BLM Fisheries Program Newsletter

Issue No. 13
April 2007

Alaska ▪ Arizona ▪ California ▪ Colorado ▪ Idaho ▪ Montana ▪ New Mexico ▪ Nevada ▪ Oregon ▪ Utah ▪ Wyoming

In this issue we have articles on BLM Fisheries Program activities in Colorado, Nevada, Oregon, and Wyoming as well as an update of the Program Leads Meeting, training, and personnel changes.

Have something you would like to share in our next issue? Please send me articles and pictures for the July 2007 issue.

■ *Rich Bulavinetz, Humble Newsletter Editor.*

Personnel Updates

Tom Mendenhall joined the WO office on April 2nd, replacing Jarrad Kosa as the new National Fish Program Lead. As you know, in Tom's previously less uncomplicated life, he was the Utah State Fish Program Lead. Welcome, Tom, to Washington!

Geoff Walsh, Fish Lead for ESO is now transferring to WO-230 as the Migratory Bird Coordinator. Jinx Fox, Natural Resource Specialist from the Lower Potomac Field Station, will be filling in for Geoff until Geoff's position is filled.

Cal McCluskey, Wildlife Program Lead and friend to the Fish Program, is retiring, and I'm certain will be increasing his impact on Idaho trout. Good luck, Cal.

Tom's Message to Fish Team - I arrived in the WO two weeks ago, although I've been working as the senior fisheries program leader for over a month. I've spent two weeks working away from the office and one week moving to Virginia so I'm a bit discombobulated right now. I am excited to be in this position and will do my best to portray the program in a very positive framework when given the opportunity. One program I'm really excited about is the National Fish Habitat Action Plan that has two initiatives under it that we are, and will be, very involved with ... the Desert Fish Partnership, the Western Native Trout Initiative, and Fish Passage. The NFHAP carries with it opportunities for real, on-the-ground improvement actions that we all could part-take of, whether it be cold water trout streams, culvert passage, or warm water desert fish environments. On another front, here in the WO, I carry budgetary responsibilities for the fisheries program. I urge you to come to me with questions or concerns as we march on through the fiscal year and beyond. Karl Stein had been leading the budget responsibilities while the position was vacant and will be working with me for a smooth transition. Karl, as most of you know is very knowledgeable about BLM's budgetary process but is very happy to give it to the rightful owner (the program leader) now that I'm on-board.

I feel I have a background with the BLM that'll keep things running smoothly, with experience as a fish biologist at the field office and the district office (Oregon), and the state office level in Utah. With that experience, I can at least understand your frustration when things are taking longer than expected, you don't have the funding you thought you would get, or several other scenarios that come up from time to time. Please call or e-mail when you feel something's gotta be discussed. Also, if any of you have a project (potential or existing) you'd like for me to see, if you have an issue you'd like for me to hear first hand, or anything else that a site visit would warrant, let me know and I'll see if I could come out.

Rich Writes: I recently returned from four months (Nov – March) at the National Marine Fisheries Service (NMFS) Headquarters Office in Silver Spring, Maryland (reduced my commuting time to only 1.25 hrs. on fair weather days). My "home" was the Office of Protected Resources, Endangered Species

Division. I enjoyed my work on a variety of endangered species issues, such as Federal Register Notices, habitat conservation planning, and Pacific salmon issues. My final two months were spent primarily as editor for the NMFS "Biennial Report to Congress on the Recovery Program for Threatened and Endangered Species (2004-2006)". The report contains > 50 "mini chapters" on each of the species of fish, marine mammals, corals and plants managed by the NMFS, and is now is in-print. It's good to be back though, once again coordinating with all of you, and Tom won't let me rest.

WO230 Staff Planning Meeting - Shepherdstown, West Virginia

In December 2006, WO230 staff met for a week-long planning session at the U.S. Fish and Wildlife Service's National Conservation Training Center (NCTC) in Shepherdstown, WV. The primary purpose of this facilitated meeting was to align national program focus with the Director's expectations (all work done by the Washington Office must relate directly to Policy and Strategic Planning, Coordination and Communication, and Budget). Work that does not conform to these categories is not considered inherently national in scope, and will fall upon centers and states. Based on this direction, key work items were defined for the current fiscal year.

