Curry Currents

Spring 2007

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

Living with Rivers in Curry County:

Flooding, Bank Erosion, and Effects of Human Activities

By Cindy Myers

Every rain drop that falls in the uplands of a watershed has energy that must be used up (dissipated) as the water travels downstream to the ocean. This energy creates friction which can scour sediment from the stream bed, erode stream banks, or dissipate as turbulent flow over boulders, wood, or streamside vegetation.

Structures in headwater stream channels not only dissipate energy, but also create slackwater areas where fine-textured sediments and organic matter deposit. Vegetation colonizes and stabilizes these deposits over time. In a "stable" channel, sediment supply is balanced by transport, so that the stream neither downcuts (degrades) nor deposits excessive sediment (aggrades). Stable channel structures capture and store sediment and woody material. However, sediment still moves downstream into the lowlands where stable channels tend to migrate by meandering. During floods, sediment and pieces of woody material are delivered overbank onto lowland floodplains, created from sediment deposition over geologic time.

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Lower Rogue Watershed Council &
Rotary Club of Gold Beach

Rogue River Cleanup

June 2, 2007

The Lower Rogue Watershed Council, Gold Beach Rotary Club and our partners invite you to participate in this fun, annual community service day.

Trash along our river can be an eyesore. Some trash floats down from upriver during high winter rains, and other trash is unfortunately left behind by people using the gravel bars for recreation.

This free rain or shine event includes a "By Land" component for community members and a "By Boat" component for Riley Creek 5th and 6th graders to help clean up our river.

Jerry's Flat Road—South Bank of the River:

Jim Hunt Day Use Area (Coyote Bar)—**Rogue Outdoor Store**

Huntley Park—**Woof's Dog Bakery** (bring your dog for a romping good time!)

Orchard Bar—**Family Dentistry of Gold Beach, Dr. Liem DDS**

Lobster Bar—**Lower Rogue WC**

Oak Flat (Illinois R.)—**Shawn O'Connor & Mike Meszaros**

North Bank Rogue

Canfield Bar Day Use Area—**Sterling Savings Bank**

Presented by:

Lower Rogue Watershed Council

Rotary Club of Gold Beach

Major Sponsors

Curry Transfer and Recycling

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Rogue Outdoor Store

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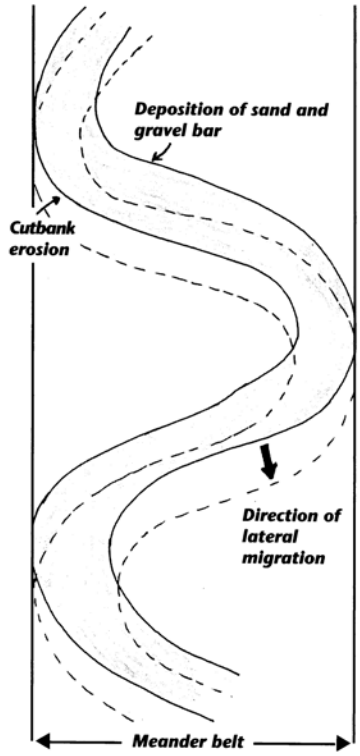


Streams on lowland floodplains naturally meander to dissipate their energy. Stable channels erode from the outside bend of a meander roughly the same amount of material that is deposited on the inside bend of a meander. Riparian vegetation, particularly woody species, provides friction (roughness) to slow the velocity. Where soil and vegetation provide adequate cohesion, stream banks resist erosion.

Curry County channels historically meandered across the lowland floodplain, supporting spruce swamps, and frequently flooding. Spruce and various other species supplied wood jams and turbulent steps. Beaver built dams that also slowed velocities and caused overbank deposits of fine sediment and woody material.

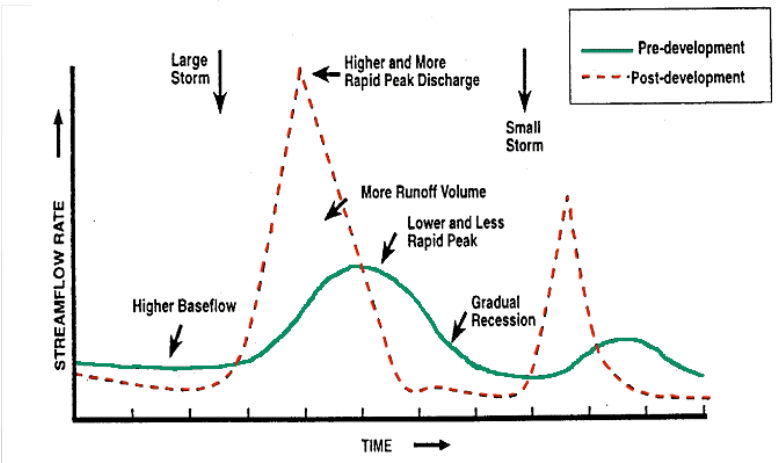
Cohesion for stream banks refers to the ability of the soil and vegetation to hold together as a unit.

