

Citizen Science Partnership for Western Monarch Butterfly Conservation

The Western Monarch is well known for its vibrant orange wings and incredible migration that spans across North America, but this species needs our help. Why should we care about Western Monarchs at all? One reason is that populations of Western Monarchs (*Danaus plexippus*) are in serious peril. The Western Monarch is currently at less than 1% of the population that it was in 1980, according to the Xerces Society, an organization that does research on invertebrate conservation.

More specifically though, why should we care about Western Monarchs in Trinity County? Typically, this species migrates across the western United States to lay their eggs on Milkweed, and feed on nectar in California, as well as Arizona, Nevada, Washington, Idaho and Utah, overwintering in forested groves off California's coasts. According to Kaety Howard, the Vegetation Project Coordinator for the Trinity County RCD, there needs to be more data in Trinity County on Monarchs and Milkweed. Based on Monarch range maps, the potential for migration through Trinity County is possible, but there is a lot more that we need to learn. This is where GIS is useful. By providing data to resource managers, we are giving them tools to help make informed decisions about how to best support the Western Monarch.

Anyone can be a part of this GIS conservation effort! The Western Monarch Milkweed Mapper & Journey North (links provided below) are two real-world ways that you can participate. If you see a Western Monarch, Milkweed, or other plant species with a Monarch in Trinity County, you are encouraged to submit your sighting. This is a form

of Citizen Science, and you don't have to be a scientist to get involved! The data you collect will be mapped, and conservation biologists from Xerces, as well as local project managers will be able to use this information to gain a better understanding of this species, which could potentially aid in their conservation. In Trinity County, we have several species of Milkweed. If you are not familiar with this flower, the Western Monarch Milkweed Mapper has a field guide to help you identify which species you are looking at. If you are a botanically savvy citizen scientist, you can find more information online at Calflora, and even contribute to their GIS plants database as well.

Maps like this All Milkweeds Maximum Suitability map created by the U.S. Fish & Wildlife Service and Xerces are generated from data that is acquired through a combination of geospatial analysis and observations made by researchers and citizen scientists. By collecting this needed data on Monarchs and Milkweed your observations will become part of a larger dataset used to create these types of maps.

The Trinity County RCD has Monarch Habitat Suitability GIS data, which can be used on a local level to provide more in-depth analysis about Western Monarch habitat.

For more information on these GIS resources, please contact: Denise Wesley, Trinity County Resource Conservation District GIS Manager. dwesley@tcrd.net

For additional resources and to submit a sighting- Western Monarch Milkweed Mapper:

<https://www.monarchmilkweedmapper.org/>

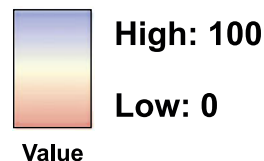
Journey North: <https://journeynorth.org/monarchs>

