

Southern Sierra Regional Water Management Group

Tiered List of New and On-going Implementation Projects

- 2017 -

TIER 1 PROJECTS

Project Category	Project Title	Project Proponent	Project Description	Project Status
Studies/Plans				
	Spring wetlands/water supply study	Sierra Club – Kern-Kaweah Chapter	Understand the role of springs in water supply, quality, climate and drought, and how improvement work impacts wetland function, response to climate and drought.	In development
	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
	Isotopic Tracer Study for Sierra Foothills Water Resource Sustainability	SRCD/Lawrence Livermore Nat'l Lab/CSU East Bay	Southern Sierra foothill communities rely on groundwater wells drilled in alluvium or fractured bedrock aquifers. There are a number of open questions regarding the sustainability of the water resources including the recharge elevation of locally pumped groundwater, the contribution of fractured bedrock flow to wells, and the vulnerability of wells to contamination and droughts. Isotopic	

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			tracers are a powerful tool for finding answers to these question	
	Highway 168 Fire Safe Council Community Wildfire Protection Plan	Sierra RCD	The Highway 168 Fire Safe Council Community Wildfire Protection Plan (CWPP) summarizes wildfire dangers and issues on a community by community basis within the Council’s area of influence. The CWPP also catalogs community wildfire protection needs and identifies corrective action and community projects that will mitigate some of the problems.	The CWPP is currently under revision with the Sierra RCD and is to be completed in September 2018.
	Oak to Timberline Fire Safe Council Community Wildfire Protection Plan	Sierra RCD	Oak to Timberline FireSafe Council is in the process of developing their first Community Wildfire Protection Plan (CWPP) under the auspices of Sierra RCD.	The plan is expected to be completed by September 2018.
	Modelling Hydrologic Capacity with drought and climate change	UC Merced	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	First phase of research complete. Results included in 2017 IRWMP.

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			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.	
Restoration and other Projects				
	Mill Flat Creek Project	USFS - Sequoia	Decommission roads, restore riparian areas and fisheries	
	Trout Creek Bridge Replacement and Fisheries 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
	Cahoon Meadow Restoration	Sequoia National Park	Restoring a montane meadow with a large gully in the Kaweah Watershed.	Design/NEPA phase.
	Improving water supply and quality in the Kaweah River Watershed with the Goliath Prescribed Fire	Sequoia National Park	Prescribed fire activities to restore watershed conditions.	Project completed with appropriations funding.
	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.

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	Enhancing water supply and water quality in the Kings River Watershed – restoring three meadows on Sierra National Forest	Sierra National Forest	Restoration and permitting for three head-cut and eroding meadows.	Studies and design complete. Seeking NFWF funding.
	Big Dry Creek Diversion Additional Drop Structure	Sierra RCD/Fresno Metropolitan Flood Control District	Big Dry Creek Diversion routes flows out of the base of Big Dry Creek Reservoir, the District’s largest flood control structure. The Diversion Channel helps de-water stormwater captured in Big Dry Creek Reservoir and is operated within the framework of the U.S. Army Corps Water Control Manual for the Redbank and Fancher Creek Project. The construction of an additional drop structure within the channel will decrease velocity in the Diversion Channel, reducing erosion and improving the safety of the Project.	Needs funding (Budget estimate of \$700,000)
Infrastructure	Retain 200-Year Flood Control Protection, Eastern Fresno County	Sierra RCD/Fresno Metropolitan Flood Control District	There are currently 200-year flood control facilities (dams, detention basins, and bypass structures) east of the metropolitan area. As development occurs upstream of those facilities, the level of protection will diminish. The study and subsequent construction of additional flood control facilities (detention basins and bypass structures) upstream of new development will continue the 200-year protection level.	Needs funding

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Tribal/Infrastructure	Big Sandy Rancheria Leech Field/Pipeline Project	Big Sandy Rancheria	Installing a leech field and potentially a pipeline in the BSR	In progress with Prop 1 technical assistance and implementation.
	Conduct Community Fuel Break Construction and Maintenance on a Landscape Scale	Sierra RCD/Highway 168 Fire Safe Council	Current fuel break projects are effective, but due to lack of sufficient funding, there are large gaps in the system that need to be addressed before maximum benefit can be realized. Due to re-growth after 5 to 6 years, unmaintained fuel breaks start to lose some of their effectiveness, and after 10 to 12 years, unmaintained fuel breaks need to be reconstructed.	Needs funding (estimate of \$2.5 million)
	Conduct Prescribed Fires in eastern Fresno County	Sierra RCD	Historical natural fire regimes have been disrupted, which has led to ever increasing fuel loadings and disruptions of natural processes, changing the natural mix of vegetation. This increased fuel loading poses a severe threat to the communities of eastern Fresno County. In many cases, the lack of fire in a given area has led to the suppression (or extinction) of endangered species and the introduction and spread of invasive non-native species. In addition to extreme threat to life and property that modern wildfires pose, they also destroy ecosystems that had once been able to survive the occasional natural fire. The careful reintroduction of fire to the landscape through prescribed burning offers the only environmentally sound method of addressing all these issues in one cost-effective treatment.	Needs funding (estimate of \$100,000 annually)

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Other Tier 1 projects are already underway. See Current Projects .				

