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Cover Photo: Micah Wait
On May 14, 2005 Washington Trout will celebrate our 14th annual Wild Fish Soiree and Benefit Auction, this year at the Chateau Ste. Michelle Winery in Woodinville. We’re looking forward to spending a lovely spring evening with old and new friends, enjoying the beautiful Chateau Ste. Michelle and its charming grounds, sipping good wine, sitting down to an excellent meal, and contributing together to recover wild fish in the Northwest.

The Wild Fish Soiree is Washington Trout’s most significant fundraising event of the year. Proceeds from the auction directly fund important WT field research, habitat-restoration, and advocacy initiatives. The 2004 auction was the most successful fundraising event in WT history. Over 115 WT members and supporters enjoyed incredible food and refreshment at the beautiful South Lake Union dining and entertainment facility of Lowell-Hunt Catering, and bid their way to raising nearly $45,000 for WT programs.

The high point of the evening was the keynote address from Bruce Brown, author of the seminal Mountain in the Clouds. Taking the audience on an extemporaneous, visionary, and heartfelt exploration, Brown discussed how the social, political, and ecological conditions faced by...
I breathe deeply and the sharp smell of morning salt air hits my nose as the low February sun warms my face. My back and forearms register a dull ache, I try to shift the burden to my legs, and my feet dig deeper into the sand and gravel of the beach. I’m part of a team hauling in the free end of a 120 foot-long beach seine. One side of this net is tethered to large piece of driftwood on the beach dune, while this end, the one that barely moves when I lean my weight against it, had been attached to an aluminum mast mounted on the rear of our skiff. We use the boat to pull the fine-meshed net straight off of the beach and to hold the net steady against the tidal current. After a few minutes the boat is brought close to shore, and the seine, now shaped in a quarter circle, must be hauled in so that the curtain of netting forms a semi-circle, closed off by the beach.

My end of the net is now securely on shore and the other members of our field crew join me in drawing the two ends of the net ashore. There are four of us on the beach, two on each end of the net. One person pulls in the float line that keeps the top of the net on the water surface, while one person pulls in the lead line that holds the net to the bottom. As we draw the ends of the net in to shore the semi circle of net shrinks smaller, until all that is left is a small pocket of net, squirming with marine life. On this set we have caught a handful of juvenile pink salmon, four species of sculpin and a shiner perch. We record the number and length of each fish, return them to the water, and prepare to set the net again.

We are on the western shore of Whidbey Island, collecting samples in Washington Trout’s West Whidbey Juvenile Fish-Use Assessment. While Washington Trout has a well earned reputation for experience and expertise in salmonid-related field research in freshwater and estuarine environments, this is our first research project focusing on marine environments. The challenges, opportunities, and important new data have all been exciting.

Whidbey Island is the long narrow land mass that makes up the eastern border of Admiralty Inlet. As tides flood and ebb Puget Sound and the Hood Canal, all that water passes through Admiralty Inlet. The salmon and steelhead that spawn in the rivers draining into the Sound and Canal pass through this bottleneck on their way to and from pelagic feeding grounds in the Pacific Ocean.
The Whidbey shoreline provides more than a migratory conduit for juvenile salmon. As the fish move along the coastline numerous habitats provide opportunities for feeding and refuge. Drowned creek mouths and coastal lagoons are two examples of the types of habitats that migrating salmon smolt may seek out. This winter Washington Trout has initiated the West Whidbey Juvenile Fish Use Assessment to determine the who, where and when of juvenile salmon habitat-use along west Whidbey. Which species are using the sampled habitats? Are there particular habitat types that the sampled species seem to be preferentially seeking? At what times of year are these habitats being used by the various juvenile salmon species? Understanding these phenomena will allow the Salmon Recovery Funding Board to more accurately assess the types of restoration projects that will effectively support the goal of salmon recovery in Puget Sound.

Sampling sites are spread throughout the western shore of Whidbey Island. Data from the project will compliment previous and ongoing studies of juvenile fish-use on the eastern shore of the island. Inset: Lake Hancock, an example of a coastal salt-marsh lagoon, or pocket estuary.

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The role of nearshore habitats in the life history of juvenile salmon has been poorly understood. Fishery scientists knew that salmon had to move through the Puget Sound nearshore on their way to the open ocean, but it was often considered as solely a migratory pipeline with high mortality, a habitat that was a population sink. However it is now known that while wild fish are occupying these habitats they experience the highest growth rates of their lives. These are the places where juvenile salmon go to pack on the grams! And when you pull a net through these waters it easy to see why; an abundance of invertebrate zooplankton from amphipods, copepods, and isopods to multiple shrimp species of various sizes populate these waters even in the cool winter months. Add to this an abundance of terrestrial invertebrates associated with shoreline vegetation and it is easy to see why growth rates in these habitats are so high. A recent King County study of juvenile chinook diet in the nearshore showed that a significant portion of their diet consisted of terrestrial insects. In fact the adult moths of the oft maligned tent caterpillar showed up as a popular item on the juvenile chinook menu in the summer months, so think twice before you prune or spray herbicide on infested branches in gardens and yards close to the Sound.

The most impressive body of work regarding nearshore salmonid habitat use has been conducted by Eric Beamer and the crews of the Skagit River System Cooperative. The SRSC has been studying juvenile salmonid use of the Skagit Estuary and in Skagit Bay for over ten years. Their work was the first to recognize that pocket estuaries in Skagit Bay, coastal salt marsh lagoons without natal populations of salmon, served as important rearing habitat for a distinct life history of juvenile chinook outmigrating from the Skagit River. In order to ensure that the data we collect on the west side of Whidbey Island is compatible with the data collected on the east side of the Island (Skagit Bay), Washington Trout’s crews have received extensive training from the SRSC crew. This includes two days of crew swaps, where Rich Henderson,
Almost every set of the net yields a diverse variety of marine species, including penpoint gunnel.

Back on the beach, we note the dropping tide and look forward to the new variety of species that the afternoon’s sampling will bring. As the tide drops our nets will dip into the subtidal zone, the area that is continuously submerged. One of the challenges for the Washington Trout crews has been learning to identify the myriad of new species we encounter in the marine environment. While our crews are adept at recognizing juvenile fish in the freshwater, the Puget Sound nearshore is teeming with species unknown to us.

Today we are setting our nets off of Keystone Spit, in Fort Casey State Park, at an usually low tide, which means we are sampling in a bed of low growing kelp in the subtidal zone. We encounter three new species; the first is the penpoint gunnel, an eel-like fish that settles into the kelp bed in a translucent larval form and quickly takes on the color of the surrounding kelp upon which it feeds, making it difficult to distinguish from it surroundings, and hiding it from predators such as rockfish and lingcod. The second newly encountered species is the silver spotted sculpin, which was described to me from across the beach as “a piece of kelp with eyes!” The third species was also a sculpin, but we still haven’t been able to determine which species it belongs to.

Back in the comfort of the lab, we will examine the multiple photos we took and pour through the species keys, trying to identify our mystery fish. Each identification helps us understand how the nearshore functions and its potential role in wildfish conservation. 

Kristen Durance, WT Outreach and Development Coordinator
In October 2004, former WT Outreach and Development Coordinator Leah Hausman accepted the position of Development Specialist at the Pacific Science Center in Seattle. In December 2005 WT welcomed Kristen Durance as WT’s new Outreach and Development Coordinator. Originally from Michigan, Kristen moved to Washington in 1998 to attend the University of Washington and pursue degrees in Botany and Political Science. While at UW she participated in various projects researching urban restoration, invasive species, aquatic plants and closed ecological systems. As a student lobbyist in Olympia, she worked with state legislators to help fund higher education. Kristen joins WT after working in eastern Washington as an Americorps volunteer with WDFW, where she worked on various restoration projects and honed her rockbar skills building elk fence.

“It’s very exciting to be at Washington Trout,” says Kristen. “I’m looking forward to working with the research and advocacy staffs, and informing WT members and the interested public about what we are up to, in the field and in the bureaucratic trenches.”

Dan Jerke, Washington Trout Store staff:
Dan joined WT in December, 2004 to help staff the store on Saturdays and the occasional weekday. He grew up in Aberdeen, South Dakota, and graduated from high school last spring. In the fall, he moved out to Duvall, Washington, to be a student in the Wilderness Awareness School’s Residential Program. Dan enjoys birding, animal tracking, wandering, wilderness survival, and sharing his love for nature with others. He’s also an avid bass guitarist, swing dancer, runner, and magician (few know this).

Dan says, “I am learning about my immediate environment, all aspects of non-profit management, website design, and I am helping WT’s efforts. Working here puts me in close proximity with field researchers, environmental educators, and kind people – all positions I aspire to.”

If you stop in on a Saturday, you’re sure to catch Dan behind the counter, enthusiastic for a conversation.

Cary Kindberg, Geographic Information Systems Specialist
In June 2004, Cary Kindberg accepted a position as WT’s new GIS Specialist, replacing Joseph Yacker, who after
Casey Ralston, WT Education Coordinator

Casey Ralston joined Washington Trout in September 2004 to fill the newly created position of Education Coordinator. Casey will organize and conduct the Environmental Discovery Program, WT’s primary environmental education program. Casey develops and maintains the overall program and curriculum, leads classroom presentations and field trips, recruits and conducts outreach to participating schools, manages seasonal field staff, and develops the fundraising base for the program.

Born and raised in California, Casey earned a Bachelors degree in Ecology from University of California at Davis in 1997, was awarded a Graduate Certificate in Education, Environment, and Community from IslandWood/University of Washington Extension. Since 1998, she has worked as a biologist for Oregon State University, Island Marine Institute, and the California Dept of Water Resources, participating in research projects focusing on water quality, invasive species, and the conservation of fish and marine mammals.

