



JACKSON REGION FISHERIES NEWSLETTER



Fisheries Technician Chris Menard with a Snake River cutthroat trout.

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Welcome to the 2006 Newsletter!

The focus of this issue is on native species—including a few you might not think about on a daily basis. The non-game fish and other aquatic life are very important to the lake and river systems of the Snake River drainage and we are discovering more about these species annually.

We hope you enjoy learning about western pearlshell mussels and mottled and Paiute sculpin. In addition, you will find information on the Auburn Fish Hatchery, lake rehabilitation projects scheduled for 2006, the new Wyoming Game and Fish Department E-Newsletter, and how fire can benefit watersheds.

Thanks to the contributors to this issue: Pete Cavalli, Teresa Cole, Steve Diekema, Gordon Edwards, Rob Gipson, Mark Gocke, Ray Messamer, Darren Rhea, and Lara Sweeney.

Wyoming Free Fishing Day Saturday June 3, 2006!

Biologists use Chemical Treatments to Restore Native Trout Populations

Introductions of non-native fish are the single greatest threat to native fish, such as Snake River cutthroat trout. Non-native fish compete with native fish for habitat and food and can hybridize with native fish causing significant losses of unique genetic characteristics. Some areas contain

non-native fish that provide valuable angling opportunities with little or no impact to native fish populations. However, in some situations, the consequences of non-native fish introductions far outweigh the benefits. Because of these threats, fisheries

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Jackson/Pinedale Regional Website:

<http://gf.state.wy.us/services/news/RegionalNews/JacksonPinedale/index.asp>

You'll find great regional information and an "electronic bulletin board" with great hunting, fishing, and trapping photos! Learn how you can post your favorite photos!

Biologists Restore Native Trout Populations (continued)

(Continued from page 1)

biologists are faced with the task of removing non-native fish from certain areas to ensure the long-term survival of native fish in Wyoming.

One of the most effective ways of removing exotic fish is to treat the water with chemicals that target fish, known as piscicides. Chemical treatments are generally conducted with one of two chemicals: rotenone or antimycin. Rotenone and antimycin act on the respiratory system of fish and have few negative effects on other wildlife. These chemicals have been used successfully in many restoration efforts and have proven highly effective at removing unwanted fish species from lakes and streams.

The Wyoming Game and Fish Department is planning two projects to remove exotic fish species from areas in the Snake River drainage. During the summer of 2006, biologists will chemically treat two lakes, Stump Lake and Dry Creek Lake, to remove non-native fish and restore them with native fish. Both lakes are relatively small but contain isolated populations of non-native trout that threaten native cutthroat trout.

Stump Lake is 5.5 acres and is located on Fawn Creek, a tributary to the Greys River. Stump Lake contains a small population of non-native rainbow trout that could readily hybridize with cutthroat trout. If rainbow trout were to hybridize with cutthroat trout, the result would be a loss of native fish well adapted to the rigors of the Greys River.



Stump Lake in the Greys River drainage will be restored to native Snake River cutthroat trout in 2006.

Dry Creek Lake is a small (2 acres) lake located on Dry Creek, a tributary to the Salt River. A self-sustaining population of non-native brook trout lives in Dry Creek Lake and drifts downstream to Dry Creek and the Salt River where they compete with cutthroat trout.

Each lake will be treated with a liquid mixture of rotenone to remove the non-native fish. Detoxification of the chemicals will take place downstream of each lake to ensure there are no adverse effects to fish below the treatment locations. Plans are in place to stock each lake with catchable cutthroat



Pinedale Fisheries Biologist Matt Kondratieff applies liquid rotenone along a shoreline during a chemical rehabilitation project.

trout a short time after each treatment to ensure continued recreational opportunities. Long-term plans include the stocking and hatching of eyed eggs to restore sustainable cutthroat trout populations.

Stump and Dry Creek lakes will be chemically treated the week of August 28 – September 1. The Game and Fish Department asks that these areas be avoided during the treatment period. For more information on chemical treatments in the Snake River drainage please contact the Wyoming Game and Fish Department at 1-800-423-4113 (WY only) or 1-307-733-2321.

Auburn Fish Hatchery

Located about 14 miles west of Afton, Wyoming, is the picturesque Auburn Fish Hatchery. In continuous operation since 1941, Auburn is staffed with three permanent fish culturists who live on the premises year-round.