This meeting occurred during a time of fisheries program transition. Jarrad Kosa had just transferred to the Fish and Wildlife Service; Rich Bulavinetz was on detail to the National Marine Fisheries Service, and Karl Stein was returning from a detail in the Threatened and Endangered Species program. Karl attended the planning session and developed a draft program of work that currently drives the WO fish staff's Employee Performance Appraisal Plans (EPAPs). This program built upon the foundation of Kosa during his two year tenure in that program. Our newly placed program leader, Tom Mendenhall, will have the flexibility to modify and update the program based on his past experience as a BLM district biologist and state program leader as well as his upcoming experiences within the D.C. beltway.

Supporting the proposed program of work is a draft fisheries strategic document that identifies program priorities. The program "wagon" is hitched to the interagency momentum generated by the National Fish Habitat Initiative (NFHI) and corresponding National Fish Habitat Action Plan (NFHAP). There are five proposed components to the program, three of which are priority areas in the NFHAP: the Western Native Trout Initiative (WNTI), the Desert Fishes Partnership (DFP), and Fish Passage. The BLM has supplemented these components with two additional priorities: Western Salmon and Alaska Subsistence. These five components reflect the primary fisheries resources and programs on BLM administered lands. The strategic document provides linkages between these components and the key work areas defined by the Director and will be used as a tool to increase attention (and funding) to the program. The website for the NFHP is http://www.fishhabitat.org/plan/National_Fish_Habitat_Action_Plan.pdf.

Current work priorities for the Washington Office fisheries staff include the following.

Policy and Strategic Planning:

- Review existing policies;
- Develop new inter-program policy on habitat restoration;
- Review fisheries workforce demographic across the States;
- Develop program performance plans (in coordination with wildlife, TES and plant conservation programs; and the Soil, Water and Air program).
- Review the role of the National Aquatic Monitoring Center and re-assign policy-related roles to the WO230 staff.

Coordination and Communication:

- Understand partner expectations and their program goals and objectives;
- Develop partnerships and other mechanisms to leverage funding;

- Enhance WO expectations for program management to state and field offices through development of clear direction; and,
- Continue support to BLM national priority projects such as the Veg EIS, National Energy Policy Act, and Grazing Regulation promulgation.

Budget:
- Develop and communicate budget requests internally and externally; and,
- Provide national oversight and accountability.

Karl Stein

Opportunities for BLM Fisheries Program Presenters at Annual AFS Meeting 2007

Haven't done a professional presentation in a while? How about a continuing education class specifically in the fisheries field? The recent Program Review pointed to a need to increase professional development and expertise within the Fisheries Program. In the past several years we have done this by, among other things, encouraging participation at professional society meetings. This year we strongly encourage BLM fisheries staff (i.e., 0482 and 0480 series employees) to take advantage of the American Fisheries Society Annual Meeting 2007 that will be held in San Francisco, September 2-6. This premier meeting receives BLM and Department sponsorship, and it will not be held in the West again for at least five more years. For more information regarding the national meeting, visit the AFS web site (www.fisheries.org) and the AFS publication *Fisheries*.

For those of you that are not presenting at the meeting, the Annual Work Plan provides some Washington Office direction that may be helpful to you in justifying travel to your field manager/supervisor or significant other. Help will be needed at the BLM Fisheries Program booth at the Trade Show. If you plan to attend and are presenting or providing a poster, and are willing to help man the booth (especially during the Monday Night Trade Show), please contact Rich Bulavinetz. Good luck, and hopefully we'll see you in September in California!

Joe Moreau Writes:

State Program Leads Meeting Well Attended

Fish Biologists representing each of the State Offices and the Washington Office schooled up in Portland Oregon for the Program leads meeting the week of April 2nd. Agenda topics ranged from budget to Healthy Lands Initiative, litigation to ESA Section 7 consultation (some might say these two are the same topic!), planning and partnerships. The format included break-out sessions with teams responsible for presenting problem-solving ideas.

