Curry Currents

Spring 2008

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

How Can Native Pollinators Improve Agricultural Production?

By Barbara Grant

Bombus vosnesenskii — red rasp. Xerces Socitey

- Insect-pollinated plants like cranberries, blueberries, cane berries, alfalfa, and clover are often pollinated more efficiently (and economically) by some of the 4,000 species of native North American bees than by European honey bees.

- Many native bees forage in colder and wetter conditions than honey bees—later and earlier in the bloom season—leading to more flowers, fruit, and seed.

- The buzz pollination technique (grabbing a flower's stamen and vibrating hard) used by bumblebees and some other North American bees is especially effective for cross-pollinating tomatoes, peppers, blueberries, and cranberries.

The habitat that attracts useful populations to your farm or garden varies, but increasing native pollinator numbers can be as simple as leaving more natural area near crops and avoiding insecticides during bloom season.

Mace Vaughan, Conservation Director of the Xerces Society, included this information and much more in an Internet presentation to Natural Resource Conservation Service biologists on May 10, 2007 called *Native Bee Conservation 101.*

To watch a replay of this event or for more information about crop-pollinating native bees visit the Xerces Society website. **http://www.xerces.org/Pollinator_Insect_Conservation/agriculture.html**

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Cape Blanco Challenge

Integrating communities, business and conservation

The Cape Blanco Area of Oregon's southern coast is an extraordinary place, featuring miles of undeveloped shoreline and three outstanding salmon streams including the nationally renowned Wild and Scenic Elk River. Few, if any, areas like this remain on Oregon's coast. It is also a working landscape where, for generations, natural resources have been successfully conserved by local landowners. In the face of increasing development pressures, the Cape Blanco Challenge seeks to build on our region's heritage of stewardship to sustain working landscapes in ways that are integrated with conservation.

WHO WE ARE:

The Cape Blanco Challenge is a collaborative group led by local landowners including ranchers, cranberry growers, a timber operator, watershed council members, agency personnel and conservation groups such as Oregon Trout, The Nature Conservancy, and the Western Rivers Conservancy.

We all believe that ranching and forestry can be compatible with and in some cases even enhance conservation and restoration. We also recognize that to keep working landscapes in operation and to conserve the remarkable natural resources in our area, we must work together.

OUR WORK:

Typically, with increasing development pressures and rising property values, natural resources and local livelihoods based on those resources are lost over time. In our unique area, we seek to turn this scenario on its head by making working landscapes (ranch and timber lands) and conservation cornerstones of a vital local economy.

We are currently following four paths to meet our goals.

1) Working with interested ranchers, farmers & foresters who are building conservation into their operations, with on-the-ground stream, wetland, and other restoration projects. The projects provide immediate benefits to landowners, including access to supplemental funding and restoration expertise, and have the added benefit of allowing operators to concentrate their time and equipment on high agricultural production areas.
2) Helping farmers, ranchers & local timber operators stay on their land or successfully transfer it to the next generation through non-development easements. Easements offer landowners tax advantages and / or a revenue source, and assures agriculture and forest land stays in production.
3) As development pressures threaten critical resource lands, we are seeking funds or creative investment options to purchase places where conservation values are highest.
4) Initiating ways to create economic opportunities for the next generation of ranch & farm stewards, and to support sustainable forestry. We are building connections to the burgeoning Oregon markets for our locally, sustainably grown agricultural products.

For more information on the Cape Blanco Challenge or how to become involved, **please contact** Terry Wahl in Langlois at (541) 260-4055

OUR VISION:

- Working farms and ranches that provide food and conserve open spaces
- Clear, clean rivers full of pacific salmon that support local commercial and sport fisheries
- Forests that provide jobs, wood products, recreation opportunities, and wildlife habitat
- Economically sound rural communities where our children can grow and flourish

OUR GOALS:

- Save working ranches and forestland
- Conserve natural resources for future generations
- Support economic vitality for local communities
- Protect and restore water quality and local fisheries
- Successfully integrate ranching and forestry with conservation
- Make working landscapes and conservation the cornerstones of our region's future economy

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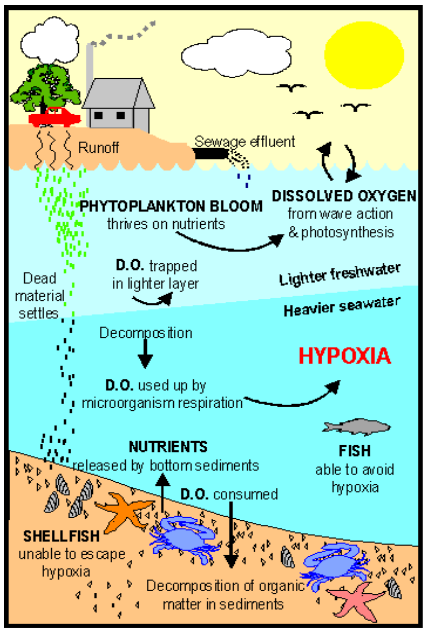
CURRY SWCD

