



Wyoming Game and Fish Department

Lander Region Angler Newsletter



Photo Credit Bill Segraves

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Fish Management in the Lander Region

Welcome to the 2017 Lander Region Angler Newsletter! We had another great year and inside this issue you'll find updates from our work in 2017. As always, please feel free to contact us with any comments or questions about the aquatic resources in the region. Your input is important to us as we manage these resources for *you*, the people of Wyoming. You'll find our contact info on the last page of this newsletter.

South Fork Little Wind River Surveys

From late-August to early-September, the Wyoming Game and Fish Department (WGFD) conducted fisheries surveys over a 9-day period in the South Fork Little Wind River drainage in the Wind River Mountains. The South Fork Little Wind River drainage can be accessed using the Bears Ears Trailhead out of Dickinson Park in the Shoshone National Forest. The fisheries surveys had two primary objectives: 1) collect genetic samples to assist with native Yellowstone Cutthroat Trout conservation; and 2) evaluate sport fisheries, particularly those that are helicopter-stocked.

Cutthroat trout genetic samples were collected from the South Fork Little Wind River and the Baptiste and Grave creek drainages to determine their source (native Yellowstone Cutthroat Trout or an introduced nonnative species) and genetic purity. Genetic analysis is necessary because widespread stocking of many trout species (including other nonnative cutthroat trout species) occurred throughout the Wind River Mountains beginning in the early 1900s,



Packing gear into the back country with llamas.

with no or imprecise records kept prior to the 1940s. Additionally, hybridization of native Yellowstone Cutthroat Trout and introduced nonnative trout likely occurred in many waters. Genetic sample collection is a simple, nonlethal method in which a small fin clip (about the size of your pinky finger nail) is taken from the fish before it is released. The samples collected during this trip are part of a cooperative range-wide project among Yellowstone Cutthroat Trout biologists in Wyoming, Montana, and Idaho. The results of the genetic analyses will enable the WGFD and other Yellowstone Cutthroat Trout-managing agencies to prioritize conservation populations and determine which populations should be used for future restoration and range-expansion projects.



Setting gill nets in Holster Lake.

The South Fork Little Wind River drainage offers some of the most diverse sport fishing opportunities within the Wind River Mountain Range. Lake Trout, Brook Trout, Brown Trout, Yellowstone Cutthroat Trout, Snake River Cutthroat Trout, Rainbow Trout, Golden Trout, and various Cutthroat-Rainbow-Golden Trout hybrids can be captured throughout the drainage. Seven lakes were sampled during the 2017 survey. Baptiste, Grave, and Washakie lakes are wild fisheries, whereas Helmet, Holster, and Upper Valentine lakes are managed through helicopter stocking. Loch Leven Lake is helicopter-stocked with Rainbow Trout, but also has naturally-reproducing Brown Trout, which were first stocked by Finis Mitchell in 1932. See the table below for the 2017 sampling results for each lake.

<u>Lake</u>	<u>Species</u>	<u># Fish</u>	<u>Length Range</u>
Baptiste Lake	Snake River Cutthroat Trout	3	16.0 – 18.0
Grave Lake	Lake Trout	35	7.1 – 25.1
	Snake River Cutthroat Trout	4	8.8 – 12.4
Washakie Lake	Brook Trout	9	6.1 – 14.4
Loch Leven Lake	Rainbow Trout	30	6.2 – 16.8
	Brown Trout	2	17.4 – 17.7
Helmet Lake	Snake River Cutthroat Trout	6	10.0 – 14.8
Holster Lake	Snake River Cutthroat Trout	29	6.1 – 16.6
*Upper Valentine Lake	Brook Trout	1	9.5
	Snake River Cutthroat Trout	19	5.9 – 8.8

*Upper Valentine Lake is usually stocked with Golden Trout, but Snake River Cutthroat Trout were stocked in 2016. Golden Trout stocking will resume in 2018.

