



# Volume II, Issue II

"From the Bighorns to the Black Hills"

Sheridan Fish Management Crew

Volume II, Issue II

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Wyoming Game and Fish Department  
"Conserving Wildlife - Serving People"

## Greetings From Your Fish Management Team

Welcome to the second angler newsletter for Northeast Wyoming! We hope you find it informative and interesting and we look forward to hearing from you.

Our region covers all of the northeast corner of Wyoming; over 18,000 square miles in Sheridan, Johnson, Campbell, Crook, Weston, Niobrara, Natrona and Washakie Counties. Major drainages are the Little Bighorn, Tongue, Powder, Little Powder, Little Missouri, Belle Fourche, and Cheyenne.

Northeast Wyoming has a tremendous diversity of fish and fishing opportunities. There are some 3,000 stream miles and 19,000 surface acres supporting everything from cold water fish in the high mountain lakes to warm water species in the prairie lakes and streams.

These waters support 7 native game fish species and 19 native non-game fish species. In addition to the natives, there are 27 different introduced fish species, most of which are game fish, such as rainbow, brown, brook, splake, lake and golden trout, smallmouth

and largemouth bass, sunfish, northern pike, walleye and tiger muskie.

Through this and future newsletters we'll be highlighting many of the more popular fishing spots you're familiar with, as well as the work we do with Wyoming's lesser known but important native fish.

It's all part of our mission and we want to tell you about it. So again, welcome, and by all means please let us know what you think about our newsletter.

To reach us by phone, Call 307-672-7418 and ask for one of the fisheries biologists. To send us a letter or email, please see the back page of this newsletter. Happy fishing!



## Putting Beavers To Work

Some people consider beaver a nuisance because they cause flooding, detain flows, remove shrubs and trees, or force anglers to alter their fishing habits. In appropriate settings, however, like headwater streams, beaver can enhance streambank water storage and streamside habitats.

Beaver help maintain consistent flow in streams throughout the year. Streambanks and floodplains absorb water during high flows in spring and the water is gradually released during drier periods. Beaver dams

slow and disperse high flows, which helps expand the sub-irrigated area adjacent to the stream, called riparian areas.

Healthy riparian areas provide food and cover for fish and wildlife. About 80 percent of Wyoming's wildlife depends on riparian areas for some or all of their annual needs. Beaver ponds enhance forage production within riparian zones, which also increases grazing capacities for wild and domestic animals.

### Inside this issue:

Greetings	1
Putting Beavers to Work	1-2
Changes at Story Fish Hatchery	3
Improving Fish Passage	3
Cool Water Fishing at LAK Reservoir	4
Keyhole Reservoir news	5
Making Fish Bigger-Muddy Guard #1	5
North Tongue & Bull Creek	6
Cloud Peak Wilderness stocking	6
The Powder River Fish Study	7
Contact us	8

### Special points of interest:

- Meet the crew
- Whirling Disease
- Powder River and its fish
- Contact us!

Beaver enhance riparian habitats for themselves by managing stream flow, which increases habitat diversity for other critters. For instance, bird densities at beaver colonies can be up to three times greater than adjacent riparian habitats. Average trout size is often greater in streams with beaver ponds. Moreover, their ponds provide a haven for the winter survival of trout by providing low velocity pools that are protected from floating ice.

Many native trees and shrubs are adapted to beaver cutting. They re-sprout from the stem or root system after being cut, and thrive with the increased water flow available from beaver. As with all herbivores, beaver must be managed to ensure they do not overuse the vegetation resources.

Inadequate dam building materials and food can limit beaver populations. They need willows, aspen, alder, birch, or cottonwood to meet winter forage demands, and to provide the building blocks necessary to maintain durable dams.

Currently, beaver inhabit about one-quarter of their original range on the Bighorn National Forest. In response to declining populations and the absence of beaver in some watersheds, the Bighorn National Forest and Wyoming Game and Fish Department are working to restore beaver to suitable habitats on the Forest. The Wyoming Governor's Big Game License Coalition, Rocky Mountain Elk Foundation, and Bow Hunters of Wyoming provided financial assistance for these efforts. Fifty beaver were transplanted to three unoccupied South Tongue River watersheds: Owen Creek (19), Prospect Creek (16), and Marcum Creek (15). Prior to winter, beaver had successfully constructed dams and built caches in all watersheds including the South Tongue.

