

CHELAN COUNTY CONSERVATION DISTRICT NEWS

301 Yakima Street, Room 307      Wenatchee, WA 98801      (509) 664-0275

**Wenatchee Watershed  
Fecal Coliform Clean-up Plan  
Public Information Meetings**

**January 31** Cashmere Riverside Center  
4-6pm Drop-in session with hosted information stations  
6-7pm TMDL presentation with question and answer period

**February 7** Leavenworth Fire Hall  
4-6pm Drop-in session with hosted information stations  
6-7pm TMDL presentation with question and answer period

Please plan to attend...the health of your watershed depends on it!

Fecal Coliform!...Where?

Attention residents of the Mission, Brender and Chumstick Creek watersheds! Did you know that your creek has a history of seasonally high fecal coliform levels? Fecal coliform are bacteria found in the intestinal tract of all warm-blooded animals. Their presence in a waterway indicates the presence of fecal matter from human and/or other animal sources. High levels of fecal coliform bacteria are a sign of a potential human health risk and poor water quality. Failing septic systems, wildlife, unrestricted livestock access, and runoff from roads, parking lots, and residential yards are just a few ways the bacteria can reach a stream.

High fecal coliform bacteria levels have been documented in Mission, Brender and Chumstick Creeks since the 1980's. The problem was confirmed in 1996

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Mother Nature Puts  
Entiat Projects  
to the Test

Mother Nature put a few habitat restoration projects in the Entiat River to the test last year. The high stream flows experienced last Spring and Fall could have wreaked havoc on some instream structures, but good planning and design helped saved the day.

Engineers and biologists take a variety of factors into consideration when designing stream restoration projects in an effort to ensure long-term function and durability. Instream habitat projects are designed to withstand a wide range of flow levels characteristic of a particular stream or river, including some higher flow events like those experienced in 2006. Historical flow measurements and flood frequency analyses are two important elements considered during the design development process. The performance of previously constructed projects can also provide valuable insight when monitoring data is collected.



The high flows experienced last May were powerful enough to send large cobble and other streambed material rolling down the Entiat River. The event affected the three demonstration rock cross-vane structures that

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**See page 4 for more  
information.**

# Local Program Receives National Recognition

The Kids in the Creek environmental education program recently received first place in the curriculum category of the National Association for Interpretation’s (NAI) Media Awards program. Originally conceived of as the education component of a water quality grant, the hands-on program has been enthusiastically received by students in north central Washington for more than 12 years.

The Chelan County Conservation District started the project in 1992 with a handful of local educators and natural resource professionals. We were looking for an effective way to teach high school students about the way streams work, the interdependence of plants, animals, people and water, and the importance of healthy streams to the whole community. The key to engaging students in the subject, we believed, was a departure from strictly classroom-based learning and an introduction to actual field investigations. Rather than just taking a bus tour or “visiting” an outdoor site, the students put on waders and spend a day in the creek. They do everything from



collecting and studying insects, mapping stream features and fish habitat, to measuring stream flow, temperature and chemical characteristics, identifying streamside plants, and observing the geography of the surrounding watershed. The students are guided by

local natural resource professionals in their data gathering. They discuss what the students find, what it can tell them about the health of the stream, and the various ways that the watershed influences, and is influenced by, the land, animals and people that live there.

The published curriculum is the result of years of development and a solid working partnership. The primary partners for developing the curriculum were the Chelan County Conservation District, US Fish & Wildlife Service (USFWS) and US Forest Service. Over the years, the guide grew from a few pages of notes and some worksheets to a full teaching unit. Preparatory lessons, teacher resources, student activities and instructions for resource professionals on how to set up the field experience and host the learning stations are included. The notebook also provides references to Washington state learning targets and offers



Above: National Association for Interpretation (NAI) award presenters Bob Dispenza (far left) and Evie Kirkwood (far right) present (from second left to second right) Corky Broadus, USFWS; Susan Peterson, USFS; Valerie Hampton, Chelan County Conservation District; Judy DelaVergne, USFWS; and Glenda Franich, USFWS, with the first place award for interpretive curriculum at the NAI Media Awards ceremony in Albuquerque, New Mexico.

teacher planning and event logistics guidelines. The program was designed to be adaptable to a variety of regions to suit local needs. The next step is to make the curriculum available on the web. This objective is in keeping with the vision of a dynamic, adaptable program, and will help to reduce publication costs as well as increase accessibility and versatility.