Aquatic Plants in New River and Coastal Lakes

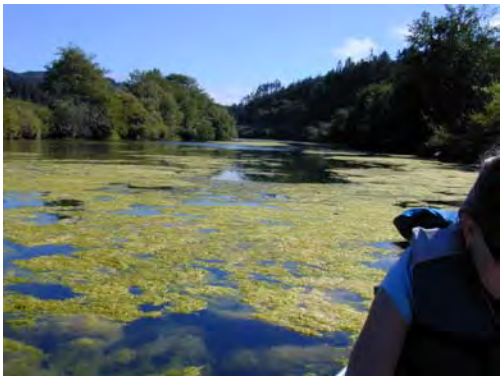
By Cindy Myers

Thick mats of multicolored green to brown algae covering the water surface, weedy plants that grab your paddle and slow your progress, and invasive weeds that discourage swimming - can all this be healthy?

The South Coast Watershed Council water quality monitoring program recently completed an investigation into the causes and effects of aquatic plants in coastal lakes and New River. Every member of the staff inventoried aquatic plants, measured streamflow, collected water samples, or performed laboratory testing. Stormchaser volunteers collected samples that contributed to locating sources of nutrients that feed this abundant growth.



Eutrophication Process



Filamentous algae in Hunter Creek

Elevated nutrients feed nuisance levels of aquatic plants (including algae), which can lead to accumulation of organic matter (eutrophication) in a lake, river, or estuary. Decomposing plants use oxygen dissolved in the water. When oxygen levels become too low bottom-dwelling organisms can experience stress or death. Toxic blue-green algae can also bloom as a consequence of excessive nutrients.

Our inventory measured the abundance of aquatic plants as well as the percentage of cover by filamentous algae. Filamentous algae grow on the bottom or attached to submerged plants. During photosynthesis, filamentous algae produce oxygen which becomes trapped and causes the algal mat to float to the surface.

Abundant plant growth is reflected in daily cycles of respiration and photosynthesis. In New River, as light decreases and temperatures cool later in the season, respiration and decomposition of the plants cause morning dissolved oxygen levels to drop below state standards. Where are the sources of the nutrients that feed these plants? Are they elevated above “natural” levels?

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Plant-available nitrogen and phosphorus are nutrients that either feed or limit growth, and their concentrations are particularly critical during the spring-summer growing season. Early in the season on New River, phosphorus is the limiting nutrient due to high nitrogen concentrations provided by Floras Creek. Later in the season, nitrogen levels decline, and become limiting. Compared with other rivers in Curry County, Floras Creek has the highest nitrogen levels. Available nitrogen generally leaches into the groundwater before it arrives in streams and rivers. Potential sources include decomposing organic plant or animal wastes, fertilizers, and septic systems. Surface runoff of nitrogen can also occur from livestock in streams, disposal of organic matter where it can erode, or discharge of nutrient-rich ponds. Upland grazing presents particular challenges for excluding livestock from swales and channels which transport nitrogen during storms.

Aquatic Plants in New River

Phosphorus enters streams by erosion and runoff, mainly contained in organic matter or attached to sediment particles. In New River, plant-available phosphorus is elevated in ditches which drain grazed wetlands. It remains to be determined whether the source is from livestock wastes, decomposition of wetland plants, erosion of soils that are high in phosphorus, or sediment deposits from flooding by Floras Creek into New River.

New River receives upwelling-enriched marine water during some periods of the year, which maintains the nitrogen-limited status of the estuary. Decomposition of aquatic plants (a form of internal recycling) also releases nutrients in the late season. Filamentous green algae decompose more rapidly than other leafy aquatic plants. In some estuaries, filamentous green algae is considered an indicator of nutrient enrichment, and research is ongoing to determine if shading and competition by algal mats is detrimental to other beneficial aquatic plants.

The aquatic plant inventory also identified non-native aquatic weeds. Because aquatic weeds are often adapted to a wide range of conditions, successfully compete with other plants, and are not preferred by native grazers, they tend to be invasive. Invasive aquatic weeds may not respond to nutrient reduction, and require more active control techniques.

