

ANNUAL REPORT

SOUTHERN SIERRA REGIONAL WATER MANAGEMENT GROUP

2015 Annual Regional Water Management Report

TABLE OF CONTENTS

Contents

Executive Summary	1
Meetings and Outreach Activities	3
Financial Statement	4
Monitoring	5
Implementation Projects	10
Governance and IRWMP Amendments or Updates	13
Contact Information	14
Grantee Organization	14
Appendix	15
Appendix A – Regional Water Management Group Project List	16

Executive Summary

OVERVIEW

In 2015, 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. The Implementation Program, with strategies to achieve the preliminary regional objectives, began in 2009 with the Hydrologic Capacity Workgroup discussions with the California Department of Water Resources for our first project, a water supply study for Three Rivers. Implementation efforts continued in 2012-13 in parallel with regional planning activities and grant writing for three projects submitted to DWR in 2013. These were not funded by DWR but one project, the Long Meadow Project, was funded by the National Fish and Wildlife Foundation through the efforts of the US Forest Service – Sequoia National Forest, for \$250,000.

The RWMG initiated 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.

FINANCIAL HIGHLIGHTS

After completion of our \$518,000 DWR IRWMP grant, we wrote the final report and completed the project successfully. Sequoia Riverlands Trust and Kamansky's Ecological Consulting collaborated with Sierra Nevada Conservancy to prepare a successful application SRT submitted to National Forest Foundation for their Community Capacity and Land Stewardship Program, \$12,000. On behalf of the RWMG, SRT also applied for a \$10,000 USFWS contract to develop a climate-smart project list for our Region. We have identified a regional, annual cost for our process and programs which total approximately \$30,000.

The Group sought input on how to handle facilitation of the Group's meetings.

OPERATING HIGHLIGHTS - MEETINGS, MONITORING AND OUTREACH

The RWMG held an open Coordinating Committee teleconference meeting in February to solicit and discuss direction from the larger stakeholder group. The RWMG held quarterly meetings in March, June, September and December and a Project Development Workshop, in June.

Monitoring occurs at three scales: monitoring of progress toward achieving IRWMP regional objectives, monitoring progress in implementation projects and project-specific monitoring. Because we have few projects which are completed and our IRWMP is new, our monitoring section is brief.

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

EXECUTIVE SUMMARY

LOOKING AHEAD

In 2016, the RWMG will continue implementation of the IRWMP, soliciting projects, monitoring, outreach and regular business activities.

Chris Moi January, 2016

MEETINGS AND OUTREACH ACTIVITIES

Meetings and Outreach Activities

The RWMG held an open Coordinating Committee teleconference meeting in February to solicit and discuss direction from the larger stakeholder group. This was a preliminary step to determine the work plan for 2015 given that grant funding status and timing remained unknown for the year, particularly when various grant RFPs will be released. The call was attended by representatives from 10 agencies. The RWMG held quarterly meetings in March, June, September and December and a Project Development Workshop, in June. At the March, 2015 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 December meeting, the contents and materials for the San Joaquin and Kings River Watershed Action plans and UC Merced proposed providing a number of new studies and data to gain progress toward regional objectives.

The RWMG initiated three Watershed Action Plans (WAP) 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. The preliminary draft of the San Joaquin River WAP built on the San Joaquin River Watershed Program and Assessment while the Kings River WAP built on partnerships among US Forest Service, the RWMG, California Department of Fish and Wildlife, water purveyors at lower elevations, UC Merced and others working on water quality monitoring, fisheries, water management and supply.

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

SRT submitted to National Forest Foundation for their Community Capacity and Land Stewardship Program, \$12,000. On behalf of the RWMG, SRT also applied for a \$10,000 USFWS contract to develop a climate-smart project list for our Region. We have identified a regional, annual cost for our process and programs which total approximately \$30,000.

FINANCIAL BREAKDOWN				
SOURCE	REVENUE (GRANTS AND CONTRACTS)	EXPENSES		
National Forest Foundation	\$12,000			
US Fish and Wildlife Service	\$10,000			
Consultants – outreach, meetings and facilitation		\$2,500		
Staff time – meetings, administration		\$1,000		
Copies, incidental		\$50		
Overhead		\$200		

Monitoring

MONITORING IRWMP OBJECTIVES

The following are the IRWMP adopted objectives, monitoring metrics and 2015 results, which the RWMG uses as benchmarks/milestones to track progress toward IRWMP implementation:

Table 1. Summary of IRWM Objectives, Measurement Methods and 2015 Results.

