

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE <sup>1</sup>	APPLICANT	COUNTY	REQUESTED GRANT FUNDS <sup>1</sup>	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
3	Planning, Scientific Studies, Monitoring, and Assessment	Developing Efficiencies for Instream Dedications	The Nature Conservancy	Siskiyou	\$131,744.00	\$295,094.00	Yes
Proposal Summary as submitted	In summary, through a three-pronged approach, this proposed project will develop an efficient process and a model for water rights holders that would like to dedicate water for fish and wildlife, provide information to practitioners via outreach materials and work with agencies to develop straightforward processes for analyzing consumptive use.						
4	Planning, Scientific Studies, Monitoring, and Assessment	Weaver Creek Watershed Stream Flow Enhancement Planning Project	Trinity County Resource Conservation District	Trinity	\$171,355.00	\$265,680.00	Yes
Proposal Summary as submitted	The Weaver Creek Watershed Stream Flow Enhancement Planning Project will lay the ground work for implementation projects that will significantly improve upon existing flow conditions in creeks that support salmonids. By coordinating with public agencies and private property owners, and gathering and analyzing data, the District will create plans and complete environmental documentation for implementation of a four pronged approach to stream flow enhancement in the watershed: noxious weed removal, fuels reduction, water conservation, and channel rehab.						
5	Planning, Scientific Studies, Monitoring, and Assessment	Outlet Creek Streamflow Enhancement Project	Trout Unlimited	Mendocino	\$354,729.00	\$410,229.00	Yes
Proposal Summary as submitted	The Outlet Creek Basin is an important headwater watershed of the Eel River. The basin is 95% privately own and has one of the longest records of timber harvest and ranching activities dating back to the mid-1800s and is still active today. Historically and currently the watershed supports coho salmon and steelhead trout. NMFS recovery plan identifies low dry season streamflow as a major limiting factor for coho in tributaries to Outlet Creek, and call for the development and implementation of a forbearance program to reduce summer diversion as a high-priority recovery action. This project will work in the Ryan, Baechtel and Broaddus Creek tributaries of Outlet Creek to establish the first one-the-ground water storage program to reduce summer diversions and improve dry season streamflows for the benefit of coho salmon and steelhead trout. Tasks for this project include: • Collecting streamflow data, quantifying existing human water use; • Identifying alternative sources of water such as wintertime diversion to storage and rainwater harvesting; • Identifying priority stream reaches; • Identifying the most promising project types and locations for increasing streamflows; • Analyzing the necessary permits and approvals for those projects; • Forming the necessary relationships with willing landowners; Through our similar past project work, we have found that each of these tasks is a necessary prerequisite to implementing a successful program of streamflow improvement projects in these watersheds, and this project has been designed to lead to the implementation of such a program.						

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6	Planning, Scientific Studies, Monitoring, and Assessment	Truckee River Flow Enhancement	Truckee River Watershed Council	Nevada, Placer, Sierra	\$173,585.00	\$428,835.00	Yes
<b>Proposal Summary as submitted</b>	<p>The Truckee River Flow Enhancement Project (TRFEP) will provide support to the State of California to make recommendations to protect fish and wildlife resources in the Truckee River watershed. The project will result in measurable and significant improvements to flow conditions to benefit fish and wildlife. The TRFEP will provide valuable data that will allow for enhanced streamflows under the Truckee River Operating Agreement (TROA). The project consists of the following objectives: 1)Update flow recommendations in the California Guidelines with current habitat suitability data for key dam-controlled tributaries in the Truckee River watershed; 2)Determine optimum rates of flow changes (ramping) to protect biological resources on dam-controlled tributaries in the Truckee River system and include these ramping recommendations in the California Guidelines; 3)Complete hydraulic modeling to determine optimum flows to improve biological conditions through weed management and sediment transport in appropriate stream reaches; 4) Increase California’s ability to directly control water to be used for beneficial uses; and 5) Increase local stakeholder knowledge and capacity.</p>						
7	Planning, Scientific Studies, Monitoring, and Assessment	Flow Availability Analysis for Mark West Creek	Sonoma Resource Conservation District	Sonoma	\$363,418.00	\$474,075	Yes
<b>Proposal Summary as submitted</b>	<p>The goal of this project is to perform a comprehensive analysis of the spatial and temporal distribution of flow availability conditions throughout the watershed relative to coho habitat requirements to assist in prioritizing restoration efforts and developing strategies for enhancing summer streamflows.</p>						

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8	Planning, Scientific Studies, Monitoring, and Assessment	Mill Creek Watershed Flow Enhancement Study	Sonoma Resource Conservation District	Sonoma	\$364,603.00	\$474,074.80	Yes
9	Planning, Scientific Studies, Monitoring, and Assessment	Studies to Support Coho in the Russian River Basin	The Regents of the University of California	Sonoma	\$958,512.00	\$1,795,146.25	Yes
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8	Planning, Scientific Studies, Monitoring, and Assessment	Mill Creek Watershed Flow Enhancement Study	Sonoma Resource Conservation District	Sonoma	\$364,603.00	\$474,074.80	Yes
9	Planning, Scientific Studies, Monitoring, and Assessment	Studies to Support Coho in the Russian River Basin	The Regents of the University of California	Sonoma	\$958,512.00	\$1,795,146.25	Yes
8	Planning, Scientific Studies, Monitoring, and Assessment	Mill Creek Watershed Flow Enhancement Study	Sonoma Resource Conservation District	Sonoma	\$364,603.00	\$474,074.80	Yes

Proposal Summary as submitted

Mill Creek has been identified by state and federal fisheries agencies as providing some of the best remaining habitat for coho salmon in the Russian River Watershed with NMFS's CCC Coho Recovery Plan identifying it as a Core Area for protection and restoration. Several factors have been identified as limiting coho survival in the watershed including lack of quality pool habitat, lack of winter refugia, and insufficient summer baseflows (CDFG, 2004; NMFS, 2010). Furthermore, fish biologists in the Russian River area have reported that the majority of coho salmon and steelhead trout that spawn in Mill Creek spawn in the lower reach of Mill Creek, downstream of a significant migration barrier. While the ecological importance of this lower reach is understood, its hydrologic character is not. Several variables make Mill Creek an ideal watershed for implementing a flow enhancement program: habitat importance to coho salmon, restoration feasibility, degree of stream impairment by diminished flows, landowner interest in collaboration, range of land and water uses with the potential to demonstrate a variety of solutions, and federal and state recovery plan prioritization.

The proposed project will address stream flow and coho habitat issues in the Mill Creek watershed in two parts. The first part of the project (Part A) will involve the creation of a comprehensive, integrated watershed model for Mill Creek by the C in order to perform a comprehensive analysis of the spatial and temporal distribution of flow availability conditions throughout the watershed relative to coho habitat requirements. This will assist in prioritizing restoration efforts and developing strategies for enhancing summer stream flows. The model will also delineate stream reaches that provide the most critical fisheries benefits, identify important areas to enhance groundwater recharge, identify flow-related fish passage barriers, and provide recommendations for targeted flow augmentation projects aimed at removing these barriers. The model is also expected to assist in climate change and drought preparedness and assist in water supply reliability by quantifying the anticipated future changes in water availability and the ramifications for both people and natural ecosystems. The second part of the project (Part B) is a surface water/groundwater monitoring study in the critical lower reach of the Mill Creek watershed that will take place over three dry seasons. This Lower Mill monitoring study will not only provide localized data that will be used to calibrate the proposed flow model and provide a means to validate model predictions, but the monitoring data will also be used to determine whether streamflow enhancement projects can benefit habitat for over-summering juvenile salmonids in this reach. This project is part of a larger program by the RCD and Russian River Coho Partnership (described in Question 20) to better understand human pressures on streamflow and opportunities to enhance streamflow in the Mill Creek watershed.

Proposal Summary as submitted

CA Sea Grant and UC Berkeley will conduct coho survival and stream flow studies in Russian River tributaries to help resource managers identify flow-impaired stream reaches critical to threatened and endangered anadromous salmon populations, evaluate and increase the effectiveness of stream flow improvement projects, and increase drought-preparedness by building models to predict wetted habitat conditions and the effects of low stream flow on juvenile coho survival.

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10	Planning, Scientific Studies, Monitoring, and Assessment	Sierra Meadow Hydrology Monitoring Project	Plumas Corporation	Tulare; Fresno; Calaveras; El Dorado; Sierra; Plumas; Lassen	\$763,771.00	\$1,130,841.00	Yes
<b>Proposal Summary as submitted</b>	<p>Quantifying effects of improvement in hydrologic function from restoration of degraded meadows, onsite and downstream, has been elusive. Numerous studies on individual restored meadows in short time frames (2-5 years) have shown a wide range of outcomes. As a consequence, estimates of potential water retention and release from restored meadows in the Sierra Nevada vary by an order of magnitude, 50,000 – 500,000 acre-feet annually. The purpose of this proposal is to address a widely recognized need for an appropriately robust long-term monitoring program that tackles more accurately quantifying the flow of water from mountain meadow landscapes to document the effectiveness of restoration efforts. This proposal meets the requirements of a Scientific Study/Monitoring project as it entails collecting baseline pre-project and post-project hydrologic data on a suite of meadow restoration projects representing a range of watershed characteristics. All the projects will be restored in the next 2-3 years, or have already been restored. Providing one or more years of pre-project data and extended post-project data, this hydrologic monitoring project will assess the effectiveness of, and demonstrate the link between, meadow hydrologic conditions and enhanced stream flows emanating from restoration of degraded meadows. Previous experience within the Feather River basin indicates that given inter-annual variability, watershed/project sizes, and climate change, stream flow monitoring alone can be difficult to show change. The addition of extensive isotope and electrical conductivity measurements should help pin point change related to water residency time from restoration.</p>						
11	Planning, Scientific Studies, Monitoring, and Assessment	Green Gulch Creek Water Conservation	San Francisco Zen Center	Marin	\$214,000.00	\$222,000.00	Yes
<b>Proposal Summary as submitted</b>	<p>The intention of this project is to create a blueprint for Green Gulch Farm (GGF) to reduce water diversions in order to support viable summer flows in Green Gulch Creek for coho, steelhead, and other aquatic and riparian wildlife. It supports and strengthens the first two phases of Green Gulch Creek Restoration. Phase 1, completed in 2014, restored a natural meandering stream out of a straightened channel and Phase 2, completed in 2015, and reconnected a tributary and its sediment and cool water directly to the restored reach. This project, Phase 3, includes analysis of the existing resources and management strategy; evaluation of alternative water supplies and management strategies and their impacts on streamflow; development of a conceptual design for the recommended alternative(s); and ultimately, implementation of both short-term and long-term measures that will result in more reliable summer streamflow as we face changing climate conditions and the possibility of prolonged drought. Some potential short-term measures (e.g. changing timing of withdrawals from various reservoirs, repairing leaks) may be able to be implemented immediately. Final design, permitting, and development of alternative water sources will require additional time and fund-raising. The analysis and conceptual designs will provide GGF with sufficient information to move expeditiously into the next phase of engineered construction plans, CEQA compliance, and permit acquisition as needed.</p>						

