

Pinedale Region Angler Newsletter

2010 Edition

Volume 6, Issue 1



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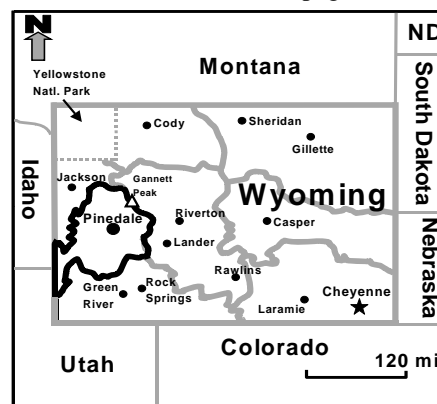


Thanks for reading the 2010 version of Pinedale Region Angler Newsletter. This year's newsletter will feature stories and news regarding helicopter stocking, native fish, willows, and other interesting aspects of fisheries management. This newsletter is intended for everyone interested in the aquatic resources in the Pinedale area. The resources we manage belong to all of us.

The Pinedale Region encompasses the Upper Green River Drainage (upstream of Fontenelle Reservoir) and parts of the Bear River drainage near Cokeville (see map).

We hope you find this newsletter useful and informative. Please direct any feedback that you

may have or suggestions for improvements to the contact listed on the back page.



Pinedale Region Map

Pinedale Region Fisheries Staff:

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Daniel Fish Hatchery

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Taking Flight: Helicopters Aid in Stocking Remote Wyoming Lakes

Every year, thousands of people take to the backcountry of Wyoming in search of adventure. For most, the opportunity to wet a line on one of the thousands of backcountry lakes tops the list of priorities. It is not uncommon for backcountry travelers to encounter a diverse assemblage of native and non-native trout while venturing from one lake to another, causing many to wonder "how did these fish get here?" For more than a few it is likely they arrived via helicopter!



A helicopter prepares to depart with a load of fish en route to remote lakes in the Bridger Wilderness

The Wyoming Game and Fish Department has been stocking alpine and remote lakes with a helicopter for almost 40 years. Every August the Department stocks 50 to 70 lakes throughout the state using a chartered helicopter and a tank suspended below the chopper. The tank system consists of eight separate compartments capable of holding ten pounds of fish per compartment. Each compartment has its own oxygen line and can be deployed individually, allowing us to stock

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Helicopter Stocking

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several lakes with each flight.

Helicopter stocking has proven to be the most efficient method of stocking remote areas. Fish are transported to a staging area by truck, loaded into the tanks, and released into their new home in 30 minutes or less, with little to no mortality. Traditional methods, such as horseback and backpack stocking are limited by distance from the trail head to the destination, and require much more man power and time.

Wyoming has approximately 1200 high elevation wilderness lakes that are capable of supporting fish, of those, more than 740 contain trout. About 620 of these lakes contain self sustaining trout populations and do not require additional stocking by the Department, whereas, nearly 120 lakes are stocked on a two to four year rotation depending on fishing pressure and recommendations of the management crews based on population indices. A variety of species are stocked into our alpine lakes, including native cutthroat trout and a variety of non-native species such as golden, rainbow, brook and lake trout. Non-native species are stocked into areas where they will not compete with native fishes.

Armed with aerial photos and GPS coordinates for each stocking site, the helicopter will rendezvous at the staging area with the ground crew at dawn. After a quick safety briefing the ground crew begins loading fish for the first flight of the day. A typical day consists of four to eight flights, stocking up to 30 lakes with flight times ranging from 15 minutes to one hour round-trip. Stocking is done in the mornings while it is still cool and calm, making for safer flights and better conditions for fish. After the final load of the day is sent off, the ground crew heads to the next staging area to start the process again early the following morning.

For more information about which species, when, and where these fish are stocked, please contact your regional Wyoming Game and Fish Department office.

- Brian King



Fish are transferred from trucks to stocking tanks prior to departure.

