North Coast Resource Partnership

Policy Review Panel (PRP) & Technical Peer Review Committee (TPRC) Meeting
MEETING MATERIALS
July 2, 2015; 10 am – 3 pm
Trinity County Library/Board of Supervisors Chambers, 351 Main Street, Weaverville

BACKGROUND INFORMATION AND RECOMMENDATIONS

The following items correspond to the North Coast Resource Partnership (NCRP) agenda for July 2, 2015 per agenda order and item number. The items below include background information for agenda items that require additional explanation and in some cases include recommendations for action. The meeting agenda and other meeting materials can be found on the NCRP website at http://www.northcoastresourcepartnership.org/app_folders/view/8993

IV NCRP Vice-Chair Nominations and Elections

In October of 2012, the NCRP PRP approved an election process for the PRP Chair and Vice Chair as described in the NCRP Handbook (see below and at http://www.northcoastresourcepartnership.org/files/managed/Document/8343/NCRP_Handbook_2014.pdf)

> ***Policy Review Panel***
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> *The NCRP Policy Review Panel consists of two Board of Supervisors' appointees and alternates from each of the seven counties and three Tribal representatives and alternates selected by the North Coast Tribes according to the "Tribal Representation Process" as defined in the NCRP MoMU. The NCRP Policy Review Panel nominates and elects a Chair and Vice-Chair on an as needed basis and each position is brought before the Policy Review Panel for reconsideration and appointment every two years.*

During the April 2015 NCRP meeting Supervisor Judy Morris was unanimously elected as the NCRP PRP Chair leaving a Vice-chair vacancy.

Item. V. NCRP Proposition 84 IRWM 2015 Project Solicitation & TPRC Review; Draft 2015 NCRP Priority Projects

Background: Proposition 84, Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 provide $900 million in regional funds to be allocated to 11 California Funding Areas. The North Coast's allocation is $37 million with approximately $11M remaining. On March 13, 2015 the California Department of Water Resources (DWR) released the Draft 2015 Integrated Regional Water Management (IRWM) Program Guidelines and Draft 2015 Proposal Solicitation Package (PSP) for the last round of Proposition 84 funding; the final DWR 2015 IRWM Guidelines and 2015 PSP were released in May.

During the NCRP Meeting in April, the PRP approved the NCRP Project Review and Selection Process Guidelines and the NCRP Proposition 84 2015 Project Application materials. In addition, the PRP unanimously approved the motion that directed staff to move forward with a NCRP 2015 Project Solicitation and reconfirmed the direction to the TPRC to take into account the location of the NCRP 2014 Drought Projects when developing their project portfolio recommendation for the NCRP 2015 Project funding round.

On May 29, 2015 the NCRP received 57 project proposals in response to the NCRP 2015 Project Solicitation for the final round of Proposition 84 IRWM funding totaling $11 M for the North Coast. The total funding request was $44.5 M with a total project cost of $58.4 M. The project proposals can be downloaded for review at http://www.northcoastresourcepartnership.org/app_pages/view/8916 and summary of the projects can be found in Attachment A. The TPRC evaluated the project proposals June 1 – 24, according to the NCRP Project Review and Selection Process Guidelines and on June 25 & 26, 2015 the NCRP Technical Peer Review Committee met during a public meeting to review, discuss and score the project proposals. Ten TPRC members were in attendance with one participating via conference call. The TPRC final project proposal scores can be found in Attachment B. The TPRC thoroughly deliberated and selected a recommended portfolio of NCRP 2015 Priority Projects with recommended budget amounts for each project according to the NCRP Guidelines:

North Coast Resource Partnership Technical Peer Review Committee
2015 Priority Project Recommendation

ID	Final Score	Organization Name, Project Name	County / Tribal Region	DAC	Project Cost	Non-State Match	IRWM Request	TPRC Recommendation
20	60.70	Hoopa Valley Tribe, Hoopa Valley Public Utility District Conservation Project	Tribal - Central	y	$131,253	$0	$131,253	$131,253
22	59.91	Hopland Band of Pomo Indians, Community Test Wells and Water Security Study	Tribal - Southern	y	$149,670	$500	$149,170	$149,170
29	58.88	Lewiston Park Mutual Water Company, Lewiston Valley Drinking Water Intertie Pipeline	Trinity	y	$558,000	$0	$558,000	$558,000
47	58.76	Sonoma County Water Agency, Northern Sonoma County Water Conservation Program	Sonoma	p	$1,374,564	$751,189	$633,375	$475,031
57	58.47	Yurok Tribe, Yurok Watershed Restoration and Drinking Water Security	Tribal - Northern	y	$1,020,368	$244,915	$702,463	$702,463
36	58.30	Montague Water Conservation District, Instream Flow Enhancement through Water Conservation	Siskiyou	y	$2,890,295	$1,114,375	$1,775,920	$887,960
54	57.85	Westhaven Community Services District, Water Storage Tank and Roof Replacement Project	Humboldt	y	$154,000	$2,500	$151,500	$151,500
2	57.83	Bear River Band of the Rohnerville Rancheria, Reclaimed Water Project	Tribal - Central	y	$744,750	$0	$744,750	$558,562
44	57.59	Sanctuary Forest Inc., Mattole Flow Program: Mainstem & Tributary Storage and Forbearance	Humboldt	y	$511,000	$150,000	$361,000	$270,750
19	57.48	Happy Camp Community Services District, Happy Camp Water System Upgrades - Phase 1	Siskiyou	y	$290,000	$73,000	$217,000	$217,000
12	57.22	City of Weed, Boles Fire Water System Rehabilitation/Water System Restoration	Siskiyou	y	$2,598,000	$0	$2,598,000	$1,299,000
33	57.21	Mendocino County Resource Conservation District, Water Conservation Technical Assistance to Mendocino County Tribes	Mendocino	y	$130,878	$16,018	$114,860	$114,860
27	56.03	Humboldt County Resource Conservation District, Restoring Stream Flow and Fish Passage on the Eel River Delta	Humboldt	y	$320,248	$0	$187,869	$187,869
21	55.58	Hoopa Valley Tribe, Lower Supply Flood Risk Reduction and Fisheries Habitat Improvement Project	Tribal - Central	y	$3,343,374	$2,032,423	$1,310,951	$655,475
32	55.42	Mendocino County Resource Conservation District, Implementing On-Farm Water	Mendocino	p	$250,125	$62,645	$187,480	$187,480

North Coast Resource Partnership Technical Peer Review Committee
2015 Priority Project Recommendation

ID	Final Score	Organization Name, Project Name	County / Tribal Region	DAC	Project Cost	Non-State Match	IRWM Request	TPRC Recommendation
		Conservation Projects in the Navarro to Address Critical Low Flows						
45	55.21	Shasta Valley Resource Conservation District, Shasta River Drought Response and Irrigation Efficiency Project	Siskiyou	y	$694,184	$0	$694,184	$347,092
53	54.85	Weott Community Services District, Additional Water Storage	Humboldt	y	$75,000	$0	$75,000	$75,000
17	54.79	Gold Ridge Resource Conservation District, Working Landscapes Drought Resiliency Project	Sonoma	p	$593,280	$150,000	$443,280	$332,460
46	54.52	Resort Improvement District No.1, Shelter Cove Water Recycling Project	Humboldt	y	$103,500	$8,500	$95,000	$95,000
30	54.20	Mattole Restoration Council, Lower Mattole River and Estuary Enhancement and Drought Resiliency Project	Humboldt	y	$2,124,900	$323,900	$982,200	$491,100
38	53.38	Northwest CA Resource Conservation & Development Council, Trinity River Water Reliability and Drought Resiliency Project	Trinity	y	$585,479	$139,050	$446,429	$334,822
48	53.26	Sonoma Resource Conservation District, Russian River Coho Drought Resiliency Planning and Implementation Program	Sonoma	p	$913,600	$255,000	$687,600	$343,800
18	53.10	Gualala River Watershed Council, Flow Bank Program - Phase II	Sonoma / Mendocino	p	$887,919	$230,246	$657,673	$493,254
51	51.96	Watershed Research and Training Center, South Fork Trinity River - Spring Run Chinook Salmon Restoration Project	Trinity	y	$1,585,295	$342,403	$1,242,892	$621,446
15	51.73	Del Norte County, County Service Area # 1 and Crescent City Lift Station Rehabilitation	Del Norte	y	$1,651,000	$68,000	$1,584,000	$815,195
		Subtotal			$23,680,682	$5,964,664	$16,731,849	**$10,495,542**
		Humboldt County Contract Administration						**$552,397**
		Total Requests:			$23,680,682	$5,964,664	$16,731,849	**$11,047,939**

VII Strategic Growth Council Sustainable Communities Planning Grant

i Status Update

Karen Gaffney will provide an update on the status of the Strategic Growth Council Sustainable Communities Planning (SGC) grant and progress since the last NCRP meeting, including research, contract process for technical experts, interviews with agency staff, and review of other relevant plans.

ii. Ad Hoc Committee Recommendations: Outline, Goals and Objectives & Sub-grant Criteria

SGC Ad Hoc Committee (Supervisor Gjerde, Supervisor Lovelace and Toz Soto) will report out on their recommendations for refined goals and objectives, sub-grant criteria and the draft outline for the SGC planning grant. The draft SGC outline can be found in Attachment C and the draft goals and objectives found in Attachment D.

iii. PRP Discussion of Status Update and Ad Hoc Committee Recommendations

Chair Morris will facilitate a discussion among PRP members related to staff status update and Ad Hoc committee recommendations

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Item VIII. Updates

iv. Executive Committee, PRP direction and staff action

Executive Committee Action documents and materials can be found at:
http://www.northcoastresourcepartnership.org/app_folders/view/6947

The NCRP Executive Committee met on June 22, 2015 to review the NCRP Quarterly Meeting Agenda and Materials for April 16, 2015.

During the January 15, 2015 NCRP meeting, the PRP authorized the Executive Committee to take necessary actions to provide input on behalf of the NCRP as implementing legislation is developed to promote NCRP goals and objectives.

- The Executive Committee developed and sent an input and comment letter to DWR regarding proposed definitions of Proposition 1 Bond language, timing of funding and contract administration improvements to be considered during the Proposition 1 IRWM program guideline development

Attachment A

North Coast Resource Partnership IRWM 2015 Project Summary

Organization. Project Name	County / Tribal Land	DAC	Funding Request
1 - Alderpoint County Water District, Alderpoint Capacity Study	Humboldt County	DAC = y	IRWM Request = $34700 Total Budget = $35000
The Alderpoint County Water District (ACWD) has been ordered by the State of California's Division of Drinking Water to perform a Capacity Study. They estimate the cost of the study to be between $25,000 and $30,000. The ACWD has 79 connections and, assuming a Capacity Study cost $30,000; that would require each residence to pay up to $380 which would be prohibitively expensive.			
2 - Bear River Band of the Rohnerville Rancheria , Reclaimed Water Project	Tribal - Central District	DAC = y	IRWM Request = $744750 Total Budget = $744750
The current wastewater treatment plant (WWTP) discharges to a failing leach field resulting in contamination being present at the surface. The presence of contamination at the surface in the leach field creates health concerns and has resulted in an area of restricted access. The Tribe is currently constructing a new WWTP to replace existing facilities. The original design of the new WWTP included the use of reclaimed wastewater for irrigation of four stormwater treatment wetlands, but due to financial restrictions this phase was cut from the project. Wetlands studies modeled the water budget for the stormwater treatment wetlands and determined that the budget was negative for several months in the summer and that irrigation would be necessary to keep wetland vegetation alive. Currently the Tribe is using potable water (pumped and treated groundwater) to irrigate a functional wetland in the dry season to keep the wetland plants alive. In the wet season, the wetland is used for the biological treatment and sediment reduction of stormwater runoff from parking lots, roads and other developed surfaces. The new WWTP includes an AeroMod Biological Treatment System, Westech Disc Filter, Wedeco UV Disinfection Equipment, reclaimed water pumps, piping and a disposal field. Effluent from the new WWTP will meet California Title 22 Standards for Disinfected Tertiary Recycled Water. This Disinfected Tertiary recycled water is of the highest quality and is suitable for all types of irrigation including irrigation of the four existing Tribal stormwater treatment wetlands. This proposed project includes 2,500 feet of reclaimed water piping to an existing aboveground tank that will be repurposed to supply reclaimed water to the wetlands. To repurpose the tank an existing wastewater line will be abandoned and rerouted to the new WWTP. The rerouted wastewater line to the new WWTP will increase the capacity of the reclaimed water system. Wetland irrigation systems include reclaimed water piping around the perimeter of 4 wetland areas, sufficient irrigation sprayers to evenly irrigate the wetland, irrigation control system including wiring and irrigation controller. The purpose of this project is to use reclaimed wastewater to irrigate four stormwater treatment wetlands in the dry season. The project also will eliminate the use of potable water currently being used for irrigation of the stormwater treatment wetland. Additionally the project will include an educational trail to increase tribal and public awareness of the current drought situation and appropriate drought responses. Signage will be developed and placed at the wetland to explain to the public about the use of wetland vegetation for treatment of urban stormwater. The signage will also describe the generation, use, and benefits of reclaimed water. Further, there will be a connection made between reclaimed water projects in relation to current and future drought conditions.			
3 - Brooktrails Township Community Services District, Tank #3 Replacement	Mendocino County	DAC = y	IRWM Request = $1506000 Total Budget = $1636000
The existing tank is a 60,000 gallon redwood tank that is rotting and leaking badly. It is also undersized, which requires pumping 24 hours a day to supply the tank service area. A new, larger tank will eliminate the leakage and allow for pumping during off-peak hours, reducing energy costs. The proposed new tank will be a 1,000,000 gallon steel tank.			

4 - California Trout, Inc, Elk River Sediment Remediation Pilot Implementation Projects	Humboldt County	DAC = partial	IRWM Request = $483435 Total Budget = $155260

The Elk River is the largest tributary to Humboldt Bay (58.2 mi2) and provides resources for many people and land uses, including residential lands, timberlands, ranching, and drinking water supplies. Elk River also provides valuable habitat for several species of threatened salmonids and other fish and wildlife. Elk River is presently the subject of intensive regulatory and watershed-wide recovery activities. These efforts are focused primarily on remediating excessive sedimentation of the river channel and floodplains resulting from accelerated timber harvest activities between 1986-1998 that impacted property and drinking water supplies, impaired water quality, degraded aquatic habitat, and resulted in considerable community strife. A three-tiered approach is being pursued to resolve these complex ecological and social issues. The first tier involves a regulatory program of Waste Discharge Requirements (WDRs) for timberlands to reduce sediment loads. The second tier, the Elk River Recovery Assessment will provide a remediation feasibility assessment and implementation framework to address instream sediment. The third tier is a stakeholder and community-lead Stewardship Program to coordinate participation in the recovery process.In May 2014, California Trout received funding from the State Water Resources Control Board Cleanup and Abatement Account (administered through the Regional Water Board), matching funds from the State Coastal Conservancy, and cost-share contributions from Humboldt Redwood Company. These funds are being used to conduct the Elk River Recovery Assessment (henceforth 'Recovery Assessment'). The goal of the Recovery Assessment is to conduct a system-wide analysis of river hydraulics and sediment transport, assess a suite of sediment removal and restoration activities through the Elk River Pilot Sediment Remediation Implementation Projects, and develop an implementation framework that promotes recovery of ecosystem functions and beneficial uses in Elk River.The Elk River Pilot Sediment Remediation Implementation Projects includes three pilot sediment remediation projects anticipated to provide immediate and direct benefits by reducing nuisance flooding conditions that threaten the health and safety of residents in the Elk River watershed, and enhancing in-channel rearing habitat for threatened salmonids. These projects will also provide critical empirical data for the feasibility assessment, supporting eventual watershed-wide recovery recommendations by strengthening the linkage between predicted and observed project outcomes, and testing alternative sediment remediation approaches considered potentially viable in a next-phase, larger-scale implementation. The three pilot projects selected for the first phase of implementation are focused on the lower North Fork Elk above the confluence with South Fork, where sediment remediation and mitigation of nuisance conditions is the highest priority.

5 - Caspar Community, Caspar Water Project	Mendocino County	DAC = y	IRWM Request = $97100 Total Budget = $97100

Caspar's residents are served by a combination of privately owned wells, with insufficient year-round water security, and a private minimally maintained village water system with failing infrastructure. The village system originally supplied more than 50 homes and businesses in the village. The water system and several associated parcels have been for sale for 25 years, and the failing water system has proven to be a stumbling block in the sale.
In a series of charettes, conferences, and community meetings dating back to 1991, and with hired foundation-funded help from the UC Berkeley Landscape Architecture department, Caspar's residents recognize that controlling the water is a key to shaping the village's future. Consequently, the Caspar Community (CC) Board of Directors is seeking support to assume the task of providing safe and secure potable water to the Community Center and Caspar village's core by upgrading and extending the system back to its original scope, potentially serving all of the insecure water hookups in the village.
The village system consists of three wells and distribution piping that serves, at present, a dozen parcels in central Caspar, including the Community Center that serves several thousand people over the course of each month. As it has done with renovations to the old schoolhouse that is now the Community Center, CC intends to apply best resiliency practices to the renovation of the system, thereby enhancing the quality of all life contiguous with the system in keeping with CC's mission.

