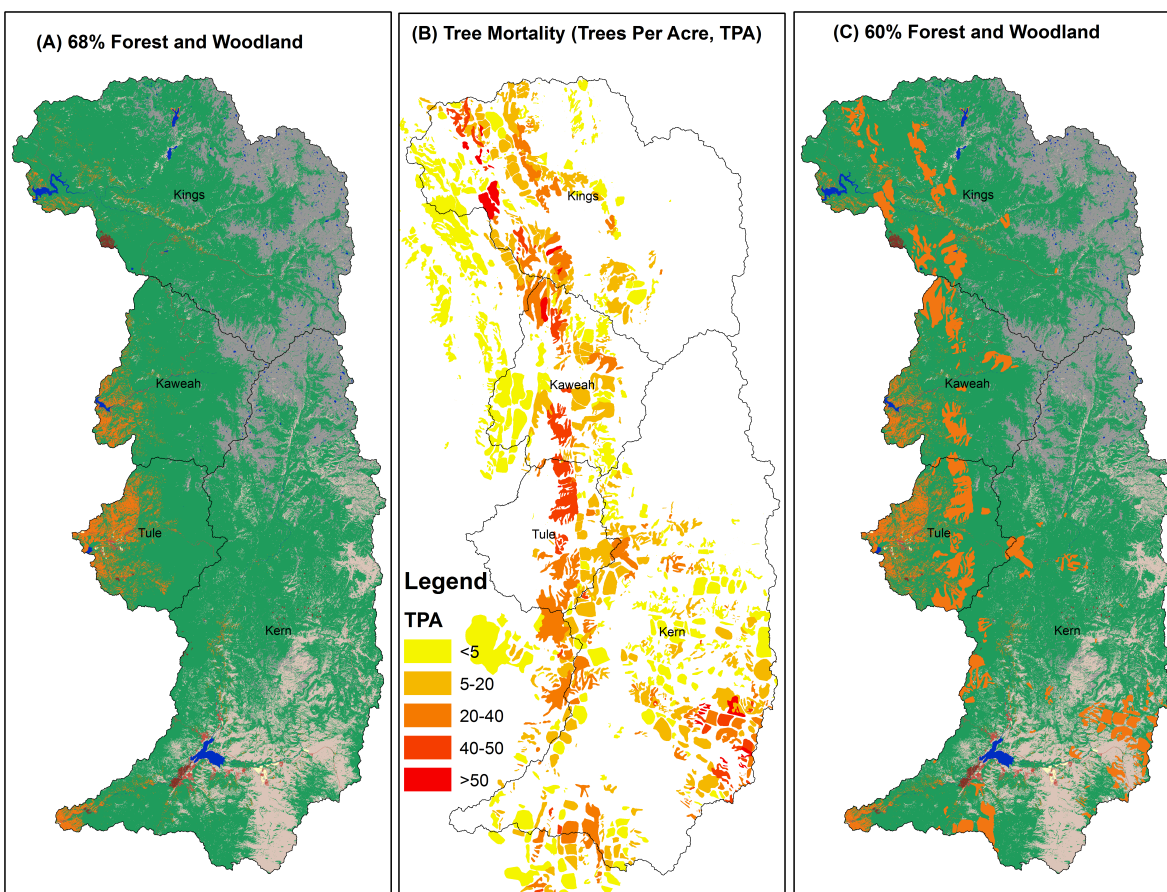


Figure 3. Forest and woodland mortality in Southern Sierra watersheds.

Collaborative Cooperation

There are several collaborative groups in the Southern Sierra Region including the Sustainable Forests and Communities Collaborative, the Dinkey Collaborative, the Whiskey Ridge and the Willow Creek groups. These groups have relatively focused geographic and action areas. The Southern Sierra Regional Water Management Group seeks to cooperate and collaborate with these groups to integrate with their planning efforts, gather data and incorporate issues, priorities and projects into the regional planning and implementation process.

MEETINGS AND OUTREACH ACTIVITIES

The Sustainable Forests and Communities Collaborative is a community based collaborative focused on the development and conservation of healthy forests and sustainable economies in the Southern Sierra. They focus on projects like increasing volunteerism, sustainable forest management, bioenergy, cultural resources, and watershed restoration. They are known in the community and have a lot of good will and members willing to participate, but their funding source for a facilitator has lapsed.

The Whiskey Ridge and Willow Creek planning groups were both collaborative planning groups formed based on planning a project for the Sierra National Forest. Once the plan was developed, these planning groups went inactive – many of their members began working with SFCC, other IRWM groups, or other regional non-profit organizations.

The Dinkey Collaborative is largely a planning and monitoring group. The Sierra National Forest implements the collaborative's projects and manages the Collaborative Forest Landscape Restoration (CFLR)-funded program budget. The Group includes expertise and knowledge from many stakeholders and maintains a narrow scope and location focus. The group supports projects such as the Soaproot thinning project, Dinkey North and South, Eastfork, and their newest project, Exchequer.

