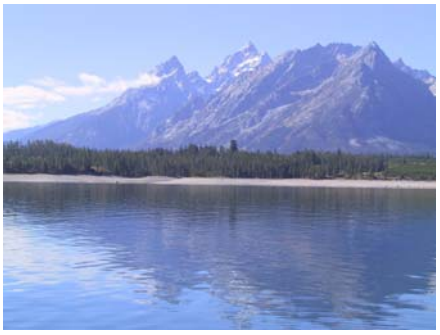


WYOMING GAME & FISH DEPARTMENT

May, 2004
Volume 1, Issue 1

Jackson Region Angler Newsletter

Inside this issue:

Special points of interest:

- Earn your Cutt-Slam
- Preventing the spread of New Zealand mudsnails
- How deep is Jackson Lake?
- Jackson National Fish Hatchery operations
- Jackson Kids Fishing Day

Jackson Region Angler Newsletter Debuts!

Welcome to the first edition of the Jackson Region Angler 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 addition to articles on fisheries of the Jackson region, you will find information on the Jackson National Fish Hatchery, preventing the spread of aquatic nuisance species, and earning your Wyoming Cutt-Slam. The importance of vegetation in riparian areas and the 14th Annual Jackson Kids Fishing Day activities are also discussed.

Flat Creek Snake River cutthroat trout

Your feedback and input is always appreciated. Please contact us with any comments or questions using the information on the back of the newsletter.

Thanks to this year's contributors: Liz Scriven, and Lara Sweeney!

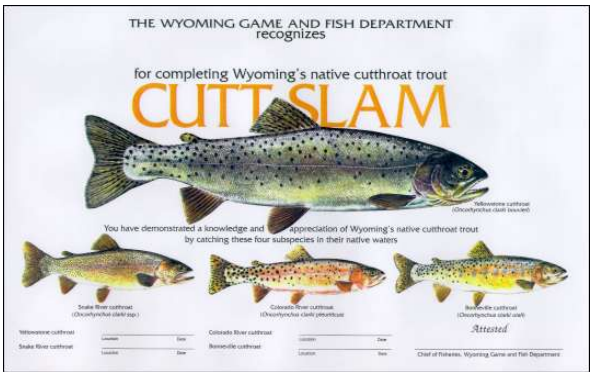
Jackson Region Fisheries Management

The Jackson Region Fisheries Crew is responsible for managing the Snake, Salt, Greys, and Hoback River drainages of western Wyoming. This area covers 4,428 square miles with 2,285 stream miles and 35,087 lake surface acres. The waters within the region are quite diverse, ranging from high-elevation alpine lakes to the renowned Snake River. The management crew consists of Regional Fisheries Supervisor Rob Gipson and two Fisheries Biologist, Ralph Hudelson and Tracy Stephens. Lara Sweeney is the Regional Aquatic Habitat Biologist.

2004 Wyoming Free Fishing Day
Saturday June 5th

The Wyoming Cutt-Slam Program

The Wyoming Cutt-Slam is a program designed to encourage anglers to learn more about Wyoming's cutthroat subspecies and develop a greater appreciation of the Wyoming Game and Fish Department's cutthroat management program. The four cutthroat sub-species are the Yellowstone, Snake River, Colorado River, and Bonneville.



Cutt-Slam certificate

To earn your Cutt-Slam, you must catch each of the four cutthroat subspecies in their native range in Wyoming. Then, send a photo of each fish and information on the date and location of catch to a Wyoming Game and Fish fisheries biologist.

Once we have verified your catch of all four sub-species, you will receive a color certificate featuring all four subspecies recognizing your accomplishment. Visit http://gf.state.wy.us/ or check with your local Game and Fish office for more information.

