Wyoming Game and Fish Department

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Fish Management in the Green River Region

Welcome to the eleventh issue of the Green River Region Angler Newsletter. This years edition features news regarding the Burbot derby highlights, update on the 2017 AIS program, ongoing Burbot research in Flaming Gorge Reservoir, updates on native fish species, habitat projects, and introduces the regions new fisheries biologist.

The Green River Fisheries Region spans from Fontenelle Reservoir in the north to Flaming Gorge in the south, from the Bear River in the west to the Little Snake in the east, and includes all the lakes, reservoirs, rivers, and streams in between. Ours is the largest fisheries region in the state, and one of the most diverse! From trophy lake trout to native Colorado River cutthroat, smallmouth bass, kokanee salmon, tiger trout and more, Green River has a little something for everyone.

We manage aquatic resources for *you*, the people of Wyoming, so your input is very important and we appreciate your comments. Please feel free to contact us at 307-875-3223, or using the information provided on the last page of the newsletter. Happy fishing!

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Burbot Bash and Classic

The 7th annual Burbot Bash and the 3rd annual Burbot Classic were successful fishing derbies again in 2016! A total of 204 teams registered in the Burbot Bash and removed 3594 Burbot from Flaming Gorge Reservoir during the 2 day event. The 74 teams registered in the Burbot Classic removed 1320 Burbot. Combining both derbies, a total of 4914 Burbot were removed! We would like to extend a thank you to all of the sponsors and volunteers that helped make each event successful. A special thank you goes out to all the participants in the derbies. These derbies, along with intensive angler harvest, have been vital to Burbot management in Flaming Gorge Reservoir and the WGFD appreciates everyone's contributions to driving down Burbot numbers. We would also like to thank the Flaming Gorge Chamber of Commerce and Buckboard Marina for organizing the derbies. Below are the dates for the 2017 Burbot Bash and Classic. We look forward to great participation in the derbies again in 2017! Mark your calendars!

Burbot Bash – January 21st and 22nd, 2017
Burbot Classic – February 4th and 5th, 2017

Don't move a mussel – the fight against an invasion

With the 2016 boating season currently underway here in the Green River Region, it is important for boaters to be aware of the economical, ecological, and recreation impacts of aquatic invasive species (AIS).

Zebra and Quagga mussels are an AIS of upmost concern in Wyoming. Detection of invasive mussels in Wyoming lakes and reservoirs could result in temporary closures of waters like Flaming Gorge Reservoir, until containment infrastructure is in place.

Wyoming law requires any watercraft entering the state to get an inspection before launching on Wyoming waters from March through November. Resident boaters, who have not left the state, are not required to have their boats inspected unless they encounter an open check station in route to their destination. In 2014, veligers (larval mussels) were detected in Deer Creek Reservoir, Utah and Angostura Reservoir, South Dakota and in new waters in Arizona and Texas in 2015. If you boat on any of these waters, or any other known infested water, you must have your boat inspected before launching in Wyoming regardless of the time of year. A list of known infested waters can be found on the Wyoming Game and Fish Department (WGFD) website.

During the 2015 boating season, AIS technicians in the Green River Region performed over 13,400 watercraft inspections. Of those, 1,300 were considered high risk and 760 required decontamination. The majority of decontaminations were performed on boats with standing water in the motor.

Wyoming watercraft check stations will continue to operate at port of entries and on a rotating basis at major waters during the peak boating season from April 30th through mid-September in 2016. A list of inspection locations can be found on the WGFD website.

Sampling and monitoring for Zebra and Quagga mussels and other AIS of concern is a major component of the Wyoming AIS Program. Plankton tow nets were used to sample for veligers at Big Sandy, Flaming Gorge, Fontenelle, High Savery, Meeks Cabin, Sulphur Creek, Viva Naughton, and Woodruff Narrows reservoirs in July and October of 2015. All collected samples were sent to laboratories for analysis and results for all came back negative, indicating no presence of mussels.

The closest infested/suspect waters are Deer Creek Reservoir and Lake Powell, located in Utah and Angostura Reservoir, located in South Dakota.

Additionally, zebra and quagga mussels are not the only AIS of concern in the state; new populations of Curly pondweed (Shoshone River) and New Zealand Mudsnails (Lake Cameahwait) were detected in Wyoming in 2014. Remember, you, the watercraft users, are the first line of defense against an invasion. Even if we had every Game and Fish employee out inspecting boats every day, we can not inspect them all. Simply drain, clean, and dry your watercraft and equipment after every use and have your boat inspected when required to do so. We really do appreciate your time and vigilance. If you see any suspicious plants or animals on your equipment, or while you are out enjoying Wyoming waters, please let us know! You can report a sighting at 1-877-WGFDAIS or ReportAIS@wyo.gov.

