



TRIBUTARY TRIBUNE

Stories and Art by Corpsmembers of the California Conservation Corps Watershed Stewards Program, in Partnership with AmeriCorps



Year 26, District C

California Delta Over the Years

By: **Doug Platt, Placed at US Fish and Wildlife Service, Lodi**

The California Delta encompasses the area where the Sacramento and San Joaquin Rivers join before flowing to the San Francisco Bay, through the Golden Gate, and out to the Pacific Ocean. The San Joaquin and Sacramento Rivers drain roughly 50% of California’s total land area and allow Chinook Salmon and Steelhead Trout to access the cool, clean waters of the Sierra Nevada and Southern Cascades for spawning.

When the Spanish first viewed the California Delta from the summit of Mt. Diablo in 1772, the rivers were in flood, and they misinterpreted the area as an inland sea. At this time, the rivers flowed free, undammed from the mountains, meandered across the Great Central Valley, and converged in the un-leveed tule tidelands of the Delta. When the first Europeans explored the Delta, their accounts recorded an abundance of wildlife including Tule Elk, Pronghorn Antelope, Grizzly Bear, California Mule Deer, and more waterfowl than they had ever seen. Coexisting amid the natural splendor was an estimated population of 300,000 Native Americans, one of the densest populations of Native Americans in North America. **Continued on page 4** →

“Throughout my journey in environmental stewardship, I hope to encourage others to find unique and meaningful relationships with nature that inspire further preservation.”

- Haley Sutton

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The California Delta with Mt. Diablo overlooking in the background. Photo Credit: The Fresno Bee



A program of the California Conservation Corps, WSP is one of the most productive programs for future employment in natural resources. WSP is administered by California Volunteers and sponsored by the Corporation for National and Community Service.



Meeting Plants... and Remembering Them

By: Haley Sutton, Placed at Grassroots Ecology

At the beginning of my term, I was mentally prepared to memorize endless lists of locally native and non-native species. I quickly realized memorization is not an effective method to actually learn plants. Instead, the best method is simply getting to know them.

Witnessing seasonal plant transformation has been the biggest influence on my ability to recognize flora. By regularly walking around restoration sites, I notice subtle changes of the same plants as they respond to the dynamic environment that might otherwise go unobserved. For me, the most obvious act of transformation has been of the California Buckeye tree (*Aesculus californica*). I officially met the California Buckeye in October when the trees were dropping giant buckeye seeds with leaves soon to follow. In January I noticed the first leaves expanding, and now there are conical inflorescences in full bloom. Suddenly, California buckeyes were everywhere.

Aside from observations, I am learning new species by diving beyond structure to understand its role in nature as well. Plants offer a variety of ecosystem services to a diversity of wildlife. When I gaze up at the magnificent Coast Live Oak (*Quercus agrifolia*) I know there is more than twisting branches and cupped leaves. Coast Live Oaks host thousands of other species, including moths and butterflies that lay eggs on leaves, the woodpeckers and squirrels which feed on acorns, fruiting bodies of fungi emerging below duff, and bats seeking insect snacks in the canopy.

As I explore the stories of native flora, I seek to acknowledge the narratives of the Indigenous people who engaged with plants that offered medicinal, ceremonial, and mechanical uses. Coyote Mint (*Monardella villosa*) is primarily for treating respiratory problems, and Mugwort (*Artemisia*

douglasiana) leaves can treat Poison Oak, repel insects, and teas can create vivid dreams. Understanding traditional uses of plants can add value to native landscapes.

There are still an endless number of plant species to meet and learn, but with a thoughtful approach I have gained a richer understanding of each. Throughout my journey in environmental stewardship, I hope to encourage others to find unique and meaningful relationships with nature that inspire further preservation.



A collage of pressed leaves belonging to native flora of South Bay Area watersheds. Photo credit: Haley Sutton

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1. State Indian Museum. State Indian Museum Plant Reference Guide. PDF File. December 2013. https://www.parks.ca.gov/pages/486/files/plantreferenceguide2014_03_03_14.pdf.

About the Watershed Stewards Program

Since 1994, the Watershed Stewards Program (WSP) has been engaged in comprehensive, community-based, watershed restoration and education throughout coastal California.

WSP was created in 1994 by California Department of Fish and Wildlife (CDFW) biologists, educators, and the California Conservation Corps to fill critical gaps in scientific data collection, in-stream restoration, and watershed education. In collaboration with landowners, tribal communities, teachers, community members, nonprofit organizations, and government agencies, WSP works to revitalize watersheds that contain endangered and threatened salmonid species (Chinook Salmon, Coho Salmon, and Steelhead Trout) by using state-of-the-art data collection and watershed restoration techniques. WSP also engages members in education, outreach, and volunteer recruitment efforts to increase the capacity of partner organizations. WSP currently has Corpsmembers working from the Oregon border to the Santa Monica Mountains.