6 - City of Arcata, Environmental Division, Discharge Permit Compliance and Energy Conservation Project	Humboldt County	DAC = y	IRWM Request = $600000 Total Budget = $630000

The City of Arcata's new NPDES permit requires the City to change its disinfection system to ultraviolet light and to change its process flow to a 'one pass system.' Currently, the City recirulates its wastewater through the treatment system up to two times before it is disinfected with chlorine and discharged to Arcata Bay. The new NPDES permit requires the City to pump its discharge water only once to a UV disinfection system. The anticipated cost to meet this new NPDES requirement is expected to exceed $5 million. The City is requesting funds to replace the failing pumps at its Hauser Pump Station with new pumps and variable frequency drive system that will be capable of pumping water to both the existing discharge point and the future UV disinfection discharge point. The City has difficulty meeting its discharge requirement for total suspended solids (TSS), and will make modifications to the pump intakes and wetlands to reduce TSS levels. Finally, new pipes will need to be installed to transmit the additional flows permited in the discharge permit (See Attachement A-NPDES Permit).

7 - City of Blue Lake, Blue Lake Water Supply Protection and Creek Restoration Project	Humboldt County	DAC = partial	IRWM Request = $74800 Total Budget = $336420

Powers Creek, once a fertile fish bearing stream, has been reduced to nominal seasonal habitat by two fish barriers; a poorly constructed bridge at the lower end that only allows salmonids to enter the channel when the Mad River floods. The second partial barrier are municipal sewer and water mainlines buried within the stream channel. The first fish barrier is funded to be removed (2015)and replaced with a longer bridge, leaving the second barrier as the next impediment to habitat in the lower reach of the stream. The project applied for is to relocate the water and sewer lines that are buried within the channel onto girders of a pedestrian bridge (which is funded and slated for construction in 2016). With the removal of the lower barrier it is anticipated that headcutting of this aggraded stream channel will occur, threatening the buried water (8 inch) and sewer line (12 inch forced main) that serve the Blue Lake Business Park. Not only will the utility lines be exposed and threatened but their exposure will create a fish barrier. These utility lines were exposed previously (1980's) by streambed scour and were grouted by the City as a short term solution. The old lower barrier bridge was subsequently installed causing the stream channel bed to aggrade, thereby temporarily solving the utility line problem. The City only received partial funding for solving this portion of the project. Funds already received are for the purposes of providing a pedestrian bridge/ access and habitat improvements to Powers Creek. The girders of the bridge have been designed to hold the water and sewer lines. However the utility line relocation onto the bridge was not funded.

For this grant we are applying only for relocation of the water and sewer lines onto the bridge girders and, as a second component, construction of stormwater (LID) features for both the bridge and for 22,000 sf of street that drains througha drain inlet directly to Powers Creek. The overall project however includes removal of both of these two previously discussed fish barriers, placement of two pre-engineered bridges outside of the 100-yr floodplain, removal of invasive species and replacement with native riparian vegetation, fish habitat restoration, interpretive signage, stormwater (LID)control, and community outreach.

The intended purpose of the project is to remove a threat to existing in-channel water and sewer mainlines due to flooding scour, and to prevent them from becoming a partial fish barrier. Secondarily, the project will remove the crude pathway from the Business Park to the town center through the Powers Creek streambed that promotes erosion and is impassable during high flows; the pedestrian bridge will prevent the continued erosion of the streambed and will enhance the walkability in the City of Blue Lake. Lastly stormwater issues will be addressed for both the bridge and for an existing storm drain inlet that discharges directly to Powers Creek.

8 - City of Dorris, Dorris Water Storage Tank	Siskiyou County	DAC = y	IRWM Request = $1150000 Total Budget = $1150000

The City of Dorris currently has only one 750,000 gallon welded steel water storage reservoir in service. The City's system does not currently meet ICB fire storage requirements for portions of the City. The City's recently completed Engineer's Report for the City of Dorris Water System, prepared by Bray & Associates Civil Engineering & Land Surveying, outlines the need for an additional 1,000,000 gallons of storage to meet current fire demand storage requirements for the City's water system. In addition to the lack of storage for a fire event, the system only has one storage reservoir, so in the event routine maintenance is required on the existing tank the City has to drain the tank leaving the users no fire storage during the maintenance activity. The City is also routinely has inadequate fire storage on summer days when usage and fire danger is highest.The City has recently completed a CDBG planning grant in which the new proposed 1,000,000 gallon storage reservoir was designed. Construction drawings and specifications are complete and the NEPA/CEQA process is also complete. The new reservoir project is truly "shovel ready". It is anticipated that the City could have the project advertised for bid within 30 days of having a funding agreement in place and construction completed within. 150 days.

9 - City of Ferndale, Flood Management Plan	Humboldt County	DAC = y	IRWM Request = $206000 Total Budget = $206000

The City of Ferndale is subject to flooding multiple times a year during peak storm events due to significant drainage problems. For decades, a significant amount of sedimentation has occurred in the Salt River watershed. Francis Creek, a tributary to the Salt River within the Eel River Delta is the greatest contributor to flooding in Ferndale. Main Street bounds the channelized Francis Creek for about one mile and has been the subject of frequent flooding (Photos 2, 7, 8 and 9). In the fall of 1983, Redwood Community Action Agency began work on a stream restoration project on Francis Creek, which was completed in 1985. The work included partial removal of a dam to improve fish access and reduce upstream flooding, livestock exclusion fencing to reduce bank erosion and to protect riparian vegetation, and planting riparian vegetation. The creek's capacity to convey floodwaters was increased again with the completion of a Federal Emergency Management Agency (FEMA) project in 2002. However, a large landslide occurred in the hills upstream of the City in 2011, introducing a large source of sediment that settled-out in the creek and reduced its capacity to convey floodwaters. The east side of Ferndale also floods due to the east-side stream that has silted in and is not able to convey flows to the Salt River. The Humboldt County Resource Conservation District (HCRCD) is currently funding a Salt River restoration project due to the historic sedimentation. The HCRCD Salt River project addresses the lower reach of Francis Creek but does not directly address the flooding problems in the City of Ferndale or the recent impacts of the slide.
This proposed Flood Management Project includes updating the City's 2004 Drainage Master Plan, which will encompass a feasibility study to assess and determine the most suitable engineered solutions to reduce sedimentation and flooding problems in the City of Ferndale. The watershed will be mapped, data will be gathered, and the existing and proposed hydraulic conditions will be modeled to provide the City with a current assessment of the storm water infrastructure needs. The updated Drainage Master Plan will provide recommendations on how the local drainages including East Side and West Side Drainage can be hydraulically reconnected to the Salt River. This would convey flows to the Pacific Ocean and consequently reduce the risk of flooding. The updated Drainage Master Plan will propose drainage improvement projects, and a sediment removal project, which will serve as the basis for a Flood Management Plan (FMP). This project will also identify potential sources of grant funding for execution of the FMP. The project is a first phase towards mitigating the City's ongoing flooding problems.

10 - City of Santa Rosa, Lower Colgan Creek Restoration - Phase 2	Sonoma County	DAC = n	IRWM Request = $553352.5 Total Budget = $2594128.5

The City of Santa Rosa (City) is partnering with the Sonoma County Water Agency, Sonoma County Agricultural Preservation & Open Space District (Open Space District), Trout Unlimited, and the Laguna de Santa Rosa Foundation to restore 1.4 miles of Lower Colgan Creek. The Lower Colgan Creek Restoration is a three-phased project that divides the reach into three segments. The restoration will increase the meander pattern of the creek, expand the cross sectional area to expand the flood capacity and install a series of pools and riffles. In addition, the project will remove invasive plants and install genetically appropriate, native vegetation. A bicycle and pedestrian path will extend on the west side of the creek providing a safe Class 1 pathway for area residents. Colgan Creek is an earthen flood control channel that's been straightened and separated from its historic floodplain. Development has occurred along most of the creek in the City limits, including paving impervious surfaces up to the top of the banks. Chemical and bioassessment sampling have identified water quality and biological impairments within the creek. The area adjacent to the project is also planned for future development. The project represents a unique opportunity to expand the creek corridor prior to urban development and create a linear open space for visitors and residents.The restoration reach segment for this phase is 1,900 linear feet and represents significant involvement from numerous and diverse groups of agencies, organizations, non-profit groups, and citizens. Every step of the City's creek planning and design efforts has been a collaborative process. The restoration of Lower Colgan Creek has been given the highest priority for restoration projects in the City because of the flood risk, habitat conditions, need for a safe route to school from the surrounding neighborhoods and the need for additional park space in the southwest area of Santa Rosa.The riparian restoration proposed in the project will enhance the habitat by expanding the riparian corridor, increase groundwater infiltration, decrease flooding and enhance habitat for fish and wildlife species. Phase 1 was constructed in the summer of 2014. Phase 2 is designed with 50% complete construction drawings and with the requested funding could be constructed in the summer of 2017. Now is the right time to secure the final funding for the Lower Colgan Creek Restoration Project Phase 2 to add to the project's existing State and local funding. The City of Santa Rosa is requesting $553,352.50 to complete the final funding for this $2.6 million project.

11 - City of Ukiah, Ukiah Valley and Russian River Water Supply Reliability Project	Mendocino County	DAC = y	IRWM Request = $1500000 Total Budget = $2300000

This project provides a long term solution to drought conditions and improves water supply reliability with the construction of a recycled water system in the Ukiah Valley, which is going on its second yeard of extreme drought conditions. The primary water source in the Ukiah Valley is the Russian River. and releases from Lake Mendocino. Municipal and Agricultural suppies are dependent on releases from Lake Mendocino in which have been reduced the lat two years due to Temporary Urgency Change Petitions filed with DWR. The City of Ukiah has prepared and a Recycled Water Feasibility Study as well as envrinmental documentation for this project. Currently, the City is in the process of designing phases 1 and 2 of the Recycled Water System. Additional funding is needed for the design and construction of both phases in order to ease the financial burden on the rate payers as Ukiah is an Economically Disadvantaged Community. This project will involve the construction of approximately 20,500 feet of purple pipe, two 200 hp pump stations as well as a 1.5MG recycled Water Storage Pond. The offsets from the Russian River will be about 800AF per year for both phases.

12 - City of Weed, Boles Fire Water System Rehabilitation/Water System Restoration	Siskiyou County	DAC = y	IRWM Request = $2598000 Total Budget = $2598000

Angel Valley Water System Rehabilitation: In September 2014, the Boles Fire ripped through the City of Weed, destroying 157 homes, two churches, a portion of Weed Elementary School and numerous secondary buildings. One of the areas hit the hardest was the Angel Valley area, in which, 58 homes were lost in this area alone. Improvements to the water system in this area were identified in the 2003 Master Water Plan to bolster fire flows and provide more stable system pressures. Many of the water mains in this area are undersized and run through allies. It is desirable to abandon the undersized, old steel water mains and install new PVC water mains in the streets where they are more accessible, and where water meters can be read easier. The proposed project consists of installing approximately 5,000 linear feet of 6- and 8-inch water mains, including valves and appurtenances; and nine fire hydrants. It will be necessary to re-route new water services to 58 lots in which homes were destroyed during the Boles Fire, and an additional 46 lots in which water mains are relocated to the street. Refer to Figure 1.The following areas of town contain old steel water mains that have an extensive leak history. Some of these pipelines traverse under existing homes and businesses. Many of the existing water mains are 2- and 3-inch steel. City staff has had to jackhammer through concrete floors in local businesses to repair leaks. In many cases, the property owners files claim against the City for damage to private property. The specific areas described below are listed in order of priority for improvement.South Weed Boulevard Water Main Abandonment and Replacement: Consists of abandonment of 2,400 feet of 4-inch water main, and replacement of about 2,100 feet of 2-inch water main. 86 existing water services would be re-connected to an existing or new water main. Refer to Figure 2.North Weed Boulevard Water Main Abandonment: Consists of abandonment of about 1,700 feet of old 3-inch steel water main and re-connection of 20 water services to another larger parallel water main. Also includes installing 700 feet of new 8-inch water main in Main Street and connecting 6 existing services, along with a new pressure reducing station. Refer to Figure 3.Bel Air Water System Improvements: Consists of replacing 1,400 feet of 4- and 6-inch old steel water main and installing 1,000 feet of new 6-inch water main and appurtenances. In addtion, new isolation gate valves would be installed on Terrace, Dollar and Bel Air Ave. Refer to Figure 4.Main Street Water Main Replacement: Consists of replacing 860 feet of 6-inch old steel water main with a new 10-inch water main and appurtenances, including re-connection to 16 existing water services. Refer to Figure 5.Implementation of these projects will, 1) provide a more watertight distribution system, 2) reduce "unaccounted for" water, 3) provide more reliable water service, and 4) reduce financial risk.

13 - City of Willits, Emergency Groundwater Supply Project	Mendocino County	DAC = y	IRWM Request = $1363252 Total Budget = $2013252

The existing City water supply, which consists of the Centennial and Morris reservoirs and their associated watersheds, does not have sufficient supply to meet the City's water demands at all times, such as the case with the current drought. Until the City can locate, finance and construct a permanent additional water supply, the City must construct an emergency water system to provide additional water supply to help meet demands though the upcoming dry weather months. Connecting two existing City owned irrigation wells, the Elias and Park wells, to a new centrally located groundwater treatment plant, and connecting the treatment plant to the existing distribution system will help alleviate the water shortage emergency. Additionally, there is lack of available documentation for the Elias well construction showing that the well is suitable as a public drinking water supply well. Since the well was originally installed as an agricultural well it is unlikely that the well was constructed per Department of Health standards. Due to the lack of construction documentation for the Elias Well and likeliness that the well was not constructed to community drinking water standards, the project includes construction of a new well located near the existing Elias well.

14 - City of Willits, Permanent Groundwater Supply Project	Mendocino County	DAC = y	IRWM Request = $3223250 Total Budget = $3338250

The City has two existing groundwater supply wells, the Park and Elias wells, which are planned to provide emergency drinking water for the City during drought conditions when the City's primary water supply, the Centennial and Morris reservoirs, run low.The Park well is located near the City's sports field complex approximately 3,000 feet south of the groundwater treatment facility and has several water quality issues, including Arsenic at 12 times the primary Maximum Contaminant Level (MCL) allowed for drinking water. Arsenic is troublesome and expensive to treat. Additionally, the City's groundwater treatment plant is not set up to treat this high of level of Arsenic, and upgrading the treatment plant to treat the Arsenic in the Park Well has been estimated at approximately $5 Million. The water from the Park well is also above the MCL's for Iron, Manganese, Turbidity and Color, and has a relatively high level of hardness. The City currently must mix water from the Park Well with water from the Elias well to bring the Arsenic concentration down to a level that the groundwater treatment plant is capable of treating.The Elias well is located approximately 6,000 feet north of the groundwater treatment facility in a pasture with significant number of cattle which the City irrigates with treated waste water effluent. The water quality from the Elias well is good with exception of Manganese above the MCL for drinking water and a relatively high level of hardness. However, as the well is located in a pasture that contains cattle and is irrigated using treated waste water effluent it has poor public perception.The Permanent Groundwater Supply Project includes construction of three new groundwater supply wells on City owned property and a 75% expansion to the groundwater treatment plant that is currently in construction as part the the Emergency Groundwater Supply Project. The City has several potential well sites identified and will engage the services of a licensed Hydrogeologist as part of the project to determine the sites that have the best water quality.