Salt River Population Estimates and Cutthroat Telemetry Study

The recent completion of a six year intensive study of the Salt River led to a concern that the whirling disease parasite *Myxobolus cerebralis* may be contributing to declines in the wild Snake River cutthroat trout population at the Etna Lane survey site. Whirling disease most significantly impacts young trout and population estimates from 1995-2002 show an apparent decline in small Snake River cutthroat trout. However, the 2003 estimate is consistent with the 1998 estimate and shows an increase from 2002. A population estimate for the Etna Lane site will be conducted in 2004 to further monitor the cutthroat population.

Salt River electrofishing

One question that remains is the contributions of the mainstem river, mountain tributaries, and spring streams to the production of Snake River cutthroat trout in the Salt River drainage. A project starting in the fall will begin to identify the relative contributions of different components of the Salt River watershed to the reproduction and recruitment of Snake River cutthroat trout that occupy the river.

Adult Snake River cutthroat trout will be captured in the fall and fitted with transmitters. The fish will be tracked through the next spawning season to determine use of the mainstem Salt River, mountain tributaries, and spring streams during the spawning season. Locations of fish during the spawning period will be examined for the presence of suitable spawning habitat and other spawning fish. During July and August, electrofishing surveys will be used at these sites to find Snake River cutthroat trout fry.
This project continues the watershed emphasis for fisheries management in the Salt River drainage.

Threats to Fisheries

Every water body is a unique ecological system. A particular fish, water plant, or other aquatic life form that belongs in one stream or lake may not belong in another. When a new organism arrives it may upset the delicate balance of the system, causing ecological or economic harm, thus the invading species is considered a nuisance.

The New Zealand mud snail and the parasite that causes whirling disease are good examples of nuisances that can reduce the quality of Wyoming fisheries.

Whirling Disease

Whirling disease primarily affects trout and salmon. A microscopic parasite known as *Myxobolus cerebralis* attacks the cartilage in the head and spine of young fish. Sufficiently infected young fish may display a whirling behavior, develop a black tail, or die. Survivors may have skeletal deformities.

The parasite is also suspected of affecting young fish in other ways, such as making them less able to escape predation and feed normally. Long-term effects of this disease in wild fish is controversial.

New Zealand Mudsnail

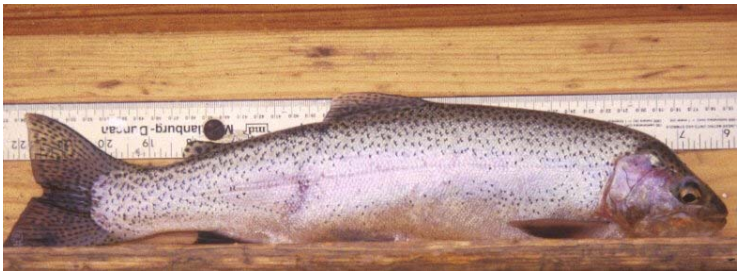
New Zealand mudsnails are native to fresh waters of New Zealand. They have been spread to North America and were first discovered in the late 1980s in the Snake River, Idaho and Madison River, Montana. This small snail quickly spread to waters in Yellowstone National Park. New Zealand mudsnails most likely spread by human activities such as attached to waders or angling gear.

New Zealand mudsnails range in size from a grain of sand to an average size of 1/8th inch. They are found in all types of waters and have been found in densities over 45,000 per square foot. New Zealand mudsnails can survive several days out of water and reproduce asexually.

Clean all equipment such as boats, trailers, waders, boots, and float tubes of mud before leaving a river or lake.

What you can do to prevent the spread of aquatic nuisance species

- Clean all equipment such as boats, trailers, waders, boots and float tubes of mud before leaving a river or lake.
- Do not transport any river or lake water in coolers, buckets, boats or live wells from one river basin to another.
- Do not transport live fish between bodies of water. This practice could spread the disease and is strictly illegal.



A rainbow trout exhibiting skeletal deformities characteristic of infection with the parasite that causes whirling disease

- Do not dispose of fish heads, skeletons or entrails in any body of water.
- If you observe symptoms of whirling disease in fish or illegal stocking, contact your Game and Fish office.