Xerces: <https://xerces.org/>



Local Monarch (*Danaus plexippus*) Sightings & Habitat

Showy Milkweed (*Asclepias speciosa*) Habitat Suitability



Trinity County: A botanically diverse wonderland for pollinators

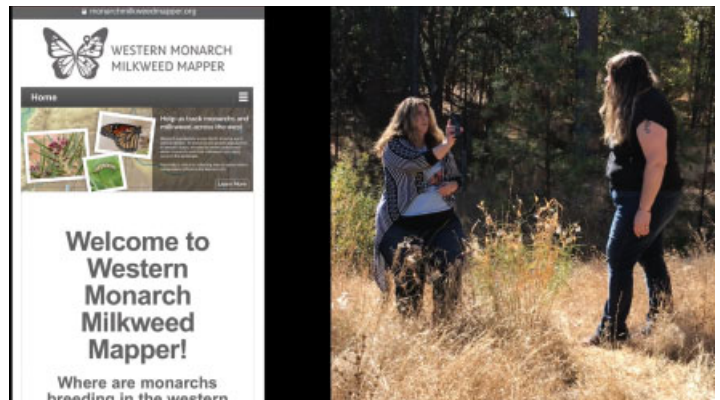
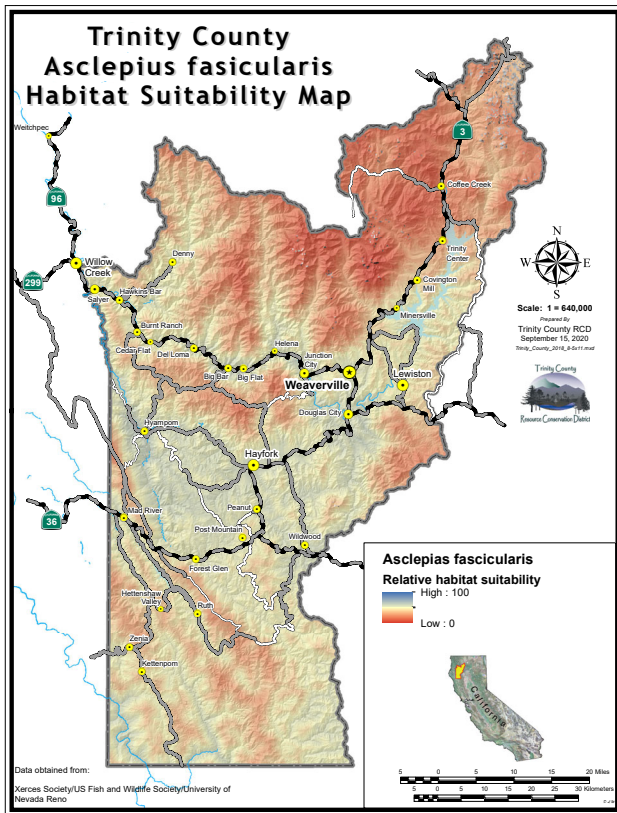
Humans and animals need plants to survive. Almost all of the seed plants in the entire world need to be pollinated. Pollinators are the driving force of the plant world and heavily influence healthy natural habitats and ecosystems. Quite frankly, we can't live without them.

In a recent Trinity County Nature Series video, Trinity County RCD staff explored local pollinators, host plants, and what we can do to help these integral species! Check out the video titled "Trinity County, CA: A botanically diverse wonderland for pollinators" on The Trinity County RCD's website (www.tcrd.net) under tabs: Projects, Education and Outreach, Trinity County Nature Series.

In addition, we are offering Pollinator Kits to the public! Kits include Milkweed and native plant seed mix, a vinyl "Protect the Pollinators" sticker, an Endangered Species poster, and a pollinator pamphlet! Supplies are limited so contact Elizabeth to schedule a time to pick up your kit!

Email esandoval@tcrd.net or call (530) 623-6004 ext 10.

This opportunity was made possible by generous support from the California Association of Resource Conservation Districts. A special thank you to Natural Resource Conservation Service for donating the posters and pamphlets.



Denise Wesley, Trinity County RCD's GIS Manager explains how to use the Western Monarch Milkweed Mapper



Kaety Howard, Trinity County RCD's Vegetation Project Coordinator shows how to harvest milkweed seed (above) and discusses the differences between showy milkweed (*Asclepias speciosa*) and narrow-leaf milkweed (*Asclepias fascicularis*)

In This Issue

Citizen Science & Monarch Butterfly Conservation	1
Trinity County: pollinator wonderland	2
Adapting to an Unpredictable Year	3
Assistance Available to Fire Impacted Landowners	3
Community Forest Management & Strategic Plan Update.....	4
Salmon Season - Virtual Education Opportunities	5
River Discovery Game.....	6
2020 Trinity River Clean-Up	7
Monitoring Salmon in the Klamath-Trinity Watershed	8
Trinity Tracks Guidebook	9
TRRP Dutch Creek Channel Rehabilitation Project.....	10-11



Adapting to an unpredictable year

Between a global pandemic and record-breaking fire season, 2020 has been a year of adaptability and resilience for the Trinity County RCD. From navigating coordination and implementation of projects to learning how to telework, the Trinity County RCD staff worked in unison to navigate through these unpredictable and ever evolving times.

Every program adopted new safety and sanitation measures amidst the COVID-19 pandemic. Office staff learned how to work from home, and stagger time in the office for essential needs. Field crews adjusted to delayed start dates, smaller crew sizes, and the difficulties of training and communicating from a distance. Some staff also learned how to homeschool children during school closures while still working. All in person events were canceled and public meetings were held virtually. Despite these challenges, staff were still able to make great achievements this year and spend this time internally streamlining programmatic functionality.