15 - Del Norte County , County Service Area # 1 and Crescent City Lift Station Rehabilitation	Del Norte County	DAC = y	IRWM Request = $1584000 Total Budget = $1651000

The City of Crescent City operates a wastewater treatment facility that includes a collection system that serves the City of Crescent City and portions of unincorporated Del Norte County. Wastewater lift stations located across the collection system are responsible for pumping wastewater safely to the wastewater treatment plant and are equipped with pumps, mechanical systems and electrical controls over 40 years old that require weekly maintenance to remove debris from the pumps and check controllers. Servicing pumps and controllers require a confined space entry team within dangerous working conditions. Controllers are antiquated mechanical relays that do not allow for remote diagnosis of pump status or operational mode. Due to the location of the wastewater lift stations, failures of the lift stations result in sanitary sewer overflows (SSOs) in many cases that would directly impact wetlands, waterways, Crescent City Harbor and the Pacific Ocean. SSOs into these sensitive ecological habitats results in degradation of surface water quality, impacts to plants and animals, and would reduce their recreation value. Del Norte County and Crescent City's economic viability is tied to tourist and visitor services as indicated by numerous lodging and dining options. Visitors come to the area because of its natural beauty including the beaches, Crescent City Harbor, and wetlands and waterways with high water quality that provide habitat to diverse plant and animal communities. These beautiful areas have been impacted by SSOs and are at an ongoing risk of additional impacts from lift station failure and resulting SSOs. This project would result in the mechanical and electrical upgrading of 21 sanitary sewer lift stations. Each system has been assessed to determine the extent of rehabilitation warranted for each lift station. Full rehabilitation of a lift station will consist of replacing pumps with two "chopper" pumps, motors, installing modern electronic controllers, valves, sump pump, blower dehumidifier, and programming and integration of a supervisory control and data acquisition (SCADA) system. "Chopper" pumps macerate solids and do not require regular maintenance to remove debris as is the case with current pumps. The intended purpose of the project is to: 1) reduce the environmental impacts of SSOs from lift station failures to wetlands, harbors, waterways, and their sensitive habitats, 2) reduced power consumption due to the higher efficiency of the pumps and more efficient operating conditions, 3) reduce regular dangerous confined space entries to service pumps and equipment, and 4) improved lift station operation reliability and allow for remote monitoring and operation through the new SCADA system. Better pumps, better controllers and better remote communications and controls will result in fewer SSOs from lift station failures and cost savings from the current over burdened users.

16 - Fieldbrook Glendale Community Services District, Water Storage Improvement Project	Humboldt County	DAC = partial	IRWM Request = $646000 Total Budget = $862250

The proposed Project will protect essential services, including water, wastewater, and fire protection in Fieldbrook and Glendale. The goal of the Project is to improve the stability, reliability, and seismic resilience of the water storage tank to prevent structural failure and extreme water losses and to withstand at least a magnitude 9.0 earthquake. The objectives include protecting public health, protecting the economy of the area, and reducing damage from fires after an earthquake occurs. The problem with the existing redwood tank is that the wood staves that form the structural support for the tank are degrading and the tank is not built to modern seismic standards. A Hypalon liner was installed in the tank in 2005. To keep the redwood in good condition, the tank should be overflowed to keep the redwood staves saturated. This is very difficult given the current SCADA system for the site, and over time the redwood staves have deteriorated at the base of the structure and have recently shown more rapid deterioration due to the presence of dry rot.In addition, the FGCSD is located in a seismically active area of Humboldt County, as identified by Cal OES and the Humboldt County Operational Area Hazard Mitigation Update Plan Update (2014). The tank is vulnerable to earthquakes as it was built in the early 1970's under the California Building Code at the time, for which seismic provisions were not mandatory.The proposed Project is to retrofit the existing redwood tank through replacement with a new 400,000 gallon bolted steel water tank. The tank would be constructed to modern seismic standards. This Project will eliminate the risk of the tank and foundation failing and the associated damage and loss of water, wastewater, and fire service. The Project includes the design, permitting, and construction of the new tank. The existing tank site allows for a new tank to be built next to the existing tank which allows the old tank to be kept in service, which reduces the impacts to water customers. No property acquisition is required for construction or access to the site. All tank materials can be staged at the existing tank site. The Project is expected to be categorically exempt from CEQA. The site has previously been disturbed. The ground disturbance area is estimated to be less than 7,000 square feet and 155 cubic yards in volume. The District purchased a new aluminum dome tank roof in 2007.

17 - Gold Ridge Resource Conservation District, Working Landscapes Drought Resiliency Project	Sonoma County	DAC = partial	IRWM Request = $443280 Total Budget = $593280

The severely economically disadvantaged community of Valley Ford serves as a hub for the Estero Americano and adjacent Salmon Creek watersheds in coastal Sonoma County, a region historically composed almost exclusively of agricultural operations that have struggled to maintain economic viability in recent decades. Draining into estuaries that, unlike many coastal wetlands along the Pacific Flyway, have remained relatively undisturbed, this agricultural area provides critical habitat for an array of plant and animal species of concern, sheltering its wetland habitats and coastal grasslands from development through the preservation of its unique continuity of small, multigeneraltional family-run dairies and livestock ranches. These same land uses have also led to significant water quality concerns, compromised riparian habitat, and reduced streamflows. Following the development of comprehensive management plans for both watersheds, the Gold Ridge RCD obtained multiple grants to spearhead improvements on dairy and ranch operations, and in doing so established itself as a key partner in the community by working with landowners covering approximately 20% of the two watersheds.The current drought, now in its fourth year, has exacerbated the agricultural community's existing hardships. Record low rainfall has resulted in abysmal forage production, and increasingly unreliable groundwater has proven insufficient to replace it. Operators have had to redouble their hay purchases despite skyrocketing prices, and many have been forced to resort to trucking in drinking water for their livestock. This proposal seeks to build long-term drought resiliency for these ag operations, by both increasing rainwater capture and storage, and by enhancing soil water holding capacity through soil health improvements. The project team will work with participating farms, ranches, and dairies to conduct comprehensive property plans to assess water storage potential, develop conservation measures, and address soil moisture. The plans will then be used to prioritize and guide the development of rainwater catchment systems, developed to substantially offset or completely eliminate summer stream or groundwater withdrawals, and to target compost applications to enhance soil water holding capacity. Additionally, an innovative 62,000-gallon roof rainwater catchment and 5,000-gallon greywater system, currently in its final design phase, will be constucted as a high-profile demonstration project at the Valley Ford Wool Mill, which currently relies on the town's troubled Water Association supply. A second rainwater catchment system, also in design, will be constructed on a permaculture crop farm along Salmon Creek that was, under its former owner, the largest water user of the Bodega Water Company system.Finally, the project will build on the streamflow and water quality monitoring programs currently in effect in each watershed to evaluate overall program effectiveness.

18 - Gualala River Watershed Council, Flow Bank Program - Phase II	Sonoma / Mendocino County	DAC = partial	IRWM Request = $657672 Total Budget = $887919

This project is critically urgent to the survival of coho salmon in the Gualala watershed. A pattern of low flows in the Gualala has caused areas of both main-stem and tributary reaches to dry up, leaving disconnected channels and poor water quality in the remaining reaches. Since the onset of the drought in 2012, creeks are not meeting minimum bypass flow requirements, severely impacting local water companies and triggering increased water costs to customers. Upland forests are extremely dry and fires are a nearly year-round threat. This project will increase flow in the Gualala to benefit endangered salmonids and other aquatic species and to increase community resiliency to drought and increased fire frequency related to climate change. This project will reduce diversions in the Gualala by installing off-stream storage systems for the North Gualala Water Company (NGWC) (Mendocino County) and the Kashia Tribe (Sonoma County), establishing a more reliable water supply for increasingly severe drought cycles. The NGWC will obtain water for storage from two nearby non-anadromous streams, reducing its withdrawals in the Gualala by 6 million gallons per year, or more than 12%. The alternate diversion sites, which are already permitted, were recommended by the SWRCB as a high priority during Cease and Desist negotiations. This part of the project also contains a water reuse component achieved through installation of a 36,000 gallon backwash recovery tank. The Kashaya storage tanks will increase untreated water storage from 5,000 to 25,000 gallons, allowing the Tribe to adjust withdrawals to maximize instream flow. This tank will increase Tribal water security for a recognized Disadvantaged Community and will also provide water for fire suppression. This increased capacity for water supply reliability and protection from wildfire will strengthen local autonomy and reduce growing conflicts in the watershed about water shortages and sufficient instream flow for salmonids.This project will also enhance the area's climate change resiliency and increase instream flow by providing two 55,000 gallon rainwater catchment tanks for the South Coast Fire Department (SCFD) for training and fire suppression, replacing their use of at least 110,000 gallons of potable water per year from the NGWC. The SCFD provides fire protection service to both Mendocino and Sonoma counties.The project will be implemented through an existing dynamic program, building upon GRWC partnerships and maximizing outcomes while minimizing costs associated with attainment of Gualala TMDL and Basin Plan goals. Failing to implement solutions to manage and minimize the low-flow crisis will cause devastating impacts to threatened salmonid populations and our local community will be vulnerable to effects of climate change and increasingly beset by tensions and conflicts over water supply.

19 - Happy Camp Community Services District, Happy Camp Water System Upgrades - Phase 1	Siskiyou County	DAC = y	IRWM Request = $217000 Total Budget = $290000

Problem Statement: The current water system requires operators to take daily grab samples at the water storage tank outlet to determine chlorine residual. Drinking water quality monitoring is neither continuous nor are data logging and reporting automated. The amounts of data are limited and this situation provides uncertainty regarding proper treatment of the drinking water supply. The Happy Camp Community Services District (CSD) is obligated under the State Water Resources Control Board and the Federal Environmental Protection Agency to comply with LT1/LT2 Enhanced Surface Water Treatment Rules to ensure water quality and monitoring requirements are met at the outlet of the 1,000,000 gallon water storage tank before potable water enters the distribution system to the community. Major Components: Water quality monitoring equipment will be installed to provide continuous monitoring, data logging, and alarms for samples taken from the tank outlet pipe for chlorine residual, pH, and temperature, as well as provide an onsite display of these parameters and of tank water levels from the tank pressure transducer and flow meter readings. A water flow meter will be installed on the 12" tank outlet pipe for monitoring storage tank detention time. The existing pressure transducer equipment will be upgraded. Monitoring equipment will be installed in a new equipment shed to be built at the tank site. The monitoring equipment will be linked by telephone line to a SCADA system at the treatment plant building for (1) monitoring , (2) evaluation that required concentration-time (CT) for chlorine disinfection for a minimum 1 log removal of Giardia in the tank inlet piping and the water storage tank is met, (3) operator alarms, and (4) monthly reporting. Electric power service will be installed on site to power all equipment and telephone service will be extended to the monitoring shed. Due to low temperatures during winter months and high temperatures during summer months, the shed will include temperature controls.Purposes of Project: Comply with the LT1/LT2 Enhanced Surface Water Treatment Rules. Provide economic assistance to an economically disadvantaged community. Ensure all water users served by the community water system are provided with clean, affordable, accessible water for human consumption, cooking, and sanitation.

20 - Hoopa Valley Tribe, Hoopa Valley Public Utility District Conservation Project	Tribal - Central District	DAC = y	IRWM Request = $131253 Total Budget = $131253

Hoopa Valley Public Utility District (HVPUD), a tribally chartered entity of the Hoopa Valley Tribe is requesting funds to replace 873 old, inefficient District water meters that are a public health hazard and do not meet federal regulation safety requirement for lead safety rules. (See Attachment 1 Section 1417 of the Safe Drinking Water Act and the NSF Standard). The District cannot account for 50% of the water it produces and some if not much of it is likely due to the meters being old and under-recording the water consumption. Dara Zimmerman-CA Indian Health Service provided a Water Production/Loss Analysis Spreadsheet enclosed: (see Attachment 2&3 Graphs/Water Production and Loss), indicating HVPUD has an unaccounted system water loss of up to 70%, with an average loss of 50% annually. Of all the community water system needs replacing old meters is the most cost effective, practical, benefiting, and most urgent drought intervention activity the HVPUD may take. The project outcomes are also consistent with IRWM initiatives to help assure for the public health and safety needs for Hoopa's domestic drinking water supply. This project will help facilitate drought preparedness for a severely disadvantaged Tribal community. In addition to new meter installation the District would also like to purchase Water Leak Detection Equipment that will help identify and mitigate undetected water losses in the system.

21 - Hoopa Valley Tribe, Lower Supply Flood Risk Reduction and Fisheries Habitat Improvement Project	Tribal - Central District	DAC = y	IRWM Request = $1310951 Total Budget = $3343374

After the 1964 flood, the U.S. Amry Corps of Engineers (USACE) constructed high, artificial levees on both banks of Supply Creek. These berms disconnected Supply Creek from its former floodplain, impacting salmonid habitat. Removal of the levees along a portion of Supply Creek between Loop Rd. and Hwy. 96 will support major project components, including: (1) flood risk reduction, (2) improve salmonid habitat quantity and quality for all life stages, (3) increase drought-resilient salmonid habitat availability, (4) increase the frequency and rate of groundwater recharge by reconnecting Supply Creek with its former floodplain, and (5) removal and relocation of a dilapidated leach field replaced after the 1964 flood that is contributing to elevated fecal and nutrient contaminants. Similar work on Supply Creek upstream of Loop Road as well the north bank between Loop Rd. and Hwy. 96 will begin in June '15 with previously secured funding (Phase 1). This project (Phase 2) will expand important flood risk reduction and salmonid habitat improvement effort by supporting removal of the south bank berm between Loop Rd. and Hwy. 96, including a portion of Bair Rd. Dilapidated and defunct underground utility infrastructure (old storm drains, piping, and leach field) will be removed through project implementation and relocated appropriately to better protect water quality from wastewater contamination impacts. All work proposed for Phase 2 project design and implementation on Supply Creek will be developed to expand upon the beneficial effects of Phase 1 work.Removal of the south bank Supply Creek berm targeted by this proposal will support flood risk reduction by enabling the design and construction of natural, fish-friendly floodplains for off-channel storage of flood peaks. The floodway will be widened, thereby slowing flood velocities. This project will reconnect Supply Creek with its former floodplain, supporting a more complex and naturally-functioning stream corridor with a restored riparian overstory. This will substantially benefit salmonid habitat by increasing rearing habitat for endgered coho salmon, although rearing and spawning habiat for all salmonids and life stages.Cold water refugia, large wood and boulder habitat elements, and increased riparian overstory will increase the amount and quality of thermal refugia available to salmonids during periods of drought and low streamflows. Groundwater recharge will also be improved within the project area. Removing the artificial berm and lowering the high surface constructed after the 1964 flood and reconnecting Supply Creek to its floodplain will increase the rate of groundwater recharge from the creek during flood flows, which is currently impeded by the berm. Revegetation of the channel and floodplain will also help to cool streamflows in the summer and during periods of drought when warm stream temperatures can cause distress or mortality to juvenile and adult salmonids.

22 - Hopland Band of Pomo Indians, Community Test Wells and Water Security Study	Tribal - Southern District	DAC = y	IRWM Request = $149170 Total Budget = $149670

The Hopland Band of Pomo Indians has been struggling with the ability to provide drinking water to the residents of the Hopland Reservation since the establishment of the Reservation in 1907. There have been numerous attempts to provide adequate water via wells on the Reservation, with 18 wells of varying depths, water quality, and production drilled on the Reservation in the past 100 years. The geology of the Hopland Reservation is not condusive to well water, with fractured aquifers filled with silt and clay. Shallow wells showed great promise only to run dry after one season, and one well with sufficient production (100gpm) had extremely high levels of bicarbonates,, arsenic, boron,barium, sodium, and actually became a Brownsfield clean-up site. Many water, engineering, hydrology, geologists consultants have written in depth studies of the situation, with all meeting consensus that due to the Franciscan land formations and land fracturing on the Reservation it is highly unlikey to find a long term high production well of sufficient water quality to meet the needs of the Hopland Reservation. In 2007 the Hopland Tribe received funding to build a pipeline to the town of Hopland, in order to hook up to the Hopland Water system. However, due to the location of the Reservation, (Hopland Reservation is outside of the Russian River Flood Control District, which oversees the distribution of Hopland Water District Water) this project was delayed for several years, with the Hopland Tribe once again forced to truck water up the Reservation to meet the needs of the community. An agreement was made with the State of Califorina and Hopland Water to recognize Hopland Tribal water rights from surface run-off water that ran down Dooley Creek to the Russian River, above the Hopland Water District well), with the Hopland Water District providing a water wheel, to wheel the water back up to the Reservation. This water is pumped from Hopland Well #1, adjacent to the Russian River, which also provides water to the community of Hopland. While the Hopland Well #1 currently has the capacity (300 gpm) to meet the needs of the Hopland Community and Hopland Tribe there is concern about the future water security of the Hopland Community and Hopland Tribe. If the Hopland Well #1 goes down or requires extended maintenance, the back-up Well #3 will not be able to provide enough water to provide for the sanitary and safety needs of the Hopland Tribe and Hopland Community. The purpose of this project is to establish the legal framework between the Hopland Band of Pomo Indians and the Hopland Water District to investigate and drill three groundwater test well sites that have been identified as high probability of high production wells in Hopland. Information resulting from the test wells will provide the groundwork for additional funding for a back up well that will serve the Hopland Band of Pomo Indians and the Hopland Community.