Human Activities

Conversion of forested slopes to other land uses (grazing, residential, urban), decreases infiltration of water into soils and promotes overland runoff, which tends to increase flood frequency. Increased flood peaks may cause damage to fences, roads and bridges. Stream bank erosion and loss of land can result from higher flood peaks, or from other channel destabilizing influences. Streams may be destabilized by:

- confinement of floodplains, preventing floods from dissipating energy over broad areas, and concentrating high velocity flow (such as at road-stream crossings)
- excessive sediment transported from upstream
- loss of cohesion of the stream bank
- artificial straightening or relocation of channels (ditching and dredging)
- removal or burial of energy steps, such as beaver dams or wood jams

Upland activities such as stream cleanout, grazing streamside vegetation, soil compaction, and trampling of banks, change the movement of water, sediment, and wood downstream. When headwater stream channels lack boulders, large wood or vegetation to dissipate energy, the excess energy erodes stream banks and beds, producing higher volumes of sediment.



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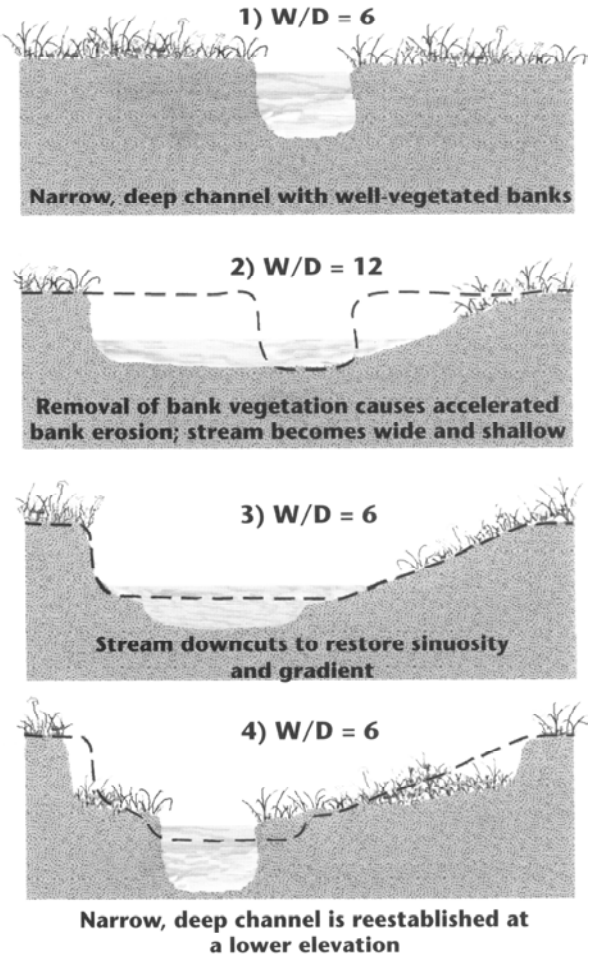
Excess sediment deposition or loss of bank cohesion causes a stream to widen. Sediments deposit in bars and force the stream to expend more energy against its banks. A widened channel can cut across its meanders, decreasing the length of the stream. As the stream straightens, gradient and velocity increase. Higher velocities concentrating energy can downcut the channel, increase transport of sediment to downstream reaches, and develop headcuts that proceed upstream.

Downcutting lowers the stream bed in relation to the floodplain. During floods, the broad floodplain dissipates energy. When the channel becomes isolated from its floodplain, the additional energy accelerates the process of downcutting. Energy will then be dissipated by stream bank erosion; widening the channel until there is space for a new floodplain to develop within the downcut valley. Vegetation is difficult to establish on the mobile and coarse sediments until energy can again be dissipated on the floodplain. Meanwhile, large volumes of sediment eroded from the banks are released into the streams, creating poor quality fish habitat and poor water quality.



In Curry County, meandering, flooding channels made it difficult to manage livestock in the lowlands, so channels were often relocated to the margin of the valley or to less productive areas. Channels confined by hillslopes have bedrock banks on one side, and many are also confined by rip rap (boulders or car bodies). Channels are also confined where ditch spoils were deposited as levees adjacent to the stream.

