



Wyoming Game and Fish Department

Cody Region Angler Newsletter

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Fish Management in the Cody Region

Welcome to the 2019 Cody Region Angler Newsletter! A lot of great work took place last year, all in an effort to sustain and enhance the amazing aquatic resources in the Big Horn Basin.

We hope you enjoy these highlights from last field season and we look forward to seeing you on the water in 2019!

As always, please feel free to contact us with any comments or questions about the aquatic resources in northern Wyoming. Your input is important to us as we manage these resources for *you*, the people of Wyoming. You'll find all of our contact info on the last page of this newsletter.



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Ice Fishing Lower Sunshine Reservoir

Lower Sunshine Reservoir is located approximately eight miles southwest of Meeteetse and as the name implies, is near the more well-known Upper Sunshine Reservoir.

As many local fishermen will attest to, Lower Sunshine is an amazing fishery. For better or worse, many anglers end up passing it by on their way to fish Upper Sunshine Reservoir and this article is aimed at shedding some light on what folks are driving by.

Unlike Upper Sunshine Reservoir which only has Yellowstone cutthroat trout and suckers, Lower Sunshine offers anglers a more diverse fishery that includes Yellowstone cutthroat trout, splake, tiger trout, lake trout and an abundance of suckers. Splake, a hybrid of brook trout and lake trout, have been stocked in the reservoir on a continual basis for many years. Tiger trout, a hybrid of a brown trout and brook trout, have been stocked in Lower Sunshine since 2015. The lake trout in the reservoir are residual of a onetime stocking in 1992.

The thing that we find particularly attractive about Lower Sunshine is the diversity of fish which can make for an exciting day of fishing; you never know what species of fish will be on the end of your line. The only drawback to the diversity is that fishing for species like splake and lake trout is often less consistent compared to fishing for Yellowstone cutthroat trout. However, the size and the diversity of fish in Lower Sunshine makes up for that.

The regular statewide fishing regulation applies to Lower Sunshine Reservoir meaning anglers can keep six trout with no length limit. Live minnows are not allowed and since the body of water is NOT on the list for special ice fishing regulations, only two lines are permitted in the water per person.

We recommend bringing the big three baits; meal worms, shrimp and sucker meat. Other bait people like to use for fishing trout are night crawlers and Powerbait or like products. A diverse tackle box is also key to change up colors, sizes and rigs until we get a consistent bite. Our favorite colors are pink, black, white and chartreuse but it can vary depending on conditions. Jigs and lures range in sizes of 1/16 oz to 1/2 oz depending on where and what we are fishing for.



Other Tips:

Because Lower Sunshine was once an old stream channel, there are drop-offs, rocky points, humps and big flats below the surface of the water that can concentrate fish. Don't be afraid to move around till you find some active fish. When fishing, we always drop down and fish right off the bottom while keeping an eye on our fish finder for fish cruising through the middle and upper part of the water column. If you detect fish suspended in the water column, be sure to reel up and try to get the fish to bite. It's a good idea to be ready with several rods rigged up with different jigs and colors to change out if the fish are not interested in what you have presented.

Working with the Public to Chart a Path Forward for Yellowstone Cutthroat Trout Restoration

In 2018 we convened a series of public gatherings in Cody, Worland, and Lovell that helped chart a path forward for future cutthroat trout restoration efforts in the Bighorn Basin. This effort was referred to as the Cody Cutthroat Trout Collaborative.

This was a very different level of public engagement than what has occurred in the past on cutthroat trout restoration projects. Game and Fish did not propose specific projects, instead we asked the participants to share their thoughts, concerns, and ideas on cutthroat restoration in general. Major themes from the public included the importance of maintaining diverse fishing opportunities, protecting the cutthroat populations we have, and making sure future projects offer the most bang for the buck. The participants then merged these themes with the underlying science of cutthroat trout conservation and restoration. In the end, participants put forward a set of specific recommendations on where to go for future restoration efforts.

Because many of the streams recommended for cutthroat trout restoration had not been surveyed with an eye towards restoration potential, we did several reconnaissance surveys in 2018 and have several more planned for 2019.

