



# Jackson Region Fisheries Newsletter

## Backcountry Fishing

Tired of fishing the same old spots? Want a new fishing adventure for the summer? How about some backcountry fishing? Whether you are a seasoned angler or just beginning, the upper Hoback River and its tributaries provide a great escape from the hustle and bustle of our more popular local fisheries. You may not find a lot of big lunkers in these small headwater streams, but every hole is filled with beautiful little Snake River cutthroat trout that rarely see a fly or lure. The scenery will keep your eyes wide and the fishing will keep your line in the water.



Snake River Cutthroat Trout from  
Fourth Creek

There are two common ways to access the upper Hoback River and its tributaries, the Upper Hoback Road and the Little Greys River Road. Both of these dirt roads end at a trailhead with trails that will take you to the upper Hoback.



Upper Hoback River

If you use the Upper Hoback Road trailhead, the trail will follow the Hoback River upstream, so stop anywhere and fish along the way. After a few miles of relatively easy trail, the going gets steep until the hills open up near the Roosevelt Meadows trail cutoff. There are great camping spots along the trail to Roosevelt Meadows as well as in the meadows itself. If you continue to follow the Hoback River, you will see fish hiding under banks, willows, and logs wherever you look. Bare, Second, and Fourth Creeks also offer the opportunity to catch cutthroat if you choose to explore them.

If you access this area from the Little Greys River Road trailhead, be sure not to miss out on the fishing in the Little Greys, which also boasts a healthy population of Snake River cutthroat trout. When you leave the trailhead, make sure you take the correct trail, as several trails begin at this trailhead. The Roosevelt Meadows trail will steadily take you up in elevation, offering beautiful views of the Greys River drainage and tumbling cascades, until you reach Roosevelt Meadows. If you choose to fish the Little Greys River, make sure you do so before the steep cascade approximately 3 miles up the trail, as fish are not present in the Little Greys River upstream of this barrier. Once you reach Roosevelt Meadows, camping areas are numerous on the way over the Greyback Ridge to the Hoback River drainage.

So, if you are looking for a backcountry fishing experience this summer, escape the busy rivers and explore the upper Hoback River drainage.

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## Shocking News: 2012 Highlights

The Game and Fish Department routinely conducts population estimates on the valleys larger rivers. This typically covers a three-mile reach and involves two electrofishing rafts working together. The entire operation takes place over 4 days (2 days of sampling, 1 day of rest, followed by 1 day of sampling). One thing that most people are surprised to discover is that we generally only handle about 10% of the fish that are in the river.

The good 2010-2011 water year resulted in a strong year class of fish. As these fish get older, fishing should continue to improve over the next several years. The following are a few highlights of last year's sampling.

**Gros Ventre River:** The Gros Ventre River is sampled from the Grand Teton National Park boundary to the town of Kelly. While not a dramatic increase from previous years, there were 309 cutthroat trout per mile with 56 per mile being over 13 inches. The largest fish sampled was 17.5 inches and 1.89 pounds.



Electrofishing on the Gros Ventre River

**Hoback River:** The Hoback River is sampled from the Hoback Campground to Bryan Flats. The Hoback River was last stocked in 2004. Since that time the wild trout population has been doing very well. This year the population of cutthroat trout was 645 per mile. A little less than half of these fish were greater than 9 inches. The largest cutthroat trout sampled was 14.0 inches and 0.97 pounds.



Snake River Cutthroat Trout

**Salt River:** The Etna Lane section of the Salt River is the only location in the region that we do our estimate at night. This section is wide and slow so the rafts can be safely operated in the dark using lights. Trout are more susceptible to our electrofishing gear at night and we get a much more accurate population estimate. The estimate for cutthroat trout was 1,013 per mile, and the estimate for brown trout was 283 per mile. The largest fish sampled were a 19.5 inch (2.89 pound) cutthroat trout and a 23.0 inch (4.27 pound) brown trout.

**Snake River:** Fish were sampled between Wilson Bridge and Fish Creek on the Snake River. The section length was shortened by one mile due to the large number of fish captured. The estimate of cutthroat trout over 5 inches was 1,070 per mile this year compared to 628 per mile in 2009. The number of cutthroat trout greater than 13 inches, which are of most interest to anglers, was 158 per mile this year compared to 102 per mile in 2009. The largest cutthroat sampled was 18.9 inches and 3.46 pounds.