Southern Sierra Regional Water Management Group is a water management group under California water Code and is a California Department of Water Resources-approved Region. The Group completed the first IRWM Plan in 2014. Along with implementing projects in the Plan, the RWMG seeks to develop action plans for the watersheds in the Region. Through the IRWMP and subsequent plans and programs, stakeholders have access to unique sources of funding and can build integrated, competitive projects. The regional nature of the RWMG, capacity, scope, and charge brings the ability to work in multiple watersheds. The locally-focused collaboratives bring substantial local knowledge and data about resource issues and challenges and opportunities to incorporate data or address issues and challenges. The RWMG would like to incorporate and build upon this local knowledge and work. A regional research and data basis is already included in the IRWMP utilizing, among other resources, the Kings River Experimental Watershed as a resource.

There are several IRWM funding packages that will be available in 2016-17. Projects on the 2016 list will be able to seek funding. The RWMG will be creating the 2017 project list in January, so we would like to add some of the collaborative's projects to the list.

The RWMG and consultants worked with members from the two active collaborative groups in the Region: the Dinkey Collaborative and the Watershed Connections Workgroup. By incorporating knowledge and data from the Dinkey Collaborative in cooperation with members, UC Merced, the Pacific Southwest Research Station, Sequoia and Kings Canyon National Parks and the Sierra National Forest, the RWMG crafted a unique, cutting edge, research, water modelling and implementation project. A portion of this research and implementation project has now been funded as part of a \$217,000 Department of Water Resources (DWR) planning grant and represents a new avenue in cutting-edge water management in the southern Sierra's Kings River Watershed incorporating the Southern Sierra Critical Zone Observatory data and providing modelling and outreach tools as a demonstration for other watersheds. This project became the foundation for a new initiative to re-focus and improve the IRWM Plan. This grant will enable the RWMG to access additional funding for project implementation in the near future as part of Proposition 1 funding.

MEETINGS AND OUTREACH ACTIVITIES

The RWMG provides regular briefings/presentations and will regularly attend the Dinkey Collaborative meetings and share information with other stakeholders.

Members of the RWMG participated in a climate change forum sponsored by DWR and other partners *Climate Change Impacts and Adaptation Strategies for the Tulare Basin Watershed – A Focus on Agriculture and Disadvantaged Communities* potentially linking upper and lower watershed water management and integrating data, research and funding for dis-advantaged and other communities. The RWMG contributed an overview of Sierra climate change impacts, vulnerabilities, potential mitigation and adaptation strategies from the IRWMP.

Watershed Action Plans

We significantly advanced our planning via watershed action plans and a scope of work and grant application for a IRWMP update, including a UC Merced-driven climate and hydrology research effort. We advanced the implementation of our IRWMP projects via our ability to compete and submit implementation projects in 2018, after completing our IRWMP update and we created pathways for project funding and sophisticated research modelling, forecasting and flood, fire, drought impact analyses.

In addition to regular business and meetings, the RWMG completed the three Watershed Action Plans for the San Joaquin, Kings and Kaweah watersheds. These action plans identify common issues and challenges in the watershed and chart pathways to resolve issues through partnerships, programs, studies and projects unique and specific to each watershed. These plans were a key deliverable in our National Forest Foundation Grant.

DAC Outreach

Our Region is part of two DAC efforts: the Mountain Counties Funding Area Program, in the San Joaquin River Watershed, and the Tulare Lake Funding Area Program for the remaining watersheds. Areas within the Southern Sierra Region may be classified as Disadvantaged Communities (DACs), Severely Disadvantaged Community (SDAC) or Economically Distressed Areas (EDAs) by the State of California. We have identified a number of DACs in the Region, at least two SDACs and at least one EDA.

For our proposal to DWR, the primary data sources for the DAC determination were the Disadvantaged Community Place, Tract and Block Group shapefiles downloaded from the Disadvantaged Communities Mapping Tool established by DWR. Similarly, the DWR EDA Mapping Tool web page was used to indicate which block groups were considered Economically Distressed. Care was taken to confirm that the newly identified EDA communities met the combinations of criteria for income, total population, and unemployment (EDD). Geographic areas were included in our counts if they met either the DAC or EDA criteria. DACs identified at the block group, tract and place levels were all combined as they did not overlap geographically (preventing double counting). Finally, the population estimates for DACs/EDAs were compared to those for the entire SSIRWMP boundary to obtain a percentage of approximately 50%.

MEETINGS AND OUTREACH ACTIVITIES

Some large areas in the region (see white areas in the left-hand map in Figure 4) are not classified as DACs or EDAs, but these are primarily National Park and National Forest lands that have very low population density.

The DACs and EDAs cover areas with a total population of 16,084. This represents 50.2% of the permanent regional population of 32,040. These areas will be targets in outreach efforts as part of the Planning Grant. The Region has a relatively low permanent population due to its rural and mountainous nature, but does accommodate millions of seasonal and part time visitors each year.

The impact on the required cost share for a Planning Grant is shown below:

Required cost share = $50\% \times (1 - 50.2\%) = 24.9\%$. For simplicity, this is rounded to 25% in this application.

DACs have been an integral part of the planning and implementation process. Springville, an EDA and SDAC (based on community surveys), represented by the Springville Public Utilities District has participated in the RWMG since its inception in 2008 and sponsored and proposed projects and provided essential information in the initial IRWMP.

