



# JACKSON REGION FISHERIES NEWSLETTER

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Welcome to the second edition of the Jackson Region Fisheries Newsletter! We hope you find the newsletter informative. This publication is meant to help you understand more about the fisheries management crew activities and management of the Jackson region fisheries.

In this edition of the newsletter you will find information on the Jackson region helicopter stocking, area amphibians, and the habitat project for Flat Creek in the town of Jackson. The Hoback River fishery is highlighted, including facts on the drainage and recent management activities. In addition, the 15th Annual Jackson Kids Fishing Day and other regional



**2004 Kids Fishing Day participants learning about stream habitat from WGFD Aquatic Habitat Biologist Lara Sweeney at the stream trailer.**

management activities are discussed. Thanks to this year's contributors: Al Gettings, Rob Gipson, Diana Sweet, and Mark Gocke.

### Special points of interest:

- River population estimates
- Flat Creek ice jams
- Who named the Hoback River?
- Trout-tracking
- Boreal Chorus Frog
- Flying fish?
- Take Me Fishing!

## Jackson Region Fisheries Management

### Gros Ventre River

The Gros Ventre River was electrofished for the first time in 2004 to obtain a population estimate for Snake River cutthroat trout. A three mile reach of the Gros Ventre River in Grand Teton National Park was electrofished. The total estimated Snake River cutthroat trout per mile was 229, including an estimated 112 trout

greater than 11 inches per mile . The Gros Ventre River will be sampled again in 2006.

### Snake River

Every year during October a different reach of the Snake River is electrofished to gather information on trout populations. In 2004 a 6.2 mile reach

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**2005 Wyoming Free Fishing Day  
Saturday June 4th!**

## Jackson Region Fisheries Management (continued)

of the Snake River above the Highway 22 (Wilson) bridge was electrofished



**Electrofishing the Snake River.**

to obtain population estimates for Snake River cutthroat trout. The estimated number of Snake River cutthroat trout averaged 810 per mile over the last six sampling years. In October of 2005 electrofishing will be conducted on a 4 mile reach of the Snake River below the Highway 22 bridge to monitor the trout population.

### Lower Slide Lake

This fishery in the Gros Ventre drainage is sampled annually using gill nets to assess the game and non-game fish populations. Thirty-six Snake River cutthroat trout were captured in three gill nets in Lower Slide Lake during July trend netting. The Snake River cutthroat trout had an average length of 10.1 inches. Lower Slide Lake is stocked annually with 5,000 catchable-size Snake River cutthroat trout.



**Setting a gill net in Jackson Lake.**

### Jackson Lake

Jackson Lake is netted annually in July to monitor the game and non-game fish populations. In 2004, 67 lake trout, 17 Snake River cutthroat trout, and 36 brown trout were captured. The average length of the lake trout was 16.0 inches while the average length for Snake River cutthroat trout was 11.4 inches. The average length of brown

trout was 14.5 inches. Jackson Lake will be netted again in 2005 to monitor the fish population.

Netting is also conducted in October to monitor the trophy lake trout population and tag large fish. During 2004 fourteen lake trout were captured, tagged at the base of the dorsal fin with \$25 reward tags, and released. The average length of these lake trout was 30.3 inches and the average weight was 10.1 pounds. By gathering information from tagged lake trout that are recaptured by anglers or WGFD biologists, growth rates are estimated. Eleven tagged lake trout were recaptured during 2004 and growth was estimated at 1 inch and 0.3 pounds per year. Trophy lake trout will be sampled again in October 2005.

A winter creel survey to monitor angler use and harvest was conducted from January 1 through April 15, 2005. Anglers had good success, harvesting many 17 to 20 inch lake trout. Complete results will be available for the 2006 newsletter.

### Grassy Lake Reservoir

Annual gill netting of Grassy Lake Reservoir is done in late July to assess the fishery. During July 2004 sampling, thirteen lake trout were captured with an average length of 13.4 inches. Netting captured sixteen Snake River cutthroat trout with an average length of 14.2 inches. Dam repairs will be complete during 2005 so water levels should increase for 2006. Grassy Lake Reservoir is stocked annually with 15,000 fingerling Snake River cutthroat trout.

## Flat Creek Rehabilitation and Enhancement

In the last few years, Flat Creek, a tributary of the Snake River, has experienced degraded water quality, altered stream form, and increased sediment. This is due to changes in land and water uses. These conditions have altered the natural flow and operation of the creek, leading to the formation of frazil and anchor ice during the winter season. This ice has caused ice jams and overbank flooding in the town of Jackson.

