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Tributary Tribune

STORIES AND ART BY THE
AMERICORPS WATERSHED STEWARDS PROJECT

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

A special project of the California Conservation Corps, WSP is administered by CaliforniaVolunteers and sponsored by the Corporation for National and Community Service.

THE TRIBUTARY TRIBUNE SHOWCASES THE ADVENTURES, INSIGHTS, AND ART OF MEMBERS OF THE AMERICORPS WATERSHED STEWARDS PROJECT. FOR SEVENTEEN YEARS THE WSP HAS BEEN SERVING COMMUNITIES THROUGHOUT CALIFORNIA'S COAST. THIS ISSUE FEATURES STORIES AND ART BY MEMBERS FROM OUR NORTHERN REGION, PLACED IN COMMUNITIES THROUGHOUT THE TRINITY AND KLAMATH RIVER WATERSHEDS.

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Credits

Editor - Stephanie Brindle
Submission Supervisor - Erika Stowe-Madison
Layout Designer - Ryan Spencer
Cover Image - Tim Sandborn

Background by Isaac Baker
Salmon River Restoration Council

ROUGH STARTS AND NEW BEGINNINGS

Chemistry and algebra
25 years after intro classes,
Before they're over I need reading glasses.

Eyes burn, brain hurts, sessions hosted,
Test anxiety forgotten
after scores posted.

Relief at completion
After-work celebrations,
Perhaps I'll do something for the nation.

Crossing state lines for a fresh start
Trucks rumbling in the night -
Camping in Fortuna is a bit of a fright.

Salmon, salmon from every angle,
I used to just eat 'em,
But now I'm entangled.

New spaces and new places
Surrounded by unknown folks
With smiling faces.

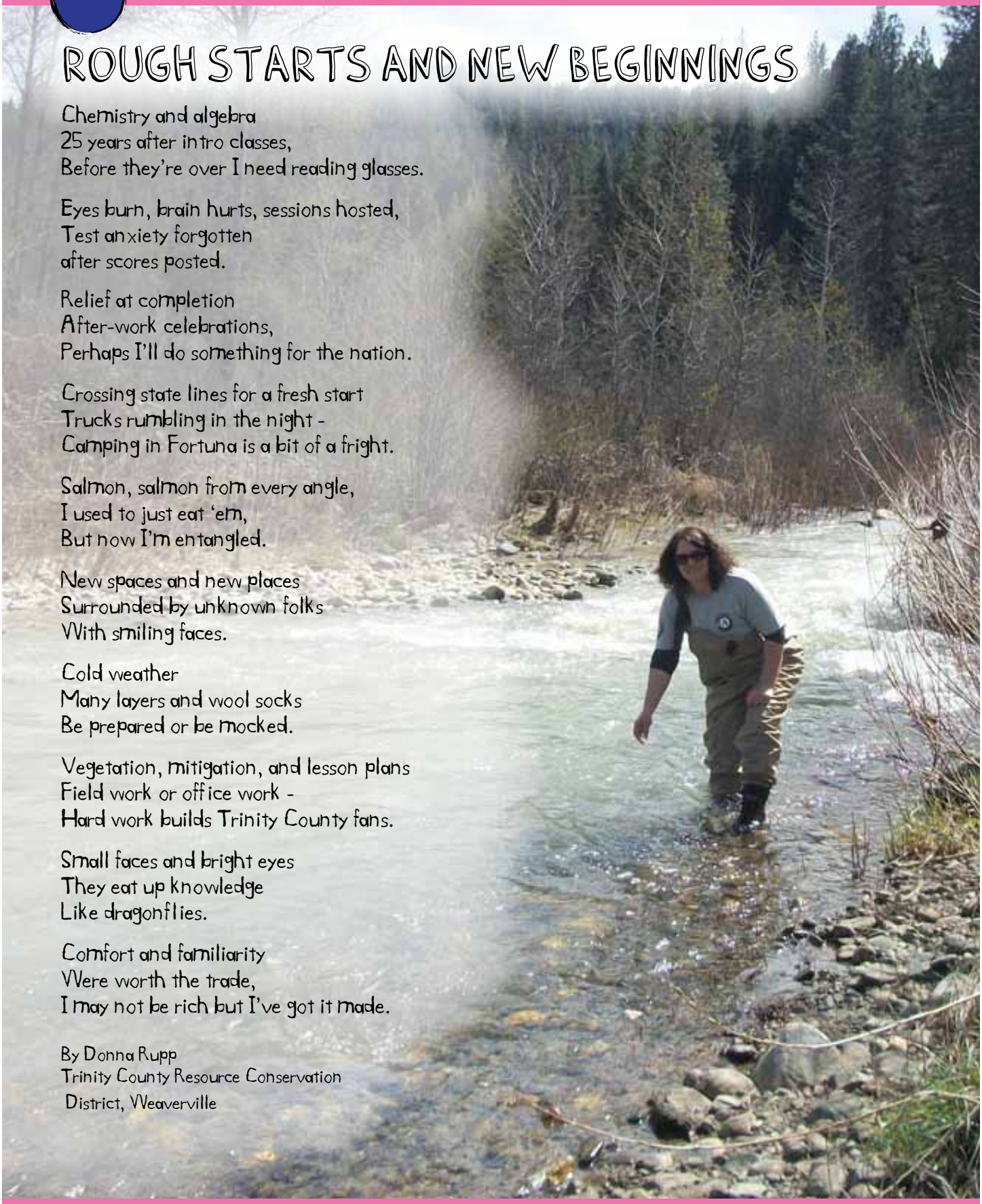
Cold weather
Many layers and wool socks
Be prepared or be mocked.

