



news from the

mkwc.org

# Mid Klamath Watershed Council

Spring 2011, Thirteenth Edition

## Panamnik Building Update—Now That We Own It

Last August the Mid Klamath Watershed Council finally completed their purchase of the Panamnik Building in downtown Orleans. MKWC fundraised for several years and through the generous donations and support of our local community we were able to buy the old grocery store. The building is used for MKWC's office, we rent three office spaces, and the US Post Office is the building's long-term tenant. The Orleans Volunteer Fire Department is also located on the property.

MKWC is primarily a natural resource based organization running programs in fire and fuels, fisheries, noxious weeds, native plants and watershed education. Since MKWC began renting the Panamnik Building we have also been developing programs to benefit our local community. MKWC's longterm plan develops the property in three phases.

Phase I was buying the building. WE DID IT! YEAH! Thanks to Everyone!

Phase II is the current process of making a whole series of necessary repairs and improvements These include creation

of a covered walkway in the front and a new entryway. Much of the building needs structural and electrical repair and upgrading. With the help of Roger Williams the removal of the old walk-in coolers was recently completed. With the help of Humboldt County and the US EPA we are cleaning up soils contaminated by diesel and motor oil spills from the building's backup generator. With the help of the McLean Foundation and the PG&E Foundation we are upgrading to modern energy efficient lighting.

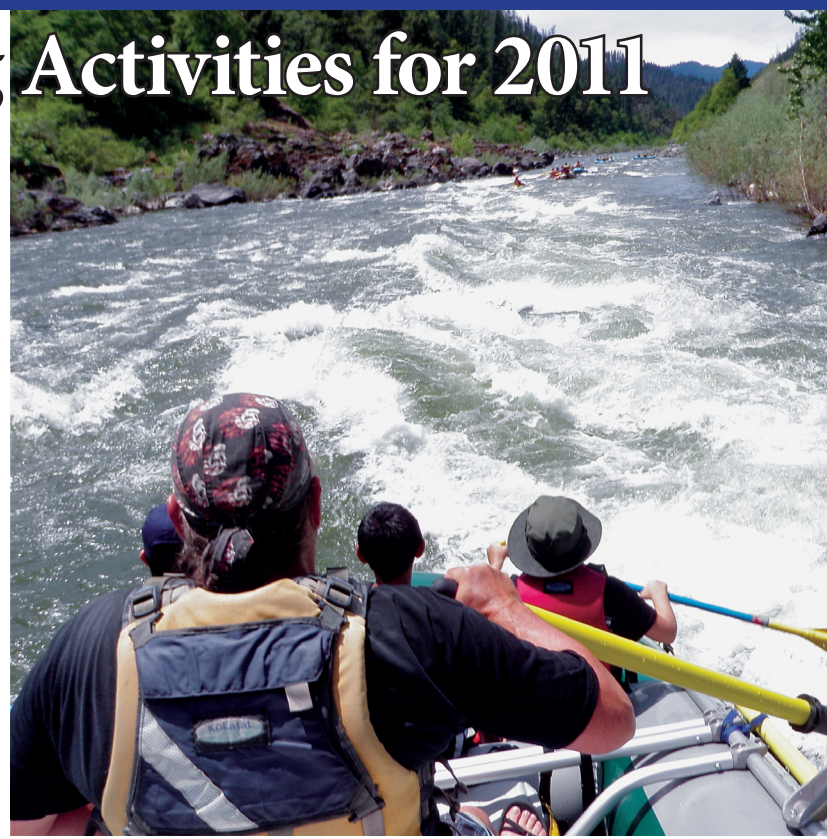
This spring and summer we are beginning a project in conjunction with the Somes Bar Arts Council to build a riverside amphitheatre on our property between the Panamnik Building and the Klamath River. This amphitheatre will feature a stage and outdoor seating for music, theatre and other events. The gentle slope on the riverside of the property is a natural place for such a project and will promote more outdoor events. Phase III is the final step. This is a remodel phase to bring the building up to modern standards and make it function well as offices and a place for community events. Phase III will result in new entryways, windows, bathrooms,  
*continued on page 3*

### Klamath Youth Stewardship Corner

## News and Upcoming Activities for 2011

### Summer Jobs for Local Teens

MKWC is pleased to announce the continuation of our new Stewardship Intern program! Last year three local teenagers were hired to assist MKWC with our restoration and monitoring projects. Interns had the opportunity to raft the rivers to work on improving creek mouths for fish passage, backpack wilderness areas to monitor and remove invasive weeds, and improve and contribute to restoring watershed and community health. This is a fantastic opportunity for local teenagers to earn some money and gain valuable natural resource and community service skills. Internship positions will begin the last week in June and continue through the third week in August. Interns will receive minimum wage and are expected to work three days per week. In August interns will go on spike and camp overnight for three days in the wilderness areas. For more information or to apply, contact Jillienne Bishop at the MKWC office.





## The Klamath-Siskiyou Outdoor School

MKWC is preparing to host its 4th annual Klamath-Siskiyou Outdoor School (KSOS) from June 22nd-27th. Twenty local youth participants, ages 12-14, are invited to participate in a cost-free weeklong overnight rafting and backpacking trip. Students will learn about kayaking, outdoor survival skills, fishing, arts and crafts, fisheries restoration projects, remove invasive weeds, and learn about the local ecology in this unique place we live in! To sign up for this epic event, contact Jillienne at the MKWC office soon, as limited spaces are available. (530) 627 3202. [jillienne@mkwc.org](mailto:jillienne@mkwc.org)

This year is the second year KSOS (pronounced by many as K-Sauce), will be hiring four local teenagers as junior counselors. Junior counselors must have participated in KSOS for at least one year and be willing to lead teambuilding activities, assist senior counselors, and direct students in cooking groups. Junior counselors will receive a small stipend for their work. If you are interested in being a junior counselor, please contact the MKWC office to apply.

### And, of course, More Free Youth Raft Trips!!!

MKWC is teaming up with Klamath River Outfitters for our fifth year to provide local youth with fun filled FREE Restoration Raft Trips. On these raft trips kids can splash around in the whitewater while learning about Klamath River salmon and ecology. Sign-up and liability release forms are available at the MKWC office located at the Panamnik Building in Orleans.

The dates are as follows:

- 👉 Friday July 8th (Ages 7-9)
- 👉 Friday July 15th (Ages 10-12)
- 👉 Friday July 22nd (Ages 9-14 in Happy Camp & Seiad Valley area)

## MKWC Fire and Fuels Program

aka the Orleans/Somes Bar Fire Safe Council, has had an active season of fuels reduction in the local area. Through grants from the USFWS Partners program, and the Siskiyou County Resource Advisory Committee, our brushing crew and contracted sawyers have accomplished almost one hundred acres of brushing in and around the communities of Orleans and Somes Bar.

Thank you to these energetic and reliable brushing crewmembers for their efficient work: Wyatt (Opie) McBroom, Walt Thom, Bonnie Clark, Dennis Donahue, Rudy Gallindo, Travis Gayle. And thanks to our contracted sawyers out of Etna: Andy Dean and Tim Murray.

## FLASH

This year MKWC is participating in a pilot project which reimburses landowners for work on their own property. This program, called FLASH, Fire-adapted Landscapes And Safe Homes has been funded by the USFS through the Humboldt



## Panamnik Building FREE Camp!!

The first two Thursdays in July and August MKWC is hosting the Panamnik Building FREE Camp for youth to get involved in some exciting summer adventures! Kids learn from volunteer presenters in exciting interactive workshops. Past classes have included willow basketry, arts and crafts, canning and preserving yummys from the garden, cooking, and visiting local farms. If you are interested in attending or presenting at this fun filled youth camp please contact Teri Chanturai [terichanturai@gmail.com](mailto:terichanturai@gmail.com) or Jillienne at the MKWC office.

