



Salmonid Restoration Federation

Summer 2015

The 18th Annual Coho Confab, coordinated by Salmonid Restoration Federation (SRF), will be held August 21-23 at Westminster Woods Camp in the Dutch Bill Creek watershed of Western Sonoma. The Coho Confab is a field symposium to learn about watershed restoration and techniques to restore and recover coho salmon populations. The Confab provides an ideal opportunity to network with other fish-centric people and to participate in field tours that highlight innovative salmon restoration practices. This year, SRF is collaborating with several groups to produce this educational event including our sponsor, the California Department of Fish & Wildlife, and restoration partners including the Gold Ridge Resource Conservation District (RCD), Trout Unlimited, NOAA Fisheries, and the Sonoma County RCD.

The Coho Confab will open Friday evening, August 21 with a community dinner and inspiring keynote presentations from Charlotte Ambrose (California Programs Coordinator of NOAA Fisheries), Brock Dolman (OAEC's Water Institute Director), and John Green (Program Manager of Gold Ridge RCD and the winner of the 2015 SRF Restorationist of the Year award). Presentations will focus on the social aspects of saving salmon, conservation

Con-fab

informal
noun

1. an informal private conversation or discussion.

"they wandered off to the woods for a private confab"

hydrology, planning and implementation, and restoring landscape hydrology.

On Saturday morning, John Green will lead a field tour focused on salmonid restoration in the Dutch Bill watershed. Sierra Cantor of Gold Ridge RCD and forester Chris Blencowe will co-lead a tour to see Green Valley Creek off-channel habitat and large wood



Smith River (top) and coho salmon playing.
Photos by Thomas B. Dunklin

installations in Willow Creek. Brian Cluer and Michael Pollock of NOAA Fisheries will also lead a full-day tour of Willow Creek—a unique example of a valley wetland stream complex that

provides rich salmonid habitat and gives us a glimpse of historically common terrestrial conditions. This field tour will visit fish monitoring sites, present relevant data, and explore the riparian jungle.

Saturday afternoon concurrent sessions will include a Conservation Hydrology tour of the famed Occidental Arts and Ecology Center with permaculture expert Brock Dolman, and a Water Rights Clinic with attorney Matt Clifford of Trout Unlimited. When participants return from field tours, Charlotte Ambrose and Bob Coey from the West Coast Region of NOAA Fisheries will lead the Open Forum: *A Field Guide to Central California Coast Recovery*.

The last day of the Confab will include a Sunday morning field tour of Grape Creek off-channel storage and large woody debris projects, a Bodega Bay Roofwater Harvesting and Streamflow Restoration tour with Lauren Hammack of Prunuske Chatham, and a Warm Springs Hatchery and Dry Creek restoration projects tour led by the U.S. Army Corps of Engineers.

Registration fees cover field tours, workshops, meals, and camping. To register for the Confab or to view the full agenda please visit our website: www.calsalmon.org.

If you are interested in shared house lodging, please email info@calsalmon.org.

COHO CONFAB

A FIELD GUIDE TO COHO SALMON RECOVERY

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Environmental Action Committee of West Marin

It Takes a Tributary

Next Steps for the Redwood Creek Project

This summer, with funding from the Department of Fish and Wildlife's Fisheries Restoration Grant Program and the North Coast Regional Water Quality Control Board's 319h grant program, Salmonid Restoration Federation will be making great strides with the planning, assessment, and monitoring components of the Redwood Creek Water Conservation Project as well as our ongoing education and outreach efforts.

California is still in the throes of an extreme and persistent drought, and many of our coastal streams and tributaries that rural families depend on in Southern Humboldt County and elsewhere are likely to reach perilously low levels or dry up completely as the summer progresses. For people, this translates to reduced water security and increased health risks associated with poor water quality. For juvenile salmonids, low flows can reduce their chances for survival as pools become shallower, warmer, and disconnected.

