



How Are Naturally Reproducing Salmon and Steelhead Responding to Change?

This question seems simple but, in truth, is more complicated than most people might imagine. The task of measuring how naturally produced salmon and steelhead are responding to changes in the river, its natural ecology, managed flows and other restoration efforts is simplified by looking at separate and distinct components that affect the Trinity River fisheries. Each of these components can be measured, compared and then analyzed to get an idea of their status. The Trinity River Restoration Program (TRRP) uses the information collected by Tribal, state and federal fishery management agencies to develop written results that track changes called performance measures.

Performance measures are a powerful tool for describing progress and identifying successes and areas for improvement in meeting objectives. Thirteen separate performance measures have been written by the TRRP to date. This article will focus on the following three: *the abundance (amount) of naturally produced juvenile Chinook salmon; the distribution of natural-origin Chinook spawners; and the spawning escapement of naturally produced salmon and steelhead.*

The *amount of naturally produced juvenile Chinook* counted in the river between March and August is a direct reflection of suitable freshwater conditions which allow both eggs and fry to survive. Many variables can affect these conditions including water temperature, water flow, depth, cover and food supplies. Counts of juvenile Chinook migrating downriver near Willow Creek between 2007 and 2010 show a steady increase in naturally produced juvenile Chinook. This assessment is based on annual surveys conducted by the Yurok Tribal Fisheries Program and the U.S. Fish and Wildlife Service. This performance measure is being update to include more recent data, target emigration dates, and include a second sampling location run by the Hoopa Valley Tribal Fisheries Department closer to the TRRP restoration reach (the 40 miles between Lewiston Dam and the North Fork).

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This aerial photo of the Trinity River shows redds (nests) along the left bank of the Trinity River. Look for the light-colored circles in the stream bed.

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How Are Naturally Reproducing Salmon and Steelhead Responding, Continued

Measuring the distribution of natural-origin Chinook spawners looks at the other end of the life cycle to gather data on where adult fish return to spawn. Studies on other rivers have found that female Chinook spawn within 1 km (about 6/10 of a mile) of their natal (home) streams. This performance measure examines how restoration-created spawning and rearing habitat improvements affect the number of redds (nests) located in habitat further downstream from the Lewiston Dam.

Monitoring surveys consistently find high numbers of redds and spawning salmon close to the Trinity River Hatchery at the base of Lewiston Dam. While unmarked carcasses near the dam are counted as natural-origin salmon, it is highly likely that a portion of those counts are offspring of hatchery fish that spawn in the river. These unmarked fish cannot be differentiated from fish of natural-origin parentage. As of 2010, the majority of natural-origin redds counted on the Trinity River were within 5 km of Lewiston Dam. Results from this performance measure that tracks changes in locations of redds in the river on an annual basis, suggests that it will take time for the river to respond to restoration actions, and for salmon and steelhead to use the new habitat further downstream for spawning.

Escapement is a term that refers to the number of fish of a particular species that successfully return from the ocean ("escape" harvest and natural death) to spawn (deposit eggs). *The spawning escapement of naturally produced salmon and steelhead* performance measure evaluates how returns of natural-origin salmon and steelhead have changed between the 1990's and the present.

Each species - fall- and spring-run Chinook, coho and steelhead- has a defined target for escapement based on pre-dam population reports. The expectation is that by improving spawning and rearing habitat, TRRP restoration efforts will increase the returns of naturally produced adults. Measuring progress for this performance measure is complicated by the fact that the salmon life cycle can last up to 4 years, meaning that the escapement counts taken before 2008 - 09 do not reflect TRRP restoration flows started in 2004. Fall- and spring-run Chinook have shown escapement increases since 2008, while steelhead and coho have stayed relatively steady in the same time frame. More time is required to support claims of success or failure regarding escapement.

These performance measures only begin to answer the question of how, or if, restoration efforts are increasing the number of naturally produced salmon and steelhead in the Trinity River. Since restoration work under the Record of Decision began in 2005, only two or three full generations of salmon and steelhead have returned to the Trinity. Performance measures will continue to monitor changes in the river and fish populations, as Trinity River fish continue their primal struggle to survive in the modern world. TRRP performance measures can be found at: www.trrp.net.