- 👉 July Dates: Thursday the 7th from 10:00am-2:00pm, Thursday the 14th from 10:00 am-2:00pm
- 👉 August Dates: Thursday the 4th from 10:00am-2:00pm, Thursday the 11th from 10:00am-2:00pm
- 👉 Music Camp: This summer there will be a two-week music camp at the Panamnik Building from July 18th-29th. For more info contact Tina Marier.

County Fire Safe Council. FLASH is a pilot program which has a good chance of being funded again in future years. Private property owners all over Humboldt County, through their local Fire Safe Councils, from the Van Duzen to Willow Creek, are taking advantage of this opportunity to be partially reimbursed for creating fire safe environments near their homes.

There is still time to sign up for FLASH if you are planning to do fuels reduction on your property in the next months. Call Nancy Bailey at MKWC for more information and to schedule a site visit, 627-3202.

## NEED MOWING OR CHIPPING?

MKWC and the Fire Safe Council offer mowing and chipping services throughout the summer at the following rates: Tractor/mower and operator: \$40.00/hr; DR Mower (17hp!) and operator: \$30.00/hr; Bear Cat chipper: \$50/hr (please provide helper)



*We Own It*, continued from page 1

storage and the construction of a real kitchen. In addition we hope to build a small café. The kitchen may be available for local food entrepreneurs for creating local products. Other goals of our remodel are to provide space to sell local products and improve our displays on local resources for tourists and other visitors.

Now that we own the building MKWC has been trying to figure out ways to make the space available to the community without incurring huge liability insurance costs. Having adequate liability insurance has become a tiresome, but real life issue for our organization. We also need to figure out how to pay for the large utility bills as well as attend to the general maintenance that is a daily part of owning an older building. This requires time and we ask that the community have patience, offer suggestions/solutions and support us as we tackle these onerous administrative tasks and figure out how to make the building pay for itself. Currently our policy, dictated by these factors, forces us to require, for non-MKWC sponsored events, such as private parties—building users must purchase separate liability insurance. We are confident as we continue to develop our community programs that over time we can overcome the administrative details and develop the Panamnik Building into a well functioning office and community space.

It is the intention of our organization to develop the Panamnik Building to benefit our local river community and the Mid Klamath Watershed Council. Our community program currently includes regular activities for preschool age children, dinners on every third Thursday, yoga, African dance and other exercise classes. In addition the community space is used for musical events, fundraisers, youth activities, art shows, poetry readings, film screenings, meetings, wildfire updates and other local information. These activities are all open to the public.

As we continue to develop the space we welcome your comments, constructive criticism or time and energy to help



make this happen. Communication is the only way to make this a real “community” center. It is difficult to please all the folks all the time, but we hope that by emphasizing our common goals and needs, the Panamnik Building will ultimately enrich our lives and our children’s, as we work towards a sustainable future living along the Klamath River.

To date the Mid Klamath Watershed Council has fundraised \$121,927 from the local community towards the Panamnik Building Project. It is impossible to come up with the number of contributors. Every participant at every event is a contributor and we don’t track every participant, but to say the least it is a lot! We thank you all. Our current monthly building costs total \$4856. This includes our mortgage (which we are making triple payments on), utilities, insurance, taxes and payroll. Our current income sources are rent and facility use fees, merchandise sales (coffee, T-shirts, etc.), fundraising and grant income. So far we have a couple of small grants, but we have not secured any large grant funding for the remodel yet. In order to complete Phase II of the PB project we need approximately \$177,000.

## Here’s What MKWC’s Did with Our Funding in 2010

*Over 74% of our funds were spent employing 30 local workers and 28 local contractors (local does not include the coast). With the remaining funds, we supported 18 local businesses.*

### Fisheries

- Maintained fish passage to over 240 miles of salmon streams in the Middle Klamath
- Created and enhanced refugial habitat for threatened coho salmon on more than 30 Klamath tributaries

### Invasive Weeds

- 150 road miles and 127 trail miles surveyed for invasive weeds; 25 invasive plants sites identified in the Marble Mountain and Siskiyou wilderness areas

- 285 diffuse knapweed plants removed from a burned area
- 150 oblong spurge plants removed from the Salmon River
- 16,542 yellow starthistle plants removed from isolated locations
- 2,615 Scotch Broom plants removed from the outlying Orleans Area

### Fire and Fuels

- Completed brushing on 50 acres and prescribed burning on 65 acres of private land in Orleans, Somes Bar, and Weitchpec

# Watershed Education, AmeriCorps, and You

By Rebecca Lawrence

For five years<sup>the</sup> the Mid Klamath Watershed Council has welcomed AmeriCorps members from the Watershed Stewards Project, typically graduates or up-and-coming professionals in the field of natural resources. I know the community sees a lot of AmeriCorps members, but if you look very closely you can see that each of us is different. My site partner Michelle and I can be seen in your schools, participating in carcass counts, cutting fireline for prescribed burns, serving soup at Third Thursdays, pulling scotch broom in your backyard, and backpacking or rafting with your kids to pull invasive weeds. More importantly, you may see us incorporating everything MKWC stands for in one neat, little package—education. Watershed education is a vital component in understanding your environment: the soil and rocks underfoot, the trees overhead, the river flowing strong, and the fish flashing by.

There are several AmeriCorps sites within the Mid Klamath and each serves different schools throughout the region. Each AmeriCorps member is responsible for administering a curriculum about the life and health of a watershed, especially the salmon within it. This year we at MWKC broadened our scope to encompass not only the fishy aspect of watershed education, but also everything that makes up a watershed: the processes of sedimentary, metamorphic and igneous rocks; the movement of tectonic plates which form our foundation; and the ingenuity of our planet's flora and fauna as they adapt to suit their surroundings and enrich our own human habitats. Each teacher was exceptionally open about how we could best step into their curriculum to bring the watershed to life.

Last year the MKWC AmeriCorps, Susan and Brandon, taught in Orleans Elementary and Weitchpec Elementary. This year we decided to expand upriver to include not only Orleans Elementary, but also Happy Camp and Seiad Elementary. Happy Camp no longer houses its own AmeriCorps to serve Happy Camp and Seiad Elementary, so Michelle and myself were happy to step in. All the schools welcomed our contributions and opened their resources to us. Their high standards made it fun and easy to complete our six weeks of classes.

The most exciting aspect about teaching is transforming the lessons from words into real knowledge. We rely on hands-



on activities that will cement a process or idea in their minds instead of simply telling them about it. Students tell us about their favorite swimming holes, cool rocks they found, fish they caught with their parents, plants growing in their yard, etc. The more they relate to the material personally, the more they can learn.

If you're interested in learning more about the AmeriCorps in your region you can find us on the Watershed Stewards Project website.

## AmeriCorps Serving in Your Region:

### Six Rivers National Forest, Orleans Ranger District

**AmeriCorps:** *Tammy Lightle & Raquel Relp*

- Hoopa Elementary
- Trinity Valley Elementary
- Jack Norton Elementary

### Salmon River Restoration Council AmeriCorps: *Isaac Baker*

*& Bonnie Bennet*

- Junction Elementary
- Forks of Salmon Elementary

### Mid Klamath Watershed Council AmeriCorps: *Rebecca*

*Lawrence & Michelle Krall*

- Seiad Elementary
- Orleans Elementary
- Happy Camp Elementary

## Workshop Announcement

### Get Prepared for the Fire Season

The Orleans Somes Bar Fire Safe Council is planning a workshop in June to share information among landowners regarding low budget solutions to fire safety. Examples of inexpensive yet effective watering systems, screens and other minor structure

modifications, fire safe storage practices for flammables and combustibles around the home, and effective defensible space will be discussed. Fliers announcing the event will be posted and the dates will be on [mkwc.org](http://mkwc.org) when they are solidified.



# Science Findings from the Klamath

By Blythe Reis

## Fire and Fuels

*The Landscape Ecology of Fire*, Ecological Studies Volume 213, Part 1, 51-86, 2011. This volume contains many articles that may be of interest, including studies on invasive weeds, native fire regimes and wilderness fire management.