Preserving the Past

Auburn Hatchery produces Snake River cutthroat trout for Wyoming to help maintain one of the four forms of native cutthroat trout present in the state.



The Auburn Fish Hatchery facility.



Fish Culturist Steve Diekema working with Snake River cutthroat trout.

The station also produces kokanee, brown trout, and occasionally splake or brook trout, to help maintain existing sport fisheries in Wyoming.

Enhancing the Future

The Auburn Fish Hatchery's isolation facility is a vital link in the production of Colorado River cutthroat trout. Eggs are quarantined and hatched here, and the fish are reared until they are certified disease free. The young



The Auburn Fish Hatchery isolation facility.

fish then go to the Daniel Fish Hatchery, near Pinedale, where they will become part of a broodstock, which produces fish for various restoration projects designed to increase the population and expand the range of this form of cutthroat trout.



Part of the self-guided tour.

The Auburn Fish Hatchery is also committed to educating and informing the public about our role in helping to keep Wyoming's fish wild. There are several interesting displays and a self guided tour available for interested visitors, and station personnel are always happy to answer your questions and show you around the facility. Bring your family and come see the fish! Auburn Fish Hatchery is located at 2430 Fish Hatchery Road, Auburn.

Know Your Natives: Sculpin

Twelve native fish species live in the rivers and lakes of the Upper Snake River drainage in Wyoming. Among them are two native sculpin species, the mottled and Paiute sculpin, who frequent the cold, clear waters of the Snake River and its tributaries. Often referred to as “bullheads” by local anglers and outdoor enthusiasts, sculpin are actually only distant relatives of the true “bullheads,” who reside in the family of bullhead catfishes known as *Ictaluridae*. Though sculpin are not nearly as attractive or charismatic as the native cutthroat trout, they play an important role in the aquatic ecosystem of the Snake River drainage and are often overlooked.



Mottled sculpin.

Identifying characteristics:

- **Small row of teeth on the roof of the mouth**
- **Two spines along the edge of the gill cover**

Sculpin are members of the family of fish known as *Cottidae*, recognized by their flattened heads and slender tapered bodies which allow them to inhabit the complex cracks and crevices among and between rocks. Other specialized adaptations such as enlarged pectoral fins and flexible fin spines give them the ability to maneuver and rest in swift water. Unlike most other fishes in Wyoming, sculpin lack scales. Interestingly, most sculpin species live in the ocean, along the coastlines of Asia and North America; however, a handful of species have managed to survive in freshwater systems of western North America. Adults of most species are small, and sculpin in the Snake River drainage will rarely exceed 4 inches.

Mottled and Paiute sculpin can be difficult to distinguish from one another because they share many similar traits. One of the easiest distinguishing characteristics to identify is the presence of a small row of teeth on the roof of the mouth of mottled sculpin known as palatine teeth. Mottled sculpin will also have two spines along the edge of their gill



Paiute sculpin (pronounced pī-yüt).

Identifying characteristics:

- **No small row of teeth on the roof of the mouth**
- **One spine along the edge of the gill cover**

cover (operculum), whereas Paiute sculpin will only have one. Body color and spotting patterns of both species can be highly variable and especially difficult to distinguish from one another. Common colors of both species include variations of green, brown, gray, and blue.

Mottled and Paiute sculpin share a preference for similar habitat characteristics and can often be found inhabiting the same reach of stream or section of river. Both species tend to prefer cold, clear streams with rock and gravel substrates and high water velocities, although it is not uncommon to find them inhabiting the shorelines of lakes and ponds with similar bottom characteristics. Both species feed on small fish and insects, and will occasionally prey on the eggs of other fish. In fact, it

Know Your Natives: Sculpin (continued)



Glade Creek provides habitat suitable for both sculpin species.

was once believed that sculpin predation on trout eggs may negatively impact trout populations. However, it is now known that the effects of sculpin predation on fish eggs are minimal.

Both species of sculpin spawn in the spring by laying eggs in a “nest”, which the male will then guard until the young sculpin hatch. It is not uncommon for several mating pairs to share the same nest location. Sculpin are generally thought to be nocturnal, restricting the majority of their activity to night to reduce encounters with predators, while remaining concealed during the day.