More recently, Casey has turned her interests to environmental education and scientific outreach. She currently lives in Seattle, where she attends the University of Washington, completing course work towards her Masters degree in Biology for Teaching. She is excited about expanding WT’s education programs and looks forward to developing new constituencies for Washington Trout’s mission.

“I’m incredibly thrilled” she says. “This is a unique opportunity to combine my training in aquatic ecology, my enthusiasm for a healthy environment, and my passion for teaching children.”

Brent Trim – Field Technician

Brent Trim was hired in March 2005 to help the field crew on the West Whidbey Juvenile Fish-Use Assessment. Brent is a wildlife biologist who brings extensive experience conducting field research in terrestrial and aquatic systems. He has worked with a wide variety of species from Pacific salmon to flying squirrels, wild mice and bats, deer, elk, lynx and Canada geese. Many of the studies he has been involved with were aimed at clarifying the habitat needs of threatened and endangered species in a world where such habitat is rapidly shrinking.

Though Brent was born and raised amid the sagebrush deserts of Eastern Washington, his family originally hails from Duvall and the Snoqualmie Valley – Washington Trout’s home. He currently resides in Port Townsend, Washington. He migrated to the wet side of the state in 1992 to attend the University of Washington, where he obtained Bachelor of Science degrees in both Wildlife Science and Ecology/Conservation Biology. After briefly attending graduate school at the University of Idaho in Moscow, Brent returned to work as a field biologist for various federal and state agencies including the U.S. Geological Survey, National Park Service, Forest Service, and most recently, Oregon Department of Fish and Wildlife. His work has taken him to southern Utah, the northern Oregon coast, and Washington’s Olympic Peninsula. He recently completed a 2650-mile hike of the Pacific Crest Trail from the Mexican border into Canada. Brent is excited about working at Washington Trout, an opportunity he characterizes as one more exciting adventure.

Mark Hersh, Water Quality Specialist

Washington Trout welcomes Mark Hersh who will be working on the Hood Canal hypoxia project. Mark will be gathering and analyzing information on land use, so that present -- and future -- conditions are considered when researchers and planners determine the impact of human activity on Hood Canal’s oxygen cycling.

In 2002 and 2003, Mark worked in Pennsylvania advocating for better protection of headwater streams from the subsidence caused by underground coal mining. He is not, however, new to the Northwest. Mark worked at the US Environmental Protection Agency’s Seattle office from 1998-
plans to continue his education in biology and particularly fisheries science. He is very excited to join the Washington Trout staff this summer working with the fish he loves in places he loves.

Marcela Gomez
Marcela Gomez is a student at Cedar Crest High School in Duvall, interning at WT this spring to complete her senior project, working with Casey Ralston on the Environmental Discovery Program. An exchange student from Bogota, Colombia; Marcela has been living with a host family in Duvall and attending Cedar Crest since early February 2005. Marcela will be researching water quality, pollution, and human impacts on aquatic ecosystems. She is especially interested in connections between water quality and human health issues; in her home community, many people have become sick, and Marcela suspects there is a relation to the contaminated river that flows through their neighborhood. Marcela wants to be an ecologist and plans to attend University when she returns to Colombia this summer. When she is not studying, Marcela likes to hang out with her friends, read, watch foreign films, and eat ice cream.

April Parrish
To complete her senior project at Cedar Crest High, April Parrish is interning during spring 2005 at WT with Kristen Durance. April is originally from Anchorage, AK, where environmental issues played a key role in helping to focus her passion on wildlife conservation. Besides completing her senior year in high school, April studies biology in the Running Start program at Cascadia Community College. While volunteering at the WT office and on various field projects, she will investigate and write a research paper on regional hatchery management and reform. April believes environmental issues are often overlooked by the public and policymakers alike. “I would like to advocate for better education and awareness concerning the environment and wildlife,” she says, adding, “WT is a great place to start learning how I can make a difference.” When April isn’t in school, at work, or at WT, she enjoys hiking and camping in the Cascades.
Volcanic eruptions are not the only disturbances that affect Northwest rivers. Along the region’s coastline the Earth’s crust beneath the Pacific Ocean is being shoved under North America. Rocks scraped off the colliding plates pile up to form the coastal mountains. Once the slab of oceanic crust sinks deep enough it starts to melt and the rising magma feeds the volcanoes of the Cascade Range. About every five hundred years the entire coast from Northern California to Canada lurches toward New York all at once in an earthquake that releases more power than locked in our nuclear arsenal. The associated ground shaking can trigger massive landslides that can dam rivers.

During past superquakes huge amounts of sediment were introduced into rivers and streams when whole mountain sides collapsed. Massive landslides can dam rivers and block salmon as effectively as any man-made dam. Large landslides have dammed even the mighty Columbia River several times in the more distant past. Although it is hard to know for how long they may have been locked out, salmon may have had to repeatedly re-colonize the interior Columbia River basin after landslide dams blocked their access. The resulting effects on fish may not be quite as severe as volcanic incineration, but large earthquakes pose another source of disturbance for river ecosystems in the Pacific Northwest.

More frequent and less dramatic disturbances also affect the salmon. Big storms trigger floods that transform the river environment both during and sometimes even after the event. Where do fish go in floods when the river becomes a raging torrent that can take out a bridge? Even a large fish has no chance against such a current. So they hug the banks, burrow into the streambed, or cruise out into the shallower water spilling onto the floodplain. In case they don’t make it, having several generations at sea at any one time acts as a hedge against the destructive effects of violent floods. Forest fires can also trigger large pulses of sediment into river systems that, in turn, can change the depth of streambed scour and fill, which can crush or entomb salmon embryos buried in the gravel. Low summer flows during droughts can decimate entire classes of juvenile salmon as they become stranded in pools that dry up. The strategy of spending three to five years at sea not only provides salmon with access to more food than available in their home stream, but also buffers salmon populations against the perils of life in the Pacific Northwest’s dynamic rivers and streams because at any one time, multiple generations are at sea.

Strangely enough, disturbance events that can decimate one generation of fish also help create the best habitat over the long run for future generations. Side channels that provide safe refuges for salmon during flooding of the main channel are themselves formed during floods. A large tree trunk falling into a river can cause local scour that excavates salmon embryos developing within the gravel—a negative—but the new pool provides excellent habitat for next year’s juvenile salmon. The dynamic nature of their environment should lead us to expect salmon populations to exhibit substantial year-to-year variability.

This brings up a troubling question. If salmon are resilient enough to withstand extreme events like massive landslides and boiling mudflows, then why are they going extinct across much of their range today? Recent changes in the landscape must be rendering rivers unable to sustain them. The fossil salmon of the Skokomish River are ghost icons, reminders that in just over a century, humans managed to do what repeated onslaughts of ice, in places half a mile high, could not accomplish. Will salmon repeat their ice age comeback after the human age? To recolonize a river buried by ice, degraded by human actions, or depopulated through natural disturbances, salmon must survive in protected refuges from which to spread during more favorable times.

It is sobering to think that salmon could take the worst nature could throw at them for millions of years—from floods to volcanic eruptions—but that little more than a century of exposure to western civilization could drive them to the edge of extinction. Humans and salmon survived together for thousands of years on both coasts of North America. Was their co-existence simply because there were fewer people in the region—or were Native American cultures adapted to sustained salmon fisheries?
Advocacy Updates:

The Wild Salmon Recovery Initiative
by Ramon Vanden Brulle, WT Communications Director

The Wild Salmon Recovery Initiative is an umbrella program, under which almost all of Washington Trout’s conservation-advocacy initiatives are funded and implemented. The overall goal of the WSRI is to influence better salmon management and recovery policies at the state and federal levels, and to monitor and attempt to enforce compliance with provisions of the Endangered Species Act.

The WSRI attempts to ensure that hatchery, harvest, and recovery management will be as transparent, thorough, accurate, and as biologically and legally credible as possible. WT efforts have added teeth and accountability to regulatory processes that otherwise may have been pro forma and ineffective. Bureaucracies move slowly, and these processes will continue to play out over the next several months and years, but efforts under the program have already replaced deliberate delay and inaction with forward progress.

Hatchery Proposals in Puget Sound and the Columbia Basin

Through 2004 and the beginning of 2005, WSRI staff have taken effective advantage of established and created public-input opportunities to improve and help shape regional salmon-recovery management proposals. WT efforts influenced NOAA Fisheries to prepare Environmental Impact Statements before approving harvest and hatchery plans, and influenced WDFW to expand public-input opportunities in its hatchery management.

Back in 2003, WT reached a settlement agreement with WDFW over two federal lawsuits alleging that WDFW hatchery programs in Puget Sound were violating the Endangered Species Act by harming and killing listed salmon through competition, displacement, predation, and harmful genetic interactions. The settlement set a schedule for the submission of outstanding Hatchery and Genetic Management Plans, required for populations listed under the ESA, and expanded the opportunity for public review of all HGMPs.

WT submitted comments to WDFW reflecting concern that the Puget Sound hatchery program is too large to responsibly accommodate the level of uncertainty presented in the HGMPs. The HGMPs displayed a repeated failure to describe clear program goals, justifications, performance standards, monitoring and evaluation protocols, or timetables. In general, WT found the hatchery plans inadequate to warrant ESA authorization, and recommended that WDFW withdraw them for significant revision, and/or consider scaling back or discontinuing many of its Puget Sound hatchery programs. WDFW responded to public comments by committing to developing and identifying measurable hatchery performance standards, and to developing monitoring programs to measure hatchery performance. (See WT Report, spring 2004; “Making Hatcheries Safe for Salmon Recovery.”)