Photo: Wes Gordon, Green River AIS Specialist samples

Zebra mussel

Quagga mussel

List of known infested waters available at:

https://wgfd.wyo.gov/web2011/imgs/QRDocs/AIS_INFESTED_WATER.pdf.

List of inspection locations available at:

https://wgfd.wyo.gov/web2011/fishing-1001292.aspx.

Radio Telemetry—Flaming Gorge Burbot

Burbot continue to be a concern for sport fish in Flaming Gorge Reservoir. The Wyoming Game and Fish Department (WGFD) first documented Burbot in the reservoir in 2006 when a total of three trammel nets were set near the confluence of the Blacks Fork and Green rivers; capturing 47 Burbot. Since their discovery, WGFD and the public at large have been asking numerous questions focused on this introduced species. Some of the questions asked include: how many Burbot are there, how old can they get, how many eggs can a female lay, what do they eat, are they affecting the sport fish, what habitats do they use, and do they migrate up the rivers? Over the last decade WGFD has worked hard to answer many of these questions for the public. WGFD netting data suggests that larger Burbot are typically at higher densities in the Green River arm of Flaming Gorge Reservoir. Fish biologists hypothesized this may be a result of spawning adults running up the Green River for spawning in winter.

Burbot having a radio tag surgically implanted near the Firehole boat ramp on Flaming Gorge Reservoir, November 2015.

In November 2015, 14 Burbot were surgically implanted with radio tags by the WGFD were released back into the reservoir. All Burbot were greater than 20 inches to increase the probability that they were old enough to spawn.

Tracking began in late November, but no fish were located in the Green River. A tracking flight was completed in December during which one of the tagged Burbot was located in the reservoir roughly four miles below river.

Tracking resumed in early January. Eight tags were located in the Green River about 4-5 miles upstream of the reservoir. The fish stayed in this area for the majority of January. Mid January one of the eight Burbot moved up to FMC Park and then bolted back to join the other Burbot by the end of the month. Burbot began trickling back into the reservoir by early February and by March all Burbot had been found back in the reservoir.

WGFD has been working with Trout Unlimited, the Green River middle school and high school, and Expedition Academy. The project is part of Trout Unlimited's Adopt-a-Trout Program. The goal of the program is to bring fish biology and ecology into the classroom. Middle school students were given the opportunity to name the fish, learn about various fish related topics in the classroom, and track fish movements to see how they use various habitats. High School students from Mrs. Baas AP biology class have been developing their own hypotheses based on the telemetry data and collecting additional data in hopes of supporting or disputing their hypotheses.

Thanks to the collaborative efforts put forth by many entities in the Green River basin, the results of this project have definitively proved that a portion of the Burbot population in Flaming Gorge Reservoir migrate up the Green River. Other useful information that has been discerned from this project include:

1.) Burbot that migrate up the Green River start to enter the river around the first of the year.

2.) The tagged Burbot stayed in a reach four to five miles above the reservoir for one month to spawn.

3.) February and March is the timeframe in which Burbot return to Flaming Gorge Reservoir and continue moving down reservoir.

Tracking efforts will continue in the reservoir until the Burbot reach depths in which the tag's signal can no longer be picked up by the receiver. Anglers are reminded that if they catch Burbot in the Green River region that they must be killed immediately. Should an angler catch a tagged fish, the radio tag has contact information on it. If a Burbot is captured, please remove the internal tag and call the phone number provided so that we can coordinate with you to retrieve it.

Fontenelle Reservoir—an Early Ice Fishing Burbot Destination

Since Burbot were illegally introduced into the Green River drainage in the 1990s, Wyoming Game and Fish Department (WGFD) biologists and anglers alike have dedicated countless hours to the removal of these voracious predators in attempts to reduce Burbot numbers within the drainage. By all indications, things are looking bright for Flaming Gorge Reservoir. Increased angler effort and harvest has resulted in overall declines in Burbot numbers, which is encouraging for the fishery.