The cancellation of in person events also created unexpected opportunities to build program capacity. The Education and Outreach team was able to seek out new funding sources and expand the RCD's online presence. Staff produced new printed and online materials, including Trinity Tracks Guidebook (see page 9) and Trinity County Nature Series videos (see page 5). These online materials will be accessible to more people and last for years to come.

The RCD was also able to connect more with the online community and expand its reach throughout the county. In place of annual events, the Trinity County RCD hosted Salmon Season (see page 5) and started the Trinity County Plant & Seed Exchange on Facebook. Staff also hosted online

public meetings such as the FireSafe Council meetings and Weaverville Community Forest meetings that were more accessible to people outside of the immediate area. Additionally, staff were able to attend online trainings, symposiums and conferences that would have otherwise been inaccessible.

This year was also shaped by a historic fire season. The August Complex broke records as the largest wildfire in California since 1932, when consistent fire record keeping began. This 1,000,000+ acre fire impacted a large portion of southern Trinity County. For the last two decades, a majority of the project work implemented by the Road-Related Sediment Reduction crew was focused in the South Fork Trinity River watershed, which was burned by the August Complex. In turn, it has become a new priority of this program to revisit these areas and target new ways to mitigate post-fire soil runoff and depletion.

The Forest Health team significantly altered fuel reduction work to avoid fire activity, focusing projects in Lewiston, Junction City, and Trinity Center communities. The season was a reminder of how critical fuel reduction work is, a message that landowners expressed gratefully to our crews working hard to make local communities more fire resilient. The trend of increasing intensity and frequency of fires has also been a motivator for increasing pace and scale of fuels reduction work to help mitigate impacts.

Though it has been an unpredictable and trying year, the Trinity County RCD continues to adapt and move forward. We hope that you and your families have remained healthy, happy, and adaptable. Stay safe out there!

Conservation Assistance Available to Fire Impacted Landowners

Are you a private landowner in Trinity County who has been impacted recently by fires in Southern Trinity? The USDA Natural Resources Conservation Service (NRCS) may be able to help. NRCS offers both financial and technical assistance to address natural resource impacts resulting from catastrophic fire. Typical conservation practices that NRCS can assist with related to resource protection on burned landscapes include erosion control, road drainage, debris removal, reforestation, protecting water quality and restoring livestock infrastructure needed for grazing management. The Environmental Quality Incentives Program (EQIP) Catastrophic Recovery Initiative provides financial assistance to implement conservation practices on agricultural lands. EQIP offers up to 75% cost-

share for most practices and up to 90% for limited resource producers. A conservation plan is developed in partnership with landowners by way of the Conservation Technical Assistance (CTA) Program. The conservation plan identifies the priority resource concerns and the corresponding conservation practices that the landowner is interested in addressing. All programs administered by NRCS are voluntary and offer a flexible implementation schedule.

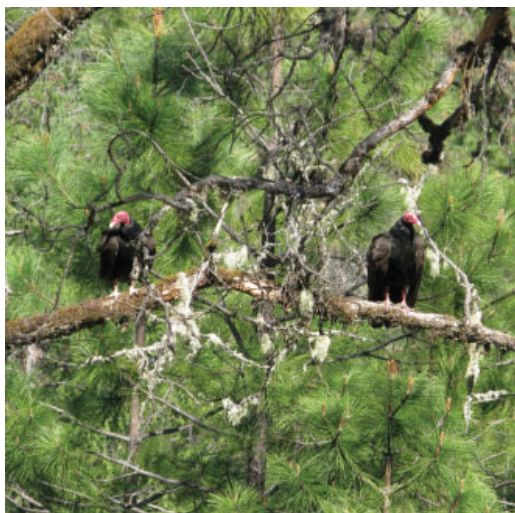
To request assistance or get more information, you can contact the local NRCS office in Weaverville at 530-623-3991 or email Erin Taylor at erin.s.taylor@usda.gov

Weaverville Community Forest Management & Strategic Plan Update

The Trinity County RCD and Weaverville Community Forest (WCF) Steering Committee are updating the WCF Strategic Plan for 2021-2028 set to be published in spring of 2021. The annual Community Meeting, providing the public an accessible opportunity to weigh in on stewardship of their forest, was held virtually on Wednesday, October 28, 2020. The WCF is an award-winning partnership started in 2005 between the Bureau of Land Management (BLM) and the Trinity County RCD. The United States Forest Service (USFS) later joined the partnership, to manage the 14,963 acres of federal land surrounding Weaverville. This model allows for local involvement in federal forest management by matching federal resource needs with local skills of the Trinity County RCD. The WCF supports the Weaver Basin Trail System, community firewood sales, fuels reduction projects, and more to achieve fire resiliency, a healthy forest, and scenic landscapes around Weaverville.