Beaver were also transplanted to the Bear Lodge Ranger District of the Black Hills National Forest during April and May. Five beaver were released on the North Fork of Cole Canyon Creek, which is a tributary of the South Fork of Redwater Creek, and 15 beaver were released on the North Fork of Cow Creek, which is a tributary of the Middle Fork of Redwater Creek. Bear Lodge Ranger District personnel assisted with the transplants.



**A recently released beaver transplant ready to go to work**



## Changes At Story Fish Hatchery



**Story Hatchery Superintendent Dave Ackerman with an Eagle Lake rainbow trout spawner at Story Hatchery**

*“(whirling disease) has not been found to exist in the drainage or at the hatchery”*

*“Story Hatchery has traditionally supplied most of the fish stocked in the Sheridan and Buffalo areas”*

*“numbers of fish stocked will remain consistent with what Story hatchery has done in the past”*

### A Change for the Future

The spore that causes salmonid whirling disease (WD) was discovered in fish being reared at the Story Fish Hatchery in January 2005. The fish were scheduled for stocking in Lake DeSmet in the spring of 2005.

This discovery led to the subsequent decision to destroy the fish. This decision is based on the Department’s stand that it will not stock WD positive fish and thus increase the prevalence of the parasite in Wyoming waters by its own willful actions. The 100,000 fish that were destroyed have been mostly replaced with trout from other Wyoming Game and Fish hatcheries.

The Wyoming Game and Fish Culture Section is operated as a statewide system and works hard to maintain the needed flexibility to allow it to cover all the commitments for the fishery needs statewide even in the event of a disaster.

Due to the difficulties and expenses involved in safeguarding the Story facility from future occurrences of whirling disease, fish will not be reared for stocking in the immediate future. Waters in northeast Wyoming will now be stocked by the other hatcheries operated by the Game and Fish Department.

The Story Hatchery will now focus its efforts on rearing top quality eggs for shipment to

other Wyoming facilities where they will hatch and rear the fish and many of them will later be returned to the waters of Northeast Wyoming to be utilized by the angling public. Whirling Disease is not transmitted through the eggs so Story can gather and distribute eggs without disease transmission.

In the past the Story hatchery has traded eggs to other States to obtain fish that cannot be raised in the hatcheries of Wyoming such as walleye, bass, channel catfish and perch, and this operation will also be continued. The Culture Section provides all fish needed for stocking into the many rivers, lakes and streams in Wyoming and will continue to do so long into the future.

The Story Hatchery currently maintains three brood stocks that are important to Wyoming. The Lake Trout and Brook Trout spawn during the month of October and the Eagle Lake Rainbow trout which spawn from February through April of each year. Taking care of these valuable broodstocks will continue as we investigate options to raise fish for stocking at Story Hatchery.

## Improving Fish Passage In Clear Creek

A century old diversion – Kendrick Dam – precludes movement of native fishes of the Powder River to about 70 miles of Clear Creek and we’re working to fix that. The owner of the diversion is willing to explore developing fish passage at the dam and screening at the diversion provided he is able to continue his traditional irrigation practices. Accordingly, we initiated a project to explore alternatives to reconnect historical stream habitats and reestablish migrations of shovelnose sturgeon, sauger, goldeye, river carpsucker, plains minnow, silvery minnow and channel catfish, while maintaining irrigation practices.

HabiTech of Laramie was contracted to complete feasibility assessments and develop concept designs for fish passage and diversion screening alternatives at Kendrick Dam. The final report on the concept design process is expected in June 2005.



**Kendrick Dam on Clear Creek just upstream from the Powder**

## Cool Water Fishing At LAK Reservoir

Over the last few years we've changed management emphasis from trout to cool water species like tiger muskie, walleye, and smallmouth bass, and the results are looking pretty good.

We changed because our netting data showed that trout grew and survived poorly, and because LAK was over populated with green sunfish that we thought were out competing trout for food.

After a lot of discussion with folks, we decided to introduce tiger muskie and walleye to prey on the green sunfish and reduce their numbers.

We're still sampling every year or so and it's looking more and more like the introductions worked. This is good news because green sunfish used to be so common you literally couldn't keep 'em off your hook. Now they are getting pretty scarce.

While green sunfish numbers have gone down, our catch of smallmouth bass has increased, and some of the smallmouth are up to a couple of pounds.

Netting has shown rainbow are gone from this lake full of predators, but we still catch some nice browns in the 2-pound category.