Vegetation, mitigation, and lesson plans
Field work or office work -
Hard work builds Trinity County fans.

Small faces and bright eyes
They eat up knowledge
Like dragonflies.

Comfort and familiarity
Were worth the trade,
I may not be rich but I've got it made.

By Donna Rupp
Trinity County Resource Conservation
District, Weaverville



TOO YOUNG TO MAKE A DIFFERENCE?

by Leandra Darden
Yreka Dept. of Fish and Game

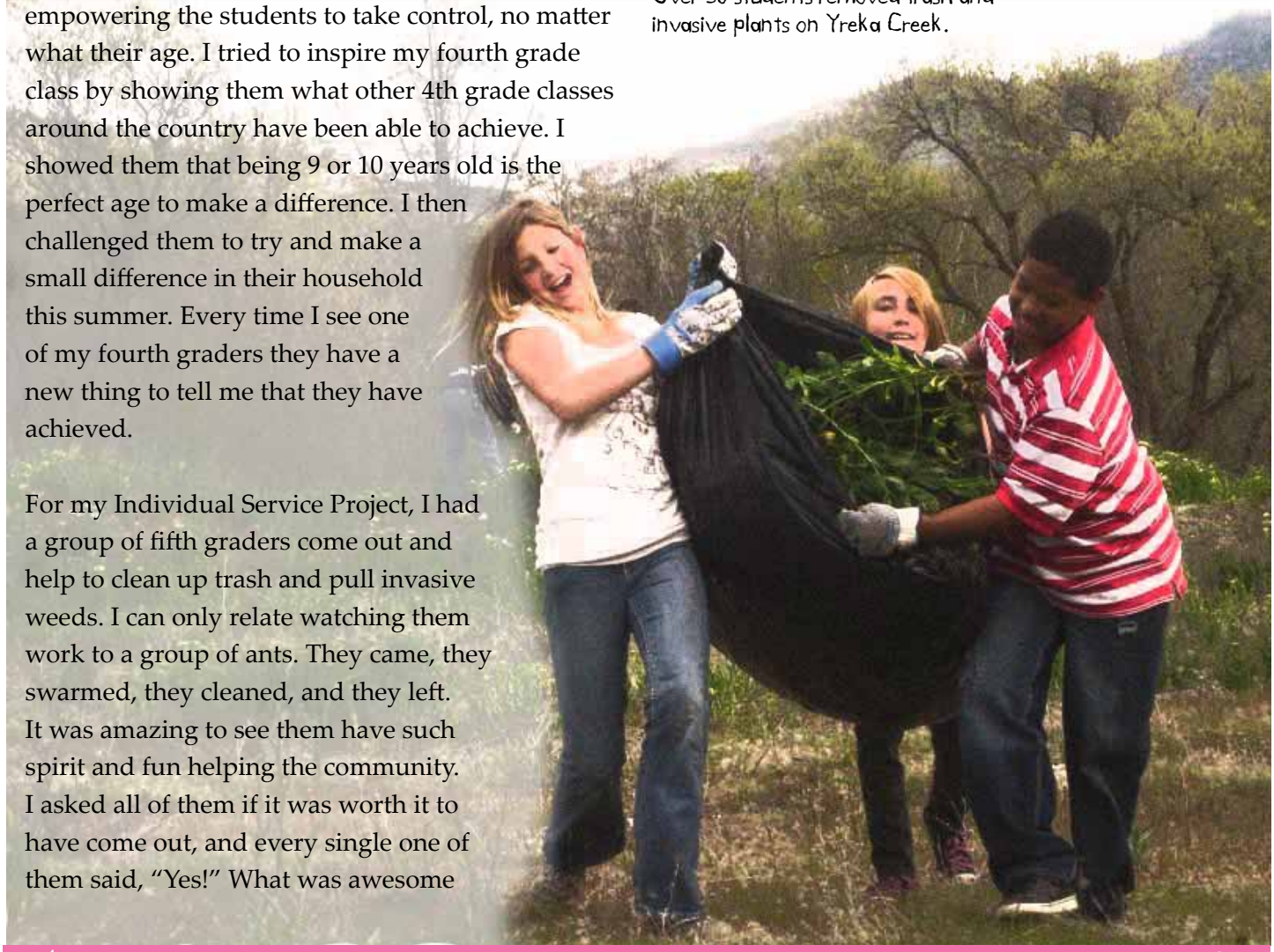
"You are too young to make a difference."