23 - Huckleberry Mutual Water Company, Disinfection, Storage, Distribution and Intertie Planning and Execution	Sonoma County	DAC = y	IRWM Request = $1413000 Total Budget = $1413250

Problem Statement: The company's sixty-year old system delivers untreated groundwater from a single well via unmetered connections to 32 shareholders in an economically disadvantaged rural area on Austin Creek in western Sonoma County. Key problems are the following: Seeking funding to meet a water quality compliance order; crumbling main distribution line pipes break frequently and require costly repairs, the most recent being a break under Cazadero Highway on a holiday weekend which required a road closure, tearing up the highway, and loss of service to half of share-holders for four days; water waste and theft for agricultural purposes that is difficult to track because we have no connection metering; no fire protection in a densely forested area from the system during high fire risk times because pressure from our storage system is inadequate; inefficiency of running a relatively small system due to lack of interconnection with other nearby systems, driven in part by the unattractiveness of the system as a partner .Major Components of the Project: Disinfection: The company is under a compliance order to install a disinfection system [see attachments] and has been the beneficiary of a planning grant from NCRP which funded a demonstration project report for a UV disinfection system which was delivered to the company at the end of 2014. Enhance Storage Capacity: Storage is limited to 10,000 gallons, the company is trying to replace the original 60-year old redwood tank which with a larger new usable tank to provide greater drought flexibility and pressure for fire hydrants.Replace main distribution lines: The 60-year old 1.2 mile distribution system is overdue for replacement and subject to frequent leaks, breakages and outages. Intended Purpose of the Project: Comply with the treatment order, avoid regulatory fines and actions, lower O&M costs, conserve water, reduce use of ground water, provide greater drought flexibility and alternatives, provide fire protection, facilitate intertie with other systems, reduce greenhouse gas emissions.

24 - Humboldt Bay Harbor, Recreation and Conservation District, Humboldt Bay Spartina Control	Humboldt County	DAC = partial	IRWM Request = $75000 Total Budget = $127500

This proposal requests $75,000 to enhance 45 ac of coastal wetlands by removing invasive Spartina (marsh cordgrass, *Spartina densiflora*) and facilitating the establishment of native marsh in the Humboldt Bay National Wildlife Refuge (HBNWR) near the cities of Eureka and Arcata.Setting: As California's second largest natural bay, Humboldt Bay is a complex ecosystem and valuable resource due to its natural and economic resources, and its recreational opportunities. Humboldt Bay biota are diverse and ecologically significant at scales ranging from local fisheries to hemispheric shorebird and waterfowl migration. The Bay and its wetlands host over 260 native plant species, 300 invertebrate species, 100 fish species, and 200 bird species, including those that rely on the Bay as they travel the Pacific Flyway.Need: Diking and filling have resulted in the loss of ~90% of Humboldt Bay's historic salt marshes. Marsh enhancement is therefore critical to sustain plant and wildlife populations, and to recover federally listed species.Invasive Spartina is a major threat to the biodiversity of tidal marshes in Humboldt Bay and other West Coast estuaries. Spartina excludes native plants, reduces primary productivity, alters the benthic invertebrate community, and threatens mudflats that provide key foraging areas for shorebirds and waterfowl. Invasive Spartina has been recognized as a major threat to estuarine biodiversity by the West Coast Governor's Alliance (WCGA) on Ocean Health, and the 2010 WCGA Action Plan prioritizes the coastwide eradication of the species by 2018. Eradication of the Humboldt Bay population is a key action to meet this goal. If no action is taken, Spartina will continue to spread through Humboldt Bay, threatening tidal marsh restoration projects. In addition, a drift card study has demonstrated that *Spartina propagules* from Humboldt Bay threaten to colonize other West Coast estuaries to the north and south. Components: 45 acres of tidal marsh will be enhanced by removing invasive Spartina and facilitating the restoration of native salt marsh. Spartina will be removed using a combination of methods, including mowing and rototilling, manual removal, and application of imazapyr. These methods have been tested and refined in Humboldt Bay over the last ten years. The project area is protected in perpetuity, and managed as part of the HBNWR for habitat, open space, and public access by the US Fish and Wildlife Service. Outcomes: Enhanced wetlands will have improved function for native plants and wildlife. Native marsh has been shown to be more productive than Spartina marsh; therefore, the project will benefit Humboldt Bay wildlife by increasing overall productivity. Removing Spartina will improve foraging by restoring important invertebrate prey associated with native plants.

25 - Humboldt Bay Municipal Water District (HBMWD), Ranney Collector 2 Rehabilitation Project	Humboldt County	DAC = partial	IRWM Request = $1148500 Total Budget = $2877000

HBMWD supplies wholesale treated groundwater to 87,000 people through 7 municipal agencies, and serves water to numerous other industrial and public entities in the region. HBMWD obtains water from 4 collectors installed along the banks of the Mad River. The Collectors are large concrete caissons that extend from the surface to 80-100 ft below grade. Laterals, 1-ft steel well screens, are projected horizontally from the caissons into the surrounding aquifer and direct the water to the collector. The water is then pumped from the collector and into the treatment and distribution system. Over the years the collectors have been maintained and upgraded; however, they are nearing the end of their useful life and need to be replaced. The Collectors and their associated laterals are over 55 years old, and investigations have shown that some of the laterals have collapsed and all of them have calcium and iron oxide deposits on the lateral screens that reduce their capacity. The District is working on a phased replacement of all of the laterals in all of the collector wells and has successfully completed work on Collector 3.This project focuses on the 3rd phase, installing new laterals in Collector 2 by projecting 3 to 4 new stainless steel laterals out from the existing caisson. Cores will be cut through the sides of the existing caissons, and new laterals will be projected out horizontally into the surrounding aquifer. The new laterals will be spiral wound, stainless steel well screens, with a much larger ratio of open space per foot of screen than the existing lateral screen. This will reduce the flow velocities in the subsurface, thereby reducing the associated turbidity of the water and the energy and cost to treat the turbidity. Given the greater capacity and lower flow velocities, the drawdown in the collectors will be reduced. This will reduce the energy required to pump the water from the caisson to the treatment and distribution system, thereby reducing energy consumption and greenhouse gas emissions. HBMWD provides flow to the collectors by releasing water from Ruth Lake, and in addition to assuring water supply reliability, this project will maintain beneficial flows for salmonids in approximately 75 miles of the Mad River. The project protects and enhances drinking water quality, and is the most cost-effective, environmentally sensitive way of ensuring a reliable, high quality drinking water supply for the region. It has an added benefit of protecting against agencies pursuing alternate water supplies at higher financial and environmental costs.

26 - Humboldt Community Services District, Ridgewood Water Reliability Improvement Project	Humboldt County	DAC = partial	IRWM Request = $900002 Total Budget = $1202202

The Humboldt Community Services District (District) was formed in 1952 and provides water distribution and sewage collection over a 15 square-mile area surrounding the City of Eureka. This area comprises nine communities and serves a population of 20,032. In the Ridgewood area of the District, the District purchases water from the Humboldt Bay Municipal Water District and/or the City of Eureka. Both water suppliers obtain their water from the same point of origin on the Mad River. Two problems exist in the portion of the District's water distribution system that serves the Ridgewood area, namely, 1) lack of adequate storage in the event of source disruption emergency (by earthquake or mechanical failure); and 2) lack of adequate fire protection storage. In 2013, a system test showed that under present use, the existing 0.5 MG Ridgewood water storage tank had the capacity to provide normal water service for only approximately 30 hours. In addition, the existing 0.5 MG of storage volume does not meet Title 22 of the State Drinking Water Act Standards for fire protection. After several years of research, the solution to both of these problems has been identified as an additional water storage tank for the Ridgewood area.The Ridgewood Water Reliability Improvement Project proposes to construct an additional 1.0 MG tank adjacent to the existing 0.5 MG tank (1.5 MG total) and thus provide nearly four-days of water storage in the event of source water disruption and provide adequate fire protection capacity volume per State Standards.The District has conducted preliminary engineering to confirm the feasibility of the second tank by taking the following actions:1. Conducted hydraulic computer analysis confirming tank required size.2. Purchased additional property to allow the new tank to fit at the existing tank site. 3. Prepared preliminary second tank design to confirm piping requirements, control panel and power requirements. The preliminary design also provided an assessment of the environmental needs determination and constraints. 4. Conducted a preliminary biological and endangered species evaluation to further refine the environmental determination and permitting requirements.

27 - Humboldt County RCD, Restoring Stream Flow & Fish Passage on the Eel River Delta	Humboldt County	DAC = y	IRWM Request = $187869 Total Budget = $320248

Francis Creek is a second order stream with approximately 5.2 miles of blue line stream that historically supported steelhead and coastal cutthroat trout as well as coho salmon. Currently its lower reach, including its confluence with Salt River, is severely restricted by clogged culverts, sediment build-up, invasive vegetation, and debris. Francis Creek is one of three main tributaries to Salt River, which is the lowermost tributary to the Eel River Estuary. From its headwaters in the Wildcat Hills Francis Creek flows as a natural stream to the valley floor then enters a hardened, channelized zone through the City of Ferndale (constructed in response to frequent flooding). It then transitions back to a natural stream with an excellent reference reach. However; as it nears its intended confluence with Salt River the channel is completely aggraded. This creates a total barrier to fish passage and backs rain and storm waters onto productive agricultural land, and floods roads, residences, and city, county and private infrastructure. The major components of the Francis Creek project include excavation and hauling per design specifications to re-establish connectivity between Francis Creek and the Salt River and to rehabilitate and restore the lower 2,745 feet of Francis Creek. Native riparian vegetation will be installed on the floodplain to create a diverse riparian area, protected by livestock exclusion fence. To accommodate the wider and deeper channel the existing agricultural bridge over the creek will be replaced with a 55 ft. bridge. The project will construct a non-hardened sediment management area near the confluence that enables off-channel sediment retention and management while not impeding fish passage. The project purpose is to restore habitat, hydrologic function and connectivity between Francis Creek, Salt River, and the Eel River Estuary as part of a multi-phase, watershed-scale restoration, known as the Salt River Ecosystem Restoration Project (SRERP). The Francis Creek project area is directly upstream of restoration work completed in 2013 and 2014 to greatly enhance tidal prism and streamflow by restoring 330 acres of tidal marsh and 3.3 miles of Salt River channel and riparian floodplain upstream of the Eel River Estuary. Work is continuing upstream each year and, when complete, the SRERP will have 1) restored approximately 7 miles of river channel and riparian floodplain, 2) re-connected 3 main tributaries, 3) implemented numerous projects on private land throughout the upper watershed to control erosion, reduce sediment, enhance riparian and improve water quality; 4) restored and enhanced approximately 600 acres of fish and wildlife habitat, including tidal marsh, aquatic areas, mudflats, freshwater wetlands, riparian forest, and grassland; and 5) improved drainage and reduced flood damage; thereby enhancing agricultural productivity on more than 800 acres in the project vicinity.

28 - Lewiston Community Services District, Wastewater Collection, Treatment, and Disposal Project	Trinity County	DAC = y	IRWM Request = $965000 Total Budget = $965000

The Study Area contains two public (LCSD & LPMWC) sewage collection and treatment systems, as well as a number of private septic tanks and leach fields including Trinity Dam Mobile Home Park (TDMHP). As documented in the attached Preliminary Engineering Report (PER) completed in 1999, there are numerous problems needing attention in these systems that pose threat to public drinking water and surface water quality in the area. LPMWC's concrete pipe collection system has substantial inflow and infiltration (I & I) problems. In 1996, a camera inspection revealed at least 56% of the sewer system needed major repair and 38% needed root removal. Given that it is now 20 years later, these numbers have likely increased. The North Coast Regional Water Quality Control Board (NCRWQCB) reports effluent discharged from the LPMWC Wastewater Treatment Plant (WWTP) to the disposal percolation beds forms an unacceptable direct connection to groundwater adjacent to the Trinity River.The LCSD percolation ponds are in marginal condition with documented overflows into the Trinity River upstream of raw water intake structures. Portions of the collection system are approximately 57 years old and constructed of Orangeburg (asphalt impregnated cardboard) pipe causing serious I & I problems. There are also existing sewer mains in joint trenches with potable water distribution mains which violate Division of Drinking Water (DDW) utility separation requirements. TDMHP has a septic tank system with an effluent pond that has overflowed into Battle Creek. This resulted in press releases advising downstream homeowners who take water from the Trinity River to boil their drinking water. In addition, downstream public water systems took precautionary actions and increased their disinfection levels. Subsequent overland discharges by TDMHP has forced the NCRWQCB to issue Cleanup and Abatement Order No. R1-2011-0045 and Administrative Civil Liability Order No. R1-2014-0005. The aging collection systems of the LPMWC, LCSD, and TDMHP have serious I & I problems that cause major problems, if not total disruption of downstream treatment and disposal processes. These failing or marginal wastewater treatment and disposal systems have met their useful service lives and present potential serious health and safety threats to groundwater and surface water supplies. Planning is underway to evaluate alternatives for new wastewater collection, treatment, and disposal facilities and processes to improve the unsanitary conditions that could and/or already have impacted drinking water supplies and ecosystem habitat. Funding has been obtained for the planning effort, but funding for land and right-of-way acquisition and project design and construction is still needed. Funding for land acquisition and project design only is being requested herein.

29 - Lewiston Park Mutual Water Company, Lewiston Valley Drinking Water Intertie Pipeline	Trinity County	DAC = y	IRWM Request = $558000 Total Budget = $558000

There are two drinking water treatment and distribution companies that serve the most population concentrated neighborhoods of the rural town of Lewiston. One company, operated by the Lewiston Community Services District (LCSD) serving about 66 homes and businesses, has a brand new facility (operational in Aug. 2015) for the treatment and storage of surface water from the Trinity River. The other company (ours) the LPMWC uses ground water supplied from 5 wells for most of the year and serves 167 homes and small businesses and an elementary school. During drought conditions the wells have drastically declined production necessitating pumping water from the Trinity River to meet the needs for our customers. In 2014, our summer well production had dropped 44% from production before the drought. In June 2010, our wells produced 7.5 million gallons, as compared to June 2014 when our well produced 4.2 million gallons. Because our surface water treatment plant is so old and inadequate a Boil Water Notice is required to be issued whenever river water is pumped into the distribution system.(Attached). If the current drought continues and no ground water is available, the customers of the LPMWC will be severely rationed in water use and the Boil Water noice will continue. The forested area surrounding the town is very prone to wildfires (4 major wildfires in in past decade). The LPMWC has a 150, 000 gallon gravity fed redwood storage tank that would be empted rapidly during firefighting efforts. The LCSD has a new 318,000 gallon storage tank.

The two drinking water treatment facilities described above are close in proximity and could be joined by a intertie pipeline. The intertie would provide heightened water availability and water security for the customers of each system, especially during drought conditions and provide easily accessible water for firefighting efforts. In order to promote beneficial water use and water security for our communities we are proposing to join the two drinking water systems by an intertie pipeline to allow the sharing of water between the two systems in emergency situations.