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12	Planning, Scientific Studies, Monitoring, and Assessment	Lagunitas Creek Floodplain Activation Flow Assessment	Salmon Protection and Watershed Network (SPAWN)	Marin	\$157,742.00	\$229,152.00	Yes
Proposal Summary as submitted	<p>This project will contribute to the implementation of increased overbank floodplain flows for Lagunitas Creek, which supports roughly 20 percent of the remaining population of critically endangered central California coast coho salmon. Floodplain flows will be improved by identifying the “floodplain activation flow”, which is the smallest flood pulse event that initiates substantial beneficial ecological processes for salmonids when associated with floodplain inundation (Williams et al. 2009), followed by identifying stream reaches where floodplain connection and ecological processes can be improved through restoration interventions, and completed with stakeholder coordination efforts to incorporate the floodplain activation flow into the current flow regime of Lagunitas Creek.</p>						
13	Planning, Scientific Studies, Monitoring, and Assessment	San Lorenzo Watershed Conjunctive Use Plan	County of Santa Cruz	Santa Cruz	\$330,451.00	\$615,150.87	Yes
Proposal Summary as submitted	<p>This project will develop a San Lorenzo Watershed Conjunctive Use and Baseflow Enhancement Plan (Plan) to improve water resource efficiency, benefiting essential local fisheries, and residents. The Plan will provide guidance for diverting excess winter surface flow in the San Lorenzo River Watershed to meet water supply needs, resting groundwater wells and also providing active groundwater recharge. During the dry season, the augmented groundwater will then be used to meet supply demands and reduce stream diversions. The County anticipates that conjunctive use of surface and groundwater will lead to increased stream baseflow during summer and other critical times benefitting fisheries, and will also contribute to increased storage, recovery, and sustainable management of the municipal supply of the Santa Margarita Groundwater Basin. The Plan will be based on system modelling, operational procedures and environmental analysis necessary to select the optimal management alternatives. If the modelling shows that the current wells, water diversions, and/or treatment facilities are not sufficient to meet conjunctive use needs, new infrastructure requirements will be identified as well. The final product will be the Plan with accompanying CEQA review and water rights filings, as well a list of recommended infrastructure upgrades. The primary entity taking action to implement the Plan will be the San Lorenzo Valley Water District, with partnership and participation from the County, the Scotts Valley Water District, and the City of Santa Cruz Water Department.</p>						
14	Planning, Scientific Studies, Monitoring, and Assessment	Scotts Creek Lagoon and Marsh Restoration Project	Resource Conservation District of Santa Cruz County	Santa Cruz	\$435,000.00	\$596,000.00	Yes
Proposal Summary as submitted	<p>Develop the tools and information necessary to prepare restoration designs that will maximize the ecological function and value of the Scotts Creek Lagoon through the development of:</p> <ul style="list-style-type: none"> <li>▪ Data and quantitative tools to support scientifically supported and consensus based decision-making.</li> <li>▪ Ecological restoration designs that restore ecological dynamism and connectivity, which is severely limiting the ability of this system to support robust and resilient populations of these Threatened &amp; Endangered species.</li> <li>▪ Together, the tools and restoration design will be used to optimize design of new transportation infrastructure that maximizes the resilience and ecological capacity of the system, and anticipates impacts of climate change.</li> </ul>						

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15	Planning, Scientific Studies, Monitoring, and Assessment	Integrated Water Strategies to Enhance Flows in Santa Barbara and Ventura Counties	Central Coast Salmon Enhancement	Santa Barbara, Ventura Counties	\$581,141.00	\$832,363.00	Yes
Proposal Summary as submitted	<p>This WCB Planning and Feasibility Study will frame, geographically identify and prioritize water conservation and reduced consumptive use opportunities that promote the highest potential for instream flow contributions in five different watersheds in Santa Barbara and Ventura Counties. The study will assess a variety of acquisition and implementation project types that in the aggregate present a unique non-regulatory strategy to reduce surface and/or groundwater diversions and enhance flows for the long-term persistence of viable, self-sustaining, populations of anadromous steelhead (<i>Oncorhynchus mykiss</i>) in Santa Barbara and Ventura Counties. The Planning and Feasibility Study will scope and measure the individual and cumulative potential for geographically significant conservation projects. Based on the crucial "time value" of water in already recognized and prioritized California Department of Fish and Wildlife (DFW) fragile steelhead habitats, new projects will be assessed and rated by their local instream flow benefits such as: onsite recycled water opportunities, ornamental and agricultural irrigation best management strategies, Low Impact Development (LID) storm water infiltration, Water Conservation Management Best Management Practices (BMP) employment, and voluntary water right transactions such as acquisition, lease, and donations. Consultants will quantify the opportunity in water savings to the user as well as multiple benefits to watershed processes and landowner.</p>						
16	Implementation	Hart Ranch Instream Flow Enhancement	California Trout	Siskiyou	\$2,181,282.00	\$3,179,523.69	Yes
Proposal Summary as submitted	<p>The Project will result in 1.5 cfs of cold water dedicated instream to the Little Shasta River using California Water Code Section 1707. This water will enhance year round flows starting in the Foothills Reach at the Hart Diversion Structure (RK 18.6) and specifically target the outmigration of juvenile coho salmon from April 1 through June 30. This 1.5 cfs dedication will be achieved through a combination of on-farm water efficiency savings (0.5 cfs), and voluntary flow contributions (1 cfs) from existing priority water rights. Proposed on farm efficiency and water management improvements include 1) the construction of new stock watering facilities including piping, troughs, riparian fencing, and planting 2) replacement of the ranch's failing Main Pipeline 3) and movement and modification of the Hart Diversion Structure. The project will also eliminate a temporal barrier to up to seven kilometers for juvenile and adult coho salmon habitat in the Little Shasta River by removing a concrete flash board dam and constructing approximately 105 feet of roughened channel with inset large boulders sloped at to 2-4%. Finally Phase two of this project, a subsequent WCB proposal to be submitted in 2017, will result in an additional 365 acre feet—approximately 1 cubic foot per second throughout the irrigation season—of exchange water from the Montague Water Conservation District (MWCD), which will also be dedicated instream at the new Hart Diversion Facility.</p>						
17	Implementation	Hat Creek Enhancement Project	Fall River RCD	Shasta	\$196,564.00	\$206,564.00	Yes
Proposal Summary as submitted	<p>Restore Hat Creek for its full reach through H&amp;M Rising River Ranch (and two neighboring properties) to a more natural form along a 4000' reach using the pond and plug technique, in order to enhance late-season streamflows and enhance other hydrologic and biologic functions of the channelized Hat Creek stream and surrounding riparian ecosystem.</p>						

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18	Implementation	McKee Creek Bedrock and Inset Floodplain Streamflow Enhancement	Sanctuary Forest, Inc.	Humboldt	\$135,720.00	\$135,720.00	Yes
Proposal Summary as submitted	<p>The project will address the key limiting stresses of low-to-no dry season streamflow, lack of floodplain and channel structure and altered hydrologic function in a 2,100 ft. reach of McKee Creek, located 740 feet upstream of the confluence of McKee Creek and the Mattole mainstem. Streamflows will be directly enhanced by raising the streambed through a series of log and boulder step pools in the mainstem of McKee Creek. Strategic placement of these grade control structures will result in the inundation of the inset floodplain during winter streamflow conditions; increasing groundwater recharge, storage, and corresponding instream flow, as well as creating much needed rearing and foraging habitat for anadromous salmonids.</p>						
19	Implementation	McKee Creek Enhancement Project	Sanctuary Forest, Inc.	Humboldt	\$139,377.00	\$183,498.80	Yes
Proposal Summary as submitted	<p>This project is the implementation component of the McKee Creek Headwaters Conservation Project and is <i>contingent upon funding of the acquisition of the McKee Creek Property</i>. This project will enhance streamflows in McKee Creek by raising the streambed through a series of log and boulder step pools in the mainstem of McKee Creek and by utilizing check dam techniques above anadromy, in an intermittent side tributary. The step pools will be channel-spanning impermeable log and/or boulder weirs that allow for fish passage. They will result in the inundation of the inset floodplain and adjoining toe of the hillslope during winter streamflow conditions; increasing groundwater recharge, storage, and corresponding instream flow, as well as creating much needed rearing and foraging habitat for anadromous salmonids.</p>						
20	Implementation	Deer Creek Streamflow Enhancement and Restoration	Sierra Streams Institute	Nevada	\$137,940.00	\$440,244.54	Yes
Proposal Summary as submitted	<p>The Deer Creek Streamflow Enhancement and Restoration Project is an effort to enhance stream flow in a critical habitat for several life stages for anadromous fish by employing new and innovative practices to support integrated resource management. The project would be a two part implementation process with three primary tasks. Sierra Streams Institute (SSI) is working with Lake Wildwood Association (LWA) and others for better management practices of water release from the reservoir to enhance stream water quality and flows. The first task would be related to stream flow releases based on hydrographs build for different factors to include dredging needs, climate change, drought, and overall watershed health and function. The second task would focus on better management of dredged materials that are trapped behind the dam to be placed below the reservoir so gravels may continue to migrate down to critical spawning habitat. The third major task will be continual monitoring of the two above tasks to evaluate the success of each release so that the information can be used to modify existing hydrographs to adaptively manage for future flow releases and share these findings to enhance other watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystems. This project will lead to meaningful increases in the availability and quality of water in Deer Creek for critical habitat of listed species. The infrastructure for this project as well as the relationship with key partners are established. With this funding we will build a best management practices strategy that will be tied into existing baseline monitoring, facilities, and resources to better manage stream flow enhancement and manage watershed health in perpetuity. SSI will use its expertise for a full scale, long term implementation project.</p>						