The Redwood Creek Water Conservation Project is a collaborative, multi-stakeholder response to this drought. With the guidance of Sanctuary Forest, SRF spearheaded a community outreach campaign to empower local residents to become responsible water users and to encourage participation in water conservation efforts. SRF has been informing residents of the various methods and opportunities for reducing their water footprints including utilizing permaculture principles, segregating drinking water and irrigation water, and simple plumbing improvements, and greywater applications to yield an immediate water savings.

SRF is monitoring low flows and will be sharing flow information in real time on our new Redwood Creek Water Conservation facebook page, in the media, and through signage that we will update regularly so residents can see the flow and understand when the water level is too low to pump. We have created educational signage that will be displayed at local businesses where store sections will spotlight fish-friendly products, water conservation supplies, and relevant water- and drought-related information.

SRF is also addressing some of the financial and regulatory barriers that residents and landowners face when they wish to install winter water storage tanks on their properties by coordinating bulk water tank purchases and advocating for county and state incentives for landowners to invest in water storage. SRF is disseminating information about the Emergency Tank Registration Program and continuing to educate residents about water rights and other compliance efforts. Our approach is to create educational materials that are accessible, useful and applicable to all North Coast watersheds. SRF is also hosting water rights clinics and helping to facilitate tributary association meetings so citizens can build capacity for community-based water conservation programs.

Redwood Creek Water Levels

OKAY

LOW

CRITICAL



Salmon Restoration Federation
www.calsalmon.org



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33rd Annual Salmonid Restoration Conference Recap

Fisheries Restoration: Planning for Resilience

In March of 2015, the Salmonid Restoration Federation produced the 33rd Annual Salmonid Restoration Conference in Santa Rosa, California that was attended by over 650 people. The theme of the conference was “Fisheries Restoration: Planning for Resilience.” The conference agenda highlighted habitat restoration techniques, validating effectiveness monitoring, as well as strategies and mechanisms to restore



The SRF Conference culminates with a Cabaret, Banquet, and Awards Ceremony. This year the Restorationist of the Year award was given to John Green, Program Manager of Gold Ridge RCD.

photo by Thomas B. Dunklin



Redwood Creek and Muir Beach Restoration tour was led by Prunuske Chatham and the National Park Service. photos by Don Allan



and recover salmonids. The conference agenda explored key recovery actions and implementation priorities in Pacific Northwest salmon recovery plans and efforts to plan for resilience in California’s landscape.

Workshops included an urban creek workshop highlighting efforts to interface with communities, a Central California Coastal Monitoring Program workshop, fish passage and protection,

a captive broodstock symposium and Warm Springs hatchery tour; and the premiere Innovative Trans-Boundary Approaches to Coho Salmon Recovery workshop.

Field tours included Bio-Engineering and Floodplain Restoration on the Russian and Napa Rivers; Large Wood and Off-Channel Habitat Projects in Western Sonoma; Lagunitas Creek Watershed: Stem to Stern Salmon Enhancement; Improving Summer Streamflows workshop and tour; Redwood Creek and Muir Beach Restoration Projects; and a Dry Creek Habitat Enhancement Project Tour.

Concurrent sessions included a recovery and implementation track with the following sessions: West

Coast Salmonid Recovery Plans and Strategies; Mechanisms for Salmonid Recovery Planning and Implementation Strategies; and Coho Salmon Habitat Restoration in Northern California: Prioritization and Implementation at ESU to Site Scales. There was a climate, drought, and flow changes track with the following sessions: Climate Change Vulnerability Assessments: The Road to Resilience and Adaptation; Managing for Drought: Advances in Groundwater Policy, Recharge and Flow Enhancement Practices and Changing Flow Regimes in the Eel and Russian Rivers. A physical and environmental track included Instream Wood Loading Projects in Northern California: Status, Challenges, and Case Studies; and Beyond the Thin Blue Line: Floodplain Processes, Habitat, and Importance to Salmonids. Additional sessions focused on validating effectiveness monitoring of habitat restoration, strategically planning for salmon restoration, and the restoration continuum and building diverse partnerships.