Large Burbot caught in Fontenelle Reservoir during the 2015 Fall trammel netting operation

In 2014, fall netting on Flaming Gorge Reservoir resulted in an all-time low reservoir-wide Burbot catch rate of 0.58 fish per hour. Fall netting in 2015 however revealed an increase (50%) in Burbot catch rates to 0.87 fish per hour. This increase in Burbot catch rates from 2014 to 2015 could be attributed to several factors: 1) optimal weather during sampling resulting in increased activity by Burbot while, 2) poor ice conditions during the winter of 2014 resulting in fewer Burbot being harvested by anglers, or 3) potentially strong year class attaining lengths to where they become vulnerable to angling and WGFD sampling gear. Likely it was a combination of several factors.

Burbot are typically not caught by the nets used by WGFD biologists until their third or forth year of life—typically when they are over 15 inches in length. This means there can be large numbers of small burbot in the reservoir that go undetected for several years. When these fish grow large enough to be caught in the nets it can inflate catch rates.

Despite the increase in Burbot catch rates in 2015, data from 2006 to 2015 indicate an overall declining trend in Burbot catch rates in Flaming Gorge Reservoir. This is good news for the fishery and we encourage anglers to continue to intensively harvest Burbot in Flaming Gorge Reservoir and drive their numbers even lower.

Another great Burbot ice fishing opportunity that many anglers are becoming more aware of is on Fontenelle Reservoir. Trammel netting operations conducted in 2015 revealed an all time high catch rate of 1.11 Burbot/hour, which is well above recent catch rates observed on Flaming Gorge Reservoir. Additionally, on average, Burbot caught during netting operations were larger than those caught during netting on Flaming Gorge Reservoir. The 2015 netting on Fontenelle Reservoir resulted in Burbot that ranged in length from 13 to 38 inches and averaged 25 inches in length compared to Burbot sampled in Flaming Gorge Reservoir that ranged in length from 11 to 34 inches and averaged 20.1 inches in length. Furthermore, based on netting results, the opportunity to catch large Burbot is greater in Fontenelle Reservoir. Catch rates of Burbot 30 inches and larger in 2015 for Fontenelle and Flaming Gorge Reservoirs were 0.25 Burbot/hour and 0.05 Burbot/hour, respectively. Data from 2006 to the present indicate an overall increasing trend in Burbot catch rates on Fontenelle Reservoir.

Fontenelle Reservoir also provides a long ice fishing season with fishable ice typically by mid December and lasting through at least mid March. With this lengthy ice fishing season and the great opportunity to catch large Burbot, we encourage anglers to target and harvest Burbot in Fontenelle Reservoir. Anglers fishing near rocky habitats should have good luck catching Burbot. We would also like to remind anglers to properly dispose of all Burbot they catch and refrain from littering Burbot carcasses on the ice, at boat ramps, in borrow ditches, or other public access areas.

Native Fish Species Restoration

Muddy Creek Drainage

The Muddy Creek drainage, located southwest of Rawlins, has been the focus of a nearly two decade project dedicated to the restoration of three native fish species. In 1999, the WGFD and BLM initiated a progression of ongoing watershed restoration efforts in order to rehabilitate populations of native Flannelmouth Sucker, Bluehead Sucker, and Roundtail Chub (three species) by removing non-native fishes in the upper Muddy Creek watershed. Restoration efforts have included mechanical and chemical removal of non-native White Sucker and Creek Chub that compete for resources and hybridize with native species. To date, over 35 miles of three species habitat has been restored. In 2016, WGFD and BLM personnel are scheduling an additional 14 stream mile chemical treatment in order to continue three species restoration efforts downstream within the Muddy Creek drainage. Prior to the chemical treatment, native species will be salvaged from the treatment reach and relocated upstream into restored habitats. Advancing restoration efforts is necessary to preclude listing of these three native species under the Endangered Species Act.

Flannelmouth Sucker

Roundtail Chub

Bluehead Sucker

Big Sandy Drainage

The Big Sandy drainage located north of Rock Springs and southeast of Pinedale has also been a focal area for three species conservation work for over a decade. In 2003, a comprehensive study was conducted in the drainage specifically targeting native species. The results from the project determined relatively robust populations of Flannelmouth and Bluehead suckers existed in the Big Sandy and Little Sandy rivers. Roundtail Chub were not sampled and are thought to be extirpated.

In 2009, a mechanical removal effort targeting nonnative species was initiated in an effort to protect the genetic diversity of the native species. Last fall, a chemical treatment was conducted in seven miles of Sculpin Creek, a tributary to the Big Sandy River, and in seven miles of Long Draw Creek, a tributary to the Little Sandy River. WGFD continues to work with landowners to gain access in the drainage for treatments in hopes ensuring these species are not listed under the Endangered Species Act.