CURRY SWCD

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Curry County Weed Advisory Board

Noxious Weed Spotlight

Weeds on the Web

BY KEAN FLEMING

The term "weed" means different things to different people. In 1912, W.S. Blatchley defined a weed as “a plant which contests with man for the possession of the soil.” That same year R.W. Emerson labeled weeds, “Plants whose virtues have not yet been discovered.” The category of plants we call “weeds” is thus malleable, and can change depending upon the site and the land manager’s perception. A weed can be native or non-native, invasive or non-invasive, and noxious or non-noxious. A **noxious weed** is a weed that is tied to a legal definition. A noxious weed is *any plant designated by a Federal, State or County government as injurious to public health, agriculture, recreation, wildlife or property.* (Sheley, Petroff, and Borman, 1999) A noxious weed is also commonly defined as a plant that grows out of place and is "competitive, persistent, and pernicious." (James, et al, 1991). Noxious weeds are the worst of the worst. They are the plants capable of exacting the greatest economic, ecologic, and human harm. These are the weeds with which the Curry Weed Board is concerned.

A first and critical step toward controlling noxious weeds is to determine where they are. With this in mind, the Curry Weed Board applied for funds through the Coos Bay District BLM RAC (Resource Advisory Committee) and the Rogue Siskiyou Forest Service RAC in 2006 to conduct an inventory of noxious weeds occurring along county roads and river corridors throughout Curry County. Roads and rivers were prioritized for the inventory because both are critical avenues for noxious weed movement. Roads and rivers are also habitats that are frequently disturbed - due to high waters or human influence – which makes these sites even more prone to weed invasion.

In the late Spring of 2007, Curry County Soil and Water Conservation District personnel, under the auspices of the Curry Weed Board, began biking roads and walking rivers with a GPS device and data collection forms on hand. At each location where a noxious weed was found, the following site-specific data was collected:

1. Where is the weed? (GPS point + mile post, identifiable landmarks)
2. What species is it? (E.g. Gorse, Scotch Broom, Japanese Knotweed)
2. What is the density of the infestation? (Patchy/uniform, total square feet)
3. Treatment history? (Not yet treated/hand pulled, if so, in what year)
4. How old is/are the plant(s)? (Seedling/mature/seed-set)
5. What are the site conditions? (Terrain and soil type, e.g. steep and rocky)

All of the collected data was then entered into an online database which can be viewed by participating agencies and Weed Board members by logging on to the Curry County GIS (Geographic Information System) website. On the next page is a sample screen that one might see if they zoomed in on the lower Rogue watershed.

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Each red dot (below) represents a weed. Click on the dot and all of the data collected about the weed at that specific site is revealed. This allows weed managers to not only find the location of particular weeds, but also gives them access to the history behind the weed - when it was first recorded at that site, treatment history, what the historic density and extent of the infestation is, what the site conditions are, et cetera. This type of data is eminently valuable to any agency trying to develop a long-term management plan for noxious weeds in Curry County. The Curry Weed Board strives to accomplish exactly this.