Please Join Us in Welcoming Our New Office Assistant, Tracy McFadin.



Tracy joined the Trinity County RCD in mid-November 2012 and has already proven to be a valuable team member with her organizational skills and positive attitude.

"I really enjoy learning about and being a part of the wide variety of natural resource stewardship, restoration and education projects the RCD is involved in. I feel that my skills and interests are a great fit with the District's programs," Tracy said.

A true westerner, Tracy was born in southern California, spent most of her life in Alaska, earned her Bachelor of Science in Geography from Oregon State University, and resided in Oregon and Idaho before moving to Weaverville about three years ago.

Her work experience includes several years with the US Forest Service in Alaska, where she conducted field work in timber, botany, wildlife biology and soils and water quality. More recently, she spent several years living in Southeast Idaho on the west slope of the Teton Mountains where she worked for a non-profit land trust helping private landowners. Her job there included doing baseline resource assessments and monitoring of conservation easement protected properties.

Tracy enjoys spending time with her son and volunteering with cub scouts. "I love living in Weaverville and I have found it to be a great community to raise a family in," she said. Her hobbies include organic gardening, hiking, reading and cooking.

BURNT RANCH CHOSEN FOR FIRE SAFE COUNCIL ALL LANDS PILOT PROJECT

The Trinity County RCD recently received a grant from the California Fire Safe Council to assist with implementing the Burnt Ranch All Lands Pilot Project. The idea behind this pilot project - the "All Lands" strategy - is to look at a community's chance of fire within a framework of zones encompassing private and public lands which radiate out from the home and into the forest. Different treatments are recommended for each of four zones (see illustration). The cost of the recommended fuel reduction treatment in zone 1 is covered by the grant.

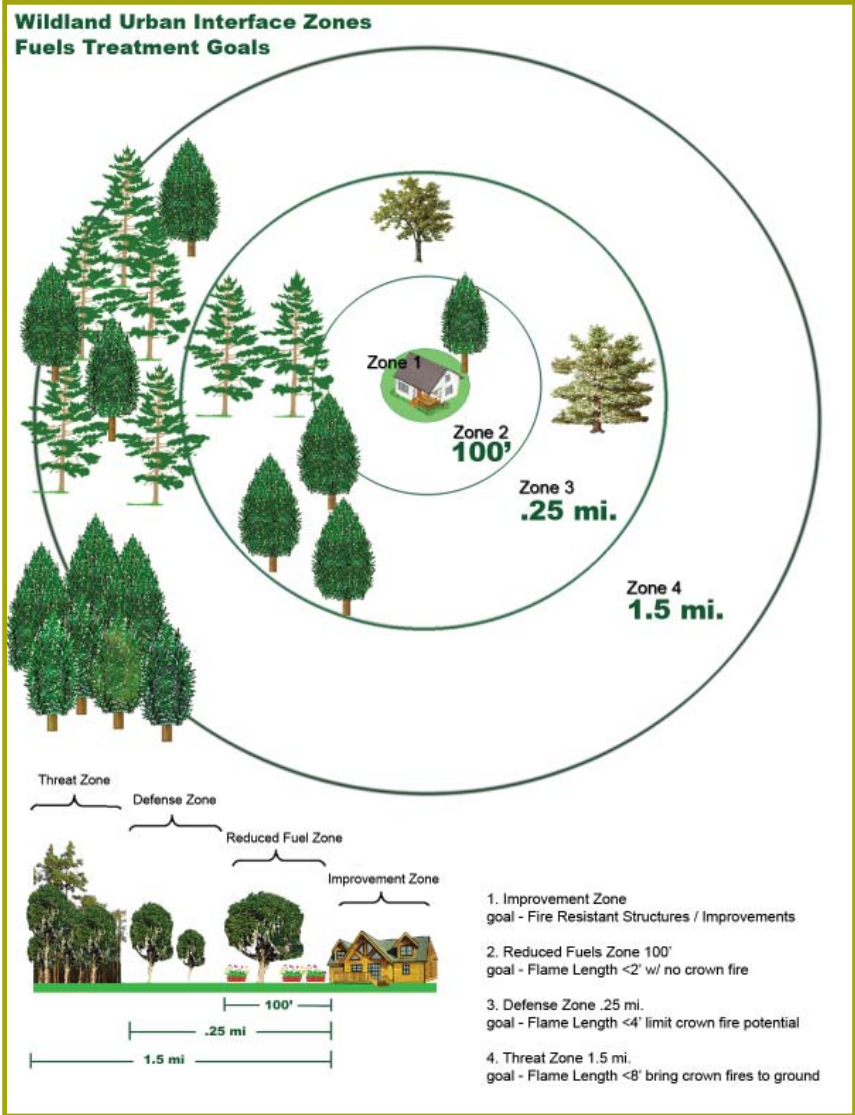
Burnt Ranch is one of Trinity County's "communities-at-risk" and is identified in both the Trinity County and Willow Creek Community Wildfire Protection Plans as a high priority for implementing treatments to reduce the impacts of wildfire. Several community meetings have already been held in Burnt Ranch. Firewise assessments of property by professional registered foresters will begin this spring. The no-cost, fuel reduction work on private property by TCRCD is targeted for late summer, depending on weather conditions. For more information on the Firewise Communities Program go to www.firewise.org.