The event was held at a Hilton Hotel in downtown Portland, a city known for salmon trolling in the Willamette River (which bisects the city), a variety of micro-brew beers, and the motto, “Keep Portland Weird.” True to form for western Oregon in early April, outdoor conditions ranged from cold, rainy and windy to shirt-sleeve weather on the get-away day. Fish-folk photos from the meeting are posted at ftp://ftp.blm.gov/blmincoming/OR/ (images IMG1488.JPG to IMG1500.JPG).

While the agenda topics applied to all resource areas (fish, wildlife, plants, SSS), the fish bios did their own break-out on Tuesday night. Tom Mendenhall made the executive decision that all the fish leads should get together, so folks could start getting to know Tom and “informally” discuss their programs a bit with him. So, they strolled north a few blocks to the Greek Cusina, where happy hour specials including the calamari were sampled. It seemed an appropriate venue for fish biologists as the restaurant is adorned with a giant inflatable purple octopus above its marquee.

It was a great opportunity to share success stories, do a little problem-solving, meet new folks, renew old friendships, congratulate Jill Silvey on her new job in Vale, Oregon, and say goodbye to the retiring Cal McCluskey. We’ll see you again in two years at the next Program Leads meeting.

The Fish Folks. (back row, left to right) – Heidi Blasius (AZ), Greg Gustina (NM), Paul Rousch (CA), Jo Christensen (MT), Gayle Sitter (MT), and Dennis Tol (AK). (front row) – Tom Mendenhall (WO), Jay Thompson (CO), Karl Stein (WO), Joe Moreau (OR), Elroy Masters (NV)

Training Available

The Northwest Environmental Training Center presents:

Backpack Electrofishing and Fish Handling Techniques - Effective Methods for Maximizing Fish Capture and Survival

Course ID: BIO-407
May 22 - 24, 2007, 8:30 A.M. to 5 P.M. (3 Days)
NWETC Headquarters - Seattle
650 South Orcas Street, Suite 220
Seattle, Washington

Course Website:http://www.nwetc.org/bio-407_05-07_seattle.htm
Other upcoming courses: http://www.nwetc.org/training.htm

BLM Manual Update

The BLM Manual 6720, *Aquatic Resource Management,* is getting close to its final stages of review. An additional round of commenting was provided, and these new recommendations are being incorporated into the manual. We'll keep you posted.

State Lines

Colorado

BLM and Forest Service Biologists Recognized for their Work on Rio Grande Cutthroat Trout

Melissa Garcia, wildlife and fisheries biologist for BLM's San Luis Valley Public Land Center in Monte Vista, Colorado, received a Cooperative Award for BLM and U.S. Forest Service Biologists from the BLM Director at the North American Wildlife Conference in Portland on March 21, 2007. Melissa received the award along with Barry Wiley, fisheries biologist for the Rio Grande National Forest, for their cooperative efforts to protect Rio Grande cutthroat trout in south central Colorado.

Below is a portion of the nomination letter that led to their joint award:

In 1998, a petition for listing under the Endangered Species Act was submitted to the U.S. Fish and Wildlife Service (USFWS) for Rio Grande cutthroat trout (RGCT). Barry Wiley (USFS) and Melissa Garcia (BLM) of the San Luis Valley Public Land Center (SLVPLC) took the lead for their respective agencies to respond to the petition. Barry and Melissa have worked seamlessly to participate on recovery team efforts as funding for both agencies is limited and they are the only fisheries personnel on the Unit.

Melissa and Barry

Barry and Melissa were key players in the RGCT species assessment, Conservation Agreement, and in reviewing the Conservation Plan for the Rio Grande Cutthroat trout in Colorado. Barry and Melissa's close relationship with the Colorado Division of Wildlife, combined with their cooperative management and strong documentation showing the improving current status of RGCT, resulted in the USFWS finding of a "not warranted for listing" conclusion in 2002. Barry and Melissa served as the USFS and BLM represetatives on a cooperative team that published the "Conservation Agreement for the Range-Wide Preservation and Management of the Rio Grande Cutthroat Trout" in June 2003. With the Conservation Agreement providing guidelines and proposed conservation actions, Barry, Melissa and the other cooperators have established an aggressive program of population restoration in the Rio Grande valley that will ensure the well being and continued growth of Rio Grande cutthroat populations.