This next winter we will draft a plan that outlines cutthroat trout restoration in the Cody Region.

We would like to extend a huge thank you to everyone who chose to participate!



Tiger Muskie on the Horizon



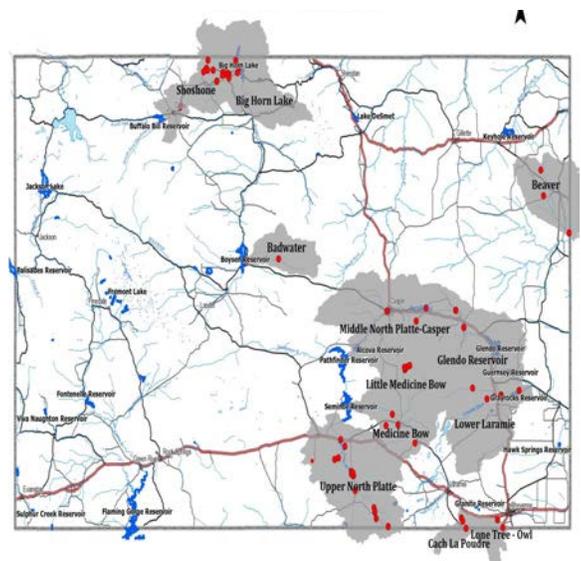
Tiger muskie will be arriving in several waters in the Big Horn Basin beginning in 2019. These voracious fish are a valuable tool in fish management and have proven to be helpful in reducing stunted fish population densities. By reducing densities of species like brook trout, perch, crappie, and sunfish, individual growth rates are improved. In 2019, we will be stocking low densities of tiger muskie in Mayland Pond, Lower Paintrock Lake, and Middle Paintrock Lake. We will also stock Beck Lake again.

Research on Brook Stickleback Invasions to Start in 2019

The threat of invasion by aquatic invasive species (AIS) is among the most important issues we deal with at Game and Fish. Boaters in Wyoming have become accustomed to stopping at the boat inspection stations and anglers undoubtedly have encountered billboards, signs, or have read articles that talk about the threat AIS pose to our aquatic ecosystems. While the Big Horn Basin, and the state of Wyoming as a whole, remain free of zebra and quagga mussels, we do have a host of other AIS that have become established in our waterways.

Brook stickleback are an aggressive, small bodied fish that are native to the upper Midwest. They have been introduced into numerous streams and lakes in Wyoming presumably by unsuspecting bait-fishermen decades ago.

Game and Fish and the University Wyoming will begin a research project on the consequences of Brook stickleback invasion on native fish populations. Several streams in the Shoshone River drainage have established populations of stickleback. These streams, along with several in the Laramie Region, will be the sites of the upcoming research project. The results of this study will help inform future management of Brook stickleback and native fishes.



Distribution of Brook stickleback in Wyoming. Red dots are locations where stickleback have been sampled. Grey shaded areas are infested watersheds.

Surveys for Spiny Softshell Turtles in the Big Horn Basin

Last spring and early summer Game and Fish crews captured eastern spiny softshell turtles along the Bighorn and Nowood Rivers in the Big Horn Basin.

Spiny softshell turtles are a species of greatest conservation need in Wyoming due to their restricted range, declining populations and decreasing habitat. Although observations of turtles have declined in recent years, not much is known about the species distribution or ecology in this portion of Wyoming.

Turtles were captured using partly submerged, baited hoop nets. Before they were released, captured turtles were weighed, shell dimensions measured, and inserted with a passive integrated transponder (PIT) tag. These tags will allow biologist to identify turtles that have been previously caught and can provide insight as to their growth, movement and size of the turtle population. Trapping to date indicates that the species are rare in this portion of Wyoming with only nine turtles captured in 196 trap nights.

Did you know? Unlike most other turtles, spiny softshell turtles are primarily aquatic, have rough leathery skin covering their shell and to some degree, have the ability to breathe through their skin underwater.



Herpetological Coordinator, Wendy Estes-Zumpf with a spiny softshell turtle captured in the Bighorn River.