The Plenary session featured keynote addresses by Congressman Jared Huffman, authors Ann Riley (*Restoring Streams in Cities: A Guide for Planners, Policymakers, and Citizens*) and Lynn Ingram (*The West Without Water*) and Brian Spence of NOAA Fisheries.



Congressman Jared Huffman met with Veterans in the NOAA Fisheries Restoration Program and the California Conservation Corps. photo by Bob Pagliuco

Redwood Creek, South Fork Eel River Water C

California is experiencing one of the most severe droughts on record, and it is clear that longer dry seasons are already impacting Northern California residents and wildlife.

Early in 2013, Salmonid Restoration Federation (SRF) and Sanctuary Forest began efforts to determine the feasibility of transferring Sanctuary Forest's Mattole headwaters water storage and forbearance program to a neighboring watershed on the South Fork of the Eel River, where the native coho population is key to recovering the Southern Oregon Northern California Coast (SONCC) Evolutionary Significant Unit (ESU).

Sanctuary Forest's innovative program—where one million gallons of winter storage was established for sixteen residents along a one mile stretch of the Mattole headwaters—resulted in a 40% increase in streamflows within their project area. The idea is simple enough: store enough water in the winter when flows are plentiful to use during the summer, and forbear from pumping water during the dry season.

The Redwood Creek Water Conservation Project

Redwood Creek is a 26 square mile watershed that borders the Mattole River and flows into the South Fork of the Eel River near Redway, California. The Creek and its five tributaries have been identified by the California Department of Fish and Wildlife as important coho-bearing water courses, yet habitat degradation resulting from low summertime flows and high water temperatures pose a serious threat to the recovery of this endangered native salmon population. Additionally, these watersheds are home to rural residents that depend on healthy streamflows for their household and irrigation needs.

The Redwood Creek Water Conservation Project engages rural landowners and stakeholders in a coordinated, community-led water conservation effort. With the support of restoration partners, SRF has hosted several water conservation workshops and created and distributed educational materials about water rights, water conservation, and drought resilience.

A Place-based Collective Action Strategy

Collective efforts to transfer or scale-out voluntary water conservation strategies are more likely to be successful if local residents have an emotional and physical attachment to the watershed as their place, if the project is driven by the stakeholders and residents who stand to benefit from increased streamflows, and if the project stakeholders have sufficient access to ecological data (Schremmer 2014).

The Redwood Creek Water Conservation Project is utilizing a place-based, collaborative streamflow improvement strategy. The project puts a high value on local and inter-generational knowledge-sharing and participation, emphasizes the intrinsic value of non-human creatures indigenous to the watershed (particularly of native salmon), and is motivated by a desire to improve the landscape for the benefit and enjoyment of future generations.

Under the right circumstances, place-based collaborative restoration can provide an effective framework for encouraging local citizens to become active participants and caretakers of the places that they call home.

Low Flow Monitoring

During the initial year of flow monitoring conducted by Bill Eastwood of the Eel River Salmon Restoration Project, eleven monitoring sites were established in 2013. Between early August and mid-September, most of the streams became intermittent and most pools were either very low or completely dry. Minimum flows at all of the monitoring sites were at less than one gallon per minute by mid-September, which meant that just two households pumping at the same time could have potentially dewatered the creeks.

In 2014, stream flow declined earlier than in the previous year, the low flow



SRF and Stillwater Sciences are conducting a feasibility study to determine which reaches of Miller Creek would most benefit from a coordinated water conservation effort and to determine target flows.

Conservation Program: Planning for Resilience

period lasted longer, the streams were more severely impacted, and it took longer for stream flow to recover after the rains started.

Next Steps for the Feasibility Study

SRF has received funding from the State Water Resources Control Board's 319h grant program to expand the flow monitoring and community education efforts in the Redwood Creek watershed over the next two years. With the support and technical expertise of hydrologist Randy Klein, we will be analyzing low flow and water temperature data during the summer months to understand what flow levels are required to keep pools connected, maintain juvenile salmon populations, and to maintain cool enough water temperatures for all life stages to survive within this critical habitat area.