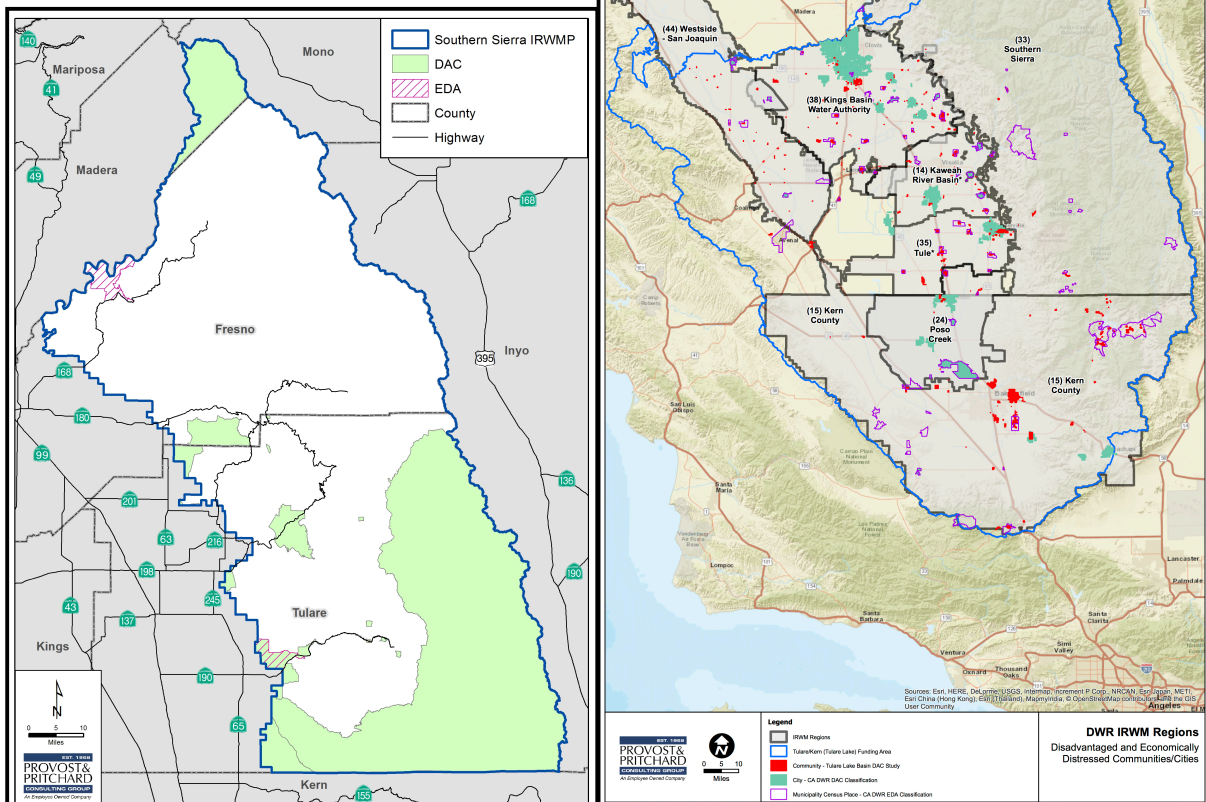


Figure 4. Preliminary community/DAC/EDC maps in the southern Sierra.

MEETINGS AND OUTREACH ACTIVITIES

DACs will continue to be an integral part of planning and the RWMG seeks to improve project implementation in DACs in the Region. Supporting and planning projects and adapting to drought and climate in DACs will be a major focus of the IRWMP update proposed herein. The RWMG seeks to continue to identify specific planning and project needs in these communities and participate in the Tulare Lake and Mountain Counties Overlay DAC efforts. The RWMG participates in both efforts and will apply information learned since 2008 about the needs in these communities as well as apply information from other DAC-active groups such as the Inyo-Mono RMWG's DAC work to the IRWMP update to best engage and partner with DACs.

FINANCIAL STATEMENT

Financial Statement

STATEMENT OF FINANCIAL POSITION

- Liabilities
 - The RWMG liabilities are limited to consultant and staff time to execute the RWMG business and process.
 - The total annual need was determined to be approximately \$30,000. These costs include:
 - Facilitation - \$5,000;
 - Grant writing - \$10,000;
 - Outreach and coordination - \$10,000;
 - Indirect and administration - \$5,000.

INCOME AND EXPENSES

- The RWMG income is limited to grants, donations and contracts for services.
- The expenses include costs to run to RWMG including consultant and staff time, as well as copies, and incidentals and overhead, administration.

INCOME SOURCES

We completed the National Forest Foundation grant, \$12,000 and USFWS contract, \$10,000.

FINANCIAL BREAKDOWN*

SOURCE	REVENUE (GRANTS AND CONTRACTS)	EXPENSES
National Forest Foundation	\$2,500	
US Fish and Wildlife Service	\$10,000	
Consultants – outreach, meetings and facilitation		\$9,000
Staff time – meetings, administration		\$2,500
Copies, incidental		\$200
Overhead		\$900

*Figures are estimates

MONITORING

Monitoring

MONITORING IRWMP OBJECTIVES

The following are the IRWMP adopted objectives, monitoring metrics and 2016 results, which the RWMG uses as benchmarks/milestones to track progress toward IRWMP implementation:

Table 1. Summary of IRWM Objectives, Measurement Methods and 2016 Results.