Sculpin play an important role in the aquatic ecosystem of the Snake River drainage in Wyoming. By occupying high gradient sections of rivers and streams that many other fish species cannot inhabit, they prey on insects and invertebrates not available to

other fish. Sculpin also serve as an important food item for many local trout species. In fact, one study demonstrated that the diet of cutthroat trout larger than 11 inches in the Snake River near Jackson was comprised mostly of mottled and Paiute sculpin.

Anglers have long recognized the importance of sculpin in the diet of cutthroat and other trout species. Sculpin imitations such as marabou muddlers, matukas, and double bunnies, are a staple among local fly anglers looking to coax a giant cutthroat out of heavy cover. Anglers who frequent local lakes and reservoirs have also realized the importance of sculpin in the diet of large trout, and will regularly use dead sculpin as bait or jig or troll with bucktails, marabous, or flat-fish, that resemble mottled and Paiute sculpin.

Be sure to consult current fishing regulations regarding the use of baitfish in the Snake River drainage and Grand Teton National Park prior to fishing in Wyoming.



Typical size sculpin found in the Snake River.

The next time you find yourself along the banks of a stream or lake in the Snake River drainage take a moment to look for areas sculpin are likely to inhabit. Even spend a few moments looking for one of our native sculpin along the cracks in the rocks or under a few cobbles. See if you can locate the features on a sculpin that will indicate what species you were fortunate enough to encounter.

Wyoming's Native Freshwater Mussels



The western pearlshell mussel above is about 3 inches long. Their maximum size is 5 inches.

Wyoming is home to headwater drainages of the mighty Columbia, Missouri, and Colorado rivers, and thus, a unique group of seven freshwater mussel species.

Little is known about the distribution of these species and others may be waiting for discovery in Wyoming. Unobtrusive and well camouflaged, Wyoming's freshwater mussels are largely unnoticed in our creek bottoms and lake-shores, despite their important ecological, cultural, and evolutionary values. Freshwater mussels are important "bioindicators," or species that reflect the quality of their habitats. Mussels filter the water in which they live and some species may live more than 100 years, potentially subjecting them to the long-term effects of pollution. They provide an important source of food for terrestrial wildlife, such as raccoons, bears, skunks, and shorebirds. Ancient

Many mussel species can live over 100 years

and modern peoples, alike, have used freshwater mussels for food, buttons, jewelry, tools, and pearl "seeds" in oyster culture. Freshwater mussel shells are frequently found as cultural artifacts by modern archaeologists in Wyoming and provide a unique window into geologic history and evolution. The complex life cycles of freshwater mussels rely upon particular species of fish or amphibians as hosts and allow mussels to disperse into new areas. This is likely how the western pearlshell mussel crossed the continental divide with the westslope cutthroat trout

long ago. Unfortunately, freshwater mussels are among the most threatened species in the world.

Western pearlshell mussels are the most common mussel species in the Pacific Northwest and have been found in the Snake and Salt River drainages in Wyoming. Western pearlshells prefer cold, clean creeks and rivers. Sand, gravel, and cobble are their preferred stream bottom habitats. They can live a very long time, with an average lifespan of 60 to 70 years and a maximum lifespan exceeding 100 years. Western pearlshells can be up to 5



Western pearlshell mussels were found in Polecat Creek in 2005.

inches long. Their color varies from light brown when they are young to dark brown or black as they get older.

The Wyoming freshwater mussel program is truly in the discovery phase, which is rare in the 21st century. If you find freshwater mussels, PLEASE DO NOT DISTURB THEM!

What to do if you find freshwater mussels:

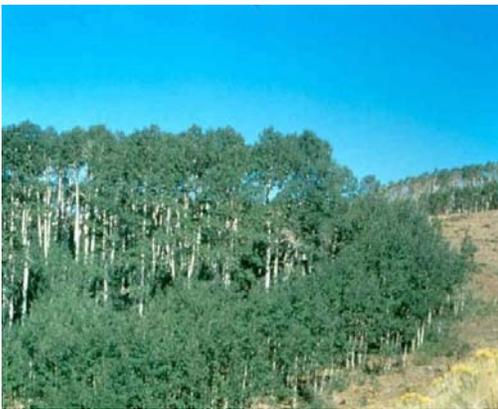
- 1) Take good notes of the find. Record location coordinates (UTMs from your GPS are great!). How many were visible? Were they alive or empty shells? How big were they?
- 2) Take pictures, preferably with a digital camera.
- 3) Notify your local fisheries biologists with the Wyoming Game and Fish Department.