In 2000, the Town of Jackson began pumping warm ground water into Flat Creek (using thaw wells) in order to reduce icing and flooding, however, ice still occurred and Flat Creek continued to flood. In 2001, Dr. Steven Daly with the Army Corps of Engineers completed a study of the frazil ice in Flat Creek and provided 3 possible solutions: 1) Two new thaw wells 2) Mechanical removal of ice with a bulldozer or 3) Create intact ice cover by reducing water velocity with weirs.

In 2002, a collaborative effort was made between Jackson Hole Chapter of Trout Unlimited, Teton Conservation District, Town of Jackson, Teton County, Wyoming Game & Fish Dept., HabiTech Inc., and others, to prioritize Flat Creek, evaluate possible solutions and determine the best course of action in order to allow the creek to approach its ecological potential.

It was decided to begin work on a first priority area between the Highway 26 Bridge and the High School Road Bridge. Construction began in September of 2004. Within this reach of stream, bank covers were installed to

increase trout habitat, and boulder weirs were established to slow the water velocity in order for surface ice to form. When surface ice is present, anchor ice and frazil ice cannot develop.



**Flat Creek boulder weir.**

In late November of 2004, anchor ice from upper reaches of Flat Creek, where rehabilitation had not occurred, broke loose and floated downstream, catching on the surface ice that the weirs had created. This caused an ice jam just below the Highway 26 Bridge and Flat Creek flooded once again. The boulder weirs were removed in order to break up the ice and stop the flooding.

Plans are in progress to begin working on the upper end of Flat Creek this spring and fall. Surveys will be conducted in the spring and construction should begin again in the fall. The project will continue to move downstream and the boulder weirs that were removed from the lower end will be replaced once the upper reaches are completed.



**Flat Creek ice jam, November 2004.**

**“Plans are in place to begin working on the upper end of Flat Creek in town during 2005”**

## Hoback River Fact Sheet



**Electrofishing the Hoback River.**

**“The Hoback River has a vertical drop of 3,515 feet from the headwaters to the confluence with the Snake River”**



**Snake River cutthroat trout are native to the Hoback River.**

- ◆ Name: In 1811, the Hoback River was named by Wilson Price Hunt to honor his guide, John Hoback, who led them down this tributary to the Snake River into Jackson Hole.
- ◆ Drainage area: 613 square miles
- ◆ River length: The Hoback River is 49 miles long and crosses Lincoln, Sublette, and Teton Counties
- ◆ Number of tributaries: 23
- ◆ Major tributaries: Cliff Creek, Dell Creek, Granite Creek, Shoal Creek, and Willow Creek
- ◆ Vertical drop: The Hoback River originates at an elevation of approximately 9,400 feet and enters the Snake River at an elevation of 5,885 feet for a vertical drop of 3,515 feet
- ◆ Landmark: Battle Mountain, located at the confluence of the Hoback River and Granite Creek, is the site of one of the few conflicts between Indians and settlers in this part of Wyoming
- ◆ Primary game fish species: Snake River cutthroat trout and mountain whitefish
- ◆ Non-game fish species: longnose dace, mottled sculpin, mountain sucker, Paiute sculpin, redbreast shiner, speckled dace, and Utah sucker
- ◆ Current creel regulations: Six trout per day or in possession, only three of which may be cutthroat, only 1 cutthroat may exceed 12 inches, and only one trout may exceed 20 inches
- ◆ Current fishing season: The Hoback River proper below the Dell Creek confluence is open to yearlong fishing. The Hoback River proper above the Dell Creek confluence and all tributary streams are open to fishing from April 1 through October 31.
- ◆ Popular flies: elk hair caddis (sizes 12-16), royal wulff (size 14), royal stimulator (sizes 12-14), black zug bug (sizes 8-12), and humpies (sizes 14-16)