30 - Mattole Restoration Council, Lower Mattole River and Estuary Enhancement and Drought Resiliency Project	Humboldt County	DAC = y	IRWM Request = $982200 Total Budget = $1306100

The proposed Project is part of a larger 5-year restoration effort that is being undertaken by the Mattole Salmon Group, the Mattole Restoration Council, the California Department of Fish and Wildlife, The State Coastal Conservancy, the California Department of Water Resources, The Nature Conservancy, the U.S. Bureau of Land Management, NOAA-NMFS, the National Fish and Wildlife Foundation, and the U.S. Fish and Wildlife Service, and private landowners. Historic logging and 100 year flood events have impacted habitat conditions throughout the lower Mattole River. Currently, summer habitat conditions in the lower river and estuary are generally poor for juvenile Pacific salmon. The area is broad, shallow, and lacks complex habitats for fish to hide from predators. Many of the riparian floodplains are void of long-lived riparian tree species that provide shade, floodplain stability, and future wood recruitment. Summer water temperatures regularly exceed levels thought to be lethal to Pacific salmon. The goal of this large coordinated effort is to restore ecosystem processes to the estuary and lower river, while enhancing habitat for fish and wildlife species and addressing drought issues. This will be done through the placement of large wood at key sites to facilitate stable island formation, multiple channel formation (anabranching), and scour (where appropriate), installing trenched willow treatments to eroding terrace margins to protect existing riparian woodlands, and extensive plantings of cottonwood, willow, and other native species on established, unvegetated islands and along edges of stream channels to increase riparian floodplain forest. These tasks will increase the estuary's drought resilience through improved habitat conditions in the primary salmonid use area during droughts. This project addresses these issues through the implementation of 3 major components:
Component 1. Riparian and Floodplain Restoration -Planting of 17,000 containerized riparian plants, installation of 6000 ft. of livestock exclusion fencing, installation of 15,000 ft. of trenched large willow at terrace margins unvegetated islands, large wood placement sites, and slough restoration sites and removal of invasive plants on 20 acres
Component 2. In-stream Habitat Enhancement -Placement of 400 whole trees in various estuary location, trees will be removed from grassland encroachment areas and planted with native grasses to restore 4 acres of coastal prairie
Component 3. Estuary Slough Restoration - Excavate 750 ft. of off channel slough adjacent to the Mattole Estuary

31 - Mendocino Coast Botanical Gardens, Water Infrastructure Project	Mendocino County	DAC = y	IRWM Request = $315000 Total Budget = $301500

The Mendocino Coast Botanical Gardens have been a vital component of the North Coast's economy for over half a century. MCBG consist of 47 acres, with approximately 22 acres developed into gardens that showcase rhododendrons and dahlias, perennial plants and flowers, heaths and heathers, camellias, pine forest and native plants, many of which are threatened or endangered. These gardens are located just south of the city of Fort Bragg, on coastal bluffs. The original irrigation system dates back to the inception of MCBG, approximately 55 years ago. Due to age, this irrigation network has begun to fail. The piping consists of PVC, galvanized, copper, polypropylene and rubber. Sizing is variable and undersized in some instances. No documents showing the original layout of the piping exist, therefore it is next to impossible to find and fix any leaks that exist and it is apparent that there are many. The irrigation system consists of seven wells, three of which went dry in 2014 and a pump that pulls water from Digger Creek. MCBG currently uses approximately one hundred twenty thousand gallons of water weekly (6240000 gallons annually). Due to the amount of sedimentation in the water, MCBG is forced to use overhead sprinklers for watering, wasting even more water. This also sends a very consumptive message to the 75000 plus visitors that venture to MCBG. These people come not only to see the gorgeous vegetation and the native landscaping but also to be educated. This is a primary goal of the Mendocino Coast Botanical Gardens. The public learns that they can have wonderful gardens and still use water in a resourceful and ecologically minded manner. This project consists of five primary objectives. The first priority is to be able to filter the water being pumped from Digger Creek. This source provides approximately 95% of the water used by MCBG. The second priority is to install water storage and pump station entry. Third is the drilling of a new deep water well, storage for that well and the needed filtration and support equipment. The fourth priority is irrigation storage and a pump station for this. Finally, the installation of new mains and the tie-ins necessary to provide water to all currently developed areas of MCBG. Given the state of the existing water infrastructure, the unpredictable future climate changes and the desire to reduce future maintenance costs, it seems prudent to improve the availability of clean, filtered irrigation water as well as availability of reliable potable water to those areas of MCBG as deemed necessary and to eliminate all unnecessary redundancy in the equipment required to provide this system.

32 - Mendocino County Resource Conservation District, Implementing On-Farm Water Conservation Projects in the Navarro to Address Critical Low Flows	Mendocino County	DAC = partial	IRWM Request = $187480 Total Budget = $250125

To provide relief from critically low summer base flows and water shortages in the Navarro River, MCRCD, working with Natural Resources Conservation Service (NRCS) and The Nature Conservancy (TNC), proposes to implement (3) on-farm projects to achieve measurable water savings through improved irrigation and water storage BMPs. Community conflicts have accelerated in the Navarro watershed over the perceived misuse of water by the Ag Community(Ag) during the record 4-year drought period. MCRCD will work with Ag partners to implement water conservation/water-use efficiency projects to demonstrate water saving measures, including water storage and water-use efficiency, specifically in orchards and small farms. Projects include: 1. Implementing (3) water conservation/water use-efficiency projects: including installing (1) 40,000 gallon rainwater storage tank, upgrading (1) failing/faulty irrigation system, and retrofitting sprinkler heads on 13 acres of organic apple orchard, retrofitting (1) 61.1 acre commercial apple orchard to under-tree microsprayers, collectively resulting in 31.1 acre feet of annual water savings. 2. Conduct a series of (3) workshops and tours, targeting (90) landowners, that highlight BMPs, techniques and technologies demonstrating measurable water savings to other Ag producers and landowners in the watershed. The technical approach to water conservation will be conducted in collaboration with NRCS to implement BMPs and emerging technologies, such as upgrading failing or faulty irrigations systems, installing additional storage tanks. Projects will be developed in partnership with NRCS through its Environmental Quality Incentives Program (EQIP). TNC has installed 18 additional gages in the Navarro River since June 2013. Initial data analysis identified the high priority sites with regard to location and/or high level/need for implementing water-saving projects. Participating landowners will be required to monitor the water savings that each practice brings. Photo documentation will be conducted and water savings will be calculated and measured for each feature or practice implemented. BMPs will be demonstrated to other landowners and community members.

33 - Mendocino County Resource Conservation District, Water Conservation Technical Assistance to Mendocino County Tribes	Mendocino County	DAC = y	IRWM Request = $114860 Total Budget = $130878

Problem Statement: A previous Prop 84 grant program uncovered challenges in water conservation management that affect Tribes and other small suppliers selectively. Tribal water suppliers are underserved utilities that face unique hardships during the drought. Previous MCRCD work with Tribes indicated that they are vulnerable to water shortages and water insecurity and water conservation assistance, customer outreach and leak detection are important needs.
Major Components: There are four components, which were identified in MCRCD's previous work with Tribes:
1. Water Audit Technical Assistance - Water audits serve three functions: to provide a record of use for a customer, to identify water waste and leakage problems, and to recommend easy to implement changes that can dramatically reduce water consumption. Through this project, the MCRCD would provide six to nine free water audits and water audit trainings to enable Tribal staff to conduct additional audits in the future.
2. Access to New Technology for Underserved Communities - New technologies have enabled large utilities to provide customers with minute to minute specific information about water use, leak detection, and more. These apps have a proven track record of reducing water use by 5% within six months. Due to data compatibility and other issues, this software is not currently available for Tribal and small water suppliers. Access to these technologies is a social equity issue and important for achieving ongoing conservation goals. MCRCD will investigate how to adapt existing software for a small supplier and to identify the most useful components of the software. The MCRCD will assess Tribal interest in an app and liaise with a software company or a university
3. Leak Detection in Distribution Systems - Leak detection is an identified need of many Tribes and leaking pipes are a leading cause of water loss. Tribes need documentation of leak locations in order to apply for grants to fix their systems. The MCRCD would contract with a licensed leak detection company to provide up to 100 miles of this service for Tribes.
4. Partnership with Rural Community Assistance Corporation (RCAC) - The MCRCD created a fruitful partnership with the Rural Community Assistance Corporation (RCAC) during the previous Prop 84 water conservation grant and the MCRCD has presented at two of RCAC's Native American Water Managers Association (NAWMA) meetings to extend the reach of training beyond Mendocino County.
Intended Purpose: To provide technical assistance for Tribal water suppliers to assist customers in meeting conservation goals. To provide leak detection for distribution systems. To facilitate the creation of an app for small suppliers that will ultimately be available to Tribes and small water suppliers throughout California.

34 - Mid Klamath Watershed Council, Horse Creek Wood Loading, Floodplain Relief and Groundwater Recharge Project: Phase III	Siskiyou County	DAC = y	IRWM Request = $517327 Total Budget = $716450

There is a lack of rearing habitat for juvenile coho and a lack of suitable spawning habitat for coho adults in the Klamath River basin. This project aims to address these factors that are contributing to the decline of the state and federally listed theatened coho salmon. This project will add at least 30 wood structures (both constructed wood jams and beaver analogue structures) to 1.5 miles of lower Horse Creek while strategically removing berms and fill. Please refer to the Site Map, the Project Location Map and the Watershed Map for project orientation sent along with this proposal. The strategic removal of berm and floodplain fill materials in combination with the addition of roughness elements (the constructed wood jams and beaver dam analogues) within the project reach will increase channel complexity, storage and metering of spawning gravels, improve wood recruitment and storage mechanisms, provide off-channel habitat by reconnecting and expanding the area of floodplain inundation, and have the potential to increase summer base flow by improving groundwater recharge and storage mechanisms through the expansion of beaver dam analogs, and by increasing the area and frequency of floodplain inundation. Please refer to the Plans/Diagrams and Photos documents sent with this proposal for examples of wood structures similar to the ones that are proposed in Horse Creek.

35 - Mid Klamath Watershed Council, Mid Klamath Tributary Thermal Refugia Improvement and Groundwater Recharge Project	Siskiyou County	DAC = y	IRWM Request = $600000 Total Budget = $750346

Due to anthropogenic disturbances, the Mid Klamath River corridor suffers from high water temperatures, incised streams, reduced groundwater storage, a decrease in off-channel rearing habitat, and a substantial loss of riparian plant diversity. Due to low summer base flows, some cold-water tributaries can become disconnected from the Klamath floodplain entirely. Restoration of complex floodplains is important in the Mid Klamath because such habitat is essential for the maintenance of biological diversity, including threatened coho salmon, and for providing other important ecosystem services, such as thermal refuge, groundwater recharge, and carbon storage (Pollock et al. 2014).
In response, the Mid Klamath Watershed Council has developed the Mid Klamath Tributary Thermal Refugia Improvement and Groundwater Recharge Project to increase the quantity and quality of fish access to cold-water refugia by manually modifying tributary mouths, improve groundwater recharge at tributary mouths through the construction of Beaver Dam Analogue Structures, and restore riparian habitat complexity by removing high priority invasive weeds and planting native vegetation in targeted areas. The project will include 1 year of permitting and 4 seasons of field work.

36 - Montague Water Conservation District, Instream Flow Enhancement through Water Conservation	Siskiyou County	DAC = y	IRWM Request = $1775920 Total Budget = $2890295

The Shasta River, a major tributary to the Klamath River, has experienced competitive use issues similar to many watersheds in the west. However, the Shasta River has been recognized as the most important tributary to restore the anadromous runs of salmon in the Klamath River (NRC, 2004). The Shasta River supports runs of Chinook salmon, Coho salmon, steelhead and lamprey. The Southern Oregon Northern California Coho (SONCC) population was listed as 'Threatened' by the Federal Endangered Species Act (ESA) and the California ESA (CESA) in 1997 and 2002, respectively. Both NOAA (SONCC Recovery Plan, 2014) and CDFG (California Coho Recovery Plan, 2004) have presented recovery objectives and strategies that identify measures needed to restore the Shasta River Coho population.
The Applicant, Montague Water Conservation District (MWCD),is the largest irrigation District in the Shasta River and operates Dwinnell Reservoir, the only significant storage facility (49,000 a/f) in the watershed. The objective of MWCD has been to develop, permit and implement a comprehensive long term conservation strategy, including significant instream flow and water quality enhancements with conserved water. MWCD's long term conservation strategy is titled MWCD's CHERP (Conservation and Habitat Enhancement and Restoration Program). MWCD has worked with agencies and conservation entities to develop the project components of CHERP to address limiting factors for Coho salmon and water quality. This proposal does not seek full the implementation costs of MWCD's CHERP as the total implementation cost of CHERP is estimated to exceed $8 million dollars. MWCD has been conducting investigations, surveys and meeting with agencies over the past 4 years to refine the scope and attainable objectives of MWCD's long term conservation and operations plans. MWCD is seeking implementation funds to cost share to line 3.0 miles of MWCD's Main Canal where significant transmission or delivery loss occurs. In exchange for lining reaches of MWCD's Main Canal, MWCD will permanently allocate the volume of water conserved, estimated at 1,575 acre-feet per year, for instream benefit. MWCD is working with the SWRCB to protect the conserved water for instream use through California Water Code 1707 and change petitions. While increasing delivery dependability to MWCD's irrigators and municipal water for the City of Montague, this proposal presents numerous opportunities to enhance instream conditions in the most important spawning and rearing reach of the Shasta River, specifically for the listed SONNC coho salmon. All of the water conserved will be provided for instream use to reduce the conflict between agricultural, municipal and instream uses with the Shasta River through more efficient delivery and improved infrastructure within MWCD facilities.

37 - Northern California Resource Center, Scott River Water Yield Enhancement	Siskiyou County	DAC = y	IRWM Request = $1101284 Total Budget = $1141584

Public lands surrounding the valley have traditionally provided multiple use resources, forage, timber, and mining as well as recreational opportunities for visitors and residents. Timber harvest levels have declined drastically over the last 10-20 years, a result of changes in forest management policies on public and private lands. Based on historical accounts, much of the vegetation of the Scott River watershed has changed. In general, the tree age of forests has shifted to younger and therefore smaller trees with higher density. Large areas of the watershed are now occupied by brush species and there has been a shift from perennial to annual grasses. The effect of these vegetation shifts on evapotranspiration rates and total water consumption and release patterns for the watershed is not known but could be significant (ref. Scott Valley Community Groundwater Study Plan, Thomas Harter Ph.D., et al).The purpose of this project is to complete, test and implement a multi-phased approach that supports evaluation of the potential to enhance water supply in the Scott River by managing upslope forest vegetation. The scope of this project involves investigating relationships between water yield and upland forest densities in the Sugar Creek and Messner Gulch sub-watersheds of the Scott River then implement management activities to achieve increased water availability.This project has been designed to accomplish 3 core goals that when implemented in succession will produce measurable results with multiple benefits. Ongoing monitoring and public education will be accomplished with project partners and will provide continuous data, analyses and results long after the initial project is completed. Our Project Design document summarizes the project in an easy to read format.It is proposed to use the RHESSys modeling package to integrate data and make estimates of evapotranspiration and streamflow for the various historical and future climate and vegetation scenarios. RHESSys is a spatially explicit, daily time step model, and is being extensively used for similar purposes across the mountains of the Western United States.Multiple NCIRWMP objectives will be addressed by implementing this project as it provides for an ongoing, inclusive framework to be extrapolated throughout the Scott River basin and potentially the Klamath Province with efficient intra-regional cooperation, planning and project implementation. The results of implementing this project works to enhance native salmonid populations by restoring required habitats through improved water quality and supply.

38 - Northwest CA Resource Conservation & Development Council, Trinity River Water Reliability and Drought Resiliency Project	Trinity County	DAC = y	IRWM Request = $446429.5 Total Budget = $585479.5

The project's purpose is to preserve instream flows in high priority watersheds during critical dry periods and allow landowners in two watersheds (Browns Creek & East Fork Hayfork Creek) and the Weaverville Community Services District (WCSD) on East Weaver Creek to meet potable water needs. In the Trinity River watershed, 2013 and 2014 were the driest water years on record. Many major streams went dry (see Project Need & Drought Preparedness sections). Thus, prioritization considered biological and other watershed factors. See question 15 Project Info Notes on why watersheds were selected. Dry conditions pose a challenge for people living outside of a public water supply as with Browns and East Fk Hayfork Creeks residents. Few people have any water storage in place. Many had to pay for water deliveries to meet basic potable needs in 2014 and likely will again in 2015. WCSD serves the largest town in the County and derives >70% of its water from East Weaver Ck. There are several riparian water rights holders and inefficient ditches diverting creek water for private use. Last summer, several coho salmon did not survive the warm and relatively crowded conditions. With low flows and dry conditions killing coho, the WCSD could face regulatory scrutiny and action for "take". It could be required to reduce its diversion if conditions persist. It's in the best interest of the public water supply and the creek to reduce diversions through more efficient infrastructure and usage practices. Landowners on 3 ditches are targeted in this proposal. This project proposes to outreach to landowners in these 3 priority watersheds that have riparian rights or appropriative rights with the point of diversion in a creek or ditch. The Council will assist landowners in these economically disadvantaged communities to improve the efficiency of their water use and convert their diversion systems to utilize slow flow, lower impact pumps that collect water during the wet season for use in the dry season (see Section G Technical Basis). Installation of the infrastructure is the bulk of the cost of this proposal. This type of water storage requires a Small Domestic Use Appropriation Registration (SDU) for each site. With rare exception, a Lake & Streambed Alteration Agreement (LSA) is required as part of the SDU process. The LSA includes provisions that prohibit diverting water during the dry season, which helps minimize impacts on instream habitat and wildlife during the most critical periods. Agreements with landowers would be required to provide the Council access to implement and monitor the project.Once the slow flow infrastructure solutions proposed here are implemented in East Weaver Ck, they're estimated to result in a reduction to the diversions of ~2,000,000 gallons/day (2.9 cfs). One project component is to identify participants in Browns and East Fk Hayfork Creeks.