Fish and Fire: How They Come Together in the Greys River

People often ask why the “fish folks” partner on prescribed burn projects to manage vegetation. The simple answer is more water. Prescribed burn projects indirectly provide more water, overhead cover, and increased habitat diversity for fish and other species that depend on streams. The relationship between healthy habitat that is dependent on fire and improving streams is important for fisheries managers to understand and, over the long term, improves the resource for the public.

Before proposing prescribed fire, managers identify an area where fire is needed to help the aspen community, meaning that without fire the aspen would be lost. Currently, the Bridger-Teton National Forest is planning to introduce fire to manage aspen to benefit fish and wildlife in the Greys River watershed. The project is called the Weiner Creek Aspen Treatment Project. The main goal of the project is to restore the health and function of aspen stands and adjacent sagebrush habitat on 2,000 acres of the upper Weiner Creek watershed. This will help prevent continued decline in habitat quality and enhance sustainability of wildlife and fish habitat in the area.

Aspen clones, conifer stands, and sagebrush communities in the Weiner Creek watershed are monotypic, which means they are all of the same age class and are not reproducing. Aspen trees are dependent on fire to regenerate and are declining because sagebrush and sub-alpine fir out-compete them for water, nutrients,



A healthy aspen stand with a variety of ages present.

and sunlight. Conifers and aspen/sagebrush complexes dominate the headwaters of Weiner Creek. These habitats are an important component for wildlife, but the

loss of aspen is contributing to decreased water storage in the watershed. Conifer and sagebrush communities use more water throughout the year than aspen, decreasing the amount of water retained in the soil and eventually in the streams.



Conifers and sagebrush also decrease grasses and forbs, which are critical to soil stability and water retention during run-off events. When properly managed, prescribed burns will benefit vegetation in the basin and improve the watershed.

The headwaters of Weiner Creek. Note the decadent aspen being encroached by conifers.

Expected benefits of the Weiner Creek Aspen Treatment Project to fisheries include increased water yield and improved habitat conditions for Snake River cutthroat trout and other native fish species. Fire also creates fish habitat for the stream, in the form of large woody debris. After a fire, dead conifers fall into the stream for many years providing important cover for fish and habitat for aquatic invertebrates.

The Weiner Creek Aspen Treatment Project is planned for late summer/fall of 2006, but the actual timing of the prescribed burn will depend on many factors such as fuel moisture, weather, and other elements. When conditions are best for a safe and successful treatment it is referred to as the “burn window”. In the Greys River, the burn window usually becomes available in late summer to early fall. So, when you start feeling a nip in the air and see a little black smoke in the sky, start thinking about the great fishing the future holds.

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WE'RE ON THE WEB!
[HTTP://GF.STATE.WY.US/](http://gf.state.wy.us/)



"Conserving Wildlife - Serving People"

**15th Annual
Jackson Kids Fishing Day!
Saturday, June 3, 2006
Sleeping Indian Pond at the
Jackson National Fish Hatchery**



Learning about aquatic invertebrates at Kids Fishing Day.

Wyoming Game & Fish Department E-Newsletter

The Wyoming Game and Fish Department has a new monthly e-newsletter. The e-newsletter arrives once a month in your e-mail inbox to keep you informed of all the latest news related to hunting, fishing, recreation, and wildlife conservation efforts in Wyoming.

Two ways to subscribe to the e-newsletter:

<http://gf.state.wy.us/newsview/frmSubscribe.aspx>

or e-mail: join-wgfnews@ewyoming.gov

You'll find information you can use each month to get out there and enjoy the landscape. The e-newsletter will also cover other issues affecting the Game and Fish Department, and ultimately your hunting and fishing experience.

Monthly sections include:

- News – headlines from across the state
- Get Out There – tips, tricks and hits to help you enjoy the great outdoors

- Wildlife Heritage Foundation of Wyoming News
- Regional news and events from each Game and Fish region
- Species Spotlight – learn more about one Wyoming species each month
- Calendar – events, activities and deadlines of interest to sportsmen
- Get the Gear – one stop shopping for Game and Fish clothing, resources and merchandise
- Reader feedback – your chance to sound off or chime in on Game and Fish activities
- Careers in Wildlife –if you have a passion for hunting, fishing, or conserving our natural resources, there's a career out there for you.

The e-newsletter is a free service of the Wyoming Game & Fish Department. We're confident you'll enjoy our newest publication!