Congratulations to Melissa and Barry for their commitment to protecting the Rio Grande cutthroat trout and for their ability to blur agency lines in the best interests of the resource.

New Fisheries Biologist for Colorado - Tom Fresques' "Autobio"

Hi! I was born in Denver, Colorado back in the 1960's and raised in Grand Junction, Colorado. I attended Mesa State College in Grand Junction before transferring to Colorado State University where I completed a Bachelor's degree in Fisheries in 1992. This was at the urging of my first Fisheries boss, Pat Martinez with the Colorado Division of Wildlife – a great guy and a big influence. I took a Fisheries Technician position with the Arizona Game and Fish Department in 1993, and moved to a Fisheries Biologist position in 1996 before changing to a Habitat Biologist in 1998. I came back to Colorado when I accepted a position with BLM as a Wildlife Biologist in 2000. My new job (as of October 2006) is the Colorado BLM's West Slope Fish Biologist where I am based in Glenwood Springs, but will be providing fisheries assistance and expertise to seven BLM Field Offices in western Colorado. My initial emphasis will be on native inland fish (cutthroat trout and non-game species) and on building partnerships with other federal and state natural resource agencies. I am very excited about the opportunities and challenges ahead (good buzz words), but truth is, I am more excited to get out from behind my desk and get out and work with the resource! We have a tremendous fisheries resource in western Colorado and I am proud and excited for the opportunity to get to work to improve habitat on BLM streams. Let me know if you're in my neck of the woods and we will get together for a beer or to fish, or just visit – but I won't give out my best hunting spots!

11 Questions with Tom Fresques (anonymous interviewer)

Tom Fresques, fisheries biologist for the BLM in Glenwood Springs, Colorado, recently agreed to a brief interview for BLM's Fish Program Newsletter. Mr. Fresques chose this opportunity to enlighten readers on his goals, objectives, and philosophies regarding his new position and to let people know who he is and what he stands for.

Q*:* Given your switch from wildlife to fisheries, had you been involved in fisheries in the past?
A: I've had a dark, mysterious past in the fisheries business – it still hurts to talk about...
Not really, my boss asked who wants to be a fish biologist and I thought I would give it a shot.
* Note: Later digging revealed that Mr. Fresques was a Fish Biologist for the Arizona Game and Fish Department, and worked as a fishery "seasonal" for the U. S. Forest Service, Colorado Division of Wildlife, and the U. S. Fish and Wildlife Service across Colorado.

Q: If you could be any fish which would it be and why?
A: I'd be a fathead minnow, because I am occasionally thick headed…I said occasionally right?
Or, I would be a salmon because it's cool to think that you would put so much effort into spawning that you would actually die once you finished – that is commitment!

Q: What attracted you to fisheries?
A: The slime, smell, long hours, biting insects, but most of all…the glory, I do it for the glory.

Q: What are your hobbies?
A: Fishing (go figure), hunting, camping, rodeo (watching only), modeling the latest in fly-fishing garb (not really), moonlit walks on the beach…

Q: Bait, Lures, or Flies?
A: As a youngster, I used worms and salmon eggs (Pautzke's Balls O' Fire – Green Label!). As I matured (got older), I switched to lures, Panther Martin was a mainstay. I now am all about the fly. Am I good? No, but I love fly fishing and am far from being a fly-fishing snob. You will often find me in a

pair of shorts and some cheap Teva look-a-like sandals and a tee shirt vs. all decked out in the latest Orvis gear. I prefer the standby elk hair caddis, the beadhead prince nymph, stimulators, and the copper john. Wooly Buggers are also a favorite, as are PMD's, Kauffmans's stones, and assorted terrestrials. I guess the short answer is YES!
*Note: If my buddies are catching them on Rapala's I will switch in a heartbeat!