Jason Burckhardt measures the shell of a spiny softshell turtle captured in the Bighorn River.



Fisheries Technician Mark Komoroski baits a partially submerged hoop net to capture spiny softshell turtles.

Sauger Studies on the Bighorn River

The Wyoming Game and Fish Department and University of Wyoming embarked on a project to study sauger in a 90 mile stretch of the Bighorn River from Big Horn Lake to Worland.

Sauger are a unique native sport fish that are known to migrate significant distances to spawn within a river. The study was conducted to further understand the spawning life histories of sauger and determine if and where hybridization with walleye is occurring in the Bighorn River.

During the spawn in April and May, Game and Fish captured sauger and walleye through electrofishing and collected a small genetic sample from each fish by clipping a fin. The genetic samples will be analyzed and the information used to help biologists better manage this unique population.



A genetic sample is collected by clipping a small section of fin.



Sauger males (top fish) and females (bottom fish) differ in size which known as sexual dimorphism. This life history strategy allows females to be larger to carry more eggs.



This 15 inch male sauger is greater than 10 years old and will not grow any larger.



This female sauger highlights the great growth potential of the saugers in the Bighorn population.



Sauger (bottom) can be differentiated from walleye (top) by the presence of black spots on the dorsal fin and dark, mottled coloration often present on the sides. Walleye are distinguished from sauger by the white markings on the lower lobes of the tail and anal fins and black membranes between the last two or three spines of the first dorsal fin.

Fishing for sauger:

Fishing for sauger is really not any different than fishing for walleye. The greatest challenge for anglers will be finding ways to present bait, jigs, and crank baits in the very turbid water of the Bighorn River. Many anglers fish live minnows and night crawlers under bobbers during the summer months when turbidity limits visibility to a few millimeters. While this approach works well in the summer, the key to excellent sauger fishing is timing. In late fall through the winter months (depending on ice cover of course) the Bighorn River often will have a foot or more of visibility. Bouncing 1/4 ounce jigs with twister tails in and along eddies and deeper pools is a great way to entice sauger to bite. We recommend fishing the lower portions of the river within the Yellowtail Wildlife Habitat Management Unit or from Basin upstream to Worland. Good luck!

The Finishing Touches on Renner Reservoir

For those of you familiar with Renner Reservoir it probably doesn't come as a surprise that the reservoir has been dry(ish) for several years now. We have reported on our efforts to improve the infrastructure, habitat, and fish populations in past Angler Newsletters so we won't go into detail in this article. However, we would like to give you all an update on the work that occurred last summer and early this spring.

Last fall, Game and Fish Habitat and Access crews were able to dig out a deep pool near the casting platform and create a channel from the boat ramp to the inlet structure to increase depth. We were also able to create a water fountain with the inlet structure, which will improve oxygen levels and reduce the chance of winterkill. Once dirt work at Renner was completed, crews focused on fixing the outlet structure which had not been functional for more than a decade. The new outlet structure provides flexibility to change water levels, which allows for better management of wintering conditions for fish and management of vegetation.

A new concrete boat ramp was completed and the reservoir is near full.

In May, 2019 2,000 fathead minnows were stocked and the minnows have been reproducing. The minnows will serve as forage fish for bass that will be stocked in 2019.

Fingerling bass are scheduled to be stocked in July, 2019.

Despite challenges and setbacks, the end result of the project will be a healthy and more stable bass population in Renner Reservoir for anglers to enjoy.



The new Agri Drain outlet structure will allow managers to better control water levels in the reservoir.



Joe Skorupski releases fathead minnows in Renner Reservoir in May. The minnows will serve as a forage base for bass that were stocked in July.

Update on Medicine Lodge Creek Restoration

In 2017, the WGFD used natural channel design methodologies to repair channel degradation across approximately 0.73 mile of stream. Year-round fish passage is now available at the Anthony and Betty Irrigation Diversions and a stable stream channel was constructed allowing for sediment transport, floodplain connectivity and fisheries habitat. This stream restoration reduced bank erosion by approximately 2,300 tons of sediment per year, eliminating non-point source sediment pollution from entering Medicine Lodge Creek.