No.	Objective	Methods for Measurement	2016 Results
1a, 4d	Promote natural storage through meadow, stream and forest restoration	<ul style="list-style-type: none"> • Number of meadows and acres restored • Number of forest acres restored • Number of acres/miles of streams restored • Water temperatures pre-and post-restoration • Groundwater level change • Wetland vegetation restoration, increases in native cover and diversity • Number of special status species' habitat improved in restored areas • Number of acre-feet stored or delayed in runoff 	<ul style="list-style-type: none"> • Need data
1b	Increase understanding of the water balance and groundwater resources	<ul style="list-style-type: none"> • Number of groundwater studies completed • Number of monitoring wells • Coverage of groundwater supply information • Increased knowledge of local geology and aquifer • More accurate predictive model(s) of water balance • Number of studies improving water balance data 	<ul style="list-style-type: none"> • Completed one new study • Estimated 10 monitoring wells available/tracked; >600 utilized for Water Study • Completed one new study • Completed one new study • Completed one new study
1c, 3d	Increase capacity of water storage facilities	<ul style="list-style-type: none"> • Increase in volume of water stored • Number of days of delayed runoff • Increased duration of irrigation deliveries 	
1d	Efficiently use, conserve and recycle water resources	<ul style="list-style-type: none"> • Number of sites employing native, near-native, or xeric landscaping • Amount of water conserved • Number of hours spent on public awareness education • Number of households contacted on public awareness education 	<ul style="list-style-type: none"> • 200 • >100

MONITORING

No.	Objective	Methods for Measurement	2016 Results
1e	Manage/adapt to climate change impacts on water supplies	<ul style="list-style-type: none"> • Reductions in greenhouse gas emissions in local project area • Number of Projects Completed • Number of studies on climate change and greenhouse gas emissions • Number of adaptation strategies employed by managers • Success in implementing adaptation strategies 	<ul style="list-style-type: none"> • One
1f	Promote sustainable water supplies for human developments	<ul style="list-style-type: none"> • Number of land-use plans utilizing BMPs for sustainable management that have been adopted • Amount of policies emplaced by local jurisdictions increasing sustainability of water supply 	
2a	Protect natural streams, lakes and other water bodies from contamination	<ul style="list-style-type: none"> • Number of studies identifying sources and types of contamination • Number of identified contamination sources mitigated • Hours of public education on contamination • Number of people/households contacted for public education efforts 	
2b, 4a	Promote best practices to protect water quality or reduce water contamination	<ul style="list-style-type: none"> • Number of water quality violations • Number of riparian management projects completed • Beneficial changes in the miles of impaired streams in the Region • Beneficial changes in the number of impaired water bodies in the Region • Beneficial changes in the number of miles of riparian/wetland fencing • Number and type of BMPs employed in projects that disturb soils • Hours of public awareness education • New or long-term efforts to monitor general water quality such as nutrients, pH, turbidity, electrical conductivity, etc. 	<ul style="list-style-type: none"> • One public workshop • Yes • >100 • One – Rough Fire
2c, 4c	Reduce erosion and sedimentation	<ul style="list-style-type: none"> • Amount of development that is relocated away from sensitive areas • Acreage of protected lands • Number of properly employed sediment/erosion BMPs • Number of studies evaluating land use and erosion/sedimentation 	<ul style="list-style-type: none"> • One workshop

MONITORING

No.	Objective	Methods for Measurement	2016 Results
2d	Promote storm water management planning and implementation	<ul style="list-style-type: none"> Number of stormwater management plans created and adopted Improvement in runoff water quality after baseline is established Number of beneficial uses of storm water 	
2e	Assess water quality problems of small water systems	<ul style="list-style-type: none"> Number of assessments performed Number of violations mitigated Number of water quality improvement / treatment projects implemented 	<ul style="list-style-type: none"> One in progress
2f	Study impacts of septic systems on water quality	<ul style="list-style-type: none"> Number of studies identifying areas of concentrated septic systems Number of water quality samples taken in areas with high concentrations of septic systems Number of projects implemented to reduce water quality impacts 	
3a	Identify and implement projects to accommodate flood related impacts from climate change	<ul style="list-style-type: none"> Number of studies identifying flood prone areas Number of projects implemented that reduce flood risk to property Amount of flood reduction/mitigation infrastructure installed 	
3b	Integrate flood management with other land management activities	<ul style="list-style-type: none"> Number of acres of farmland or urban parks irrigated with floodwater Number of stream and meadow restoration projects that mitigate downstream flooding Acres of reforested land-both logged and burned areas 	
3c, 4f	Protect and restore connectivity of floodplains with other water bodies	<ul style="list-style-type: none"> Number of critical areas identified Number of projects to establish floodplain connectivity Number of key areas protected, acres of floodplain restored/protected 	<ul style="list-style-type: none"> One – Little/Big Dry creeks One One