Jackson Lake Fact Sheet

Jackson Lake Dam is managed by the Bureau of Reclamation

Jackson Lake is 445 feet deep

- Maximum surface area: 25,730 acres
- Maximum depth: 445 feet
- Maximum depth was increased 39 feet with the construction of the dam.
- Mean depth: 123 feet
- Spill elevation at dam: 6,769 feet
- Reservoir storage: 847,000 acre-feet
- The Bureau of Reclamation vacates approximately 398,000 acre-feet annually for irrigation
- Drainage area: 824 square miles
- Number of tributaries entering the lake: 14
- Largest tributary entering the lake: Snake River (65% of total in-flow)
- Average ice off date: May 10
- Management catch rate objective: 0.5 fish per hour
- Game fish species: Snake River cutthroat trout, brown trout, lake trout, and mountain whitefish
- Non-game fish species: Utah sucker, Utah chub, speckled dace, and redside shiner
- Current 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 24 inches. Jackson Lake is closed during October to protect spawning lake trout.

Jackson Lake in late summer

Jackson Lake Management

Jackson Lake provides a unique angling resource in the Snake River drainage of Wyoming. The lake trout population has been the focus of management for many years. Jackson Lake fisheries management activities consist of summer trend netting of all fish species, fall trophy lake trout netting, angler surveys, and zooplankton sampling.

Yearly netting surveys are conducted in July using sinking gill nets. Sampling targets all game fish species in Jackson Lake and also allows evaluation of Utah chub and Utah sucker populations. Information gained through netting allows us to monitor trends in the fish population and monitor fish condition by gathering length and weight information.

In monitoring fish condition trends over the past ten years, we found that the body condition for lake trout decreases until they reach 20 inches. Lake trout condition is generally stable from 20 to 24 inches. Body condition increases above 24 inches when lake trout convert to primarily a fish diet.

Yearly trophy lake trout netting is conducted in October during the lake trout spawning season. Nets are set for short periods and captured lake trout are weighed and measured. Lake trout over 20 inches are tagged with $25 reward tags and released. The information from tagged lake trout that are recaptured through crew activities or by anglers provide valuable information on growth.

Lake trout tagging

Zooplankton surveys are a valuable tool in evaluating what is available for fish to eat. The zooplankton population is generally not over-utilized by fish in August and October but consistently low volumes in September indicated the zooplankton resources could be limited at that time.

Future Management

Since 1988, approximately 36,000 lake trout have been stocked annually. Stocked lake trout have a poor return to anglers (10-20%). In addition, the decrease in condition of game fish species has raised concerns that the zooplankton resources in Jackson Lake may be over-utilized. Lake trout stocking will be reduced in upcoming years and phased out in 2007.

The last intensive angler survey was completed during the winter of 1996, when catch rates were 0.72 lake trout per hour. An angler survey is planned for the winter of 2004-05 to evaluate recent changes in lake trout stocking, creel limits, and winter access.

Summer trend netting, fall trophy lake trout netting, and zooplankton sampling will continue to allow monitoring of the Jackson Lake fishery.

Collecting zooplankton samples

The lake trout population has been the focus of management for many years

Fish Love Trees

Cottonwoods provide habitat in the riparian area

Riparian areas make up less than 1% of Wyoming's landscape

Looking at the Wyoming landscape, notice that ribbon of color that connects the mountains with the valleys, the streams with the rivers. The ribbon is made up of different plant species than the rest of the landscape, it's teeming with wildlife and it surrounds a precious resource. This habitat type is a riparian plant community. Healthy riparian plant communities provide structure that stabilize streams, habitat and forage for wildlife and fish, and protection from nature's extreme conditions. Properly functioning riparian areas are crucial to all watersheds and 80% of wildlife species in Wyoming. However, riparian areas make up less than 1% of Wyoming's land area. This small amount a habitat provides many functions and can be an indicator of the health of the other 99% of habitat types. Riparian habitats link all other habitats together.

