



### Adult telemetry

Telemetry activities during the quarter were limited to weekly tracking from Bonners Ferry to Copeland. Most of the sonic and radio transmitters deployed in recent years are active for about 5 years and all of the active

transmitters were deployed prior to 2005. Currently, about 45 transmitters are active. As of March 30, few individuals had moved into the staging reaches between rkm 205 and rkm 225.



Figure 1. Kootenai River white sturgeon female infected with columnaris, Kootenai River, Idaho, 2005.



Figure 2. Embryo release site 1 looking upstream from rkm 274.5, Kootenai River, Idaho, 2005. Note the river current and substrate on right bank.

## **Burbot**

### **Hoop Net Effort**

Sampling during the winter of 2004-2005 was modified from previous years to sample at locations that were most likely to produce burbot (Figure 1). This was done to maximize the capture of a small population of fish and allow more time for sampling tributaries. A total of 15 burbot captures occurred with baited hoop net from January 25<sup>th</sup> to March 31<sup>st</sup>. Fourteen of the captures were at Ambush Rock (rkm 244.5) and the fifteenth near Nick's Island (rkm 151.1). Four captures were recaptures from this year, six fish were recaptures from prior years, four were new, untagged fish and one burbot escaped from the net overnight. One burbot captured at Ambush Rock showed a loss of 234g between capture dates of February 23<sup>rd</sup>, and March 2<sup>nd</sup>. This fish possibly spawned between these dates. No burbot were captured in the tributaries. This included extensive sampling in the Goat River. The Goat River was once the most dependable site to capture burbot during the spawning season. At the Goat River no burbot have been captured in the last three winters. This fact suggests this stock of fish may have been extirpated from the population.

Four nets were deployed at Ambush Rock from January until February 9<sup>th</sup> when a fifth net was added. Two nets

were deployed in the Nick's Island reach, one near the mouth of Corn Creek (rkm 150), two just downstream of the Creston boat ramp (rkm 150.5), and two nets were deployed downstream of the Goat River (rkm 152.7). Three nets were set in the Goat River and two in Boundary Creek. One net was deployed in Deep Creek between February 7<sup>th</sup> and March 23<sup>rd</sup>.

Total Effort was 1,449 net days, 21 hours and 36 minutes. CPUE for the first quarter of 2005 was 0.010345, based on a 24 hour day as one unit of effort.

### **Larval Tow Effort**

Larval tows took place twice weekly between March 9<sup>th</sup> and March 29<sup>th</sup>. Two paired ½ Meter nets were towed downstream at approximately 1,000 rpm for an average time of 17 minutes and 51 seconds. Total towing time was 16 hours 3 minutes and 41 seconds. The nets filtered a total of 2,831,852 m<sup>3</sup>. No larval burbot were captured.

### **Light Trap Effort**

Light traps were set at Ambush Rock, Ferry Island (rkm 205), Goat River and at the mouth of Boundary Creek between March 9<sup>th</sup> and March 31<sup>st</sup>. Traps were set two to three nights per week. Total trapping time was 1,057 hours and 12 minutes. No larval burbot were captured.



Figure 3. Weighing of an apparent female burbot captured at Ambush Rock.

### **Rainbow and Bull Trout**

Edits were made to the 2003 annual report after reviewers' comments were received. The report has been forwarded to Headquarters in Boise for final review by the Fishery Research Manager. Work elements and the budget were planned out for the 2005 statement of work. Data analysis was continued, including aging of juvenile rainbow trout from Boulder Creek that were sampled by

electrofishing in November of 2003 and 2004. The length frequency shows that rainbow trout in Boulder Creek are mainly age-0 and age-1 (Figure 4), indicating that most juveniles out-migrate by age-2. Most age-0 rainbow trout in Boulder Creek were <80 mm total length in late fall, while most age-1 fish were between 90 and 130 mm.