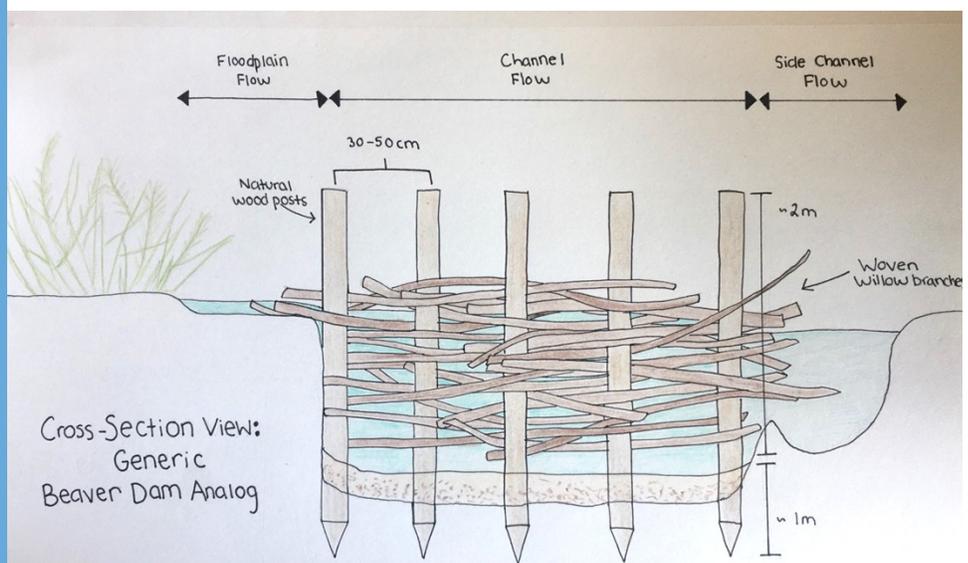
Beaver Engineering

By: Arianna Tobjerg, Placed at San Francisco Bay Regional Water Quality Control Board

Being a WSP Corpsmember at the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), has provided the opportunity to explore the vast spectrum of projects, jobs, trainings, and seminars on the subject of watershed restoration. One such opportunity was the “Restoring Process in Rivers: 15th Annual Berkeley River Restoration Symposium” at UC Berkeley, where I met experts in beaver ecology. Before that workshop, I had never researched beavers and their benefit to ecosystems. I quickly learned that the North American Beaver (*Castor canadensis*), is an underdog environmentalist. For many years they were seen as pests, but they actually help riparian habitats flourish.

Due to man-made structures and human interference on creeks and streams, water channels are being damaged, eroded, and incised. As a water channel deepens, the water table drops, preventing roots of nearby vegetation from reaching moisture. This causes riparian habitat to decline, affecting wildlife in that area. Salmonids in particular are affected as they migrate upstream to reproduce. Water velocities increase as a channel is made straighter and steeper; salmonids must work harder to get upstream, and there is little shelter and quality breeding ground. Beaver dams can address these problems by slowing down water velocities and eventually allowing riparian habitat to return. But what if beavers are not present in these problematic areas, can humans engineer some of the benefits of beaver dams?

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Drawing of a Beaver Dam Analog (BDA) by Corpsmember Arianna Tobjerg

The California Delta Over the Years, Continued from Page 1.

Yokut and Miwok tribes were the primary residents and had made their mark on the land. While not practicing agriculture as we know it, the Yokut and Miwok would manicure plants to promote growth, hunt game, and catch native fish using traps and nets. People had likely occupied this vast floodland for thousands of years and contributed greatly to its productivity.

Fast forward to the late 1800s when the California Delta was transformed. The construction of railroads allowed American settlers to access to this previously isolated land. Settlers saw the potential of the peat soil for agriculture, but waterlogged soils and unpredictable spring floods made permanent settlement treacherous. Thus, miles of levees were built for flood control, islands were drained for agriculture, canals were straightened for navigability, and wetlands were buried to make room for Stockton, Sacramento, and many small farming communities. Striped bass and other nonnative fishes were intentionally introduced as potential food sources. In the 1900s, the Central Valley Project and

State Water Project were implemented to deliver water and power to Los Angeles, the San Joaquin Valley, and the South Bay area.

Since then, almost all species of native fish have declined, and a few, such as Delta Smelt, are on the brink of extinction. Development over the years has introduced countless variables that make the recovery of native species difficult.