DON'T MOVE A MUSSEL! Preventing Aquatic Invasive Species in Wyoming

Aquatic invasive species are organisms that are introduced into new ecosystems where they cause harm and threaten human uses of water resources. Often called "nuisance" species, they can attach to equipment, boats, and clothing used in the water and can then be transferred from one body of water to another. Once established, these species cause significant problems for aquatic ecosystems and the people who use them. Of particular concern are two species posing a significant and immediate threat to Wyoming – zebra and quagga mussels.

What are they?

Zebra and quagga mussels are freshwater, bivalve mollusks, typically with a dark and white pattern on their shells. They are native to Eurasia and were first discovered in the Great Lakes in 1988, most likely transported in the ballast water of ocean-going ships. They are up to an inch long and are often found in clusters attached to hard surfaces such as boats, piers, pipes, and other equipment. Invasive mussels reproduce rapidly. There are no known populations of these mussels in Wyoming to date, but they have rapidly invaded waters across the country and are now present in Colorado, Nebraska and Utah.



Exotic mussels can completely cover submerged objects and cause significant damage to boats and other equipment.

Impacts to You

The negative impacts of invasive zebra and quagga mussels cannot be overstated. They impede water delivery and increase maintenance costs by clogging pipes, pumps, turbines and filtration systems. Invasive mussels can clog water intakes on motors, overheating and ruining boat engines. Invasive mussels

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Know Your Natives: Flannelmouth Sucker

The Green River Drainage in Wyoming was historically home to three native sucker species, the mountain sucker, bluehead sucker, and flannelmouth sucker. A fourth species, the razorback sucker, may have inhabited portions of the Green River in extreme southern Wyoming; however, the construction of Flaming Gorge Dam has since kept them out of the state. Of the three native sucker species remaining, two of them, the bluehead and flannelmouth are among some of the rarest fish in Wyoming, and each has been given the Native Sensitive Species 1 (NSS1) designation, the highest designation given a species by the Wyoming Game and Fish Department. While bluehead suckers are all but gone from the portion of the Green River Drainage in the Pinedale Region, remnant populations of flannelmouth sucker can still be found in the area.

The flannelmouth sucker's historic range included much of the Colorado River basin, where it once flourished in large rivers and streams and some of their mountainous tributaries. Today, it is estimated that flannelmouth suckers occur in roughly 50% of their historic range, and though relatively widespread in parts of Wyoming, its distribution and overall abundance has declined. Unique to the Upper Green River drainage is a rare form of flannelmouth sucker that inhabits some of the "Finger Lakes" near Pinedale. Primarily considered a large river fish, very few examples exist of flannelmouth suckers inhabiting lakes. Consequently, these fish are considered extremely important.

Flannelmouth sucker currently occupy less than one-half of their historic range

Several factors have led to declines in flannelmouth suckers, including habitat alterations and water development, as well as the introduction of predatory fish. However, the single greatest threat to flannelmouth sucker populations in Wyoming appears to be the introduction of the non-native white sucker. White suckers not only compete with flannelmouth sucker, they can also reproduce with flannelmouth sucker, eroding the genetic integrity of flannelmouth suckers to the point of extinction. With the exception of a single population of flannelmouth suckers inhabiting a small stream near Rock Springs, all other populations of flannelmouth suckers in Wyoming occur with non-native white suckers, threatening the persistence of this native fish throughout its entire range in Wyoming.

Like nearly every other fish in the family Catostomidae (sucker family), flannelmouth suckers are considered a bot-

tom-dwelling species. They have an inferior mouth located on the bottom of their head, which allows them to sort through the mud, sand and rock for food. Flannelmouth suckers are considered to be omnivores, meaning they eat animals and plants. Though they rarely prey on other fish, they have been known to occasionally feed on their eggs. Flannelmouth suckers typically spawn in the spring, and like several members of the trout family, they will often migrate great distances into smaller rivers and streams to reproduce. Eggs of this species are not deposited into a redd or "nest". Instead, the adhesive eggs are broadcast into the water and attach to objects in the water or the substrate where they settle.



Flannelmouth sucker (above) are among the most threatened species of fish in Wyoming.