Boysen Reservoir Walleye, Perch and Sauger

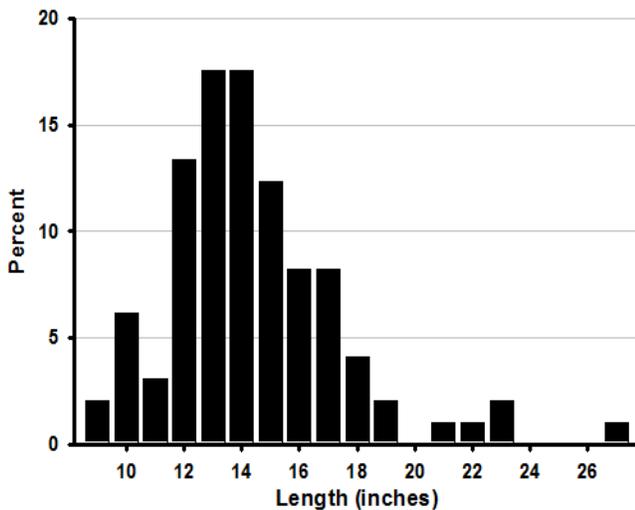
Sampling by WGFD fisheries biologists in 2017 found good numbers of Walleye, Yellow Perch, and Sauger, which should lead to a good 2018 fishing season. The health of the Walleye population has improved in recent years thanks to strong 2011, 2014, and 2015 year classes. Most Walleye captured during September 2017 were age-2 (12 to 14 inches) and age-3 (15 to 17 inches). The high numbers of age-2 and age-3 fish is a good sign for the near future of Boysen Walleye fishing.

Yellow Perch abundance has increased in recent years, which has resulted in better fishing. Boysen Reservoir is known for producing large Yellow Perch, and this year should be no different. Almost 25% of the Yellow Perch sampled in 2017 were 9 inches or larger.

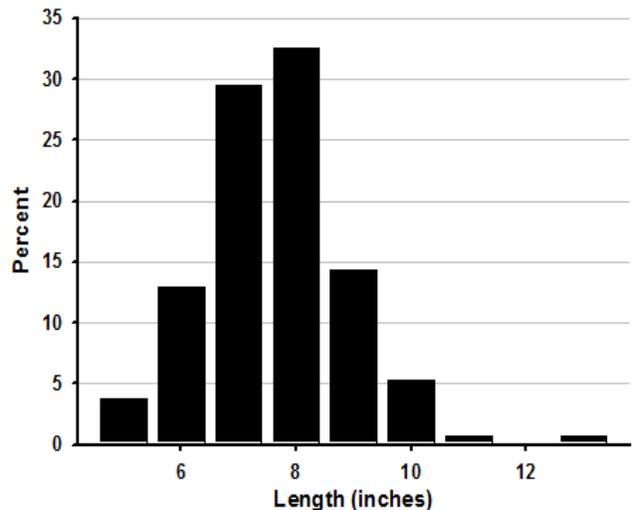
Many Sauger were caught by Boysen anglers during the 2015/2016 and 2016/2017 ice fishing seasons, and the 2017/2018 season should be no different. Good numbers of age-2 (12 to 14 inches) and age-3 (15 to 18 inches) fish were observed by biologists in September 2017. Sauger captured by Boysen anglers may be the result of stocking or natural reproduction. Sauger are native to the Wind River drainage and the population has historically been maintained by natural reproduction; however, the species was stocked from 2013 – 2016 because extremely low numbers were observed from 2009 – 2011.



A jumbo Yellow Perch from Boysen Reservoir.