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21	Implementation	Rancheria Creek Flow Enhancement and Restoration	Dry Creek Rancheria	Sonoma	\$3,467,000.00	\$5,712,000.00	Yes
21	Implementation	<p><b>Proposal Summary as submitted</b></p> <p>The Rancheria Creek Flow Enhancement and Restoration Project consists of 16 restoration actions encompassing a total project area of 90.6 acres designed to enhance flows and improve ecological conditions and geomorphic processes to improve and restore habitat for endangered steelhead and coho salmon in Rancheria Creek. The project actions are located entirely on Tribe-owned land on and adjacent to Rancheria Creek and its confluence with the Russian River.</p> <p>Flow enhancement actions include installation of an off stream one million gallon storage tank feed by the onsite waste water treatment plant to supplement flow in Rancheria Creek during the critical summer period for steelhead and Coho. A detention basin will also be expanded and will contribute to flow enhancement by capturing and storing storm runoff for controlled release to the creek. Both the tank and the detention basin will discharge to the creek through vegetated and rocked swales to reduce erosion. Invasive, non-native <i>Arundo</i> will be removed and replaced with native riparian vegetation to increase the water in the creek and Russian River. Ecological improvements include excavation of floodplain benches in an existing incised channel to restore floodplain function and hydrology conditions, channel realignment to restore habitat complexity in the channelized reach of the creek, replacement of culverts that restrict fish passage, planting of riparian vegetation along the channelized portion of the creek to create cover to shade the creek and create a riparian buffer from the existing vineyard operations, and bank stabilization along the Russian River. Riparian restoration along the creek will remove invasive species and re-vegetate with native shade and cover producing plants and trees.</p>					
22	Implementation	Pine Gulch Water Rights and Instream Flow Enhancement	Marin Resource Conservation District	Marin	\$406,917.00	\$433,552.00	Yes
22	Implementation	<p><b>Proposal Summary as submitted</b></p> <p>The goal of the Pine Gulch Water Rights and Instream Flow Enhancement Project is to assist three farms in enhancing summer instream flows on Pine Gulch Creek (PGC) in Marin County, California by relinquishing their summer riparian water rights and dedicating them to instream flows under Section 1707 of the California Water Code. In return, the farmers are adopting appropriate water rights in the winter months and limiting their riparian diversions in the spring. These three organic farms are located along the lower three kilometers of the 11.7 km long PGC (See Appendix A: Project Location Map &amp; Photos), the section of PGC utilized by salmonids (the lower 7.8 km is used by coho salmon and the lower 10 km is used by steelhead trout). A National Park Service (NPS) habitat assessment (NPS 1997) revealed that water quantity was being impacted by agricultural water use; the short-term instantaneous irrigation demands on the creek exceeded base flows, thus reducing rearing habitat for salmonids (NMFS 2013). This information led NPS to propose the farms develop off-site water storage to reduce agricultural summer demands upon the creek. The four ponds are built however two of them require modification to include a partial liner and a layer of bentonite. Due to the lack of water storage, two farms cannot fully relinquish their summer riparian water rights until modifications are made to stop the seepage. The four ponds are designed to store a total of 60 acre-feet by direct rainfall, sheet flow and strict creek diversions limited to the winter months. According to a NPS hydrology report (NPS 2005), the project is expected to reduce the rate of summer diversion ten-fold, thus increasing summer streamflow rates by 15 - 45%. The Marin Resource Conservation District (Marin RCD) is proposing to secure funds to seal the two leaking ponds so that we can increase instream summer flows and eliminate a limiting factor to salmonid recovery in PGC.</p>					

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23	Implementation	Addressing Limiting Factors in the San Lorenzo River Lagoon	City of Santa Cruz	Santa Cruz	\$458,750.00	\$1,107,430.00	Yes
23	<p><b>Proposal Summary as submitted</b></p> <p>The City of Santa Cruz is currently bypassing approximately 8 cfs of instream flows to benefit federally listed Central California Coast (CCC) steelhead and coho salmon in the San Lorenzo River watershed. While these bypass flows produce instream benefits, the benefits of the City's and other agencies' bypass flows are being lost at one of the most critical points in the watershed: in the San Lorenzo River estuary/lagoon, which provides important summer and early fall rearing habitat for juvenile steelhead. Unauthorized breaching of the lagoon occurs on a regular basis in the summer due to localized flooding, which can occur when the lagoon level reaches about 7.0' NGVD or higher. Unauthorized breaching can drain most of the lagoon, flushing the City's bypass flows – along with juvenile steelhead – out to the ocean. These breaching events slow or prevent the conversion of the lagoon to freshwater, resulting in poor rearing habitat for juvenile steelhead. NOAA's 2015 draft Multispecies Recovery Plan states: "The impaired condition of the lagoon/estuary may be one of the most important limiting factors for the steelhead population in the watershed and viability of steelhead within the [Santa Cruz Mountains] Diversity Stratum." The proposed project takes a "bottom up" approach to enhancing stream flows in the San Lorenzo River watershed: by addressing limiting factors in the estuary/lagoon, the project enables the benefits of the City's and other agencies' bypass flows from the upper watershed to be fully realized. The project will implement the following activities: 1) install a water level control structure (a subsurface culvert) in the lagoon, to prevent the need for artificial breaching and to maintain a closed lagoon system during the summer and early fall, in order to enable the lagoon to convert to freshwater; 2) dedicate a total of approximately 0.5 cfs of summer instream flows in two important cold-water tributaries in the lower watershed through a forbearance agreement with the Wildlife Conservation Board; and 3) install 10 large wood structures in the lower estuarine reach in order to increase habitat complexity for steelhead. The project activities are not required environmental mitigation measures or compliance obligations.</p>						
	24	Implementation	San Ysidro Flow Enhancement and Water Conservation	Immaculate Heart Community/La Casa de Maria	Santa Barbara	\$940,601.00	\$1,287,722.18
24	<p><b>Proposal Summary as submitted</b></p> <p>La Casa de Maria is a non-profit, interfaith retreat and conference center based on 26-acres in Montecito. San Ysidro Instream Flow Enhancement and Water Conservation Project will offset existing agricultural irrigation, landscaping, and toilet use through capture and reuse of up to 800,000 gallons through onsite rainwater reuse and irrigation conservation. This will allow La Casa de Maria to forbear seasonal diversion and use of a riparian water right and dedicate approximately 7 million gallons of water annually to instream flow, thereby improving base flows and steelhead trout habitat on the San Ysidro Creek. This integrated fisheries, conservation and stormwater management project will serve as a crucial model for the entire San Ysidro Creek corridor and landowner community. It will demonstrate best management practices resilient to climate change while decreasing pollutant loading, slowing and reusing nuisance floodwaters for irrigation and watershed rehydration, enhancing flows and wildlife riparian corridors. To further this model, LCDM is committing to local and regional outreach and education on the anticipated success and lessons learned from monitoring. La Casa de Maria will specially host six outreach events on location for both the immediate local community as well as the broader South-Central Coast community (San Luis Obispo, Santa Barbara, and Ventura Counties). These workshops will highlight the blend of water conservation best practices, promotion of Section 1707 and instream flow tools, as well as focus on the species of concern. In addition, La Casa de Maria will develop on-site interpretive signage, which will further educate the 12,000+ retreat visitors each year.</p>						

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ID	CATEGORY	TITLE <sup>1</sup>	APPLICANT	COUNTY	REQUESTED GRANT FUNDS <sup>1</sup>	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
25	Implementation	Southern California Coastal Watersheds Arundo Eradication	Mission Resource Conservation District	Orange and San Diego	\$2,307,585.00	\$3,862,545.00	Yes
Proposal Summary as submitted	<p>The Southern California Coastal Watersheds <i>Arundo</i> Eradication Project: San Juan, Santa Margarita, San Luis Rey and San Diego Watersheds (Project) will use grant funding to control 98 acres of the invasive, non-native plant <i>Arundo donax</i> (giant reed) on 17.8 river miles over four watersheds in Southern California: San Juan, Santa Margarita, San Luis Rey and San Diego. This WCB project will fund activities that are part of watershed programs that already exist, and so will have benefits in terms of long-term success/follow-up, outreach, and a large-scale watershed based approach. With project match, the total <i>Arundo</i> controlled is 143 acres on 30.2 river miles. <i>Arundo</i> is a 20 to 30 foot tall non-native reed that grows in dense stands and can cover many acres. <i>Arundo</i> stands have notably high biomass and leaf area per acre, which translates into an immense amount of water consumption in infested riparian areas. The Project will save 1,960 acre feet of water per year (2,860 ac-ft/yr, including match acreage) by eliminating <i>Arundo</i> from the Project area (net water savings have been adjusted to account for re-vegetation). This benefit is sustainable over the long-term as the project is part of top-to-bottom watershed-based eradication programs, which are particularly effective with <i>Arundo</i> because it has no viable seed in the Western U.S. and only spreads <i>downstream</i> via rhizome fragments and canes. Two of the watersheds, Santa Margarita and San Luis Rey, have very advanced <i>Arundo</i> eradication programs with the proposed grant funded work representing control of the last known infestations on the watersheds. The other two watersheds have active programs, with the proposed grant funded work greatly expanding <i>Arundo</i> control on the San Juan Watershed and the lower San Diego River. All four watersheds once had extensive acreages of <i>Arundo</i>; now all of the watersheds have made significant progress and substantial flows and flow capacity has been restored, providing benefits to multiple listed fauna and flora species.</p>						
26	Acquisition	Rancho Cañada Carmel River Flow Enhancement	Monterey Peninsula Regional Parks District	Monterey	\$4,520,000.00	\$10,250,000.00	Yes
Proposal Summary as submitted	<p>Under the Rancho Cañada Carmel River Protection and Instream Flow Enhancement Project (the project), the Monterey Peninsula Regional Park District (MPRPD) will acquire 170-190 acres of land along the Carmel River and its associated water rights. MPRPD will permanently protect this land as publicly-accessible open space and petition the State Water Board to permanently dedicate 170-190 acre feet of water to instream flow annually. This acquisition project aligns with WCB's Proposition 1 funding priorities – it will enhance streamflow in the Carmel River, support anadromous fish (notably the South-Central California Coast steelhead), support special-status species, and provide resilience to climate change.</p>						

<sup>1</sup>Title' and 'Requested Grant Funds' for projects recommended for funding may have been adjusted for agreement with WCB's Proposition 1 Stream Flow Enhancement Program agenda document.