Those words haunted me for my entire elementary career. No matter what I wanted to do there was always a grown-up telling me I couldn't. The excuses were always the same…"It would be too much work," "You don't know what you're getting into," "You can't do those things right now. Wait until you are older." As I have gotten older, I have realized that those excuses were really just the adults trying to keep me from achieving because of their own guilt. I never want to be one of those adults! Through WSP I have spent my time empowering the students to take control, no matter what their age. I tried to inspire my fourth grade class by showing them what other 4th grade classes around the country have been able to achieve. I showed them that being 9 or 10 years old is the perfect age to make a difference. I then challenged them to try and make a small difference in their household this summer. Every time I see one of my fourth graders they have a new thing to tell me that they have achieved.

For my Individual Service Project, I had a group of fifth graders come out and help to clean up trash and pull invasive weeds. I can only relate watching them work to a group of ants. They came, they swarmed, they cleaned, and they left. It was amazing to see them have such spirit and fun helping the community. I asked all of them if it was worth it to have come out, and every single one of them said, "Yes!" What was awesome to see was that the high school students who were also participating were in awe of everything this group accomplished. After looking at a huge pile of trash that included two shopping carts, tarps, and at least 8 bags of weeds, one kid remarked, "The fifth graders did all of that?!".

Throughout this year I have learned the importance of our youth. We can never be too young to make a difference, and we are never too old to encourage our youth. Our future and our environment are dependent on them.

Over 50 students removed trash and invasive plants on Yreka Creek.



HOOPA FISH FAIR PHOTO GALLERY

Photos provided by Tammy Lightle
US Forest Service, Orleans

(Right) Orleans Elementary students enjoy the "Leave No Trace" message with BIGFOOT.

(Below) "Francis Fish" joins in the fun and activities with local students.

(Right) VVSP Member, Kelly Church leads students at the Stream Table. This miniature watershed helps to demonstrate stream conditions.

Individual Service Project Field Trip Experience

by Michelle Krall
Mid Klamath Watershed Council

Back in February, as part of my education outreach, my site partner and I were able to teach four lessons at Seiad School in Seiad Valley, CA; two lessons for each class. The lessons mostly consisted of the geology of watersheds. However, as part of my Individual Service Project (ISP), I was fortunate enough to work with the school's incredible fourth through eighth grade students to teach them about the little known salmonid. The week before my ISP I visited the class to talk about salmonids in the Klamath River watershed. Much of the salmonid information was very new to many of the students. It was an exhilarating experience to get the opportunity to invite these kids on an adventure outside of school to see juvenile coho salmon for themselves. The following week we visited an off-channel pond recently created by the Mid Klamath Watershed Council on Seiad Creek. Our mission: plant over 200 trees along the banks of the pond. They got their hands and knees dirty digging holes and planting native dogwood, maple, cottonwood and willow.

After the field trip, the teacher assigned the students a writing assignment. Each student sent a thank you note to the Mid Klamath Watershed Council about what they learned during the field trip up Seiad Creek. Here are some quote highlights:

"It was exciting to see the fish and plant all the trees."

"I learned about how to plant trees, what kind of environment the fish need to survive and how nature is very important."

"Thank you for letting us work on your pond."

"I enjoyed when you guys came at the beginning of the year, but especially liked the field trip…I hope to see you guys next year."

"I enjoyed pulling out the noxious weed, as a result, they won't take over."

"Maybe we could persuade you to take us to a pond and let us go swimming. Our teacher wouldn't mind."

With the Seiad School contribution, they are helping to restore the salmon population by providing bank stabilization and shading for decreased water temperatures along Seiad Creek.

Trinity County Resource Conservation District

On May 19th, Donna Rupp and Roslyn Lack led 99 volunteers in restoring Douglas City Campground!

SAVING STRAWBERRY CREEK

by Ryan Spencer
WSP Fortuna

A DRENCHING STORM SLAMMED THE Northern California Coast two days before Erin Kantorski had scheduled her restoration project. Strawberry Creek, a small tributary to the Redwood Creek Estuary outside of Orick, had transformed from a small, featureless ditch to a wide swath of creeping backwater. The swelling creek threatened to drown recently planted conifers and concerns grew that the area was no longer safe for volunteers. After months of preparation, of cutting willow sprigs, of pitching the event to clubs and community members, and gathering the necessary equipment, Erin and her partners watched their project washing away in the deluge.