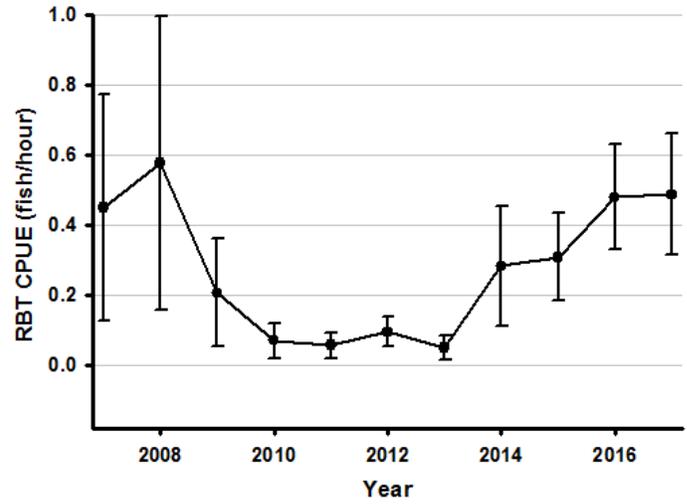
Length frequency of Walleye captured in Boysen Reservoir, 2017



Length frequency of Yellow Perch captured in Boysen Reservoir, 2017

Boysen Reservoir Rainbow Trout

Boysen Rainbow Trout numbers were the highest observed since 2008; however, size and condition decreased in 2017. Anglers may notice that trout were skinnier than in past years. Algal blooms were common in Boysen Reservoir for most of the summer and the poor water transparency made it harder for fish to see food and interfered with foraging. Water transparency will improve during fall and winter, resulting in better conditions for fish. The Boysen Reservoir Rainbow Trout fishery is maintained by stocking catchable sized (10 in.) fish raised in WGFD hatcheries. To minimize Walleye predation, Rainbow Trout are stocked in October. Studies have determined that Walleye predation decreases when larger trout are stocked during late fall, when lower water temperatures decrease the metabolism of most fish species.



Average catch rates (fish/net hour) of Rainbow Trout in gill nets (2007-2017), Boysen Reservoir.

Little and Middle Popo Agie Sampling

Little Popo Agie

The Little Popo Agie River Public Fishing Access provides a good wild trout fishery, with approximately two stream miles available to anglers. The river was recently electrofished within the fishing access area, capturing high numbers of Brown Trout. Most catchable Brown Trout were in the 7- to 8-inch range, but fish as large as 20 inches and 3 pounds were observed. Good numbers of large Mountain Whitefish (a native species) also existed, with some fish over 18 inches and up to 2 pounds. High numbers of 3- to 4-inch Brown Trout and Mountain Whitefish (fish that hatched in fall 2016) were also captured, which is good news for the future of the fishery. A small number of Rainbow Trout were also captured, with fish ranging from 7 to 14 inches and up to 1 pound.



Fisheries Biologist Paul Gerrity with a couple nice Little Popo Agie Brown Trout.

To get to the Little Popo Agie River Public Fishing Access from Lander, take Highway 28 south approximately 11.5 miles (drive past the Highway 287 turnoff towards Rawlins) and turn right on Red Canyon Road. Two well-signed parking areas exist approximately one and two miles from the highway along Red Canyon Road. Remember that the fishing access is on private land, so please respect the landowners by staying within the easement (not going past the upstream and downstream boundaries and staying



Electrofishing the Middle Fork Popo Agie River.

within 50 feet of the high water mark). All anglers must walk in from the designated parking areas. Additionally, camping, fires, and dogs are not permitted within the fishing access.

Middle Fork Popo Agie

The Middle Fork Popo Agie that runs through Lander City Park was also recently electrofished. The purpose of this sampling was to assess whether low flow pools that were constructed to create trout habitat through Lander City Park were, in fact, holding fish. The low flow pools were part of a project led by the Popo Agie Anglers, which is the Lander chapter of Trout Unlimited. Good numbers of both Rainbow Trout and Brown Trout were caught, indicating the pools are holding fish and so far doing what they were constructed to do. Most trout were 6- to 11-inch range. The largest Brown Trout was just under 16 inches and weighed over 1.5 pounds, and the largest Rainbow Trout was 14 inches and just over 1 pound. Many Longnose Dace (a native species to the Popo Agie River), Mottled Sculpins, and a small number of juvenile Mountain Whitefish (a native species to the Popo Agie River) were also captured. Thank you Popo Agie Anglers for this project!