## Hoback Gone Wild

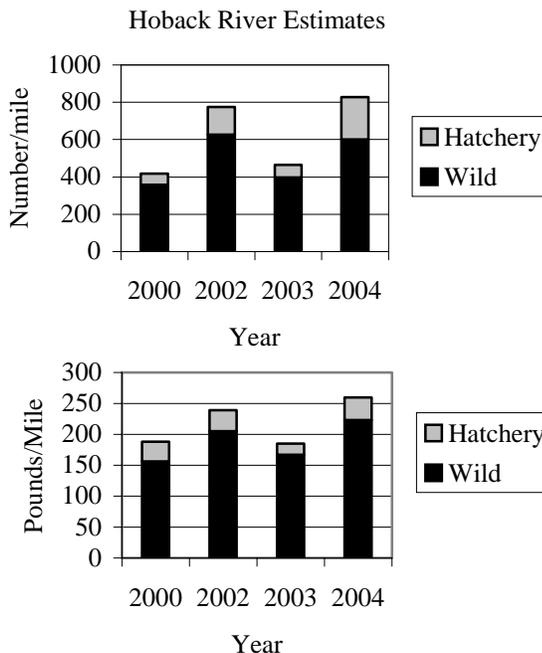
The Hoback River has been stocked with catchable Snake River cutthroat trout for many years. Over recent years, however, the number of Snake River cutthroat trout stocked has been reduced. The highest number of fish planted was 22,684 in 1992. The number planted was reduced to 2,500 Snake River cutthroat trout in 2004 and stocking has been eliminated for 2005. Why? The estimated number of wild Snake River cutthroat trout was 601 per mile in 2004, above the mean of 497 Snake River cutthroat trout per mile (see figure at right). The biomass of wild Snake River cutthroat trout was estimated at 223 pounds per mile in 2004 – the highest value observed and well above the mean of 188 pounds per mile. Given the number of wild Snake River cutthroat trout present, further stocking does not seem necessary.

In addition to annual electrofishing estimates, angler surveys are another tool that has been used to monitor effects of the reduction in stocking. In recent

years, surveys of the Hoback River have been intensified to monitor angler catch and harvest rates. During 2004, the anglers caught an average of 1.7 Snake River cutthroat trout per hour and released 92% of the fish. Catch rates have been high in prior years with harvest remaining low. In 2003, the mean catch rate was 0.93 Snake River cutthroat trout per hour with 95% of the fish released.

In early July of 2004, WGFD assisted the Bridger Teton National Forest (BTNF) in capturing 43 Snake River cutthroat trout in the Hoback River. Radio transmitters were surgically implanted in the Snake River cutthroat trout by the BTNF biologists and the fish were released. For several months the BTNF crew successfully relocated 37 of the Snake River cutthroat trout using the radio transmitters.

Twenty-two of the Snake River cutthroat trout stayed in the Hoback River. Twelve of the Snake River cutthroat trout were found in the Snake River and one of these fish traveled over 26 miles to Alpine before the transmitter's battery expired. Several of the Snake River cutthroat trout were identified positively as mortalities: 3 by one pair of eagles, 1 by an osprey, 2 by anglers, and 1 by an otter. The tracking will continue through the spring of 2005.



**Estimates of the number (top) and pounds (bottom) of wild and hatchery Snake River cutthroat trout in the Hoback River from recent WGFD sampling. The mean number of wild Snake River cutthroat trout per mile is 497 while the mean pounds per mile is 188.**



**A BTNF biologist inserts a radio transmitter in a Hoback River Snake River cutthroat trout. The transmitters are very small (inset) and allow biologists to track fish movements.**



**Measuring fish during an electrofishing stop on the Hoback River.**

## Amphibians in the Snake River Drainage

The Snake River drainage plays host to a number of different amphibian species including 6 toads, 5 frogs, and one salamander. Here are a few of the more common species that you may encounter.



**Boreal toad.**

### Boreal Toad

The boreal toad (*Bufo boreas*) stays close to water during the day, but may forage far from water at night, most commonly between 6,500 and 12,000 feet. These toads may have a musky odor due to skin

gland secretions. Boreal toads are large (up to 5 inches long); they have a distinctive white stripe down their backs (like all other toads) but lack cranial crests.

Boreal toads lay their eggs in ponds and small lakes; tadpoles are dark but may have gold flecking. Adults feed on ants, beetles, moths and other insects.

Populations of the boreal toad seem to be in a decline and the Southern Rocky Mountain population is being considered for protection under the Endangered Species Act. Declines seem to be caused mainly by the chytrid fungus.

### Boreal Chorus Frog

The boreal chorus frog (*Pseudacris maculata*) is found in marshes, ponds and small lakes in Wyoming. It can be identified by its small size (up to 1.5 inches long) and distinctive call (often compared to the sound made when a fingernail is run over a comb). These frogs can vary in color from brown to yellow to dull red. They have

three dark stripes (often broken) on their backs and a black mask.

Boreal chorus frog eggs are deposited in any body of water. Eggs are clustered in groups of 20-100 and attached to submerged vegetation. Adults feed on insects and small invertebrates.