At the annual community meeting, project updates were provided by the USFS, Trinity County RCD, Watershed Research and Training Center, Trinity Public Utilities District, and Trinity Trail Alliance on topics including Fuel Reduction and Recreation, Weaver Creek Stream Enhancements, the Trinity Children's Forest, Community Protection Prescribed Burns, Power Line Clearance Widening, and Weaver Basin Trails. Community members were supportive of all discussions and provided insightful feedback. The community was unified in the desire to prioritize wildfire resiliency management.

The most interactive topic of the meeting was the WCF Strategic Plan Update for 2021-2028. Kathleen McCully, a new AmeriCorps member at the Trinity County RCD, explained that a Strategic Plan structures foreseeable projects by outlining specific programs and an overall vision.



Vultures in the Community Forest near Oregon Mountain



Looking north east at Granite Peak from within the Community Forest

Kathleen McCully will draft the Strategic Plan Update over the next several months and is enthusiastic about gathering community feedback particularly from youth, communities of color, and local Native American tribes. After all, it's a community forest and should be governed by the community! It is essential for locals to actively communicate with the Trinity County RCD about management needs and desires in the WCF to benefit all, keep the community safe, and enrich quality of life in the Weaver Basin.

Stewardship funding for the WCF is traditionally generated by timber harvests within its boundaries, which double as fuel reduction and forest health improvement. However, few harvests have been completed in the WCF since its inception, and these funds are only permitted for uses, sometimes excluding necessary management and administrative tasks. The BLM and Trinity County RCD are currently assessing stands under BLM ownership to explore potential harvests. The Trinity County RCD is also exploring other funding options to supplement necessary planning and monitoring for the WCF and projects for the community.

The WCF is guided by a Steering Committee of local volunteers that anyone can join at any time, for any length. During Strategic Planning, WCF Steering Committee meetings are held monthly, with the next one on February 5th. Information can be found on the website at www.tcrd.net/wcf.net

The Trinity County RCD is pursuing scheduling an additional Community Meeting/workshop in the winter to gather more specific feedback on the Strategic Plan update and provide another opportunity for community conversation on the WCF. While the Steering Committee and community meetings are the most active way to contribute, please reach out any time to Kathleen McCully at the Trinity County RCD (kmccully@tcrd.net; (530) 623-6004 ext. 220) or use the Community Feedback Form on the website to provide your input or ask questions about the WCF.

Salmon Season in November – Virtual Education Opportunities

Every year, we celebrate the return of fall salmon with the Trinity River Salmon Festival and the Hyampom Salmon Gathering. This year, both events were canceled due to the COVID-19 pandemic. In their place, Trinity River Restoration Program, Trinity County RCD, and The Watershed Research and Training Center teamed up to present Salmon Season! The entire month of November was dedicated to the virtual celebration of salmon through fun, educational activities and resources.



Dissect a salmon with Coho Kevin and Elizafish



Explore why forests need fish

On social media and online outlets, we disseminated more virtual material in one month than ever before! We produced and released four salmon-related videos (shown below), a salmon scavenger hunt, nature art contest, as well as regular salmon and watershed-related educational posts on social media. Though we couldn't celebrate in person, Salmon Season allowed us to reach a much wider audience through online platforms and create materials that will last for years to come. To access our videos and other online materials, please check out Trinity River, CA on YouTube and website (www.trinityriver.org) or Trinity County RCD website (www.tcrd.net). To those that participated in Salmon Season, thank you!



Tour the recently completed restoration project at Indian Creek with Kyle DeJulio, Fisheries Biologist for the Yurok Tribe



Learn about the salmon life cycle with Watershed Stewards Program members placed with the Watershed Research and Training Center



Congratulations to our Nature Art Contest winners and huge thank you to all the nature artists who participated in the contest!