New to the Region—Tiger Trout and Kokanee

Tiger Trout and Kokanee Salmon, two fish species new to the Lander Region, are being caught in good numbers by anglers this summer. Tiger Trout, a sterile hybrid between a Brook Trout and a Brown Trout, are being caught in Cow and Upper Silas lakes in the Shoshone National Forest. In addition to being a species highly desired by anglers, Tiger Trout are a good management tool for biologists to control other fish populations. Tiger Trout are aggressive predators with a large gape size, which enables them to eat bigger fish than Brown Trout and Brook Trout of the same size. The fact that they are sterile ensures that they will not spread to other waters uncontrollably. Tiger Trout were stocked in Upper Silas Lake in 2014 and 2016 to improve a stunted Brook Trout population. The goal of stocking Tiger Trout in Upper Silas Lake is to reduce the number and thereby increase the size of Brook Trout as well as create a Tiger Trout fishery. Tiger Trout were stocked in Cow Lake in 2015 and 2017 to take advantage of an abundant Lake Chub population and create a new sport fishery for Lander-area anglers. Anglers should be aware that the stocked Tiger Trout are still young and have not yet grown to their full size. Tiger



Cow Lake Tiger Trout.

Trout over 12 inches in Upper Silas Lake and over 10 inches in Cow Lake are uncommon. As these fish age, it will be exciting to see how large they get (the state record is just over 11 pounds from High Savory Reservoir) and what kind of angling opportunities they create!



Louis Lake Kokanee Salmon.

Kokanee Salmon were first stocked in Louis Lake in 2014 to create an additional brood source collection of Kokanee eggs in Wyoming. Historically, most Kokanee eggs were obtained from New Fork Lake and Flaming Gorge Reservoir; however, egg shortages in recent years caused the Game and Fish to attempt the creation of additional brood sources throughout the state. Like all salmon, Kokanee change colors from silver to red when they spawn and will die after spawning. The goal for Louis Lake is to maintain a naturally-reproducing Kokanee population that will produce extra eggs for the Game and Fish hatchery system.

Although the brood source evaluation is ongoing, Kokanee have been a big hit by Louis Lake anglers over the past two years. Anglers have had success catching Kokanee through the ice in the winter and from boats during the summer. Most are between 9 and 14 inches long. Hopefully, the Louis Lake Kokanee experiment will be successful and create another good fishery for anglers in the Lander area.

Here are where these three new sport fisheries are located: Louis Lake is approximately 26 miles from Lander on Shoshone National Forest Road 300 (the Loop Road). Cow Lake is less than a ¼-mile hike east of the Loop Road between Fiddlers Lake and the Little Popo Agie River. An approximate waypoint for Cow Lake is Z 12, E 0674851, N 4720427 (datum NAD 1983). Upper Silas Lake is an approximately 4-mile hike from the Christina Lake trailhead (located at Fiddlers Lake) by taking the Christina Lake Trail to the Silas Lake Trail.

Wind River Sauger Population Rebounding

After almost a decade of decline, 2016 and 2017 sampling showed Sauger numbers in the Wind River drainage have increased to levels near those of the early 2000s. Sampling was conducted by the WGFD, Shoshone and Arapaho tribes, and U.S. Fish and Wildlife Service and included gill netting on Boysen Reservoir and electrofishing on the Wind, Little Wind, and Popo Agie rivers.

