Curry Currents

Spring 2006

Lower Rogue Watershed Council, South Coast Watershed Councils & Curry Soil and Water Conservation District

Lobster Creek, GIS, and Riparian, OH MY!

Beth Pietrzak measures temperature in Lobster Creek

Contents:

To receive electronic notification of our newsletter please contact us and provide your name and email address. Also, visit our website at www.currywatersheds.org for more great watershed information and news!

The Lower Rogue Watershed Council and South Coast Watershed Council have been partnering over the last two and a half years on a grant that accomplished a lot of great work for Curry County. This project was funded through the Department of Environmental Quality 319 program (DEQ) through the Environmental Protection Agency.

The purposes of the grant were to let us better communicate with landowners and each other about the restoration work that has been accomplished over the last 10 years; investigate why riparian plantings have gone gangbusters in some locations and bit the dust in others; continue our tree planting program by implementing some new techniques at more difficult sites; and to revisit past work in Lobster Creek where the Lower Rogue Watershed Council has taken a whole-basin approach to restoration.

We accomplished a lot of great projects and hired on some wonderful people in the process. You will find some highlights inside this issue of Curry Currents.

Enjoy!

Dana Hicks, editor
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Revisiting Lobster Creek

The Lobster Creek Partnership—Roads

Lobster Creek is a 44,253 acre subwatershed of the Lower Rogue River. It is the most important fisheries stream for the Lower Rogue Watershed and supports fall Chinook, winter steelhead, Coho, and resident cutthroat trout, among other fish and wildlife.

In 1997 the Lobster Creek Partnership (LCP) formed with an interest in developing a whole-basin strategy to protect high quality fisheries values in Lobster Creek. Today the group includes the two major landowners in the Lobster Creek watershed, Menasha Timber Co., and the US Forest Service, Rogue-Siskiyou National Forest. The group also includes the Oregon Department of Fish and Wildlife and the Lower Rogue Watershed Council.

Because of the highly constricted nature of the channels, high winter flows and the unstable surface geology, the Partnership determined that the primary threats to critical fish production reaches in the watershed were from upland sites; not from instream conditions. Between 1998 and 2000, 83 miles of road on private land were surveyed by the Lower Rogue Watershed Council, and the USFS surveyed all of their stream crossings.

While this does not look like a problem on the surface, this undrained spring was saturating the slope and creating a rotational failure. A cross drain was added. —Photo and article by Matt Swanson

Survey information was compiled to evaluate smaller subwatersheds on their potential to deliver sediment to the critical fish production reaches. This sediment, if it reached the creek could cause primary effects to the fisheries populations such as smothering redds and interfering with visibility, as well as secondary effects such as contributing to stream widening and increased water temperatures.

Between 1997 and 2002, the watershed council partnered with the two private timber companies that successively owned the majority of private timber lands in the watershed, Hancock Timber Resources Group and Lincoln Timber, LLC, to implement improvements to the road systems. Projects included road drainage improvements (12 miles), road decommissioning (1 mile), stream crossing improvements (69), stream crossing decommissions (14), and road fill pullbacks (15).

A majority of the fixes that had been made were monitored in 2005 to help determine if the high priority sites identified had been addressed. Ninety-two percent of the treated stream crossings and 85% of the treated fill failures met their objectives, and 97% of the road miles that were either decommissioned or improved were without problems. The subwatersheds were reprioritized based on the information, and will be evaluated along with other data produced from this project to help the partners continue to working toward improved conditions in Lobster Creek.