Your river adventure awaits you!

Discover what you might find along the Trinity River!

1. Use dice or playing cards (Ace through 6). You can also make your own cards!
2. Each player rolls the dice or picks a card. The player with the higher # goes first!
3. If using cards, remember to shuffle between each turn!
4. Have fun!



Start

You found
Salmon Redds!
Skip ahead 1

Invasive plants
are taking over!
Go back to start

This area has been
restored and is healthy!
Move ahead 2 spaces

Dragonflies hatched!
Hundreds of them are
swarming the river!
Skip a turn!

Trees and vegetation
were removed from this
area, creating soil runoff.
Move back 2

You made
it over the waterfall!
Skip forward 2

A bear!
Roll a 4 or more to
escape or
go back 2 spaces

You are blocked by
a beaver dam!
Skip a turn

A fishing boat is
blocking the path!
Skip a turn

A river otter is chasing you!
Move ahead 1 space

The current is too fast!
Move back 1 space

You found a salmon!
Move ahead
1 space

You have reached
healthy salmon habitat!
Go straight to finish!

An Eagle caught a fish
and is blocking your path!
Skip a turn!

You made it!

2020 Trinity River Clean-Up

The 2020 Trinity River Clean-Up was a huge success. This year, 34 community volunteers cleaned up trash along the Trinity River stretching from Lewiston to Del Loma. Multiple group volunteers, including Trinity River Rafting, participated. More than 20 river access locations were cleaned as well as parts of West Weaver Creek, Weaver Basin Wetlands, and popular swimming holes near the river. Volunteers collected 1,028 pounds of waste including metal, tires, and miscellaneous garbage.

Partners on this effort included Trinity County Resource Conservation District, Trinity River Restoration Program, Shasta-Trinity National Forest, and the Bureau of Land Management Redding Field Office. Each played a vital role in this event. A special thank you to the many volunteers who helped to sustain healthy forests and watersheds in Trinity County. This would not have been possible without you! We hope you join us again next year for the 2021 Trinity River Clean-up!



Trash collected from river access locations



Some volunteers kayaked stretches of the Trinity River to collect trash



Amelia Fleitz, co-coordinator for the event, enjoys a day of sun and watershed cleanup

Monitoring Salmon in the Klamath-Trinity Watershed

The Big Picture

Every fall, the return of the Chinook salmon (*Oncorhynchus tshawytscha*) brings the return of dedicated survey crews, swimming, walking or boating up and down the rivers and creeks. Much like salmon, these crews persevere through adverse weather and stream conditions, all for an ultimate goal. For Chinook, the last push of their life is to make it back to the stream where they were born to build their redd and lay the eggs of the next generation of Chinook. Salmon die shortly after laying their eggs, their final act being to reproduce. For surveyors, the data recorded on these resilient fish is for the next generation of Chinook salmon in a different context, to inform fisheries management to protect and restore the population.

Spawning ground surveys are the most widespread and collaborative survey effort undertaken. A number of organizations work together each year to survey the majority of Klamath River basin, the Trinity River being its largest tributary. Consistent spawning ground surveys began in 1978, as part of a plan to restore salmon to the Klamath River basin. On the Trinity River, survey partners include Trinity River Restoration Program (TRRP), California Department of Fish and Wildlife, Hoopa Valley Tribe, Yurok Tribe, US Fish and Wildlife Service, and the US Forest Service.

Surveyors walk, snorkel, or boat stretches of streams looking for salmon redds, live fish, and carcasses. This data is used to get an accurate estimate of escapement, in other words, Chinook that successfully make it back from the ocean to spawn. Samples taken from carcasses are analyzed to determine sex, origin, and age class structure of the year's salmon run. The specific redd data show where and when salmon are spawning, information vital to organizations that focus on habitat restoration. Additional data is also collected through other efforts that monitor sport fisheries, hatchery contributions, and tribal harvest.