Q: <u>What are your biggest "dislikes" in life?</u>
A: I dislike rude people.

Q: <u>As the new West Slope Fisheries Biologist what do you have planned as your first actions?</u>
A: Priorities range from planning as many coordination meetings as possible, to buying tons of the most state-of-the-art equipment for sampling. Have backpack shocker will travel! I have already met with the Field Office wildlife biologists and am developing a work plan for the next few years to help with their backlog of fisheries inventory and project work.

Q: <u>What is your favorite pet?</u>
A: Hmmm…love dogs but my place is too small and I am really not ready for that level of commitment, my cat is cool but a little spoiled, plus it's a cat. I'd have to say my favorite would be…something small and leaf-eating.

Q: <u>What is something others don't know about you?</u>
A: I am famous.

Q: <u>What is your favorite fish recipe?</u>
A: Fresh salmon with a brown sugar, butter, and liquid smoke demi glaze.

Q: <u>What advice would you give to first time visitors to Colorado?</u>
A: Keep in mind that alcohol has a greater affect at Colorado's higher altitudes so if you usually do six shots of Crown Royal, you should probably stop after four.
*Note: This may also apply to other high altitude areas such as the Wind River Mountains in WY.

Note that Tom does not discriminate regarding the size of fish he eats.

NEVADA

Blue Link Spring & Hiko White River Springfish

John Axtell, WHB Spec., Wildlife Biol. Carson City Field Office

There are five recognized subspecies of White River springfish (*Crenichthys bailyi*). Hiko White River springfish (*C.b. grandis)* are the largest and most colorful of the five subspecies and are endemic to Hiko and Crystal Springs in the Pahranagat Valley, Lincoln County, Nevada. The Hiko White River Springfish is a federally listed endangered species.

In 1965, largemouth bass (*Micropterus salmoides*), were unintentionally introduced to Hiko Spring and by 1967, *C.b .grandis* had been extirpated from Hiko Spring (Baugh et al.). Subsequently, the bass were removed and *C.b. grandis* were reintroduced back into Hiko Spring (Baugh et al.). However, tropical non-native aquarium fishes, principally convict cichlid (*Cichlasoma nigrofasciatum*) and sailfin molly (*Poecilia mex*icana) have become established in both Hiko and Cristal Springs and are competing with, and eating Hiko White River springfish (Baugh et al.).

As a result of mineral exploration in Mineral County, Nevada, a warm artisan well was inadvertently created from a core sample drill hole. The Nevada Department of Wildlife and the BLM created an impoundment approximately 0.1 acre in size which is now known as Blue Link Spring. In 1985, 274 Hiko White River springfish were introduced to Blue Link Spring which now serves as a refugium for the only population not exposed to and competing with exotic fishes (Sollberger 2004).

The population estimates for Blue Link Spring have fluctuated widely from a high of almost 12,000 in 1987, to 30 in 1990 when the pool cooled due to a plumbing failure which substantially cooled the water. Other than the cooling incident the population lows have ranged from lows between 1,800 and 2,200 (Sollberger, 2004).

In 2002, cattails established near one of the inflow pipes and by 2004, 30% of the pool was covered by cattails (Sollberger 2004). This is a concern since the spring fish feed on algae and small organisms associated with the algae. Cattails form dense stands blocking sunlight which algae depends on for growth. Because of the small size of the pool cattails were quickly usurping the limited habitat.

In 2004, the BLM, in cooperation with the U.S. Fish and Wildlife Service and the Nevada Department of Wildlife removed the cattails. The cattails were first cut as far below the surface as possible. Within several weeks, most of the cattails had sent new shoots above the surface, which were re-cut. Many of the cattails and associated tuberous roots were eventually pulled up while some died from re-cutting several times. In shallow water, a kayak facilitated the task by serving as a good platform for storing the pulled cattails and tubers. In deeper water, it served as an excellent platform for the puller to gain leverage on the large, rooted plants.

Blue Link Spring Pool, prior to cattail removal, August, 2004. (J. Axtell, photographer)

… and after cattail removal.