No.	Objective	Methods for Measurement	2015 Results
1a, 4d	Promote natural storage through meadow, stream and forest restoration	 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 	 One meadow; seven acres (45 acres total) 0.25 miles of impacted meadow, 1,000 feet of treatment. Approximately nine-foot rise Restored seven acres of wetland vegetation Two Estimated 20-50 ac/ft
1b	Increase understanding of the water balance and groundwater resources	 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 	 Initiated one new study Estimated 10 monitoring wells available/tracked; >600 utilized for Water Study Initiated one new study Initiated one new study Initiated one new study
1c, 3d	Increase capacity of water storage facilities	 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	 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 	 300Estimated 50

No.	Objective	Methods for Measurement	2015 Results
1e	Manage/adapt to climate change impacts on water supplies	 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 	• One
1f	Promote sustainable water supplies for human developments	 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	 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	 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. 	
2c, 4c	Reduce erosion and sedimentation	 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 	

No.	Objective	Methods for Measurement	2015 Results
2d	Promote storm water management planning and implementation	 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	 Number of assessments performed Number of violations mitigated Number of water quality improvement / treatment projects implemented 	OneOne initiated
2f	Study impacts of septic systems on water quality	 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	 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	 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	 Number of critical areas identified Number of projects to establish floodplain connectivity Number of key areas protected, acres of floodplain restored/protected 	

No.	Objective	Methods for Measurement	2015 Results
4b	Manage vegetation to reduce catastrophic fire risk / keep fires within natural range of variability	 Number of projects completed Area of land managed to reduce unnaturally large fires Number of acres of fuel breaks 	
5a	Promote community education about water issues	 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	 Number of outreach meetings and MOUs signed by tribal entities Number of water resources related projects completed on tribal lands 	Three meetingsInitiated one project
5c	Increase outreach to disadvantaged communities	 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 	Four meetingsOne
5d	Develop/maintain comprehensive website for Regional Water Management Group	 Successful website Number of users of the website Hours of public awareness education supplied 	 Achieved/accomplished/complete 30-100 users per month >300
6a	Protect unique areas with high value to water storage and groundwater recharge	 Number of new areas identified for protection Number of acres protected 	

No.	Objective	Methods for Measurement	2015 Results
6b	Protect unique areas with high value to water quality protection and remediation	 Number of new areas identified for protection Number of acres protected 	
6с	Protect unique areas with high value to other water resources issues	 Number of new areas identified for protection Number of acres protected 	
6d	Enhance water management in already protected areas	 Number of projects completed Number of acres enhanced 	OneSeven

PROJECT-SPECIFIC MONITORING

The Long Meadow Project will have monitoring data associated with project-level grant reporting and agency reporting and monitoring summaries. These data will be presented when available.

IMPLEMENTATION PROJECT PROGRESS

The Long Meadow Project construction is complete and the revegetation is nearly complete. The Three Rivers Water Supply Study is in progress with the California Department of Water Resources' John Kirk conducting the study. Preliminary study results were presented in September, November, 2014 at the Three Rivers Town Hall meetings.

IMPLEMENTATION PROJECTS

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.

Regional Projects

- 1. Regional in size or scope (tough in the SSRWMG region);
- 2. Regional impacts and benefits.

Because the Region is very large (the second or third largest in the State), it is difficult to create standalone 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:

1. Three Rivers Hydrology and Water Supply Project (and other studies and research) – very important demonstration and regional project with initial phase in Three Rivers;

2. 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;

3. 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.

IMPLEMENTATION PROJECTS

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 June.

1.3 Project proponents

All of the SSRWMG 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.

"Good" Projects

- 1. Help achieve SSIRWMP goals and objectives;
- 2. Shovel-ready;
- a. Planning/design completed;
- b. Permitting completed;
- c. Bidding in process;
- d. Match for pre-project or construction.

"Strong" Projects

- 1. Project Proponent matching funds or resources;
- a. Information pre-proposal form.
- 1.4 Roles and responsibilities

As part of the National Forest Foundation grant, the RWMG will be evaluating member roles and responsibilities and encouraging new and expanded roles for members. Many members have already taken on new roles, such as project proponents.

1.5 Project List

An updated project list is included as Appendix A.

1.6 Grant Funding

While the RWMG was not able to apply for the Round 3 IRWMP implementation funding, we anticipate additional DWR funding in the future. In the meantime, 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;

IMPLEMENTATION PROJECTS

• Natural Resources Conservation Service.