But this was not a project Erin or her partners could just walk away from. Erin had already prepared 2,000 willow sprigs with the help of the California Conservation Corps and a small crew of WSP members. The show would go on, even if they risked playing to an empty house (no volunteers).

Strawberry Creek is a small tributary in the Redwood Creek Watershed. A drive to the project area takes a traveler along the edge of a wide river plain covered with cow pasture, just south-east of the town of Orick. A dark ridge flanked by looming old growth redwoods serves as a backdrop. "It's hard not to be astounded by the natural beauty of the surrounding area," says Erin Kantorski, the WSP lead in the project. Indeed, most of the watershed is now part of Redwood National Park.

Its headwaters begin in the low hills beneath a dense swath of second-growth forest. The Creek makes a steep descent until reaching the wide flood plain, where its flow is nearly halted by an infestation of invasive, exotic canary grass. "When I first saw the creek…" Kantorski says, "I did not realize it was a creek because it was completely clogged… There was a thick, massive carpet of green where there should have been a flowing channel of water."

Strawberry Creek's condition reminded Erin of creeks in her hometown of San Diego. By the time Strawberry slithers toward the Redwood Creek estuary it has been robbed of nearly all its dissolved oxygen. Unlivable conditions for any salmon.

HISTORY

The Creek visible today is quite different from the creek that once existed here. Mitch Farrow, the Project Manager of the Pacific Coast Fish Wildlife and Wetland Restoration Association (PCFWWRA), and the lead on the restoration project, paints a picture of what Strawberry Creek represented in past generations. "When trout season would open," Farrow says while orienting the volunteers the morning of the restoration project, "this is the stream that people would come to fish from around here. There are pictures of people with great big stringers of big cutthroat trout." Coho salmon also took residence in the slow-moving backwater.

Alterations to Strawberry Creek began as far back as the late 1800's, when European settlers began arriving from the East. Many of the low-lying wetland and backwater areas were converted to cow pasture. "In the process of establishing ranches," says Kantorski, "the creeks that went through the land were diverted and moved to flow along the outskirts of the land." The creek diversion led to a loss of riparian cover, and the extra sunlight created ideal conditions for non-native vegetation, such as canary grass, to sneak in. The canary invasion choked the creek, slowed the flow of water, and trapped more and more sediments. The tiny stream now floods on a regular basis.

The canary grass infestation has also taken a toll on the salmonid population, which once teemed in Strawberry Creek. According to the Washington State Department of Ecology (www.ecy.wa.gov), when the non-native grass enters a wetland it quickly forms a monoculture which can choke other vegetation. Dense colonies of canary grass diminish or even eliminate the habitat of mammals, birds, and fish. As the grass shoots die off they deposit into the stream, which can deplete the stream's oxygen.

When PCFWWRA sampled Strawberry Creek, Mitch Farrow and his team found that the dissolved oxygen off the hillside was around 9mg/L, and ¼ mg/L under the grass. The former reading is pretty good, while the latter provides very poor habitat for fish! After removing canary grass in one section of the stream Farrow says, "[we] did find juvenile Coho that had come back up here and started rearing again..."

For some years, the PCFWWRA had been working with the National Park Service and local landowners to remove the canary grass. Previous land-use practices involved the use of a drag line to "clean the creek out of here to keep it flowing," says Farrow. Though intended to stop the flooding, these practices actually exacerbated the problem.

With all the alterations to the creek, Farrow says, it's really made an environment where this [grass] just takes off. It gets so thick you can actually walk across it."

Ron and Regina Barlow, longtime landowners and partners in the project have been actively trying to get a restoration project funded for several years. "[They'd] just like to see it a stream again," says Farrow. "They'd like to see it a stream with fish." After a lengthy effort, funding has come through and the project has taken shape. It boasts key partners including the California Department of Fish and Game, the California Conservation Corps, the Humboldt Fish Action Council, U.S Fish and Wildlife Service, and other landowners along the Creek. "These landowners," Farrow says, "are just the nicest people you'd ever want to meet… You're lucky to have landowners like that to work with."

SALMON NEED BACKWATER

The challenges Strawberry Creek faces have a lot to do with the historical perception of backwater streams and side channels. Often muddy, wet year-round, and full of mosquitoes, these slow moving waterways have been seen to have little value. In past years when PCFWWRA restored backwater channels, Farrow muses, people "looked at it and went 'yeah that'd make some nice frog habitat, but we don't really see the fish values in it.'"

That sentiment is changing. "There's more and more evidence that that's some of the critical habitat that might be the most limiting for Coho populations," Farrow says. "[Backwater] areas have so much food production," he says, "[the salmon are are] not fighting those flows and burning up energy like they do in the channel. It becomes biologically active in the spring much earlier." Farrow signals to the glassy water moving at an almost imperceptibly slow pace. "The water, like you see here, is clear even at times when Redwood Creek has got a lot of turbidity… but this thing is just crystal clear! So fish like Coho, that are real visually oriented… just thrive."