RIPARIAN MONITORING

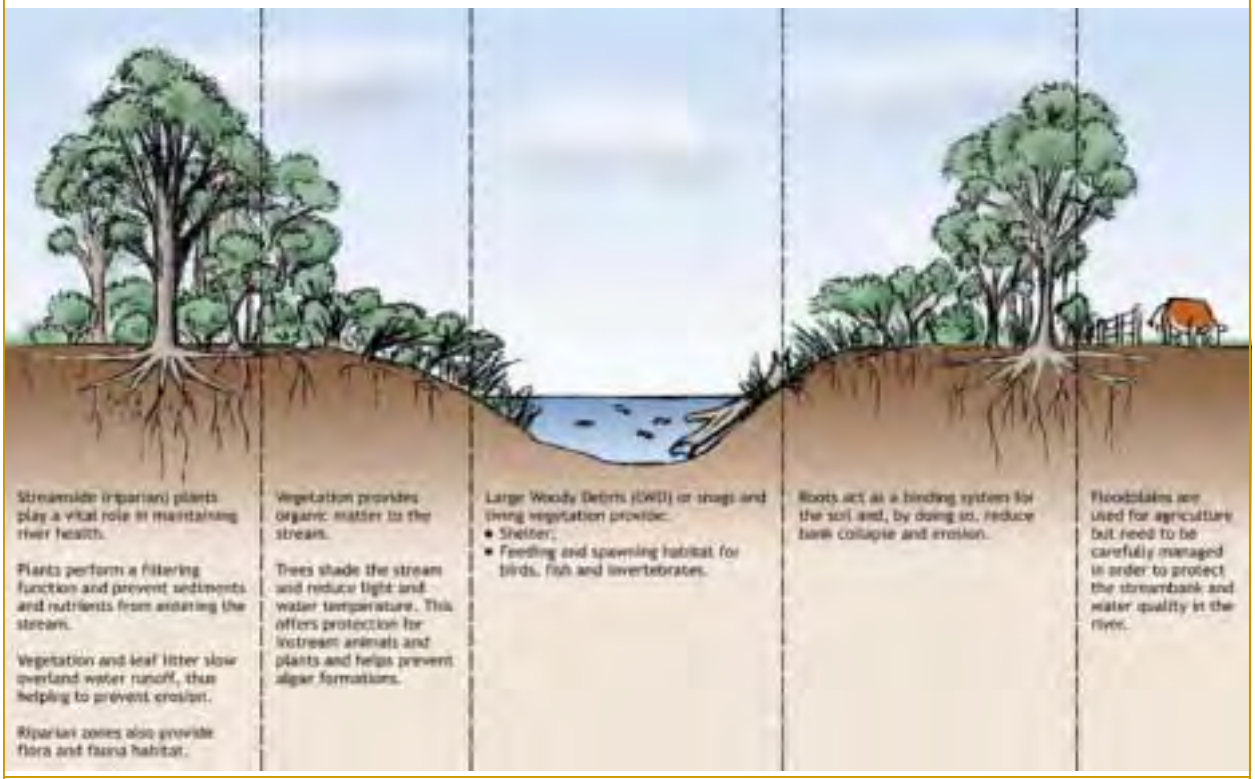
What became of all the trees?

—by Steve DiCicco and Colin Edgar

Trees, especially conifers, are a major component of high quality stream ecosystems that increase the complexity, quality and long-term stability of riparian vegetation zones. Trees play major roles in riparian nutrient and water cycles, bank stabilization, and aquatic food chains. Shade from tree canopies is the main control on summertime stream temperature; a critical variable in fish reproduction. Mature conifers, and to some extent hardwoods, create large woody debris that are the building blocks of stream channel complexity.

Many of the trees along low gradient stream reaches have been removed in the past for agriculture and timber harvest. Streams have also degraded and become disconnected from their floodplains over time. This, combined with wind, animal browse and noxious weed competition make it difficult to re-establish a riparian area in some areas.

The Watershed Councils and Curry SWCD have been working to reforest riparian areas on private lands over the last 15 years. Early monitoring indicated that our industrial style of planting—lots of trees with little maintenance—was not getting good results in some locations.



A model of a functional Riparian Zone in an Agricultural setting. Credit: Dept. of Primary Industries

Riparian Investigations, continued

Some trials with horticultural planting methods led to improved results, but questions remained: What maintenance is needed and where? Which sites should we go back and try to replant and invest more money per tree to get a riparian area established?

Through the Riparian Component of the DEQ grant, 90% of the sites planted between 1996 and 2003 were extensively monitored. Data collected included tree distribution at the site (segments), species, average height, vigor, competition source, percent of trees affected by competition, and cause of damage. If a segment was understocked, interplanting needs were assessed by noting plantable area, blackberry/gorse competition, level of shade, and suggested species to be planted. Potentially significant conditions at the segment were also noted such as wind exposure levels, brush competition, buffer width, soil characteristics, water table connectivity, bank erosion risks, fence conditions, and animal damage risks. All information was entered into a database (see GIS article page 7) that was developed to house, analyze and report the monitoring data.

Some early plantings that are now free to grow on Cedar Creek.

High winds, a small buffer area and competition make tree establishment on Floras Creek difficult.