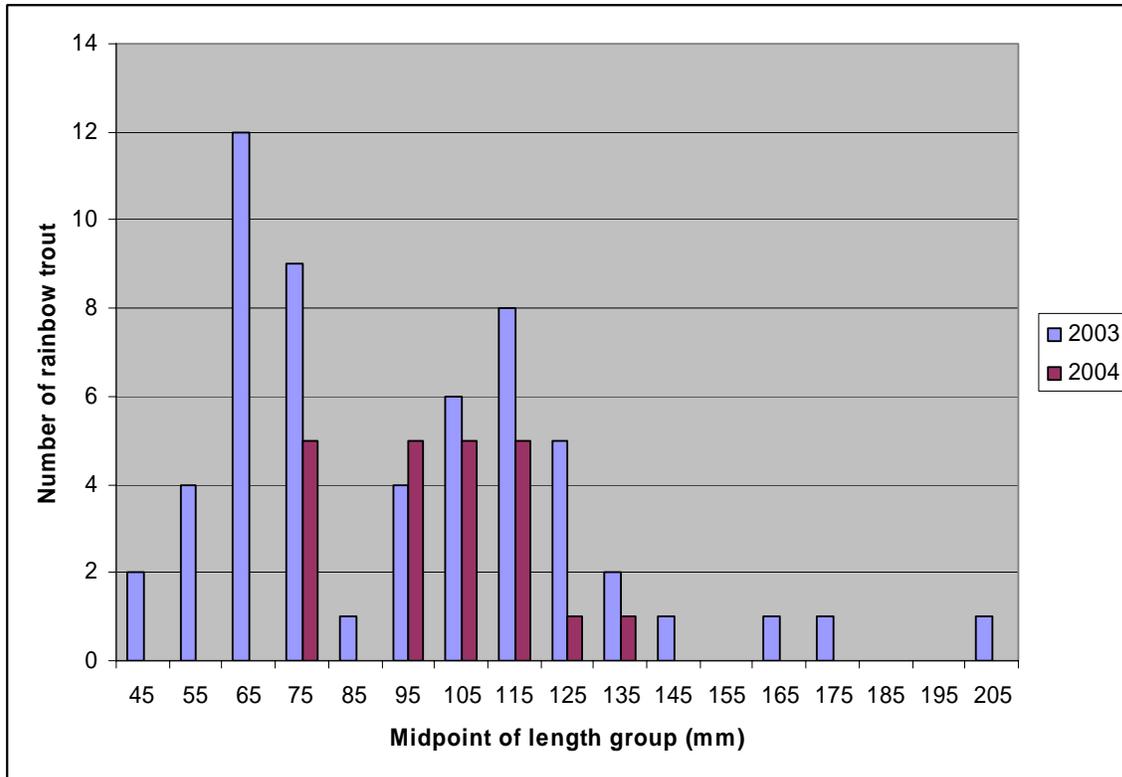


Figure 4. Length frequency of rainbow trout caught by electrofishing in Boulder Creek, November 2003 and 2004.

**Nutrient restoration**

This quarter’s activities mainly revolved around securing permits for the nutrient restoration project (Figure 5). The final draft of the Environmental Assessment was finished this quarter and will be sent out for public review by April 18<sup>th</sup>. Additionally to this, the Biological Assessment was finished and sent to the USFWS for their final review and suggestions. Many phone conferences were held with the Idaho DEQ, city of Bonners Ferry, BPA, and the general public to receive feedback on questions and concerns that individuals or agencies may have. In general, we have received very good support on the entire project. Concerns that are brought up are addressed in the environmental assessment written by BPA.

Construction on the project is slotted for May of 2005 providing that all the permits

are secured. Permits secured include: MTFWP 124 permit for activity in the stream and the Short Term Activity Exemption from IDEQ for putting the nutrients in the water. Permits to be secured shortly (contingent on USFWS approval) include: Section 12 permit from the USACE, special use permit from USFS, finding of no adverse affect from USFWS, a finding of no significant impact (FONSI) from the Montana State Historic Preservation Office, and land use permit from IDL. All permits should be secured by May, 2005.