Three agencies are involved in this pilot project: TCRCD, Natural Resource Conservation Service (NRCS) and the US Forest Service (USFS). The TCRCD will work with homeowners to conduct Firewise assessments and fuel reductions in Zone 1. There is no cost to homeowners, however sweat equity is encouraged.

The NRCS has a cost-share program for work conducted in Zone 2 known as the Environmental Quality Incentive Program (EQIP). EQIP helps landowners pay for implementing fuels reduction and forest stand improvements.

The NRCS EQIP program is ongoing. The public lands in Zones 3 and 4 will be treated by the USFS. The USFS has chosen Burnt Ranch as a pilot project for this "All Lands" approach and will target the public lands around the community to implement their work. A time schedule for the USFS work on public lands has not yet been released.

For more information about the Burnt Ranch All Lands Pilot Project contact Tracy (TCRCD) at 530-623-6004 and Carrie (NRCS) at 530-623-3991.



South Fork Basin Stewards:

Connecting people to the place they live

The Watershed Center launched the South Fork Basin Stewards program in 2012 with funding support from the National Forest Foundation. The South Fork Basin Stewards program connects volunteers with opportunities to take care of the South Fork Trinity River, which is the longest, undammed wild and scenic river in California. The South Fork Basin contains some of the most beautiful and wild country in Northern California. You can help ensure it stays that way by becoming a South Fork Basin Steward.

Volunteers have the opportunity to choose the area that interests them the most. From in-stream fish monitoring and garbage removal, to weed pulling, or map making, everyone can lend a hand to improve the many waterways within the basin. Last year volunteers were busy. A partial list of their accomplishments include conducting snorkel surveys on 45 miles of stream, clearing 7 acres of weeds and cleaning 2 miles of stream of garbage.

The Watershed Center will continue to host South Fork Basin Stewards work days and events in 2013. Volunteer work helps achieve management objectives, yields information that can be used to make management decisions, and most importantly, has immediate positive impacts on the ecosystem. Some activities planned for 2013 include:

- Spawning surveys on winter steelhead, spring and fall-run Chinook.
- Salmon counts during fish dives as part of the summer snorkel surveys.
- The second annual "Hyampom Salmon Gathering" festival and education event.
- Pull noxious weeds and receive lunch for your efforts.
- Monitor water quality for stream temperature and nutrient content in tributaries of the South Fork Trinity River.
- "Splash for Trash": Clean up our creeks by removing garbage. A celebration lunch will be hosted after each Splash.
- Plant native riparian species along the creeks and rivers.

Volunteering is a fun way to get outside, meet your neighbors, learn something new about your watershed and accomplish important work! To sign up as a Steward, send an email with your contact information to wrtc@hayfork.net or call (530) 628-4206. Check the Watershed Center's website for updates on Stewards' events: www.thewatershedcenter.com or like them on Facebook: www.facebook.com/pages/The-Watershed-Research-and-Training-Center.

Volunteers remove garbage from Hayfork Creek in August 2012.



South Fork Basin Stewards learning to identify juvenile salmonids.