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
27	Implementation	Adobe Creek Conjunctive Use Project	Lake County Watershed Protection District	Lake	\$602,650.00	\$1,013,088.00	No
Proposal Summary as submitted	<p>The Project consists of modifying the existing primary spillway of Highland Creek Reservoir to allow up to 1,000 acre-feet per year more storage of early winter flows for release in the spring, summer and fall months. Early releases will enhance streamflow for the Clear Lake Hitch (State Threatened), later releases will recharge groundwater for agricultural use in Big Valley.</p> <p>Reason not funded: CEQA not complete</p>						
28	Planning, Scientific Studies, Monitoring, and Assessment	Advanced Data Tools for Stream Flow and Floodplain Habitat Planning, Implementation, and Monitoring	IEI	Entire Central Valley	\$235,000.00	\$300,000.00	No
Proposal Summary as submitted	<p>Advanced data tools and approaches for Central Valley stream flow enhancement data management, exploration, analysis, and visualization. Baseline stream flow evaluation for Sacramento River tributaries. APIs for floodplain habitat data. Open data framework for stream flow enhancement tracking and optimization.</p> <p>Reason not funded: Planning funds fully expended</p>						
29	Implementation	Anderson Creek Terrace Recharge Streamflow Enhancement	Sanctuary Forest, Inc.	Humboldt	\$131,339.00	\$196,403.00	No
Proposal Summary as submitted	<p>This innovative project will result in the construction of 1.3 acres of groundwater recharge ponds on an upslope terrace along Anderson Creek in the Mattole River headwaters. The goal of the project is to employ rainwater harvesting techniques (derived from Rajasthan, India) to improve groundwater recharge and storage and associated summer streamflows. Benefits of the project will be an increase in instream flow necessary for juvenile salmon rearing habitat in Anderson Creek and the Mattole River headwaters.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
30	Planning, Scientific Studies, Monitoring, and Assessment	Beaver Dam Analogs Planning: Restoration of Stream Flows and Critical Habitat in Northern California using the Beaver Restoration Assessment Tool (BRAT)	Redwood Community Action Agency	NA	\$112,491.00	\$112,491.00	No
Proposal Summary as submitted	<p>Provide critical planning information to prioritize Beaver Dam Analog and beaver assisted restoration in northern CA by using the Beaver Restoration Assessment Tool. This planning information will be immediately used in the Mattole and Scott River watersheds to prioritize implementation actions leading to increased streamflow and habitat quality.</p> <p>Reason not funded: Scored below 75 points</p>						
31	Planning, Scientific Studies, Monitoring, and Assessment	Briceland Streamflow Enhancement Planning and Design Project	Trout Unlimited	Humboldt	\$220,977.32	\$262,762.32	No
Proposal Summary as submitted	<p>This is a planning and design project in cooperation with the Briceland Community Service District (BCSD), which operates a water system serving 26 connections in the community of Briceland, and which comprises the largest single water diversion in the watershed of Redwood Creek, an important tributary of the South Fork Eel River for coho salmon and steelhead trout in which low summer streamflow has been identified as a limiting factor. The project will select, design, and permit an engineering alternative that meets the following three goals:</p> <ul style="list-style-type: none"> <li>• Enhance dry season streamflow in Redwood Creek for the benefit of native salmon and trout by providing an alternative dry season water source that will allow BCSD to forbear diversion during times of critically low streamflow;</li> <li>• Increase the security of the BCSD water supply during the driest times of the year, particularly during periods of severe drought; and</li> <li>• Ensure that the diversion and use of water under the selected alternative are in compliance with all applicable legal requirements, including the Water Code and Fish and Game Code.</li> </ul> <p>Reason not funded: Planning funds fully expended</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
32	Implementation	Carmel River Floodplain Restoration and Environmental Enhancement Project (CRFREE Project)	Monterey County Resource Management Agency	Monterey	\$4,221,000	\$22,250,000	No
<b>Proposal Summary as submitted</b>	<p>The Carmel River Floodplain Restoration and Environmental Enhancement Project (CRFREE Project) is proposed by the Monterey County Resource Management Agency (MCRMA) in partnership with the Big Sur Land Trust (BSLT). It is a multi-benefit project to restore floodplain hydrology and riparian habitat, building upon previous restoration projects in the lower Carmel River watershed, while also providing flood control benefits to the developed area on the north side of the river. Project implementation includes three primary components: 1) grading to remove five segments of the south-bank levee that confine the river channel and recontouring of the 135 acre project site to allow overflow across the historic floodplain through two graded distributary channels, 2) revegetation of 100 acres of riparian and wetland habitat to provide a diverse habitat for riverine and upland species, and 3) construction of a 360-foot causeway to re-establish east-west hydrologic connectivity between the restored floodplain and the Carmel River Lagoon south arm.</p> <p>Stream flows on the Carmel River are influenced significantly by groundwater extraction from the alluvial aquifer, which has been determined to be hydrologically connected to the river and effecting surface water flows. The CRFREE Project provides streamflow enhancements to the lower river channel reach and the south arm of the Carmel River Lagoon that opens to the Carmel Bay. The levee removal and restored floodplain will result in a change in the timing and amount of river flow during large storm events, with overflow onto the floodplain being designed for 2-5-year storm events. This overflow will enhance groundwater recharge across the floodplain, and create an enhanced hydrologic connection with the south arm of the Carmel River Lagoon restored by State Parks in 2006. The CRFREE Project will improve foraging habitat along the river riparian corridor, the southern floodplain and the Lagoon with benefits to the federally threatened South/Central Coast California Steelhead (<i>Oncorhynchus mykiss</i>). Enhanced ground and surface water levels can slow drying in ephemeral ponds and wetlands in the summer dry-season, benefiting the federally threatened California red-legged frog (<i>Rana aurora draytonii</i>) and Western pond- turtle (<i>Actinemys mamorata</i>). In very large storms, overflows onto the floodplain will reduce flow volumes and rates that effect fish and wildlife on the river main stem. The Eastwood land donation completed for the Project site in 2016 involved an appropriate water right license that dedicates 46.2 acre-feet per year (AFY) of water to in-stream flow.</p> <p>Reason not funded: Direct benefits to streamflow not clear</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
33	Implementation	City of Eureka's Martin Slough Stream Flow Enhancement Project	City of Eureka	Humboldt	\$539,300.00	\$607,910.00	No
Proposal Summary as submitted		<p>Fresh water flows from a suburban/rural area of the City of Eureka, down through the golf course and mixes with the brackish waters of Martin Slough, Swain Slough, Elk River and finally discharges into Humboldt Bay. This wetlands/estuary complex provides excellent rearing habitat for Coho salmon and other aquatic species. The City of Eureka exercises its riparian water rights to draft fresh water from the upper reaches of Martin Slough (the North Pond) for irrigation of its municipal golf course. During low flow periods of the year this can significantly decrease instream flows for 6-8 hours per day resulting in dewatering of the channel and intrusion of the brackish tidal prism into the freshwater reaches of the system. This periodic decrease in fresh water flow volumes impacts Coho rearing habitat and any fish that may be present. This is an implementation project through which the City will develop an alternate water supply for the golf course (deep well and reservoir) that will not affect flows through Martin Slough. The City will negotiate and sign a forbearance agreement and stop drafting water from the Martin Slough. This will leave approximately 45-acre feet of water in the channel over the low flow period of the year. Increasing the flows of fresh water through the golf course and into the Martin Slough/Elk River complex will significantly benefit the existing Coho rearing habitat as well as new habitat that is being created by other ongoing enhancement projects. The City will also upgrade their existing irrigation system so that it uses less water. The applicant is the City of Eureka, which is an eligible entity.</p> <p>Reason not funded: Scored below 75 points</p>					
		34	Planning, Scientific Studies, Monitoring, and Assessment	County Service Area 7 Streamflow Enhancement Project	San Mateo County Resource Conservation District	San Mateo County	\$120,586.20
Proposal Summary as submitted		<p>The Pescadero-Butano Watershed Multi-User Water Storage Feasibility Project is a planning project to determine the feasibility of building one to three large, multi-user water storage structures in the Pescadero-Butano watershed to store water in the wet winter season as a means of offsetting existing agricultural stream diversion in the critically dry summer/fall season. If the concept is found to be feasible, we expect that subsequent project phases would allow for instream dedication – using CA Water Code Section 1707 petitions and contractual forbearance agreements - of a majority of existing agricultural water diversion for participating landowners during the dry season. The Pescadero-Butano system has been identified by the CA Department of Fish and Wildlife (CDFW) and NOAA National Marine Fisheries Service (NMFS) as a conservation priority for federally threatened Central California Coast (CCC) steelhead and state and federally endangered CCC Coho salmon. Low instream flows in the system, particularly in the late summer and fall season have been identified by a number of federal, state and local planning processes as a major limiting factor for Coho and steelhead survival. This project will leverage and build on over \$6 million in ongoing grant funded work by the San Mateo Resource Conservation District and its partners to restore stream habitats and promote increased water use efficiency and off-stream winter water storage in the Pescadero-Butano and neighboring San Gregorio systems. These projects seek to address both ongoing environmental resource impacts from low dry season stream flows and to buffer the system from the longer term impacts of climate change. The RCD is currently in the design and/or construction phase of projects in the Pescadero and neighboring San Gregorio Creek watersheds to build on-farm, off-stream winter storage ponds to address the summer water needs of individual agricultural operations. However, due to siting restrictions there is a limited number of farms that are able to build ponds onsite. This limitation is particularly acute in the Pescadero-Butano watershed. The goal of the Pescadero-Butano Watershed Multi-User Water Storage Feasibility Project is to facilitate the development of winter storage for agricultural users who are not able to build an individual pond on their property, or a large enough pond to offset the diversions during the entire dry season, thereby allowing more comprehensive protection of dry season flows.</p> <p>Reason not funded: Planning funds fully expended</p>					