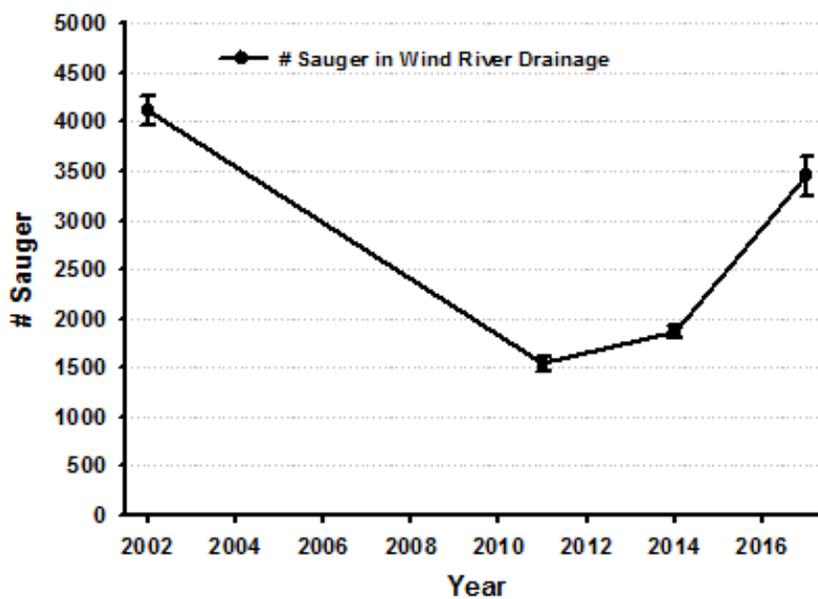
Sauger catch rates in Boysen Reservoir declined by 94%, and Sauger numbers in the Little Wind and Popo Agie rivers declined by 73% from 2002 to 2011. Data showed that the decline was caused by low natural reproduction. Overfishing and increased mortality of adult fish did not contribute to the population decline. Research on the cause or causes of low natural reproduction is ongoing. Hypotheses include high water temperatures and dewatering of juvenile nursery areas during drought years of the early 2000s.



Age-0 and Age-1 Sauger captured in 2017

The recent numbers increase was caused by strong 2011 and 2014 – 2016 year classes, as the majority of captured fish over the last 2 years hatched during those years (biologists confirmed Sauger ages by counting growth rings on scales or otolith bones). It is currently unknown if stocking, natural reproduction, or a combination of both contributed to the strong 2014 – 2016 year classes. To supplement the natural reproduction that was lacking, the WGFD, Shoshone and Arapaho tribes, and U.S. Fish and Wildlife Service conducted Sauger stocking operations from 2013 – 2016. The stocking operations consisted of capturing and spawning wild adults from the Wind River drainage, hatching the eggs and raising the young Saugers in a hatchery, and stocking them back into the wild. High snowpack that resulted in high river flows during those years also created good conditions for natural reproduction. Research (primarily genetic analysis) is ongoing to determine the contribution of stocked and wild fish to the 2015 – 2016 year classes. Data collection will occur through spring 2021, and results will likely be available in 2022.

The high numbers of young Saugers that currently exist is promising for the species' persistence in the Wind River drainage and Wyoming. The Wind River drainage population is unique among Sauger populations and has high conservation value. Wind River drainage Saugers are genetically unique and inhabit the highest elevation of any North American Sauger population. They are also among the largest growing and longest-lived Saugers. Saugers captured in the Little Wind and Popo Agie rivers have been aged up to 18 years, which is 3 years older than Saugers in any other population throughout the range of the species. The increase in Saugers also benefits Wyoming anglers, as many were caught by Boysen anglers during the 2015/2016 and 2016/2017 ice fishing seasons.



Estimated number of Saugers ≥ 8 inches with standard error bars in the Wind, Little Wind, Popo Agie, and Little Popo Agie rivers from 2002 - 2017.



Adult Sauger captured in the Little Wind River, 2017.

Kids Fishing Day and Education Efforts

Kids fishing day was once again a big success in the region! Hundreds of kids and parents showed up at Luckey Pond in Lander and the Big Bend ponds in Riverton to enjoy some fun and fishing! North Platte Walleyes Unlimited supplied free fishing poles and tackle that the kids got to keep at the end of the day and the Popo Agie Anglers provided prizes as well. Kiwanis provided free lunch at both locations. Thanks to everyone who helped, the smiles said it all!



Luckey Pond Grayling



Big Bend Pond Largemouth Bass



Free Tackle!