My point is this: what was once one of the most biodiverse deltas in the world has become artificial. As beneficiaries of development, I feel we have an obligation to recognize what happened here and to learn from it. Humanity's efforts in the Delta during the 19th and 20th centuries helped us expand human habitat, unlock seemingly infinite water resources, and began a multi-billion dollar agriculture industry. However, it also set off a chain of reactions in which the majority of native species' populations have plummeted. Knowing the history of the Delta and other impacted watersheds in America beg the questions: how can we balance the needs of an ever growing human population while maintaining ecosystem equilibrium? What can we learn about coexistence from the people who inhabited these lands over thousands of years? When is development counterproductive?

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3. Thompson, John. "Early Reclamation and Abandonment of the Central Sacramento-San Joaquin Delta." Sacramento History Journal, ccrm.berkeley.edu/resin/pdfs_and_other_docs/background-lit/EarlyReclamationandAbandonmentofDelta.pdf.



Doug Platt collects flow rate data for seining on the Sacramento River.
Photo Credit: Sienna Streamfellow

Salmon, Sediment, and Survival

By: Lizzie DeLuca, Placed at Marin Municipal Water District

During my time serving at Marin Municipal Water District (MMWD) I have been involved with many projects focused on mitigating the challenges to survival for juvenile Coho Salmon (*Oncorhynchus kisutch*) over the winter. These challenges include high flows, predation, and food availability. Most of the fisheries work at MMWD is focused on creating habitat refuges to provide a safe place for juvenile coho during high flow events. One solution has been to install over 50 large woody debris structures on Lagunitas Creek. While this has increased the overall survival of juvenile coho, there are years where low juvenile survival is not explained empirically by the increase in refuge habitat. Something else is having a negative effect on survival other than high flows.

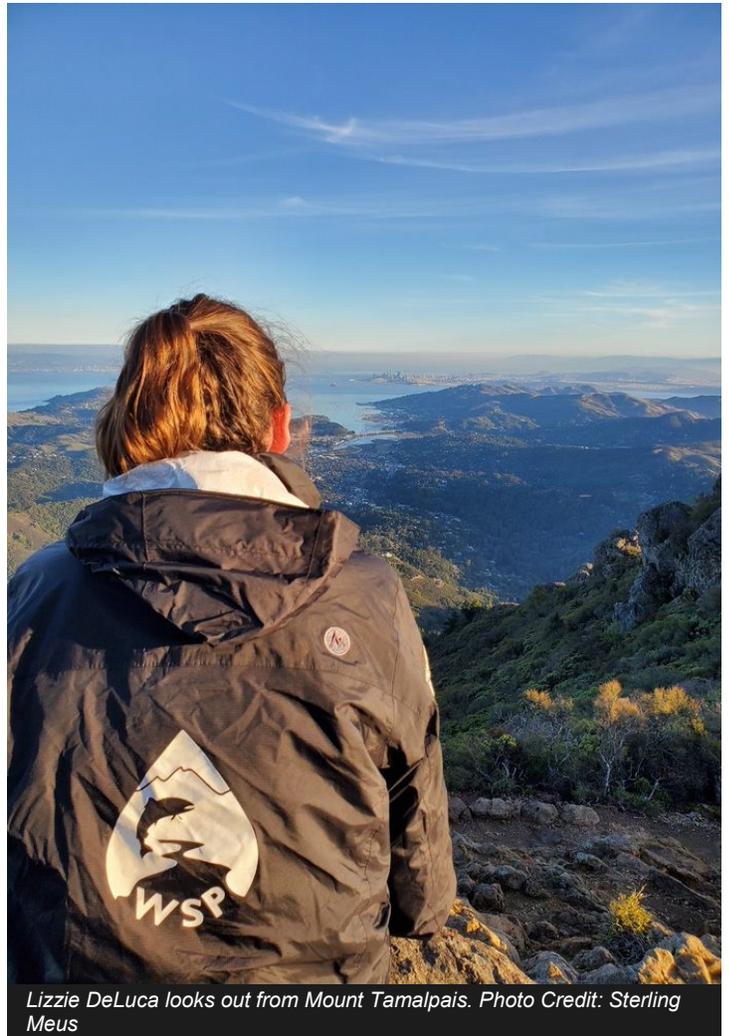
While looking at the data, the fisheries department at MMWD found that the survival of juvenile coho over the winter aligns with data on sediment particle size. When sediment in the stream bed is finer overwinter survival is low, and as the sediment size increases, so does the survival of juveniles. Eric Etlinger, the Aquatic Ecologist at the fisheries department has developed a hypothesis that the sediment size may be an indicator of diet, and that diet may play a larger role in survival than once thought.

Research shows that after emerging, juvenile coho primarily feed on benthic invertebrates (predominantly larvae) over the winter (1,2,3). These benthic invertebrates are negatively affected by extremely fine sediments. In fine sediment there are fewer taxa of invertebrates present (4). This research supports Eric's hypothesis, however further testing needs to be done on Lagunitas Creek specifically. A professor at UC Davis, Rob Lusardi, has taken interest in assisting MMWD with testing this hypothesis and setting up a pilot experiment on Lagunitas Creek.