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
35	Planning, Scientific Studies, Monitoring, and Assessment	Designing a San Joaquin Basin Steelhead Monitoring Program to Inform Enhanced Stream Flow Decisions	The Metropolitan Water District of Southern California	San Joaquin	\$779,855.00	\$1,221,504.00	No
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Proposal Summary as submitted</b></p>	<p>The goal of this project is to deliver a steelhead life-cycle monitoring station infrastructure and a structured decision making (SDM) framework for assessing alternative enhanced stream flow actions that contribute to the recovery of threatened steelhead populations in the San Joaquin Basin. To accomplish this, a scientific technical team of San Joaquin Basin stakeholders will 1) design and deploy infrastructure to support a functioning life-cycle monitoring station for quantifying and evaluating alternative stream flow enhancement actions as well actions related to habitat restoration, and/or water export restrictions; and 2) develop a SDM framework that facilitates adaptive management of stream flow enhancement actions that contribute to recovery of San Joaquin Basin steelhead populations. This multi-stakeholder group will be comprised of technical staff from state (California Department of Fish and Wildlife, Department of Water Resources) and federal agencies (National Marine Fisheries Service, US Fish and Wildlife Service, US Bureau of Reclamation), water districts (Metropolitan Water District of Southern California, East Bay Municipal Utility District), and non-governmental organizations (Trout Unlimited). An adaptive management facilitator will lead the technical team in setting management objectives, identifying concerns, and collaborating in a design charrette to plan the infrastructure of the life-cycle monitoring station. The life-cycle monitoring station will be deployed in the field over four different sampling seasons and will be tested and refined to ensure that the data generated is sufficient to meet the objectives set by the technical team. At the end of each sampling season the technical team will review what objectives were met, what were not, and what lessons can be applied to the upcoming sampling season. The life-cycle monitoring station will produce data that compliments existing monitoring and recovery efforts, including the Scientific Evaluation Process (SEP), and the Science Integration Team (SIT) which need San Joaquin steelhead data to monitor biological goals of the State Water Board's San Joaquin River flow objectives and to develop life-cycle models for prioritizing Central Valley Improvement Act (CVPIA 1992) restoration actions, respectively. In addition, this proposal, in collaboration with CDFW, will be vital in jump-starting a robust life-cycle monitoring station in the San Joaquin Basin that will complement CDFW's efforts to develop a system-wide Central Valley Steelhead Monitoring Program (Fortier et al. 2014). The project proposed here will provide the framework to evaluate the efficacy of monitoring steelhead populations in the San Joaquin Basin in accordance with the protocol outlined in the Department's Comprehensive Steelhead Monitoring Plan (Fortier et al. 2014), which will ultimately contribute to the information needed to enhance stream flows to protect and restore functional ecological flows for the benefit of steelhead.</p> <p>Reason not funded: Planning funds fully expended</p>						
	36	Planning, Scientific Studies, Monitoring, and Assessment	Dry Creek Fish Barrier Removal and Stream Flow Enhancement Project	Sierra Streams Institute	Yuba County	\$190,378.86	\$348,831.27
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Proposal Summary as submitted</b></p>	<p>Sierra Streams Institute is working with the USFWS under the Anadromous Fish Restoration Program to complete planning work for the removal of the two lower barriers impeding fish access to crucial habitat. The project would also ensure adequate flows for multiple life stages of anadromous fish and enhance instream flow for downstream habitats. USFWS will conduct design work for the project as cost match. Sierra Streams Institute is requesting funding to conduct CEQA/NEPA and other permitting requirements, with USFWS acting as the lead agency. The Dry Creek Fish Barrier Removal and Stream Flow Enhancement project will lead to an implementation-ready project that will enhance stream flow and provide additional critically important habitat in the underserved Bear River Watershed.</p> <p>Reason not funded: Direct benefits to streamflow not clear</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
37	Planning, Scientific Studies, Monitoring, and Assessment	East Mill Creek Flow Enhancement Plan	Mattole Restoration Council	Humboldt	\$271,955.00	\$292,061.00	No
Proposal Summary as submitted	<p>This planning project will make possible the development and permitting of five streamflow enhancement projects located in the East Mill Creek tributary. The potential enhancement project types include wetland restoration, off channel recharge ponds, active recharge of storm water onto floodplain, domestic storage and forbearance, addressing instream entrenchment/incision, and thinning non-native species. Tasks will include data collection, landowner outreach, site assessments, design development, agency and stakeholder input, and permitting. The planning for these projects will be conducted at a level sufficient to qualify for implementation funding. In addition, the planning project will include a feasibility study on addressing channel incision throughout the lower portion of the tributary.</p> <p>Reason not funded: Planning funds fully expended</p>						
	38	Implementation	Eel River Estuary and Centerville Slough Ecosystem Enhancement Project	The Wildlands Conservancy	Humboldt	\$3,487,673.00	\$9,837,607.00
Proposal Summary as submitted	<p>The purpose of the Eel River Estuary and Centerville Slough Enhancement Project (Project), a multi-benefit ecosystem restoration and protection project, is to restore ecosystem function to the 1,255 acre Eel River Estuary Preserve (Preserve). The goal of the Project is to enhance stream flows, protect and restore habitat for anadromous fish and other aquatic species, support waterfowl and wildlife species, and to enhance agriculture productivity by decreasing and more effectively managing on site flooding. In addition to protecting and restoring these vital coastal wetlands ecosystems, the Project seeks to increase the resiliency of agriculture land and natural communities on the Preserve in anticipation of future climate change and sea level rise. The Project meets the following priorities of this solicitation: enhancing stream flow in streams that support anadromous fish and that support special status, threatened, endangered or at risk species. The Project will also implement the following goals/actions of the California Water Action Plan: Protect and Restore Important Ecosystems (the restoration of important species and habitat) and Increase Flood Protection (a more resilient, sustainably managed water resources system).</p> <p>Reason not funded: Proposal lacked details specific to outside funders and specific project elements</p>						