Additionally, with funding from the California Department of Fish and Wildlife, SRF will work with Stillwater Sciences and Trout Unlimited on a feasibility study in Miller Creek and the adjacent portion of the main-stem of Redwood Creek to understand what types of large-scale water conservation and forbearance programs could enhance flows in this watershed.

Data collection will be very similar to that of 2013-14, focusing on stream discharges and water temperatures collected at mainstem and tributary sites. The main difference in 2015 monitoring protocol will be supplementing manually collected data with automated stage data collected with electronic data loggers.

photos in this article by Bill Eastwood

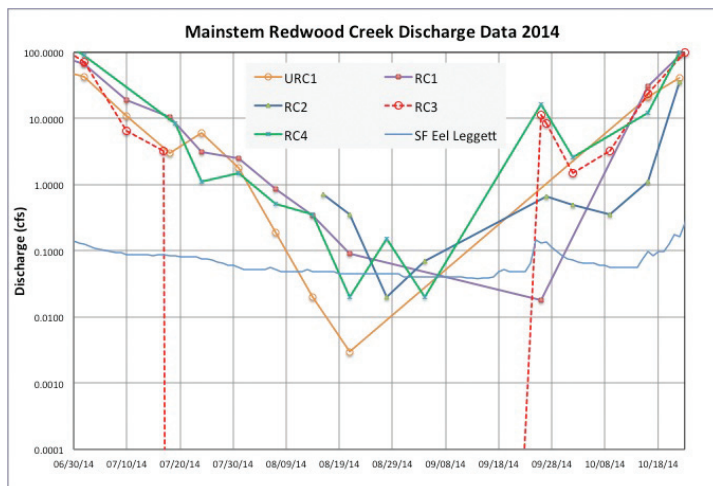
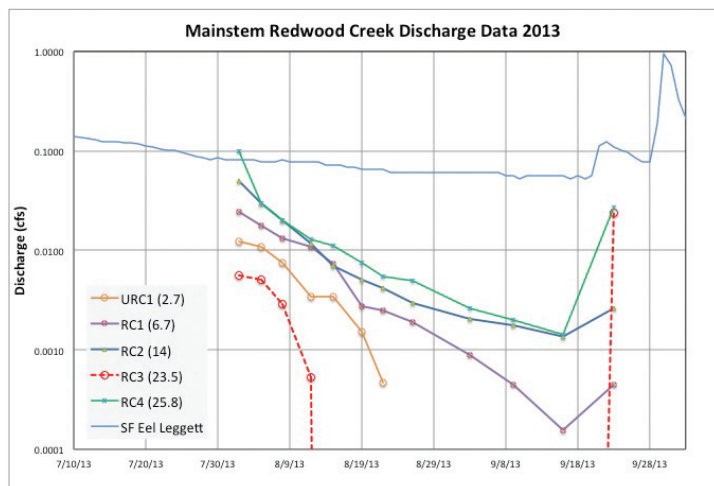


SRF is working closely with Sanctuary Forest to learn how to build capacity for a forbearance program in the Redwood Creek watershed. We have followed the recommended sequencing for building community support and the scientific foundation for a feasibility study: 1) conduct a water usage study; 2) community outreach and education; 3) low flow monitoring in all tributaries of Redwood Creek; 4) technical education; and 5) planning, assessment, and continued monitoring (funded by the NCRWQCB 319h grant).

SRF is actively conducting landowner outreach, developing educational

materials describing how to most efficiently use water, encouraging landowners to invest in additional winter storage, identifying landowners who are willing to participate in a forbearance program and stop diverting water during the dry months, offering technical assistance to willing landowners, developing materials that can be shared at workshops and an online platform, and hosting water rights clinics.

For more information, please email water@calsalmon.org or visit the Redwood Creek Program page of our website.



To address the low flow problem in Redwood Creek, a study will commence in 2015 with these objectives: 1. Quantify summer/fall stream discharges at a suite of main channel and tributary sites; 2. Evaluate possible causes of unexpected flow variations (e.g., decreasing discharge with increasing drainage area); 3. Identify and rank sub-watersheds that may be impacted by water diversions and therefore benefit from forbearance agreements; 4. Recommend means to streamline future monitoring.