Electrofishing on the Snake River

Conducting population estimates can disrupt fishing for a short period of time. We appreciate your patience as we conduct these important management activities. If you would like to receive e-mails letting you know when and where we will be electrofishing, please send an email to [rob.gipson@wyo.gov](mailto:rob.gipson@wyo.gov).

## Fish Biology 101: What is a Redd?

The word redd means to set in order or make tidy. In trout terms, a redd is a spawning area or nest and it seems appropriate, since “make tidy” is exactly what female trout do to gravels as they construct a redd.

To build a redd, a female trout cleans the gravel with her tail, and sometimes uses her entire body. This creates an excavated “redd pocket”, or depression, in the gravel that is clear of fine materials, such as silt, and algae. While excavating the redd pocket, the female also makes a “tail spill” or mound of gravel downstream with spaces in-between the gravels for the eggs to lodge. The redd is shaped so that oxygen-rich water flows past the eggs.



Trout Redd with Diagram of the Redd Pocket and the Tail Spill

After building a redd, the female lays eggs and the male releases milt (sperm) to fertilize the eggs. The female then covers the eggs with loose gravel as she moves upstream. The eggs are in the tail spill covered by six to eight inches of gravel. There are often two or more egg pockets per redd.

Snake River cutthroat trout prefer gravels ranging in size from one to two and a half inches in diameter for constructing redds. Gravels suitable for redds are typically located in riffles – shallow areas anglers and other recreationists use to cross streams – so learning to identify them is important for maintaining healthy trout populations. To avoid redds when you are in a stream, keep an eye out for clean gravels with no silt or algae covering the rocks. Be careful not to step in the mounded tail spill area when you are fishing or crossing a creek.

Many people associate cutthroat trout spawning with spring creeks. Snake River cutthroat trout usually begin to spawn near Jackson in the spring-fed tributaries to the Snake River in mid-March. The timing depends on elevation and water temperatures. Spawning continues through mid to late-July in spring creeks in the northern end of the valley within Grand Teton National Park.

In addition to spring creeks, mountain tributary streams are also important for cutthroat trout spawning. The spawning migration in these streams coincides with high spring runoff or occurs just after the high flow period. This makes monitoring spawning in mountain tributaries challenging.

Fisheries biologists often utilize redd counts to monitor the health of adult trout populations. In the Jackson Region, we also use redd counts to determine if there is sufficient spawning habitat available in creeks. Habitat restoration projects are often pursued in areas where gravels have been silted in or moved to areas that make them no longer suitable for spawning.

When you're out fishing this season, be careful where you step - the next generation of Snake River cutthroat trout depends on it!

## Watercraft Inspections at Borders

By now you've heard of Aquatic Invasive Species (AIS) and are well aware of the damaging effects invasive species such as zebra and quagga mussels could have on Wyoming's water resources. Just a few of the negative impacts invasive species can have include impeding water delivery, clogging pipes and pumps used to supply your drinking water, clogging water intakes on your boat which can destroy the motor, and removing the food source for many of the fish you like to catch.

Now for the part you may not have heard yet. The 2012 Wyoming State legislature passed a new statute that requires a boat transported into Wyoming between March 1 and November 30, to be inspected for AIS before launching in Wyoming. Additionally, any watercraft that has been in a water infested with zebra or quagga mussels within the last 30 days, is required to undergo a **mandatory inspection** before launching in Wyoming *during ALL months of the year*. While we realize that this may take some adjustment for boaters and is an added requirement when bringing your boat into Wyoming, it is a necessary step to keep our waters free of harmful invasive species.



The goal is to make it as easy as possible for nonresident boaters and resident boaters transporting their boat back into the state to get this mandatory inspection. The Wyoming Game and Fish Department (WGFD) will staff check stations at key entrances into the state as frequently as possible during the boating season (April 15 through September) and we encourage all boaters to plan ahead to have their watercraft inspected at one of these locations. In the Jackson Region, watercraft check stations will be operated at the Alpine US Hwy 89 Port of Entry seven days a week, the Thayne Rest Area from Thursday through Sunday, and at Jackson Lake and other regional waters on a rotating basis. Hours and location information for each of these stations can be found on the WGFD webpage at [wgfd.wyo.gov/AIS](http://wgfd.wyo.gov/AIS). If you require an inspection during other times, please contact your regional WGFD office or 1-877-WGFD-AIS (943-3247) to schedule an inspection.