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ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
39	Implementation	Forsythe Creek Floodplain Restoration Project	Mendocino County Resource Conservation District	Mendocino	\$2,828,061.78	\$2,828,061.78	No
Proposal Summary as submitted	<p>The Mendocino County Resource Conservation District (MCRCD) has developed a floodplain restoration project with eight landowners in the upper Russian River watershed to conduct a collaborative implementation project to optimize stream functions that has a 65% level design, and will complete CEQA in September 2016.</p> <p>The MCRCD proposes to conduct floodplain restoration and bioengineered streambank stabilization activities along Forsythe Creek. Forsythe Creek, a major tributary to the Russian River, that provides important habitat for California Coastal Chinook salmon (<i>Oncorhynchus tshawytscha</i>) and the Central California Coast steelhead (<i>O. mykiss</i>).</p> <p>The purpose of the proposed Project is to:</p> <ol style="list-style-type: none"> <li>1. Restore hydrologic functions of the Forsythe Creek floodplain in the 1,500 foot long project reach by re-establishing an historical side channel that was disconnected from the stream channel by the deposition of spoils from a State Highway 101 widening project;</li> <li>2. Enhance the ecologic functions of the Forsythe Creek floodplain, main channel, and side channel in the Project Area with a focus on improving salmonid habitat, by installing large wood structures to create complex cover and velocity refugia;</li> <li>3. By installing locally-sourced, rooted native plant material and supporting their survival with irrigation for three years, the Project will restore 2.1 acres of riparian habitat and enhance the riparian canopy cover to moderate water temperature and improve instream habitat; and</li> <li>4. Maintain existing flood protection and improve floodplain storage capacity.</li> </ol> <p>Reason not funded: Project better suited for Fisheries Restoration Grant Program</p>						
	40	Planning, Scientific Studies, Monitoring, and Assessment	Fox Hollow Reservoir Rainwater Catchment and Flow Augmentation Planning Project	Central Coast Salmon Enhancement	San Luis Obispo	\$164,881.00	\$193,537.00
Proposal Summary as submitted	<p>Develop plans to modify an existing and currently unused 2,000,000-gallon water reservoir to capture and store rainwater, capture and store peak flows from an adjacent reach of San Luis Obispo Creek, and to release stored water in the dry season into a downstream reach of San Luis Obispo Creek that contains prime steelhead rearing habitat. The proposed project will also consider the feasibility of adding a second in use existing 7,000,000 million water reservoir to capture, store, and release rainwater in the same manner. Finally, the project will determine whether a water rights change is needed to capture peak flows.</p> <p>Reason not funded: Planning funds fully expended</p>						
41	Planning, Scientific Studies, Monitoring, and Assessment	Genesee Valley - Indian Creek Stream Flow Enhancement	Feather River Land Trust	Plumas	\$121,562.00	\$124,562.00	No
Proposal Summary as submitted	<p>Baseline Hydrologic Investigation, development of long-term monitoring plan, hydrologic monitoring, scoping for potential diversion abandonment, engineering, change point of diversion, scoping for 1707/forbearance agreement.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
42	Planning, Scientific Studies, Monitoring, and Assessment	Indian Valley Meadow Rehabilitation Project	The Watershed Research & Training Center	Trinity	\$153,665.75	\$186,718.48	No
Proposal Summary as submitted	<p>The Indian Valley Meadow Restoration Project is a planning project which employs the "plug and pond" technique to reconnect a streambed with the historic floodplain, thus restoring groundwater storage capacity to upland meadows. The Indian Valley Creek is severely downcut and channelized due to a legacy of decades of poor land management. In the face of climate change and increasing anthropogenic pressures, the Coho and South Fork Trinity River spring run chinook, are struggling to survive. During recent snorkel surveys only # were counted within the river, a far cry from the historic #. The plug and pond treatment will help store cool water in the meadows as historic conditions allowed and slowly release cool clean water downstream, negating temperature and sedimentation impacts of the current erosive episodic flows and waning diminished flows.</p> <p>Reason not funded: Scored below 75 points</p>						
	43	Implementation	Lassen Creek Riparian Restoration	Lassen Land & Trails Trust	Lassen	\$94,777.00	\$196,108.00
Proposal Summary as submitted	<p>"The Lassen Creek Riparian Restoration Project will restore approximately 4,500 feet of stream channels by planting native trees and shrubs along two historic riparian corridors. This project will measurably enhance stream flows at a time and location necessary to provide ecosystem/habitat benefits, and is not part of any required environmental mitigation measures or compliance regulations. The project adds groundwater to surface riparian systems in a highly conservative and measured manner through the use of surface drip irrigation to establish and enhance riparian vegetation. Flow enhancements will provide growing season water for the planted and existing vegetation, and the riparian vegetation performance will be measured in terms of size, number of plants, and density. Additionally, this project will measure ecosystem response through monitoring of avian species richness, abundance, and diversity. This will provide growing season water for planted and existing vegetation which will provide riparian vegetation performance and changes in wildlife. Project objectives will be achieved through the following activities:</p> <ul style="list-style-type: none"> <li>• Installing solar panels and adding 3,000 gallon underground storage tanks at two wells to provide increased water for enhanced vegetative community.</li> <li>• Trans-planting native willows, cottonwood, aspen, and native shrubs with California Conservation Corps crews.</li> <li>• Fencing planted sites to exclude over-use by deer and other animals until plants are fully established.</li> <li>• Seasonally delivering water via gravity feed from storage tanks and underground PVC pipe through emitters.</li> <li>• Providing a source of open water for wildlife ("Guzzler") at each storage tank site.</li> <li>• Lengthening the seasonal flow regime of each channel by prolonging the period of maximum soil moisture within each channel and reducing peak flows.</li> <li>• Improving plant community structure and improved wildlife habitat associated with the enhanced delivery of water.</li> <li>• Evaluating the results of the project by monitoring vegetation response and avian species occurrence up to 20 years post-project.</li> </ul> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
44	Implementation	Lost River Alluvial Valley Streamflow Enhancement Project	Sanctuary Forest, Inc.	Humboldt	\$183,881.08	\$280,298.08	No
Proposal Summary as submitted	<p>This project will enhance streamflows by raising the streambed through a series of log and boulder step pools along a 1200 ft reach of the Lost River. Primary structures will consist of channel spanning logs installed such that they retain sediment and water, provide instream pool habitat and promote localized aggradation. These structures will be placed strategically to reconnect historic wetlands and side channels. The structures will incorporate fish passage utilizing a step pool design that mimics naturally occurring bedrock and wood structures in Mattole streams. Secondary structures will be installed upstream and downstream of the primary structures to provide cover and complexity in the short term and scour pools in the long term as aggradation occurs. The project meets the requirements of eligible project types through restoration of an entrenched stream and reconnection of inset flood plains that will measurably enhance groundwater levels and summer streamflows necessary for juvenile salmon rearing habitat.</p> <p>Reason not funded: Staff recommends waiting until results of the similar associated pilot projects are available</p>						
	45	Planning, Scientific Studies, Monitoring, and Assessment	Lower Cache Creek Revegetation Assessment	University of California, Davis	Yolo	\$598,555.00	\$984,747.00
Proposal Summary as submitted	<p>The University of California, Davis, in collaboration with Yolo County, the Cache Creek Conservancy, and Triangle Properties, Inc. (a direct affiliate of Teichert, Inc.), is proposing a scientific study and assessment project to advance prior investments in lower Cache Creek and to fill scientific data gaps regarding revegetation and soil aggregation on heavily disturbed or compacted landscapes. The proposed scientific study on the lower Cache Creek is to assess and delineate potential revegetation areas based on measurements of subsurface saturation versus subsoil moisture within two general fluvial landforms: (1) the flood-prone channel above base flow that typically has interstitial flow within the stream bed and (2) terraces that typically are not seasonally flooded on which plant growth depends on subsoil moisture retained from previous winter's precipitation. These delineations along the stream channel will be used to determine the appropriate locations for different plant species and to guide soil regeneration for improved root growth for optimum revegetation. This two-step process (siting revegetation planting locations and correcting growth limitations) facilitates successful and sustainable restoration. The disturbed, sparsely vegetated, gravelly channel of Lower Cache Creek has banks subject to erosion with shallow and braided flows. A well-established riparian cover would stabilize the gravel channel and allow the stream to develop deeper pools and stabilized meander bends. The narrower channel would have more complete vegetation cover and shade as well as structural stability. However, the deep gravels of the channel make establishment of revegetation difficult because of the variety and severity of growth conditions in different channel positions.</p> <p>The proposed project will consist of (1) mapping channel locations by elevation, soil or substrate type, and channel morphology to determine seasonal patterns of moisture availability; (2) assessing rooting access; (3) developing practical treatment approaches that also could be used in other watersheds; and (4) installing and monitoring of demonstration plantings. This science-based study is intended to provide demonstrated ability for effective revegetation in these extreme environments. Findings can be used for future implementation projects and planning. This project fills a scientific gap regarding establishment of native plants in drought stressed conditions and reaggregation of highly disturbed substrates. Data generated during this three-year study, when incorporated into restoration efforts, will result in improved habitat, better water quality, and restored natural system functions that advance and support the goals of adopted state and local plans, is sustainable, and is resilient to changing conditions.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
46	Planning, Scientific Studies, Monitoring, and Assessment	Lower Carmel River Monitoring Program	Big Sur Land Trust	Monterey	\$381,000.00	\$460,000.00	No
<p style="text-align: center;">Proposal Summary as submitted</p>	<p>The purpose of the Lower Carmel River Monitoring Program (LCRMP) is to ensure a coordinated approach to surface water, groundwater and water quality monitoring to evaluate the benefits of multiple streamflow and habitat enhancement projects in the lower Carmel River reaches. The Big Sur Land Trust (BSLT) has partnered with several public agencies in the Carmel River Floodplain Restoration and Environmental Enhancement Project (CRFREE Project), including Monterey County Resource Management Agency (MCRMA), California Department of Parks and Recreation (State Parks), Monterey Peninsula Regional Park District (MPRPD), and Monterey Peninsula Water Management District (MPWMD). The CRFREE Project provides streamflow enhancements to the lower river channel reach and the south arm of the Carmel River Lagoon that opens to the Carmel Bay and Pacific Ocean (see WCB Implementation Grant application from MCRMA). In addition to the CRFREE Project, several other projects and water rights changes are planned to occur or have occurred in the lower Carmel River and Lagoon, including both Instream Flow Dedications and Forbearance Agreements. The Eastwood land donation to BSLT for the CRFREE Project site was preceded by an appropriate water right petition that approved Permit 20905B, License 13868B dedicating 46.2 acre-feet per year (AFY) of water to in-stream flow in 2015. A forbearance agreement of 300 AFY through 2019 has been executed just this summer as part of the Rancho Cañada acquisition, located immediately upstream of the CRFREE site. The Rancho Cañada project will result in a long term dedication of 170-190 AFY (see MPRPD application to WCB for acquisition).</p> <p>The proposed LCRMP would evaluate the benefits of multiple projects. In addition to ongoing groundwater and flow monitoring throughout the Carmel River system by MPWMD, BSLT has established a groundwater monitoring network with additional time series data, geomorphic and hydrologic modeling, and collected baseline data specific to the CRFREE Project that should be continued post construction of the project. This application proposes several groundwater monitoring wells for the CRFREE Project and nearby vicinity, as well as stream flow gauges for measurement of changes to flow following implementation scheduled to occur in 2018. This application also proposes well relocation for two riparian wells on public lands owned by State Parks and MPRPD that need to be relocated for the purpose of long term habitat enhancement prior to the CRFREE Project's grading. Lastly, it includes water quality studies to better understand the freshwater system in the Carmel River Lagoon and its effect on the federally threatened South/Central Coast California Steelhead (<i>Oncorhynchus mykiss</i>), and groundwater quality data collection.</p> <p>Reason not funded: Scored below 75 points</p>						
	47	Planning, Scientific Studies, Monitoring, and Assessment	Lower Owens River Flow Enhancement and Habitat Improvement Study	Inyo County Water Department	Inyo	\$351,536.00	\$441,981.00
<p style="text-align: center;">Proposal Summary as submitted</p>	<p>A scientific study and planning to investigate modifying the Lower Owens River channel through the 'Islands' reach of the Lower Owens River to identify and evaluate alternatives to enhance stream flow and improve water quality for the warm-water fishery and to restore diverse riparian-riverine habitat. Includes a hydrogeologic and biological study, engineering plans, CEQA, and permits.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
48	Planning, Scientific Studies, Monitoring, and Assessment	Lower Prairie Creek Floodplain Restoration and Enhancement Planning Project	Save the Redwoods League	Humboldt County	\$220,000.00	\$876,770.00	No
Proposal Summary as submitted	<p>The Lower Prairie Creek Restoration and Enhancement Planning Project (the project) will conduct design, environmental compliance, and permitting to facilitate the restoration and enhancement of the lowermost reach of Prairie Creek-a North Coast salmon and steelhead stronghold. The project aligns with WCB's Proposition 1 priorities in that it will enable restoration actions to 1) support species recovery for federally listed anadromous fish; 2) improve habitat for other threatened and endangered terrestrial and aquatic species; 3) increase climate resilience in a multi-agency designated Critical Coastal Area watershed; and 4) provide multiple water quality, recreational, economic, and aesthetic benefits to local disadvantaged communities.</p> <p>Reason not funded: Failed administrative review</p>						
	49	Implementation	Management of Rice Fields to Enhance Instream Flows and Provide Multiple Ecosystem, Water Supply, and Flood Management Benefits	California Rice Commission	Colusa/Yolo	\$794,552.30	\$1,158,534.92
Proposal Summary as submitted	<p>The productive capacity of waters to support aquatic food webs is an under-appreciated attribute of water quality that is directly affected by spatial and temporal flow patterns. This project will inundate 5,000 acres of floodplain in the Colusa sub-basin. Reclamation District No. 108 (RD 108) will divert flow from the Sacramento River during winter and early-spring high flow events. Winter-fallow rice fields will be inundated to depths of approximately 8 inches for several weeks after each event before being drained back to the Sacramento River. Return flows taking place up to three weeks after the peak of flow events have the potential to increase Sacramento River flow with food web-enhanced water. Aquatic food web productivity on inundated agricultural floodplains such as those activated by this project has been experimentally shown to be as much as 15,000% percent greater than in adjacent river channels (Katz, 2016). This primary and secondary productivity (nutrients, algae and invertebrates) is exported to downstream ecosystems to alleviate lack of food resources for endangered fish populations in the Sacramento River and Delta.</p> <p>This floodplain productivity was once the foundation of an aquatic food web that supported abundant native fish including over two million returning salmon to the Sacramento Valley annually. After a century of development and loss of more than 95% of Central Valley wetlands, flood waters no longer spread and slow across floodplains and floodplain food resources are no longer made available to Central Valley fish populations such as salmon and Delta smelt, and to millions of migratory water birds. This project will begin to reverse that trend at the landscape scale. By demonstrating trophic subsidy from managed agricultural floodplains to riverine aquatic food webs, as well as providing water bird habitat, water supply, and flood management benefits this project will catalyze adoption of similar multi-benefit agricultural practices throughout the Sacramento River watershed.</p> <p>Reason not funded: Project does not enhance flow</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
50	Implementation	Mark West Creek Streamflow Enhancement Implementation Project	Sonoma Resource Conservation District	Sonoma	\$1,897,925.39	\$2,492,755.14	No
Proposal Summary as submitted	<p>The current drought, now in its fifth year, is having acute and devastating effects on water resources throughout the Russian River watershed, for agricultural and rural landowners and fish and wildlife, most notably the endangered Central California Coast (CCC) coho salmon. Conditions are particularly dire in four subwatersheds of the Russian River where streamflow conditions for coho salmon are so limited that the State Water Resources Control Board has issued emergency conservation and information orders for water use. Focusing on the largest of these subwatersheds, Mark West Creek, the Sonoma Resource Conservation District (SRCD) will work with local landowners to reduce summer stream withdrawals and enhance streamflow through rainwater catchment projects and restoring gravel roads to improve watershed hydrology. This shovel-ready program will implement twenty 5,000 gallon rainwater storage tanks, four 30,000 gallon rainwater storage tanks, one 15,000 gallon rainwater storage tank and three 2,500 gallon rainwater storage tanks, saving 242,500 gallons of water each year that would otherwise be drawn from streams for use on rural and agricultural lands. In addition, a total of 7.62 miles of implemented road restoration techniques will allow over 8 million gallons of water to infiltrate into the ground, enhancing streamflow by 0.018 cfs. In coastal streams such as Mark West Creek, streamflow improvements of this magnitude can make a meaningful difference in the over summer survival of coho salmon. Restoring the roads will also reduce winter peak flows and provide the result of 8,075 cubic yards of sediment reduction from entering the coho bearing stream.</p> <p>Reason not funded: Proposal lacked specifics regarding the protection of water benefiting stream flow</p>						
	51	Planning, Scientific Studies, Monitoring, and Assessment	Mattole/Lower Bear Creek Off Channel Slough Streamflow Enhancement Project	Mattole Salmon Group	Humboldt	\$490,000.00	\$822,433.00
Proposal Summary as submitted	<p>This planning project will address the impacts of climate change and drought in the Mattole River at a scale needed to restore lower-river off channel streamflows within the estuary/Lower Bear Creek area. Since 1993 a pattern of disconnected flows in the Mattole River estuary has caused the river to be disconnected from significant slough and off channel salmon habitats. This loss of critical off channel rearing and spawning habitats has had devastating impacts on the already threatened native salmon populations in the Mattole estuary, which is one of the most critical spawning and rearing grounds. While measurable fish habitat improvements have been made recently through reconnection of off channel areas as part of implementing the BLM 5 Year Estuary Restoration Plan, restoration of ground and surface water hydrology is also needed to achieve drought resilience.</p> <p>This planning project will build on recent matching investments of over \$250,000 to study the problems in this area and to finalize looking at alternatives to reconnect significant streamflow to the Lower Bear Creek channel and the south sloughs. This project will make possible the final analysis and studies, preferred alternatives, 100% designs and permitting for the re-routing of Lower Bear Creek into an alignment and design that will measurably enhance streamflows to Lower Bear Creek and the south sloughs. The project includes channel re-routing, two bridges, one private and one for a county road, as well as connectivity to recently excavated off channel slough habitats, and restoration of riparian and instream habitat. The planning for these projects will be conducted at a level sufficient to qualify for implementation funding. An additional element of this project is an upslope road assessment to reduce sediment input into restored habitats, creeks, and sloughs.</p> <p>Reason not funded: Planning funds fully expended</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
52	Planning, Scientific Studies, Monitoring, and Assessment	McCosker Stream Restoration Project (Planning)	East Bay Regional Park District	Contra Costa	\$300,000.00	\$837,000.00	No
Proposal Summary as submitted	<p>The project will daylight and restore a 2,000 foot culverted section of creek at Sibley Volcanic Regional Preserve in the upper San Leandro watershed. The current condition of the stream is in tremendous need of restoration. Giant holes have opened up over a failing culvert which covers the creek. In its current condition, the natural stream channel is lost; the culverted stream provides no usable habitat. If the culvert system fails completely, negative effects will be significant with increased erosion and a potential increased sediment transport into downstream channels. It is imperative to have the failing culvert and creek cleaned-up, stabilized, and converted to habitat as soon as possible.</p> <p>Reason not funded: Planning funds fully expended</p>						
53	Acquisition	McKee Creek Headwaters Conservation Project	Sanctuary Forest. Inc.	Humboldt	\$1,175,000.00	\$1,807,610.00	No
Proposal Summary as submitted	<p>The McKee Creek Headwaters Conservation Project is part of a multi-phase strategy to conserve and restore the McKee Creek watershed. Phase 2 of the project (the current phase, for which funding is being requested) will place approximately 300 acres of forestland encompassing the majority of the headwaters of McKee Creek under permanent protection through fee title acquisition and ownership by Sanctuary Forest. Acquisition of the property will result in the immediate implementation of streamflow enhancement projects, and will address fragmentation and development of forestland, impacts of water diversions, poor habitat conditions, and the need for an ecosystem based approach to the recovery of coho salmon in the Mattole River watershed. Taken as a whole, this strategy is a model for how private landowners, non-profit organizations, and government agencies can work together to fundamentally restore the landscape at a watershed level.</p> <p>Reason not funded: Acquisition does not enhance flow</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
54	Acquisition	Mendonca Dairy Acquisition	River Partners	Stanislaus	\$5,080,466.00	\$5,095,466.00	No
54	<p><b>Proposal Summary as submitted</b></p> <p>River Partners proposes to acquire 251.63 acres of floodplain lands from a private seller for the purposes of future wildlife habitat restoration, improved flood management for nearby disadvantaged communities, improved groundwater recharge, and improved water quality and quantity in the San Joaquin River. This acquisition would contribute to the ongoing effort to establish a restored riparian corridor that benefits fish and wildlife in California’s San Joaquin River Valley. The Mendonca Dairy borders approximately 1.2 miles of the San Joaquin River and is currently farmed in alfalfa used for silage. A fully operational dairy facility maintaining 575 head of milking cows is owned and operated by the landowner onsite. Following acquisition of the property, River Partners intends to dismantle existing dairy facilities and complete riparian habitat restoration that allows for increased floodplain inundation and enhanced habitat for a suite of federally and State listed species.</p> <p>For over twenty years, a successful collaborative of federal, state, local, and private organizations has been working to scope and develop multi-benefit floodplain enhancements in this area culminating in over \$60million in investment in habitat restoration and improved non-structural flood management activities within several Reclamation Districts of the State Plan of Flood Control. These activities have resulted in the permanent retirement of over 25,000 acre feet of riparian diversions per year which equals approximately 15% of the anticipated additional water delivery from the proposed Temperance Flat Reservoir upstream. They have also resulted in the reconnection of over 3,000 acres of historic floodplains of the San Joaquin River to flood flows that support foraging salmonids at approximately 3-5 year recurrence intervals. River Partners’ extensive involvement in these projects has shown us, and partner agencies, that acquisition and restoration of key agricultural properties along the San Joaquin River provide significantly enhanced stream flows. Furthermore, River Partners is working with partners to quantify the value of the enhanced flows at properties it owns. If successful with funding requests, River partners will continue this work at Mendonca. Finally, the timing of this project, and its location, provide fisheries and ecosystem benefits of critical value, and in excess of any mitigation or compliance obligations.</p> <p>Reason not funded: Scored below 75 points</p>						
	55	Planning, Scientific Studies, Monitoring, and Assessment	Middle Santa Rosa Creek Streamflow Enhancement Planning Program	Upper Salinas - Las Tablas RCD	San Luis Obispo	\$175,360.50	\$254,735.50
55	<p><b>Proposal Summary as submitted</b></p> <p>Improve instream flow and groundwater recharge by focusing projects on agricultural lands adjacent to middle reach of Santa Rosa Creek that infiltrate groundwater. Develop priorities and engineered plans for 5-6 landowners with access to open space to strategically design a system to enhance the natural hydrograph. The RCD will work with landowners, NRCS, and other partners to develop baseline data, planning strategy, engineered designs, and permits to prepare for implementation of projects.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
56	Implementation	Miller Homestead Stream Flow Enhancement	Eel River Watershed Improvement Group (ERWIG)	Humboldt	\$555,202.90	\$825,899.93	No
Proposal Summary as submitted	<p>Provide alternative non-stream source water to the existing ranch cattle herd, and fence them out of the preponderance of areas in proximity to the project area's flowing streams, with the majority of the area being in the Oil Creek drainage, a second order Coho salmon stream. On average, from June 15th to September 31st, 7,834 gallons per day will be provided from an existing, long standing non-stream-connected source. Those 7,834 gallons per day would otherwise be removed by the cattle herd during the above 108 day summer period.</p> <p>Reason not funded: Scored below 75 points</p>						
57	Planning, Scientific Studies, Monitoring, and Assessment	Millerton Creek Restoration Phase 1	North Bay Trout Unlimited	Marin	\$47,570.00	\$66,470.00	No
Proposal Summary as submitted	<p>Limiting factors analysis to identify and prioritize the tasks necessary to restore steelhead (an ESA threatened species) to Millerton Creek. The immediate goal of the project is therefore to identify alternatives to address a migration barrier and to identify and prioritize other limiting factors, including flow and water quality, and suitability of seasonal habitat.</p> <p>Reason not funded: Scored below 75 points</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
58	Planning, Scientific Studies, Monitoring, and Assessment	North Coast Flow Enhancement Planning Project	Trout Unlimited	Humboldt	\$656,393.58	\$763,721.58	No
58	Proposal Summary as submitted	<p>This comprehensive planning proposal will create implementable, shovel-ready plans for improving dry season streamflows in Salmon Creek and Redwood Creek, two adjacent South Fork Eel River sub-basins that are crucial to the recovery of threatened and endangered steelhead and salmon. Our approach will be modeled on Sanctuary Forest’s Water Stewardship Program in the Mattole River headwaters and build on ongoing work by the project team in Redwood Creek. Specifically, we will expand flow monitoring, promote dry season forbearance actions, and design engineered plans for groundwater recharge projects. Current flow monitoring and hydrologic analyses underway in Redwood Creek has highlighted the severity of the dry season low flows, even during non-drought years like 2016. While human consumptive use is likely the driving force behind the low flows throughout much of the watershed, other geomorphic and hydrologic factors are influencing low flows and need to be better understood.</p> <p>Through this proposal, detailed baseline information will be collected and analyzed to ensure implementation projects are targeted to specific areas where they will have the maximum benefit on instream flows for salmonids. Within the project sub-basins, we will conduct field- and office-based geomorphic and hydrologic assessments of the drivers of wetted channel extents during the spring and summer months to better understand the effects of diversions and surface water/groundwater interactions at a fine scale. Additionally, we will analyze the specific effects of forest succession following timber harvest and associated changes in evapotranspiration (ET) on summer flows, an inquiry posed by many rural water users questioning the efficacy of forbearance. The results from these analyses, combined with implementation of existing protocols, will guide a holistic and targeted approach for flow enhancement ensuring that public and private funds for flow enhancement are being used in a manner that is as cost-effective as possible and based on the best available science. Results of this project can then be used to guide future decisions regarding the appropriate level of detail needed to create and fund streamflow enhancement projects.</p> <p>Reason not funded: Planning funds fully expended</p>					
		59	Implementation	Oroville Wildlife Area Project	Sutter Butte Flood Control Agency	Butte	\$4,885,000.00
59	Proposal Summary as submitted	<p>Construct interior channel grading improvements and a new berm to reconnect the Feather River to its historic floodplain and improve water timing, purity, and temperature.</p> <p>Reason not funded: Funding partner roles, budget request and workplan details were inadequate to determine project feasibility and likelihood of success.</p>					