Moving forward, this pilot experiment may allow MMWD to confirm that preliminary information in scientific literature applies to Lagunitas Creek. If MMWD can verify that lack of food supply overwinter is adversely affecting survival in juvenile Coho Salmon, it may help focus restoration efforts in more effective ways.

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1. "Fishery Bulletin." Google Play, [google.com/books/reader?id=GYA0cHfbKvgC&hl=en&pg=GBS.PA373](https://play.google.com/books/reader?id=GYA0cHfbKvgC&hl=en&pg=GBS.PA373).
2. Peterson, N. P. 1982. Population characteristics of juvenile coho salmon (*Oncorhynchus kisutch*) overwintering in riverine ponds. *Can. J. Fish. Aquat. Sci.* 39: 1303 - 1307.
3. N. Minakawa & C. F. Kraft (1999) Fall and Winter Diets of Juvenile Coho Salmon in a Small Stream and an Adjacent Pond in Washington State, *Journal of Freshwater Ecology*, 14:2, 249-254, DOI: 10.1080/02705060.1999.9663676
4. Richards, Carl and Bacon, Kermit L. (1994) "Influence of fine sediment on macroinvertebrate colonization of surface and hyporheic stream substrates," *Great Basin Naturalist*: Vol. 54 : No. 2, Article 2.



Lizzie DeLuca looks out from Mount Tamalpais. Photo Credit: Sterling Meus

Intriguing Insect Interactions

By: Siena Watson, Placed at Grassroots Ecology

At Grassroots Ecology, I recently learned about the work of Douglas Tallamy, an entomologist who studies how insects interact with plants and how these interactions affect the diversity of animals. His research demonstrates the importance of insects to the food web and how native plants support a vastly greater number of insects than non-native plants do. Serving at the Grassroots Ecology nursery the past couple months has given me the opportunity to see the huge diversity of insects and animals that native plants attract. Below are a few snapshots of insects interacting with native plants at the nursery.



Photo Credit: Siena Watson

Black-tailed Bumble Bee (*Bombus melanopygus*) on Evergreen Huckleberry (*Vaccinium ovatum*)

Evergreen Huckleberry is a host plant for multiple moth species including *Cameraria nemoris*, a moth that is only known to feed on huckleberry. Huckleberry is primarily pollinated by long tongued bees, like the bumblebee seen here. Black-tailed Bumble Bees also feed on the nectar of other native plant species such as manzanitas, lupines, and willows.

Hoverfly (*Syrphidae*) on Woodland Strawberry (*Fragaria vesca*)

Woodland Strawberry is a host plant for Orange Tortrix Moth. At the nursery, its flowers were visited by many insects including hoverflies, bee flies, and bumble bees. Hoverflies, like the one seen here, feed on nectar and pollen and are important pollinators. They often exhibit mimicry of wasps and bees, but do not sting. The larvae of some species of hoverfly feed on aphids and other plant sucking insects.



Photo Credit: Siena Watson



Photo Credit: Siena Watson

Black-tailed Bumble Bee (*Bombus melanopygus*) on Twinberry (*Lonicera involucrata*)

Twinberry is a likely host plant for the variable checkerspot butterfly and white-lined sphinx moth. The flowers provide nectar for bees and hummingbirds. The Twinberry at the nursery was constantly visited by a hummingbird that would chase off any hummingbirds that tried to feed on the flowers. Twinberry is also a valuable species for erosion control in riparian areas, used similarly to willow stakes and fascines.

Variable Checkerspot (*Euphydryas chalcedona*) on Yerba Santa (*Eriodictyon californicum*)

Yerba Santa is a preferred nectar source for the Variable Checkerspot butterfly. Variable Checkerspot Butterflies will often choose to lay their eggs on host plants near Yerba Santa. Checkerspot caterpillars were all over the nursery in March and April, eating leaves of bee plant, sticky monkey flower, and snowberry. Yerba Santa is also a host plant for the brown elfin butterfly and is useful for erosion control in non-riparian areas.



Photo Credit: Siena Watson

Beaver Engineering, Continued from page 3.

Beaver dam analogs (BDAs) are built by humans to mimic the functions of natural beaver dams. The benefits of BDAs are many: they can reduce water velocities; disperse flow; create ponds, pools, and wetlands; create riparian habitat; fish can pass through them; and they can be built with 100% organic materials. They are cost effective and can be built with hand labor; the simpler the structure, the better. Overbuilding or humanizing the natural building techniques of the beaver, can defeat the

purpose and can cause more problems to an area. For example, rip-rap, concrete dams, and other artificial structures, can change the energy flow of a waterway; leading to erosion further downstream, and be a barrier for migrating salmonids. BDAs are ephemeral, dynamic, and porous, making them the preferred ecological design option, which allows surrounding wildlife and habitat to flourish. BDAs won't fix every environmental issue, but they can be effective in restoring riparian habitat and improving the health of our watersheds.