The pool is not fenced; in the past wild horses and domestic cattle have helped to limit the vegetation in the shallow portions of the pool. Up to 80 feral horses had been observed within several miles of the pool.

This pool is not natural nor is the springfish indigenous to it, so the management objectives are different than if it were a natural system. In this particular case, some grazing appears to be beneficial by limiting emergent vegetation which would otherwise limit habitat.

Baugh, T.M., J.E. Deacon and D. Withers, 1985. Conservation efforts with the Hiko White River Springfish, *Crenichthys baileyi grandis*, Journal of Aquariculture & Aquatic Sciences Vol. IV, No. 3, 5pp.

Sollberger, P., 2004. Field Trip Report: Blue Link Spring 6p

John with a nice one on his stringer.

Ophir Creek Acquisition and Management

Rita Suminski, Supervisory Wildlife Biologist, Carson City Field Office

Nevada is often mistakenly viewed as having a dire shortage of fishable creeks and streams – and water in general. The Silver State actually has the most springs of any state in the nation and sports a considerable number of natural water sources (other than Lake Mead) with sport and non-game endemic fishes. But adding one more fishable stream will be that much better and that's what the Carson City Field Office did recently.

Several BLM offices in Nevada have a unique land acquisition opportunity in that there are many scattered public land parcels within the Las Vegas city limits. Through the Southern Nevada Public Lands Management Act, these unmanageable parcels are sold – sometimes at exorbitant prices. The unique part of this sale is that proceeds are used to purchase sensitive parcels of land elsewhere in the State. Although this is a lengthy process of private entity nomination and BLM review, several resource rich parcels of land have come into BLM ownership – including the Winters Ranch property.

Prior to coming under BLM ownership, the Winters Ranch property had been under private ownership for 150 years. It consists of 900+ acres of wet and ephemeral meadow lands in the center of Washoe Valley. Management of the Winters Ranch parcel will be primarily for wildlife habitat. It lies adjacent to Scripts Wildlife Management Area, a large lake/marsh /meadow area administered by Nevada Department of Wildlife.

Included in the Winters property is Ophir Creek, a desert stream containing rainbow and brook trout. An historic railroad bed and intensive livestock grazing affected this stream through its historic privately-owned life. A 1980's earthquake profoundly affected this stream and the entire valley. Ophir is in geologic terms, a young stream whose early seral overstory vegetation of willow is now re-establishing. Quality macroinvertebrates were found in recent samples and fingerling trout were seen. Water flow is stable due to the rising water table in the surrounding meadow. Future stream management will be aimed at improving overwinter habitat and pool/riffle ratios in some areas.

Ophir Creek also supports a small cottonwood bosque and large bulrush marsh at its terminus which in turn, houses nesting red-tailed hawks and Neo-tropical migratory birds associated with marsh habitat. Part of Ophir's future management will include ensuring reproduction of the cottonwood and maintenance of the marsh.

An interdisciplinary (ID) team of resource specialists, led by the District hydrologist has begun detailed planning for and monitoring of this meadow complex. Part of the management for the land will be the monitoring of ecological change on this stream (willow re-establishment, cottonwood bosque enlargement and bio-assessment of the stream itself). A host of partners have already expressed interest or have committed labor and expertise. Watching the rapid ecological changes associated with the Ranch have drawn BLM ID team members into a personal commitment to the area that goes above the requirements of the job. With natural recovery and some enhancement, Ophir Creek will become a stream/trout fishery jewel in the eastern Sierra Nevada area.

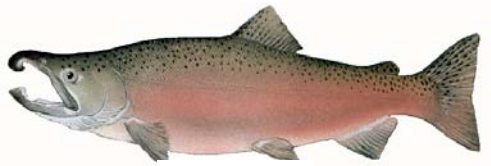
The "topping on the cake" will occur within a couple of years when the Carson City office will acquire another ½ mile of Ophir Creek and another 500+ acres of riparian habitat. At that time, the entire creek will be in USDA Forest Service, State Park or BLM ownership.

Ophir Creek.