One distinguishing characteristic of the flannelmouth sucker is its large, fleshy lips. Their bodies are often long and slender and their scales generally look small. Flannelmouth suckers are among the most colorful members of the sucker family. Their dusky silver back contrasts strongly with their yellow lateral pigmentation, white bellies, and reddish colored fins. Adults often grow to be over two feet in length, and it is not uncommon for individuals to live to be 30 years old or older.

Although Native Americans were known to collect suckers as food, the flannelmouth sucker is rarely used by humans today. Their flesh is considered to be poor as food, while their habits and appearance have given them the reputation of being a "trash fish". Despite their reputation, they do play an important role in many aquatic ecosystems both as a grazer of vegetation and insects, and as prey for many species of sport fish. The Wyoming Game and Fish Department is committed to preserving these and other native fish species throughout their historic range in Wyoming.

- Darren Rhea

Why Willows are a Central Focus of Stream Habitat Restoration

“There he is, nice fish, holding right up under those willow branches. Make one good cast above him and let it drift down.” He lifts his line to cast, eyes focused at the head of the run. Backcast – Forward. “I’m hung up”, he complains. “I wish someone would tear out these stinkin’ willows.”

This may be a common frustration to those of us who enjoy stream fishing, often untangling our leader and retying flies or lures. Some days, it may seem that this task takes almost as much time as actually fishing. Still, I do not curse the willows because I know that they are absolutely essential to maintaining the stream fisheries we enjoy. Unfortunately, willows have not always been thought of so fondly. Historically, willows were viewed as a nuisance, often removed from stream banks, leading to degraded aquatic habitat on many streams. A review of our brief settlement history will help explain.



Early explorers reported encountering streambanks lined with woody vegetation including willows, aspen, alder, and cottonwood, and streams with abundant beaver

Fur trappers began arriving to Wyoming in the early 1800’s. These men and the immigrants that followed often reported streambanks lined with woody vegetation, including willow, aspen, alder, and cottonwood. Beaver were widespread, cutting trees and shrubs for food and to create dams. Dams slowed the water, increasing water storage in the floodplains and holding large amounts of valuable organic matter and nutrients. The ponds also provided critical overwintering trout habitat and helped to sustain late-summer stream flows. Beaver dams raised water tables, thus expanding the floodplains covered by willows that are critical to buffer the erosive power of spring floods. However, in short order, trappers reduced or eliminated beaver from most watersheds. Some

dams quickly filled with sediment and created fertile meadows, while others washed out. Homesteaders and ranchers followed the trappers, relying primarily on season-long grazing and often allowing livestock to concentrate along streams. To farm these fertile floodplains, many historic wetlands were drained and flood-irrigated. As recent as the 1960’s, herbicides were used to eliminate willows under the erroneous assumption that it would increase grazing capacity and boost water yields. Lastly, logging in upper portions of watersheds increased peak flows, which increased erosion on these destabilized streambanks. Willows and other natural obstructions were removed to accommodate tie-drives, further degrading stream systems. Mining, road building and other activities added additional impacts.

Willows are an important part of most functioning river-bottoms, also called riparian areas

The severity and extent of these impacts vary across the landscape. The most severely degraded stream habitat can usually be traced to channelization and severe repeated bank disturbance, where stream channels are much more wide and shallow than they would naturally be. In the majority of these cases, willows are not as abundant as they once were, or are altogether absent in some places. Today, willows have become a central focus in many stream restoration efforts.

Willows (*Salix* spp.) are a diverse and complex group of plants. Plant taxonomists have defined 20 species in western Wyoming. Due to the large number of species and variation observed among species, willow identification is not an easy task. However, learning a few key characteristics can allow one to easily differentiate among our most common species. Willow growth forms vary from the more common shrubs, to several species that develop into trees. Site conditions required for seed establishment are very specific. To compensate, most willows, like both cottonwood and aspen, are also capable of vegetative reproduction. New plants can sprout from existing roots or stems, which explains how willows begin growing on the top of beaver dams.

Willows, combined with other deep-rooted vegetation, are an integral part of most functioning river-bottoms, called riparian areas. They promote streambank stability, reducing erosion and bank sloughing. As anyone who has spent time wading or floating a river knows, water is a powerful force. Plant communities produce more underground growth than what you see above ground. The interlacing roots of sedges, grasses and willows can

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Willows (cont.)