NATIVE PLANT PROPAGATION WORKSHOP DRAWS CROWD

On a cold Saturday afternoon in January more than 35 people crowded into the basement of the Young Family Ranch to learn about native plant propagation from Master Gardener Christy Wagner, who also works as the district's botanical specialist.

The free, hands-on workshop, sponsored by the Master Gardener Program of the University of California Cooperative Extension (UCCE), demonstrated four different propagation techniques. Plant cuttings and seeds were available for participants to use and take home. The plant species' biological characteristics and reproductive requirements dictate the type of propagation technique needed, which included direct planting of seeds with no treatment; scarification of seeds using files, sand paper and boiling water; maceration of

berries to separate the seeds from the berries; and taking cuttings from woody plants and rooting them in soil.

For more information on future workshops, please contact Carol Fall (UCCE) at 623-3746 or check the website at cetrinity.ucdavis.edu.



Christy Wagner demonstrates how to create and mix your own sterile potting soil.

Outdoor Trinity: An Early Blooming Wildflower

Outdoor activities in Trinity County can span all seasons. Late winter and early spring walkers who dress for the weather will be rewarded with sightings of early-blooming wildflowers. Children are especially thrilled when they find an early-blooming beauty.

One reliable native is the Shooting Star (*Dodecatheon hendersonii*). Also known as Henderson's shooting star, mosquito bills, and sailor caps, these welcome harbingers of spring display small clusters of magenta colored flowers atop 6" to 14" stems. They bloom from February to April and can be found in Oak Woodland forests throughout Trinity County, up to 5,000 ft. elevation. They have been spotted from several Weaver Basin Trails including the West Weaver Trail between Mill St. and Oregon St., Musser Hill and Jackass Ridge. If you don't see the flowers on your first trek out, look for the grey-green basal rosette of leaves low to the ground and check back often for the flowers. Be sure to leave all wildflowers for others to enjoy as well. As with all expeditions into our forests, please take only pictures and leave only footprints.

Shooting Star
(*Dodecatheon hendersonii*)



Mark your calendars for the Free Plant & Seed Exchange, April 20, 2013 at the Young Family Ranch. Check our website for more: www.tcrccd.net.

Grants Improve Young Family Ranch for Community Events, Workshops

Recent improvements at the Young Family Ranch are making it an ideal place to host community workshops, youth programs and special events for the public. The most visible changes in recent months at this community trust property were the construction of a restroom building and an expanded network of paved sidewalks. These enable the Ranch to host larger groups and events comfortably, plus they improve access for all visitors.

Generous entities and individuals have made these and other transformations possible. The McConnell Fund of the Shasta Regional Community Foundation provided two significant grants in recent years to help fund the restroom and to improve accessibility to the ranch house for disabled persons. The University of California Cooperative Extension (UCCE) provided two grants to help resolve some safety and structural issues. Trinity Public Utilities District removed two very large and hazardous trees adjacent to the Ranch and power lines. Trinity River Lumber Mill provided some of the lumber needed for construction of the restroom. Duane Heryford and Rod Plew, who serve on the Young Family Ranch board of trustees, Carol Fall of UCCE, and John Condon of TCRCDC all devoted energy and volunteered considerable time to help make these and other much needed improvements.

Young Family Ranch is on Oregon St. in Weaverville. It is a non-profit public benefit trust guided by a volunteer board of trustees who ensure the property is used as its donors directed - to provide learning opportunities for all ages about agriculture, gardening and natural resources conservation. The Ranch hosts many free workshops on a variety of topics. It also hosts the annual Trinity Plant and Seed Exchange, the Weaverville Summer Day Camp program, the Trinity County Master Gardener Program, the 4-H Youth Development Program, and Trinity Homegrown Foods. To learn more about supporting the Ranch, or to share your ideas for a workshop or program, please call Mark Dowdle at TCRCDC, 623-6004.



New sidewalks and ramps make the ranch house and the restrooms accessible for all.

Newly completed restrooms at the Young Family Ranch.



District Manager's Corner

A Message from District Manager, Alex Cousins



How many times does a member of the president's cabinet participate in a town hall meeting in rural America? It's pretty safe to say it's not a common occurrence, yet Trinity County had that opportunity, and we took full advantage of it. U.S. Department of Agriculture Secretary Tom Vilsack came to Trinity County, listened to our issues and promised to work with us to resolve them.