Photograph by Dan Jacquet, Carson City Field Office, Carson City, NV

Student assistant with Rita sampling alongside Ophir Creek.

OREGON



Coho

A Record Setting Year for Roseburg!!

The summer of 2006 was a record-setting restoration year for the Fisheries and Hydrology programs of the Roseburg District BLM, in Southwest Oregon. During the brief summer in-stream work period, Roseburg staff completed 11 projects, covering over 9 miles of stream, utilizing 5 different contractors, with the end result being a total of 696 large logs placed into those stream channels! These projects were implemented using a combination of large excavators and cable yarding machinery. Restoration maniacs Cory Sipher, Chip Clough, Jeffrey McEnroe, Dan Dammann, and Jim Harvey should all be commended for their efforts!

Photo 1 – Roseburg BLM Fisheries Biologist directing placement of in-stream large woody material

This restoration work will result in substantial improvements to the aquatic habitat in each of the respective stream systems. Furthermore, these projects will directly support the recovery of anadromous fish populations throughout the Umpqua Basin. Specific populations that will benefit include coho salmon, Fall Chinook salmon, Winter and Summer steelhead trout, coastal cutthroat trout, and Pacific lamprey.

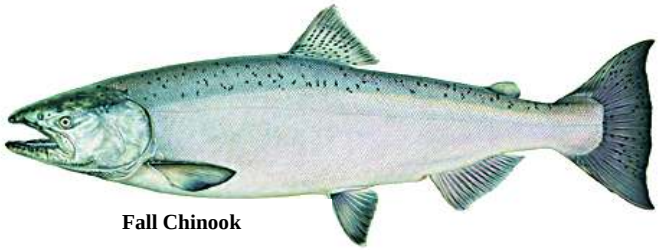
A little background: Prior to the 1990's, the importance of large wood in rivers and streams throughout the United States was not well understood. On larger streams in the Pacific Northwest, large wood, boulders, and logjams were often removed to facilitate transport of merchantable logs downstream to the mills. Up until the mid 1950's, these "log drives" were carried out using a practice known as splash damming, where the stream or river was actually dammed and cut logs were floated in the resulting pool above the dam (see Photos 2 & 3 below). When enough logs were stored in the pool, the dam was either opened suddenly or destroyed using explosives – resulting in a fast-moving torrent of water and logs heading down to the mill sites. The removal of stream obstructions, combined with repeated torrents of water and logs, served as a 1-2 punch on these streams – resulting in channels that were over-widened, devoid of important spawning gravels, lacking riparian vegetation, and U-shaped in appearance – similar to glaciated valleys.

Photos 2 & 3 – Example of splash dam and resulting dam pool used for log storage and log drives.

Following the splash damming era and continuing through the 1980's, it was still routine practice to physically remove large wood from smaller stream channels (see Photo 4). Popular wisdom at the time believed that removal of large wood and boulders would reduce flooding, and improve fish passage. However, following removal of this large structural component of aquatic habitat, channels were destabilized, gravels washed out during winter flows, streams widened, and juvenile salmon and steelhead survival through the critical winter months declined dramatically.

Photo 4 – Stream being "cleaned" in the Roseburg District, circa 1972.

The Restoration Phase: From the late 1980's forward, land managers have learned a tremendous amount about the importance of large wood in streams, and as a result, restoration actions on public and private lands have been increasing on an annual basis. As an example, in 1995-1996, nearly $23 million was spent on aquatic restoration actions in Oregon, while in 2004-2005, over $96 million was spent (OWEB 2005-2007 Biennial Report).



Fall Chinook

The recent restoration efforts completed on the Roseburg District focused on restoring large wood and logjams back into stream channels. In both large and small streams, all structures were stabilized through the use of very large, long logs and/or placement of these logs into natural "pinch-points" between existing riparian trees. In the larger systems (~ >10,000 acres) where the risk of wood loss was significant due to very high stream energy, project efforts focused on construction of woody debris jams along the margins of the channel. These structures trap smaller organic materials along the stream edge, reduce water velocities, encourage gravel deposition, and result in narrower and deeper channels that are less susceptible to stream temperature increases.