Government programs promoted agricultural production by subsidizing draining of swamps by digging ditches, and by controlling beaver. Removal of willows and woody material was encouraged to increase the velocity of water runoff. Roads were constructed that constricted channels and increased energy locally. Bridges and culverts, such as those on Highway 101, captured woody material to be removed from stream channels.

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Management and Restoration Strategies

- Encourage recovery of woody species in riparian areas by protection, management, and planting
- Retain wood in channels to reduce movement of debris and sediment, promote growth of woody species, and encourage beaver activity
- Storm proof upland roads to minimize future sediment delivery triggered by storms
- Use Low Impact Development (LID) designs to promote infiltration of rainwater
- Promote activities that will reconnect channels with floodplains to recharge aquifers and increase summer moisture and pasture productivity
- Improve floodplain connections at Highway 101 and other road fills, using pass-through structures that also allow passage of woody material downstream
- Recognize the value of beaver dams on small streams to dissipate energy and maintain floodplain connections – consider beaver-proof culvert designs to minimize unwanted flooding
- Minimize streambank disturbance that allows exotic species to become established that provide less cohesive banks, such as himalaya blackberry

For additional information, contact our office for a copy of "Going with the Flow: Understanding Effects of Land Management on Rivers, Floods, and Floodplains" by Barbara Ellis-Sugai and Derek C. Godwin: Oregon Sea Grant ORESU-T-01-003

Curry County is embarking on a process to develop a structural vulnerability assessment and a county-wide Community Wildfire Protection Plan (CWPP). In 2002, the Biscuit Fire acted as a catalyst in raising public and government awareness about wildfire risk in the county and the need to plan and implement fuels reduction and fire mitigation actions. Curry County subsequently received a National Fire Plan grant to address wildfire risk in the county. Over the past few years, Coos Forest Protective Association (CFPA) has conducted home structural vulnerability evaluations throughout the county, resulting in a database of structural vulnerability throughout the county.

Curry County contracted with Resource Innovations, a program within the University of Oregon's Institute for a Sustainable Environment, to develop the plan. Resource Innovations will work with the Curry Wildfire Preparation Team and other interested stakeholders to analyze the structural vulnerability data, conduct a comprehensive risk assessment, coordinate public outreach, and identify strategies to reduce wildfire risk throughout the county.

Public forums to share information about the planning process and gather input from residents and interested stakeholders throughout the county will be held in mid-August in Brookings, Gold Beach, and Port Orford. For more information about the plan, visit the web site for more information: http://ri.uoregon.edu/programs/CCE/curry.html or call 541-346-0687.

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

Curry County Weed Advisory Board

Noxious Weed Species Spotlight

Japanese knotweed

By Matt Swanson

What is knotweed?

Knotweed is a perennial plant native to Asia , which is establishing in many streams and rivers in Curry County, including the Rogue, Sixes, and Winchuck Rivers.

Like other non-natives, such as gorse and Himalayan blackberry, knotweed out-competes native plants and takes over.
It prefers moist areas, such as streambanks and wetlands, but near the coast it also does well in fields, yards and along roadsides.
Cuttings, as well as root fragments, will grow into new plants when in contact with moisture.

Scientific names include:
Polygonum cuspidatum, *Fallopia* or *Reynoutria japonica*, *P. sachalinense*, and *P. polystachyum.*

Young knotweed establishing on the Sixes mainstem. Early growth in March and April give it an advantage over native plants, but also make it easier to find early in the season.

Knotweed establishing downstream of Sixes on the mainstem. Floodwater and beaver increase the rate of spreading by moving root fragments and cuttings downstream of established sites.

Why is knotweed a Problem?

Knotweed is very difficult to remove once established. It has a large root mat, which can sprout new plants from small fragments left in the ground. Like willow, it also grows from small cuttings when left in a moist environment.

By out-competing native plants knotweed forms dense stands void of other vegetation. This weakens streambanks, making them susceptible to bank erosion. It also decreases the wildlife value of these important habitats, and negatively affects fish and water quality.

Who is eradicating the Knotweed? The ***Curry Soil and Water Conservation District***, as the ***Curry Weed Advisory Board*** is actively managing knotweed in key areas, using funds from the State Weed Board and Coos BLM RAC. **For more information, or to get involved, please contact Kean Fleming at 541.247.2755.**

Curry Currents

Winter 2007

Watershed Council Staff & Contractors

Dana Hicks, Coordinator—Lower Rogue Watershed Council
Harry Hoogesteger, Coordinator —South Coast Watershed Council
Cindy Myers, Water Quality Program Manager
Matt Swanson, Monitoring Program Manager
Statia Ryder, Watershed Education Program Manager
Chris John, Riparian Planting and Forest Health

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Kean Fleming - Noxious Weeds Coordinator

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!