Before he even left the county on his way back to Washington, he had begun developing a team to return to Trinity County and work with stakeholders to reestablish partnerships, improve relationships and communications, and help improve our economic and ecological situation in a socially acceptable way.

Over the next few months, and potentially years, the residents of Trinity County will be asked to come to the discussion table to work on areas of agreement regarding rural development, natural resource management and to help re-define rural America according to Trinity County's priorities.

It's important to remember that all of this didn't just happen over the last few months. It's a result of a lot of hard work by a lot of people. Trinity County has a history of working together on issues and coming up with acceptable solutions. Many times these have been small scale projects, but it's the small scale successes that have led to this large scale effort. Efforts began in the early 1990s with the Trinity Bio Region, then later the Trinity County Natural Resource Advisory Committee. More recently we don't need to look any further than the Post Mountain Stewardship, the Trinity County Resource Advisory Committee (RAC), and the Weaverville Community Forest as examples of successful partnerships and collaboration.

This past October, prior to any knowledge of the visit planned by Secretary Vilsack, the Trinity County Board of Supervisors decided it was time to pull resources and build, once again, on the successes of the past. They decided to move forward with a large scale collaborative and partnership building effort in Trinity County, an open and transparent process that will include anyone who wants to participate. The goal of this decision is to improve relationships with our federal partners and to improve management of our natural resources. That effort is still moving forward and now has the support and attention of the U.S. Department of Agriculture.

Alex Cousins

New Trinity County RCD Fiscal Manager



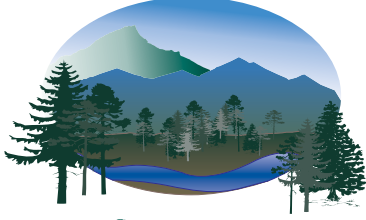
Julie Barcellona joined the District in November as Fiscal Manager after working for several years with the Human Response Network.

Julie grew up in the Fall River Valley (CA) on her family's ranch, which they began working over 100 years ago. After graduating from Shasta College with an AA degree in accounting, Julie moved to Trinity County and has been busy working in the community and raising her family ever since.

"I have been involved in a variety of accounting tasks throughout my professional life and look forward to bringing my experience to this organization," she said. Long before she started her official career, Julie worked with numbers. "I started doing payroll for my parents' ranch when I was 12. I guess I like numbers."

School-related sports, booster's club and fundraising activities take up much of her free time as her youngest child will be graduating from Trinity High School this year. She also plays on recreational softball teams and took up golf recently.

Trinity County



Resource Conservation District

Trinity County Resource Conservation District
P.O. Box 1450
Weaverville, CA 96093



Established 1956

District Board Meetings

Third Wednesday
5:30 PM
Open to the Public

TCRCD Office

Number One
Horseshoe Lane
PO Box 1450
Weaverville, CA 96093

Telephone

(530) 623-6004
FAX 623-6006

E-mail: info@tcrd.net
Internet: www.tcrd.net

The Trinity County Resource Conservation District (TCRCD) is a special district set up under state law to carry out conservation work and education. It is a not-for-profit, self-governing district whose board of directors volunteer their time.

The TCRCD Vision

TCRCD envisions a balance between utilization and conservation of our natural resources. Through economic diversity and ecosystem management our communities will achieve and sustain a quality environment and healthy economy.

The TCRCD Mission

To assist people in protecting, managing, conserving and restoring the natural resources of Trinity County through information, education, technical assistance and project implementation programs.

**TCRCD Board of Directors are
Mike Rourke, Rose Owens, Patrick Truman,
Colleen O'Sullivan, and Greg Lowden.**

The RCD is landowners assisting landowners with conservation work. The RCD can guide the private landowner in dealings with state and federal agencies. The RCD provides information on the following topics:

- **Forest Land Productivity**
- **Watershed Improvement**
- **Water Supply and Storage**
- **Educational Programs**
- **Erosion/Sediment Control**
- **Wildlife Habitat**
- **Soil and Plant Types**
- **Fuels Reduction**

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