*Alternative community states maintained by fire in the Klamath Mountains, USA* by Dennis C. Odion, Max A. Moritz, Dominick A. DellaSala. *Journal of Ecology*, Volume 98, Issue 1, pages 96–105, January 2010.

*Effects of Wildland Urban Interface Fuel Treatments on Fire Behavior and Ecosystem Services in the Klamath Mountains of California* by Jonathan A. Large, California Polytechnic State University, San Luis Obispo, <http://digitalcommons.calpoly.edu/theses/364>

*Fire-excluded relict forests in the southeastern Klamath Mountains, California, USA* by Carlos M. Leonzo and Christopher R. Keyes. *Fire Ecology*, Volume 6, Issue 3, 2010.

*Effects of fuel reduction on bird density and reproductive success in riparian areas of mixed-conifer forest in southwest Oregon* by Jaime L. Stephens and John D. Alexander. Found in *Forest Ecology and Management*, Volume 261, Issue 1, 1 January 2011, Pages 43-49.

*Underestimating Risks to the Northern Spotted Owl in Fire-Prone Forests: Response to Hanson et al.* by Thomas A. Speis, Jay D. Miller, Joseph B. Buchanan, John F. Lehmkuhl, Jerry F. Franklin, Sean P. Healey, Paul F. Hessburg, Hugh D. Safford, Warren B. Cohen, Rebecca S.H. Kennedy, Eric E. Knapp, James K. Agee, Melinda A. Moeur. Found in *Conservation Biology*, Volume 24, Issue 1, pages 330–333, February 2010.

*More-Comprehensive Recovery Actions for Northern Spotted Owls in Dry Forests: Reply to Spies et al.* Chad T. Hanson, Dennis C. Odion, Dominick A. DellaSala, William L. Baker. Found in *Conservation Biology*, Volume 24, Issue 1, pages 334–337, February 2010.

*High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest* by Malcolm P. North and Matthew D. Hurteau. Found in *Forest Ecology and Management*, Volume 261, Issue 6, 15 March 2011, Pages 1115-1120.

*Highly episodic fire and erosion regime over the past 2,000 years in the Siskiyou Mountains, Oregon* by Daniele Colombaroli and Daniel G. Gavin. Found in *Proceedings of the National Academy of Sciences*, 107(44):18909-18914 (2010).

## Wildlife

*Developing and testing a landscape-scale habitat suitability model for fisher (*Martes pennanti*) in forests of interior northern California* by William J. Zielinski, Jeffrey R. Dunk, J. Scott

Yaeger and David W. LaPlante. Found in *Forest Ecology and Management*, Volume 260, Issue 9, 30 September 2010, Pages 1579-1591.

## Forestry

*Susceptibility of Conifers to Three Dwarf Mistletoes in the Klamath-Siskiyou Mountains* by Robert Mathiasen. Found in *Western Journal of Applied Forestry*, Volume 26, Number 1, January 2011, pp. 13-18(6).

## Geomorphology and Hydrology

*Topographic and soil differences from peridotite to serpentinite* by E.B. Alexander and J. DuShey. In press.

*Serpentine: The Evolution and Ecology of a Model System* edited by Susan Harrison, Nishanta Rajakaruna. University of California Press. 2011.

*Catastrophic disturbances in headwater streams: the long-term ecological effects of debris flows and debris floods in the Klamath Mountains, northern California* by Cover, Matthew R. Cover; Juan A. de la Fuente, Vincent H. Resh. Found in *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 67, Number 10, 1 October 2010, pp. 1596-1610(15).

## Ecology

*'Structured' beta diversity increases with climatic productivity in a classic dataset* by Susan Harrison, Mark Vellend, and Ellen I. Damschen. Found in *Ecosphere*, Volume 2, Number 1, Article 11, January 2011.

## Climate Change

*Executive Summary: Preparing for Climate Change in the Klamath Basin of Southern Oregon and Northern California* by Climate Leadership Initiative; Barr, Brian R.; Koopman, Marni E.; Williams, Cindy Deacon; Doppelt, Bob; Hamilton, Roger; Vynne, Stacy. 2010.

*Forest responses to climate change in the northwestern United States: Ecophysiological foundations for adaptive management* by Daniel J. Chmura, Paul D. Anderson, Glenn T. Howe, Constance A. Harrington, Jessica E. Halofsky, David L. Peterson, David C. Shaw and J. Brad St.Clair. Found in *Forest Ecology and Management*, Volume 261, Issue 7, 1 April 2011, Pages 1121-1142.

## Fisheries

*Spatial, temporal and host factors structure the *Ceratomyxa shasta* (Myxozoa) population in the Klamath River basin* by Stephen D. Atkinson and Jerri L. Bartholomew. Found in *Infection, Genetics and Evolution* Volume 10, Issue 7, October 2010, Pages 1019-1026.

# Perennial Bunchgrasses

Grasses or graminoids are characterized as monocotyledonous, usually herbaceous plants with narrow leaves growing from the base. Grasses are among the most versatile life forms. They became widespread toward the end of the Cretaceous period (144-64 million years ago), and fossilized dinosaur dung have been found containing phytoliths (“plant stones”) of a variety of grasses.



Bromus carinatus

Perennial bunchgrasses are individual clump-forming grasses in contrast to spreading or sod-forming grasses, which expand using running roots that create new plants from existing ones. They are characteristic in that they live longer than one season and grow as distinct plants that get larger over time. **The deep roots** of native bunchgrasses stabilize soil, increase water infiltration, and recycle nutrients.

California once supported a diverse array of perennial bunchgrass ecosystems ranging from cool, wet forests to oak savannas to hot dry deserts. **However, the last two centuries has seen a decline of up to 99% of native grasses and grasslands** due to intensive cultivation, poorly managed grazing, urbanization, fire suppression, and the introduction of invasive, nonnative grass and forb species. Historically perennial grasses that were adapted to cool-season growth dominated the grassland habitats. Most growth occurred in the late spring after winter rains and the onset of warmer and sunnier days. Interspersed among the bunchgrasses were a rich array of annual and perennial grasses and forbs. New land management (actually mimicking very old land management techniques by Native Americans), including the reintroduction of fire to the landscape, rotational grazing and limiting tillage, is helping to address some of these issues and promote the regrowth of these amazing plants. Native grasslands support several herbivores including pronghorn antelope, Roosevelt and Tule Elk, mule deer, California ground squirrels, gophers, mice, hare, rabbits, and kangaroo rats. Predators once included grizzly bear, gray wolf, coyote, mountain lion, ringtail, bobcat, and the kit fox.

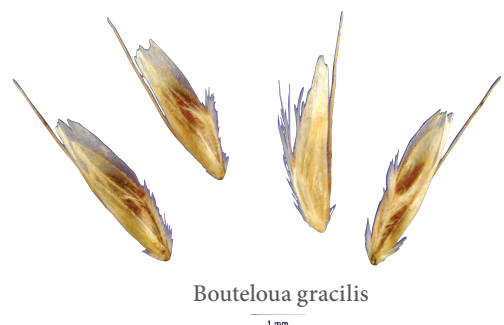
The Klamath bioregion has a wide variety of perennial bunchgrass habitats from the coast to the mountains to the dryer eastside oak savannas.

Some of the more common Bunchgrasses are:

**Purple Needle Grass (*Nassella pulchra*)**—California’s State Grass—Historically, it was found in grasslands, chaparral, and oak woodlands from southern Baja to northern California. Where it once covered over 20 million acres, it is currently found on only about 100,000 acres. The tough green leaves in the bunchgrass stay green throughout the year. Roots extend down over 20 feet allowing it to be very drought tolerant. These plants can live 200 years and perhaps many hundreds more. The seeds, shaped like a torpedo, have long thread like awns resembling a needle and thread. It grows well in almost all soils types. It is deer resistant.

**Tufted Hairgrass (*Deschampsia caespitosa*)**—is native to the U.S. with its most active growth period in the spring and summer. The greatest bloom is usually observed in the mid summer, with fruit and seed production starting in the summer and continuing until fall. Leaves are not retained year to year. The Tufted Hairgrass has a long life span relative to most other plant species and a moderate growth rate. At maturity, the typical plant will reach up to 3-4’ high, with a maximum height at 20 years of 60”.