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be almost 1.5 times as great as those plants' biomass above ground. This underground forest binds the soil together and prevents the channel from being torn apart by the forces of water. Stable, well-vegetated streambanks are also able to capture fine sediment from the stream. As sedges and rushes grow in this deposited sediment, the channel narrows and deepens, making the stream more effective

Replanting willows is an easy and effective way to help restore impacted streams

at transporting its sediment load. Deeper water provides better fish habitat because fish are safer from predators and the water surface is exposed to less warming from sunlight. Deep, narrow channels are also more quickly covered with a snow or ice cap during winter, which stabilizes water temperatures by providing insulation. This reduces the formation of ice along the streambed, which can threaten fish survival during the stressful winter period.

Overhanging willows along streambanks also support insects that fall into the water for trout to feed on. Willow leaves, twigs, and other decaying organic plant material provides food to the various other aquatic insects that trout consume. Stems and branches of willow roots also create structural complexity underneath the water, providing fish with cover for hiding from predators while foraging.



Healthy willows are an important part of many properly functioning streams

Frequent natural disturbances such as floods characterize the formation of rivers and creeks, so riparian plants have evolved to quickly recover if they are reasonably healthy prior to the disturbance. Therefore, altering or removing unnatural stressors like heavy grazing, roads, or improper agricultural practices is often all that is nec-

essary to allow habitat conditions to begin improving. Many examples of this "passive restoration" are occurring along our streams, one being the recent recovery of willow communities in the Lamar Valley of Yellowstone due to reduced levels of elk use. Similarly, willows will often grow vigorously following changes in livestock grazing management.



Willows provide shade to help cool streams and provide overhead cover for trout

If willows are not found in the vicinity of a degraded stream reach, one of the most cost-effective methods to accelerate their recovery is by planting willow cuttings. As willows and other related plants become dormant in the fall, they transfer energy into their woody stems for storage. This allows them to grow roots directly from buds on each stem (adventitious rooting), so establishment of willow cuttings can be easy and successful when performed properly. The only tools necessary to plant willow cuttings are lopping shears, a long steel post (e.g. rebar), and a heavy hammer. To successfully restore willows with plantings, it is important to properly manage animal use and continue to add new cuttings to areas where willows have failed to sprout. A variety of useful publications on willow planting are available on the internet.

In nearly all instances, habitat degradation is rapid and cascading, while rehabilitation is a slow process. Complete recovery of severely degraded stream habitats is not achieved with only the establishment of willows and other deep-rooted riparian plants along the banks. However, this is the most essential step towards restoration. With stabilizing vegetation in place, the stream channel can begin to readjust itself towards its natural ecological potential, which almost always provides the highest quality fish habitat.

- Phil Baigas

If You Build It, They Will Come... Back! ***New Irrigation Diversions Help Migrating Cutthroat Trout***

The Bear River flows through the southeast corner of Idaho, western Wyoming, and the northern tip of Utah. At over 500 miles, it is the longest river in the western hemisphere that does not reach the ocean, instead arriving at its marshy terminus in the Great Salt Lake. Bonneville cutthroat trout (BRC) are the only trout native to the Bear River drainage, and like most western native trout, have experienced drastic declines over the past century. The primary culprits are habitat loss, fragmentation, and the introduction of non-native competitors - most of which can be directly attributed to humans. As our settlements impacted lower elevation river valleys, native trout were increasingly forced into more isolated, headwater habitats. As a result, the large migratory forms that once inhabited lakes and big rivers began to disappear.



Migratory Bonneville cutthroat trout - photo by Kirk Dahle

Today Bonneville cutthroat trout occupy only about 35% of their historic range throughout the Great Basin. Most populations are located in headwater tributaries and contain resident fish that don't move around much. These fish are smaller-bodied and shorter-lived than the migratory variety that once inhabited bigger waters. However, in a few places some of the big bruisers still roam. The Bear River is one of those places.