In July 2004, WT submitted comments to NOAA fisheries regarding the scope of a pending Environmental Impact Statement that will review the two Resource Management Plans for Puget Sound region hatchery programs, and the HGMPs reviewed by WT in 2003. We recommended that NOAA evaluate the RMPs and individual hatchery plans to determine how they reconcile with existing and emerging hatchery-reform recommendations, including the recent findings of the Columbia River Power and Conservation Planning Council’s Independent Science Advisory Board and the Hatchery Science Review Group. We suggested that NOAA adopt firm timelines, performance standards, and enforcement mechanisms for hatchery-reform efforts. Our comments promoted several potential alternatives to the proposed RMPs, and other issues that NOAA should consider in the EIS, including: replacing or supplementing hatchery programs with habitat preservation/ restoration; full implementation of the HSRG recommendations; full implementation of WDFW’s Wild Salmonid Policy; a decrease in artificial production in selected programs; and establishing non-hatchery watersheds as references for analyzing impacts of hatchery production. The EIS and a final NOAA determination on the Puget Sound hatchery plans are expected this year.

In July 2004, Washington Trout submitted comments on a Draft Environmental Impact Statement issued by WDFW for a new juvenile steelhead acclimation and rearing facility on the Skagit River. WDFW is proposing to rear and release 334,000 hatchery steelhead at either Grandy Creek or the Baker River, and another 200,000 at existing facilities at Barnaby Slough and the Marblemount Hatchery in the upper river.

WDFW claims that the total target for steelhead releases in the Skagit is already 534,000, but total Skagit River hatchery-steelhead releases over the last eleven years have averaged only 418,000, including years when brood- collection and egg-take targets were significantly exceeded, suggesting that the current program may be unable to meet the smolt target. While the DEIS frankly admits that if the project is delayed or deferred, the program will continue to fall short of production goals, it still asserts that releasing 534,000 hatchery fish into the Skagit River does not need to be evaluated, because it is an “existing condition,” but
the condition only appears to exist in the aspirations of WDFW hatchery managers.

The refusal to evaluate the impacts of the planned releases leaves unexamined clear indications that increased hatchery releases since 1992 may in no small part be responsible for the recent decline in both wild and hatchery steelhead populations in the Skagit basin. WT respectfully recommended that WDFW withdraw the DEIS and reconsider its proposal.

In October 2004, WT submitted reviews of 42 WDFW HGMPs describing hatchery programs in the lower Columbia Basin. Together the HGMPs describe the proposed annual releases of almost 27,000,000 hatchery salmon and steelhead into the lower Columbia Basin, imposing significant impacts on dwindling wild populations of Lower Columbia River chinook, Columbia River chum, Lower Columbia River coho, and Lower Columbia River steelhead, all currently listed as Threatened under the Endangered Species Act.

Unfortunately, the Columbia River HGMPs displayed the same failures as the earlier Puget Sound HGMPs. On March 1, 2005, WT submitted another review of ten additional HGMPs prepared by WDFW for programs in the Columbia Basin. This review expressed our disappointment that despite responses to public comments published by WDFW suggesting the department found merit with and/or concurred with some specific concerns raised in reviews submitted by Washington Trout and other members of the interested public, these subsequent HGMPs provide no indication that WDFW has revised its approach or even specific weaknesses in the HGMPs acknowledged by WDFW.

The HGMP process offers the opportunity to objectively evaluate the performance of current hatchery programs and reform their widely acknowledged weaknesses. Unfortunately, WDFW has so far failed to take adequate or effective advantage of that opportunity. The HGMPs provide little reason to believe that harm to listed populations of salmon and steelhead are being or will be effectively contained, or that hatchery benefits justify those impacts. WDFW’s hatchery practices are causing significant harm to Washington’s wild-fish resources, and WT wants the department to develop hatchery programs that actually will minimize the impacts on listed fish.

WT was encouraged by WDFW’s initial responses to public comments that appeared to demonstrate openness to improving their management practices. But our confidence in that openness was undermined by the subsequent failure of the Columbia River HGMPs to adequately address the same issues, demonstrating a continued inability or unwillingness to answer basic questions regarding WDFW hatchery management. However, the enhanced public review process initiated by WT’s settlement agreement provides the opportunity for federal analysts, public advocates, and individual citizens to evaluate and improve hatchery management practices in Washington. Advocates of hatchery reform can review these operational hatchery plans for consistency with acknowledged reform needs, and with recommendations from independent science panels. WDFW must submit to NOAA its hatchery plans, and the public’s challenges or comments as part of its application for ESA approval, making it less likely that NOAA will approve an unsatisfactory plan. It will help jump-start the hatchery-reform process, and give the public an opportunity to monitor its progress.

**WA and OR Propose Raising Impacts on Threatened Steelhead**

In early 2004, the Washington and Oregon Departments of Fish and Wildlife, acting under the Columbia River Compact, sent a request to NOAA Fisheries to raise the allowable harvest-impact rate for Lower Columbia River steelhead to 6% from the current level of 2%. LCR steelhead have been listed as Threatened under the ESA since 1999, and the 2% impact limit has been in effect since 2000. In January, the Compact submitted a Biological Assessment to NOAA Fisheries, proposing the increase. Washington Trout joined other wild-fish advocates in opposing the proposal.

The Compact needed the increase in allowable impacts to accommodate a Columbia River commercial fishery for hatchery chinook, which had demonstrated high bycatch of listed steelhead. We recommended that NOAA Fisheries reject the January BA. NOAA responded by requesting more information from the Compact, which submitted a revised BA in February. NOAA could not immediately review the revised BA, and the 2004 chinook fishery was conducted under the 2% steelhead impact-rate.

In November 2004, NOAA Fisheries approved the increase in allowable impacts, despite input from WT and other advocates that the BA relied on faulty assumptions, unsupported assertions, and overly optimistic (if not selective) analyses of available data. Considerable controversy attaches to the steelhead-stock data presented...
Working with the Snohomish County Surface Water Management Division and R2 Resource Consultants, Washington Trout is gathering and analyzing physical and biological data to define the conservation and restoration potential in a ten-mile reach of the mainstem Skykomish River and in an additional seven miles of interconnected side channels, sloughs, springbrooks, wetlands, and other floodplain habitats. The broad-ranging project, which includes topographic mapping, hydraulic modeling, and biological surveying, will provide new and needed information about the diverse and complex habitats of the so-called Braided Reach of the Skykomish.

Land-use, water-use, and fisheries managers will be able to use the information to prioritize future fish-conservation and habitat-restoration opportunities.

The Skykomish River drains a large portion of the central Cascades, joining the Snoqualmie River near Monroe to form the Snohomish, ultimately entering Puget Sound at Everett. Historically, the Skykomish has gathered runs of all five pacific salmon, steelhead, sea run cutthroat, and anadromous bull trout, and supported...
resident populations of rainbow and coastal cutthroat trout, bull trout, and Dolly Varden. There is broad consensus in the management and conservation communities that the Skykomish will be play an essential role in efforts to recover Puget Sound chinook, listed as threatened under the Endangered Species Act. The Sky is one of the region’s most important wild-fish rivers, both ecologically and culturally.

The Skykomish spills into its long, low-gradient floodplain valley just upstream of the town of Gold Bar. For millennia, the river meandered, braided, and migrated back and forth across the valley floor to its confluence with the Snoqualmie, over a distance of approximately 20 road miles measured today. In that distance, the river, with meanders and braids, might have contained three times as many miles of channel. But timber, agricultural, and now commercial and residential development has degraded and constrained the river. The wooded floodplain was cleared of trees, for timber and to create pasture. Banks were hardened and leveed. Side channels and sloughs were drained, ditched, straightened, and disconnected from the main channel. Future development threatens to further degrade and simplify the river. The impacts on wild fish have been manifest in declining populations.

Today, about ten miles of significantly braided river remains on the Skykomish. This Braided Reach extends from the town of Sultan upstream to the town of Gold Bar, and includes nearly seven miles of interconnected side channels, some meandering a mile or more across the floodplain before rejoining the main channel. In 2004 Washington Trout field crews began conducting surveys to characterize fish use within the entire study reach.

Previous fish census studies of this kind have traditionally been undertaken on a smaller spatial scale, with survey efforts focused during daytime hours and summer months for reasons of convenience. The Skykomish Braided Reach survey is distinguished by its broad geographic scope, which will enable the development of strategies to restore reach-level channel processes. To obtain as comprehensive a picture of fish use as possible, Washington Trout performed surveys throughout summer, fall and winter 2004 during both day and night.

The value of dynamic, complex floodplain habitats to salmonid productivity is well known and documented. We expect that the side channels and springbrooks in the Skykomish’s Braided Reach are providing high quality habitat for adult and juvenile salmonids. We know that as the network of channels wind their way through shady stands of willow, alder, and cottonwood, flowing around and under logjams, pooling up and spreading out into wetlands, and recharging hyporheic groundwater, they help to regulate water temperatures, filter and store sediments, process nutrients, provide habitat for invertebrates, and create and maintain important rearing and spawning habitat for trout, salmon, and char. However, we have only a

![WT Conservation Ecologist Micah Wait snorkels a side-channel pool to document juvenile fish-use.](image)

![Data Fig. 1: Seasonal variation in fish counts within the Skykomish Braided Reach mainstem (all species, daytime surveys). Mean counts are plotted with standard deviation error bars. A sharp decline in relative fish abundance was observed in both mainstem and side channels late in the year.](image)
limited understanding of what fish actually use the Braided Reach, and how and when this fish use occurs.

Providing data to address these questions will help quantify the relative conservation potential of the Braided Reach for various species, identify habitat-restoration opportunities, and influence future human development in the reach. Understanding how the Braided Reach is functioning could provide an opportunity to develop strategies for effective habitat-restoration initiatives transferable to other reaches of the Skykomish, or even other Northwest river systems. The objectives of Washington Trout’s 2004 fieldwork within the Skykomish Braided Reach were (1) to characterize seasonal and diurnal variation in fish distribution, species composition and relative abundance in both mainstem and side channel habitats; and (2) to document the extent, timing and geographic distribution of salmon spawning activity.