**Blue grama (*Bouteloua gracilis*)**—or Grandma’s Eyelashes—is best known for its eyelashlike seed heads. Only 12-24” in full flower from May to August, this is among the shortest of the native grasses. It is fine-leaved and produces blue-green seedheads which are suspended



Bouteloua gracilis  
1 mm

horizontally like tiny brushes from the tip of each stem. The plant turns tan when dormant. Blue grama grows in bunches in the south, and as a sod-former in the north and at high elevations. It is deer resistant.

**Blue Wildrye (*Elymus glaucus*)**—is a cool season upright perennial bunchgrass, 2–3’ tall with bluish blades and summer flowers. Tolerates drought, clay soils, and establishes rapidly. Good for wildlife habitat and forage.

**California Fescue (*Festuca californica*)**—is a cool season bunchgrass with blue-green blades to 2’ and flower stalks to 5’ high, creating fountainlike clumps. Very drought tolerant. California Fescue prefers north-facing slopes and is often found in brush lands, under deciduous oaks, and in mixed evergreen forests. When seen in masses on a slope it gives the impression of falling water.

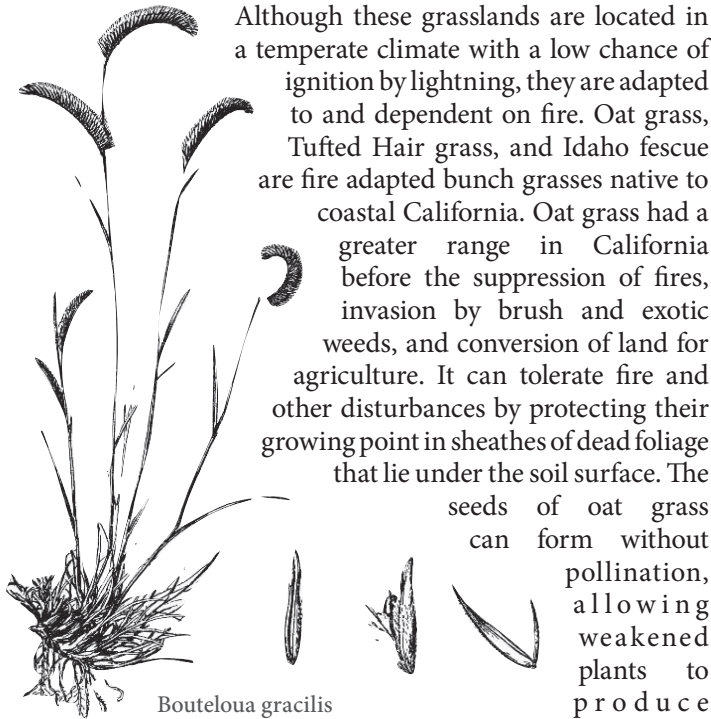
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# Fire Effects on Perennial Bunch Grasses

By Chris Root

The abundance of perennial bunch grasses in California has declined dramatically since the beginning of European colonization two centuries ago. Bunch grasses remain in valleys and prairies, woodlands, and in forests, but are common only in moist, cool, grasslands on the central and northern coast. In these coastal grasslands you will find a mixture of native and introduced perennial grasses such as oat grass, tufted hair grass, creeping wild rye, spike bent grass, velvet grass, California brome, and Idaho fescue.



*Bouteloua gracilis*

Although these grasslands are located in a temperate climate with a low chance of ignition by lightning, they are adapted to and dependent on fire. Oat grass, Tufted Hair grass, and Idaho fescue are fire adapted bunch grasses native to coastal California. Oat grass had a greater range in California before the suppression of fires, invasion by brush and exotic weeds, and conversion of land for agriculture. It can tolerate fire and other disturbances by protecting their growing point in sheaths of dead foliage that lie under the soil surface. The seeds of oat grass can form without pollination, allowing weakened plants to produce seed even after a severe fire. The seed covers or 'awns' of Oat grass are shaped like cork screws, protecting the seed from fire by drilling it into the soil and aiding in colonizing burnt areas by attaching to passing animals. Tufted Hair grass and Idaho fescue have adapted to fire by avoiding it. Although both grasses hide their growing points underneath the soil in sheaths, Tufted Hair grass forms

an especially resistant tuft of protective dead material. These grasses have largely disappeared from areas where fire has been excluded because they cannot survive when overtopped by brush and invasive annual plants. Coastal bunch grasses are especially suited to take advantage of the flush of nutrients released by a summer or fall burn because they break dormancy just after the dry season at the slightest rain. This adaptation allows them to capture nutrients before they are leached away by the rain and to take advantage of the winter growing season when moisture is plentiful.

Woodlands, forests, valleys inland from the coast may contain traces of perennial bunch grasses such as Purple Needle grass, Pine bluegrass, California melic, and June grass. The vast majority of these grasslands are composed of exotic annual grasses and herbs. It's uncommon to find a stand with more than two percent of cover by perennial grasses. The main reasons inland ecosystems are more fragile than the coastal grasslands are higher temperatures and lower humidity during the summer months and a more pronounced dry season. Despite thousands of years of evolution under these climatic conditions, the changes to the landscape in the last 200 years have been too sudden, and have overwhelmed the ability of native bunch grasses to adapt.

Pine bluegrass, June grass, and Purple Needle grass all benefit greatly from fire. The blades of these grasses do not accumulate in a litter layer beneath the plant; instead, they adhere to the bunch, protecting the growing points in a sheath of dead tissue. They grow in small, compact bunches and have coarse, flammable foliage that aids in spreading rapid fires. These characteristics keep the heat of the flames away from the soil surface, protecting the seed bank and the growing tissues of the plant. Like many types of perennial grasses growing in drier climates, Pine bluegrass matures quickly in the spring, becoming dormant by the time fires are likely to start. Although burns during the spring growing season are harmful to bunch grasses and annual grasses alike, they may only injure the bunch grasses while killing the annuals.

Perennial grasses are in it for the long run; individual bunches of California's state grass, purple needle grass, can live for centuries and have a tap root that extends 20 feet into the soil! The amount of below ground biomass that is sequestered in the soil underneath stands of perennial grasses is significant yet it is often overlooked. Long-lived plants generally place less of their energy reserves into seed production; instead they invest in extensive root and shoot systems to persist through their many years of weathering the forces of nature. The smaller seeds of bunch grasses are better adapted to germination in recently burned areas, whereas the larger seeds of annual plants are adapted to germinate under the moisture retaining thatch that forms when fire is excluded.



*Nassella pulchra*

© Gary A. Monroe

*Koeleria macrantha*



# Restoring Coho Salmon in the Klamath River, One Beaver At A Time

By Will Harling and Charles Wickman, Mid Klamath Watershed Council

After a sleepless full moon night with our 18-month-old daughter, I bundled her onto my back and walked down to the Klamath River in the pre-dawn light, fishing pole in one hand, balancing out the diaper bag in the other. I had a spot in mind, just downstream of the Orleans Bar River Access, where the river slides over a broad riffle so shallow that the fish are forced into a narrow slot that one could cast across, even with a groggy, grumpy, sleep-deprived toddler strapped to one's back.

The relatively wide Orleans Valley gives the river a chance to meander a little, reclaiming its sinuosity lost over the past six million years as the Klamath Mountains began to rise from underneath, forcing the river into steep sided canyons tracing fault lines in the uplifted bedrock just upstream and downstream of the valley. I watched fall Chinook salmon moving upstream to spawn, leaving wakes in the glassy water as they navigated up through the shallows. I knew the Klamath's famed half-pounder Steelhead run was coming in with them. Across the river, I also noticed a furry head moving slowly upstream. The light brown tuft of hair visible above the water looked just like what I thought a beaver would look like, but couldn't be sure.