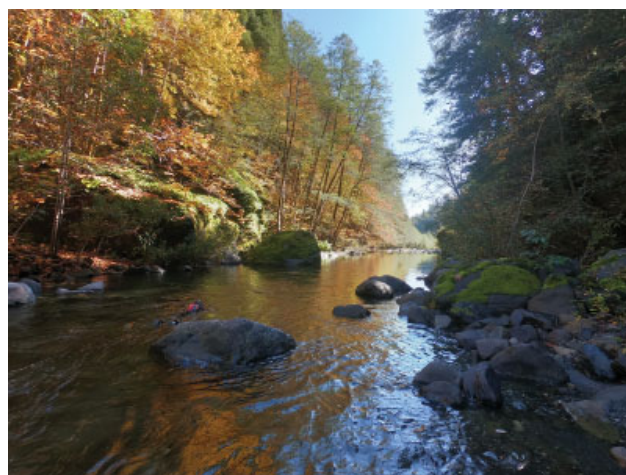
Together, all of the data collected is used to inform agencies based on their unique goals. For instance, TRRP is focused on implementing habitat restoration projects to reestablish pre-dam salmon populations. Data on redd distribution from these surveys provides feedback on if restoration efforts are successful in creating more suitable habitat for salmon.

As a whole, combined data from the Trinity and Klamath Rivers paints a picture of the entire watershed-wide Chinook

salmon run, which is used in models to help determine fishing regulations in future years. Fishing allowances are based off of harvestable surplus; the remainder of the salmon run once the minimum escapement levels are met. The current minimum escapement level is set at 40,700. This is the number of natural adult Chinook that must be allowed to spawn without being caught. Each year, models predict how big the salmon run will be and determine the harvestable surplus based on the minimum level. In any given year, 50% of harvestable surplus is allocated to the Yurok and Hoopa tribes while the other 50% goes to ocean, sport, and commercial fisheries.

In general, salmon populations have been declining, mainly due to degraded conditions in the ocean and rivers, severe drought, and loss of habitat due to human activities. In 2019, all the combined survey efforts revealed 10,564 spawning Chinook salmon in the Trinity River basin. This was added to the Klamath River basin data, for a total of 47,261 salmon, the 5th lowest year on record since 1978. Tracking the salmon populations is vital, now more than ever. Since restoration work began on the Trinity River in 2005, fish monitoring has shown almost a doubling of the number of smolts, which are the juvenile fish that are ready to leave for the ocean.

Overtime, these rivers and salmon populations have changed immensely, but the fish that remain are strong and determined. Across the Klamath river watershed, from Yreka and Lewiston, all the way to the mouth of the Klamath in Requa, people are doing the hard work to track these fish and inform the best management strategies to ensure we have sustainable fisheries for generations to come.



Maya Williams, Trinity County RCD's Education and Outreach Coordinator, on a fall chinook diving survey in the mid-Klamath region

Trinity Tracks Guidebook

Get outside and explore your local rivers and streams with Trinity Tracks Guidebook: an educational and exploration guide for families in Trinity County. Learn about fall salmon runs, how to identify animal scat, rain, rivers, fall food recipes, and more! Copies have been distributed to all schools in Trinity County. If you are homeschooling, or have children

not enrolled in school, contact us to receive a copy! You can reach Elizabeth at the Trinity County RCD at esandoval@tcrd.net or call (530) 623-6004 ext, or Zack at the Watershed Center in Hayfork at zack@thewatershedcenter.com or (530) 628-4206.



Dutch Creek Channel Rehabilitation Project

This summer, the Trinity River Restoration Program (TRRP) completed the Dutch Creek Channel Restoration Project near Junction City (Figure 1.). This collaborative project located about 25 miles downstream from Lewiston Dam is intended to recover dynamic river processes that will create and sustain salmon and steelhead habitat in the Trinity River.

The project site encompasses 100 acres and spans approximately one mile of river section that has been simplified into a narrow and straight channel with little habitat value, particularly for juvenile salmonids (Figure 2). The design of the project went through years of close review from the eight partners in the TRRP and from public stakeholders. The project was jointly constructed by the Yurok Tribe and the Hoopa Valley Tribe.

This previously straight and nearly featureless section of the river now has a new meander bend, a logjam, and floodplain that will connect with the river at much lower flows. These new features will provide immediate and long-term habitat for salmon and steelhead.

Noteworthy components of the Dutch Creek project include extensive floodplain lowering and a large structured logjam built using whole trees, including root wads, harvested from the site.