Between 1996 and 2003 over 150,000 conifers and 8,700 hardwoods were planted along 48 miles of stream bank covering 195 acres. Monitoring indicated that only about 15% of these trees are alive county-wide, although this percentage ranged from 8% to 36% by watershed area. Sitka spruce and shore pine species had survival rates almost twice that of other conifer species, but this may be a reflection of their naturally better survival over other species in the flat, open, windy portions of northern Curry County where a significant percentage of the Council's plantings occurred. Of the trees that survived, about 75% were free to grow (>5ft tall and free of competing vegetation), but very few segments were fully stocked.

Since 2004, the councils have worked to improve our program through better site selection, better planting methods and more maintenance (see Riparian Planting on page 5). Having the ability to pinpoint future interplanting needs is a very powerful management tool. We now have a prioritized list of interplanting sites based on need, success of past planting efforts and potential limiting factors. This information can be coupled with additional information that the Council's have collected such as existing and potential shade conditions, water quality conditions, and fish distribution and populations. Larger-scale limiting factors such as proximity to the ocean or broad scale channel instability might also provide additional rational for site selection or planting methods. Because our data is now linked together through GIS, we are able to evaluate the effect these factors have on each other. This will enable our planting program to continue to improve into the next 15 years.

WORDS TO KNOW

watershed: The specific land area that drains into a river system or other body of water.

floodplain: The land along side a body of water that is subject to flooding.

buffer: The planted area between the edge of management (often a fence) and the channel typical high winter flow.

stocked: As defined for the study, trees on a 10 x 10 foot spacing.

Riparian Planting

Changing with the times

Written by Chris John

For the last three winters, watershed council work crews, along with local students and volunteers have braved the rain, wind, and cold in an effort to enhance our watersheds in one of the most fundamental ways we know how – by planting trees.

Here are some highlights from these planting efforts:

- 20,593 trees and shrubs planted.
- Tree planting projects on 11 major watersheds and 39 streams.
- Tree planting projects at 63 different sites in cooperation with 50 landowners.
- Educational tree planting days involving almost 300 local school children.

A well-vegetated waterway is one of the most essential components of a healthy watershed. A healthy stream bank filters our water, reduces erosion, produces nutrients, and provides wildlife habitat.

The South Coast and Lower Rogue Watershed Councils have been planting trees since the organizations began in 1995. But this season marks the completion of our Core Planting Project – better known as riparian tree planting. Core Planting was a component of grant received from the Department of Environmental Quality (DEQ). This component has funded our tree planting projects for the last three planting seasons.

Growing trees along our waterways can often be very challenging. Plantings are vulnerable to damage from animals such as deer, elk, livestock, voles, and beaver. High winds and droughty conditions often take their toll. Tough competition from high grasses, blackberries, and gorse rob young trees of nutrients, making it difficult for them to thrive. It was clear that if these planting projects were to succeed, the trees would need a bit of help. New planting methods and a summer maintenance program were employed to address these issues.

More time and care was given to each planted tree. First, a large scalp (removal of competing vegetation) and watering basin were created. Next, a power auger was used to create a large hole in the compacted soil.

Above: George Fleming using a hoedad to plant.

Top photo: Chris John planting trees and protecting them with tubes.

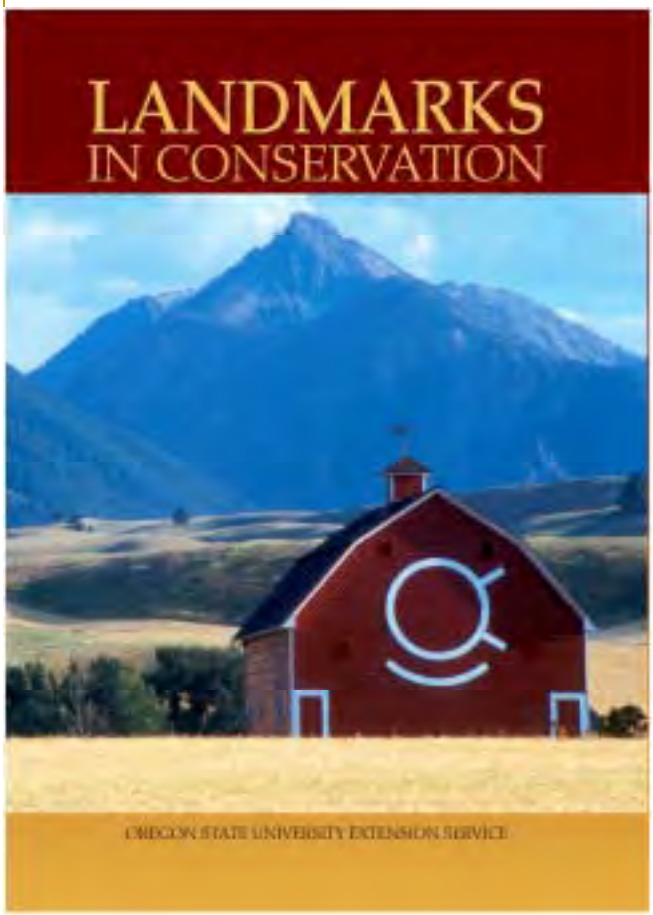
Then the tree was planted. Sometimes a packet of fertilizer or other amendments were thrown in for good measure. On sites with a lot of animal activity, protective tubes were fastened around the seedlings. All of these activities help give seedlings their best chance for survival.