MONITORING

No.	Objective	Methods for Measurement	2016 Results
4b	Manage vegetation to reduce catastrophic fire risk / keep fires within natural range of variability	<ul style="list-style-type: none"> • Number of projects completed • Area of land managed to reduce unnaturally large fires • Number of acres of fuel breaks 	<ul style="list-style-type: none"> • At least three fuels projects in Sequoia-Kings, Sierra, Sequoia National Forests.
5a	Promote community education about water issues	<ul style="list-style-type: none"> • Number of new programs • Number of days of educational activity provided • New materials and dissemination • Number of people/households contacted 	
5b	Increase outreach to Native American Tribes	<ul style="list-style-type: none"> • Number of outreach meetings and MOUs signed by tribal entities • Number of water resources related projects completed on tribal lands 	<ul style="list-style-type: none"> • two meetings • One project in progress
5c	Increase outreach to disadvantaged communities	<ul style="list-style-type: none"> • Number of outreach meetings and MOUs signed by DACs • Number of water resources related projects completed in DACs • Demand by DACs for additional water and climate information and capacity to use that information for water-resources management 	<ul style="list-style-type: none"> • Two meetings
5d	Develop/maintain comprehensive website for Regional Water Management Group	<ul style="list-style-type: none"> • Successful website • Number of users of the website • Hours of public awareness education supplied 	<ul style="list-style-type: none"> • Achieved/accomplished/complete • 30-100 users per month • >100
6a	Protect unique areas with high value to water storage and groundwater recharge	<ul style="list-style-type: none"> • Number of new areas identified for protection • Number of acres protected 	

MONITORING

No.	Objective	Methods for Measurement	2016 Results
6b	Protect unique areas with high value to water quality protection and remediation	<ul style="list-style-type: none"> Number of new areas identified for protection Number of acres protected 	<ul style="list-style-type: none"> One – Little/Big Dry creeks.
6c	Protect unique areas with high value to other water resources issues	<ul style="list-style-type: none"> Number of new areas identified for protection Number of acres protected 	
6d	Enhance water management in already protected areas	<ul style="list-style-type: none"> Number of projects completed Number of acres enhanced 	

PROJECT-SPECIFIC MONITORING

These data will be presented when available.

IMPLEMENTATION PROJECT PROGRESS

The Three Rivers Water Supply Study is complete with the California Department of Water Resources' John Kirk conducting the study. The RWMG has requested a final copy of the report.

Implementation Projects

1.1 Identifying and promoting projects

The Southern Sierra Regional Water Management Group seeks to implement the Integrated Regional Water Management Plan that the Group adopted in November, 2014. For California Department of Water Resources proposals, projects should have a regional emphasis or have impacts at a regional level. A regional basis or impact strengthens proposals to other funding agencies as well.

Because the Region is very large (the second or third largest in the State), it is difficult to create stand-alone projects which encompass the entire Region. However, projects may be phased temporally or geographically for feasibility. The geologic and geographic nature, including steep, incised canyons and little infrastructure, of the SSRWMG Region also may preclude cost-effective strategies addressing the entire Region. Because very little water management has occurred in our Region, smaller-scale projects may be used as demonstrations or initial steps towards regional implementation. Demonstrations can lead phased approaches. It will be important to provide detailed descriptions of scope, scale, phases, impacts and benefits.

Examples of phased, demonstration or regional projects include:

- Three Rivers Hydrology and Water Supply Project (and other studies and research) – very important demonstration and regional project with initial phase in Three Rivers;
- DAC and tribal water supply and quality projects – DACs and Tribal projects provide important regional benefits and impacts to the Region through providing essential water management improvements to human communities;
- Meadow Restoration and forest treatments – meadows may provide watershed-level impacts directly and indirectly benefit regions because of flood attenuation.

Integrated Projects

Integrated projects integrate impacts and benefits across multiple sectors including water supply and quality, tribal needs, disadvantaged community needs, flood management, ecosystem water needs, climate and drought adaptation, and others. Integration can occur on a project basis, meaning each project is designed to integrate multiple benefits, and on a suite or a package of projects, which integrate across the projects, submitted to a funding agency.

Project integration enables projects, packages and applications to be more competitive across a wide variety of funding sources and stakes project benefits.

1.2 Project workshops

The RWMG determined that one key method in developing, promoting, integrating and ranking projects is to hold project workshops where projects can be proposed, discussed, ranked and improved. One such workshop was held in January.