High Savery Reservoir

High Savery Reservoir, located approximately 35 miles south of Rawlins on Savery Creek, is a phenomenal fishery in the Green River region. The reservoir is managed as a unique fishery for Colorado River Cutthroat Trout, Kokanee Salmon, and Tiger Trout. While at lower abundances, other sport fish you may encounter there include Brook Trout, Rainbow Trout, and Mountain Whitefish. Anglers could expect to catch 16-20 inch Kokanee, 12-16 inch Colorado River Cutthroat Trout, and 12-25 inch Tiger Trout. The state record Tiger Trout was caught in the reservoir in 2012 with a total length of 28 7/8 inches and a weight of 11.07 pounds. This could be the year that the record is broken!

Access to the reservoir has been an issue in past years with muddy rutted roads that were unkind to traffic. When you drive to the reservoir this year, you'll notice a substantial improvement in the road condition. In 2015, new gravel was put down on Sage Creek road 10 miles off of highway 71 south of Rawlins down to highway 70. Once to the reservoir you'll notice a concrete boat ramp, parking area, and restroom on the north side. One road allows access to a small portion along the south side and the rest is only accessible by walking. Unfortunately, camping is still not permitted at the reservoir so you must drive south to the Medicine Bow National Forest or north on BLM land for camp sites.

Since the construction of the dam was completed in 2004, White Suckers have dominated the fishery. The overwhelming population of White Suckers undoubtedly uses a large amount of resources that would otherwise be used by sport fish. In spring of 2015, an effort to improve the sport fishery was initiated by WGFD by removing spawning White Suckers from the three tributaries. The effort was successful with a total of 7,250 spawning White Suckers being removed from the system over a three day period. WGFD hopes to continue with removal efforts and to monitor the White Sucker population. The removal of thousands of suckers will hopefully continue to improve the quality of fishing at High Savery Reservoir and keep it a destination fishery.

WGFD personnel using a cataraft electrofisher to remove spawning White Suckers from a High Savery Reservoir tributary.

Fisheries Habitat "Facelift" for the Lower Big Sandy River

During the early 1990s, the Flaming Gorge/Lower Green River Chapter of Trout Unlimited partnered with the Wyoming Game and Fish Department to construct several instream rock structures or "sills" in the Big Sandy River between Bone Draw and the Big Bend area. The original purpose of each structure was to enhance river aquatic and riparian habitats, and thereby improve the fisheries potential. Each sill served to elevate water tables and improve riparian vegetation to stabilize stream banks and thereby narrow and deepen the river channel (Figure 1), scour deep pools with cooler water to hold trout, and encourage exposed gravel substrate to increase aquatic insect production for trout food.

Figure 1. Comparison photos of the same location immediately upstream of a sill structure during 2000 (left) and again in 2011 (right) showing riparian vegetation stabilizing a streambank and narrowing and deepening the river channel to improve habitat

A survey was conducted in 2012 to evaluate 48 of existing sill structures to determine whether or not each structure required maintenance work or reconstruction in order to continue to function as originally intended. Information from the survey was used to plan and coordinate with land management agencies for approval to perform needed improvements for each existing sill. During May of 2015, the Department utilized funds granted by the Wyoming Wildlife and Natural Resources Trust Board and collaborated with U.S. Fish and Wildlife Service Seedskadee National Wildlife Refuge employees to maintain 19 of the Big Sandy's in-stream rock sill structures located on state lands. These sills were in need of various levels of maintenance work for them to function properly, remain hydrologically sound, and continue to provide fish habitat. Additional angular rock was added and/or used to reconfigure each structure to encourage sediment transport, maintain trench pools, provide interstitial spaces between rocks, and scour clean gravel substrates to improve fish habitat (Figure 2). Plans are currently being made to perform maintenance to an additional 20 sills during 2016.

Figure 2. Photo comparison of a Big Sandy River sill in 2012 prior to maintenance (left), and again in 2015 following improvements (right).

"Facelift" Continued

Over the years, these Lower Big Sandy River structures have provided habitat to support a recreational sport fishing opportunity for the public in nearly 10 miles of stream in a high desert environment that virtually did not exist prior to the structures. Although the lower Big Sandy River supports a trout fishery, numbers of fish are relatively low and the population is difficult to sustain through time. The trout population fluctuates and is influenced heavily by good and bad water years, and is easily exploited by overfishing due to the habitat limitations. Anglers are encouraged to practice catch and release fishing in order to promote and maintain this fishery and angling opportunity.