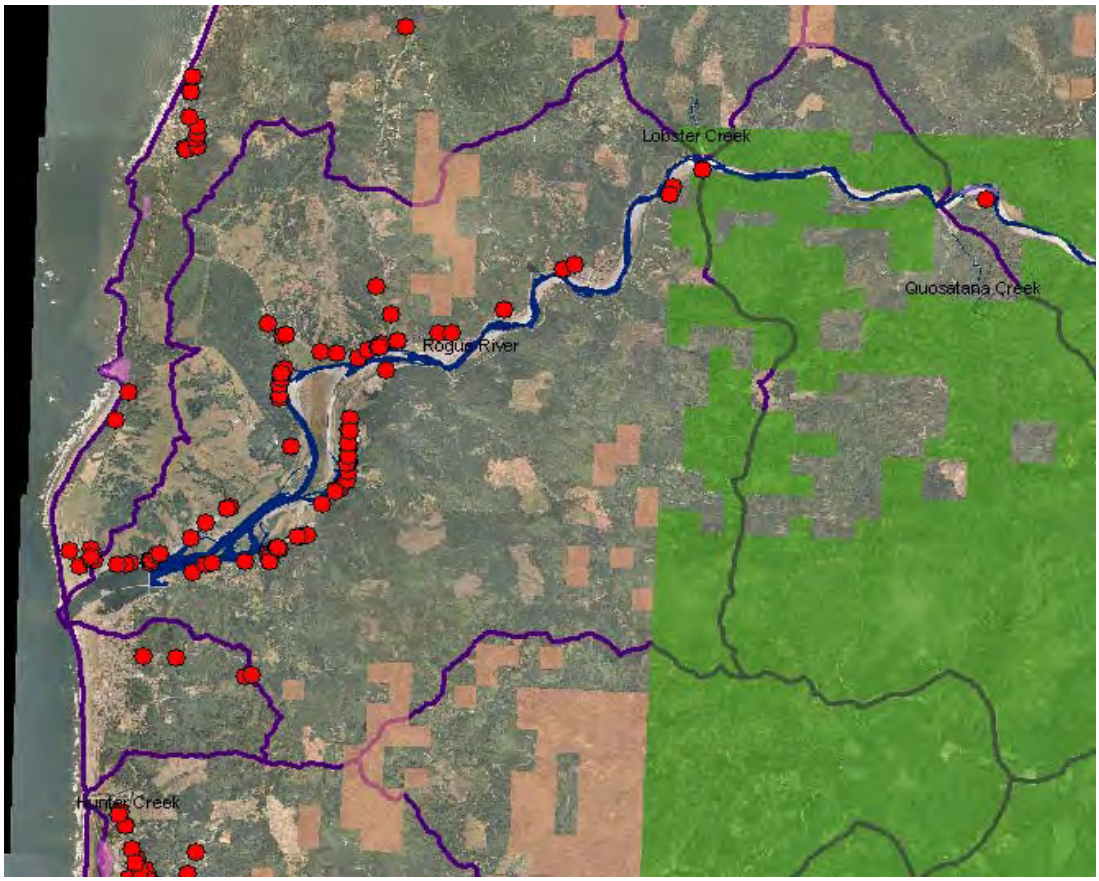

Fig. 1—Weeds on the Web, Curry County GIS

In 1961 E.J. Salisbury noted, "The cosmopolitan character of many weeds is perhaps a tribute both to the ubiquity of man's modification of environmental conditions and his efficiency as an agent of dispersal." In today's age of global commerce, where goods are continuously being transported great distances, noxious weeds are provided with great possibilities for movement into new, heretofore unaffected environments. It is these human pathways that must be given the highest level of scrutiny if these unwanted travelers, noxious weeds, are to be kept in check.

CURRY SWCD

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The Oregon Conservation Reserve Enhancement Program: A major landmark in a flagship program

BY BARBARA GRANT

U.S. farmers and ranchers have enrolled their one millionth acre in the U.S. Department of Agriculture's Conservation Reserve Enhancement Program (CREP), an enhancement of Farm Service Agency's venerable Conservation Reserve Program. About 30,000 of those CREP acres are right here in Oregon.

Forty-six Coos and Curry County landowners are currently using Oregon CREP dollars to restore 900 acres of riparian forest buffer on marginal pastureland, earning rental payments of more than $91,000 per year. Enrollment is expected to remain strong until the state-wide goal of 300,000 acres is reached.

With program additions in 2005, non-tree options are also now available for areas suited to herbaceous planting.

This Coos River rancher used CREP to complement a larger Watershed Association project. The Watershed addressed bank stability and fish habitat, while CREP provided fencing and improved pasture use.

Oregon ranchers grow more than grass

Farmers and ranchers provide unique benefits to the public. Not least among agricultural contributions are protecting water quality, preserving open space, providing fish and wildlife habitat, and buffering populated areas from floods.

Cost-sharing restoration of riparian buffers helps defray the cost to individual operators of protecting surface water resources. CREP's annual rental payments and additional incentive bonuses help riparian buffers make financial sense for Oregon farmers.

The phrase "win-win" isn't just a handy cliché!

A new fence excludes livestock from a heavily impacted riparian corridor. Native plants will restore riparian function.

Conserving natural resources goes hand-in-hand with good farming practices. Too often, however, conservation buffers are still seen as taking place of grazing room for agricultural production.

Operators who enroll riparian areas in CREP make an informed decision based on the needs of their operation, their own stewardship concerns, and the financial and social realities that keep their farms and ranches in business. Oregon CREP participants receive technical assistance to help riparian restoration meet both business and conservation goals.

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Participants in this popular program generally report that cost-shared practices include stewardship they've wanted to implement "someday" just as soon as they had the plan, the money, and the time. Oregon CREP technical assistance, cost shares, and rental payments allow agriculturists to move riparian stewardship higher on the list of business and stewardship priorities. CREP is also a good source of matching funds for operators planning larger grant-funded projects.