IMPLEMENTATION PROJECTS

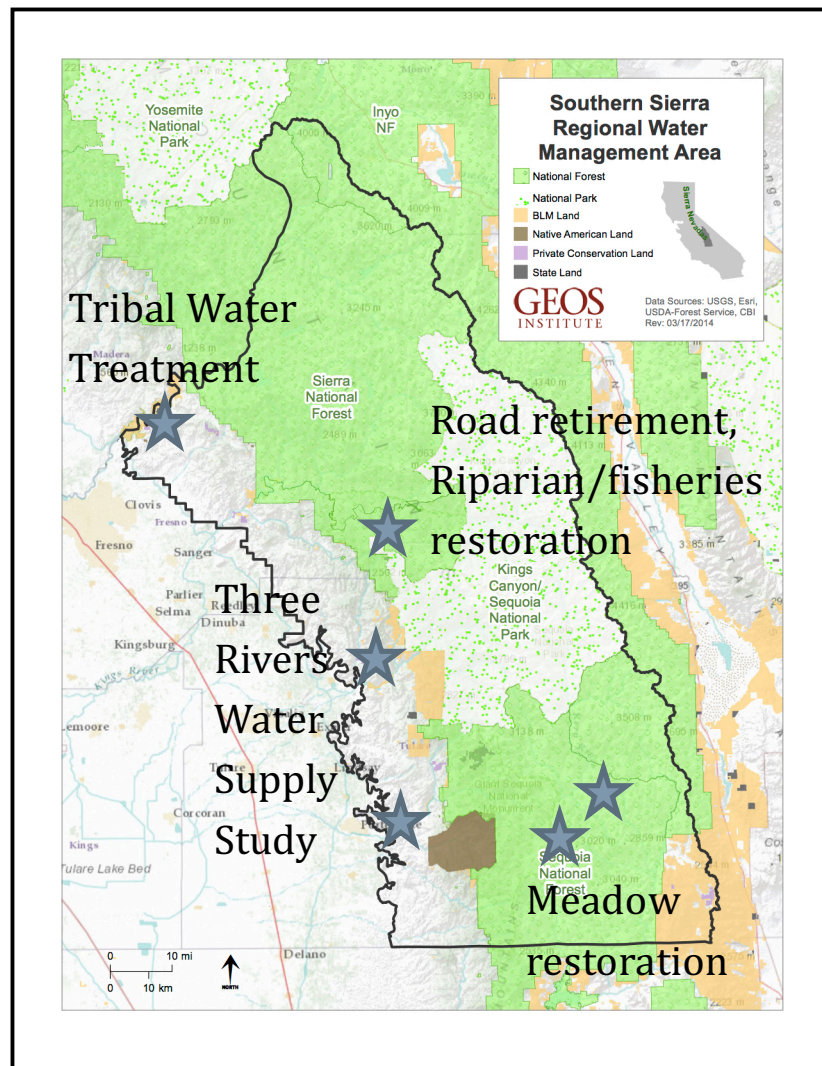


Figure 5. 2016 project locations in the SSIRWMP Region.

1.3 Project proponents

All of the SSRWMP projects are good projects worthy of funding. However, some projects are easier to scope, fund and implement if project proponents have information, done some initial work and are engage with expertise or funding to submit the project. In many cases, projects which are ready to construct or begin, or where the project proponent commits resources will be able to submit grant applications. But the RWMG is committed to developing and promoting all possible projects for funding.

1.4 Roles and responsibilities

IMPLEMENTATION PROJECTS

As part of the National Forest Foundation grant, the RWMG evaluated member roles and responsibilities and encouraged new and expanded roles for members. Many members have already taken on new roles, such as project proponents. See Table 1, below for the changes and status of the various members and participants.

Table 1. Organizational engagement changes as a result of the NFF Grant.

Organization	Level of Engagement at Start	Level of Engagement at End	New Role or Change
1. Sierra Resource Conservation District	Highly engaged	Highly engaged	Interagency partner for outreach and constructing Action Plans
2. US Army Corps of Engineers	Not engaged	Not engaged	Reached out to agency, no response
3. Sequoia Riverlands Trust	Highly engaged	Highly engaged	Project proponent
4. Sierra Foothills Conservancy	Moderately engaged	Moderately engaged	Attended meetings regularly 2013-15
5. Springville Public Utilities District	Highly engaged	Highly engaged	Provided facilitation services at briefings and RWMG meetings
6. Big Sandy Rancheria	Highly engaged	Highly engaged	Project proponent, implementing DAC project
7. California Department of Fish and Wildlife	Highly engaged	Highly engaged	Funding source, project review partner and assists with meeting attendance, copies and travel
8. Sierra and Foothill Citizen's Alliance	Disengaged	Low engagement	Began attending meetings and providing strategic guidance again
9. San Joaquin Valley Leadership Forum	Disengaged	Disengaged	Group lacks funding
10. Sequoia National Forest	Highly engaged	Highly engaged	Potential project/meeting sponsor

IMPLEMENTATION PROJECTS

11. Sierra National Forest	Moderately engaged	Highly engaged	New hydrologist and Supervisor interested in proposing projects; provide
12. Inyo National Forest	Low engagement	Low engagement	N/A
13. Sequoia National Park	Highly engaged	Highly engaged	Potential meeting/project sponsor, assistance with funding source, science symposium organizer
14. Fresno Metropolitan Flood Control District	Moderately engaged	Highly engaged	Assists with project review and provided strategic guidance regarding erosion and flood control in Little/Big Dry Creek watersheds
15. Tulare Basin Wildlife Partners	Highly engaged	Highly engaged	Assistance with outreach, bond/legislative/funding information
16. Revive the San Joaquin	Disengaged	Low engagement	Provided information on San Joaquin River Health Assessment
17. Sierra Club – Tehipite Chapter	Low engagement	Highly engaged	Project proponent, advocate for research, studies, potential project/meeting sponsor
18. Pacific Southwest Research Station	Highly engaged	Highly engaged	Key research scientist retired, but new scientist proposed key project
19. Yosemite/Sequoia Resource Conservation and Development Council	Highly engaged	Highly engaged	Key liaison between collaborative groups and SSRWMG
20. Desert Mountain Resource Conservation and Development	Low engagement	Disengaged	Lacks staff and funding

IMPLEMENTATION PROJECTS

Council			
21.Lyles College of Engineering	Not engaged	Highly engaged	New member, project proponent, key data source in SJ River Watershed
22.University of California - Merced	Low engagement	Highly engaged	Proposed key watershed/water supply modeling project, key data source and research partner

1.5 Project List

An updated project list is included as Appendix A. On-going/in progress projects are illustrated in Figure 5.