**Fish Distribution, Diversity and Abundance**

Washington Trout crews made over 30,000 individual fish observations within the Braided Reach during snorkel surveys in 2004. Surveyors observed adult chinook salmon, steelhead, rainbow and cutthroat trout, bull trout, sucker, and whitefish, as well as juvenile chinook, coho, and trout.

The Summer snorkel survey revealed three general patterns of fish distribution within the Braided Reach mainstem. First, adult fish were roughly evenly distributed among pools, riffles and glides. Second, juvenile fish, by contrast, exhibited distinct habitat preferences. Juvenile trout for example made the greatest use of riffles, while glides primarily supported coho and chinook juveniles. Third, fish exhibited spatial distribution preferences within habitat units. Within riffles and glides, fish were most heavily concentrated, on average, in edge-associated habitat; large woody debris and riprap armorng in particular supported large populations of juvenile trout and salmon.

Mean fish counts in the mainstem declined sharply between Summer and Fall 2004. The Fall population was comprised of three fewer species of salmonids. Chum salmon replaced chinook as the most prevalent adult anadromous fish. In addition, the ratio of juvenile-to-adult trout and salmon dropped by a factor of 1000 over this period, reflecting a pronounced change in life history-stage usage of the mainstem.

The majority of fish observed during snorkel surveys of the Braided Reach were within off-channel habitats. Approximately 24,000 fishes belonging to ten species were observed in the side channel networks, with juvenile coho salmon far outnumbering all other fishes. Daytime fish counts in the side channels, as in the mainstem, dropped markedly between Summer and Fall. To test the prediction that fish are in fact present within side channel pools late in the year but take cover during daylight hours, WT crews performed paired day–night snorkel surveys in December 2004. These surveys revealed that juvenile trout and salmon presumably seeking refuge during the day emerge during the night to forage.

**Spawning Activity**

During fall and winter 2004, Washington Trout crews recorded evidence of spawning activity by three species of salmon in the Braided Reach, documenting nearly 1000 redds and 500 adult carcasses. Redd and carcass counts for chinook salmon were highest in late September; chum salmon spawning began in early October and peaked in early November; coho carcasses first appeared in early December. Washington Trout has requested the results of Washington Department of Fish and Wildlife’s 2004 aerial survey of the Braided Reach for comparison to the spawning data collected on the ground.

A general pattern evident from the spawning data is that the distribution of redds and carcasses is species-specific. Chinook redds were built primarily in the mainstem, often near the channel bank, while chum redds were largely restricted to shallow, low-flow side channel networks. Washington Trout’s examination of physical characteristics of redd sites also revealed the habitat preferences of spawning salmon in the Braided Reach. The majority of chinook redds were observed in glides, while a large proportion of chum redds were built in pools; for both species, riffle habitats were also frequently selected for spawning. Chinook redds were constructed almost...
which future conditions may be compared. These data represent a critical link in the process of identifying restoration opportunities with a high likelihood of creating and maintaining important fish habitat. A major finding of the study is that fish use varies markedly with time and place, and therefore accurate restoration assessments cannot be made in a single season or location. In Spring 2005 Washington Trout will begin collaboration with project partners to develop a strategy for restoring and protecting habitat as well as protecting infrastructure in the Braided Reach.

The design of the Skykomish River fish survey, based on the collection of high-resolution fish-use data on a large spatial scale, is unprecedented. Washington Trout’s success in implementing this field protocol has led to a proposal to use the Braided Reach study as a model for analyzing fish-use patterns in other large river systems in Western Washington.

Identifying Restoration Opportunities
Washington Trout’s 2004 fieldwork provides a baseline of information about fish-use conditions within the Skykomish Braided Reach against exclusively in large cobble substrate; chum salmon utilized a variety of substrates, including cobble, gravel and sand. During the WT spawning survey period, chum redds and carcasses outnumbered those of chinook by a factor of nearly ten.
The first phase of the Dosewallips Estuary Restoration Project was completed in fall 2004. Over forty WT staff and volunteers pitched in to remove an earthen dike from the tidal salt marsh of the Dosewallips estuary. More than 350 cubic yards of spoils were removed using hand tools and light machinery. By not utilizing heavy machinery to take out the dike, the restoration project had less impact on the sensitive soils of the salt marsh wetlands. This meant that the project took over six weeks to complete, but the fall weather cooperated by remaining mild for the duration of the project. Planning for the second phase of the project was initiated in winter 2004-2005.
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The Dosewallips Estuary Restoration is a cooperative project being managed by Washington Trout. Project partners include the Dosewallips State Park, Port Gamble S’Klallam Tribe, Hood Canal Coordinating Council, Point No Point Treaty Council, Washington Department of Fish and Wildlife, and Jefferson County. The project will restore the natural structures and functions of the lower Dosewallips River. It is hoped that restoring these natural elements of the ecosystem will aid in the recovery of depleted wild-fish populations in the Dosewallips River, including Puget Sound chinook and Hood Canal summer chum salmon, both listed as Threatened under the Endangered Species Act.

**Phase One**
The ultimate restoration objectives of the project include reestablishing connectivity of the lower river to its floodplain and distributary network, improving tidal circulation in the blind channels of the salt marsh, and assisting in the development of native forest in the upper tidal fringes of the estuary. Phase One of the project focused on enhancing tidal circulation and native forest establishment while phase two will work to reconnect the lower mainstem Dosewallips to its historic floodplain.

The dike was removed virtually one handful at a time, using shovels and a mini-excavator to load wheel barrows. The wheel barrows were then walked along the footprint of the dike, across a network of temporary wooden scaffolds and bridges that protected tidal channel banks, wetland soils, and native salt marsh vegetation, to a small dump trailer located in a central staging area. From the staging area, a small tractor hauled the spoils off of the salt marsh. The tractor traveled via a temporary road constructed of cedar bark chips known as hog fuel. Limiting tractor and wheel barrow traffic to the footprint of the dike, the wooden scaffolding network and the hog fuel road minimized compaction and damage to wetland soils in the project area.

All of this extra care required an intensive amount of people power. The project would not have been possible without a heroic and effective effort by Americorps crews from the Washington Conservation Corps and the Northwest Service Academy. The young volunteers put in long hard hours sweating over shovels and wheelbarrows, making the low-impact restoration possible.

The dike was originally constructed for agricultural purposes, to exclude tidal inundation in a 10-acre cell of salt marsh. Subsequently, the dike had been breached in two places, but tidal flooding and channel development in the salt marsh cell was limited by the portions of dike still in place. Blind tidal channels serve as conduits of water, nutrients, and energy between the highly productive salt marsh flats and the Hood Canal nearshore. Tidal salt marshes are some of the most productive ecosystems on the planet, and the profuse annual growth of vegetation provides the detrital base for the nearshore food web juvenile salmon depend on. Removing the dike will increase tidal circulation and flow in the Dosewallips estuary, enhancing its ability to provide a rich rearing habitat for juvenile salmon.

In addition to the dike removal effort, Washington Trout crews spent the fall and winter working to reestablish native forest communities on the upper tidal fringes of the estuary. Invasive Himalayan blackberry had taken over portions of what was once a native Sitka spruce estuarine forest. In some places the blackberry had created exclusive patches greater than an acre in area. Blackberry patches are removed in two-stages. In the first stage the stand is cut down using chainsaws, then the roots and tubers of the blackberries are pulled from the ground to prevent re-sprouting. Once the blackberries are cleared a mix of native coniferous tree species and deciduous understory vegetation is planted. The tree species planted included Sitka spruce and western red cedar.

**Reach Analysis**
Part of the phase one work included creating a reach analysis to further our understanding of the current of historic geomorphic setting in the Lower Dosewallips River. Bob Barnard, an engineer with the Washington Department of Wildlife, authored the reach analysis, while Washington Trout crews surveyed and mapped the estuary to collect the data used to support the reach analysis. Analysis of historic maps, current aerial photos, and topographic models determined that the river delta is both prograding and aggrading. As sediments reach the lower river, they build the estuary up by increasing river bed elevation, and out through the deposition of sediments into the Hood Canal. The reach analysis demonstrated that the lower river was perched and needed to be reconnected to the surrounding floodplain. Rip rap and gravel spoils from river bed dredging had been placed along the river.
banks, constricting the river’s flows, sediments, and energy, resulting in a homogenous linear channel that can not retain the large woody debris needed to create adequate habitat complexity.

Reach-Analysis recommendations included selectively removing rip rap and dredge spoils at the mouths of remnant distributary channels, and engineering log jams to encourage high water to flow overbank into the floodplain of the lower river. Reconnecting remnant distributary channels will increase habitat diversity and complexity in the lower river, providing the varied habitats that benefit both juvenile and adult salmon. The engineered log jams will restore habitat structure that is missing from the ecosystem and will facilitate habitat forming processes such as overbank flow, large woody debris recruitment, and channel meander.

Over the 04-05 winter, Washington Trout and the Port Gamble S’Klallam Tribe applied to the Bureau of Indian Affairs (BIA) for additional funds to implement the recommendations of the Reach Analysis, and have learned that the second phase of the project has been approved for funding by the BIA. Planning and permitting for phase two of the project will occur through the winter of 2006, and restoration actions will occur in the summer of 2006.
Doug Rose is a former member of the Washington Trout Board of Directors, an avid conservation advocate, a broadly experienced, reflective, and responsible outdoorsman, and an exceptionally talented writer. His most recently published book is “The Color of Winter; Steelhead Fly Fishing On The Olympic Peninsula,” available from Frank Amato Publications. Doug is a long time resident of the Olympic Peninsula, and happens now to live within a stone’s throw of our Dosewallips Estuary Restoration Project, in the Hood Canal community of Brinnon, Washington. We are proud to offer our members and supporters the opportunity to explore Doug’s thought-provoking perspective on the varied benefits of the project. – Ed.