If you never boat outside of Wyoming this season or are not a boater at all, we encourage you to keep doing your part in preventing the spread of AIS in Wyoming by always remembering to Drain, Clean and Dry. **DRAIN** all water from your fishing gear and equipment including waders and boots. **CLEAN** all plants, mud, and debris from gear and equipment. Never move a plant or animal from one location to another. **DRY** your gear thoroughly. By doing this each and every time you fish or boat, you won't be the one that moves an invasive species to your favorite water.

There are no known populations of zebra or quagga mussels in Wyoming to date, but they have rapidly invaded waters across the country and are present in over 34 states including Colorado, Nebraska and Utah. They could be present in Wyoming waters before our monitoring can detect them, so even if you only boat or fish in Wyoming, it is important that you always Drain, Clean, and Dry. There are currently populations of other invasive species in Wyoming (Asian clam, New Zealand mudsnail, and curly pondweed) and we do not want these species moved to another water. You can report an aquatic invasive species sighting at [ReportAIS@wyo.gov](mailto:ReportAIS@wyo.gov).

## Black Spot Disease in the Snake River

When you are gently releasing a fish from the end of your fishing line, what do you notice? The smoothness of their scales? The slime that covers their body? The color of their fins? How about the rough texture of hundreds of small black bumps that is commonly referred to as black spot disease? Fish within the Snake River are exposed to this disease, which is actually a parasite. A study looking at the prevalence and intensity of this parasite within the Snake River may shed some light on what impacts the parasite might have and where we might expect to find fish that are infected.

Black spot is caused by a trematode, or worm, that uses three separate hosts to complete its life cycle. Trematodes mature in the guts of kingfishers and produce spores, these spores enter the water through defecation. Once in the water, spores are picked up by snails where they form cysts. As these cysts develop, they release the larval trematode which floats in the water column until it comes into contact with a fish. Once the trematode attaches to a fish, the fish develops a protective black capsule around the parasite (the black spot). The trematode is then transferred back to a kingfisher when the fish is consumed. Many fish species can be infected with black spot, including trout and suckers. Since suckers are more commonly found along the bottom of the river, they are more likely to contract the parasite. In the Snake River, bluehead suckers were used to evaluate the prevalence and intensity of black spot throughout the river.



Bluehead Sucker Infested with Black Spot Disease

Black spot disease was evaluated by taking photographs of bluehead suckers, and counting the number of black spots within defined areas on the fish. Fish were captured throughout the river. Seventy-one percent of the photographed fish had black spot present and all sections of the Snake River contained fish with black spot. Despite the widespread presence of black spot, upstream sections of the river (Jackson Lake Dam to Moose) had much higher prevalence and intensity of black spot than downstream sections of the river (Pritchard to West Table).

For black spot disease to exist, all three hosts (belted kingfisher, ramshorn snail, and fish) need to be present so the trematode can complete its life cycle. Bluehead suckers occur throughout the Snake River from Jackson Lake Dam to Palisades. Belted kingfishers also occur throughout the same portion of the Snake River. Ramshorn snail abundance is currently unknown in the Snake, however its habitat requirements are known. These snails require slow moving water with abundant silt/mud substrate and aquatic vegetation. These habitats are most common in the segment between Jackson Lake Dam and Deadman's Bar. Coincidentally, that section also has the highest prevalence and intensity of black spot disease.

So, what does this mean for the fish in the Snake River? Despite the high prevalence rates of black spot in fish in the upstream sections of the river, there is little evidence that the fish are significantly harmed by the parasite. Bluehead suckers with very intense infestations of black spot were healthy and appeared to be doing well. A key component to the development of the parasite is adequate water temperature. Other studies have found that overwinter survival for the parasite is extremely low, but fish never lose their black spots, so a fish can appear to be infested with black spot disease, but actually have very few parasites. This is what is likely occurring in the Snake River. With less than 90 days of water temperatures over 55°F in the Snake River per year, black spot disease likely does not significantly affect the fish populations in the Snake River.