The collective input of many partners over the years helped to shape the current product. Suggestions came from teachers, field staff and even the students themselves. Glenda Franich, a Visual Information Specialist with USFWS was very impressed with the quality of the guide, and the cooperative effort it represents. Franich submitted the completed project to the NAI Media Awards competition in Spring 2006. Glenda says she submitted the curriculum last May because she, “...felt it is an outstanding example of a hands-on learning experience and is the result of incredible efforts by partnering organizations.” She was not surprised to learn in September that it was one of the top three entries. The first place award was announced at the November at the annual NAI convention in Albuquerque, New Mexico where a number of the partners were on hand to share the excitement.

## Fecal Coliform (Continued from page 1)

when the Washington State Department of Ecology completed an assessment of the Wenatchee River watershed. A detailed assessment of all three creeks was performed in 2002 and 2003 as part of a federally mandated water quality improvement project, or Total Maximum Daily Load (TMDL) study.

Since 2004, the Water Quality Technical Subcommittee (WQTS) of the Wenatchee Watershed Planning Unit has been working on a clean-up plan to address fecal coliform contamination in the Wenatchee watershed. The WQTS is a collaborative effort that includes representatives from the Chelan County Conservation District, Washington State Department of Ecology, Chelan County PUD, Chelan-Douglas Health District, City of Cashmere, City of Leavenworth, City of Wenatchee, and other federal, state, tribal and private partners. Landowner awareness, participation and cooperation are critical to the success of the fecal coliform clean-up plan.



The WQTS will be hosting two public workshops to offer area residents the opportunity to review the proposed plan and provide feedback. Information regarding the TMDL will be presented and personnel will be on hand to answer questions about septic system care, drinking water wells and best management practices for streamside landowners. Please plan to attend. Public comments will be used to help direct and prioritize clean-up actions.

Unfortunately, fecal coliform is not the only concern in the Wenatchee River watershed. Temperature, pH, dissolved oxygen and DDT levels are also exceeding state standards in some rivers and streams within the watershed. Clean-up plans addressing these parameters are in progress. More public information sessions will be held as the WQTS continues to finalize draft TMDL plans for public review. For more information regarding TMDLs in the Wenatchee watershed please contact Mike Rickel at (509) 664-0268 or [mike.rickel@wa.nacdnet.net](mailto:mike.rickel@wa.nacdnet.net).

# Entiat Projects

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were installed in 2001 in the mainstem Entiat River between the Fire Station and the Dinkelman Canyon Bridges. At first glance, it appeared as though the newly filled-in pools were a complete loss and no longer provided any habitat benefit for fish; however, follow-up survey and snorkeling data tell another story! Although some of the cross-vane header and footer rocks shifted and overall pool size and depth decreased, the three structures are still intact and providing important pool habitat that fish are using. Data also showed that the effects of the high flows varied among the three structures.