Another Fish in the Sea: A Unique California Conservation Hatchery

By: Lance Takata, placed at NOAA

Just twenty minutes north of Santa Cruz, CA, located on the Scott Creek watershed, the Kingfisher Flat Genetic Conservation Hatchery (KFGCH) provides a vital role in the conservation of Coho Salmon. Unlike other conservation hatcheries that are operated by government agencies, this one is owned and operated by the non-profit Monterey Bay Salmon and Trout Program (MBSTP). As the only privately-operated conservation hatchery in the Central Coast, their efforts illustrate the local support for the preservation of Coho Salmon (*Oncorhynchus kisutch*).

The Central California Coast (CCC) Coho Salmon is currently listed as endangered under the Endangered Species Act. Every year federal, state, and local governments spend millions of dollars to protect and conserve this unique species. Additionally, there are many non-profits and volunteer organizations, such as MBSTP, that are invested in the species survival.

In 1982, with permission from the landowners Big Creek Lumber, KFGCH began incubating steelhead and coho eggs in simple redwood hatch boxes. It was not until 1985 that the current hatchery facility was built through donations and volunteer support. Currently, the hatchery only produces Coho Salmon



Coho eggs are mixed with milt from a male. After they are fertilized, they will be incubated until they hatch. Photo Credit: Lance Takata

due to their endangered status. These fish are genetic offspring of locally caught coho from Scott Creek and neighboring watersheds to maintain the local genetic diversity. Scott Creek is at the southern end of the CCC coho range so the fish from the hatchery are important to supporting the species in their recovery.

MBSTP works with both federal and state governments to better understand the drivers for coho success. Since 2013 NOAA National Marine Fisheries Service scientists have been tagging offspring with Passive Integrated Transponder (PIT) tags

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Another Fish in the Sea: A Unique California Hatchery, continued from page 7.

and Coded Wire Tags (CWTs) to monitor the movements and survival of smolts released from the hatchery. These tags stay with the fish their entire lives and will provide information used to evaluate both current and future conservation strategies of this endangered species.

KFGCH can produce over 30,000 coho smolts a year which are subsequently released into the watershed before heading to the ocean. Much of this success can be attributed to the continued volunteer support for the program. Volunteers participate in routine

hatchery work such as weekend feeding and maintenance as well as critical events such as spawning and releases.

Government agencies are often limited in their budget and resources, so support from private organizations can be the true difference makers between a success or failure of a species. When people come together at the grassroots level they provide an invaluable resource towards supporting salmonid conservation. The community involvement seen at KFGCH is not common in government run hatcheries and exemplifies the local support for ongoing science and restoration of local fisheries.



Young willow trees ready to be planted at a restoration site in San Luis Obispo. Photo Credit: Sienna Streamfellow

Let's Talk Tags: A Quick Guide

By: Melia Green, Placed at NOAA

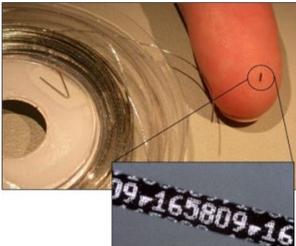
To improve the conservation and recovery of California's coastal salmonid populations, scientists need to gather information about fish abundance, migrations, age, species, and much more! Scientists commonly issue either internal and external tags (sometimes both) to fish at various life stages, giving each fish encountered a unique identifier for continued management, monitoring, and research. Tagging can be done at a hatchery prior to release, or in stream during monitoring activities.



PIT Tag. Photo Credit: Melia Green

Passive Integrated Transponder (PIT) tags are most commonly used by biologists. PIT tags are 12 mm long tags, coded with a unique 15-digit number. They can be injected into juvenile or adult fish and remain in the body cavity for the fish's entire life. These tags are great for tracking the movement of individual fish within watersheds. As a fish migrates, it can pass through electronic antennas constructed throughout the stream that automatically detect the PIT tag code through radio frequency and record an exact timestamp of the occurrence. **Continued on page 9** →

Lets Talk Tags: a Quick Guide, continued from page 8.



Coded Wire Tag. Photo Credit: Northwest Marine Technology Inc.

Coded Wire Tags (CWTs) are microscopic pieces of coded metal, typically injected into the snout of juvenile fish. CWTs distinguish hatchery from natural origin fish, and if later extracted, can identify its hatchery and release group. These tags have relatively high retention rates and generally stay with the fish for life. It can be easily detected and gives a lot of information by

simply noting its presence or absence. These, however, require a microscope to be extracted and read, and only denote release groups, not individual fish.