TIER 2 PROJECTS

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Studies				
	Springville PUD Purple Pipe Project Design and Permitting	Springville PUD	SDAC project collecting treated water and utilizing it for landscaping in the PUD area.	
	Understanding Landslide, Debris Flows and Flood Risks in the Southern Sierra	?		
	SCADA System monitoring wells	Sierra RCD	An automated water monitoring system in Auberry	Needs funding
	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
Tribal/Water Supply/Infrastructure	Tule River Water Supply Study	Tule River Tribal Council	Tule River Indian Reservation has identified a need for a reliable supply of water. It has negotiated its water rights and taken steps to implement water supply solutions including the potential for a new dam or other impoundments of surface water.	Studies identified funding/budget need (\$900 million, highest) for a dam to ensure water supply. Needs funding.
Tribal/Water Supply/Infrastructure	Tule River Water Supply and Treatment Enhancement Project	Tule River Tribal Council	Water supply pipeline sections on the reservation, water supply augmentation for the Treatment Plan, and existing dam retrofit for water supply.	Needs funding source.

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Studies				
Restoration	Tule River Water Quality Enhancement and Protection Project	Tule River Tribal Council	Meadow and stream restoration projects on the Reservation.	Needs funding source, final budgets.
Plans				
		USFS Sequoia National Forest	Prioritize meadows for restoration on the Sierra, Sequoia, Inyo national forests, Sequoia and Kings Canyon National Parks	Completed.
	Strengthen Dam Failure/Flood Planning, Coordination, and Training		Dam failure and flood planning are done as required by law. However, due to lack of funding, most of this knowledge and planning are kept at the top levels. Mid- and lower- level first responders are not part of coordination planning and do not receive significant training in procedures, key downstream hazard locations, access routes, alternate evacuation routes, and where to set up roadblocks. While the probability of a dam failure is low, the potential impact is extreme. Flooding from the inability to control water during extreme weather events is much more likely, and response procedures are similar.	
Tribal Projects				
	Tule River Tribe water supply needs	Tule River Tribal Council	Tule River Indian Reservation has identified a need for a reliable supply of water. It has negotiated its water rights and taken steps to implement water supply solutions including the potential for a new dam or other impoundments of surface water.	Complete. Project has complete studies but differing budgets on federal vs state levels. Moved to Tier 1 implementation project.

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Studies				
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	
		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 Tank	Mountain Aire Water Company	Replacing water supply tank and associated infrastructure.	Needs funding, design.
	Camp El-O-Win Water Supply and Recreation Access	Friends of Camp El-O-Win	Camp El-O-Win straddles Dinkey Creek. The two sides of the camp are connected by a foot bridge over Dinkey Creek. Camp El-O-Win is run entirely by volunteers now. All funds must be raised through donations and grants. Concerning water quality and waste water issues, Camp El-O-Win has two original septic systems that date to the late 1950s. There is one newer engineered system. Otherwise, waste needs are served by 8 pit toilets. The camp is in need of replacing those old pit toilets and decrepit septic with new systems. This is something that would be helpful to identify in the plan.	

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Studies				
	Osa Meadow, Kern Plateau/Kern River Watershed Project		This proposed project would restore approximately 80 acres of meadow through restoration of Osa Meadow.	
	Whispering Springs Fuel Break	Sierra RCD/Highway 168 Fire Safe Council	Lower elevation project off Lodge Road in Tollhouse. We cleared this area a few years ago but it could use some work. It is mostly brush and annual grass that is highly flammable. The area is filled with homes and is located on a steep slope. The Goose Fire threatened this area in 2016 but according to residents some of the work the FSC did help avert the fire away from a certain areas.	
	Historical Beal Fire Road Fuel Break		The Historical Beal Fire Road has been in existence since 1933 when it was constructed by the CCC's under the direction of President Roosevelt. The Beal has over the years been credited with helping halt or slowing down a wildland fire. The area at mid-slope from Auberry Road has homes along the Beal for a couple of miles then turns in to Forest Service Land then picks back up with homes again before connecting with Highway 168 at mid-slope. The values at risk are high here, if a fire gets past this area it could travel into Meadow Lakes, the many	

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Studies				
			subdivisions along Highway 168 and enter Shaver Lake and possibly higher. Types of fuel include brush, annual grass and ladder fuels and some dead trees.	

TIER 3 PROJECTS

Project Category	Project Title	Project Proponent	Project Description	Project Status
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	
			BMPs regarding well maintenance and monitoring in Auberry, Prather, Squaw Valley, Dunlap, Badger, Three Rivers, Springville, Posey, and White River	

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Best Management Practices				
			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	
			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	

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Best Management Practices				
			etc.);	
			More detailed vegetation mapping throughout the region	
			Integrated strategies for increasing water supply in Shaver Lake, Auberry, Prather, Squaw 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.	