In 2005, with funding from the National Fish and Wildlife Foundation, Trout Unlimited and a diverse group of project partners, including the Wyoming Game and Fish Department, Natural Resource Conservation Service, and the Wyoming Wildlife and Natural Resource Trust, initiated a watershed-scale effort to restore migratory BRC throughout the Bear River drainage. Most of the work in Wyoming has focused on the Smiths Fork, Thomas Fork, and Twin Creek drainages - three of the most important historic spawning and rearing tributaries in the watershed. The Smiths Fork remains to this day the last best place for migratory BRC in the Upper Bear River. Three different telemetry studies by three universities

showed that the Smiths Fork and its tributaries provide spawning habitat for most of the migratory fish between Bear Lake, ID, and the Cokeville Meadows National Wildlife Refuge near Cokeville, WY. Conditions in the Thomas Fork and Twin Creek drainages are more challenging for the fish, as irrigation diversion dams and canals block important migration corridors and trap and kill fish during irrigation season. During one year alone, researchers documented that 60% of adult BRC moving out of the upper Thomas Fork after spawning died in the first canal that they encountered.

As a result, the first Bear River project was to install a fish screen and upstream bypass channel at that Thomas Fork diversion. Since then, similar structures have been installed at the other two Thomas Fork diversions, and migratory BRC now move unhindered up and down the system. Between 2007 and 2008, fish screens were installed on two Smiths Fork tributaries to protect out-migrating juveniles and post-spawn adults, and we reconnected Grade Creek to the Smiths Fork for the first time in 50 years by reconstructing ½ mile of historic stream channel and removing an earthen diversion dam to restore flows in the lower creek. In 2008 work also began on Twin Creek, a low elevation drainage between Cokeville and Kemmerer that once harbored large numbers of big cutthroat trout. This year we will complete the last of five fish screens on Rock Creek in the upper drainage. Once fish are protected from the irrigation canals on Rock Creek, we will reconnect the Twin Creek drainage to the Bear River by replacing the B-Q diversion near Sage Junction with a series of fish-passable rock sills and screening the B-Q canal.



Screened irrigation diversion (background) and rebuilt stream channel on Rock Creek - photo by Kirk Dahle

Springtime is a great time to witness the benefits of these projects, as large migratory fish move upstream along the restored migration corridors to access their natal spawning habitats in the cold, clear tributary streams on the Bridger-Teton and Caribou-Targhee National Forests. If you have the time, plan a trip over to check out these magnificent animals!

-Warren Colyer, Trout Unlimited

2009 Daniel Fish Hatchery Update

The Daniel Fish Hatchery bid farewell to (16 + year) long time Superintendent George Gunn as he transferred to the Department’s Tillett Rearing Station near Lovell, Wyoming to take on new challenges.

The crew of Assistant Fish Hatchery Superintendent Greg Anderson, and Fish Culturist Brian Blutt welcomed veteran employee and new Daniel Hatchery Superintendent Tim Kurtz. Tim comes to Daniel via the Department’s Wigwam Rearing Station. Tim’s prior appointments were at the Dubois and Auburn Fish Hatcheries.



The Daniel Fish Hatchery stocked over 11,000 lbs of fish in Wyoming in 2009.

The Daniel facility continues to perform the important function of incubating and rearing various species of trout, which include brook trout, brown trout, lake trout, splake, grayling, kokanee salmon, and several strains of Rainbow. In addition to incubation and rearing, the Daniel Fish Hatchery maintains and spawns two brood populations of Wyoming’s native cutthroat trout, the Bear River (Bonneville) and Colorado River cutthroat. Offspring from these broods are used for restoration efforts as well as for stocking in sport fisheries throughout the state.

We are often asked, where do you stock fish? The Daniel hatchery provides fish to several management regions around the state. Regional Fish Management Crews request numbers, size, and species to be stocked based on their decisions of available habitat, fishing pressure, and management objectives for each managed water. Most waters are stocked with small fish that grow and provide

fishing over several years. In 2009, the Daniel Fish Hatchery stocked 31 waters in the Pinedale Region alone.