The Breakdown on the California Water Bond: Proposition 1

In the 2014 November election, California voters passed the 4th largest Water Bond in California's history, Proposition 1. The bond authorizes \$7.12 billion in new general obligation bonds and re-allocates \$425 million in previously authorized unsold bonds to fund various water-related programs.

Weathering Drought

Most of the snow and rain that California's people and economic activities rely on has historically fallen in the northern and eastern parts of the state, whereas the state's major population centers have developed along the Pacific Coast and in the arid south. To supply cities and to provide irrigation water for agricultural land in the Central Valley and coastal valleys, as well as to manage periodic flooding in the 20th century, state and federal governments engineered complex systems for storing and transferring water: the federal Central Valley Project (CVP) and the State Water Project (SWP).

Northern California watersheds feed the state's two largest rivers, the Sacramento and the San Joaquin, which

meet in a delta and estuary, the Bay-Delta Estuary, before flowing into San Pablo and San Francisco bays. Water for the CVP and SWP moves through the area where the rivers converge and is transferred to users around the state. About two-thirds of Californians get some portion of their water for drinking, household uses, and landscaping through this system that also serves three million acres of farmland, mostly in the San Joaquin Valley. Of this water that has been "developed" for economic purposes, about 20% is for urban, municipal, and industrial uses, and 80% is used for agriculture. Additional "undeveloped" water meets environmental needs, such as instream flows that support fisheries and other aquatic life. Proportions vary from region to region and from year to year.

By historical standards, the 20th century was unusually wet. Although the century was punctuated by several multi-year droughts, much of the time there was enough snow and rain to support generous allocations of water for agricultural and urban development. By the first decade of the 21st century, problems had become apparent.

The state's system of water allocation was overtaxing the environment, especially fisheries, in the upper watersheds, the Sacramento-San Joaquin Delta, the San Francisco Bay, and California coastal areas.

Changing climate conditions might affect the amount, location, and timing of precipitation that the water system relies on, creating both increased risks of flooding and delivery uncertainties; drought conditions are likely to become the norm rather than the exception.

The state's groundwater aquifers, especially in the agricultural Central Valley, had been overdrafted, in some cases beyond recovery.

Proposition 1 will allocate funds for select ecosystem protection and restoration as well as improvements to surface and groundwater quality.

Provisions of the Water Bond

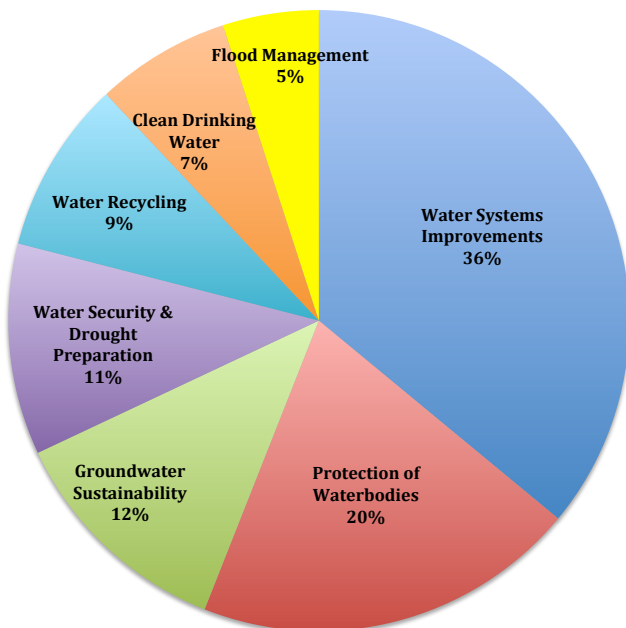
- Clean, Safe, and Reliable Drinking Water, \$520 million (7%).
- Protecting Rivers, Lakes, Streams, Coastal Waters, and Watersheds, \$1.495 billion (20%).
- Regional Water Security, Climate, and Drought Preparedness, \$810 million (11%).
- Statewide Water System Operational Improvement and Drought Preparedness (dams and other storage), \$2.7 billion (36%).
- Water Recycling, \$725 million (9%).
- Groundwater Sustainability, \$900 million (12%).
- Flood Management, \$395 million (5%).