Conservation and CREP

The purpose of the Oregon CREP is to restore impaired riparian buffers. Riparian areas, the zone of specialized vegetation and other characteristics adjacent to streams, provide a suite of essential services that tend to decline with heavy use and with overgrowth of invasive weeds.

Shading streams

A functional riparian forest buffer provides shade and cool microclimates to reduce water temperature and to promote a stream's ability to carry dissolved oxygen.

A strong conifer component supplies reliable performance, future woody components for stream habitat, and year-round shade to help suppress competing vegetation.

The benefit of providing future shade is one reason riparian projects in our forested areas typically center on planting and maintaining a suitable mix of native tree species. CREP provides a planting plan and money to plant, with technical assistance to help ensure that the new seedlings can thrive.

Controlling invaders, restoring natives

Because the most troublesome exotic weeds (Himalayan blackberry, imported thistles, gorse, etc.) lack local natural limits to their invasive potential, successful restoration planting usually requires weed control.

The most prolific weed invaders do not provide the combination of soil stability and nutrient contributions that native plants do. Bare, erosion-prone soil may lie beneath a canopy of Himalayan blackberry, while the terrestrial basis of a stream's complex food web - organisms that feed on leaf litter and other vegetation - declines when diverse native plants are crowded out.

The Oregon CREP provides technical assistance, cost shares, and annual maintenance money to control weeds and plant native species.

These seedlings will not survive without weed control: CREP and watershed council cooperation make this high-maintenance project possible.

Aquatic habitat

Seedlings planted today provide future trees and woody components for stream structure. Exposed streambank roots and fallen wood provide cover for fish, allow the stream to scour new pools, and give small aquatic organisms a place to anchor and reproduce.

CREP projects in our region typically include a conifer component to provide year-round shade and to contribute durable wood for future stream structure.

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Water quality

Riparian buffers provide filtration to keep water clean and prevent gravel bottoms from being choked with overland silt. Thick grasses and other vegetation filter and sequester sediment and runoff-borne pollutants. The deeper roots of riparian shrubs and trees stabilize banks and decrease erosion. CREP technical assistance evaluates overland flow and customizes riparian restoration to address site-specific concerns.

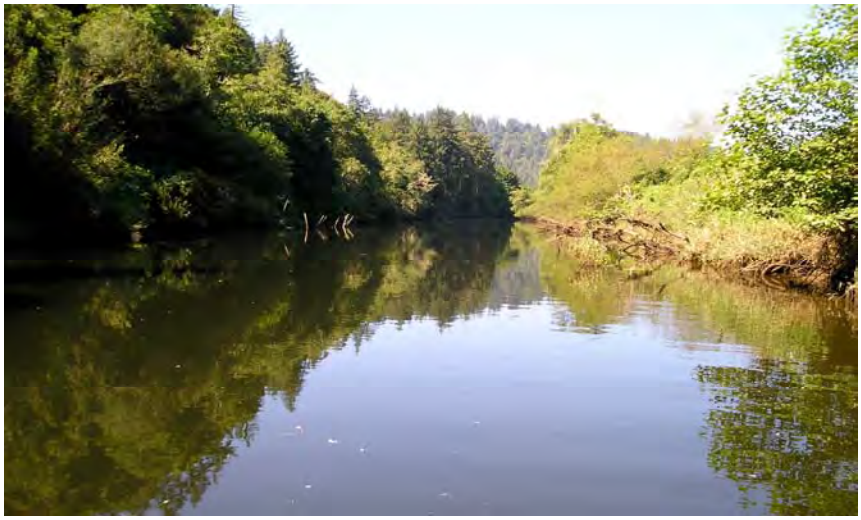
Sediment washes off an area of heavy use by cattle. A new fence and off-stream watering will improve livestock control, while planting will improve bank stability and other functions.

CREP makes sense for Oregon and for operators

The Oregon CREP's unique State-Federal partnership allows the State of Oregon to "leverage" USDA's program money. Oregon Watershed Enhancement Board (OWEB) provides an additional contribution to cost shares to improve the appeal of Oregon CREP to agricultural landowners. Oregon Department of Forestry writes or reviews planting plans, and other state agencies also contribute support to help interested ranchers improve riparian stewardship for the benefit of all.

Interested?

For Coos and Curry Counties, assistance is available through the Coquille USDA Service Center at 382 North Central Blvd. Walk-ins are welcome, or call the Service Center at 541-396-2841.



A maturing CREP project (right bank) adds complexity and river bank habitat using livestock exclusion and diverse riparian planting.

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Matt Swanson, Chris John, Kean Fleming and Jerry Becker Caught Smiling In Rock Creek

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!