The smallmouth bass are plentiful with quite a few fish up to a pond or two, there is a good population of walleye up to 5 pounds, and some very nice tiger muskie in the 40 inch-plus range are lurking the lake (remember they have to be over 30 inches to be harvested.).

We'll keep watching fish trends at LAK but hope you agree the changes were for the best.

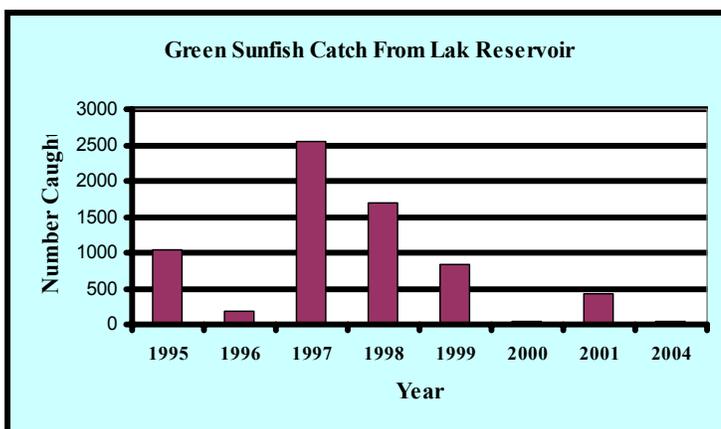
*"smallmouth bass are plentiful...there is a good population of walleye up to 5 pounds, and some very nice tiger muskie in the 40 inch-plus range are lurking"*



Typical 1 1/2 pound smallmouth.



A pretty nice tiger muskie from LAK .



## Keyhole Reservoir

Our 2004 fish sampling at Keyhole differed little from the 2003 sampling.

Walleye sampled ranged from 8 to 27 inches and averaged 18.2 inches. The weight of the average walleye was 2.7 lbs.

Three distinct size classes of walleye were sampled; 8-10 inches, 16-18 inches, and 21-27 inches. This size structure is fairly typical of walleye fisheries. Keyhole currently has a population of large walleye that resulted from the 1992 stocking. Over the next few years these large, old walleye will disappear (from fishing and natural mortality) and the 16-18 size group (which will have grown to be 20-24 inches by then) will take their place as the "big ones" that anglers will pursue.

Only two northern pike were sampled in 2004, but they were 30.0 and 33.2 inches.

Smallmouth bass ranging in length from 8 to 18 inches were sampled. While crappie from 7 to 9 inches were also caught in the nets.

The 7-9 inch crappies are very abundant in Keyhole and until a significant portion of that size class succumbs to natural mortality, it is doubtful the size structure desired by anglers will improve.

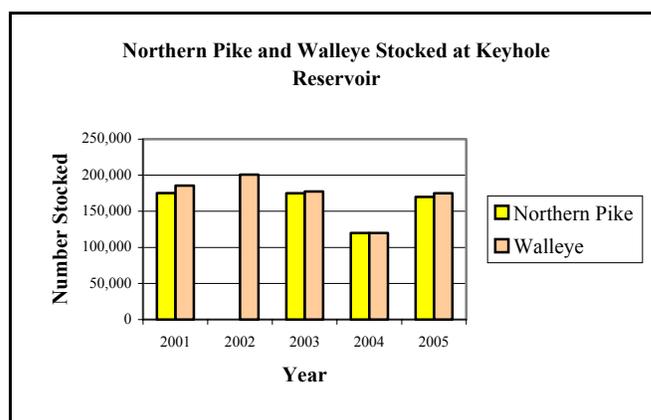
Walleye and northern pike spawning and natural reproduction are unreliable in maintaining the populations of these two species at Keyhole so fingerlings (small fish about 1-2 inches long) are routinely stocked.

Walleye and northern pike are stocked at the rate of at least 20 fingerlings per surface acre; with Keyhole at about 5,200 surface acres in early May 2005 we stocked 175,950 walleye and 172,900 northern pike.

Wyoming gets walleye and northern pike fingerlings by trading fish with the State of North Dakota.

*"Walleye and northern pike are stocked at the rate of 20 fingerlings per surface acre"*

*"in early May 2005 we stocked 175,950 walleye and 172,900 northern pike."*



## Making Bigger Fish At Muddy Guard #1 - Here is the recipe!

Remove as much water as possible from the reservoir (less water equals less chemical needed to remove unwanted fish species). Add just enough rotenone to eliminate the few remaining white suckers. Fill the reservoir back up. Wait until the chemical used to remove the suckers has dissipated. Stock trout.