## Fishes, Ditches, and Pelicans

Everyone who has been around irrigation water for very long knows that fish sometimes end up in canals and ditches. But how many fish end up there, what becomes of them, and how it affects the fish population are much more difficult questions, and answers vary widely between canals. Trout Unlimited, the Wyoming Game and Fish Department (WGFD), and the East Side Canal Company attempted to answer some of those questions for the East Side canal on the Salt River during this past summer.

The East Side Canal diverts water from the Salt River upstream from Thayne near the Diversion/Murray access area. At the end of the irrigation season, trout can be seen in the East Side Canal just downstream from the headgate. While it is easy to collect and count these fish, there may be others that have gone further down the canal that are less easily counted. Fish that have gone down the canal have an uncertain fate. They may end up in a small ditch or field where they are easy for predators to capture, they may live in the canal until the water is removed, or they may find their way back to the river either upstream past the headgate, downstream past the end of the canal (via Dry Creek), or at one of the places where small streams, such as Flat Creek, cross the canal.



Inserting PIT tag into a trout on the Salt River

During April and July 2012, crews collected trout from the Salt River between the Narrows Boat Ramp and the Diversion access site. Passive Integrated Transponder (PIT) tags were implanted into 352 Snake River cutthroat trout and 151 brown trout ranging in size from 5 to 22 inches. PIT tags are small glass encapsulated tags, about an inch long and 1/8 inch in diameter, that each contain a unique code. Tags are read with scanning equipment like bar codes on groceries.

PIT tag scanning equipment was installed downstream from the headgate, and at three places where trout could exit the canal and make their way back to the Salt River. Data from this scanning equipment showed that 3.8% of the tagged cutthroat and no tagged brown trout moved into the canal and passed the first antenna, and 35% of those fish exited the canal, making loss to the canal 2.4% of the cutthroat trout that were tagged.

This study showed that some fish do enter the canal and are lost, but about a third of those that enter the canal find their way back out. Because fish loss in the canal is small relative to the fish population in the river, we believe that fish screens at the headgate are not necessary. However, cooperators are working together to install a fish return pipe, between the headgate and Strawberry Creek, that can be opened at the end of the irrigation season and allow fish that are trapped below the headgate to exit back to the river.

During 2012, Idaho Fish and Game conducted a separate study to quantify pelican predation on trout in the Blackfoot River. Part of that study involved searching Gull Island in the Blackfoot Reservoir, where the pelicans nest, for PIT tags they had inserted in trout in the Blackfoot drainage. In so doing, they retrieved several of the PIT tags that had been implanted into trout in the Salt River. These estimates of predation are higher than the estimates of fish loss into the East Side Canal. Despite this predation, trout population estimates in the Salt River do not show a downward trend over past decade concurrent with the period of pelican population growth on Blackfoot Reservoir. Currently, the Idaho Fish and Game is taking action to reduce the pelican population on Blackfoot Reservoir.

## Breaking a Few Eggs

Every spring the fisheries crew composes the Fisheries Newsletter to give the fine folks of Wyoming and our visitors a small excerpt to the coming events. When I go to draft up my portion, the first thing that comes to my mind is “What mess am I going to make this year?” Yes, I am painfully aware that what I do is messy and inconvenient to wildlife, anglers, hunters, campers and wildlife watchers. A habitat biologist is tasked with making high quality habitat for all wildlife populations into the future. Those species of wildlife include the charismatic mega-fauna mule deer to the less exalted bluehead sucker and everything in between. In order to meet this daunting mission, we “break a lot of eggs to make an omelet”.