The removal of the dikes at the Dosewallips River estuary did more than just improve salmon habitat: It also made life easier for the waterfowl that winter along Hood Canal near the estuary. A few dozen mallards and green-winged teal nest in this area, but most of the wintering ducks are migratory birds. Many spend a few days or weeks, then continue south to the Columbia estuary, Willamette Valley or California. But several thousand remain.

Mallards, widgeon, pintails, green-winged teal, bufflehead, hooded mergansers and Canada geese are the most common species. They feed in the salt marsh, tide flats and sloughs in the Dosewallips estuary and the salt ponds and tidal guts at Wolcott Slough, the U. S. Fish and Wildlife Service property near the Brinnon motel. Black brant also pluck eelgrass and peck gravel on low tides, and scaup and goldeneye seek refuge in nearshore waters during storms.

I live less than a half mile north of the river, at the edge of the salt marsh and between two major sloughs. I am a duck hunter. My yellow Labrador, Lily, and I spend time nearly every day between mid-October and late January in blinds along the canal and near the upper edge of the marsh. In the past, ducks routinely flew near us as they traded between the Dosewallips delta and Wolcott Slough. They flew north around Sylopash Point when a stiff southern wind and incoming tide made them uncomfortable at the Dosey, exposed to 30 miles of
southern fetch. During the strong northeasterlies that usher in bright cold days, they would abandon Wolcott Slough for protected areas south of the river.

From the very beginning of this season, things were dramatically different. Duck numbers overall, especially widgeon, were down early on, but good flights of northern mallards and pintails finally arrived. But they traded between the river and slough much less frequently, even during the big early winter storms. I would see and hear big flocks off the mouth of the river, but when the wind kicked up they would only fly inland a short distance. Fewer ducks used Wolcott Slough, regardless of wind or tide. Even harried by eagles, which would previously send them fleeing, they would hover above the marsh for a moment, then settle back down over the same area. Something had obviously changed in the Dosewallips estuary, and the ducks were now reluctant to leave it.

I had a pretty good idea what was happening, but didn’t take a look until December. It was a windy afternoon, with whitecaps on the canal and a fast moving incoming tide. It wasn’t a particularly large tide—an 11 something, rather than a big 13-footer—but saltwater covered more of the marsh than I had seen since the Winter Solstice storm-tides. Chum swam in feeder guts above the old levee line, and water covered the hiking trail near the viewing platform. I saw ducks in places that I had never seen them before. Teal fed in the upper fingers of sloughs. Mallards bobbed in side channels. Pintails loafed at the saltgrass. The ducks had followed the tide up into the saltmarsh, and that put them in the lee of the south wind. Removing the dikes had provided them with not only a larger but a more protected feeding area. I was thrilled.

Unfortunately, not all duck hunters are as enthusiastic about these types of projects. Nowhere has the conflict between waterfowlers and salmon habitat restoration been more contentious than at Fir Island, the vast delta between the north and south forks of the Skagit River. Although this area was historically washed by tides, dikes have kept much of it above water for decades. The Washington Department of Fish and Wildlife’s Skagit Wildlife Area occupies 13,000 acres on the delta. It is managed for waterfowl and grows grains to attract ducks and sets aside areas for nesting and refugia. It is the most popular and productive public waterfowling area in western Washington.

However, several years ago biologists identified the lack of estuarine habitat as a critical limiting factor for Skagit River Chinook salmon. Like all Puget Sound Chinook, Skagit Chinook are listed as threatened under the Endangered Species Act. The state determined that removing some dikes would be the most effective way to improve intertidal functions in the delta. Since the dikes near the wildlife area headquarters at Wylie Slough are among the most recently constructed and since the legislature has directed that salmon restoration efforts should be undertaken on state lands first when possible, the WDFW decided to remove dikes on the wildlife area. The agency promised duck hunters that it would acquire property nearby to replace inundated fields.

“We are trying to do the best thing for both interests,” WDFW Region 4 wildlife habitat specialist Laura Leschner told me at the time. “The salmon are tied to the water and we feel we can move the waterfowl onto other land.”

Many waterfowlers were outraged nonetheless. Development and the conversion of tidelands to private ownership have made increasingly difficult for waterfowlers to find a place to hunt in Puget Sound. Outside of the Skagit, the only widely-utilized public tidewater duck hunting available is at Nisqually, and it is less than 1,000 acres. Many of the hunters who flock to the Skagit do not own boats, and a large number of them have never hunted anywhere else or in any other way. They believe that removing the dikes will destroy the waterfowling traditions that have evolved on Fir Island over the last century.

Ironically, taking the levees down may recreate duck hunting opportunities similar to that that was historically available in the Skagit. Ben Welton was a widely-respected Puget Sound waterfowl guide and long-time year-round Skagit Delta resident. He acknowledges that hunting will be different if the levees are removed, but says that it won’t necessarily be worse. “You’re going to have to work harder and learn new ways to hunt,” he said. “But my contention is we had a lot of waterfowl here before we had dikes. We had snows and pintail and mallard and widgeon before we created agricultural land.”

Indeed, the ducks and geese on the Dosewallips delta do fine on native intertidal and upland vegetation. During fall and early winter, they prefer seeds from wild grasses and grains. After those are consumed or washed away by rain and tides, some ducks begin feeding on back beach vegetation. Others turn to salmon carcasses. This does little for their taste as humans perceive it, but it is an excellent protein source. Widgeon tend to favor marine vegetation such as eelgrass, but eat salmon and grass in late winter. Eelgrass is the brant’s staple, but they also consume herring eggs attached to the grass, which gives them a nutritional boost for their spring flights north.

Perhaps the strangest aspect of the conflict between waterfowlers and salmon restoration is the attempt to portray the interests of ducks and salmon as somehow divergent. The warm shallows where river and sea water commingle are among the most biologically rich and diverse habitats on the planet, and in the Pacific Northwest...
they are critical to not only salmon and waterfowl but to crab and shellfish, forage fish and sea-run cutthroat trout. The two species of Puget Sound salmon currently listed under the ESA—Chinook and summer chum—have been identified as the most dependent upon estuaries. The loss of tidal wetlands have, similarly, been cited as the principal reason for the decline of waterfowl in Puget Sound. When estuaries and nearshore marine areas are healthy, they support far more ducks and salmon than grain plots or hatcheries can. It is hard to imagine a situation where improving the intertidal environment will not benefit both ducks and salmon.

That appears to be what’s happened on the Dosewallips. Although Washington Trout’s restoration project was designed primarily to improve salmon habitat, it has made waterfowl forage more accessible and has provided a larger and more protected resting and roosting area. Birds can fly, of course, and ducks will move to cultivated foods and alternate shelter when necessary. But my experience suggests that they prefer to stay in one place when they can. It shouldn’t come as a surprise that the place the Dosewallips ducks chose this winter is a larger and better functioning estuary. Finally, the project’s potential to increase chum and pink salmon will eventually provide increased late season forage for waterfowl and nutrients for intertidal vegetation.

As for the duck hunting, I eventually had my best season ever—although I had to adapt, as Ben Welton predicted. Widgeon, which were previously my most common species, dropped off considerably. This was partly the result of lower numbers, but the birds that were here tended to stay in the estuary. On the other hand, I did better than usual on mallards and pintail. Instead of flying north on incoming tides, though, they remained at the Dosey through the high turn. But I eventually noticed that little flocks flew north midway through the ebb, when the upper reaches of the intertidal zone drained. Not only did they fly at different times, they often flew over the marsh rather than along the canal. As a result, most of my birds this year were taken over flooded saltgrass and pickleweed, rather than open water.

That was fine with me, but Lily didn’t like it particularly. She prefers to swim for her ducks.

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Wish List

1. Serviceable, good quality copier with paper feeder.
2. Late model lazer printer.

Project Updates

Cherry Creek Floodplain Restoration

In lower Cherry Creek, a tributary of the Snoqualmie River, an aging agricultural drainage system, including a pump house and over 10,000 meters of ditched channels, is currently compromising salmon habitat and natural processes promoting salmon production. In 1998 the “macerating” pump facility, operated during peak salmon smolt outmigrations, was shown to be a direct cause of mortality to thousands of juvenile salmonids, including ESA-listed chinook. Water quality is reduced in lower Cherry Creek; the ditched and straightened mainstem channel and simplified and disconnected floodplain channels lack habitat complexity and diversity.

In Summer 2004 Washington Trout was awarded a $75,000 grant from the National Fish and Wildlife Foundation and the King County Community Salmon Fund to support the Cherry Creek Floodplain Restoration Project, the culmination of a collaborative planning effort by WT and its partners. The major habitat restoration objectives of the project are (1) to upgrade the pump facility with a more fish-friendly system facilitating
passage to and from critical floodplain habitat; and (2) to restore streamflow into the sinuous relict mainstem Cherry Creek to recover the in-stream and riparian habitat complexity, and channel processes, that were lost when the lower mainstem was ditched and straightened.

In 2004, funds sought by the Snohomish Conservation District and awarded to Drainage District 7 were used to replace the existing pump system with a new Hidrostal (screw impeller) pump and modify the sluicegate system to allow juvenile and adult fish passage over a wider range of flows. In Spring 2005, Washington Trout will begin the permitting process for the mainstem reconnection, with excavation expected to begin in Summer 2006.