In mid-June 2004 two open house public meetings were held (one in Buffalo and one in Sheridan) to discuss the project with anglers. After hearing our plans, most anglers were anxious to get on with the project.

With help from the local irrigation company the reservoir was drained during July and August of 2004.

In September 2004 rotenone was used to remove the remaining few white suckers that were still in the trickle of water running through the reservoir. Also that day the gate was closed and the reservoir began to fill.

In early January 2005, 920 Snake River cutthroat were stocked through the ice and in early May an additional 550 rainbow trout were stocked.

Spring rains in 2005 brought the reservoir back up to full capacity and growing conditions are now optimal.

While the recipe seems easy enough, it is actually quite a bit of work, but well worth it in the end, as we hope to end up with bigger fish and much better fishing for everyone.



## North Tongue River and Bull Creek Update



**Electrofishing in the Tongue River drainage**

Although most anglers probably haven't noticed the difference, a change in the subspecies of cutthroat being stocked in these two waters has occurred over the last three years.

In 2002 and 2003 half of the cutthroat stocked were Snake River and half were Yellowstone cutthroat, but in 2004 and 2005 all the trout stocked have been Yellowstone cutthroat.

*“Yellowstone cutthroat are probably surviving and growing about as well as the Snake River cutthroat and populations in both streams remain healthy”*

Sampling in 2003 indicated Yellowstone cutthroat were surviving and growing as well as the Snake River cutthroat and populations in both streams remain healthy.

The North Tongue and Bull Creek were not sampled in 2004. However in September 2005 both streams will be sampled with electrofishing equipment

to determine Yellowstone cutthroat growth rates and survival or fish stocked in 2003, 2004 and 2005.

Anglers are reminded that the North Tongue from the mouth of Bull Creek upstream, including Bull Creek and all tributaries, is managed with special regulations. All fish except *brook trout* must be returned to the water immediately after being caught.

In spite of the special regulations, brook trout seem to be increasing in the North Tongue and Bull Creek. This concerns us because we manage these streams for cutthroat trout and we do not want brook trout competing with the cutthroat.

The special regulations allow anglers to keep brook trout and we encourage anglers to do so (up to their legal limit) in Bull Creek or the North Tongue.

Also, if anglers wish to keep some trout for the table other than brook trout, fish harvest is allowed on the North Tongue downstream of the mouth of Bull Creek.

## Cloud Peak Wilderness Lakes Stocking

Twenty-five Cloud Peak Wilderness lakes were stocked with trout in early August 2004.

Stocking is required because natural reproduction is insufficient to support a quality fishery.



**Stocking Fish by helicopter in the Cloud Peak Wilderness**

Stocking is done every two years in the Bighorns with individual lakes stocked on 2 or 4 year rotations depending on the stocking needs and amount of angler use.

Although the lakes were stocked in 2004, it will be several years before these fish grow large enough to catch. That's because alpine lakes are cold and generally unproductive, and the 2-3 inch stocked fish will grow pretty slowly.

Eventually these fish will provide quality fishing amidst some of Wyoming's most spectacular scenery.

Angeline, Brown Bear, Florence, Golden, Long, Loomis, Lost, Wilderness, Magdalene, Mead, Powell #,1

Powell #2, Seven Brothers #6, Sherd, Trigger, and South Piney #2 were stocked with Snake River cutthroat.

Lame Dear, Seven Brothers #1, Seven Brothers #2, Seven Brothers #3, Seven Brothers #4, Seven Brothers #5, and Seven Brothers #7 were stocked with Eagle Lake rainbow.

Hope, Ringbone and South Piney #1 were stocked with Yellowstone cutthroat.

*“Stocking is done every two years in the Bighorns...because natural reproduction is insufficient to support a quality fishery”*

## Powder River Fish Study Continues

The Powder River is one of Wyoming's few free-flowing rivers and is regarded as one of the Nation's last remaining, largely intact, prairie stream ecosystems.

The Powder is home to species



**Powder River near Schoonover Road bridge**

adapted for survival in a river that exhibits tremendous variation in seasonal flow, turbidity, and temperature.

The river supports a diverse fish fauna but specific life history information is lacking for most species, habitat characteristics associated with most species are poorly known, and only limited information about the distribution and relative abundance of species or assemblages is available.