Benefits to Fisheries

Watershed Restoration

- \$285,000,000 to the Department of Fish and Wildlife (CDFW) for watershed restoration projects statewide, including fisheries restoration.
- \$87,500,000 to the CDFW for water quality, ecosystem restoration, and fish protection facilities that benefit the Delta.
- \$510,000,000 to hydrologic regions.

Prop 1 Funding Allocations



Background and water bond analysis excerpted from the League of Women Voters of California and the Pacific Institute. Pie graph by SRF.

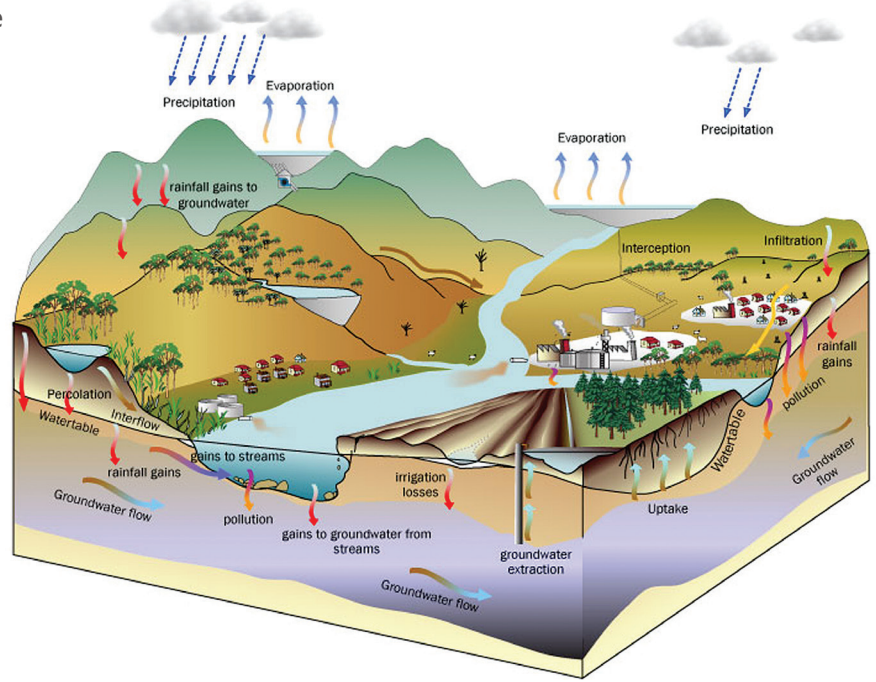
At Last, California Is Regulating Groundwater

By Amy Trainer, JD, West Marin Action Committee

Groundwater resources are a crucial component of California's water supply, providing approximately 40% of water used in normal years and 60% or more during drought years for certain communities. A vast amount of peer-reviewed literature and official government reports have emphasized and quantified the importance of groundwater to sustaining California's overall economy, numerous rural populations with small community water systems, lucrative agricultural industry, the environment, and public health. Until the 2014 Sustainable Groundwater Management Act, California was the only state in the western United States that had absolutely no groundwater regulations or compulsory management plans.

The Sustainable Groundwater Management Act (the Act) was signed into law by Governor Jerry Brown on September 16, 2014. For the first time in California history, groundwater is required to be managed sustainably in all basins determined to be at medium to high risk of significant economic, social and environmental impacts due to an unsustainable and chronic pattern of groundwater extraction. If the extraction rate exceeds recharge capability, changes will be required. The Act doesn't apply to basins that have been already adjudicated or are already being sustainably managed. All lower priority basins can also utilize the Act, building on the discretionary planning process under SB 3030 when groundwater is not properly managed.