The Cherry Creek Floodplain Restoration Project will include substantial community involvement, including the recruitment of local volunteers to assist in implementation monitoring, long-term landowner-maintenance of the new pump facility, and public outreach measures to illustrate the cooperation of agricultural stakeholders in the restoration of Cherry Creek. The public will be invited to learn about the restoration effort and its ecological significance via media releases, interpretive signs and guided tours of the project site.

-- Eliot Drucker; Science and Research Director (Physiology)

Dosewallips Estuary Restoration

See Feature: page 16

Environmental Discovery Program

The Fall 2004 season of the Environmental Discovery Program was our biggest season yet; we served eight fourth and fifth grade classes, approximately 200 students from six schools in Seattle and the Snoqualmie Valley. The EDP, Washington Trout’s primary environmental education program, is a hands-on, classroom and field-based program that teaches students about the importance of native plants, native animals, and healthy ecosystems.

This spring, the EDP continues to expand; ten classes are scheduled for fieldtrips in May and we will also be piloting a new program called Windows to Discovery. This project will use video footage of underwater and/or above-ground sites to provide students with a year-round, unique perspective to animal life and activity at Oxbow Farm. During the pilot program, we will be working with students and teachers to develop curriculum, to refine ideas, and to determine ways that video footage can be used most effectively in the classroom. We look forward to reaching more students at new schools with this wonderful program. EDP program expansion has been made possible through the vision and generous financial support of the Raven Foundation.

WT would like to recognize our amazing staff instructors Barb Bruell and Selina Hunstiger and our generous volunteers; Andrea Faste, Laurel Moulton, Deloa Parrish, Rory Ralston, and Tim Stone. We also want to thank the following teachers for their commitment to environmental education and their participation in the Fall 2004 season: Ruth Balf and Krista Canterbury (Olympic Hills Elementary), Janet Burks (View Ridge Elementary), Lisa Dunker (Greenwood Elementary), Kent Ferris and Francis White (Lafayette Elementary), Judy Harris (Eagle Rock Multiage School), and Jerry Price (Stillwater Elementary).

For more information about the Environmental Discovery Program, visit www.washingtontrout.org/EDP.shtml or contact WT Education Coordinator Casey Ralston at 425-788-1167 or by email at casey@washingtontrout.org.

-- Casey Ralston; Education Coordinator

Engineered Log Jams; Radio-Telemetry Monitoring

WT and its partners have been continuing an ongoing monitoring program to assess the physical and biological performance of the eight Engineered Log Jams installed in the North Fork Stillaguamish River. The project reach has been monitored since 1997. Surveys to evaluate ELJ stability, performance, longevity, and fluvial interactions have been conducted within and downstream of the ELJ project reach from 1997 through 2004.

Prior to 2005, when tagged logs could not be located in surveys, the affect on wood-budget data could not be calculated; it was not possible to know how many tagged logs were simply missed during the field reconnaissance or where the missing logs went. In February of 2005,
Washington Department of Fish and Wildlife purchased for Washington Trout twenty-five Lotek coded radio transmitters and a Lotek data logger receiver to aid in ELJ wood-budget monitoring.

The transmitters and receiver were purchased utilizing WDFW Cooperative funds previously awarded to Washington Trout. The receiver allows for automatic data logging of transmissions, and can be programmed ahead of deployment, requiring less training for field crews and providing greater efficiency on the river. The system enables Washington Trout crews to approximate individual log locations from the road before and after large flow events; additional data can be obtained about river/wood dynamics in large flow events without risking crew safety. Radio transmitters are being installed in tagged logs (natural and ELJ) that have been transported by river processes downstream of the ELJ project reach.

All of the transmitters are scheduled to be installed by the end of March 2005, and 62 additional transmitters will be purchased for future use. The transmitters typically function for four-and-a-half years, potentially longer. Data collected by radio telemetry will help answer questions about missing tagged logs, add to a better understanding of river/wood dynamics, and may prove to be an invaluable tool in future modeling of ELJ function and performance.

-- Mary Lou White; Program Manager

German Creek

The small Cowlitz County stream that joins the lower Columbia River at river mile 56 appears on maps as “Germany Creek,” but you’ll have to ask the locals for German Creek if you’re looking for directions. German Creek supports steelhead, cutthroat trout, and coho, pink, chinook and an important population of chum salmon, federally-protected under the Endangered Species Act. The watershed also provides habitat for a number of wildlife species including elk, black-tail and Columbian white-tail deer (Threatened ESA-listing), bald eagle, osprey, and a variety of waterfowl.

Columbia Land Trust (http://www.columbialandtrust.org) is purchasing a permanent conservation easement on 155 acres of riparian, floodplain and associated upland habitat in the lower one mile of German Creek. The property presents a unique opportunity to enhance chum salmon spawning within this portion of the Lower Columbia River. There are two documented chum spawning sites within the property. Along the western slope there are a series of springs and an old creek channel that has filled with sediment and become overgrown. Preliminary investigations suggest a strong opportunity to rehabilitate this channel for chum spawning and rearing. In the past, possibly around the mid-twentieth century, previous landowners created four ponds when they excavated gravel on the German Creek floodplain; enhancing habitat functions in the man-made ponds and establishing a surface connection to the stream and associated floodplain could provide significant areas of juvenile salmonid rearing habitat.

Columbia Land Trust, a partner in Washington Trout’s Schoolhouse Creek Restoration Project in Skamania County, has contracted Washington Trout to provide technical and design assistance for the fish habitat restoration aspects of this project. Washington Trout will be performing topographic and GPS surveys of the project site during spring 2005 to facilitate the identification, prioritization, and design of restoration activities on the property.
Washington Trout is excited to be an important component of this unique opportunity to protect and restore critical lower Columbia tributary habitats.

-- Jamie Glasgow; Science and Research Director (Ecology)

Habitat Lost and Found – Watertyping Update

By performing on-the-ground surveys of watersheds and the distribution of fish and fish habitat, Washington Trout has demonstrated the inaccuracy of regulatory (watertyping) maps used by Washington’s local and State governments to manage land use and regulate buffer widths around streams. The maps frequently underestimate the upstream extent of fish presence or fish habitat, and stream channels are often mapped inaccurately or not at all. Many streams and the fish they support are facing threats from development and associated practices because they are not receiving protection they legally deserve.

Under Habitat Lost & Found, Washington surveys, maps, and corrects the misclassification of streams throughout Washington to qualify them for existing protection. Washington Trout has upgraded the status of over 5000 stream reaches statewide. In addition to demarcating the upstream extent of fish and fish habitat, Washington Trout collects data and supporting photographs to characterize habitat conditions in each watershed and assist with the identification and prioritization of fish habitat restoration projects.

Recently, we have been presenting the results of our surveys in our internet-based interactive geographic information system (GIS). From our homepage (www.washingtontrout.org), you can view the results of the systematic surveys we have performed on Vashon Island, King County (2001); Port Ludlow and NW Hood Canal in Jefferson County (2002); watersheds in southern King County(2003); and watersheds on Whidbey and Camano Islands in Island County (2003). There you will also find project descriptions, summary statistics, and an opportunity to download our GIS layers for your own use. The interactive maps allow you to tour the watersheds we have surveyed and see data characterizing the streams’ condition and photographs of the fish, wildlife, and habitat encountered. Like us, you may be surprised to see how intact and functional many of Washington’s urban/suburban watersheds are, and just how resilient or native fish populations have proven to be.

We are currently finalizing the internet-based GIS to present the results from the 2004 surveys we performed in the City of Redmond, King County; and on Orcas Island, San Juan County. During spring 2005, surveys will be extended into northern Thurston County and Lopez Island in San Juan County.

Mary Lou White, Washington Trout Habitat Biologist, measures the diameter of a corrugated steel culvert during a watertyping survey in Redmond.

Dale Russell, Washington Trout Field Technician, performs an underwater video survey for fish presence in a City of Redmond stream.

Dale Russell, Washington Trout Field Technician, measures the diameter of a concrete culvert during a watertyping survey on Orcas Island in San Juan County.
The projects have been funded by a variety of sources, ranging from County and City governments, private foundations, Native American tribes, non-profit organizations, and the State’s Salmon Recovery Funding Board.

The fundamental data that we collect about the distribution of fish and fish habitats assist regulatory agencies charged with planning responsible growth while protecting the community’s sensitive natural areas. While the preservation and recovery of our native fishes is furthered by habitat restoration projects, it is equally important to ensure that streams are protected from compromise in the first place. This can best be accomplished if local governments and other regulatory agencies have available the most accurate and current information with which to make their management decisions.

-- JG

Lake Typing

Washington Trout is trying to get lakes classified as, well, lakes! Under the Shoreline Management Act, bodies of water with a surface area greater than 20 acres should be classified as lakes. But too often these natural resources are overlooked and/or misclassified, denied the protection they are entitled to by law; we are trying to change that.

Shorelines of lakes in Washington are designated as “shorelines of the state” based on whether or not the lake has a surface area greater than 20 acres. This designation puts special protections on the body of water. Under an EPA grant, Washington Trout and the Northwest Watershed Institute are developing a methodology for determining lake size using Geographical Information System (GIS) analysis of aerial photos. Following the GIS analysis, GPS and survey equipment will be used to delineate shorelines and adjacent wetlands in order to ground-truth the computer modeling. The next step will be to refine the process – comparing the GIS results to the field results and writing up the findings to provide a tool for local municipalities statewide as they update their shoreline master plans.

Peter Bahls of the Northwest Watershed Institute (NWI) started investigating this issue several years ago while working in Jefferson County. Oftentimes he would get back from the field and calculate the area of a water body using maps and graph paper, and find that the surface water acreage of a lake that was not on the state list qualified as a Shoreline of the State. He then contacted the Department of Ecology, the state agency responsible for enforcing the Shoreline Management Act. Biologists who specialize in shoreline determination from the Department of Ecology joined Peter and confirmed that many of the lakes that were not on the State list met the criteria of a Shoreline of the State. Ecology had been aware of the issue, but did not have the resources to look into and fix the problem for the entire state. Meanwhile development was, and still is, affecting lakes like this one all over Washington.