In April 2018, the restoration area was planted with 2,000 willow cuttings and 4,000 riparian and upland shrubs and trees. On May 28, 2018 stream flows at Medicine Lodge spiked from 300 cfs to 650 cfs within a few hours of a large rain event. The high flows resulted in three significant channel adjustments which resulted in significant bank loss and damage to multiple stream structures installed in 2017. The WGFD and North State Environmental responded immediately to restore irrigation water to private water users and to redesign and repair the damage. All repairs were completed under the project warranty and at the expense of the contractor. Geomorphic structure monitoring was completed before and after repairs.

This project was possible due to major funding from WWNRT as well as funding and support from Wyoming State Parks, DEQ, WGFD, a private landowner, and East Yellowstone Chapter TU. North State Environmental performed construction based on designs by Green Watershed Restoration and Five Smooth Stones Restoration.



Aerial view of the restoration area of Medicine Lodge Creek before construction.



Aerial view of the restoration area of Medicine Lodge Creek after construction.

Rebuilding the Bighorn River Trout Population

For the last decade, the Bighorn River near Thermopolis has been considered one of the premier trout fisheries in Wyoming and has attracted anglers from hundreds of miles and many states. In recent years however, the trout population has declined from its all-time highs (2009-2016) and left many anglers wondering how this fishery is fairing and what to expect in the future.

The decline was directly linked to the high and variable water years of 2015-2017. Last October's population survey however, is encouraging and if over-winter survival is good, we expect to see an uptick in certain size classes of fish.

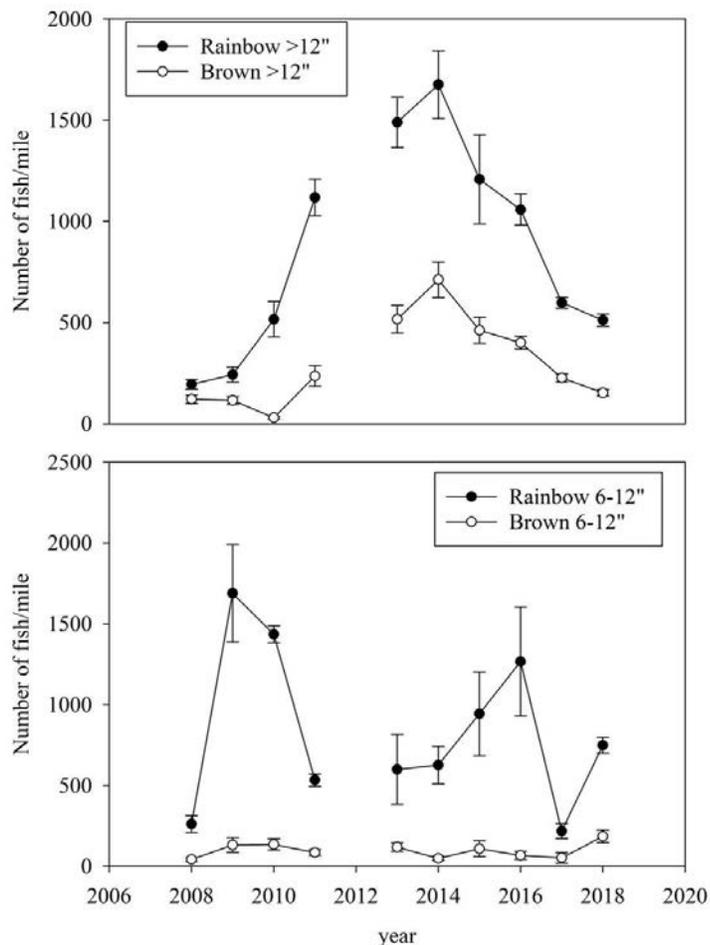
The Bighorn River is a tailwater fishery (fishery that is downstream of a dam) that supports a number of trout species including brown, rainbow and Snake River cutthroat trout. Our management objective for this fishery, or target number, is 1,000 fish, greater than 12 inches, in length per mile.

