WYOMING GAME AND FISH DEPARTMENT

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Jackson Region Fisheries Newsletter

Exploring West of the Tetons

The area on the west slope of the Teton Mountain Range near Jackson, Wyoming is often forgotten by those to the east. It may be difficult to access, but it is well worth the effort. In this issue of the Jackson Region Fisheries Newsletter, you will learn about the abundant natural resources that are within your reach. The Ashton and Teton ranger districts within the Caribou -Targhee National Forest contain over 134,000 acres of wilderness area in the Jedidiah-Smith and the Winegar Hole wilderness, as well as thousands of acres of National Forest Land that is criss-crossed with trails and streams. Grab this years' Newsletter insert and explore this extraordinary country.

Conant Creek

Adopt-A-Trout

The Adopt-A-Trout Program is an educational and inspirational experience for elementary school students that uses radio telemetry equipment to track trout in a local stream and learn about their underwater life. This is completed through a multi-faceted learning approach that gets kids out on the land and in our rivers and streams having fun!

During the Winter and Spring of 2008, students at Colter Elementary School in Jackson participated in a pilot version of this program. Trout Unlimited, in partnership with the Jackson Hole Chapter of TU and Wyoming Game and Fish Department, visited the classroom several times helping students learn about trout and conducted field trips to track radio tagged trout and learn about the Gros Ventre River.

Tracking fish along the Gros Ventre River

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Through field trips, field/classroom recreation, and classroom education, students learned about the trout life cycle, trout movements, native vs. non-native species, watershed health, and habitat requirements. They also learned basic fishing skills so they can explore and enjoy the underwater world of fish with their families and friends outside of school.

Across the country, there has been a dramatic decline in the number of anglers exploring our rivers, lakes, and streams. Ultimately, the future of hunting and fishing depends upon the commitment of future generations to learn, know, and love these resources.

-Nellie Williams, Wyoming TU

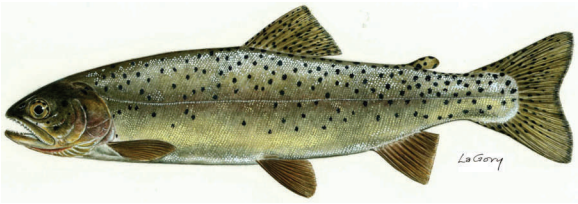
Cutthroat Trout Rehabilitation: Why?

Cutthroat trout are the only native trout species to Wyoming. Historical and genetic evidence suggests that cutthroat trout have been inhabiting Wyoming's waters for over one-million years. Their distribution was the result of the recession of glaciers and the formation of ice dams, creating huge lakes over vast areas of the landscape. When ice dams broke, and waters receded, isolated populations of cutthroat trout were left in the different drainages of Wyoming. These isolated populations became the sub-species of cutthroat trout that we know today; Yellowstone cutthroat, Snake River cutthroat, Colorado River cutthroat, and Bear River cutthroat.

Bonneville Cutthroat Trout

Colorado River Cutthroat Trout

Snake River Cutthroat Trout



Yellowstone Cutthroat Trout

These subspecies have existed and flourished for over 30,000 years in Wyoming, withstanding huge environmental changes. However, populations have declined and our native trout could be in trouble. Within the last 100 years, numerous non-native fish species have been introduced to Wyoming's waters. These fish were introduced for a variety of reasons and by a variety of methods. Some of the most commonly distributed non-native species are rainbow trout and brook trout.

Both rainbow trout and brook trout pose substantial threats to cutthroat trout. These non-native species compete with cutthroat trout for food, space, and other resources, often displacing the cutthroat. Brook trout are also fierce predators and will prey upon cutthroat trout eggs and young. Rainbow trout are the cutthroat trout's closest (genetic) relative and the two species will readily interbreed and produce fertile offspring. The overlapping spawning times and locations between rainbow trout and cutthroat trout worsen the problem, resulting in the most significant threat to cutthroat trout in recorded history. Once brook trout and rainbow trout have become established, they are very difficult to eliminate.

Other non-native species also post substantial threats to the persistence of cutthroat trout in Wyoming. Piscivores (fish-eating fish) have also been introduced into many waterways for recreational purposes. Walleye, burbot, and smallmouth bass prey upon young cutthroat trout and cutthroat trout eggs, as well as other forage fish that the cutthroat trout depend on for food.