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
60	Planning, Scientific Studies, Monitoring, and Assessment	Pajaro River Watershed Assessment to Support Coordinated Streamflow Enhancement Project Design, Placement, and Effectiveness Monitoring	Central Coast Wetlands Group at Moss Landing Marine Labs	Santa Cruz, Santa Clara, San Benito and Monterey	\$859,000.00	\$2,986,000.00	No
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Proposal Summary as submitted</b></p>	<p>The Pajaro River watershed suffers from flow extremes; high flows during winter storms leading to flooding and a reduction in summer flow below environmentally sustainable thresholds. As stakeholders within the watershed implement flood control, habitat restoration and fisheries enhancement projects, there is a growing need to plan and assess the cumulative effect of these efforts within a watershed context. Such integrated management will ensure each project supports (or at least does not conflict with) the goals of other stakeholders and leads to overall increase in river habitat condition, storm water infiltration and summer base flow conditions. Coordinated river, floodplain and wetland monitoring and assessment among the four participating county flood agencies, Regional Water Board, multiple municipalities, NGOs and stakeholders is greatly needed to assess the current management of stream and wetland ecosystems, decrease potential conflicts and implement a coordinated riverine management program. This project will identify and prioritize river management efforts that integrate flood management, fish and habitat restoration, infiltration and stream flow enhancement opportunities within a watershed context. The proposed project will generate the habitat and hydrologic information (already being collected within the Santa Clara portion of the watershed) needed to help agencies and organizations in the Pajaro River Watershed make informed watershed management decisions, allocate restoration money and meet groundwater and flood control objectives. This new information will integrate and enhance stewardship and restoration actions by organizing information on stream and wetland conditions, evaluating river flood and infiltration capacity, and identify priority floodplain areas for restoration.</p> <p>Specific outputs include:</p> <ul style="list-style-type: none"> <li>• Completion of- o a standard and comprehensive wetland and stream map of the watershed o historical maps of the main channel and associated floodplain of the Pajaro and San Benito rivers • a map of ground water recharge and shallow water infiltration zones</li> <li>• an ambient assessment of wetland and stream resources utilizing the California Rapid Assessment Method for Wetlands and Streams (CRAM)</li> <li>• Compilation of standard information on all flood management and wetland and stream restoration projects • Prioritize stream reaches where flood plain enhancement combined with flood water retention can best enhance stream flow. (Identify 3-5 floodplain enhancement opportunity sites for implementation, Develop conceptual project design plans, Estimate project costs, implementation and funding partners, Estimate the projected storm water retention and increase in summer stream flow of selected projects) • Provide trainings and reports to city, county, regional and NGO partners that are supporting flood management and wetland/stream restoration/management efforts</li> </ul> <p>Reason not funded: Planning funds fully expended</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
61	Implementation	Pine Creek Restoration Project	American Rivers	Lassen	\$1,066,000.00	\$1,491,122.00	No
61	Proposal Summary as submitted	<p>This comprehensive project will enhance streamflow and habitat for Eagle Lake Rainbow Trout (ELRT), one of eight species of trout endemic to California. ELRT have recently been petitioned for listing under the Endangered Species Act, and stream flow is one of the primary factors limiting the recovery of the species (California Department of Fish and Wildlife, U.S. Forest Service, U.S. Fish and Wildlife Service, 2015). American Rivers and our partners (Trout Unlimited, Pine Creek Coordinated Resource Management Planning Group, U.S. Forest Service, CA Dept. of Fish and Wildlife, and Todd Sloat Biological Consulting) have come together under this project to implement three complementary actions specifically identified in the Conservation Strategy for the Eagle Lake Rainbow Trout. These actions—expected to improve instream flow conditions in Pine Creek and promote recovery of ELRT—are specified as high priority under Goal 2 and include: 1) removing impoundments, including dug out waterholes and railroad grades, in the Pine Creek watershed that reduce flow volumes and alter the timing of flows in Pine Creek; 2) capping the diversion from Bogard Spring and dedicating the existing water right to instream flow; and 3) removing conifers that are withdrawing water from meadows through evapotranspiration in the Pine Creek watershed. In addition to implementing these priority elements, the project team will install stream gauges above and below the project area to quantify changes in the timing and duration of flows that result from these and other planned future restoration activities.</p> <p>Reason not funded: CEQA is incomplete</p>					
		62	Planning, Scientific Studies, Monitoring, and Assessment	Salt Creek Confluence Groundwater Recharge Planning	The Watershed Research and Training Center	Trinity	\$145,000.00
62	Proposal Summary as submitted	<p>The Salt Creek Confluence Groundwater Recharge Planning Project will include monitoring, planning, surveying, design, permitting, and environmental compliance for an instream and riparian restoration project. This project's goals are to alleviate incision and reconnect Salt Creek with its floodplain and shallow unconfined aquifer. These actions will result in increased groundwater storage that will attenuate summer base flow and improve water quality and summer stream temperatures thus improve fish habitat for salmonids at the juvenile rearing and adult spawning stages of their lifecycle.</p> <p>Reason not funded: Scored below 75 points</p>					