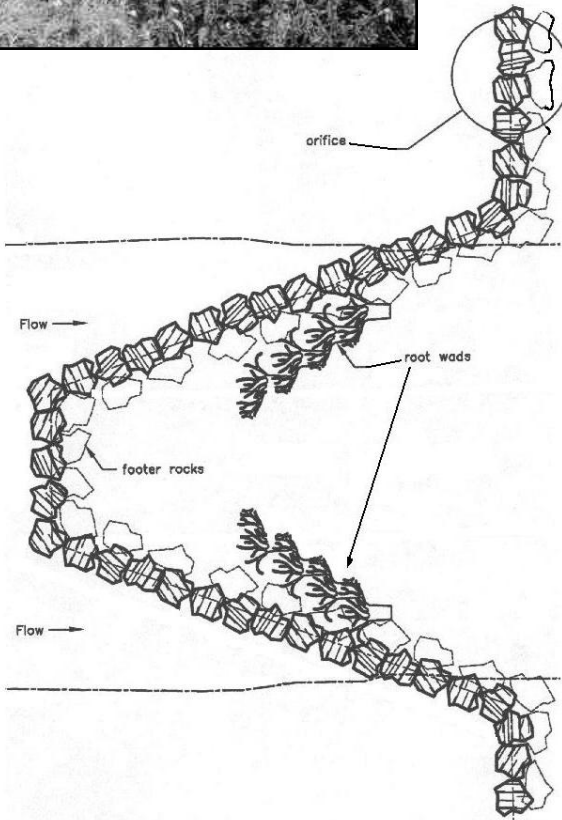
Habitat structures installed as part of Phase I of the Entiat “Bridge-to-Bridge” reach restoration project were in place for less than a month before high flows hit in November. The timely completion of the project avoided major construction difficulties and also gave project engineers and biologists the unique opportunity to immediately evaluate its performance. On the whole, the project fared well. Some of the large woody debris that was installed to provide habitat complexity shifted, indicating an alternate anchoring system should be explored in the future. It also became apparent that a log boom or “debris catcher” may be needed to prevent wood accumulation in some areas. Overall, the effects of the high flows were minimal. Lessons learned by monitoring and evaluating the performance of the demonstration rock cross-vanes influenced the design for the “Bridge-to-Bridge” structure and likely contributed to its resilience. The cross-vane constructed as part of the project was made with larger rocks and the apex of the structure was rounded in the hope that this will help maintain pool size and depth during higher flow events.

High stream flow events are natural, inevitable and each occurrence is unique. As more habitat restoration projects are implemented in the Entiat River watershed, monitoring will remain a critical part of evaluating and improving our efforts. Thanks to all of the project partners and private landowners that make this important work possible!



Above: Photograph of one of the mainstem Entiat River demonstration rock cross-vanes prior to the high flow events of 2006.

Right: Diagram of a typical rock cross-vane depicting the direction of the stream flow, footer rocks, orifice, and root wads. Rock cross-vanes extend upstream from both sides of the streambank. They are installed to concentrate the flow to the middle of the stream, thus narrowing the flow path, removing stress from the streambank, and preventing erosion. Rock cross-vanes also increase flow depth upstream from the structure, which helps provide fish habitat.



# Pesticide Study to Begin in the Wenatchee and Entiat River Watersheds

The Washington State Department of Agriculture (WSDA) and the Washington State Department of Ecology (Ecology) will soon begin conducting a multi-year monitoring study to evaluate pesticide concentrations in surface waters in the Wenatchee and Entiat Rivers. The study is designed to address pesticide presence in Endangered Species Act (ESA)-listed watersheds and within salmon-bearing streams during typical pesticide use periods. Monitoring will be conducted weekly at selected sites- typically from March through October.



The data collected will allow WSDA, the U.S. Environmental Protection Agency (EPA), and the National Marine Fisheries Service to refine exposure assessments for pesticides registered for use in Washington State. Understanding the fate and transport of pesticides allows the agencies to make appropriate decisions to protect endangered species while minimizing the economic impacts to agriculture. In other words, data gathered from this study will allow the agencies to be more specific in how pesticide application restrictions are applied rather than applying a blanket rule to the entire state.

Ecology will conduct the sampling program and laboratory analyses. Samples will be collected from the Entiat and Wenatchee River watersheds where active agriculture exists. During the study approximately 160 currently registered and historical-use pesticides will be screened. These compounds were selected based on the use of the pesticide, toxicity to non-target organisms, transport potential, and cost of analysis. Conventional water quality parameters – total suspended solids, pH, conductivity, temperature, and flow – will also be measured to better understand factors influencing pesticide toxicity, fate and transport, and general water quality.