THE SHOW MUST GO ON!

The rains leading up to the weekend of Erin's and the PCFWWRA's restoration project did overwhelm Strawberry Creek, its waters spilling into swaths of cow pasture.

Still, by that Saturday morning the clouds were breaking up and volunteers began arriving at the site. A group of dedicated Watershed Steward Project members also came to help, giving up part of their weekend to serve in this community effort. Erin Kantorski and Mitch Farrow's crew distributed a truckload of willow sprigs among the volunteers. Armed with rubber mallets the team began the work of hammering hundreds of sprigs into the soggy stream banks.

The hope is that once these willows take hold they'll create enough shade to wipe out the invasive canary grass, allowing oxygen to return to the stream. What's needed, Farrow says, is a heavy, "riparian canopy to shade this stuff out, because we're not going to make this stuff go away. I mean you could come in here and spray it, if that's what you wanted to even try, but it's going to come back."

Eager community participation is pivotal to restoration projects like Strawberry Creek, which PCFWWRA is undertaking. By the end of the four-hour event, volunteers had planted nearly 2,000 willows, a feat that would take Farrow and his team days of work. "I believe that this project was a success," says, Erin Kantorski, "The willows should have sprouted by now and within a few years they will have grown significantly."

The February 22nd project Kantorski lead is just one of many projects the PCFWWRA has been facilitating to help bring salmon back to Strawberry Creek. "We're trying to look at this system as a whole and get it back into functions," says Farrow. Strawberry Creek's recovery will be continually monitored by PCFWWRA. With restoration projects as vast as this, Farrow says, "you think we'll never get there, 'it's just too big to deal with,' but… piece by piece, working on the priorities in a watershed, you can start having a major impact on it."

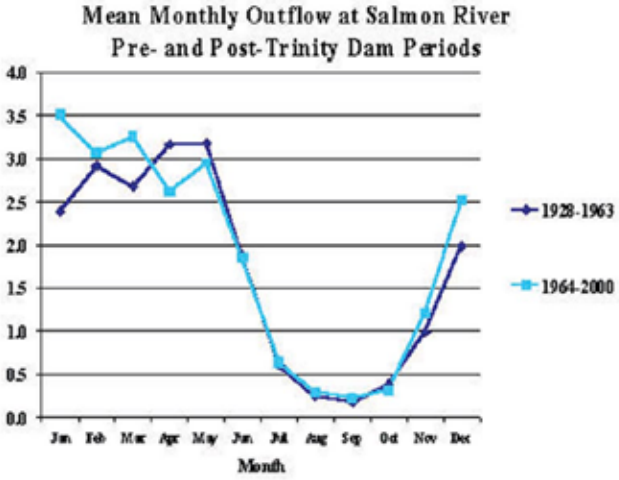
(Above) WSP Member, Nick Pence trudges through a deceptively deep Strawberry Creek.

Volunteers pounded thousands of willow sprigs into the banks of Strawberry Creek. As these willows grow, the will help to shade out invasive canary grass. (Left) WSP Member Leandra Darden and WSP Alum Bo Williams, were among the many participating in the effort.

A TREND TOWARDS ALTERED SNOWPACK AND THE TIMING OF SPRING RUNOFF

by Bonnie Bennett
Salmon River Restoration Council, Sawyers Bar

Thompson Glacier lies below the North Face of Thompson Peak. Like all glaciers, the melt rate has accelerated dramatically since the mid-1990s, which was the hottest decade in a thousand years, according to data from ancient ice cores & tree rings.
Photo by Melissa Schroeder 2003



CLIMATE CHANGE CAN HAVE AN EFFECT ON EVERY part of an ecosystem. The Salmon River is a Wild and Scenic River system that's base flow is mainly fed by snowpack. As the climate changes, so does the water storage system in the mountains. Even a small amount of temperature increase can dramatically alter snowmelt driven watersheds and their delicate balance. Climate change trends are moving toward lesser amounts of precipitation falling as snow, which results in a reduced snowpack and earlier spring runoff. This causes lower levels of warmer water during the summer flow. Wildlife, forest vegetation, riparian habitat, aquatic life and especially threatened salmonids are all affected. Climate calculations for Western North America show that an increase of 1-3°C for winter and spring temperatures is a primary cause for earlier snowmelt and spring flow timing.