Then the rain stopped. The ground dried up in a hurry. Many plantings are on high terraces, well above the summer water table. Existing groundwater was being rapidly absorbed by surrounding vegetation. Out came the summer maintenance crews. Using pumps, hoses, buckets, water tanks, drip irrigation systems, even water – toting trash cans were used to deliver drinks to thirsty trees. Within a season, grasses, blackberries, gorse, vines, etc. can engulf a small tree – never to be seen again.

All of the time and energy put into these trees were not in vain. Monitoring activities have shown 78% survival for conifers, 58% for hardwoods, and an overall survival rate of 72%. Considering all the challenges faced, these are very encouraging numbers.

Harry Hoogesteger gets a seedling off to a good start.

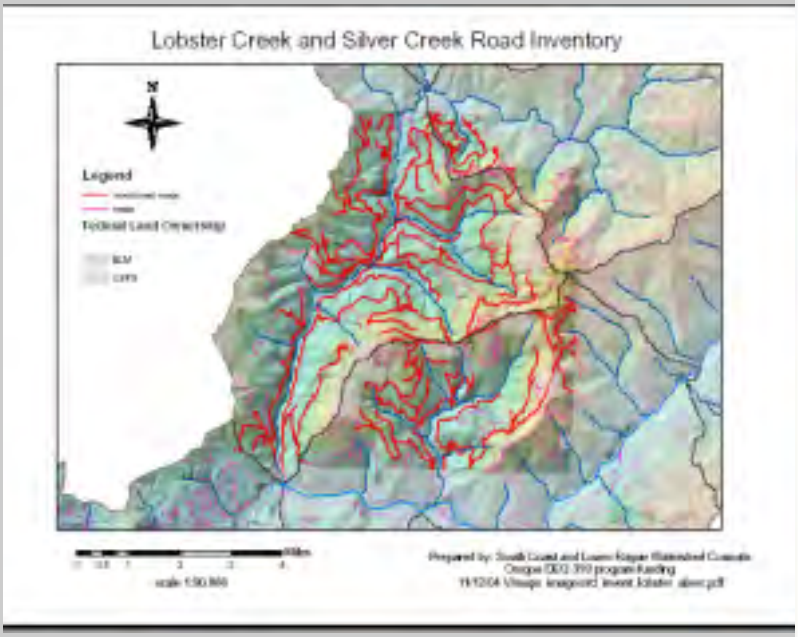
An enormous thank you goes out to the landowners, volunteers, students, Watershed Council staff, and the DEQ for giving of their time, energy, land, and money towards making this project a success.



"Landmarks in Conservation" is an interactive multimedia project from OSU Extension Service that intends to introduce rural landowners, farmers, ranchers and foresters to the development of resource management plans for their operations.