The assessment criteria used for the 3-year study are based on assessing the effects of a specific chemical on an organism and do not take into account the additive or possibly synergistic effects of mixtures or sub-lethal effects.

The Conservation District will be working with area agricultural producers, WSDA, Ecology and EPA to help ensure that selected sampling sites are appropriate locations for monitoring. Please contact Mike Rickel at (509) 664-0268 or [mike.rickel@wa.nacdnet.net](mailto:mike.rickel@wa.nacdnet.net) for more information.



**2007 Plant Sale Order Form**  
**Submit with payment by February 15 for pick-up in March.**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

PLANT	STOCK SIZE	SOLD AS	QUANTITY	PRICE
				(includes sales tax)

**Conifers:**

Ponderosa pine	P-1	bundles of 25	_____	@ 18.00 = _____
Ponderosa pine	P-1	bags of 200	_____	@ 115.00 = _____
Austrian pine*	2-0	bundles of 10	_____	@ 5.00 = _____

*\*non-native, but recommended for conservation practices due to its slow, dense growth and low water use*

**Upland plants:**

Golden Currant	2-0	bundles of 10	_____	@ 15.00 = _____
Woods Rose	1-0	bundles of 10	_____	@ 10.00 = _____
Kinnickinnick	plug	10 plugs	_____	@ 20.00 = _____
Serviceberry	1-0	bundles of 10	_____	@ 10.00 = _____
<i>Upland Mix</i> (5 each of above)			_____	@ 30.00 = _____

**Riparian plants:**

Quaking Aspen	1-0	bundles of 10	_____	@ 10.00 = _____
Red Osier				
Dogwood	1-0	bundles of 10	_____	@ 10.00 = _____
Vine Maple	2-0	bundles of 10	_____	@ 10.00 = _____
Coyote Willow (cuttings)		bundles of 10	_____	@ 10.00 = _____
<i>Riparian Mix</i> (5 each of above)			_____	@ 22.00 = _____

Total enclosed \$ \_\_\_\_\_

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1-0 = one year old  
2-0 = two years old  
plug = container grown  
P-1 = plug plus one year as a transplant

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Chelan County Conservation District  
301 Yakima Street, Room 307  
Wenatchee, WA 98801



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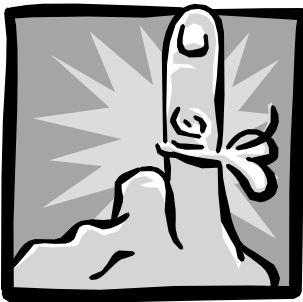


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**Don't forget...**

**Chelan County Conservation District Supervisor Election**

January 24, 2007  
8:30 am to 3:00 pm

Wenatchee Convention Center Lobby  
121 N Wenatchee Ave,  
Wenatchee, WA 98801

*Conducted as part of the  
WSU Cooperative Extension's  
Pear Day events.*

**Please come and vote!**

**CCCD Board of Supervisors**

Larry Cordes, <i>Chair</i>	(509) 665-8024
Frank Andrews, <i>Vice Chair</i>	(509) 782-2206
Jack Davis, <i>Auditor</i>	(509) 860-3381
Josh Koempel, <i>Member</i>	(509) 669-0783
Hal Hawley, <i>Member</i>	(509) 784-1927
Jim Bartelme, <i>Associate</i>	(509) 548-5951

301 Yakima Street, Room 307  
Wenatchee, WA 98801  
Phone: (509) 664-0275 Fax: (509) 664-0255



**CCCD Staff**

Peggy Entzel, <i>District Administrator</i>	(509) 664-0266
Valerie Hampton, <i>Administrative Assistant</i>	(509) 664-0272
Michael Rickel, <i>Resource Specialist 2</i>	(509) 664-0268
Sarah M. Walker, <i>Resource Specialist 2</i>	(509) 664-0271
Kurt Hosman, <i>Resource Specialist</i>	(509) 664-0270
Sarah Rudback, <i>Resource Specialist</i>	(509) 664-0274
Richard Malinowski, <i>Project Coordinator</i>	(509) 664-0213

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