The Act makes important legislative findings, including the need to manage the interconnected relationship between surface and groundwater, recognition of California's high reliance on groundwater to meet its water needs, and that deteriorated water quality, land subsidence, and environmental damage can occur when groundwater is not properly managed. By July 1, 2016, the Department of Water resources must



develop best management practices, as well as the necessary components of a groundwater sustainability plan.

The Act authorizes the creation of new "groundwater sustainability agencies" (GSA) with the authority to create and adopt a groundwater sustainability plan (GSP) and to regulate groundwater extraction through oversight of groundwater transfers within the agency's boundaries, accounting rules, and other approaches. The GSAs must be identified by 2018 and can provide technical assistance to entities that extract groundwater, impose regulatory fees to fund the preparation, adoption and amendment of a GSP and to fund acquisition of lands, water supply, water treatment, and other activities to implement a plan.

For areas that are not designated as medium to high priority basins, but want to enact a groundwater sustainability plan, the county can serve as the GSA. A new entity is not required to be formed. Counties are still vested with the sole authority to permit new well construction, modification or abandonment.

The goal of a GSP is to prevent against groundwater pumping that causes an "undesirable result." An undesirable

result refers to specific effects caused by groundwater conditions occurring as a result of new or expanded surface or ground water use. One example is the chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon of the proposed development. Additional examples include significant and unreasonable reduction of groundwater storage, seawater intrusion, degraded water quality, or land subsidence that substantially interferes with surface land uses. Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water are also considered undesirable results.

Given recent headlines about the subsidence throughout California's Central Valley due to the over-pumping of groundwater, some believe that more timely measures—even drastic ones—are appropriate. The thinking is that we've already caused irreparable depletion of these aquifers, and major changes in irrigation practices are needed now. It remains to be seen whether the cumulative impact of new State Water Board's regulations, voluntary water diversion cuts by farmers, and that the Act's mandates are enough, soon enough.

Salmonid Restoration Federation

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SRF News



Water Rights Clinic North Coast



SRF will be hosting a series of water rights clinics in the next year that will highlight the necessary steps to come into compliance with California water law. The clinics will focus on riparian and appropriative rights, explain the CDFW 1600 permit process, discuss the advantages of filing, distinguish between county regulations and state water law, and help calculate water usage and project future small domestic and irrigation use. The clinics will also highlight why water conservation, planning, and stewardship is important for salmon and steelhead. SRF and Trout Unlimited are available to coordinate water rights clinics for tributary associations upon request.

watershed restorationists, wardens, and landowners on erosion control techniques, upslope remediation, and BMPs for grading. This workshop will focus on identifying and evaluating sediment sources, assessing environmental impacts from accelerated erosion and sediment delivery, designing and procuring grading plans, and the environmental permit application process and requirements. The workshop will include a field tour of road remediation sites in Mendocino County

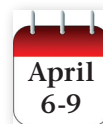
affect salmonid habitat restoration and recovery of native populations of wild salmon. The conference will also feature technical workshops, a poster session, and a Plenary session with distinguished keynote speakers. Please send conference workshop, tour, or session proposals to abstracts@calsalmon.org by July 24.

Best Management Practices Workshop Mendocino County



SRF and Pacific Watershed Associates will offer a BMP workshop to train

34th Annual Salmonid Restoration Conference Fortuna River Lodge



The Annual Salmonid Restoration Call for Proposals is now open and the Call for Abstracts will be from August-October, 2015. The annual conference highlights regional and topical issues that pertain to salmonids. Field tours highlight innovative, state-of-the art restoration sites. Concurrent sessions focus on biological, physical, and policy issues that



Check out SRF's new merchandise: Jammin for Salmon Ray Troll t-shirt printed on organic cotton in women's cut charcoal color or men's cut in slate, and recycled organic cotton totes that are handsewn and lined with fun fabrics. We only have 20 of these collector's items with the original Surfing Steelhead.

Check out our awesome Merchandise Page <http://salmonid-restoration-fed.myshopify.com>