Studies have found that the maximum average flow has moved 10-30 days earlier in the water year over the last 55 years. When local temperatures rise and fall with Pacific Decadal Oscillation (PDO) earlier snowmelt and maximum average flow exist even during the colder parts of the PDO cycles. After this year's storms at the end of February and March the measured snowpack in the Salmon/Scott River Ranger District was 176% above normal since recorded history. It is melting fast though. Since January of 2011 the Salmon River has had 3 high peaks from rain on snow events that averaged around 10,000cfs. Future climate change progression will further the trends of less snowpack, earlier spring runoff and hydrologic system changes. Projections from climatologists show the earlier snow runoff continuing over time as temperatures keep increasing globally and locally. The freezing levels in of the region are predicted to increase in elevation to the point where by 2100 there may not be an annual snowpack. Warmer temperatures will affect the snow even at higher elevations and episodic events will change the snowpack pattern from steady accumulation to alternating accumulation and loss. The effects of such changes will radiate throughout the river system. Spring fed creeks may begin to dry up earlier in the year, providing animals and humans with less water. Riparian zones may be damaged during higher spring flood events, and less underground water will make it more difficult to replenish seedlings to shade the river. As the river decreases in volume and flow, so does the habitat for the salmon and other aquatic species.

As scientists continue to monitor snowpack and hydrologic runoff in the Northwest, we will have a better idea of what changes to expect and how to mitigate for the potential warmer climate with a less consistent water supply. Climate change and rising temperature is a global issue that affects everyone on slightly different levels. For the Salmon River it seems that the direct annual hydrograph changes will be a major influence on the health of the wildlife, plant life, aquatic species and human communities.

P.Mote. 2005. Climate-Driven Variability and Trends in Mountain Snowpack in Western N. America
I.Stewart, D.Cayan, M.Dettinger. 2005 Changes toward Earlier Streamflow Timing across Western N. America

NORTHERN REGION BOOK REVIEW

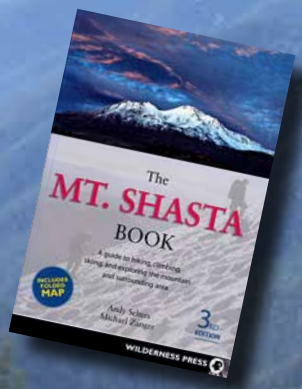
by Sarah Olsen
Yreka Dept of Fish and Game

Those of us in the northern region know that we live in a secret and mysterious place of remote bliss. The motto of the city of Yreka, "where history lives on" exempliflies the relative isolation from modern society this region has experienced. Life isn't easy way out here. Roads carved out of steep and disintegrating mountains mean constant rockslides and treacherous roads. Stores and restaurants are few, far between, and … undesirable.

Despite the lack of cosmopolitan comforts, entertainment abounds in the form of stories and history—legends of big foot, mountains of gold, wars, secession, communes, mountain lions, fishers, and bears, oh my! Here you will find the center of a spiritual universe and ancient mining equipment galore. For those intrigued by what I'm talking about, I think you will greatly enjoy these books:

The Mount Shasta Book

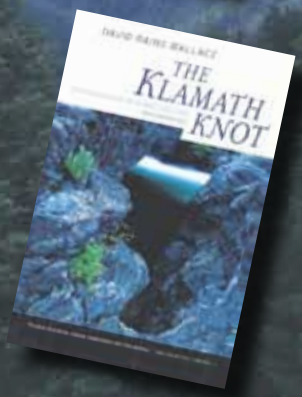
(Andy Selters and Michael Zanger, Wilderness Press 2001):



This great guide to hiking, biking, and exploring the mountain and surrounding area is especially interesting because of its stories, including John Muir's epic night in a blizzard at 14,000 feet, which he barely survived by lying on top of scalding hot thermals one night at the top of Mt Shasta.

The Klamath Knot

(David Raines Wallace, University of California Press 2003)



Nature writer David Wallace explores the evolution and myth of the unique flora, fauna, and geology of the Klamath Mountains. His writing stems from his own experiences exploring the area on foot throughout his life, which include near encounters with big foot. His observations of everything from mayflies to salmon to grassland lead to profound truths and understanding. A great book to bring backpacking.

River of Renewal

(Stephen Moss, Oregon Historical Society Press 2006)

The textual counterpart to a documentary of the same name, River of Renewal is an all-encompassing account of myth and history in the Klamath Basin that emphasizes the native people's perspective. Reading this book, you feel you are getting the complete story in a place where conflict over land, water rights, and fish is abundant and confusing. Plus, they interviewed lots of people in the area – so probably someone you've met or know is in it!

So go on, you nerd! Find yourself a copy to read at the river, on a big rock, or underneath a tree. Then go out and explore the plants, critters, and places you've learned about with a new sense of wonder.

Background by Isaac Baker
Salmon River Restoration Council

Haikus

by Tim Sandborn
Yurok Tribe Environmental Program, Klamath

A Haiku about the time I fell of a rock into the Klamath River:

Slick stone under foot
A precarious balance
Splash, Bang, Ouch that hurt!