39 - Palmer Creek Community Service District, Palmer Creek Water System Reliability Project	Humboldt County	DAC = y	IRWM Request = $474500 Total Budget = $572500

The project involves two main elements to improve the reliability of the water system that is now over 15 years old. Over the years, technology has changed, regulations have become more stringent, operating costs have increased, and overall water supplies have decreased due to drought. As time goes on, these conditions will become more severe and it is most appropriate and cost effective to act now to strategically upgrade the system, rather than wait until catastrophic failure and costly emergency repairs. Upgrades to current standards is an effective means of cost effective prevention of potential overwhelming costs. Priority 1 of the project is to improve the operation and reliability of the filter backwash system and Priority 2 is to rehabilitate the storage tank.Priority 1 Project Description: Improve the Operation and Reliability of the Filter Backwash SystemThe existing system extracts groundwater from near the Eel River and the filter backwash system discharges an average of up to 40,000 gallons of backwash water to the sewer system per month. This practice puts an increased hydraulic load on the wastewater pump station as well as the treatment plant in Fortuna, further stressing the plant. The backwash water is a valuable resource and it could be recycled back into the treatment system. This has multiple benefits including reducing the load on the Fortuna plant, reducing the load on the pump station, reducing groundwater extractions, reducing utility costs, and recycling is a valuable resource. This upgrade would include installation of a backwash recovery tank, feed system, and an up-to-date control system. It would be installed adjacent to the existing treatment building.Priority 2 Project Description: Rehabilitate the Storage TankThe storage tank is located up Tompkins Hill Road off Palmer Boulevard and is a bolted steel tank. Tanks such as this can have a useful life of many decades when maintained and upgraded to meet modern AWWA standards. The groundwater supply in the area is mildly corrosive and results in increased corrosion of the tank. The tank needs to be repaired, upgraded, and recoated to enhance its useful life and reduce the potential for water loss. The cathodic protection system for the tank needs to be upgraded to provide increased long term protection against corrosion. Also, the monitoring and level control system is based on obsolete unsupported technology and needs to be upgraded to meet modern requirements and eliminate the potential for tank overflows and water loss.

40 - Redwood Community Action Agency, Martin Slough Enhancement Project	Humboldt County	DAC = partially	IRWM Request = $794408 Total Budget = $1494448

Martin Slough is located in south Eureka, Humboldt County, and the project area includes land within the City of Eureka and in the adjacent area under County of Humboldt jurisdiction. Martin Slough is a tributary to Swain Slough/ Elk River/ Humboldt Bay. The project area is the lower 6,200 feet of the main stem and the adjacent floodplain and tributaries within an approximately 160 acre area owned by the City of Eureka (the City - 120 acres) and the Northcoast Regional Land Trust (NRLT - 40 acres). The project area is diked-former-tideland that has been converted to pasture (NRLT property) and a golf course (City property). The project area is subjected to prolonged flooding due to channel aggradation, filling of old tidal channels, and channel straightening. The project area is highly productive estuarine habitat for coho salmon (*Oncorhynchus kisut*ch; endangered species) and supports steelhead trout (*Oncorhynchus mykiss*), coastal cutthrhoat trout (Oncorhynchus clarkii), tidewater goby (*Eucyclogobius newberryii*; endangered species). Growth rates for coho salmon rearing in Martin Slough are the highest of any of the habitats sampled around Humboldt Bay in recent years (since 2005) by the California Department of Fish & Wildlife (CDFW) through its Natural Stocks Assessment (NSA) Project. The fish sampled have been mainly found utilizing ponds adjacent to and connected to the main channel. However, the fish habitat has been degraded by vegetation removal , channel straightening, and filling in of wetlands. Fish access was restricted for many years by undersized tide gates that created velocity barriers and physically blocked access when shut during incoming tides. The tide gates and exclusion of the natural tidal prsim also impaired the hydraulic function of the lower Martin Slough channel, which led to aggradation from accumulated sediments that could not be effectively flushed out of the system due to the restricted tidal access. Therefore the problem statement can be summarized as a loss of critical coho habitat and an increase in flooding affecting adjacent land uses. Addressing both of these problems is the primary goal of the project.The primary purposes of the project are to reduce the duration and extent of flooding in lower Martin Slough while enhancing fisheries habitat and access. Secondary purposes are to use the lessons learned from this project in designing other similar projects on the North Coast, to inform the public about the importance of Martin Slough to fish and wildlife, and to foster a stewardship ethic among the general public through outreach, education, and public participation in project planning and implementation. The major project components include planning and design, CEQA compliance and permitting, tide gate replacement, channel and pond excavation, grading, levee repair, spoils hauling, cattle exclusion fencing installation, riparian and wetland re-vegetation, and monitoring (compliance and performance).

41 - Rural Communities Housing Development Corporation, Landscape & Irrigation Water Conservation for Low Income Senior and Multi-Family Housing Complexes	Mendocino County	DAC = y	IRWM Request = $516068 Total Budget = $548890

PROBLEM STATEMENT: Apartment complex irrigation systems are often inefficient, poorly operated and poorly maintained. Shrubs and trees with varied hydration needs are located in shared irrigation zones with watering schedules and delivery devices that do not optimize water use. This results in use of significantly more water than necessary.
Over the last 40 years, RCHDC has built 30 housing projects for low-income seniors and families. As each was built, landscape and irrigation design trends of the times were put in place. Most projects have lots of planters with mixed plant types and different hydration needs. Many complexes also have acres of lawn. Few were designed with water conservation or drought in mind. Many different varieties and sizes of trees and shrubs are watered within irrigation zones. Most of the irrigation systems are more appropriate for lawns than shrub or tree areas. Even when new, these systems were inefficient.
All RCHDC projects have automatic irrigation controllers, though many are old. While these are convenient for busy property managers, if not properly programmed, significant water is wasted. Oftentimes, the people programming controllers do not understand proper use of the controller’s features and the need for scheduling based on plant types, groupings, plant maturity, soil conditions and local climate conditions.
RCHDC's irrigation issues are common to apartment complexes throughout our region.
The goal of “Landscape & Irrigation Water Conservation Improvements for Low Income Senior and Multi-family Housing Complexes" is to optimize irrigation systems and landscaping at RCHDC's housing projects to achieve a 25% reduction in water use from April to October, an overall reduction of 30% year-round and create a model process for improving irrigation and landscapes for water conservation.

42 - Russian Riverkeeper, Scarlet Wisteria Invasive Plant Removal Project	Sonoma / Mendocino County	DAC = partial	IRWM Request = $31100 Total Budget = $65100

Problem Statement: Scarlet Wisteria is a highly invasive plant that is beginning to replace native plants in the riparian areas of the Russian River Watershed. Reproductive populations of this species (plants fully mature in one year under optimal conditions) produce 100-1000 seed pods/year, with 5-10 seeds/pod. Reproductive output can exceed 500 seeds/square meter of seeds every year. Seeds remain viable in the soil for three or more years. All parts of the plant are poisonous to birds, reptiles, and mammals. It has been shown to form clusters so thick that access to the river has become difficult to impossible. This results in reduced recreation for boaters, fishers, and other activities. It is a water intensive plant and it has shown to contribute to bank erosion and flooding, thus, thriving populations result in decreased water flow and quality. It has been reported to live and reproduce up to 15 years or longer. Russian Riverkeeper Staff and volunteers have begun preliminary outreach to the public in order to educate citizens' as t the destructive nature of this plant and locate areas in the watershed where the plant is spreading. Limited eradicated efforts have shown success. Without more resources we will be unable to contain the spread of this plant. The major components of this project are 1) Continued Outreach-via our website, e-blasts, Facebook, and public forums as a way to educate residents, property owners, businesses, city leaders, etc throughout the Watershed. 2) Inventory, Mapping, Data Collection-on the ground reconnaissance as to where the plants are, age, size, numbers, proximity to waterways, how many seeds are present and then revisiting of sites and data collection after plant removal to determine effectiveness of removal upon eradication efforts. 3) Staff and Volunteer Training-as to the various removal methods used to eradicate the plant (example: pulling young plants by hand or with a weed wrench prior to seed set is the most appropriate method in controlling future infestations, but this must be practiced over a several year period as dormant seeds will continue to germinate). 4) Actual removal and successful eradication of the Scarlet Wisteria plant from the Watershed. The intended purpose of the project is to protect the Russian River Watershed from the threat of infestation of this invasive plant. We estimate current numbers to be upwards of a thousand. This is manageable and full eradication within three years can be accomplished. Should no action be taken, full scale infestation is imminent requiring massive funding to remove it in the future.

43 - Salmon River Restoration Council, Taylor Creek In-Stream Barrier Removal	Siskiyou County	DAC = y	IRWM Request = $71122 Total Budget = $206206

The site is located near the mouth of Taylor Creek, a tributary to the East Fork of the South Fork Salmon River, near Cecilville California. A collapsed bridge, that was drastically undersized for its location, has created a fish passage barrier across Taylor Creek and has compromised safe access to a home in an economically disadvantaged community. Removal of this barrier will provide access to approximately 4.25 miles of potential habitat for coho salmon and steelhead. The barrier will be replaced with a flatcar bridge with a span of 65 – 80 feet using pre-formed abutments. The stream does not require channel stabilization or grade control following barrier removal. The replacement bridge will be placed just downstream of the current collapsed bridge at a location that is both more geologically stable and will allow for the passage o f a 100 year flood event. The Salmon River is one of the most biologically intact subbasins of the Klamath River. The Klamath National Forest identifies the Salmon River as the watershed with the best anadromous fisheries habitat in the Forest. The Salmon River hosts all the native anadromous fish runs present in the Klamath River watershed. This almost ½-million acre watershed is 98% publicly owned and many segments are designated as Wild and Scenic. The large proportion of federal land and the comparatively high quality water and habitat conditions, make the Salmon River one of the best candidates for succeeding in restoring anadromous fisheries in the Klamath.Little is known about historic run sizes of coho salmon in the Salmon River, however, the IP model suggests it has a moderate carrying capacity for coho salmon. According to the California coho salmon Recovery Strategy, the Salmon River historically had an estimated 105 miles of habitat. More recent estimates suggest that Salmon River coho salmon have access to about 85 miles of habitat. The Salmon River likely supported a population of a few thousand coho salmon in the past. That number has dropped precipitously in the last two decades, and presently adult returns are likely less than 50 fish per year.Problems facing coho salmon and steelhead on the Salmon River include invasive species, barriers to fish passage, depleted large woody debris, high sediment loads, large wildfires, limited riparian function, unstable spawning gravels and temperature impairment. The Salmon River Restoration Council coordinates the bulk of fisheries monitoring, assessment and restoration in the Salmon River. One of the most important elements of long-term restoration of fish habitat is the removal of barriers to fish passage. Though Taylor Creek is not within the critical habitat zone for coho salmon, it is near the area and would potentially provide important cold water refugia for the species.

44 - Sanctuary Forest Inc., Mattole Flow Program: Mainstem & Tributary Storage and Forbearance	Humboldt County	DAC = y	IRWM Request = $361000 Total Budget = $511000

This project provides an adaptive strategy to climate change and drought that improves salmonid habitat protection and ecological functions while addressing human water needs, security, public health and environmental justice issues in the Mattole headwaters community of Whitethorn. The project is needed because local water resources have been impacted by climate change and drought for 10 out of the last 14 years. The Mattole River headwaters is both the water supply for residents and businesses and the habitat for endangered salmonids and other wildlife. In low flow years there is not enough water for basic human needs. Diversions during low flows result in drying of pools and loss of juvenile salmonid populations. There is no municipal water system and each landowner is on their own to develop their water diversion and supply system.

The proposed project improves summertime streamflows in the Mattole River headwaters by seasonally limiting diversions through storage and forbearance, thereby increasing water quantity, improving water quality, enhancing rearing requirements, and facilitating fish passage. The water conserved includes conservation improvements and leak-proofing, together with tank storage and cessation of all diversions during summer low flows. The project also provides water security for institutional and residential use in a rural community that is completely dependent on surface water diversions. Expected outcomes include 1) installation of 250,000 gallons of storage and associated water conservation and system improvements resulting in water security for 3 residential landowners (5 families); 2) improved streamflow and salmonid habitat in two tributaries and 5 miles of the Mattole headwaters mainstem where the project takes place; 3) improved protection of juvenile salmonids through installation of pump intake screens on 4 pumps; 4) operation of seasonal forbearance program with direct streamflow benefits in 9 miles of the Mattole headwaters mainstem and 5) increased community and regional participation in water conservation resulting from education associated with the project.

45 - Shasta Valley Resource Conservation District, Shasta River Drought Response and Irrigation Efficiency Project	Siskiyou County	DAC = y	IRWM Request = $694184 Total Budget = $694184

Funding for this project is requested in order to continue existing efforts by the Shasta Valley Resource Conservation District (SVRCD) to implement water quality and irrigation efficiency improvement projects in the Shasta River. The Shasta River receives little precipitation, and snow is an essential component of the watershed's hydrography. A reduction in the snow-pack due to the persistent drought conditions has in turn reduced the amount of cold water delivered to the Shasta River. According to the Southern Oregon Northern California Coho Recovery Plan, the impact of climate change overall threat rank is 'high' for the Shasta River coho population due to increasing temperatures, changes to the hydrograph, agricultural water use, and impacts to water quality (NMFS 2012). The Shasta River is 303 (d) listed for high temperature and low dissolved oxygen, and agricultural activities (livestock impacts and irrigation) have been identified as the main source of these impairments. In light of the current and persistent drought and the 2005 ESA listing of coho salmon, there is exceeding pressure on private agricultural landowners within the Shasta Valley to improve water conservation and irrigation efficiencies to maintain instream flows. The projects outlined in this proposal would aid this severely economically disadvantaged community in achieving their voluntary water conservation targets.

The Shasta River watershed's surface water resources are considered to be over allocated during the summer months. The proposed projects will directly assist landowners in controlling irrigation efficiency and directly address the concerns of the Shasta River TMDL by improving water conveyance infrastructure, improving inaccurate flow measuring equipment, and providing associated water efficiency monitoring and advisory support to assist landowners in achieving water conservation improvements over time. The projects are all located in Reach 3 of the Shasta River (Willow Creek to the mouth of the Little Shasta River) and will have a large synergistic impact on water quality and water conservation. While there has been work done in the Reach, notably the removal of a diversion dam at the Shasta Water Users Association take out, many irrigation infrastructure improvements are still required to ensure maximum water efficiencey in this reach. This work is directly related to water quality improvement work on-going throughout the Shasta River watershed, and is an important part of these coordinated efforts.

This proposal includes primarily the installation of on-farm flow measuring sites and equipment and replacement of earthen ditches with pipeline. Another component involves starting a drought response service providing assistance with leak detection, irrigation assessments, and water management training. An outreach component aligns this project with the Shasta Watershed Stewardship framework which track and share stewardship actions and benefits.

46 - Resort Improvement District No.1, Shelter Cove Water Recycling Project	Humboldt County	DAC = y	IRWM Request = $95000 Total Budget = $103500

The Resort Improvement District #1 (RID) provides potable water to the Shelter Cove (SC) community. All water used by the RID is primarily provided by one stream (Telegraph Creek) and the RID also operates and maintains 13 ground water wells and one spring. Telegraph Creek is a small creek with limited capacity that is highly vulnerable to drought and seasonal flow restrictions. RID has a permit mandating a miminmum bypass flow of 0.775 cubic feet per second for the benefit of Telegraph Creek. RID provides wastewater services to the majority of the homes in the Community, and there are approximately 464 connections; 95% of these are residential and 5% are commercial. The service includes wastewater collection, treatment, and disposal. RID has an NPDES permit to discharge to the Pacific Ocean; however, this discharge is to an Area of Special Biological Significance (ASBS) and adjacent a Marine Protected Area (MPA).In response to prolonged drought and state mandates, the RID endeavors to reduce water use and limit diversions from Telegraph Creek. Therefore, RID proposes to expand its existing water recycling program, which currently serves only part of its 9-hole golf course, to further reduce its ocean discharge and then provide residents with recycled water for landscape and small-scale irrigation. RID will expand the capacity of its tertiary recycled water treatment system, install a recycled water storage tank, prepare a recycled water monitoring plan, and educate the public on the use of recycled water. Once RID residents have agreed to abide by State requirements for the use of recycled water, which includes onsite inspections, they will be allowed to allocate recycled water from a secure storage tank for landscape and small scale agricultural irrigation. This increased capacity will reduce discharge of treated wastewater into the Pacific and provide an alternative to water theft.State policy strongly encourages the use of recycled water where feasible. The SC Fire Department generally responds to approximately 30 wildfires each year within two miles of the community and will use tertiary treated recycled water for fire suppression. In addition, over the past two years approximately 30% of S C's water supply is unaccounted for partially due to recent water theft from private water tanks and hydrants. Additional water recycling and storage would provide water to the community and mitigate against future water theft.Shelter Cove is geographically remote and must be prepared for episodic events like earthquakes and drought disasters. It has NO external water source. The economic viability of SC disadvantaged community (DAC) is expected to improve with the provision of additional water security. The physical, economic, and environmental benefits of expanding tertiary water recycling are consistent with IRWM initiatives for outreach/partnerships, economic vitality for disadvantage communities, and drought preparedness.