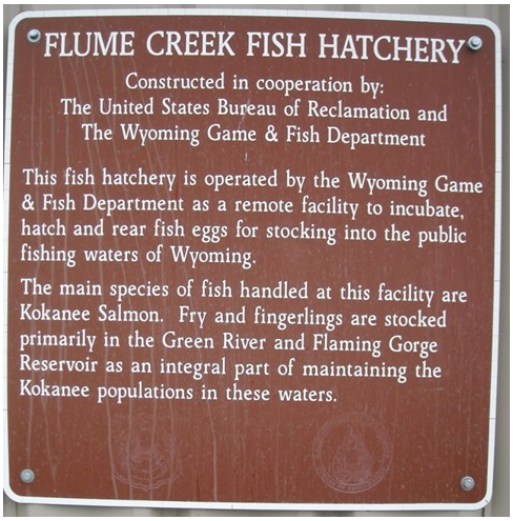
A satisfied angler releases a trout back into the Big Sandy River.

Flume Creek Fish Hatchery

Do you recognize this building? This building is located below Fontenelle Reservoir. If you have fished the Green River below Fontenelle, you may have wondered what this building is. The building is a Wyoming Game and Fish Department operated facility called Flume Creek Hatchery.

Flume Creek is about 4 ½ miles northeast of Fontenelle, Wyoming and about 45 miles northwest of Farson, Wyoming. Initial construction of the Flume Creek facility was completed in June 1981 with upgrades in 1991 and 2014. Recently the channel from Flume Creek facility to the Green River was improved in April of 2016.

Flume Creek was constructed for hatching eggs for enhancing the fisheries in the Green River. More recent emphasis has been on releasing Kokanee salmon from the facility. The strategy for the fingerlings released is that they will "imprint on the Flume Creek water source" and return to this water when they mature and are ready to spawn. The mature Kokanee will be captured in a fish trap and artificially spawned. The eggs will be used to raise fish for releasing with excess eggs being hatched and the fish being used to stock other bodies of water.



Anglers should be aware of the fishing regulations as the Flume Creek channel from the building to the Green River is closed to fishing year around.

So the next time you see this building you will realize that your hunting and fishing dollars are hard at work enhancing the fisheries in the Green River and Flaming Gorge Reservoir.

The Statewide Fish Spawning Crew will have operations this fall at Flume Creek and on Flaming Gorge Reservoir in the Green River region. For more information on the Statewide Spawning Crew visit us on the Wyoming Game and Fish Department's website at https://wgfd.wyo.gov/Fishing-and-Boating/Fish-Hatchery-Information/Statewide-Spawning-Crew.

Meet Your new Green River Fisheries Biologist: Troy Laughlin

Troy grew up on a small family farm in our neighboring state Nebraska. While earning his Bachelors degree in wildlife and fisheries biology at the University of Wyoming, Troy worked as a fisheries technician in the Green River region for three field seasons prior to beginning his Masters degree in zoology at Southern Illinois University in 2013. In the summer of 2015, he completed his masters and married Rock Springs native Chelsea Porter. Troy and Chelsea currently live in Rock Springs and enjoy spending time outdoors with family, friends, and their yellow lab Duke. Leisure time is filled with fishing, hunting, camping trips, and gardening.

Dates to Remember

Fishing Regulation Public Comment Period June 3— The 2017 Fishing Regulation public comment period will end June 3.

Free Fishing Day June 4— The Wyoming Game and Fish Commission has declared June , 2016 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, which are not regulated by the State of Wyoming) without a fishing license or conservation stamp.

Kemmerer Kids Fishing Day June 11— Located at the Kemmerer Community Pond by the overpass. Sponsored by the City of Kemmerer.

Evanston Kids Fishing Day June 18— Located at the UP Ice Ponds, Registration starts at 7:45, Fishing from 8 am to 1 pm. Sponsored by Upper Bear River TU Chapter.

Rock Springs Kids Fishing Day June 25— Located at the Rock Springs Pond - south side of the road leading into the Rock Springs Golf Course. Event 9 am to 3 pm. Sponsored by Seedskadee TU Chapter.

Wyoming Game and Fish Commission Meeting July 7-8—The Wyoming Game and Fish Commission will act on the 2017 Fishing Regulation Proposal at the Commission meeting in Pinedale.