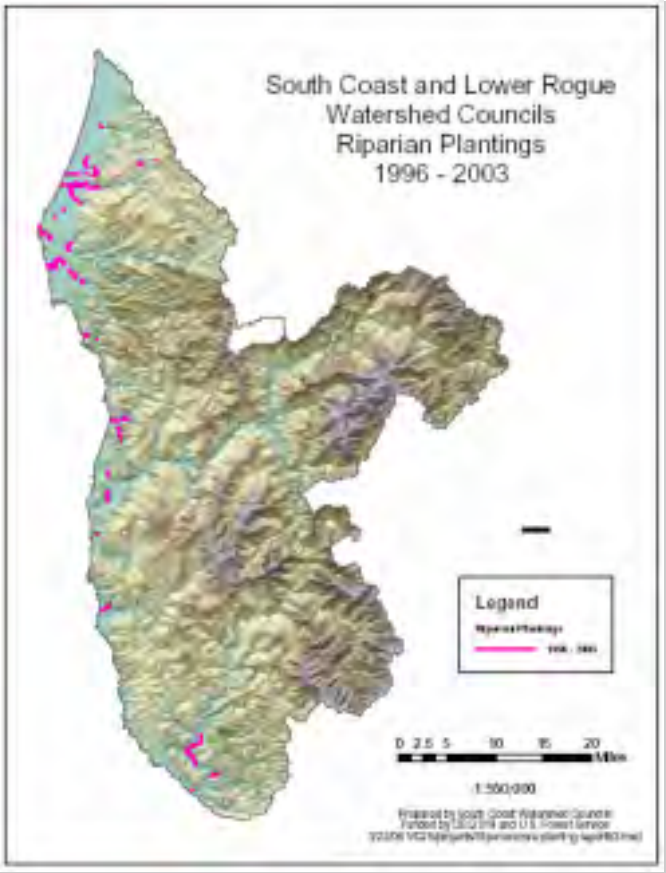
The DVD primarily focuses on interviews with nearly 30 land managers from across Oregon, including Mike Brown of Brown Livestock in Langlois, that describe their integrated approach to land management as well as tips they have learned along the way.

While there is not much information available on the DVD to guide in developing your own resource management plan, there are links that provide more information. The regional overviews and landowner interviews from across the state are interesting and well done. The DVD is available for check-out from the watershed council office, or can be purchased at http://extension.oregonstate.edu.

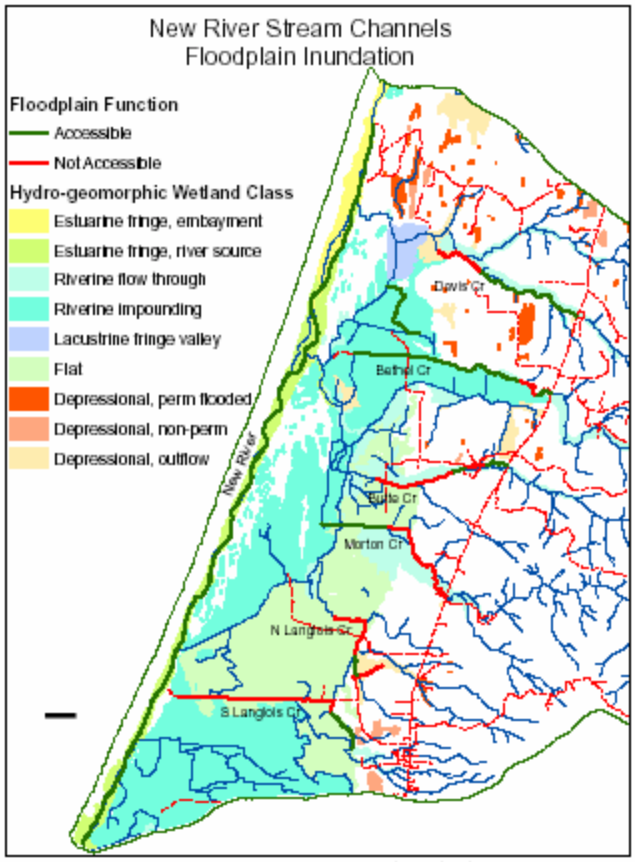


Above: Road Inventory locations have been digitized, and are being used for project planning maps and reports, including the Lobster Creek Partnership.

Below: Floodplain connectivity and wetland classes in the New River system in Northern Curry/Southern Coos counties. This information is helping to determine shade potential.