47 - Sonoma County Water Agency, Northern Sonoma County Water Conservation Program	Sonoma County	DAC = partial	IRWM Request = $633375 Total Budget = $1374564

Sonoma County is facing drought conditions after four consecutive dry years and the driest year on record in 2013. The need for water efficiency has never been greater. All Northern Sonoma County communities are affected by the drought and those that depend on Lake Mendocino are once again in the position to be out of water by the end of the year. While increasing water supply infrastructure is key to long term water supply resiliency, the most cost effective and immediate way to reduce demands is through water conservation programs, specifically rebates and education. The Northern Sonoma County Water Conservation Program will implement BMPs to reduce water demands that address the ongoing, limited water supply in Lake Mendocino and ensure Lake Sonoma supplies are used prudently. The Program will consist of rebates and direct customer education on actions to save water. Rebate Programs will be expanded to the region for the installation of high efficiency clothes washers, high efficiency toilets and urinals, and turf conversions. In addition, the Program will launch a Residential Water Audit Program which provides site specific assistance to homeowners on ways to save (check for leaks, provide an appropriate irrigation schedule, and prequalify customers for rebates) and allow business customers the opportunity to receive the same in-depth service to achieve significant water savings per the Governor's water reduction mandate. The education componet will also teache landscapers to reduce irrigation demand. The intended purpose is to reduce demands, increase local resiliency, and expand water conservation programs for these water utilities that are severely drought stricken. High levels of participation are expected based on past programs.The project focuses on drought-affected areas that historically have not implemented water conservation programs by providing incentives directly to customers. Early adopters will serve as role models in their communities. The Water Agency will mentor program proponents to help establish conservation programs in their service areas that partner agencies will eventually manage independently.

48 - Sonoma Resource Conservation District, Russian River Coho Drought Resiliency Planning and Implementation Program	Sonoma County	DAC = partial	IRWM Request = $687600 Total Budget = $913600

The current drought, now in its fourth year, is having acute and devastating effects on water resources throughout the Russian River watershed, both for the agricultural operations that are the backbone of the region's economy and the wildlife dependent on streamflows, most notably the endangered Central Coast coho (CCC) salmon. Focusing on the five tributaries identified by the National Fish and Wildlife Foundation (NFWF) and local, state and federal agencies as having the highest potential for streamflow enhancement and coho recovery, this project seeks to work with the largest water users in each subwatershed to significantly and measurably reduce summer stream withdrawals. Since the release of NFWF's "Business Plan for the Russian RIver Coho" in 2009, the Sonoma and Gold Ridge RCDs have served as key participants in the Russian River Coho Water Resources Partnership ("Coho Partnership"), which works through limited NFWF and Sonoma County Water Agency funding to monitor coho populations and streamflows, perform outreach, and prioritize projects in these five critical subwatersheds (Green Valley, Dutch Bill, Mill, Mark West, and Grape Creeks) to restore stream flows and improve local water supply reliability. A flow availability assessment for several of these tributaries is nearly complete, which will allow the Coho Partnership to more accurately target streamflow enhancement projects in the precise reaches where they will have the most benefit to coho survival. The goal of this project is to provide that crucial next step to allow these efforts to culminate in rapid response: developing and implementing comprehensive water conservation plans for landowners along key reaches of the five tributaries. Plans will include a suite of components: rainwater catchment to both replace stream withdrawals and enhance agricultural water supply reliability, off-channel storage development, use of soil and plant monitoring devices to decrease irrigation, irrigation efficiency upgrades, wind machines for frost protection, and stormwater management/groundwater recharge. Participating properties comprise a variety of land uses including vineyards, rangelands, orchards, crop farms, and private environmental centers/camps. The project will also implement three rainwater catchment projects whose designs are nearly complete, which will serve as highly-visible demonstration projects. Additional catchment projects identified during water conservation plan development will be submitted for implementation funding as they are designed and funding becomes available.Finally, the project will bolster long term streamflow monitoring efforts of the Coho Partnership by installing and monitoring an additional gauge for Mark West Creek to enhance site-specific management.

49 - Trinidad Rancheria, Trinidad Harbor ASBS Discharge Elimination Project	Tribal – No. District	DAC = y	IRWM Request = $1315095 Total Budget = $1395845

In 1974 kelp beds offshore of Trinidad Head were designated by the State of California as an Area of Special Biological Significance, or ASBS. This rectangle of near-shore Ocean surrounds Trinidad Head, includes Trinidad Bay to the east and State Beach to the northwest. Trinidad Head and other rock outcroppings form the sheltered open-ocean bay, which supports diverse marine life including giant kelp and other algae, harbor seals, sea lions, river otters, marine birds, fish, and invertebrates such as crab and mussels. In 2005 the Trinidad Rancheria was identified by the SWRCB as a Prohibited Discharger for several discharges to the Trinidad Head ASBS and was given a Cease and Desist Order by the SWRCB accompanied by a list of its discharges which included a freshwater hose on the pier, a fish cleaning station, runoff from the pier itself, boat cleaning activities, and runoff from the harbor parking lot facility. The Rancheria applied for and was granted an exception to the Ocean Plan in 2007 conditional on compliance with the ASBS Special Protections requirements. The Special Protections mandate that identified dischargers either eliminate discharges, or engage in ocean receiving water monitoring with planned implementation of structural and non-structural BMPs. Since 2007, the Trinidad Rancheria has successfully eliminated all but one discharge to the Trinidad Head ASBS, TRI031: overland flow and parking lot runoff.Implementation of the Trinidad Harbor ASBS Discharge Elimination Project will provide a long-term solution that addresses elimination of ASBS discharge TRI031: overland flow and parking lot runoff, through construction of low-impact-development design features including permeable pavements, underground storage, and bioretention treatment areas. Permeable pavement allows water to pass freely through interstitial space ingrained throughout a paving matrix, thereby transforming traditionally impervious surfaces into a permeable surface. Undergound storage is provided in the interstitial space within the thick layer of rock located beneath the permeable pavement and will function to retain stormwater runoff for infilitration. The bioretention treatment areas (or "bioswales") are flat-bottomed landscape depressions designed to allow water to settle and infiltrate into the soil. They reduce the peak stormwater discharge rate from a site via detention. Water quality improvements are achieved through particle settling, nutrient uptake, and filtration as water soaks into the ground. Bioretention treatment areas employ landscaping to stabilize the soil while providing water quality treatment via biofiltration. They will be planted with native herbaceous plant species.

50 - Trinity County Waterworks Dist #1, Filter Plant Compliance Project	Trinity County	DAC = y	IRWM Request = $3308000 Total Budget = $3368000

The Water Treatment Plant for Hayfork was designed and constructed in the late 1960's. Since that time the "surface water treatment rule" was adopted and implented. The current treatment plant can not comply with many of the new regulations. In 2013/2014 The Calif Dept of Public Health has issued letters stating we must comply with these regulations or we will required to issue boil water notices to our customers.

51 - Watershed Research and Training Center, South Fork Trinity River - Spring Run Chinook Salmon Restoration Project	Trinity County	DAC = y	IRWM Request = $1242892.474056 Total Budget = $1585295.264056

The South Fork Trinity River (SFTR) is the largest un-dammed river in the State of California, federally designated as a wild and scenic river, and is a keystone watershed within the Klamath River basin supporting one of the last remaining populations of wild spring-run Chinook Salmon. This once abundant fishery is in peril, and the spring run Chinook are nearing the brink of extirpation from this unique stronghold (South Fork Trinity River Spring Chinook Subgroup, Trinity River Restoration Program, Fish Work Group, 2013). Ecosystem restoration action is urgent and this proposal seeks the necessary funding to support reach-scale implementation to improve watershed health in the face of climate change and mis-managed/illegal water diversions that are destroying necessary water quality and quantity. The SFTR is a ninety-two mile long southern exposed river, flowing from the headwaters in the Yollo Bolly Mountains to the confluence with the mainstem Trinity River near Salyer located in both Trinity and Humboldt Counties. The South Fork (SF) Trinity River watershed in Trinity County has been listed as a sediment impaired waterbody in California's 1995 CWA 303(d) list, adopted by the State of California North Coast Regional Water Quality Control Board (NCRWQCB). This sediment impairment has, according to NCRWQCB, resulted in non-attainment of designated beneficial uses, primarily salmonid habitat. The major components of this project are to increase wild spring run Chinook populations through in-stream restoration techniques targeted at improving adult and juvenile salmonid habitats, restoring reach-scale physical geomorphic processes, and improving water quality related to thermal refugia. Large wood restoration implementation is the primary method for achieving the above goals. Due to the remote geographic setting of the SFTR, a unique restoration technique is proposed using a helicopter placed large wood at strategic locations across a fifteen mile reach. The wood will be placed at key locations within proximity to cold water tributary confluences. The large wood will be transported from upslope timber harvesting zones by helicopter and placed in designed arrangements to interact with hydraulic forces to induce scour pools, create habitat complexity, provide instream cover, and promote floodplain connectivity. Large wood is a critical element and driver for the interplay between ecosystem health, in-stream habitat complexity, and geomorphic processes in the formation of deep pool habitats for cool water refugia. Strategic implementation of large wood log jams will help provide the necessary reach-scale thermal resiliency for wild spring chinook to migrate through and hold in the SFTR, as well as promote the habitat complexity required by juvenile spring chinook for successful rearing and emigration.

52 - Weaverville Sanitary District, Wastewater Reclamation Project	Trinity County	DAC = y	IRWM Request = $2128697 Total Budget = $2174937

The growth of Weaverville is contrained by summer water reliabilty issues and potential take of listed coho salmom, especially in response to climatic changes that have reduce historic snow pack levels. This project will recycle 100,000-500,000 gallons of waste water per day at the WSD treatment plant and sell it to WCSD as reclaimed water for industrial/irrigation uses. While the construction of the reclaimed water facility will improve water reliability and stability, it alone will not provide long-term regulatory protections for the Weaverville Community Services District (WCSD) relative to listed coho salmon at its East Weaver Creek intake. For these reasons this project has been developed in a partnership between the WSD and WCSD and the conservation organization Northwest CA Resource Conservation and Development Council's 5C Program. The three entities have developed a 3 prong effort to provide reliabable, sustainable water to the community of Weaverville while improving salmon habitat. Among potential users of reclaimed water are a local park (already plumbed with purple pipe irrigation system), a community golf course, log watering, cooling tower uses, and other uses consistent with the State Water Resources Control Board's General Order of June 3, 2014 to streamline permitting for recycled water. In the summer of 2014 the WCSD sold ~570,000 gallons/month to users outside of the District boundaries and this is expected to increase. Many of these users lack summer water supply, while others are experiencing effects of climate change/drought and may not need water in wet years. Some of hauled water is suspected to be delivered to marijuana farmers that in the past were diverting from streams. Potential future customers include the Trinity River Lumber Company for log protection and boiler and power plant cooling and forestry/construction operations looking for road watering sources other than streams. The primary objectives of this project are: reduce surface water diversion from East Weaver Creek; reduce non-potable water demands on the WCSD facilities; minimize future development constraints due to lack of water; reduce pumping and power costs associated with the WCSD pumps in the Trinity River; and increase salmon habitat. An ancillary benefit is improved wildland fire resources. This project will allow for storage of up to 1.5 million gallons of reclaimed water in WSD ponds and this water can be accessed by helicopters and water tenders during fire emergencies.

53 - Weott Community Services District, Additional Water Storage	Humboldt County	DAC = y	IRWM Request = $75000 Total Budget = $75000

Our District currently only has a capacity to hold an approximate 3 day water supply for our comsumers. In the event of a severe drought or any other emergency situation, this supply is not sufficent to properly deal with an emergency situation. In such an emergency not only would we enact stage 3 of our drought contingency plan, but we would also have to make arrangements to purchase potable water, and try to resolve any additional issues that may arise. We would like to receive a grant for the planning phase of an additional water storage tank. The tank would be a 500,000 gallon steel tank. A tank of this size would boost the water storage capacity to 30 days, which would be sufficent time to rectify an emergency situation. We divert source water from an unnamed tributary and Decker Creek.The unnamed tributary has slowed over the last 3 years. The additional tank would also allow us to store more water in the winter when the flow is in full stream, helping us through the loss of flow in the summer. We only divert a small amount from the sources to treat and the overflow of the untreated water is diverted back into the Eel River. Having additional storage would not mean using more water, it would only mean having a suffient amount of time to deal with a water shortage. We have very strict water conservation methods in place. All of our customers are metered. We also have set water usage allotments in place, and a overuse charge if they go over the enforced allocation. We've also just enforced a outdoor potable water use restriction, only allowing 2 days per week to which potable water can be used outdoors. Additionally, one of the two small water storage tanks we currently have was build in 1972, concrete, leaky and in need of repair. Having a new tank would also provide us the benefit of water quality improvement.

54 - Westhaven Community Services District, Water Storage Tank and Roof Replacement Project	Humboldt County	DAC = y	IRWM Request = $151500 Total Budget = $154000

The water system of Westhaven CSD (District) relies on a single 100,000 gallon concrete storage tank with a metal roof supported by wood trusses that are in an advanced state of decomposition. A 2005 annual inspection conducted by the California Department of Public Health (CDPH) listed the tank's condition as "system or operational defect and/or potential health hazard – costly to correct – to be included in any long range water improvement project." The project consists of: 1) Installing a new 85,000 gallon storage tank that meets current seismic standards; 2) Installing associated piping, pump, and controls; 3) Replacing the roof on the existing tank; 4) Using the new tank to modify operating parameters to better understand and ultimately reduce Disinfection by-products (DBPs); and 5) Determining if there is a relationship between water color and Dissolved Organic Carbon (DOC) levels. A new roof will protect the District's treated water from possible contamination. The existing tank's metal and wood roof does not meet seismic standards may fail in an earthquake. Installing a second tank in order to repair the failing roof on the existing tank will provide water supply reliability to the community, as well as additional emergency and equalizing storage to the system. The second tank will also allow the District to investigate key factors in DBP formation. The system currently produces high levels of DBP with haloacetic acid concentrations recorded as high as 400 µg/l (State maximum is 60 µg/l). Haloacetic acids occur when naturally-occurring organic and inorganic materials in the water react with disinfectants such as chlorine. Also, additional storage will allow the District to possibly cease producing water during periods of heavy rain, which should reduce DOC levels which are pre-cursors to DBP formation. It is not expected that installing a second tank will reduce DBP levels to the State maximum; however, it will help the District identify the major factors associated with DBP formation (such as DOC, chlorine concentration, chlorine contact time, and pH), and test the effectiveness of operating the system under different parameters.The District received $360,000 under Proposition 84 Phase II to complete the project. However, the funding request was based on old quotes from suppliers and details such as additional piping were not included in the cost estimate. In addition, the estimate for the new tank did not consider prevailing wage rates, and California's seismic code requirements changed from the Uniform Building Code to the International Building Code, both increasing project costs. Therefore, the District is requesting an additional $159,000 to cover these additional expenses.

55 - Westside Community Improvement Association, Jefferson Community Park and Urban Farm Sustainable Irrigation Project	Humboldt County	DAC = y	IRWM Request = $563789.666666667 Total Budget = $707941.96

In 2010 Westside Community Improvement Association (WCIA) – a 501c3 formed by Westside Eureka neighbors, became the owners of the formerly abandoned Jefferson School. The school had been closed, abandoned and allowed to fall into a state of blight. The 2.6 acre parcel and school building in the most underserved disadvantaged section of Eureka became a mecca for drug activity, and crime. Now, the Jefferson Community Center and Park is a bustling center of community activity, neighborhood organizing, community gardens, a food security based youth enrichment program, a free produce distribution and more. The values of the organization and of our neighborhood are based in neighborhood resilience, environmental stewardship, and that WE will participate in designing the future of our community. Problem StatementWCIA is in the process of building the Jefferson Community Park. We have already built 21 community garden beds. We had a design to incorporate a small rainwater catchment tank to forbear some of the water needed for irrigation. Upon closer inspection of the water being produced from a cistern beneath the building we have calculated that we are producing all of the water we need to irrigate the new park and expand our community gardens to the Westside Urban Farm. The only thing keeping us from expanding to a farm now is the cost (and environmental considerations) to irrigate from a municipal source. The water coming from beneath the building has been tested and is free of contaminants. Major Components 1. 5 tanks and associated plumbing2. Solar Project to offset pumping.3. Retrofit outside bathrooms to use rainwater for toilets4. Coordinate volunteers for farm building5. Host educational events focusing on rainwater catchment, urban farming, and community resilience.6. Include water conservation, climate change, renewable energy and urban farming curriculum into the youth enrichment program.7. Have residents take leadership roles in coordinating volunteer days to foster social cohesion and community buy in. 8. Document our design and programs to share with other 1940s California Schools beginning with Worthington School in Eureka. Our building is identical to many across the state.