1.6 Grant Funding

The RWMG encourages project proponents to continue to develop and submit projects to the RWMG but also seek funding from the following sources:

- National Fish and Wildlife Foundation;
- Bureau of Reclamation;
- US Fish and Wildlife Service;
- California Wildlife Conservation Board;
- State Water Resources Control Board;
- Natural Resources Conservation Service.

1.7 Looking Ahead

In 2017, we will update the IRWMP and incorporate the UC Merced Research Project on Kings River Hydrology and Climate and continue efforts to implement the IRWMP. We will incorporate our Watershed Action Plans and our funding to implement our Climate-smart project list. We anticipate our IRWMP update will strategically position the RWMG to receive future implementation funding for the Region in 2018. In meantime, we seek funding to support our process and programs.

GOVERNANCE AND IRWMP AMENDMENTS OR UPDATES

Governance and IRWMP Amendments or Updates

There are no proposed IRWMP amendments or updates at this time.

CONTACT INFORMATION

Contact Information

NAME
TITLE
Bobby Kamansky
Stakeholder Coordinator
Tel 559.287.3311
southernsierrairwmp@gmail.com

Grantee Organization

Sequoia Riverlands Trust acts as a grantee and administrator for the IRWM Program

Sequoia Riverlands Trust

427 Garden Street, Visalia, California 93277

Tel 559.738.0211

Fax fax

www.sequoiariverlands.org

Appendix

APPENDIX A – REGIONAL WATER MANAGEMENT GROUP PROJECT LIST

Appendix A – Regional Water Management Group Project List

Tiered List of New and On-going Implementation Projects – 2016

Southern Sierra Regional Water Management Group

In 2016, the RWMG worked to develop projects which assist in achieving objectives set under the IRWMP. We have also identified common Climate Smart project types in the San Joaquin Watershed:

Project Type	Estimated Number of Projects	Description
Septic System Upgrades	Hundreds	Education about system maintenance, repair, replacement/upgrade of outdated and dis-repair systems.
Fisheries	1-2	San Joaquin River Salmon Restoration and possible stealhead.
Flood Control	3-5	Off-stream storage or in-stream improvements and floodplain restoration and recharge.
Recreation	3	Projects improving water-based recreation access and reduce recreation impacts to water resources.
Water Supply	2	Studies to identify water quality and supply issues and solutions.
Meadow Restoration	>1,500 small WIN projects.	WIN inventory of small and large watershed improvement projects.
Fuel Reduction/ Wildfire/water Quality protection	3-5	Fuel treatments to reduce wildfire impacts.

In addition to the above project categories which are common to the San Joaquin, the RWMG maintains and updated the RWMG Project List.

TIER 1 PROJECTS

Project Category	Project Title	Project Proponent	Project Description	Project Status
Plans and Studies				
Plan	Kings River Watershed Action Plan	RWMG/SRT	Focused watershed action plan to identify common issues, challenges, barriers and pathways for projects, programs and studies.	Complete.
Plan	Kings River Watershed Action Plan	RWMG/SRT	Focused watershed action plan to identify common issues, challenges, barriers and pathways for projects, programs and studies.	Complete.
Study	Water Supply and Water Quality Study in the Southern Sierra Fractured Bedrock Aquifer	SSRWMG/DWR	A study that will determine the availability of water in the fractured rock system - hydrologic capacity in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers (complete), Springville, Posey, and White River communities. Provide a uniform approach to data collection and analysis, methodology, results and recommendations. Monitor wells for quality and quantity in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities. Compile all data sets on one table, e.g. nitrates, radon, Uranium, salts etc.	Complete, incorporated into the Three Rivers Community Plan Update/EIR
Restoration and other Projects				

Restoration /fisheries	Mill Flat Creek Project	USFS - Sequoia	Decommission roads, restore riparian areas and fisheries	Project undergoing NEPA update after Rough Fire.
Restoration		USFS Sequoia National Forest	Replacing a bridge and associated wetland enhancement in the Kern River Watershed	Funding applied for under the National Fish and Wildlife Foundation
Plan/design	Cahoon Meadow Restoration	Sequoia National Park	Restoring a montane meadow with a large gully in the Kaweah Watershed.	Design/NEPA phase.
Restoration	Improving water supply and quality in the Kaweah River Watershed with the Goliath Prescribed Fire	Sequoia National Park		Project completed with appropriations funding.

Restoration/ BMP	Restoring wetlands and riparian areas at Circle J Norris Ranch	Tulare County Office of Education.	Restoring riparian areas, creating wetland habitat, enhancing water quality, monitoring of flora and fauna.	Project in progress with US Fish and Wildlife and NRCS funding.
Tribal Water Treatment /SDAC	Big Sandy Rancheria Leech Field/Pipeline Project	Big Sandy Rancheria	Installing a leech field and potentially a pipeline in the BSR	Project is now a pipeline/treatment system.
Other Tier 1 projects are already underway. See Current Projects .				