Many outreach activities for kids continued around the region. The fisheries crew spent a day at Luckey Pond with about 100 Lander Lights-On Kids. The kids ran through education stations learning about fish biology, aquatic invertebrates, canoeing, and casting. We also hosted an arbor day event where local school kids participated in education stations and helped plant trees at Luckey Pond.



Torrey, Ring, and Trail Lakes

Torrey, Ring and Trail lakes were sampled in fall 2017 using gill nets to assess the populations of Brown Trout, Lake Trout and Rainbow Trout. Native Burbot populations are also a concern but they are sampled every other year in the spring with trammel nets. Burbot will be sampled in 2018.

Torrey Lake

Torrey Lake is the deepest of the three lakes with depths reaching 55 feet. Lake trout were introduced into the lake in 1937 and last stocked in 1959. The catch rate for Lake Trout was 0.16 fish/net hour and average length was 27.5 inches. Lake trout were in good body condition indicating adequate prey for large fish. Brown Trout catch rate was 0.14 fish/net hour. Average length was 18.1 inches and most were 16 – 20 inches. The largest Brown Trout was 25 inches and 5.76 pounds. Brown Trout body condition was not as good as Lake Trout, suggesting their preferred sized prey is not as abundant.

Rainbow trout and suckers provide the forage base in Torrey Lake. The minimum size of Rainbow Trout was 12.2 inches and suckers were 11.4 inches. It is likely that large Lake Trout influence the fish



Although Burbot were not the target of 2017 sampling efforts, a number were captured in Torrey Lake.



A nice Lake Trout from Torrey Lake in 2017.

population size structure and limit abundance of smaller fish. Lake Trout appear to have overtaken Brown Trout as the dominant predator.

Ring Lake

Ring Lake is extremely shallow with average depths of only 3 to 4 feet. The 2017 data suggest Brown Trout comprise a large proportion of the Ring Lake fish population compared to Torrey Lake. The catch rate for Brown Trout was 0.67 fish/net hour and average length was 19.5 inches. The largest fish was 23.4 inches and 4.74 pounds. Rainbow Trout and suckers provide the forage base for larger Browns and there is far less competition with Lake Trout. In fact, no Lake Trout were captured in Ring Lake.

Trail Lake

Trail Lake is an incredible trophy Brown Trout fishery. The 2017 Brown Trout catch rate was 0.19 fish/net hour. Average length was 22.2 inches and the highest proportion of fish were >24 inches. The largest Brown Trout was 32.0 inches and weighed over 20 pounds.

Lake trout were introduced into Trail Lake in 1937 and last stocked in 1957. Their catch rate was 0.04 fish/net hour and average length was 27.5 inches. They are not nearly as abundant as Brown Trout.

Trail Lake supports native Mountain Whitefish in addition to Rainbow Trout and suckers. The minimum length was 6.9 inches for these species. The availability of smaller sized fish in Trail Lake, in comparison to Torrey Lake, is likely the reason Brown Trout grow so big. See the Trail Lake Brown Trout photos below for proof!



After hearing concerns from local anglers about trophy Brown Trout being harvested in the fall due to vulnerability while spawning, a one month creel survey in October 2017 was completed in the Torrey Creek drainage to assess harvest of trophy sized fish. Very few anglers were contacted and average catch rate was 0.5 fish per hour. No fish were harvested and the creel survey showed that there is little fishing pressure during the time when trophy Brown Trout are spawning. No special regulation is needed at this time.

Be Prepared—Know the Regulations

Once it warms up for the summer, many people look forward to getting out on the water with their boats and other watercraft. Wardens are also busy this time of year heading to the waters for watercraft and fishing regulation enforcement. Some of the most common violations include fishing without a license, failure to get an AIS inspection prior to launch, failure to require children to wear life jackets, and fishing with more than two poles. Here are some highlights that may help you avoid mistakes, but always check regulations before you recreate.

Where can I find fishing regulations?

1. You can find them online at <https://wgfd.wyo.gov/Fishing-and-Boating/Fishing-Regulations>
2. Wyoming Game and Fish regional offices
3. License selling agents

What do I need on my boat?