56 - Willow County Water District, Willow County Water Security Project	Mendocino County	DAC = y	IRWM Request = $149700 Total Budget = $150200

The Willow County Water District (District) diverts water from the Russian River through three wells. Currently, the District must purchase twenty percent of its water from the Russian River Flood Control District to accommodate summer demand. This is not a guaranteed water source, and the District must request the water on an annual basis. Therefore, the District does not have a reliable water supply. The District intends to explore the groundwater table below waters considered to supply the Russian River. Past reports indicate that groundwater is available in this aquifer at lower but adequate yields. Three test wells will be drilled to estimate available yields and evaluate water quality. Should a site provide adequate water then the District will seek Proposition 1 or SRF funds to develop productive wells. Additionally, the District needs to develop an alternative water source to supplement its water supply during droughts.

57 - Yurok Tribe, Yurok Watershed Restoration and Drinking Water Security	Tribal - Northern District	DAC = y	IRWM Request = $702463 Total Budget = $1020368

The Yurok is proposing a comprehensive resource management project comprised of two components: an Alternative Drinking Water Storage Component (Water Storage) and a Watershed Restoration Component (Watershed Restoration). This coordinated project was developed to meet the following high priority Tribal Trust water resource protection and restoration needs: improving water security for tribal members while protecting cold water tributary flows, increasing community and watershed resiliency to climate change affects, and implementing effective habitat restoration measures in priority Lower Klamath tributaries. Lower Klamath tributaries support numerous anadromous fish populations as well as provide vitally important cold water inputs to the mainstem Klamath during summer (i.e. thermal refugia). Anadromous fish from throughout the Klamath Basin rely on thermal refugias for survival while migrating to the ocean as juveniles or to their spawning grounds as adults. In the face of climate change and the current drought, there is a critical need to protect and/or enhance “cold” water sources while also ensuring reliable domestic water supplies for disadvantaged communities. The Water Storage component will work with five landowners with surface drinking water systems on Klamath tributaries identified as important for supporting thermal refugia for native fish. These landowners indicated that they must divert 25-40% of their tributaries during summer and do not have filtration systems or float valves. We will install 3-2500 gallon tanks and filter systems to provide these landowners additional water storage capabilities during the rainy season with the goals of providing adequate supplies of filtered drinking water during the driest part of the year (August-September), and eliminating summer diversions to provide increased thermal refugia benefits. This is a pilot program and if successful will be expanded to increase water security throughout the sub-basin. The Watershed Restoration component consists of designing and implementing feasible instream habitat restoration in Blue Creek, and decommissioning priority legacy roads and stream crossings in Turwar Creek to provide long-term water quality benefits. Blue and Turwar creeks support spawning runs of chinook, coho, steelhead, and coastal cutthroat trout as well as provide vitally important summer thermal refugia in the Klamath River. These tasks were selected to support larger-scale Yurok restoration initiatives: comprehensive restoration of Turwar Creek, and future management of lower Blue Creek as a salmon sanctuary. Blue Creek is the largest Lower Klamath tributary and is the highest priority watershed for receiving protection and restoration. Therefore, developing and implementing effective restoration designs capable of facilitating multiple and long-term water resource benefits (i.e. increased salmonid prouctivity, improved water quality, and climate change resiliency) is critically important.

Attachment B

North Coast Resource Partnership Technical Peer Review Committee
2015 Project Proposal Review Final Score

ID	Organization Name	Project Name	Average Score
1	Alderpoint County Water District	Alderpoint Capacity Study	51.38
2	Bear River Band of the Rohnerville Rancheria	Bear River Band of The Rohnerville Rancheria Reclaimed Water Project	57.83
3	Brooktrails Township Community Services District	Tank #3 Replacement	44.17
4	California Trout, Inc	Elk River Sediment Remediation Pilot Implementation Projects	48.26
5	Caspar Community	Caspar Water Project	47.09
6	City of Arcata, Environmental Division	City of Arcata Discharge Permit Compliance and Energy Conservation Project	52.73
7	City of Blue Lake	Blue Lake Water Supply Protection and Creek Restoration Project	49.79
8	City of Dorris	Dorris Water Storage Tank	52.52
9	City of Ferndale	City of Ferndale Flood Management Plan	46.86
10	City of Santa Rosa	Lower Colgan Creek Restoration - Phase 2	51.08
11	City of Ukiah	Ukiah Valley and Russian River Water Supply Reliability Project	53.31
12	City of Weed	Boles Fire Water System Rehabilitation/Water System Restoration	57.22
13	City of Willits	Emergency Groundwater Supply Project	50.04
14	City of Willits	Permanent Groundwater Supply Project	48.31
15	Del Norte County	County Service Area # 1 and Crescent City Lift Station Rehabilitation	51.73
16	Fieldbrook Glendale Community Services District	FGCSD Water Storage Improvement Project	51.58
17	Gold Ridge Resource Conservation District	Working Landscapes Drought Resiliency Project	54.79
18	Gualala River Watershed Council	Flow Bank Program - Phase II	53.10

North Coast Resource Partnership Technical Peer Review Committee
2015 Project Proposal Review Final Score

ID	Organization Name	Project Name	Average Score
19	Happy Camp Community Services District	Happy Camp Water System Upgrades - Phase 1	57.48
20	Hoopa Valley Tribe	Hoopa Valley Public Utility District Conservation Project	60.70
21	Hoopa Valley Tribe	Lower Supply Flood Risk Reduction and Fisheries Habitat Improvement Project	55.58
22	Hopland Band of Pomo Indians	Hopland Band of Pomo Indians Community Test Wells and Water Security Study	59.91
23	Huckleberry Mutual Water Company	Huckleberry Mutual Water Company Disinfection, Storage, Distribution and Intertie Planning and Execution	53.20
24	Humboldt Bay Harbor, Recreation and Conservation District	Humboldt Bay Spartina Control	45.63
25	Humboldt Bay Municipal Water District	Ranney Collector 2 Rehabilitation Project	49.50
26	Humboldt Community Services District	Ridgewood Water Reliability Improvement Project	47.56
27	Humboldt County Resource Conservation District (HCRCD)	Restoring Stream Flow and Fish Passage on the Eel River Delta	56.03
28	Lewiston Community Services District	Lewiston Community Services District Wastewater Collection, Treatment, and Disposal Project	54.65
29	Lewiston Park Mutual Water Company	Lewiston Valley Drinking Water Intertie Pipeline	58.88
30	Mattole Restoration Council	Lower Mattole River and Estuary Enhancement and Drought Resiliency Project	54.20
31	Mendocino Coast Botanical Gardens	Mendocino Coast Botanical Gardens Water Infrastructure Project	43.66
32	Mendocino County Resource Conservation District	Implementing On-Farm Water Conservation Projects in the Navarro to Address Critical Low Flows	55.42
33	Mendocino County Resource Conservation District	Water Conservation Technical Assistance to Mendocino County Tribes	57.21
34	Mid Klamath Watershed Council	Horse Creek Wood Loading, Floodplain Relief and Groundwater Recharge Project: Phase III	50.94
35	Mid Klamath Watershed Council	Mid Klamath Tributary Thermal Refugia Improvement and Groundwater Recharge Project	51.22
36	Montague Water Conservation District	Montague Water Conservation District- Instream Flow Enhancement through Water Conservation	58.30
37	Northern California Resource Center	Scott River Water Yield Enhancement	47.59
38	Northwest CA Resource Conservation & Development Council	Trinity River Water Reliability and Drought Resiliency Project	53.38

North Coast Resource Partnership Technical Peer Review Committee
2015 Project Proposal Review Final Score

ID	Organization Name	Project Name	Average Score
39	Palmer Creek Community Service District	Palmer Creek Water System Reliability Project	49.68
40	Redwood Community Action Agency	Martin Slough Enhancement Project	50.01
41	Rural Communities Housing Development Corporation	Landscape & Irrigation Water Conservation for Low Income Senior and Multi-Family Housing Complexes	42.15
42	Russian Riverkeeper	Scarlet Wisteria (Sesbania punicea) Invasive Plant Removal Project	42.94
43	Salmon River Restoration Council	Taylor Creek In-Stream Barrier Removal	45.43
44	Sanctuary Forest Inc.	Mattole Flow Program: Mainstem & Tributary Storage and Forbearance	57.59
45	Shasta Valley Resource Conservation District	Shasta River Drought Response and Irrigation Efficiency Project	55.21
46	Resort Improvement District No.1	Shelter Cove Water Recycling Project	54.52
47	Sonoma County Water Agency	Northern Sonoma County Water Conservation Program	58.76
48	Sonoma Resource Conservation District	Russian River Coho Drought Resiliency Planning and Implementation Program	53.26
49	Trinidad Rancheria	Trinidad Harbor ASBS Discharge Elimination Project	49.37
50	Trinity County Waterworks Dist #1	TCWW Filter Plant Compliance Project	45.01
51	Watershed Research and Training Center	South Fork Trinity River (SFTR) - Spring Run Chinook Salmon Restoration Project	51.96
52	Weaverville Sanitary District	Weaverville Sanitary District Wastewater Reclamation Project	55.06
53	Weott Community Services District	Additional Water Storage	54.85
54	Westhaven Community Services District	Water Storage Tank and Roof Replacement Project	57.85
55	Westside Community Improvement Association	Jefferson Community Park and Urban Farm Sustainable Irrigation Project	52.75
56	Willow County Water District	Willow County Water Security Project	53.34
57	Yurok Tribe	Yurok Watershed Restoration and Drinking Water Security	58.47

Attachment C

Healthy Communities, Functional Ecosystems, Vibrant Economy

Cover Page/Acknowledgments:

NCRP PRP/TPRC, SGC required text, DWR, other funders

Introduction/Background

Overview of NCRP

- Goals and objectives
- History and Accomplishments to date
- Governance and Technical
- Local Autonomy

- Regional Description
  - Biophysical
  - Socio-economic

Plan Organization

This plan is organized both thematically and geographically - stand alone chapters may be downloaded or the entire plan may be downloaded

Plan Purpose

- Document current status of region's resources: natural capital, human capital, built capital
- Identify opportunities to enhance activities that support goal of healthy communities, functional ecosystems, vibrant economies
  - Analyze and plan for enhanced built infrastructure that is compatible with community, economic and ecosystem goals
  - Analyze and plan for the conservation of natural capital – including working lands and natural areas
  - Tee up region for funding
  - Identify new financing mechanisms and economic opportunities compatible with NCRP goals
- Tier off and align with State and Federal Policy Directives (via a rural north coast lens)
  - AB 32 (summarize key relevant elements)

    - SB 375 (summarize key relevant elements; note waiver of SCS requirement)
    - Sustainable Groundwater Act
    - Proposition 1
    - Other (including climate adaptation)
- Articulate Role of North Coast as a source region (water, biodiversity, carbon) that should be invested in

Documentation of the North Coast Region's Built, Natural and Human Capital

This section is focused on data and assessment – foundational to and informs all of the following plans

- Current emissions
    - Forest and native vegetation removal
    - Agricultural lands
    - Transportation
    - Residential and Municipal buildings
    - Water transmission
    - Fire
    - other
- Current sequestration
    - Forest
    - Working lands
- Adaptation: Downscaled climate models & local climate data
    - Sea level rise
    - Volatile weather patterns/Flooding
    - Landscape scale drought
    - Increased fire
    - Biodiversity impacts
    - Health impacts
    - Disproportionate impacts on economically disadvantaged communities
- Regional Socio-economic assessment
    - Jobs

    - Revenue
    - Income
    - health
- Regional natural capital assessment
    - Natural areas
        - Water quality and supply
            - Groundwater Mapping and Gaps
            - Surface Water
            - Basin Characterization Model
        - Flood control
        - Carbon
        - Pollination
        - biodiversity
    - Working Lands
        - Rangelands
        - Working forests
- Regional Built Capital Assessment
    - Broadband infrastructure
    - Energy conveyance infrastructure
    - Water and wastewater infrastructure
    - Transportation Infrastructure
    - Residential and Municipal Buildings
    - Relationships among built infrastructure: ie, water/energy nexus, role of broadband in reducing emissions
- Gaps and Constraints in meeting North Coast goals for resiliency
- Relationships among built and natural capital – opportunities for enhanced efficiency or economic benefit from integration

TARGETED PLANS (these are sub-planning documents which can stand alone, yet are contextualized in this document)

North Coast Resource Partnership Climate Change & Energy Independence Plan

- GHG emissions reduction (avoidance) & energy independence strategies
    - Transportation
    - Land Use and Zoning
    - Residential and Municipal Energy independence options
    - Broadband Infrastructure
    - Small scale biomass generation
    - Solar
    - Small hydro
    - Other renewable
    - Policy and financing options: PACE, etc
- Carbon sequestration and emissions avoidance strategies
    - Scenarios for emissions without land conservation
    - Mechanisms for retaining C sequestration in natural and working lands
    - Auction proceeds as a mechanism for funding (SALCP, etc)
- Climate Change Adaptation Strategies
    - Sea level rise – planned retreat
        - Easements/buy out
        - Model planning elements
    - Climate volatility/disaster resiliency
        - Flooding
        - Fire
        - Drought
        - Model planning elements
    - Public health strategies
    - Economic Adaptation measures
    - Resource Management adaptation measures
    - Local support

North Coast Regional Greenprint (new name: NCRP Integrated Conservation Plan: Working Lands and Natural Systems)

- Managing forests for water, carbon, biodiversity, fire risk reduction and economic benefit
- Maintaining agricultural lands and ag viability in the context of natural system conservation
- Financing mechanisms and economic incentives for maintaining working lands and natural areas
- Relationship between growth/infill and working lands/natural areas

Model Planning & Policy Toolkit

- Individual planning elements available to be adopted by jurisdictions – see CA 2020 and other examples
- Energy
- Adaptation
- Transportation
- Waste
- Land Use
- Water Quality and Supply

Long Term Economic and Financing Plan

- Funding Mechanisms, Funding Programs, Financing Plan
    - Ratepayer options
    - Sales tax
    - Tourism
    - Small scale energy generation
    - State funding sources
    - Federal funding sources
    - Funding from downstream beneficiaries
    - Cannabis

References

Appendices

- Documentation of stakeholder meetings, interviews and input
- Sustained tracking and performance evaluation plan
- Summary of Existing Plans and Policies
- Documentation of RFP and Contracting Process

Attachment D

GOALS AND OBJECTIVES

Current SGC Objectives

- Improve air and water quality
- Promote public health
- Promote equity
- Increase housing affordability
- Protect natural resources and agricultural lands
- Reduce automobile usage and fuel consumption
- Improve infrastructure systems (water/wastewater, broadband, energy, waste, transportation, natural infrastructure)
- Promote water conservation
- Promote energy efficiency and conservation
- Strengthen the economy

Current NCRP Goals and Objectives

GOAL 1: INTRAREGIONAL COOPERATION & ADAPTIVE MANAGEMENT

- **Objective 1** - Respect local autonomy and local knowledge in Plan and project development and implementation
- **Objective 2** - Provide an ongoing framework for inclusive, efficient intraregional cooperation and effective, accountable NCIRWMP project implementation

GOAL 2: ECONOMIC VITALITY

- **Objective 3** - Ensure that economically disadvantaged communities are supported and that project implementation enhances the economic vitality of disadvantaged communities.

- **Objective 4** - Conserve and improve the economic benefits of North Coast Region working landscapes and natural areas

GOAL 3: ECOSYSTEM CONSERVATION AND ENHANCEMENT

- **Objective 5** - Conserve, enhance, and restore watersheds and aquatic ecosystems, including functions, habitats, and elements that support biological diversity
- **Objective 6** - Enhance salmonid populations by conserving, enhancing, and restoring required habitats and watershed processes

GOAL 4: BENEFICIAL USES OF WATER

- **Objective 7** - Ensure water supply reliability and quality for municipal, domestic, agricultural, cultural, and recreational uses while minimizing impacts to sensitive resources
- **Objective 8** - Improve drinking water quality and water related infrastructure to protect public health, with a focus on economically disadvantaged communities
- **Objective 9** - Protect groundwater resources from over-drafting and contamination

GOAL 5: CLIMATE ADAPTATION & ENERGY INDEPENDENCE

- **Objective 10** - Assess climate change effects, impacts, vulnerabilities, and strategies for local and regional sectors
- **Objective 11** - Promote local energy independence, water/ energy use efficiency, GHG emission reduction, and jobs creation

GOAL 6: PUBLIC SAFETY

- **Objective 12** - Improve flood protection and reduce flood risk in support of public safety