FLOY Tag. Photo Credit: Melia Green

FLOY tags are color-coded external tags, attached below the dorsal fin, with a unique 5-digit identifier and contact information for the tagging program. One tag can easily display a lot of information through its simple color-coding, allowing field crews to easily identify species, sex, and origin of fish from afar without disturbing it. Like any external tag, it's subject to environmental conditions and can occasionally be lost or damaged.



PSAT. Photo Credit: Wildlife Computers Inc.

Pop-up satellite archival tags (PSATs) are a relatively new type of tag, attached externally to steelhead (kelts) leaving river systems to understand ocean movement. These tags are able to log temperature, depth, light intensity, and latitude and longitude to estimate the

fish's position in the ocean. They come at a high price, but can log a lot of data, and if recovered in the ocean, can be reprogrammed and used again!



WSP Corpsmember Lance Takata prepares to tag salmon ready for release at NOAA Southwest Fisheries Science Center. Photo Credit: Melia Green

Alumni Spotlight: Sal Zaragoza

WSP Years: 24 & 25

**Placement Site: Upper Salinas—
Las Tablas Resource
Conservation District**

**What is your title and
responsibilities at your current
job?**

I work for the Public Works Department, Environmental Division as a grounds restoration specialist. I oversee mitigation projects that are required by the county. I'm the field person within our environmental division that handles habitat mitigation and the monitoring programs.

**What was your WSP Member
experience like?**

After I finished school at HSU and took some time to explore and travel, I was looking to get more involved in the field I wanted to have a career in. I already knew of WSP through some of the alumni and I really liked how variable sites were throughout California. It seemed like a good way to get your foot in the door with a job your interested in, but also move to an area you're interested in living in. I was interested in San Luis Obispo, it seemed like a really cool place, so it worked out that WSP was

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Fishy Book Reviews

By: Carissa Long, Placed at US Fish and Wildlife Service, Lodi

Stronghold: One Man's Quest to Save the World's Wild Salmon

by Tucker Malarkey

This book follows the life and career of Guido Rahr, a world-renowned fly fisherman and environmentalist, from his childhood exploring and fishing the rivers of Oregon's coast to his work to protect salmon strongholds around the Pacific Rim. As a child, Guido was more interested in fishing and catching lizards than paying attention in school. But when he noticed that the salmon and steelhead in his home rivers of Oregon were disappearing, he decided to do something about it.

Instead of trying to restore the damaged ecosystems of the Pacific Northwest, he was set on preserving salmon strongholds. These were wild rivers in the far reaches of the world that had not yet been harmed by human expansion, where salmon populations still thrived. His journey takes him from the Pacific coast, to Alaska's Bristol Bay, to the Russian Far East in search of the world's last remaining salmon strongholds. Along the way he connects people from all walks of life through fishing and his love of this amazing fish species. I enjoyed reading about Guido's stronghold approach to salmon conservation, which is different from the restoration approach practiced in California. The chronological narrative style of storytelling makes this book an easy read and I would recommend it to anyone who loves salmon, wild places, or fishing.

Upstream: Searching for Wild Salmon, from River to Table

by Langdon Cook

This book provides a holistic view of the role of salmon in our society. The author travels the West Coast, exploring the role these fish play in people's lives. From sport, commercial, and subsistence fishermen, to scientists and activists, to cooks at seafood restaurants, Langdon Cook does an excellent job showing the importance of salmon to different groups of people as well as the challenges of managing the fishery. With so many people clamoring for a piece of the pie and all with their own reasons why their need is more important than others, scientists and conservation specialists face an uphill battle in restoring native salmon populations. Despite their differences, all these diverse people recognize the importance of wild salmon and want the populations to be sustained. It is interesting to read about salmon from the perspective of restaurant owners and cooks alongside scientists and Native American subsistence fishermen. These unique viewpoints make this book an interesting read, even if the storyline jumps around and is sometimes difficult to follow. I especially liked reading about areas where I have lived and worked in the past.



Carissa Long tours some of the USFWS Anadromous Fish Restoration Program's restoration sites via kayak, near Knights Ferry, CA. Photo Credit: Doug Platt

Roadside Oasis

By: Sienna Streamfellow, Recruitment Leader
placed at WSP's SLO Office

While driving through the Santa Cruz Mountains, the fog was so thick I could not see more than 20 feet. I pulled over on the side of the road at random. I wanted to go out in the fog and look around, having never explored these mountains before. Eventually, I came upon a bridge and saw the most beautiful creek peaking out of the mist. I looked through a hole in the side of the bridge, to a secret oasis.