Lakeshores and streambanks are riparian areas, and the plants that grow there are called riparian vegetation. Riparian vegetation requires water in amounts greater than that which falls as precipitation. The roots of riparian trees, shrubs, sedges and rushes help hold streambanks in place, preventing erosion. Erosion occurs naturally when water velocities are high. When a streambank has established healthy vegetation, the water moves less sediment and the sediment from upstream is filtered and trapped. The collected sediment builds up and vegetation quickly establishes. Native vegetation facilitates the stream to become narrow, deep and cleans the water. Vegetation slows and dissipates spring runoff, allowing the excess water to enter into the groundwater. This recharging of aquifers and groundwater reduces the height of floodwaters and stores water to be released during the critical late summer and fall stream flow.

Fish and aquatic insects rely on the riparian woody materials such as logs and branches that fall into the water from the stream banks. The insects use the vegetation as a food source and insects are food for the fish. Fish use large woody debris, overhanging vegetation and undercuts banks as hiding and thermal cover. The aquatic wildlife also depends on the vegetation to trap upstream sediment. Large amounts of sediment may cover and suffocate the redds that contain fish eggs and inhibit certain species of aquatic invertebrates.

The protection and restoration of the native vegetation along streams, rivers and lakes is the key to maintain bank stability, reduce erosion and increase water storage. Caution is needed whenever working or playing in riparian areas. Cultivating streambanks, changing stream channels and removal of riparian shrubs and trees are activities that should be avoided. Limiting domestic livestock use and harvest of beaver can aid in maintenance of riparian vegetation. In addition, steering clear of operating off-road recreational vehicles or heavy equipment in riparian areas can reduce damage to soil and streambank vegetation. Riparian vegetation not only protects the water resource but it provides for the wildlife and fishery resource.

Jackson National Fish Hatchery

The Jackson National Fish Hatchery is a Federal facility within the U.S. Fish and Wildlife Service. The buildings were completed in 1957 and the first load of fish was stocked in September of 1958. Previous fisheries stations were located north of town near Moose (1934-1936) and south of town in South Park (1936-1948).

The hatchery is located four miles north of Jackson on Highway 191/89. Hours are 8:00 am – 4:00 pm daily.

Native Snake River cutthroat trout are the primary species being reared, with numbers upwards of 500,000 annually. In addition, roughly 250,000 eggs are distributed to various state and federal departments. A small number of lake trout are raised exclusively for Jackson Lake, although population studies have shown that stocking can soon be phased out.

Stocking cutthroat in Palisades Reservoir

The current distribution area for the hatchery encompasses 18,000 square miles, including 100,000 acres of lakes and 4,000 miles of streams. A handful of the places cutthroat are stocked include Palisades Reservoir, Grassy Lake, the Wind River Indian Reservation (Wyoming) and Fort Hall Indian Reservation (Idaho), Shoshone River and in the upper Snake River drainage basin in Targhee and Bridger-Teton National Forests. Requests are typically made by Wyoming Game and Fish Department, Idaho Department of Fish and Game and the Indian tribes of Wind River and Fort Hall.

Jackson National Fish Hatchery

Jackson National Fish Hatchery pond

Visitors to the hatchery are welcome to observe the outside raceways and go through the visitor center, as well as try their hand at fishing in the hatchery pond. The pond, which requires a Wyoming fishing license, is an ideal place for children and beginning anglers. The dock and picnic table are also handicap accessible. The hatchery is located four miles north of Jackson on Highway 191/89. Hours of operation are 8:00 am – 4:00 pm daily.

WYOMING GAME & FISH DEPARTMENT

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WE'RE ON THE WEB!
HTTP://GF.STATE.WY.US/

Conserving Wildlife - Serving People

14th Annual Jackson Kids Fishing Day
Saturday, June 5, 2004

Fishing at the Jackson National Fish Hatchery Pond, Kids Fishing Day 2003

Spend a day learning a little about the sport of fishing! The 14th Annual Jackson Kids Fishing Day will be held Saturday, June 5th 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, U.S. Fish and Wildlife Service, and Teton County 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.