Just then I heard a rustle of grass and a swish of a tail on the near shore. I backed into the willows to watch. Sure enough, a beaver was swimming up towards us along the edge of the river just 20 feet away. As it cleared the riffle, it moved out into the river and I slowly followed it upstream. Big whiskers and a large black snout, those dark beady eyes and two cute little ears quickly disappeared when it spotted me, and a loud thwack of

its tail as it dove alerted its kin that danger was near. Walking home, giddy with excitement from this rare close encounter, I noticed all the stripped willow sticks along the shore, even a clump of uneaten willow shoved under an algal mat, possibly left for a mid-night snack.



Figure 2. Beaver dam across Boise Creek at the exact location of a proposed engineered logjam project. The beaver dam routed a portion of Boise Creek around an adult salmon barrier through a series of beaver ponds to the Klamath River, restoring fish passage to over three miles of good coho spawning habitat.

Photo: Brock Dolman, Occidental Arts and Ecology Center

Beaver are slowly coming back to the Klamath, recovering from intense trapping that began in the mid-1800's and continued for nearly a century after, until beavers were almost extinct. In 1850 alone, famed frontiersman and trapper Stephen Meek and his party reportedly trapped 1800 beaver out of Scott Valley, which at the time was called Beaver Valley. The last beavers in Scott Valley were trapped out by Frank C. Jordan in the winter of 1929-1930 on Marlahan Slough. Beaver throughout much of the Klamath basin suffered a similar fate, and even today as they return to less inhabited areas along the mainstem river and its tributaries, they are still shot and trapped in streams where their dams pose a perceived risk to residential and agricultural property.

It is no coincidence that fish biologists looking to restore threatened coho in the Scott River and the larger Klamath system have identified Marlahan Slough as a key habitat to restore. Low-gradient sloughs, blind channels, off-channel ponds, braids, and other low-velocity habitats are ideal for rearing coho, and beaver dams just make them better. Recent studies from Washington and Oregon by NOAA scientist Michael Pollock and others are further defining the intimate relationship between beaver, beaver ponds, and coho smolt

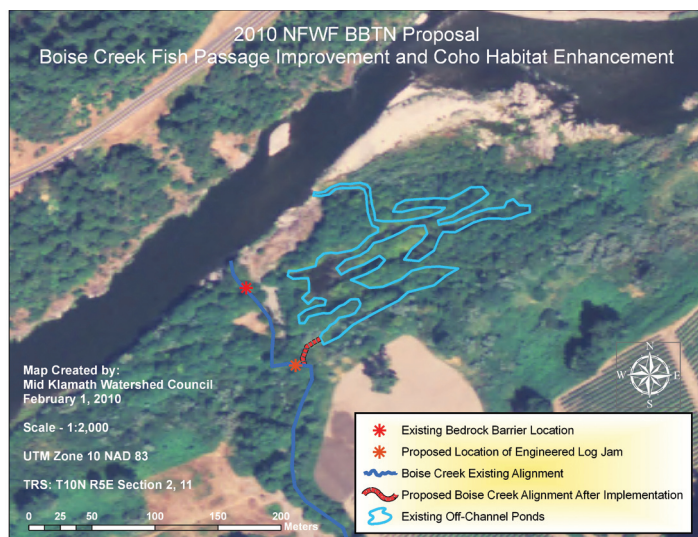


Figure 1. Map of proposed engineered log jam project near the mouth of Boise Creek. Beavers evidently received the proposal but decided to implement it in-house.





Flood control berms along lower Seiad Creek currently constrict the historic floodplain, blocking fish access to important rearing habitat. A collaborative project between the Karuk Tribe, MKWC and landowners would remove these berms and restore connectivity to these habitats, while protecting community resources at risk.

*All Photos & Maps: Will Harling, unless noted*

production. A recent multi-year study being prepared for publication by the Karuk Tribe, Yurok Tribe, Larry Lestelle, and others, on the ecology of coho in the Klamath River identifies the lack of low-velocity habitats, primarily during winter flood events, as a major potential limiting factor to coho distribution and abundance. Further studies are needed to relate the loss of beaver and associated habitats to the loss of coho in the Klamath River, but based on other studies, it appears that beaver ponds would provide much needed overwintering and summer rearing habitat for juvenile coho. Coho, out of all the salmon in the Klamath River, have borne the brunt of human development. Low-gradient valleys and deltas that provide the best farm and ranch lands, and ideal places to build homes, are also the very same habitats that coho require for spawning and rearing. In addition to the loss of beaver, coho have been impacted by channelization for flood protection and floodplain development, excessive temperatures and disconnected habitats resulting from overallocation and use of surface flows. Additionally, large, mainstem dams create environments conducive to the production and spread of fish diseases, and nutrient-loading from fertilizers, and loss of wetlands that

lead to poor water quality (low dissolved oxygen, unstable pH, etc.). Further impacts include historic mining (channelized, simplified instream habitats), logging (excessive sedimentation and decreased input of wood), road construction (excessive sedimentation, instream barriers, disrupted groundwater flow), and disrupted fire regimes (decreased input of wood).

A recent study by Pollock et al. summarized the specific affects of the loss of beavers and the dams they are famous for on fishes:

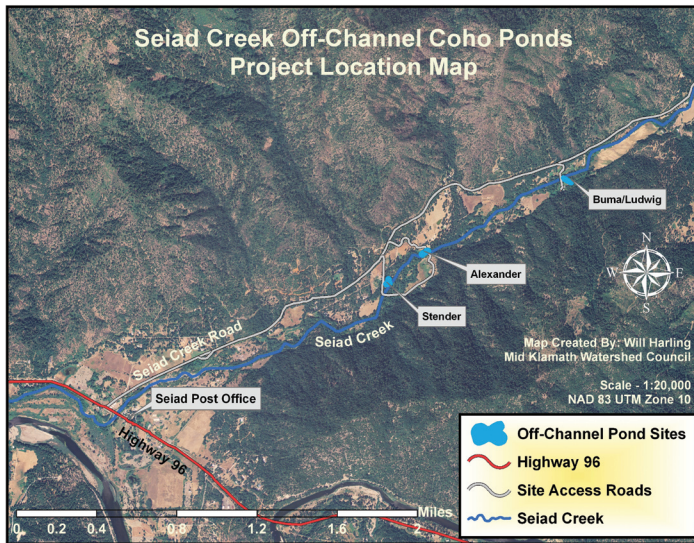
Beaver dams alter the hydrology and geomorphology of stream systems and affect habitat for fishes. Beaver dams measurably affect the rates of groundwater recharge and stream discharge, retain enough sediment to cause measurable changes in valley floor morphology, and generally enhance stream habitat quality for many fishes. Historically, beaver dams were numerous in small streams throughout most of the Northern Hemisphere. The cumulative loss of millions of beaver dams has dramatically affected the hydrology and sediment dynamics of stream systems. Assessing the cumulative hydrologic and geomorphic effects of depleting these millions of wood structures from small and medium-sized streams is urgently needed. This is particularly important in semiarid climates, where the widespread removal of beaver dams may have exacerbated effects of other land use changes, such as livestock grazing, to accelerate incision and the subsequent lowering of groundwater levels and drying of streams.

With coho numbers critically low throughout the basin, restoration actions are being planned and implemented to improve coho habitat by the Yurok Tribe, Karuk Tribe, Mid Klamath Watershed Council (MKWC), US Forest Service, and others. Many of these projects replicate habitats that would have been created historically by beavers. This spring, MKWC proposed a project near the mouth of Boise Creek, a tributary to the Klamath near Orleans on property owned by the Coates Vineyard and Winery, that would have used an engineered log jam to re-route the creek around a bedrock cascade barrier at the mouth through a series of existing ponds maintained by several families of beavers (Figure 1). However, before the project could be implemented, beavers constructed a five foot



During and after panoramic views of off-channel pond at Stender property on Seiad Creek. The pond connects to Seiad Creek through an engineered outlet on the left of the lower photo and is fed by a perennial stream that goes subsurface 200 meters upslope of the pond. We anticipate beavers may inhabit this and other created ponds over time.