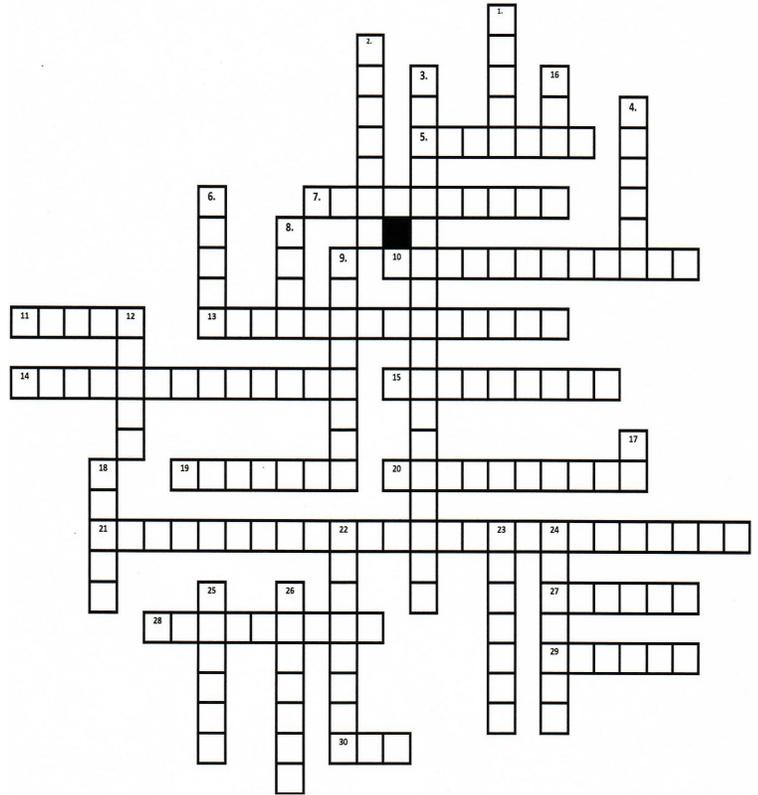
I loved this photo (below) so much, I printed it using an old method of photo printing called kallitype. Light sensitive chemicals are painted onto paper, and once the paper is exposed to UV light the image appears.

Kallitype photo print created by Sienna Streamfellow



A Fishy Crossword Puzzle

By Ellen Mills, Placed at San Francisco Bay Regional
Water Quality Control Board



Across:

5. *Oncorhynchus tshawytscha*
7. Life cycle
10. Finger-like organ
11. Instead of lungs
13. Preparation for the sea
14. Regulates discharge of pollutants into surface water
15. Too much can cause toxic algal bloom
19. Stores groundwater
20. Shows stream discharge
21. Living indicators of water quality
27. Not pronounced like a number, but is a life stage
28. Cloudiness
29. Often used in soil bioengineering
30. Powers the water cycle

Down:

1. Reproduce
2. Related to rivers
3. Rainbow trout
4. Shallow area with gravel
6. Help keep water cool
8. Deeper area with silt
9. Deposition in a stream
12. Measures water quality
16. Liquid salmonids live in
17. Ideal range is 6 to 8.5
18. Once a part of a stream, now a lake
22. Lines on a topographic map
23. Where freshwater meets saltwater
24. Line of lowest elevation
25. Used to make redd
26. Mysterious fin

See Page 14 for answer key



Frog Hunting

By: Sterling Meus, Placed at Marin Municipal Water District

The Foothill Yellow-legged Frog (*Rana boylei*) is a stream dwelling amphibian that used to be abundant across the pacific coast. Now extirpated over most of its range, a small population of the frog that persists in Marin County. The Marin Municipal Water District (MMWD) operates a docent program at Little Carson Falls to keep hikers and their pets from swimming in the pools and disturbing one of

the last habitats of the Foothill Yellow-legged Frog (FYLF). The FYLF was designated as a candidate for listing to the Endangered Species Act in 2012. They have not yet been officially named an endangered species, and their populations continue to decline. To protect the local population, MMWD sends volunteers out every weekend to point out and educate visitors about the frogs they might find at the falls. Since our volunteer season was cancelled this year, I have been working on an identification guide to help docents when they are at the falls.

Appearance: Aptly named, the FYLF has a distinctive yellow color on the bottom of its legs. They also have mottled throats that are noticeably light compared to the rest of their body. This will be easiest to see when the frog is jumping or if it has been captured. The back of the frog can be gray, brown, or red, and they can lighten or darken themselves for better camouflage. Male frogs are smaller than females and have unique nuptial pads on their front legs.

Time of year: These frogs are cold blooded and are most active in the summer months when they can absorb the most heat. They enjoy basking or sunning themselves for long periods of time. They lay their eggs between April - August.