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
63	Planning, Scientific Studies, Monitoring, and Assessment	South Fork Eel River Water Conservation Program	California Trout	Humboldt and Mendocino	\$346,284.00	\$584,410.00	No
Proposal Summary as submitted	<p>CalTrout and its project partners propose to conduct a much-needed stream flow assessment and planning effort in the South Fork Eel watershed and Sproul Creek Subbasin. This project aims to fill key information gaps pertaining to the unimpaired flow conditions for the South Fork Eel River and its sub-basins, detect the current level of stream flow impairment occurring within the Sproul Creek sub-basin, and identify flow thresholds that are protective of salmonid life-cycle needs and water quality within the Sproul Creek sub-basin and South Fork Eel River watershed at-large. Additionally, the project team will implement a rigorous validation effort, that will test the ability of a regional methodology to accurately identify stream flow criteria that are protective of salmonid life-cycle needs throughout the South Fork Eel River watershed. Collectively this effort will result in the acquisition and assessment of streamflow, habitat, and water diversion information as needed to be able to prioritize, permit, and implement instream flow enhancement projects within the Sproul Creek watershed. It will also provide an important regional approach that may greatly reduce the time and cost associated with quantifying instream flows adequate to maintain viable fish populations and healthy aquatic ecosystems, thereby alleviating a significant barrier to the ability to implement both voluntary and policy-oriented efforts within the South Fork Eel watershed to enhance stream flows at a scale large enough to improve water quantity and quality in a manner necessary to support functional ecological flows and the viability of salmonid populations.</p> <p>Reason not funded: Planning funds fully expended</p>						
64	Planning, Scientific Studies, Monitoring, and Assessment	Southern Humboldt Community Park Water Resources and Enhancement Evaluation	Southern Humboldt Community Park	Humboldt	\$275,717.00	\$280,667.00	No
Proposal Summary as submitted	<p>The purpose of the planning study is to determine at what river level the Park should reduce and/or stop withdrawing water to protect fisheries and other aquatic resources, evaluate potential effects of climate change on the river flows, and to develop feasible options to enhance stream flows beyond Park needs. Streamflow enhancement options are expected to include evaluations of onsite water efficiency, environmental enhancement projects (creation of wetlands that would retain water as well as facilitate enhanced levels of groundwater recharge), and off-stream storage options that would retain water during the wet season and allow it to be used and discharged back into the river during the dry season.</p> <p>Reason not funded: Scored below 75 points</p>						
65	Acquisition	Stickleback River Ranch Acquisition Project	Mountains Recreation and Conservation Authority	Los Angeles	\$1,260,000.00	\$1,617,000.00	No
Proposal Summary as submitted	<p>Fee simple acquisition of 41.13-acre Stickleback River Ranch located in the Soledad Canyon reach of the Santa Clara River. Property includes approximately 2,400 feet of the Santa Clara River main stem. Contains genetically unique populations of federal and state listed endangered unarmored threespine stickleback (<i>Gasterosteus aculeatus williamsoni</i>) and federal-listed threatened Santa Ana sucker (<i>Catostomus santaanae</i>).</p> <p>Reason not funded: Acquisition does not enhance flow</p>						

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
66	Planning, Scientific Studies, Monitoring, and Assessment	Sutter Bypass Butte Creek Instream Flow Enhancement Project	California Trout	Butte, Colusa, Sutter	\$536,539.00	\$894,516.00	No
67	Planning, Scientific Studies, Monitoring, and Assessment	Upper Eel River Gauging Project	Friends of The Eel River	Mendocino and Lake	\$338,682.24	\$402,858.20	No
67	Planning, Scientific Studies, Monitoring, and Assessment	Upper Eel River Gauging Project	Friends of The Eel River	Mendocino and Lake	\$338,682.24	\$402,858.20	No
67	Planning, Scientific Studies, Monitoring, and Assessment	Upper Eel River Gauging Project	Friends of The Eel River	Mendocino and Lake	\$338,682.24	\$402,858.20	No

**Table 3: Wildlife Conservation Board Stream Flow Enhancement Program FY 2016/17, Project Summaries**

ID	CATEGORY	TITLE	APPLICANT	COUNTY	REQUESTED GRANT FUNDS	TOTAL PROJECT COST	RECOMMEND FOR FUNDING
68	Implementation	Water Supply Enhancement and Habitat Restoration Through Removal of Arundo in Arroyo Simi	Resource Conservation Partners	Ventura	\$1,324,089.00	\$1,344, 089.00	No
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Proposal Summary as submitted</b></p>	<p>Southern California is now in its fifth year of drought. Many groundwater basins are in overdraft and ephemeral streams that once sustained aquatic life, provided recharge to groundwater basins or supported groundwater dependent ecosystems are no longer flowing. Every measure that can be implemented to save water must be put in place. Water loss associated with the invasion of arundo donax is a very serious matter in Southern California. Several studies have shown that while water loss associated with evapotranspiration and evaporation occurs in areas with native riparian vegetation, the degree of water loss in areas invaded with large arundo stands is significantly greater. In areas that have been identified as being conducive to groundwater recharge, the need for arundo removal is critical.</p> <p>In a study done by the California Invasive Plant Council (Cal IPC) in March 2011, scientists found that the estimated net water savings from removing an acre of arundo was approximately 20 acre foot/year/acre. That means that by removing arundo from a stream bed and allowing for natural recruitment of native plants, we could save 6,517,020 gallons of water per year for every acre of arundo removed.</p> <p>The purpose of this grant application is to request funding for removal of approximately 18 acres of arundo, located on 48 acres of property in the Arroyo Simi, in Ventura County, CA. RCP originally thought the area was approximately 15 acres of arundo but after a field survey of the area, it was determined that the arundo covered more of the area than indicated on the aerial photo. The proposed project site would begin at 34.282147, -118.81789 and terminate at 34.284754, -118.826928 through the streambed of the Arroyo Simi towards the City of Moorpark. This reach of the Arroyo Simi has been identified by the Ventura County Watershed Protection District (VCWPD) as an area highly conducive to groundwater recharge of the Las Posas Groundwater Basin. If approved, this project could potentially save more than 117 million gallons of water per year.</p> <p>Reason not funded: Scored below 75 points</p>						