Figure 1. In-river construction work at the Dutch Creek project site on the Trinity River began on July 15



Figure 2. Looking downstream at the top-end of Dutch Creek project site in 2016. The strip of land terraced above the river on the right side of the photo largely contains non-native grasses and rarely connects to the river. The area was lowered so that it reconnects to the river at much lower flows to provide critical salmon habitat.

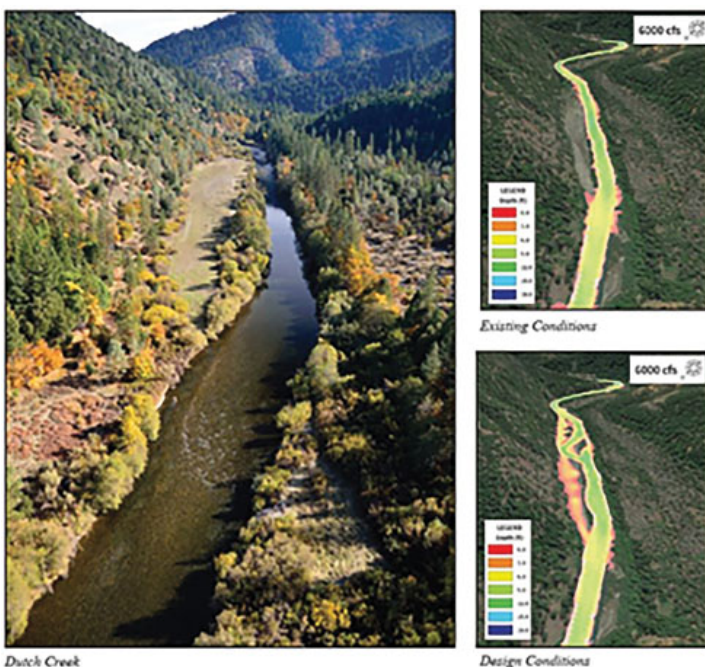


Figure 3. Aerial photo looking upstream from the bottom end of the project site in 2016 (left photo). Modeled flow depth with existing conditions (above right) and design conditions (bottom right).

After construction, a section of floodplain will now inundate at flows as low as 700 cubic feet per second (cfs), which will provide young salmon access to food-rich rearing habitat much more frequently. The remaining area of lowered floodplain will engage with the river at 6,000 cfs (Figure 3). Before construction this section of floodplain only inundated periodically at much higher flows and provided little habitat for young fish.



Figure 4. Once the new meander was excavated to the appropriate depth, construction crews slowly removed turbidity mitigation barriers to connect the meander to the mainstem. The new meander bend at the project site was opened in mid-August (photo top right).



Figure 5. Logs are keyed into the river and overlaid with additional logs and boulders.



Figure 6. Dozens of whole trees are used during the construction of the logjam.

A new meander bend was excavated and lowered by twelve feet to reach the river's elevation. This side channel was carefully reconnected to the mainstem channel to minimize turbidity (Figure 4). One of the largest logjams ever designed and built on the Trinity River was constructed during the last week of August. Excavators dug several deep wells into the river channel where whole logs were placed and backfilled with cobble, boulders, and the excavated material (Figure 5). Between the logs keyed into the river, dozens of other whole trees were placed and topped with boulders for support (Figure 6).

Clean spawning gravels sourced during excavation were moved into the river. These spawning gravels combined with the logjam will help re-direct up to 30% of the river's flow into

the meander and provide dynamic river processes that will create fish habitat. The habitat benefits for fish and wildlife will sustain overtime as the river evolves with the constructed features and new terrain.

These channel rehabilitation projects are monitored by fisheries biologists to assess the change in total and optimal habitat across a range of flows before and after construction. Similar projects have shown significant improvements in the total available habitat that juvenile salmonids depend on.

After the project, the river will do the lion's share of the work to evolve this site into a more productive section of river for salmon and steelhead.

Trinity County RCD
P.O. Box 1450
Weaverville, CA 96093



Resource Conservation District

Your Local Conservation District

Established 1956

District Board Meetings

Third Wednesday
5:30 PM
Open to the Public

District Office

30 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 (District) 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 District Vision

The District 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 District Mission

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

The District Board of Directors are :

Mike Rourke, Morgan Rourke, Patrick Truman, Colleen O'Sullivan, and Greg Lowden.

The District 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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