TIER 2 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies				
DAC	Springville PUD Purple Pipe Project Design and Permitting	Springville PUD	SDAC project collecting treated water and utilizing it for landscaping in the PUD area.	

TIER 2 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies				
Study	SJR River Health Assessment	Revive the San Joaquin	Health assessment for upper San Joaquin River.	Complete.
Study	Modelling Hydrologic Capacity with drought and climate change	UC Merced/PSW Research Station	A modeling exercise to evaluate whether forest fuel reduction and/or restoration activities result in an increase or no change in water yield from small watersheds. Data to parameterize model(s) is available from KREW. The thinning and burning treatments are ongoing and can provide data to verify model results in the next 1-2 years. UC Merced is already in the process of parameterizing one model with KREW data. Forest Service would supply data but there would be a cost for modeling. Quantifies positive and negative effects to stream ecosystems from forest restoration and fuels reduction activities at the watershed scale. It focuses on water yield and water quality in headwater streams of the Kings River watershed and would contribute to the continuation of data collection and analyses that have been ongoing for 10 years.	Seeking funding sources. Project will need to be scaled for applications and proposals.
Study	Understanding Landslide, Debris Flows and Flood Risks in the Southern	?		

TIER 2 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies				
	Sierra			
Study/Data Portal	SSRWMG Project Data Portal	RWMG	Concept and beta developed at SNA/Sierra Water Work Group for projects database and support.	Seeking developer and funding source.
Study	SCADA System monitoring wells	Sierra RCD	An automated water monitoring system in Auberry	Needs funding
Study	Little/Big Dry Creeks Water Quality, Flood Control and Supply Project	Sierra RCD	Focused studies for flood control, salmonid restoration, water quality and supply.	Needs funding
Plan	Fire and Bug Kill recovery planning	Sierra RCD	Plans for fire and bug kill recovery planning on San Joaquin River or Kings River - fire recovery includes French, Aspen, Rough. \$400,000 estimated NEPA budget.	Funding proposals submitted.
Study	SJR Water Quality Study	Sierra RCD	Water quality monitoring (surface and groundwater) for the Upper San Joaquin River as part of the USJRSP	Needs funding source.
Study	SJR Public/private wells water quality study	Sierra RCD	Working with private owners as well as public resources (like schools) to evaluate well water quality and status	Needs funding source.
Program	USJR Stewardship Council	Sierra RCD	Planning and implementation to re-establish the collaborative group and develop an action plan for USJR stewardship. Monitoring, stewardship, research council. \$100,000 estimated need.	Needs funding source.
Plans				

TIER 2 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies				
		USFS Sequoia National Forest	Prioritize meadows for restoration on the Sierra, Sequoia, Inyo national forests, Sequoia and Kings Canyon National Parks	
Tribal Projects				
	Tule River Tribe water supply needs		Tule River Indian Reservation has identified a need for a reliable supply of water. It has negotiated it's water rights and taken steps to implement water supply solutions including the potential for a new dam or other impoundments of surface water.	
Restoration and Other Projects				
	Improving water supply and reduce flooding risk with <i>Aundo donax</i> removal in the Kaweah and Tule River watersheds	Sequoia Riverlands Trust	Invasive Species: remove tamarisk, <i>Arundo donax</i> , along the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River	
Land acquisition		Sequoia Riverlands Trust	Watershed protection through protection from development, by voluntary conservation easement especially in the Tule River Watershed, Deer Creek the Kaweah River, Kings River and other flood prone areas in order to protect water quality	
		Mountain Aire Water Company	Replacing water supply tank and associated infrastructure.	In development

TIER 2 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies				
	Osa Meadow, Kern Plateau/Kern River Watershed Project		This proposed project would restore approximately 80 acres of meadow through restoration of Osa Meadow.	

TIER 3 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Best Management Practices			
			BMPs for residential pesticide use in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities.
			BMPs and educational materials for septic tank maintenance in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers (has an existing program and information), Springville, Posey, and White River communities
			BMPs regarding fire clearance in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities
			BMPs for flood control and flood management/riparian management along the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River
			BMPs regarding preventing sedimentation and erosion in headwaters in the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River watersheds

TIER 3 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Best Management Practices			
			BMPs regarding well maintenance and monitoring in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities
			BMPs to promote grazing practices, cattle ponds and riparian areas along San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River
			BMPs to identify land use to minimize environmental impact (cluster development) Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities
Plans			
			Watershed management plans in the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River watersheds
			Studies and plans to prioritize oak woodland sites for protection in the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River watersheds
Demonstration Projects			
			Meadow restoration – has been complete at Big Meadows and multiple locations on the Sierra National Forest
			Fuel management for fire safety and water production
			Invasive species removal (Arundo, Tamarisk, Scarlet Wisteria) along the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River

TIER 3 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Best Management Practices			
			Total exclusion of development from certain sensitive watersheds such as Deer Creek, White River
			Flood control projects (floodplain, etc.) that have multiple benefits (habitat, water quality, groundwater recharge etc.);
			More detailed vegetation mapping throughout the region
			Integrated strategies for increasing water supply in Shaver Lake, Auberry, PratherSquaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River
			Native plants (fire resistant/drought tolerant) in public and private landscaping
			Riparian protection through fencing, grazing rotation, additional water distribution systems.