This quarter we are planning the purchase of fertilizer, tanks, and other related equipment in order to be prepared for the May construction date.



Figure 5. A photo of the part of the river (canyon reach) that is proposed for nutrient restoration beginning next quarter.

***Meetings Held/Attended, Communication, and Accomplishments for the Quarter:***

- Pete and Vaughn participated in several conference calls with KRWSRT to discuss Kootenai River white sturgeon and 2005 discharges
- Pete and Vaughn attended a KRWSRT meeting
- Vaughn attended a Conservation Genetics Workshop
- Vaughn attended the Idaho Chapter AFS meeting and presented a published paper from Iowa on walleye stocking (to add diversity to the meeting) and coauthored a poster paper with Greg Hoffman of USACE on KR white sturgeon recovery and Libby Dam discharge
- Vaughn had a follow up meeting with USGS in Boise pertaining to velocities and white sturgeon spawning locations
- Vaughn and Phil Cooper video taped spawning burbot and artificial fertilization by U of I for ongoing burbot culture experiments
- Vaughn applied for and had the Second International Burbot Symposium accepted for the 2005 AFS meeting

- Vaughn attended a KR white sturgeon and bull trout Biop meeting in Bonners Ferry in March
- Vaughn attended a BPA SOW and Pisces workshop in Spokane
- Pete assisted USGS with Acoustic Doppler Current Profiling in proposed embryo release sites
- Vaughn had two news interviews and one radio interview
- In March Vaughn attended the KVRI anniversary meeting in Bonners Ferry
- All attended the 2005 fisheries research training in Boise
- Ryan, Vaughn, and Charlie Holderman of KTOI met with Peter Ward the Canadian engineering contractor assisting with nutrient restoration
- Ryan had frequent meetings with BPA, KTOI, and the public for the ecosystem project needs.
- Jody attended the TMDL meeting in Bonners Ferry.
- Jody had a ms. he senior authored, on rainbow trout recruitment from the tributaries in Idaho to the Kootenai River accepted for publication in Northwest Science. Jr. authors were Chris Downs, Jim Fredericks, and Vaughn

***Next Quarter Activities and Meetings:***

***White sturgeon***

- Adult sampling
- Telemetry
- Embryo release
- Larval sampling
- Report writing and data management

***Rainbow and Bull Trout***

- Start a creel survey on the Kootenai River.
- Electrofish on the Kootenai River to tag rainbow trout for an exploitation estimate.
- Plan field work for westslope cutthroat trout genetics inventory work to be conducted in Kootenai
- River tributaries in summer 2005.
- Continue entering and summarizing 2004 data.
- Begin writing the 2004 annual report.

***Burbot***

- Begin larval tows and light traps will continue into early February
- Revise 04 Annual Burbot Report and begin the 05 annual report
- Complete draft of burbot demographics report
- Continue with coordination with the University of Idaho and burbot DNA analysis

### ***Ecosystem Rehabilitation***

- Ryan will order Nutrient Restoration equipment.
- Construction on the nutrient application site will begin.
- Ready for full scale implementation by the start of the third quarter.
- Ryan will sample Zooplankton and rotifer.
- Ryan will finish draft of 2003/04 annual report.
- Most of us will attend ISTS in Boise (May 2005).
- 2005 Preliminary IKERT meeting in Nelson (May) to discuss project needs.

Cc. Charlie Craig & Scott Bettin (BPA)  
Sue Ireland (KTOI)  
Colin Spence (BC Fisheries)  
Brian Marotz (MFWP, Kalispell)  
Mike Hensler (MFWP, Libby)  
Jeff Laufle & Greg Hoffman (USACE)  
Steve Duke, Bob Hallock (USFWS)  
Virgil Moore, Steve Yundt, Ned Horner, Chip Corsi, Greg Johnson, Fred  
Partridge, Mark Gamblin (IDFG)  
Gary Barton (USGS)  
Boundary County Commissioners