In the smaller stream systems, project efforts emphasized the re-creation of large, channel-spanning log jams (see photo 5 below). Similar to the margin debris jams, these structures trap smaller organics, reduce water velocities, and encourage gravel deposition. Full spanning log jams can have a dramatic effect on the channel. These structures can often turn a steeper, bedrock-dominated stream into a channel that is gravel-dominated, and has a much lower average gradient due to the "stepped" channel profile. Ultimately, all of these structure types will result in a narrowing of the active channel, retention of nutrients, deposition of gravels, and the creation of critical low-velocity winter habitat.

Photo 5 – Nineteen logs, from 40 to 70 feet in length, were used to create this jam. Note the water backing up on the upstream (left) side of the photo during this average winter flow – creating excellent winter rearing habitat.

Coastal Cutthroat Trout

In addition to project accomplishments on BLM-managed lands, these projects often served as the catalyst for larger restoration partnership efforts on adjacent private lands. Four of the projects mentioned above were expanded to include efforts on private lands, thereby increasing the extent of the positive channel changes taking place in those streams. Working cooperatively with our local watershed council (The Partnership for the Umpqua Rivers) and several neighboring industrial timberland owners has paid dividends in terms of overall community perception and the net benefits to important fish stocks in the region. In summary - as a result of BLM efforts, and those of our partners, great strides are being made with regard to aquatic habitat in the Umpqua River Basin!

Scott Lightcap
District Fisheries Biologist
Roseburg BLM, Oregon
(541) 464-3325

Scott last fall on a river in Southwestern Oregon, with what appear to be either two tunas, or two chrome, bright, fall chinook salmon in the 20-pound range, caught within site of the Pacific Ocean.

WYOMING

New Biologist for Wyoming

Patrick S. Lionberger
Fisheries Biologist, USDI, Bureau of Land Management, Rawlins Field Office

Born and raised in Grand Junction, Colorado, Patrick spent a fair amount of time fishing throughout the west. As a result, he has gained a passion for fisheries and managing the resources that he has enjoyed throughout his life. Patrick received a B.S. in Biology from Mesa State College while playing football. After graduation, Patrick worked for the Colorado Division of Wildlife for several years on a variety of fishery issues throughout the state including native fish restoration, T&E species, large reservoir research, and development of otolith microchemical methodologies for the state. In January of 2004 he joined the Wyoming Cooperative Fish and Wildlife Research Unit where he completed his M.S. in Zoology and Physiology with an emphasis in fisheries from The University of Wyoming. Patrick is very active in the American Fisheries Society and served as the University of Wyoming Sub-Unit president.

As a fisheries biologist for the Bureau of Land Management Patrick is currently working on several NEPA documents and ongoing BLM Wyoming sensitive fish restoration projects in cooperation with Wyoming Game and Fish Department, University of Wyoming, and local landowners. These efforts include: chemical restoration, genetic research, removal of man-made fish barriers, and reintroduction of native fishes. He is excited about the progress that has been made and looks forward to continuing these efforts to ensure that there is a place for native fish species on BLM-administered public lands.

Patrick with a large sauger he sampled from the Little Wind River, Wyoming.

Native Son Gone Bad

The burbot (*Lota lota*), or ling, is native to the Bighorn and Wind River watersheds in north-central Wyoming. It is a locally popular sport fish and is important to the Native American culture on the Wind River Reservation in central Wyoming.

However, illegal transplants to the Green River basin in western Wyoming are having some serious effects. Adult burbot are voracious piscivores. Good sized burbot are showing in the Green River and in Flaming Gorge Reservoir. Both are important trout fisheries and are home to native Colorado River cutthroats.

Last summer WY Game & Fish surveyed the Big Sandy River, a tributary to the Green, to document the populations of three native sensitive species that multiple agencies, including BLM, are monitoring: roundtail chub, bluehead sucker, and flannelmouth sucker. In the lower Big Sandy they found large burbot and no small specimens of the three species of concern.

That discovery may have implications for the future management and potential listing of those three species. Stand by.

Mark Gorges