How did it get this way? Currently Washington lists only 200 bodies of water as being 20 acres or greater in their statewide inventory. The State adopted this inventory in 1973 from a book, *Lakes of Washington*, which unfortunately does not explain how the sizes of the water bodies were calculated.

The Department of Ecology now has biologists that specialize in shoreline determination. Using the state’s legal definition of a lake, these biologists determine the ordinary high water mark (the legal shoreline), which can include adjacent wetlands that are dry most of the year. WT
and NWI field staffs have conducted “ordinary high water mark determination” training with Ecology biologists, and will spend time using this training as they ground-truth a number of lakes in support of the Lake Typing project.

-- Cary Kindberg; Geographic Information Systems Specialist

Seattle Spawning Surveys
Since 1999, Washington Trout has conducted annual spawning surveys on Thornton, Piper’s, Longfellow, Fauntleroy, and Taylor Creeks in the City of Seattle for Seattle Public Utilities. In 1999, WT collected and reported evidence of significant prespawning mortality, or PSM, in coho salmon returning to these urban streams. In 2000 a protocol was developed to examine salmon carcasses in detail to determine the level of PSM, and in 2001, SPU and WT coordinated with the NOAA Fisheries Toxicology Lab to investigate possible causes for the coho PSM. Since fall of 2002, NOAA has worked in Longfellow Creek to isolate and analyze the causes of coho PSM, and began investigating coho PSM in Des Moines Creek in 2004, based on WT findings from 2003 surveys contracted by SPU and City of Des Moines. NOAA investigators have so far not identified a definite cause, but they have narrowed down their search to several toxins carried in stormwater runoff.

A strong relationship has been discovered between copper and limited development of blood vessels in the brains of juvenile coho from egg to fry stage. When added to water under experimental conditions, copper caused immediate and dramatic reduction in juvenile coho activity level. Copper has a number of potential urban sources including copper dust from car and aircraft brake linings and copper sulfate sprayed on rooftops to control moss.

Some salmonid species seem little impacted by the same stormwater events that are lethal to adult coho. Chum salmon appear to be little affected. Cutthroat trout seem to be virtually bulletproof, and as coho disappear, cutthroat may be filling the ecological void. Cutthroat have thrived on both Thornton and Piper’s Creeks. There appears to be some level of PSM with chinook and sockeye salmon, and steelhead may be affected, but evidence is so far inconclusive.

The first salmon that crews saw spawning in the Seattle creeks in 2004 were chinook and sockeye on September 30th in Thornton Creek. The last spawning evidence of the season was a coho carcass found on Thornton Creek and two chum carcasses found on Piper’s Creek on January 4th of 2005.

The 2004 surveys found relatively small numbers of coho in the five urban creeks surveyed. Eleven female coho carcasses were found and examined in Longfellow Creek; nine died without spawning. In Des Moines Creek, NOAA found 38 female carcasses; 20 died unspawned. Both creeks exhibited similar PSM rates in previous years. Despite the comparatively low 2004 carcass count on Longfellow, the survey marked 43 coho redds in the creek. On Thornton Creek, WT found six coho carcasses, and identified 16 coho redds; of two carcasses free from possible predation, both died without spawning. Thornton Creek has averaged 90% PSM in previous years. Nine coho carcasses were found on Piper’s Creek and 14 coho redds; of five un-predated carcasses female PSM was 33% and male PSM was 100%, compared to 18%-100% female PSM in previous years. On Fauntleroy Creek crews found one coho redd and one remnant female carcass, with no means to determine PSM, but PSM has ranged from 25%-100% in previous years. No evidence of returning coho was found on Taylor Creek.

In 2004 five chinook carcasses, six redds, and six live chinook were observed in Thornton Creek, but crews found no evidence that even a single male chinook returned. Thornton is the only Seattle creek WT crews survey that typically has chinook returns. Lake Washington sockeye return to both Thornton and Taylor creeks. Seven sockeye carcasses were found along the lakeshore at Thornton Creek, and three sockeye redds were found in the stream. At Taylor Creek, 31 sockeye carcasses were found, nearly all males. Piper’s and Longfellow had reduced chum salmon returns compared to the previous three years. WT observed 85 chum carcasses and 37 redds in Piper’s Creek and five chum carcasses and five redds in Longfellow Creek.

The spring 2005 surveys continue to indicate an increase in large cutthroat running upstream from Lake Washington into Thornton Creek. The first cutthroat-spawning evidence was collected on December 16 2004, the earliest observation since surveys began in 1999. On March 3 2005 a WT survey identified 105 cutthroat redds, the largest single-day count yet made! Thornton Creek cutthroat appear to be primarily adfluvial (lake run), generally 12” to 28” long. Almost no evidence of PSM has been found in Thornton Creek cutthroat. The surveys appear to be uncovering a larger sea-run cutthroat population than previously estimated in Piper’s Creek, possibly 50 to100 trout from 12” to about 20” long, a surprisingly robust population for a stream with an anadromous reach only a half mile long.

-- Bill McMillan; Board President/Field Biologist

Skykomish River Braided-Reach Survey
See Feature: page 12

West Whidbey Juvenile Fish-Use Assessment
See Feature: page 4.
and analyzed in the BA. Several lines of evidence suggest the proposal could even risk the extirpation of some individual populations within the LCR steelhead ESU.

The request to raise allowable impacts on LCR steelhead is driven by the needs of the fishery, but the proposal fails to appropriately balance the interests of commercial fishing against the recovery needs of listed Lower Columbia River steelhead. For the last several years, WDFW and ODFW have attempted to prosecute a “demonstration” commercial fishery for hatchery spring chinook in the lower Columbia River utilizing so-called “selective” fishery-gear, tangle-nets and recovery boxes. The smaller-mesh tangle-nets and the recovery boxes (aerated tanks of water) are intended to reduce mortality and allow the release of non-target fish, in this case Threatened wild spring chinook and Threatened LCR steelhead. Unfortunately the “tangle-net” fishery has so far not been able to provide a productive fishery for hatchery chinook without exceeding the existing impact limits on either wild chinook or LCR steelhead. Unable to hold the fishery within established guidelines, managers simply requested that the guidelines be relaxed.

Working with a coalition of advocates including the Wild Steelhead Coalition, Oregon Trout, the Native Fish Society, and Trout Unlimited, WT focused efforts on convincing the Oregon and Washington Fish and Wildlife Commissions to conduct the fishery under the 2% impact-limit, NOAA’s decision notwithstanding. The Washington Commission decided to essentially split the baby and approved a 4% allowable impact. But at the eleventh hour, the Oregon Commission, responding in large part to public input, stood up for the fish and rejected the impact increase. The 2005 fishery was conducted under the 2% impact limit for LCR steelhead.

Preliminary data from the fishery indicates that impacts to wild steelhead were held below the 2% limit. However, the fishery was constrained by impacts to other wild stocks, and lower than expected returns of some chinook stocks. Ironically, wild steelhead returns appear to be lower than preseason projections by almost half. Had the fishery been conducted under the relaxed guidelines, impacts on steelhead might have been significantly higher than predicted by Compact managers, which creates serious questions about the two departments’ ability to manage impacts in these types of mixed-stock fisheries.

WT fully supports the development of selective fishery techniques to effectively allow the sustainable harvest of relatively healthy salmon stocks while minimizing impacts to listed and other at-risk populations. However, the data from the tangle-net fisheries dating back to 2002 strongly reinforce the suggestion that tangle-nets used with recovery boxes are not effective non-lethal fishing gear, and may not be appropriate for conducting truly selective fisheries. Increasing risks on listed steelhead in order to accommodate this fishery is simply inappropriate. WT will continue to press NOAA Fisheries and the Columbia River Compact to reject this unsound proposal.

**NOAA Fisheries Proposes Inappropriate Hatchery Policy**

In May 2004, The Bush Administration proposed a new policy regarding the treatment of hatchery and wild salmon and steelhead in federal ESA-listing decisions. The administration intends to count hatchery salmon and steelhead in determining the health of wild populations, something most scientists say likely will impede long-term recovery. The policy faces broad opposition throughout the region from scientists, wild-fish advocates, environmentalists, community leaders, regional policy makers, and members of Congress.

Working with a broad coalition of environmental organizations and wild-fish advocates, Washington Trout has contributed to developing a coordinated response to the proposal. Efforts before the May announcement may have influenced NOAA to retreat from some of the most potentially damaging immediate impacts of the policy, leaving 25 of the 26 currently listed populations of salmon and steelhead at least temporarily protected under the new policy. WT participated in public hearings, media and public outreach, and in drafting comments on the proposed policy, submitted in November 2004.

While temporarily retaining federal protections for wild fish stocks, the policy will still use hatchery fish to determine the health of individual wild stocks, and could still result in the early and inappropriate removal of ESA protections from declining wild salmon populations and their habitats. A wide range of respected fisheries scientists and ecologists maintain that the policy “opens the legal door to the possibility of maintaining a stock solely through hatcheries.” (Emphasis added)

Also reacting loudly to speculation about the legal implications of the policy have been industry and development groups, who favor the removal of ESA protections for both hatchery and wild fish, and the reduced restrictions on logging, agriculture, and other forms of development that would result. It is clear they believe this
policy should open the door to early de-listings, and plan on using the policy to further that agenda.