Information gaps in our knowledge of the aquatic ecology are especially glaring in light of recent and rapid developments in the Coal Bed Natural Gas industry throughout this river basin.

a study of the Powder River last summer to refine information about fish distributions, their relative abundance, and the habitats that sustain them. A survey of amphibians and reptiles continues, and this year extra effort is being made to collect data about habitats available at different flows.

Results from this project will help biologists understand what makes this unique prairie stream tick, and help us predict how human influences might affect this river and its fish.

### Powder River Fish Facts

The Powder River is home to 5 large native sucker and minnow species: the white sucker, longnose sucker, mountain sucker, shorthead redhorse and the river carpsucker.

The shovelnose sturgeon is a primitive species and lacks scales, has a cartilaginous skeleton, and has rows of bony plates. The shovelnose spawns in Crazy Woman Creek after migrating to Wyoming from as far away as the Yellowstone River.

The channel catfish, a native fish popular with anglers, also uses the Powder for spawning and rearing of young. A close cousin, the stonecat, is relatively unknown to most anglers due to its small size, but is also common to parts of the drainage.

The Powder River drainage is also habitat for the sauger, a Wyoming native and a close relative of the non-native walleye.

Fisheries and Aquatic Habitat biologists in Sheridan, Casper and Laramie began



**The sturgeon chub is one of the rarest of the Powder River minnows**



**Shovelnose Sturgeon migrate up the Powder from the Yellowstone River**



**Sauger, a close relative of the walleye, is another seasonal migrant from Montana**

*"The Powder River is one of Wyoming's few free-flowing rivers"*

*"results from this project will help biologists understand what makes this unique prairie stream tick"*

**Sheridan Fish Management  
Crew**



*Wyoming Game and  
Fish Department*

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Serving People”

Wyoming Game and Fish Department  
Sheridan Region  
700 Valley View Drive  
Sheridan, WY 82801

Phone: 307-672-7418  
Fax: 307-672-0594

[http://gf.state.wy.  
us/](http://gf.state.wy.us/)

Special thanks to the folks at Story Hatchery (Dave Ackerman, Brad Welch, and Jennifer Reasoner) and to Travis Cundy, Aquatic Habitat Biologist, for their contributions.

We welcome your comments or suggestions about this newsletter. Please feel free to contact us with the information to the left, or email us at:

Paul.Mavrakis@wgf.state.wy.us  
Bud.Stewart@wgf.state.wy.us  
Bill.Bradshaw@wgf.state.wy.us

### Dates to Remember

- ⇒ **September 9-11:** Wyoming Hunting and Fishing Heritage Expo, Casper Events Center
- ⇒ **June 3, 2006:** Wyoming's Free Fishing Day, check article inside for details



From left to right, Bud Stewart, Paul Mavrakis,  
and Bill Bradshaw

**Bud Stewart** has nearly 30 years experience as a fisheries biologist. The first ten years of his career he worked for the Nebraska Game and Parks Commission in northeast Nebraska managing warm and cool water fish. In 1985 he accepted a position with the Wyoming Game and Fish Department reviewing and commenting on environmental documents in the Cheyenne office. Then in 1987 he returned to fish management and transferred to northeast Wyoming. Bud has a Bachelors of Science degree from the University of Nebraska and a Masters degree from the University of South Dakota.

**Paul Mavrakis** has 12 years of fisheries experience starting as field aide for the University of Wyoming working in the Bridger-Tetons, Snowy Range and Thunder Basin Grasslands. Paul did his undergraduate work at the University of Wyoming and graduate work at the University of Minnesota. After working for the Indiana Department of Natural Resources as a research biologist for a year, he joined the Wyoming Game and Fish Department fisheries management crew in Casper in 1996. In late 2004, Paul moved to Sheridan to his current position as Regional Fisheries Supervisor.

**Bill Bradshaw** began his fisheries career after earning a Bachelors degree from The Evergreen State College in Olympia Washington in 1978. After working for the Washington Department of Fisheries, U.S. Fish and Wildlife Service, Washington Department of Game, and private consultants, he returned to school, where he earned his Masters degree in fisheries from the University of Louisiana in Baton Rouge in 1983. Bill came to work for the Wyoming Game and Fish Department in January of 1987 as a state-wide Instream Flow Biologist. He has been a Fisheries Biologist in Northeast Wyoming since transferring to Sheridan in 1993.