Map of off-channel ponds currently being built on Seiad Creek. Having multiple ponds along a larger reach of a tributary vs. individual larger ponds gives migrating fish more opportunities for migrating fish to find and use them.

tall dam across the creek at the exact location of the proposed log jam, diverting a portion of Boise Creek through their ponds, and into the Klamath River at a location that provides adult and juvenile fish access. MKWC and Karuk Tribe biologists have observed thousands of juvenile Chinook and coho utilizing these ponds through the summer, and moving through the ponds into Boise Creek above the barrier! This fall and winter, we will see if the beavers have also effectively redesigned the creek to allow for adult spawning chinook and coho salmon to access more than three miles of high quality spawning habitat above the barrier.

In other areas, MKWC is working to create high quality off-channel pools that will provide winter and summer rearing habitat in low-gradient Klamath tributaries. MKWC, through funding from the US Fish and Wildlife Service and the PacifiCorp Coho Enhancement Fund, is currently implementing a series of off-channel ponds along Seiad Creek, a tributary to the Klamath River that has small but stable runs of spawning coho. Seiad Creek is unique in that it has a large alluvial floodplain for three miles upstream of its mouth that has been constrained by flood control berms to allow for settlement. Historically, Seiad Creek would meander more than a mile upstream or downstream in relation to the Klamath River, creating complex slow water habitats preferred by coho salmon. Based on anecdotal information from landowners along the creek, beaver once played a major role in damming Seiad Creek and flooding off-channel habitats along the creek.

With cooperation from several landowners along Seiad Creek, MKWC is currently completing excavation of two ponds, and will complete one more this year and one next year as part of a larger floodplain reconnectivity project in coordination with the Karuk Tribe. When designing off-channel habitat projects, having more ponds along a longer section of creek is better than planning fewer larger ponds. Only a certain percentage of

fish will encounter the pond entrance, so having more ponds increases the potential for fish finding and occupying created off-channel habitats (Figure 2). Garnering landowner support along prioritized tributaries is critical to the success of habitat restoration projects.

Seiad Creek provides an example of what can be accomplished on larger tributaries, such as the Scott River (once called Beaver River) which has also been degraded through channelization, dewatering, beaver extirpation, and upslope management. Innovative research by Michael Pollock and others on a small tributary to the John Day River in eastern Oregon is demonstrating how degraded stream and riparian habitat can be restored by working with beavers to aggrade streams, connect off-channel habitats, restore groundwater and increase stream sinuosity. At a presentation in Whitethorn organized by Tasha McKee from the Sanctuary Forest this past September, Dr. Pollock showed how wood posts pounded into an incised stream channel at key locations allowed beavers to recolonize sections of the stream and create stable dams that would otherwise be washed out during high flows, resulting in increased off-channel habitat, decreased erosion, and aggradation of the stream channel.



Directional posts form the structure of a beaver dam that diverts high flows onto a flood terrace and away from an eroding bank on a small tributary to the John Day River in eastern Oregon. Dr. Michael Pollock and other are pioneering research demonstrating how degraded stream and riparian habitat can be restored by working with beavers to aggrade streams, connect off-channel habitats, restore groundwater and increase stream sinuosity.

The restoration of threatened coho salmon populations in the Klamath River system may be intricately tied to enhanced beaver populations and restoration projects that mimic the positive benefits of beaver dams. Educating the public about the critical role of beaver in restoring coho salmon populations in the Klamath River and other coho salmon streams in Northwest California may also help to decrease take of beaver as a nuisance species and allow them to reclaim their role as an ecological process shaping our streams and valleys.



# MKWC Welcomes New Staff Members

We are thrilled to have **Heather Campbell** sharing her organizational skills as a Program Assistant. Heather grew up in Weitchpec, and is of Hoopa, Yurok, and Karuk descent. She lives with her husband and three boys in Hoopa. She is currently attending College of the Redwoods and plans to transfer to Humboldt State University to work toward a Native American Studies/Natural Resources degree. She is very happy to be working in her field of pursuit, and looks forward to the experience ahead. The inner workings of the MKWC office are greatly benefiting from Heather's quick learning and attention to detail. She looks forward to more fieldwork as well.



You may already recognize **Michelle Krall**, on right in photo below, who has joined us as an AmeriCorps volunteer for the year. Michelle spent two summers in the area working with the Whitman College "Klamath Field Institute". Students came to research native freshwater mussels, as part of a collaborative project with the Karuk Tribe. She loved the area and so applied to be a part of the MKWC team. She is happy doing a wide variety of projects and activities, from fisheries fieldwork to watershed education in Orleans, Happy Camp, and Seiad elementary schools.



**Rebecca Lawrence**, on left in photo above, our other current AmeriCorps member came to us after gaining experience in conservation with trail and chainsaw crews from the Bay Area and the Four Corners region. MKWC is one more stop in a series of adventures and she says she loves to work

with people who are passionate about what they are doing. She has travel in her blood, having grown up as a "military brat" (her words) all over the world. She looks forward to more travel, graduate school in Conservation Biology or Environmental Science, and someday buying land to homestead.

The MKWC Fisheries Program is happy to have new staff member **Mitzi Rants**. Mitzi is a Salmon River girl, specifically from the East Fork of the South Fork, near Cecilville. She has years of fisheries experience, mostly working for the USFS doing monitoring and surveying jobs on a seasonal basis. She says that working at MKWC is finally giving her a sense of what can actually happen with all that data she knows so well how to collect and manage. It is satisfying to be doing on-the-ground restoration.



Another familiar face to some of you is our most recent addition to our Fire and Fuels program, **Chris Root**. Chris worked for two seasons (2007 and 2008) as a fuels tech for the Forest Service at the Orleans Ranger District. He comes from Southern California, but has more recently lived and worked in southern Oregon doing forestry work. He is looking forward to getting to know the community better and gaining knowledge about prescribed fire and fire ecology through his position here as a project coordinator in the program. (He's also looking for a place to live.)



## MKWC Merchandise

### T-Shirts:

- MKWC "Spawner" by Artist Conrad Calimpong
- "Diminishing Returns" by Artist Bari Talley

Adult Men/Women's Sizes S-2X: \$20

Children's Sizes S-XL: \$15

~ *New styles, designs, and colors are coming this Spring!*

### Coffee:

MKWC is pleased to offer Café Mam Coffee. Whole beans are 100% organic, Fair Trade Certified, shade grown, and are roasted and prepared upon order to ensure the highest quality and freshness. Café Mam offers 12 varieties of roasts from very light to very dark, and their blends range from mellow to very rich.

- 5 lbs of whole bean coffee (available by order): \$40
- 1 lb whole bean bags (available at MKWC): \$10

All orders take 4-5 business days to arrive, and are placed after we have fulfilled a 'full' order of eight bags.

To order call Heather at (530) 627-3202, or stop by the MKWC office and see the tantalizing menu.

### Note Cards:

Newly arrived to MKWC are 4x6 note cards. The cards feature striking images from the Klamath River Basin. You can purchase individual cards for \$2.50 or purchase a four-card set for \$9. Sets come in 2 styles: **Landscapes**, which highlight our spectacular mountains and pristine waters, or a beautiful **Birds-on-the-Klamath** set. The cards are printed using eco-friendly inks and materials.

# Porcupine Surveys Launched in Northwest California



In March 2010, a diverse group of non-profit organizations, agencies and tribal governments submitted a letter to the California Department of Fish and Game (DFG) requesting a meeting about the status of porcupines and beavers in the mid

Klamath River watershed. Meetings of the beaver/porcupine working group started in June 2010 and have been going full speed ahead ever since. At this stage, the group is focusing on porcupines, which appear to be facing greater challenges than beavers in recovering to sustainable population levels.

There is very little published information on porcupine population dynamics, especially in the mid Klamath. General consensus is that porcupines are not as abundant as they used to be in the area, but no formal studies have been conducted. Formerly, there was an aggressive, concerted effort to eradicate porcupines from the Klamath because they were damaging young conifer plantations. However, porcupines are an important species to local tribal groups. Their quills are dyed yellow and used in baskets and on regalia. Porcupines also play a role in promoting oak woodland restoration through their predation on young conifers, and serve as an important food source for fishers, bobcats, and other predators.