Tailwater fisheries in Wyoming have both benefits and limitations. They are typically stable and high in nutrients, which are good for supporting fish, but fine sediments and inconsistent peak flows result in poor wild fish production to the population.

Based on this, two strategies are used to manage this fishery; supplemental stocking of hatchery raised fish and requesting annual flushing flows from the Bureau of Reclamation to improve spawning habitat for wild fish.

Annually, 16,000 6-inch rainbow trout and 8,000 cutthroats are typically stocked in four locations along a 20 mile section of the river from Wedding of the Waters to the Skelton public access area.

In 2009, regular flushing flows were scheduled on the Bighorn River; prior to 2009, flushing flows were sporadic. This is when the fishery really started to boom; trout estimates went from 1,000 fish per mile to between 2,100 and 3,000 fish per mile. Coming off the low water years of the 2000's when the population was at all-time lows of around 600 fish per mile, the flushing flows were an important tool that improved spawning habitat for wild trout and increased production of invertebrates that fish depend on for food.



Abundance estimates and standard errors for rainbow trout and brown trout greater than or equal to 12 inches and 6-12 inch trout by year for the Wedding of the Waters study section of the Bighorn River.

Continued: Rebuilding the Bighorn River Trout Population

For eight years, anglers enjoyed that boom in the trout population. There were big fish, and lots of them.

Over the last few years, the population has dipped due to high and variable water conditions. Population estimates conducted annually through a mark recapture effort documented poor survival of 6-12 inch fish from 2015-2017, and poor recruitment of wild fish in 2016 and 2017. A total estimate of 1,623 trout per mile was documented in 2018. Of total fish documented, 665 of those were fish greater than 12 inches, which is below the management objective for this population.

High water conditions are not bad, however, three years in a row with very extreme conditions in 2017 negatively impacted the population. This caused poor survival of small fish and no recruitment of wild fish, which created “holes” in our population, resulting in decline of larger fish numbers.

Annual sampling conducted in October brought some encouraging news. Good natural recruitment was documented as well as good growth and survival of stocked fish. Growth rates in stocked fish were one inch per month which is as good as it gets. While fish greater than 12 inches continue to decline, we are optimistic that with improved survival and recruitment of 6-12 inch trout observed in 2018, we will see more big fish in the future. Even though we have documented a decline, the Bighorn River is still a high quality fishery, rivaling others throughout the region.

What can trout anglers expect in 2019 on the Bighorn River? It depends. If over-winter survival is good, anglers can expect to see lots of 12-17 inch fish, but fish greater than 18 inches will be harder to come by. If you happen to hook into a fish over 18 inches, the good news is that the average size fish in this size class has increased to greater than three pounds.



Joe Skorupski with a “typical” adult rainbow trout captured during the October, 2018 survey. This fish is typical of the 18 inch plus size group.



**Wyoming Game and
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Conserving Wildlife-Serving
People

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Important Dates to Remember in 2019

- June 1, 2019— **Kids Fishing Day (Cody) and Wyoming's Free Fishing Day** *The Wyoming Game and Fish Commission has declared June 1, 2019 Free Fishing Day to coincide with the beginning of the National Fishing and Boating week. Residents and nonresidents may fish Wyoming waters (excluding Wind River Indian Reservation and Yellowstone National Park) without a fishing license or conservation stamp. Free Fishing Day will also coincide with Kids Fishing Day in Cody. Details on the event will be released in May.*
- March 1—November 30—**Aquatic Invasive Species Boat Inspections** *All watercraft transported into the state from March 1 through November 30 are required to undergo a mandatory inspection by an authorized inspector prior to launching. A list of authorized inspectors can be found on the Game and Fish website on the AIS page.*
- August 10—**Buffalo Bill State Park Kids Fishing Event** *Join the Buffalo Bill State Park for a day of fishing fun on Buffalo Bill Reservoir. Kids will have the opportunity to fish the reservoir, learn how to clean and cook their catch, and other family fun activities.*

We welcome all questions and comments on this newsletter or about the fisheries resources within the Cody Region. Please feel free to give us a call at 307 527-7125 or send an email to:

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