A Haiku about the time I saw a bear in the woods outside of the YTEP office:

Twigs snap in the dark
Through green I spy yellow eyes
The bear is hungry

A Haiku about the time I went clamming (for scientific purposes):

Minus tide morning
Tasty razors in the sand
Let the hunt begin

Tully Creek. Free Verse

by Nick Pence
Yurok Tribe Environmental Program, Klamath

Winter white blanket
Atop these bald hills
Requires attention
Putting along
Inching down switchbacks
Arrive stirred yet tickled
Wilderness becomes feral
Curious of weather that surrounds
These flakes of the sky
Drift wood approaches
An oddly stable position
Wait!! It's an otter!!

Background by Tim Sandborn

Screwtrap Haikus

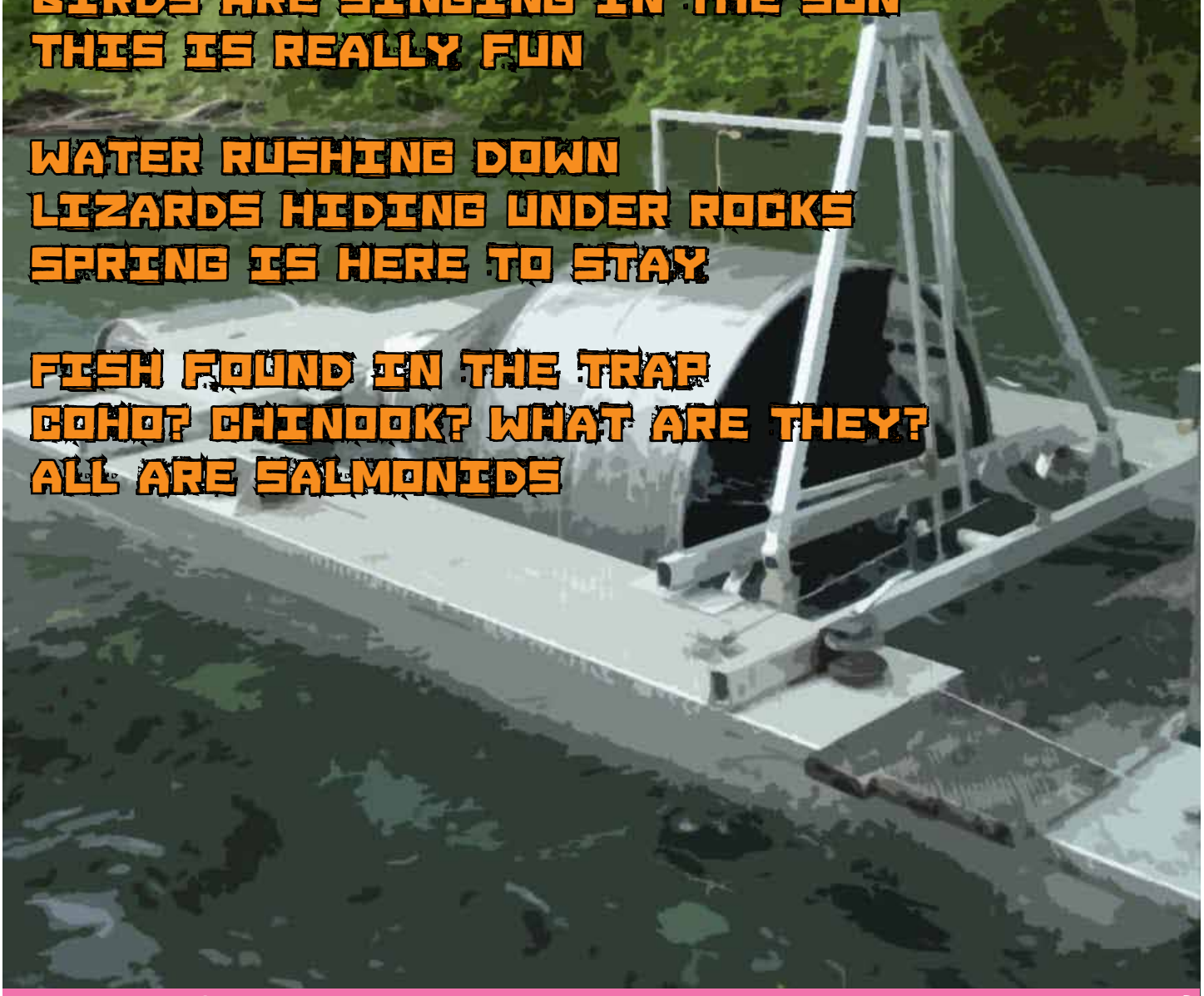
from Leandra Darden
Yreka Dept. of Fish and Game

Haikus done by a 5th grade class from Etna Elementary that visited the DFG Yreka rotary screw trap. As small groups they came up with haikus that expressed some of what they were feeling on the walk and at the trap.