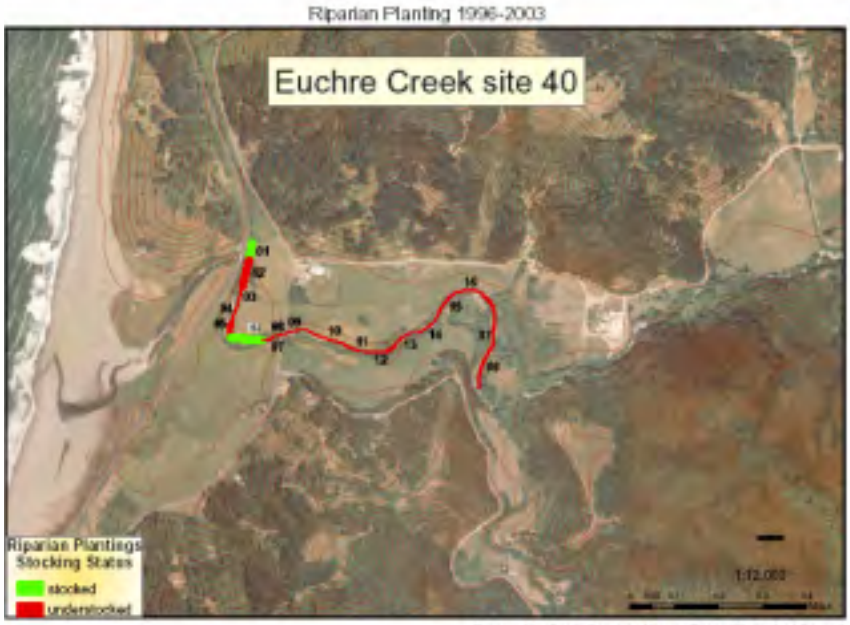


Above: Planting locations, county-wide.



Prepared by South Coast Watershed Council
Funded by Oregon DEQ 319 program
V:\GIS\Projects\New River\new_river_riparian_PFC.mxd
April 28, 2006

Below: Site-specific monitoring maps show us general information such as land use, topography and site code. Information about the riparian plantings includes buffer widths, survey reaches, and stocking status.



Prepared by South Coast and Lower Rogue Watershed Councils
Funded by DEQ 319 program and US Forest Service. 1/22/2006
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GIS

Maps by Cindy Myers, Erin Minster, and Beth Pietrzak

GEOGRAPHIC INFORMATION SYSTEMS: a computer system designed to allow users to collect, manage and analyze large volumes of spatially referenced information and associated attribute data.

Curry County Weed Advisory Board

Noxious Weed Species Spotlight

Himalayan Blackberry

(*Rubus discolor*)

By Liesl Coleman

Himalayan blackberry and gorse enveloping a planted conifer. Photo: Harry Hoogesteger

DESCRIPTION: Most Curry County residents are already familiar with this weed, but for those who have been here for less than 24 hours, we're talking about that sprawling mess you see dominating roadsides, forest edges, streambanks, and fencelines. The most distinctive features of this native of Western Europe are the appalling canes with large stiff prickles, its aggressive growth habit, and of course the delicious fruit it produces in late summer – certainly the most seductive of its propagation methods. In addition to seeds, Himalayan blackberry reproduces above ground by "daughter" canes (new canes that sprout where the tip of another cane touches the ground) and below ground by sprouting from the root crown and side roots. New plants also readily propagate from cane cuttings and root fragments.

IMPACT: Oregon WeedMapper describes Himalayan blackberry as the "most widespread and economically disruptive of all the noxious weeds in Western Oregon." It rapidly invades riparian areas, forest edges, meadows, roadsides, clear-cuts, and any other relatively open area, negatively affecting fish habitat, right-of-way maintenance, agricultural production, park maintenance, forest production, and recreational access. It out-competes low stature native vegetation and can prevent the establishment of shade intolerant trees such as Douglas fir, Ponderosa pine, and Oregon white oak, ultimately damaging stream habitat and water quality. On the surface it has abundant vegetation, but underneath it does little to control erosion along streams, allowing silty water to harm fish and cause damage downstream. It reduces forage availability in small woodland openings and meadows by restricting the movements of large animals into these areas, and the thorny stems can injure grazing animals.

CONTROL: The key is to attack the plant's ability to spread both above and below ground using a combination of methods including mechanical removal (hand pulling, mowing, and grubbing up root crowns and side roots), herbicide applications to both foliage and freshly cut root stumps, and dense interplantings of shade producing vegetation. Mother Nature is lending a hand, too, in the form of *Phragmidium violaceum*, a blackberry rust native to Europe, North Africa and the Middle East. Used as a biological control against weedy blackberry species in Australia, New Zealand, and Chile, this rust has demonstrated foliage reduction of as much as 50% in a five-year period. Though not yet approved for use, the rust was discovered for the first time in the United States in our own back yard—near Sixes, Oregon.