The foundation of NOAA’s new policy, that hatchery salmon are capable of contributing to the recovery of ESA-listed wild populations, is completely unproven. While hatcheries can produce fish for harvest, not one hatchery program designed specifically to supplement and recover a wild population has any record of proven success, and the preliminary results from these programs are far from encouraging. A review of hatchery supplementation programs in the Columbia River, published last year by the Columbia River Power and Conservation Planning Council’s Independent Science Advisory Panel, was extremely critical of current conservation-hatchery programs in the Columbia Basin, and found few encouraging results.

Washington Trout believes it is irresponsibly premature to even partially base a salmon-recovery strategy on such an unproven and risky approach. At worst, it’s a cynical attempt to circumvent true recovery, for the benefit of particular stakeholders. In fact, far from being a means to recovery, the overwhelming preponderance of scientific evidence strongly suggests that hatchery fish threaten the long-term viability of wild salmon and steelhead populations. Hatchery fish decrease the genetic fitness of wild populations, compete for food and habitat, spread disease, and promote increased predation. Hatchery runs create harvest pressures that declining wild runs cannot support. The offspring of wild-hatchery mating survive and reproduce much less successfully than true wild fish, weakening a population’s ability to sustain itself.

Even if hatchery salmon were not an actual threat to wild fish, the statutory mission of the ESA is to recover naturally reproducing populations by preserving and restoring the natural ecosystems they depend on, not mass-producing artificial facsimiles. The successful recovery of biodiversity and ecosystem-function requires both high quality habitat and high quality animals to interact with that habitat. Even a policy that preserves salmon-habitat protection through continued ESA-listing of wild salmon and steelhead, but allows those fish to be substituted with unfit hatchery fish, will not result in true or sustainable salmon recovery, and could in fact lead the region’s native salmon populations closer to extinction.

WT Participates in West Coast Steelhead-Management Conference:
In March 2004, WT Resource Analyst Nick Gayeski chaired two sessions of the 2004 Pacific Coast Steelhead Management Meeting in Pt Townsend, WA. The ninth biannual workshop, co-sponsored by the Pacific States Marine Fisheries Commission and the US Fish and Wildlife Service, was attended by managers and researchers from management agencies in Alaska, British Columbia, Washington, Oregon, and Idaho, and representatives from advocacy organizations including the Wild Salmon Center, Long Live the Kings, the Wild Steelhead Coalition, and WT.

This was the first time a non-agency organization had chaired workshop sessions. Gayeski’s sessions included presentations from: John McMillan of the Wild Salmon Center on the maturing structure and dynamics of steelhead and resident rainbow populations on the Olympic Peninsula; Nate Mantua, University of Washington, on incorporating variable ocean conditions in steelhead management; and Robert Behnke, Professor Emeritus at Colorado State University, and author of Trout and Salmon of North America, on the evolution of anadromy in O. mykiss. These issues will be central in how ESA-listed and other at-risk steelhead populations will be managed for recovery over the coming decades.

Learning Lessons, Moving Forward
The WSRI continues to be frustrated by the inability of state and federal agencies to meet their administrative responsibilities under the ESA in a timely manner. The submission of WDFW HGMPs came only in response to a WT lawsuit. The May 04 announcement of NOAA’s proposed hatchery policy came several months after NOAA’s own self-imposed deadline. NOAA missed by several months a deadline to submit a Draft EIS on Puget Sound salmon-harvest plans for public review. These continual delays underscore the need for the program to stay flexible, and suggest that the program-need will be ongoing for the foreseeable future.

Washington Trout will continue to meet that need. The agencies charged with managing our public trusts are too often subject to conflicting political, social, and economic pressures. Protecting the public’s interest in scientifically sound, socially equitable, and legally appropriate salmon-recovery management requires the active participation of independent, technically competent environmental advocates. Under the Wild Salmon Recovery Initiative, WT will continue to monitor and review new policy-proposals and the implementation of existing ESA regulations; we will watch-dog relevant agencies, work directly with resource-management officials, participate on recovery forums, and where necessary, litigate to implement and defend provisions of the Endangered Species Act.
Continued from page 3

the wild salmon movement have evolved from the early 1980s to present day. The board and staff at WT want to thank Bruce Brown and all of the donors, contributors, bidders, and volunteers who helped make the 2004 Soiree and Auction such an incredible success. (Please see a list of auction donors on page 32; Washington Trout encourages all its members and supporters to support businesses and organizations that support wild fish.)

The 2004 event set a high bar, but we want to make the 2005 Wild Fish Soiree even more exciting, and the most important contribution you can make is to attend the dinner and auction. The Soiree will begin at 5:00 pm with a silent auction and champagne reception, followed by dinner and keynote address at 6:30, and a live auction from 7:30 to 9:30. Dinner and wine will be prepared and served by the exceptional culinary team at the Chateau. Chateau Ste. Michelle was recently named American Winery of the Year by Wine Enthusiast magazine, and the award winning wines served at this year’s auction will satisfy even the most demanding oenophiles. Once again, our favorite auctioneer Jerry Toner will provide a lively, entertaining pace for the live auction.

We are very excited to welcome this year’s keynote speaker, Dr. David Montgomery, author of King of Fish: the Thousand Year Run of Salmon. Dr. Montgomery is a respected scientist and an increasingly influential conservation voice in the region. He is professor of geomorphology and director of the Quaternary Research Center at the University of Washington, advises public agencies and private organizations on how to protect and restore river ecosystems, and speaks regularly to captivated audiences about the geologic history of the Northwest, ecosystem health, and salmon recovery. Dr. Montgomery’s research focuses on how our landscapes have evolved, how the Northwest’s rivers, valleys, mountains, and shorelines are shaped by natural and human forces over time, and how those changes have impacted salmon and other species. In King of Fish, he traces natural and human impacts on salmon and their habitats over the last thousand years, examines the implications for recovering salmon and restoring the planet’s ecological health generally, and offers provocative recommendations for reinventing how we manage our land, water, and wild fish. Dr. Montgomery is always engaging, and we look forward to a stimulating address (See “Required Reading” page 9).

As always, we will have an exciting array of auction items up for bid in the silent and live auctions, including fishing and outdoor equipment, getaways, nights out, furnishings, and special surprises (see side bar, page 3). The Wilderness Awareness School in Duvall has generously donated a place in their week-long Summer Nature Awareness Intensive. This 7-day, 6-night program immerses the participant in the Awareness School’s core curriculum in essential naturalist skills including field observation, tracking, edible and medicinal uses of plants, wilderness living skills and bird language. The atmosphere is fun and rustic and everyone shares in the cooking and camp experience. The trip is valued at $575 and includes all food and camping for the week.

We will be accepting item donations until very close to the auction, but look for a partial catalog at www.washingtontrout.org. We need your help to make the 2005 Wild Fish Soiree as successful as possible. We’ve set a goal to beat last year’s record of $45,000. If you can donate an item, would like to sponsor the 2005 auction or serve on the Auction Committee please call WT Outreach Coordinator, Kristen Durance at 425-788-1167 or email her at kristen@washingtontrout.org.

If you know someone you would like to share this evening with please contact Kristen and ask her to add them to our invitation mailing list. Bringing a friend or neighbor is a great way to celebrate your support for wild fish. If you have never attended the Wild Fish Soiree then please feel free to contact us with any questions and make this the year you join us! With great food, good company and lively discussion, this year’s event promises to be more than your average night out. Your help will make the 2005 soiree the most successful fundraiser yet!

If you are unable to attend the 2005 Soiree but would like to bid on a featured item please contact Kristen Durance at the Washington Trout office by phone or email. We will take pre-bids starting on May 1st and ending at midnight on May 12th. ➔
While many people were running around town on last minute holiday errands, the staff at Peet’s Coffee in the Redmond Larry’s Market were hard at work collecting donations for Washington Trout. The employees worked the crowd, distributed information about WT and in the end collected close to $400.00 dollars – more than any other local kiosk. After a matching donation from the Peet’s Coffee corporation the total donation amount was over $700.00. Our heartfelt thanks go out to the entire staff at Peet’s Coffee for their selfless contribution to the protection of wild fish in Washington. If you are in the Redmond area make sure to stop by Larry’s Market and grab a cup of coffee to thank them for their hard work.

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Thank You Pete’s Coffee!

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Join the Washington Trout Family and take another step to save Wild Fish

Membership is the backbone of Washington Trout. Your dedication makes it possible for us to continue working to protect and recover salmon, trout, char, and other wild fish in Washington. By becoming a member of WT, you become part of our team, wetterping streams or sampling nearshore habitats without having to don a pair of hip waders, standing at our shoulders to oppose bad management policies without having to drive to Olympia.

As a member of that team, you help us maintain the many habitat-restoration, research, and legal and political initiatives we take on behalf of wild fish. As a part of the largest non-profit organization in Washington dedicated solely to the needs of wild fish, your voice joins the ranks of other citizens in this state telling legislators, stakeholders and the public that wild fish are important to the future of our state. You make all of this work possible.

It is now even easier to support WT through our new Monthly Giving Program. Members who join this program pledge to donate $10 or more dollars a month, providing WT with an even more reliable and secure membership base and making it easier for members to make a larger donation without feeling the financial pinch. To make the whole process simpler and more convenient for you, WT can process your contribution automatically on your credit card – transactions are safe and secure, you can cancel or change your pledge at any time, and even earn reward points on your credit card while saving wild fish and their habitats.

If you have already renewed your membership this year – thank you so much. If you have not had the chance to do so, please take a moment to fill out the enclosed envelope with your membership information and send it our way. We have made it even easier to donate by accepting donations online. Please visit www.washingtontrout.org for more information.

With your support, Washington Trout will continue to ensure wild fish remain a part of Washington’s environmental heritage.
Thank You

A special thank you to the following donors who made the 2004 Wild Fish Soiree and Benefit Auction possible and for their commitment to the resource. Please remember them when making future purchases.

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