The first egg in the 2013 basket is Flat Creek Enhancement on the National Elk Refuge. The WGFD, Jackson Hole Trout Unlimited, Biota Research and Consulting Inc., and the National Elk Refuge have teamed up to improve aquatic habitat for native Snake River cutthroat trout on a reach of Flat Creek. This project begins at the Jackson Hole Fish Hatchery and ends at the confluence of Nowlin Creek. Currently, this reach of Flat Creek doesn't have the velocities or the connection with the floodplain to move or deposit the sediment load out of the stream bed. Sediments currently smother spawning habitats and fill in pools. The project partners will be mucking around in the stream this fall and every fall for at least three years. The project will include pulling out old structures and placing new structures with some channel modifications. To accomplish this, there will be heavy equipment, personnel in waders with survey gear, loud noises, exhaust fumes, and mud. We are going to temporarily displace anglers that cherish this little piece of heaven, photographers of the wide open space, and trout that call it home. The final product will be a stream with the restored form of a spring creek. The future of Flat Creek will be a stream with more meanders, undercut banks and deep pools that hold more of the “lunkers” that the stream is famous for.



The Tranquility of Flat Creek



Construction of structures in Crow Creek

The next egg to be broken for habitat improvement is Crow Creek southwest of Afton. This reach of stream is within a Private Land Public Wildlife, Wyoming Game and Fish Commission, Access Area. Private land is leased to allow anglers access to the cutthroat trout and brown trout fishery. In 2010, the landowners, WGFD, Wyoming Wildlife and Natural Resource Trust, Natural Resource Conservation Service, Star Valley Conservation District, Simplot, Peavler's Mountain Star Inc. and the Boy Scouts of America worked together to improve the area. Over the last three years, structures were placed in the stream, wildlife friendly fencing was placed to limit livestock use, an upland water system was developed and willows were planted. This fall will be the final phase of all this disturbance and it can be returned to peace and quiet for anglers.

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**WYOMING GAME AND FISH DEPARTMENT**

PO Box 67  
420 North Cache  
Jackson, WY 83001

Phone: 307-733-2321  
Fax: 307-733-2276  
Email: [diana.miller@wyo.gov](mailto:diana.miller@wyo.gov)  
<http://wgfd@wyo.gov>

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**23rd Annual Kids Fishing Day**

This year kids fishing day will be held on the **1st of June at the Jackson National Fish Hatchery**. Kids fishing day also coincides with **Free Fishing Day**. Registration begins at 10:30am and all activities will be concluded by 2:00pm. A free lunch will be provided for those attending. All kids, age 13 and under, are invited to participate and parents can listen in for a great learning experience. Activities include aquatic insects, fly tying, boating safety, and fish identification.

Bridger-Teton Nation Forest, Jackson Hole Jaycees, Jackson National Fish Hatchery, Teton Conservation District, Teton County EMS, Teton County Parks and Recreation Department, Jackson Hole Trout Unlimited, US Fish and Wildlife Service, US Geological Survey Jackson Field Station, and Wyoming Game and Fish Department are local sponsors of the event.

Thanks to this years newsletter contributors: Beth Bear, Lara Gertsch, Rob Gipson, Jim Gregory, Brian Hines, and Tracy Stephens. Photos by: Lara Gertsch, Mark Gocke, Jim Gregory, Brian Hines, and Tracy Stephens.

**Breaking a Few Eggs, cont.**

The Ditch Creek Fish Passage Project is the third egg for making the omelets of the 2013 season. The focus is to improve fish passage for bluehead suckers through a highway box culvert. The question I usually hear is “Why is the Wyoming Game and Fish worried about suckers?” The simple answer is, we are responsible for all wildlife. The variety of species that make up aquatic ecosystems all play a role in the health and function of streams, lakes, and fisheries. By improving habitat for suckers, we maintain strong ecosystems for all species.



Ditch Creek Box Culvert

As I prepare for the next field season, the omelet recipe is coming together and each project partner is bringing their own special ingredients to the table. I continue to work with a great team of people to cook up habitat improvements while reducing the immediate impacts felt by wildlife and their admirers. I remember the words of an old habitat biologist; “Habitat work is like road construction, it is smelly, an eyesore, and a general pain in the posterior but once it is done it’s worth it...” When we are watching the black smoke of a prescribed burn or standing in a chocolate colored stream that smells like rotting eggs, we just keep visualizing the wildlife, angler, hunter, camper, and wildlife watcher that is going to utilize that piece of ground or stream into the future. But for now, please excuse the mess.

~Lara Gertsch, habitat biologist