1.7 Looking Ahead

In 2016, we will continue efforts to implement the IRWMP. We will incorporate our Watershed Action Plans and our funding to develop a Climate-smart project list. We anticipate strategically positioning the RWMG to receive future implementation funding for the Region.

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

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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

APPENDIX A – REGIONAL WATER MANAGEMENT GROUP PROJECT LIST

Appendix A – Regional Water Management Group Project List

Tiered list of Implementation Projects

TIER 1 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Studies			
Forest Service Data SynthesisForest ServiceSynthesize existing Forest Service data for the Sierra and Sequoia National Forests on small stream discharge to better estimate water yield 			
Other Tier 1 projects are already underway. See <u>Current Projects</u> .			

	TIER 2 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description	
Studies				
	New Auberry engineer report/studies	New Auberry Water Association	This study project consists of an engineer's report required to update the water system in New Auberry. Without this report, the New Auberry Water Association cannot apply for grants to support additional operations and system improvements.	

TIER 2 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Studies			
			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.
Plans	I		
			Prioritize meadows for restoration on the Sierra, Sequoia, Inyo national forests, Sequoia and Kings Canyon National Parks
Tribal Proje	cts		
	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		
			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

	TIER 2 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description	
Studies				
	Osa Meadow, Kern Plateau/Kern River Watershed Project		This proposed project would restore approximately 80 acres of meadow through restoration of Osa Meadow.	
			Promote use of sustainable gardening practices to reduce pesticide use. Use native plants in landscaping. Compile preferred list of fire and drought resistant/tolerant plant species.	

TIER 3 PROJECTS					
Project Category	Project Title	Project Proponent	Project Description		
Best Manag	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		

TIER 3 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	
Best Manag	gement Practices			
			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	
			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	
Studies				
			Assess and document options and needs for water storage infrastructure. This can be water recharge as well as storage in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities	
			Study to identify the impact of riparian septic systems on water quality and a feasibility study for sewers to replace them in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River communities	

TIER 3 PROJECTS				
Project Category	Project Title	Project Proponent	Project Description	
Best Manag	ement Practices			
			Design 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, 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.	
			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.	
Plans				
			Watershed management plans in the San Joaquin River, Kings River, Kaweah River, Tule River, Deer Creek, White River and Kern River watersheds	
			Habitat Conservation Plans - Synergize existing efforts and plans regarding habitat conservation	
			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	

TIER 3 PROJECTS			
Project Category	Project Title	Project Proponent	Project Description
Best Manag	ement Practices		
Demonstrat	tion 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
			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.
Restoration	and Other Projects	I	1
			Invasive Species: remove tamarisk, Arundo donax, 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	onent Project Description	
Best Management Practices				
			Water retention on grazing landsRDM standards/BMP's relocate water sources for livestock to conserve riparian zones. Control, don't exclude, grazing	
			Establish "certified" habitats, i.e., documented foraging and nesting habitats that are managed without pesticides.	

Southern Sierra RWMG Project List Update – September, 2015

In addition to the 2014-adopted projects, the RWMG adds the following to the Project List:

#	Project	Project Description	Estimated Cost	Funding sources
1	Fire and Bug Kill recovery planning	Plans for fire and bug kill recovery planning on San Joaquin River or Kings River - fire recovery includes French, Aspen, Rough	~\$400,000 for NEPA Stream flow restoration grant	application for funding for the French Fire has been completed - small grp meet w/John Shelton - SNC would require an actual project
2	Soil Quality Study	Soil studies for the Upper San Joaquin River as part of the USJRSP		Sedimentation and erosion
3	USJR Stewardship Council	Planning grant to re-establish the collaborative group and develop an action plan for USJR stewardship	\$50,000 - staff time for a facilitator, data collection?	Partnerships were originally created to address needs
4	Water Quality Study	Water quality monitoring (surface and groundwater) for the Upper San Joaquin River as part of the USJRSP	\$18,000	Go to DWR and request for Technical Services to complete the task.
5	Fresno County Public/private wells water quality study	Working with private owners as well as public resources (like schools) to evaluate well water quality and status.	\$250,000	Meet with DWR - and look into potential sampling partners and sites.
6	Big Sandy Rancheria Leech field/Pipeline	Following community survey and feasibility study, install pipeline/leech field treatment system	\$1,000,000	Proposition 1 – State Water Resources Control Board