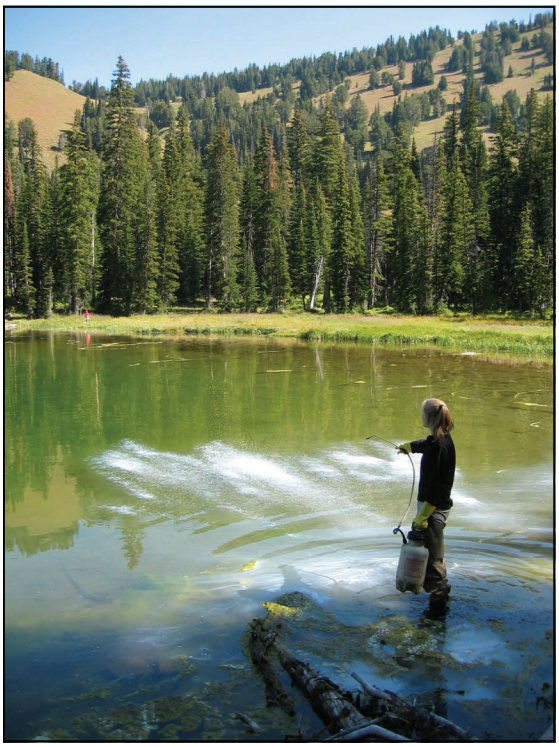
Cutthroat Trout Rehabilitation: Where and How?

Due to the wide distribution of rainbow trout and brook trout in Wyoming, many biologists consider the use of chemicals to remove these non-native species from streams and lakes and then repopulate with native cutthroat trout. The areas where this method is possible are limited; water temperature, pH, velocity, and site complexity must be suitable for a chemical rehabilitation.

Once a site has been selected for chemical rehabilitation, biologists study the system in great detail to determine how much chemical may be necessary to treat the system, what native species exist in the system, and what tributaries, seeps, springs and other groundwater sources are in the system. Native fish may be salvaged and held in nearby waterways for reintroduction after the treatment is complete.

Chemical drip station

The most common chemical used for rehabilitation is rotenone. Rotenone is found in the roots of tropical plant species within the bean family in southern Asia, South America, and Australia. Indigenous people used rotenone (extracted from local plant roots) in nearby waterbodies to kill and collect fish for consumption. Rotenone inhibits the transfer of oxygen within the cells of organisms with gills, resulting in physiological suffocation. It is not a threat to birds and mammals. Rotenone has also been used as a pesticide on crops and to control parasitic insects on livestock.



Manual application of rotenone

Antimycin may also be used for chemical rehabilitation of streams. It was first used as a toxicant for fish in 1963 and was registered as a pesticide in 1977. Antimycin is absorbed through the gills of fish and disrupts cellular respiration. It is a hazardous substance and protective gear must be used during application; however, it is considered less toxic than rotenone to non-target organisms such as zooplankton and invertebrates and quickly breaks down when exposed to sunlight

A rehabilitation site is generally treated with chemical for two consecutive years to ensure complete removal of non-native fish species. Application of the chemical usually occurs when water levels are low and recreational or livestock use within the area is limited. A chemical detoxification is also commonly used to ensure that fish kills do not occur downstream of the treatment site. Duration of the treatment varies from 1 day to several weeks depending on the size of the area to be treated. Once the treatment is complete, native fish are reintroduced into the system.

Although this method may seem extreme, it is often the only way to remove non-native species and rehabilitate native species.

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"Conserving Wildlife Serving People"

Kids Fishing Day

This year kids fishing day will be held on the **6th of June at the Snow King Ball Field** due to construction at the National Fish Hatchery. Registration begins at 10:30am and all activities are concluded by 2:00pm. Jackson Jaycees will, once again, provide a free lunch. All kids, age 13 and under, are invited to participate and parents can listen in for a great learning experience. Activities include a casting contest, fly tying, boating safety, and fish identification. This year, all registered kids will receive a fishing pole!

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 Nation Forest, US Fish and Wildlife Service, and Teton County EMS are local sponsors of the event.

Flat Creek Update

Electrofishing on Flat Creek

Flat Creek on the National Elk Refuge is managed as a trophy class fishery for Snake River cutthroat trout with relatively restrictive fishing regulations. Fishing season is from Aug. 1 to October 31st each year and anglers may only use artificial flies.

To monitor trout populations in Flat Creek an electrofishing survey was conducted in September 2008 and two stations were sampled. One station was located approximately one mile downstream of the Jackson National Fish Hatchery and a second located upstream of the Jackson National Fish Hatchery outflow.

The survey uncovered a declining Snake River cutthroat trout population and an increasing brook trout population in Flat Creek on the National Elk Refuge upstream of the Jackson National Fish Hatchery. The survey showed Snake River cutthroat trout greater than five inches in the section had declined from 191 per mile in 2002 to 58 per mile in 2008. The number of brook trout greater than five inches increased from 18 per mile in 2002 to 122 per mile in 2008.

However, cutthroat populations downstream of the hatchery did not show the same decline. The number of Snake River cutthroat trout greater than five inches downstream of the hatchery remained fairly stable at 80 per mile in 2002 and 105 per mile in 2008. Brook trout numbers in the stretch remained below 30 per mile.

Because Flat Creek has a reputation for large Snake River cutthroat trout, it was disappointing to see the number of cutthroat trout down in the upper stretch and the number of brook trout up. Sampling of both sections will be conducted again in September 2009 and the effectiveness of the habitat structures will also be evaluated. Anglers are encouraged to keep brook trout they catch in Flat Creek (limits apply).

Thanks to this years newsletter contributors: Tracy Stephens, Bobby Compton, and Nelli Williams.