The hatchery is open to the public and welcomes scheduled group and walk in tours of the facility. Visiting hours are from 8am to 5pm daily. The hatchery is located 15 miles northwest of Pinedale on U.S. Highway 191, and 2.4 miles west on Sublette County Road 23-150 (Pape Road).

-Greg Anderson

Daniel Hatchery Fish Stocking Summary for 2009

Species Name	Number Stocked	Pounds Stocked
Brook Trout	11,907	109
Bear River Cutthroat	93,342	6,665
Colorado River Cutthroat	86,639	2,645
Kokanee Salmon	215,194	262
Splake	35,477	605
Lake Trout	3,776	65.1
Golden Trout	32,062	697
Total	478,397	11,047

Summary of Fish Transferred to Other Facilities for 2009

Species Name	Number Transferred	Pounds Transferred
Brown Trout	31,220	446
Eagle Lake Rainbow	450,139	1,048
Fall Rainbow	7,385	211
Golden Trout	1,774	66
Total	490,518	1,771

Daniel Hatchery Spawning Summary for 2009

Species	Number Green eggs	Number Eyed eggs	Percent Eyed*
Bear River Cutthroat	1,017,006	764,454	75.2
Colorado River Cutthroat	831,860	319,912	38.5

*"Eyed" refers to a developing egg with visible eyes

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WE'RE ON THE WEB

<http://gf.state.wy.us>

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NEWSLETTER:

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

Don't Move a Mussel!

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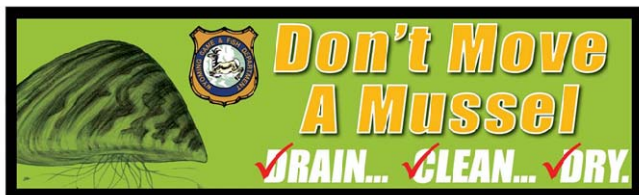
remove plankton from the water. Plankton is the primary food source for forage fish - which in turn are the food of sport fish. The result is often a catastrophic decline in sport fisheries.

How You Can Help

Overland transport on trailered watercraft poses the greatest risk for spreading aquatic invasive species. To prevent the spread of these mussels to Wyoming and protect our resources, we're asking all boaters and anglers to **Drain, Clean, and Dry**. Drain all water from your equipment and boat, including the livewell, bilge, and ballast. Clean all mud, plants, and debris from your equipment and boat. Dry your equipment and boat thoroughly before launching in another body of water for at least 5 days in summer, 18 days in spring and fall, and 3 days in winter.

The 2010 Legislature passed a new aquatic invasive species bill that allows the establishment of check stations to inspect watercraft for aquatic invasive species and if necessary decontaminate the watercraft. In addition to encountering check stations at boat ramps throughout Wyoming, boaters will need to purchase a Wyoming Aquatic Invasive Species Sticker before launching in any waters in Wyoming in 2010. For more information, call 307-777-4600 or visit <http://gf.state.wy.us/fish/AIS/index.asp>.

To report an aquatic invasive species sighting, or to request assistance with watercraft decontamination call 1-877-WGFD-AIS.



2010 Calendar of Events

June 5: Kids Fishing Day **10:00 am - 3:00 pm, CCC Ponds, Pinedale**

All kids ages 13 and under are encouraged to attend the annual "Get Hooked on Fishing" event hosted by the Wyoming Game and Fish Department, U.S. Forest Service, and Trout Unlimited. There will be a series of short educational activities, free lunch, and the opportunity to catch a variety of freshly stocked trout in CCC Ponds. Youngsters will have the opportunity to learn basic ecology and fish I.D., fishing skills, and gear applications. Some fishing gear and bait is provided, and the event is free to the public.



Children learn valuable angling skills at the annual "Get Hooked on Fishing" event at the CCC Ponds

June 5: Wyoming Free Fishing Day

No license or conservation stamp is required to fish during Wyoming's Free Fishing Day. All other rules and regulations apply.

Sept 9-11: Annual Wyoming Hunting and Fishing Heritage Expo **Casper Events Center, Casper, Wyoming**



Attendees explore the Hunting and Fishing Heritage Expo at the Casper Events Center