Some of the goals of the porcupine working group are to further examine the current population in the area and determine if there is a need for their active management. One of the main objectives is to understand why populations of porcupines appear to be so low. The seven-month gestation period is almost as long as that of humans yet only produces a single birth. These low reproduction rates are certainly related to the low population, but are there other factors? Even though



Photo by Karen Reilly

concerted efforts to eradicate porcupines have stopped, is there still recreational killing? Is the habitat suitable?

In an effort to learn more about the porcupine population, the working group is developing a presence/absence survey to take place from the California coast to east of Yreka, and from the Oregon border to Mendocino County. This survey involves securing salted-saturated wood blocks on trees and monitoring the blocks to see if porcupines have been gnawing on them. During the late spring and early summer months, porcupines have a strong need for salt to replenish sodium in their bodies. This is especially true of females because pregnancy and lactation hormones stimulate salt cravings.

If you would like to host a porcupine sampling station, please contact Luna Latimer at 530-627-3202 or by email [luna@mkwc.org](mailto:luna@mkwc.org). If you would like to report a porcupine sighting in the mid Klamath, please contact Tim Burnett at 530-493-1721.

*Bunchgrass*, continued from page 6

**Idaho Fescue (*Festuca idahoensis*)**—is a cool season, densely tufted, fine-leaved perennial grass, usually blue in color but can be green. Flowering stalks 1–2' tall. Idaho Fescue grows in dry, open, or shady places.

**June Grass (*Koeleria macrantha*)**—is a small, perennial bunchgrass that looks like it belongs in a Japanese Garden. It grows 8–24" tall with green to purple dense, narrow seed heads tapering at both ends, flowering from May to July. Found in dry open sites with clay to rocky soils. It is a good soil stabilizer, fire resistant, and provides good livestock and wildlife forage.

**California Melic (*Melica californica*)**—is a cool season grass that grows 1–2' tall with flower spikes tinged purple. Tolerates full sun or partial shade and is summer dormant. Called California Oniongrass for the tiny edible bulblets that form at the base of the plant. Although it is considered a bunchgrass it doesn't form clumps.



*Koeleria macrantha*

**California Brome (*Bromus carinatus*)**—is a large (18–36' tall), short-lived, perennial bunchgrass with open, spreading, drooping flower heads. Native to many habitats throughout California, but most commonly found in woodlands in the low to middle elevations of the foothills. Drought tolerant. Provides cover for wildlife and seeds were used by Native Americans for food.



# State of the Beaver Conference 2011

by Charles Wickman

In early February, the Beaver Advocacy Committee, operating under the umbrella of the South Umpqua Community Partnership, hosted its annual State of the Beaver conference in Canyonville, Oregon. I was lucky enough to spend three days at the event, trying to soak up what I could about things like beaver and salmon, beaver and water, beaver relocation, and beaver and climate change mitigation. The agenda was packed with venerable voices from around the world presenting on traditional ecological knowledge, research and restoration, and policy and protection. To get more information on the conference, check out the Beaver Advocacy Committee's website at [www.surcp.org/beavers/index.html](http://www.surcp.org/beavers/index.html).

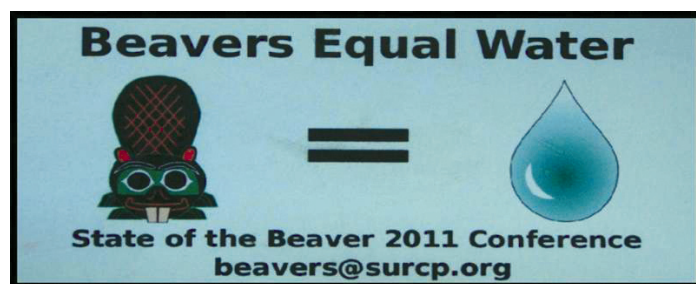


The most interesting information I gleaned from the conference came from the realization that there is a lack of legislative and policy recognition for *Castor canadensis* here in California. In the Pacific Northwest, Washington

**Favorite quote from the conference:**

***“Most human/nature problems are usually human/social problems.”***

—Duncan Haley, Research Ecologist, Norwegian Institute for Nature Research, Trondheim, Norway.



and Oregon lead the way with progressive beaver relocation programs, the use of beavers, and their low cost, high yield water sequestration benefits to mitigate for climate change and aquifer depletion, and of course, the application of the best available beaver science to salmonid restoration projects—all things we could use right here on the Klamath and all over California. Any policy wonks want to take this on?

## 2011 Klamath Fire Ecology Symposium

You are cordially invited to attend the 2011 Klamath Fire Ecology Symposium in Orleans, CA, from Tuesday, April 26, to Thursday, April 28. The themes for this year's symposium are: 1) Landscape Level Fire Planning Strategies for the Klamath Mountains, 2) Climate, Fire, Riparian Zones, Wildlife and Fish, and 3) Recent Fire Studies with Application/Relevance to the Klamath Mountains.

The symposium is being sponsored by the Nature Conservancy Fire Learning Network and Klamath-Siskiyou Fire Learning Network (funder), Mid Klamath Watershed Council, US Forest Service: Pacific Southwest Research Station, Six Rivers and Klamath National Forests, Karuk Tribe of California - Department of Natural Resources, Humboldt State University, Salmon River Restoration Council, Hayfork Watershed Research and Training Center, and the Orleans/Somes Bar Fire Safe Council. Confirmed presenters include: Carl Skinner, Frank Lake, and Becky Estes (USFS Pacific Southwest Research Station), Matthew Hurteau (Keynote Speaker, Northern Arizona University), Morgan Varner and Yvonne Everett (Humboldt State University), Will Harling (MKWC, OSB FSC), Tim Ingalsbee (Western Fire Ecology Center), Bill Tripp (Karuk Tribe), Rich Fairbanks (Wilderness Society), and many others.

The first fire ecology symposium in Orleans was held in 1997 and a second in 2008. These symposia brought together scientists, managers, area residents, tribal land managers, and the conservation community to address restoring historic fire regimes in the Klamath-Siskiyou Mountains in a manner that protects life, property, improves forest health, and enhances resources. These symposia are designed to facilitate constructive dialogue on emerging themes in fire ecology and management in the Klamath Mountains and beyond.



2008 Symposium (left to right) Jim Agee, Mike Beasley, Tim Ingalsbee and Will Harling

# Local Community Computer Centers

by Bari Talley

Community Computer Centers located in Orleans, Happy Camp and Yreka provide FREE resources:

- 🖨️ computer labs with high speed internet access
- 🖨️ computer classes and training
- 🖨️ GED Prep & tutoring assistance
- 🖨️ job search assistance
- 🖨️ Distance Learning Classroom at the Happy Camp Community Computer Center
- 🖨️ Karuk Panamnik Library - a quiet place to study with a diverse collection of books available to loan in Orleans

Workforce Development Trainers staff the Centers during community access hours:

- Happy Camp: Monday through Friday, 1 p.m. to 5:30 p.m., 493-5213, [www.karukcdc.us/happycamp](http://www.karukcdc.us/happycamp)
- Orleans: Monday through Thursday, from noon to 6 p.m., and Friday and Saturday from noon to 5 p.m., 627-3081, [www.karukcdc.us/orleans](http://www.karukcdc.us/orleans)
- Yreka: Monday through Thursday, 8:30 a.m. to 7 p.m., 530.842.1644 x7004, [www.karukcdc.us/yreka](http://www.karukcdc.us/yreka)

**Microsoft Training in March** Classes in all three centers were offered in Microsoft Explorer, Word and Excel and were completely full. Watch for announcements for more classes to come.

**8-hour Contractor Refresher Course in Orleans** The Karuk Community Development Corporation (KCDC) is working with the Karuk Department of Natural Resources and College of the Redwoods to offer two dates for Forest Service contractor refresher courses.