MORE ON BLACKBERRIES

Borne on the wind, the rust spores take up residence primarily on the leaves of the plant (new growth is particularly vulnerable, but rust can also infect unripe berried, flower buds, and stems), destroying the infected leaf and, in severe cases, defoliating the entire cane. This effectively inhibits the plant's ability to produce daughter canes and suckers. To determine if a plant is infected, look for small purple-red spots on the upper surface of leaves with corresponding yellow or creamy-white pustules on the underside. You may also see sticky black "teliospores" on the underside – evidence that the rust has over wintered on the plant. Human consumption of the rust is not known to cause any effects, but a good rule is to wash the berries before you eat them.

Blackberry leaves with golden summer spores of *Phragmidium violaceum*. Photo: Keith Turnbull

Alas, *Phragmidium violaceum* also infects desirable commercial berry crops, and it appears some Himalayan blackberry plants are resistant, so it's not the silver bullet we could wish for. However, rust is a powerful ally in the battle against Himalayan blackberry and greatly increases the possibility of success for restoration projects. We encourage county residents to take advantage of this opportunity to rescue their lands from the grip of Himalayan blackberry and restore them to their rich diversity.

PROJECT: The Curry County Weed Advisory Board is pursuing grant funding to conduct a demonstration blackberry eradication project in an area of Euchre Creek that is heavily infected with rust. A list of native plant varieties for replanting has been compiled to provide shade, erosion control, and bird habitat. Some examples are thimbleberry, salmonberry, snowberry, and serviceberry. For a more comprehensive list of replacement plants or for more information please contact the Curry Weed Board at 247-2755. The Master Gardeners at the OSU Extension office are also a good resource at 247-6672.

The 2006 Coos-Curry Research and Watershed Symposium was sponsored by OSU Extension. Approximately 250 students participated. Students from Driftwood Elementary School in Port Orford took the prize for the art competition for their paper mache depiction of salmon traveling upstream.

Curry Currents Winter 2005

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Keith Smith -Director
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Steve DiCiccio, Riparian Specialist
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Cindy Myers, Water Quality Monitoring Coordinator
Matt Swanson, Monitoring Program Manager
Project assistance provided by Colin Edgar, Erin Minster, Chris John and Aaron Fitch

Back row left to right: Beth Pietrzak, Harry Hoogesteger, Matt Swanson, Steve DiCicco, Chris John. Front row: Dana Hicks, Liesl Coleman, Cindy Myers, Erin Minster

Watershed Councils
George Fleming— Chair, South Coast Watershed Council
Peter Aspinwall—Chair, Lower Rogue Watershed Council
Bill Yokum—Chair, Chetco Watershed Council
John Leuthe—Chair Port Orford Watershed Council
Joe Marsh—Chair, Elk/Sixes Watershed Council
Joe Brown—Chair, Floras Creek Watershed Council
Hunter Creek/Pistol River Council, Winchuck Council, Euchre Creek Watershed Council

Forest Resource Trust Program

The 1993 Oregon Legislature established the Forest Resource Trust - the first program of its kind in the country. The legislature created the trust based on the recommendations of bankers, forestry analysts, private forestland owners, environmental organizations and public agencies - a group who came together in 1991 under the direction and inspiration of Secretary of State Phil Keisling. Lands reforested through the Forest Resource Trust will provide many environmental social and economic benefits to Oregon such as soil conservation, clean water, fish and wildlife habitat, future timber availability, scenic quality, job opportunities and recreation.

At the center of the trust's success is the willing participation of non-industrial private landowners owning 10 to 5,000 acres of eligible underproducing forestland. In exchange for the direct payment of stand-establishment costs, participating landowners enter into contracts with the State Forestry by which they agree to share a fixed percentage of the net timber harvest revenues from forests created by the trust. Landowners choose when and if to harvest and there is no requirement to harvest at all. In the latter case, the forest becomes free and clear of the trust contract after 200 years. The revenue sharing component of the trust provides incentives for landowners to grow and manage healthy, vibrant forests. For the first 25 years, landowners have the option of buying out of the trust contract by repaying the funds at 6.8% interest. Payments from the revenue sharing and buyout options are reinvested into the trust to reforest even more underproducing forestland. For more information visit:

http://egov.oregon.gov/ODF/PRIVATE_FORESTS/frt.shtml