### Spotted Frog

The spotted frog (*Rana luteiventris*) is found between 1,700 and 6,400 feet in sub-alpine forest grasslands and sagebrush. Breeding season keeps them close to water and they are very strong swimmers, but they may move farther from water after the breeding season is over. Spotted frogs are medium sized (up to 4 inches long) with webbing between their toes, dorsolateral folds on their backs, and have dark spots on a variable colored background.

Spotted frog eggs float on the surface of the water in groups of more than 1,200 eggs. Adults eat earthworms, mollusks and crustaceans.

### Chytrid Fungus

Chytrid fungus is blamed for the decline of amphibian populations worldwide. Spores typically live in water or soil and invade the surface layers of the skin of amphibians. The fungus then causes damage to the keratin layer of the skin. Frogs and toads breathe and hydrate through their skin, making this a very dangerous situation. A frog or toad with the chytrid fungus may have discolored skin, and may be sitting in the open not attempting to hide. If you see an amphibian that may have chytrid fungus please use gloves when touching it, because you could spread the fungus to other amphibians.

**“The spotted frog is found between 1,700 and 6,400 feet in sub-alpine forest grasslands and sagebrush”**



**Boreal chorus frog.**

## Jackson Region Helicopter Stocking

Wilderness lakes have proven to be a very popular destination for many anglers in Wyoming. The pristine and relatively uncrowded environment attracts fishermen from all over the country and world. While most wilderness lakes in Wyoming are self-sustaining, that is the fish in these lakes are able to reproduce enough on

these lakes. Since then, helicopter stocking has proven to be very successful and economical. Some wilderness lakes continue to be stocked by backpacking or horsepacking, but it is impractical to stock most of the lakes in the wilderness areas by these methods.



**Loading fish into the helicopter tanks.**

**“The helicopter will hover 30 to 50 feet above the water and release a hatch on the bottom of the tanks, releasing the fish”**

their own to maintain the population numbers, some of the lakes must be stocked to supplement the fish population.

Historically, these wilderness lakes were stocked by utilizing horses, backpacking, or airplane stocking. In the 1970’s, helicopter mounted tanks were designed and fabricated for stocking

To stock by helicopter, fish are loaded into small tanks attached to the helicopter. These tanks have pure oxygen injected into the water to sustain the fish during transit, and the water is iced down to match the temperatures in the high elevation lakes. On approach to the lakes, the helicopter will hover 30 to 50 feet above the water and the co-pilot releases a hatch on the bottom of the tanks to release the fish. Small fish are used for helicopter stocking so that the drop from the helicopter will not harm the fish and, by using small fish, more can be transported in each trip.



**Loaded trout being readied for the flight.**



**The helicopter releasing fish into Goodwin Lake near Jackson.**

In the Jackson region, about 15 wilderness lakes are stocked by helicopter on an every other year basis. These lakes are stocked with Snake River Cutthroat and the fish are usually reared at the Dubois Fish Hatchery. Due to construction at the Dubois Hatchery in 2005, the Snake River cutthroat trout for the Jackson Region will be reared at the Tensleep Hatchery.

**WYOMING GAME & FISH  
DEPARTMENT**

PO Box 67  
420 North Cache  
Jackson, WY 83001

Phone: 307-733-2321  
Fax: 307-733-2276  
Email: Tracy.Stephens@wgf.state.wy.us

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## **15th Annual Jackson Kids Fishing Day Saturday, June 4, 2005**



**2004 Kids Fishing Day participants learning about boating safety from Jackson National Fish Hatchery Project Leader Kerry Grande.**

### **Take Me Fishing!**

Spend a day learning a little about the sport of fishing! The 15<sup>th</sup> Annual Jackson Kids Fishing Day will be held Saturday, June 4<sup>th</sup> at the Jackson National Fish Hatchery Pond 4 miles north of Jackson. It is a free event in celebration of National Recreational Fishing Week. Activities include knot tying, fish habitat, fish biology, aquatic insects, fish handling, fishing safety, and fishing in the pond. Fishing rods will be provided but kids are encouraged to bring their own.

All kids 13 and under are invited to participate and parents can come and learn. Registration begins at 10:30 am

and the event concludes at 3 pm. The Jackson Jaycees will provide a free lunch.

Trout Unlimited, Jackson Hole Jaycees, Wyoming Game and Fish Department, Teton Conservation District, Teton County Jackson Parks and Recreation Department, US Geological Survey Jackson Field Station, Bridger-Teton National Forest, Teton County Weed and Pest, Grand Teton National Park, U.S. Fish and Wildlife Service, and Jackson Hole Fire/EMS are local sponsors of the event.

If you would like to learn more or volunteer, contact Tracy Stephens at the Wyoming Game and Fish Department at 733-2321.