**T-1 Installation** Two T-1 lines were installed by Verizon for the Panamnik Center on January 28. The Karuk IT staff is working with AT&T and CENIC (the Corporation for Education Network Initiatives in California), to configure the lines for internet and video conferencing.

These lines are funded by a grant through the Karuk Community Loan Fund (KCLF) from the California Virtual Campus which will pay for the lines for 3 years once the switch is turned on—expected to happen within the month.



Orleans Elementary students Nikkita Wilson and Autumn Allgier in the computer center.

Then the Community Computer Center @ Orleans will have enough bandwidth to provide real-time college and other classes using teleconferencing equipment, as well as run the computer lab with high speed internet access. Plans also include providing access to wifi at the Panamnik Center.

**Community Broadband Access** The Karuk Tribe and Community Computer Center @

Orleans also continue to work to provide broadband access and cell service to the Orleans community. Here is a list of possible broadband projects for Orleans:

1. Redwood Telephone Fiber Optic Project
2. Access Humboldt Wireless Internet and Public Safety Network
3. Hoopa Valley Wireless Internet Project
4. Yurok Wireless Internet and Cellular Service Project
5. DataSat Technologies Wireless Mesh Network
6. Karuk Tribe Intranet Project

Of these six possible projects, the ones currently in progress are numbers 1 and 5. Redwood Telephone currently has an application into the state PUC for additional funding. We should know in the next 3 to 6 weeks if they receive that funding. If they do receive, they will begin building their network, which should bring internet to Orleans in the next 2 or 3 years. If they don't get funded, they have to seek out additional assistance, and their project will be delayed further.

The DataSat Technologies project is currently our best hope for service in the next 2 years. On February 24 representatives from DataSat and EnerTribe met with the Karuk Tribal Council and tribal IT staff to propose the project. If the proposal is approved by Tribal Council, the KCDC board would be approached about the possibility of starting an internet service provider in Orleans to provide internet to the community.

The other projects in the above list are ones we will look towards if both projects in the works fall through. Once the broadband is in place, the cell service is more obtainable.

**New Computers** KCDC has plans to purchase equipment to upgrade computers at the Community Computer Centers in



Orleans and Yreka, through a grant funded by the California Consumer Protection Foundation. Kelly Worcester, IT staff, will work with youth and staff to train on how to build computers. We are expecting to have the new computers in place and operational by June 1. The Community Computer Center @ Orleans Board of Directors currently plans to raffle the old computers to raise money to buy a new printer.

**Karuk Panamnik Library** The Karuk Tribe received an IMLS enhancement grant which is being used to further develop the Karuk Tribal Library system. Two half-time library aide positions will staff both the Panamnik Library and People's Center to maintain and catalog books. Community members can search the library online and check books out from the library locations. Tribal Couriers will transport the books between the People's Center in Happy Camp and the Panamnik Library/Computer Center in Orleans. A Collection Development Policy, defining the target scope of acquisitions will focus our limited resources on cultural materials especially Karuk, Native Americans, indigenous authors, and local history. The MKWC Board has generously contributed 21 books within this collection scope from their Natural

Resources Library. Watch for announcements on upcoming storytelling events.

**ANA Grant Application** The Administration for Native Americans has provided funding for our computer centers in Yreka, Happy Camp and Orleans since 2006. The current grant cycle ends September 30, 2011. Workforce Development and Grant Writing staffs are working to submit a new grant application to ANA by April 1. The new focus is providing culturally relevant curriculum to youth to ensure they have the technical and educational skills to succeed in high school, college and life.

**Weaving Wellness in Native Communities** A community driven series of workshops and cultural exchange with a focus on developing an Action Plan for our communities is being sponsored by Northern California Indian Development Council (NCIDC) in Blue Lake beginning Thursday evening, March 31, with a demonstration Flower Dance presentation, ending on Saturday, April 2nd around 3 or 4 p.m. The Karuk Voices youth filmmakers, as well as Orleans Workforce Development staff will be attending and helping document the workshops to share with others.

### Board Members

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 Kimberly Cabot, *Vice President*  
 Chris Hatton, *Secretary*  
 Blythe Reis, *Treasurer*  
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#### Invasive Weeds

Petey Brucker  
 Michael Hentz

#### Panamnik Building

Corrina Cohen  
 Tina Marier

#### Native Plants

Max Creasy  
 LaVerne Glaze  
 Jennifer Kalt  
 Barbary Rohr

#### Watershed Education

Jeanette Quinn  
 Edna Watson



**MID  
 KLAMATH  
 WATERSHED  
 COUNCIL**

## I WANT TO SUPPORT MKWC!

### MEMBERSHIP LEVEL

(PLEASE CHECK ONE)

- \$25 Spring
- \$50 Creek
- \$100 River
- \$250 Confluence
- \$500 Estuary
- \$1500 Ocean (Lifetime Member)
- Other \$ \_\_\_\_\_

Thank you!

NAME: \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_

CITY, STATE, ZIP: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

PHONE (OPTIONAL): \_\_\_\_\_

*\$50 and up check one:* Please send me a  Notecard Pack,  
 T-Shirt (Shirt Size \_\_\_\_\_),  No Gift.

All members will receive an annual newsletter and annual report.

Check any that apply:  I want to be anonymous,  List me as a member, but don't specify my member level,  Please add me to your current events mailing

IN ADDITION TO MY MEMBERSHIP,  
 I WOULD LIKE TO DONATE  
 \$ \_\_\_\_\_ TO:

Programs:  Fire & Fuels  Fisheries  Native  
 Plants  Invasive Weed Management  Panamnik  
 Building Project  Watershed Education  Wildlife

Donations of \$250 or more are eligible for a one-day tour of current on-the-ground projects.

Please send me information on the restoration tour dates.

**Send your check to:**  
 MKWC  
 PO Box 409

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## Is Your Pump Screen Fish Friendly?

If it's not, or if you are unsure, contact the MKWC for information on pump screen specifications, and see if you could be eligible to receive a fish friendly, stainless steel, pump screen.

*Juvenile salmon and steelhead, including threatened coho salmon, rear in low gradient reaches of tributaries in the Middle Klamath River, the same reaches where pumps are needed for domestic and agricultural water supply.*

MKWC recently received a grant from the CA Department of Fish and Game to work with landowners diverting water from streams in the Middle Klamath via pumps and ditches to improve water efficiency, minimize impacts to salmon, and help landowners comply with existing laws and regulations through creative, mutually agreed upon solutions.

Interested businesses and landowners should contact Will Harling at the Mid Klamath Watershed Council at 627-3202 or [will@mkwc.org](mailto:will@mkwc.org)



## Mid Klamath Watershed Council

Panamnik Building  
38150 Highway 96  
PO Box 409  
Orleans, CA 95556

NON PROFIT ORG  
US Postage Paid  
PO Box 409  
Orleans, CA  
Permit No. 20

## MKWC/Panamnik Building Upcoming Events And Classes

### April

26-28th: Klamath Fire Ecology Symposium  
29-30th: Bigfoot Bird Days

### May

7th: Big Band Performance & Dance, Orleans Community Band, 7:30pm  
19th: Third Thursday Café  
19th: Invasive Weeds Workshop (Identification & Treatment techniques)

### June:

16th: Third Thursday Café  
22-27th: Klamath-Siskiyou Outdoor School

### July:

First and Second Thursday: Youth Day Camp, 10am-2pm  
2nd: Youth Restoration Raft Trip, Ages 8-18  
8th: Youth Restoration Raft Trip, Ages 7-9  
15th: Youth Restoration Raft Trip, Ages 10-12  
Week Long Kids Music Conservatory, Contact Tina Marier  
21st: Third Thursday Café

### August:

First and Second Thursday: Youth Day Camp, 10am-2pm  
18th: Third Thursday Café

### Ongoing Community Classes

Every other Sunday: African Drum and Dance, 2pm  
Yoga: Twice a week, Mon 8:30am & Weds 12:30pm (please check in for current information)  
Phyometric Fitness: Saturday 11am