Location: When hunting for frogs, they are most likely to be found while they are sitting still and basking in the sun. They are easily startled and generally choose to bask next to the water's edge, or on rocks suspended above the water.



Little Carson Falls. Photo Credit: Marin Volunteer Program



Nuptial pads on a male FYLF. Photo Credit: Garcia and Associates



Yellow coloration on Foothill Yellow Legged Frog (left). Photo Credit: Sterling Meus
Foothill Yellow Legged Frogs basking in the shallows (top right, bottom right). Photo Credit: Marin Volunteer Program

Alumni Spotlight, Continued from page 9.

able to give me the “in” with an organization here. Once I was here, it was nice to be close to the Los Padres (CCC) center and have a connection with the other Corpsmembers in the area. I really appreciated the friendships I developed. It was really fun to be a part of that effort, especially at the RCD where there weren’t many years with WSP Members before I arrived. There was a lot of figuring out what my roll was there, and figuring out how I could contribute to the organization and the community. They let me decide how much responsibility I wanted to take on. It was as big as I could dream, and I wanted to help them out as much as I could—which is what kept me there for two years.

Was there one experience that was especially memorable? Why?

My most memorable experiences were exploring local creeks and watersheds, because some of the areas you go to are areas you never would otherwise have reason to be in. You need to be part of something that’s established to even get to that area. It was really memorable to learn and explore our local creeks.

What role did WSP help you in your career path?

There’s two aspects to that question. Your placement site plays a certain role themselves, and WSP is the catalyst that gets you working with that placement site in the first place. Serving there (US-LT RCD) I gained relevant experience managing mitigation projects. But WSP is what got my foot in the door.

What advice would you give current WSP Members to help them in their budding careers?

Try to get the most you can out of every opportunity. Treat everything by giving it your all, and people will notice that you’re a reliable person who is willing to do your best. People will open doors for you if they notice you are the kind of person who works hard.

What’s an interesting fact about yourself?

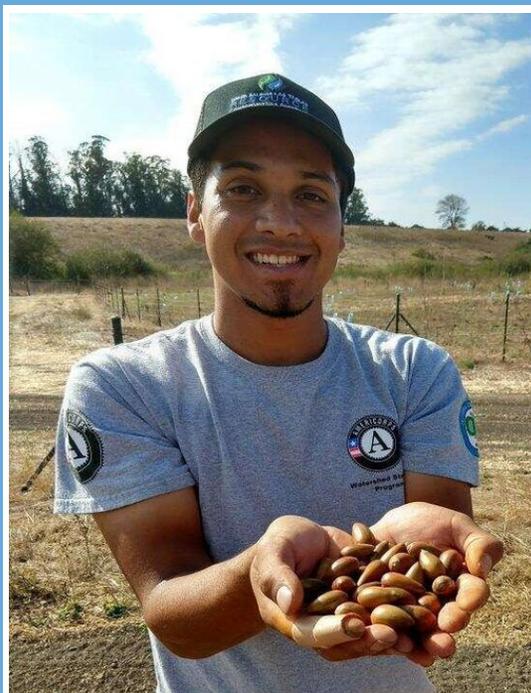
I can ride a bike backwards—I sit on the handlebars and peddle.



Lizzie DeLuca and a volunteer collect willow stakes. Photo Credit: Alex Torres-Tarver



Haley Sutton collects native California Goldenbrush roots. Photo Credit: Sienna Streamfellow



Sal Zaragoza, former WSP Corpsmember at the Upper Salinas-Last Tablas Resource Conservation District. Photo Credit: WSP



Ellen Mills conducting water quality testing. Photo Credit: Arianna Topbjerg



Team Leader Alex Torres-Tarver plants native grasses at a restoration site. Photo Credit: Sienna Streamfellow

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Find out more about the program on our website:

ccc.ca.gov/watershed-stewards-program/

Our Mission

The Watershed Stewards Program's (WSP) mission is to conserve, restore, and enhance anadromous watersheds for future generations by linking education with high quality scientific practices.

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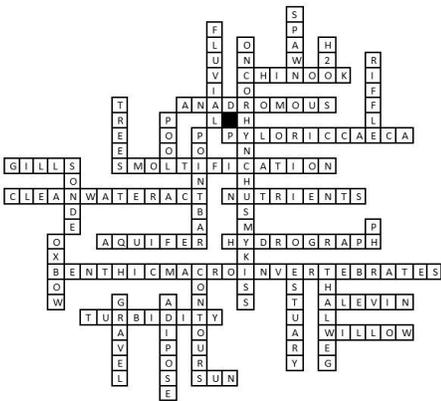
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Melia Green holds a large male Steelhead Trout. Photo credit: Lance Takata

Become a WSP Member! Learn more about the program and find our application at:
ccc.ca.gov/watershed-stewards-program/