1. A personal flotation device (life jacket) available for each individual on board. Life jackets must be properly-sized, U.S. Coast Guard approved, and readily accessible; children 12 years old and under are required to wear theirs while underway. Anyone being towed by a boat is required to wear a life jacket as well.
2. An approved throwable flotation device is required on boats 16 feet and longer.
3. A proper fire extinguisher is required on any boat with an inboard engine, compartments that store fuel tanks or other combustible materials, bottoms that are not sealed to the hull, closed living spaces, or permanently installed fuel tanks. Check for details and full regulations online.
4. Lights are also required when boating from sunset to sunrise. The types of lights required differ based on the size of the boat. Check for details and full regulations online.

Do I need an AIS inspection?

1. Any watercraft transported into Wyoming from March 1 through November 30 must undergo a mandatory inspection by an authorized inspector prior to launching in any water of the state. Additionally, if you pass an open AIS watercraft check station on your route of travel, you must stop for an inspection, even if your boat has already been inspected and documented.
2. If your boat has been in a mussel suspect/positive water (such as Lake Mead, NV; Lake Powell, UT; Great Lakes, etc.) in the last 30 days, you must have your boat inspected before launching in Wyoming during all times of year.
3. And, just as a reminder, all watercraft must have a valid Wyoming AIS decal before boating on any waters of the state. Decals are available online, at regional offices and at automated license vendors.

Don't Move a Mussel

**BEFORE YOU LAUNCH
IN ANY WATER,**
*protect your water resource and
boat motor from invasive zebra and
quagga mussels by doing a*
SELF-CHECK

Follow these simple steps to protect your waters:

✓ **DRAIN** All water must be drained from your boat. This includes the ballast, bilge, livewell and motor. Leave wet compartments open.

✓ **CLEAN** Remove all plants, mud and debris from equipment and boat.

✓ **DRY** Dry your boat or equipment 5 days in the summer, 18 days spring/fall or 3 days of freezing.

**Help protect Wyoming's
waters by making sure you
Don't Move a Mussel!**



Please contact the Wyoming Game and Fish Department if
you see attached mussels on your equipment or in Wyoming waters.
We can provide more information and assistance in removal.
Call 1-877-WGFD-AIS - (877-943-3247)


**WYOMING GAME & FISH
DEPARTMENT**
"Conserving Wildlife - Serving People"

**STOP AQUATIC
HITCHHIKERS!**



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Fish Department**
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Important Dates to Remember in 2018

- May 18 and 19—**Wyoming Outdoor Weekend (Lander)** This event is free to the public with some great kids activities, educational booths, local outdoor vendors, and raffle prizes. Complimentary food and beverages will be served both evenings with live music Friday night and a showing of the Fly Fishing Film Tour on Saturday night, courtesy of the Popo Agie Anglers.
- June 2— **Kids Fishing Day (Lander and Riverton) and Wyoming's Free Fishing Day** The Wyoming Game and Fish Commission has declared June 2, 2018 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 Lander (Luckey Pond) and Riverton (Big Bend ponds).
- June 9—**Pete's Pond Celebration and Kids Fishing Day** Pete's Pond is a new community fishing pond in Dubois located near the rodeo grounds. Construction of the pond was completed in the fall of 2017 and it will be stocked with catchable size Rainbow and Yellowstone Cutthroat trout this spring. The Dubois Anglers and Wildlife Group will be hosting a kids fishing event to celebrate the completion of this project and promote the new fishery.
- June 15—**Shoshone Lake and Shoshone Creek opens to fishing** Closed to fishing from September 1 to June 14.
- January 1, April 1, June 1—**Wind River Indian Reservation waters open to fishing** Reservation waters that are open to the general public (with a valid tribal fishing license) have various opening and closing dates. Make sure to consult tribal fishing regulations.



WE'RE ON
THE WEB
<http://>

wgfd.wyo.gov
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YOUTUBE!