WIND IS IN THE TREES
BIRDS ARE SINGING IN THE SUN
THIS IS REALLY FUN

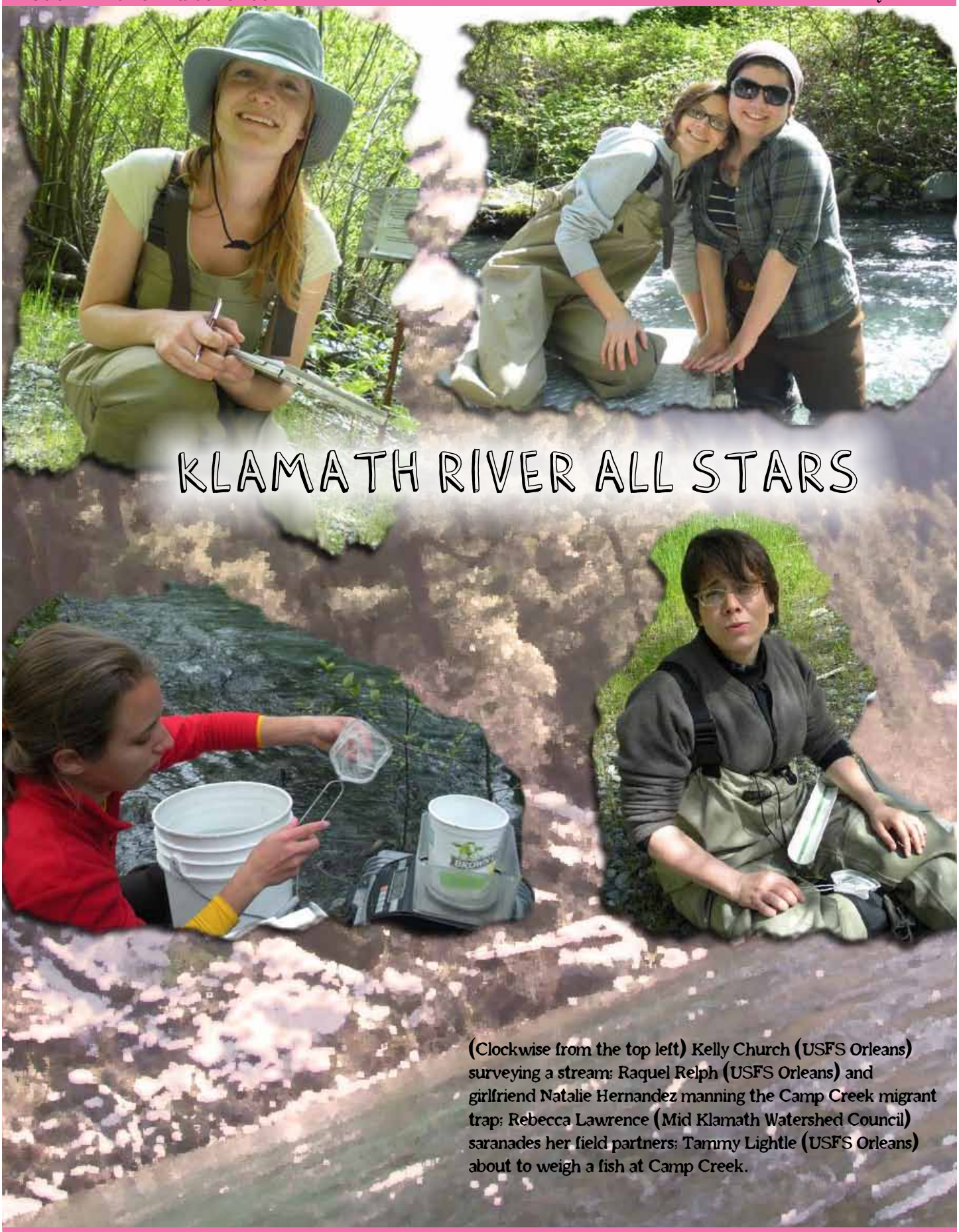
WATER RUSHING DOWN
LIZARDS HIDING UNDER ROCKS
SPRING IS HERE TO STAY

FISH FOUND IN THE TRAP
COHO? CHINOOK? WHAT ARE THEY?
ALL ARE SALMONIDS



INTRIGING THINGS
IN THE TRAPS OF ORLEANS

by Raquel Relph
US Forest Service Orleans



KLAMATH RIVER ALL STARS

(Clockwise from the top left) Kelly Church (USFS Orleans) surveying a stream; Raquel Relph (USFS Orleans) and girlfriend Natalie Hernandez manning the Camp Creek migrant trap; Rebecca Lawrence (Mid Klamath Watershed Council) saranades her field partners; Tammy Lightle (USFS Orleans) about to weigh a fish at Camp Creek.

Watershed Stewards Project

1455-C Sandy Prairie Ct
Fortuna, CA 95540
707.725.8601
watershedstewards.com

Carrie Gergits - Project Director
Kristin Kovacs - Project Manager
Stephanie Hedt - Member Coordinator
Sarah Judd - Office Manager