WYOMING GAME AND FISH DEPARTMENT

Laramie Region Angler Newsletter

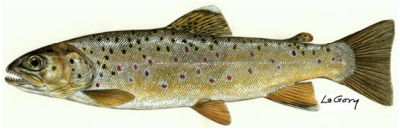
2022

Inside this issue:

Laramie Region Aquatics Team

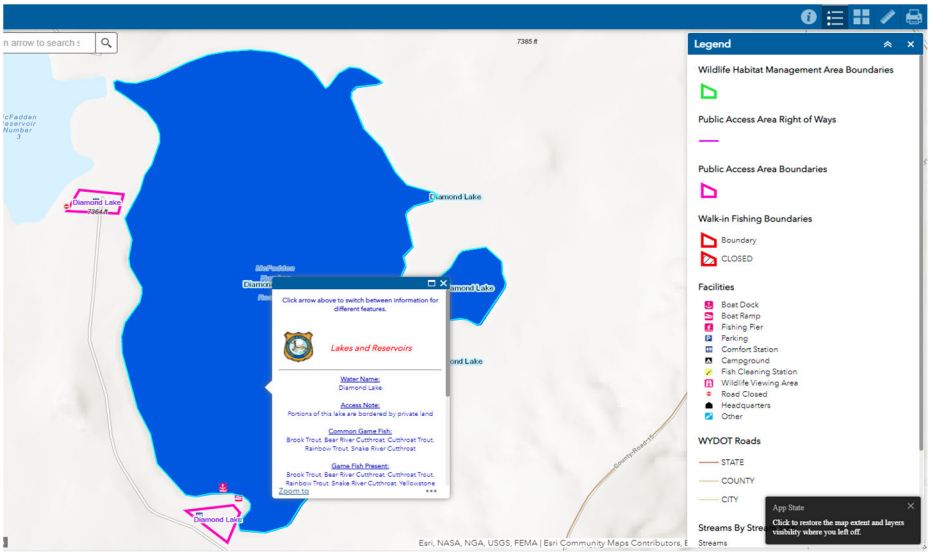
The days are longer and the snow is melting, it's time to tuck the ice auger away and spool new line on the reel. Spring is a great time to fish in the Laramie Region and we hope you enjoy the aquatic resources. This newsletter highlights the fishing opportunities in the Snowy Range, information on Largemouth Bass, and updates on the impacts of the Mullen Fire. Please enjoy!

Interactive Fishing Guide



This web-based fishing map can be found on the Wyoming Game and Fish Department website and is a tremendous resource for researching all public waters in Wyoming. You simply click on the lake or river from the map to learn about its access, common game fish, and facilities (boat ramps, restrooms, campgrounds). In addition, this interactive guide has a searchable function to identify places to fish by species present, water name, or type of water.

Interactive Fishing Guide link:
https://wgfd.maps.arcgis.com/apps/webappviewer/index.html?id=61d1fb66ead443e2af51aa2ada1f1eaa



Screenshot of Diamond Lake from the online fishing guide

Fish Stocking Reports

This web-based tool on the Wyoming Game & Fish Department website allows you to examine up-to-date stocking information to see what species have been stocked in your favorite waters recently, or even historically. This tool has a search function by stocking year, species, water name, or county.

https://wgfapps.wyo.gov/FishStock/FishStock

Aquatic Invasive Species (AIS) Inspections in 2021

In 2021, Laramie Region Game and Fish AIS inspectors conducted boat inspections at three boat check stations (the Laramie 287 Port of Entry, the I-80 Port of Entry in Cheyenne, and the I-25 Welcome Center in Cheyenne), as well as at major waters across the region. Agency personnel conducted a total of 12,678 boat inspections throughout the year, with stations open from April 10th through October 31st. Of the 12,678 total inspections, 1,072 inspections were high risk and inspectors decontaminated 280 watercraft. Zebra or quagga mussels were found attached to four boats passing through the Cheyenne AIS check stations, and were fully decontaminated. One of these watercraft had live mussels attached, and the watercraft was quarantined for 30 days. The AIS Specialists in the Laramie Region conducted monitoring efforts in 15 waters throughout the region in 2021. These efforts included plankton tows to look for microscopic juvenile mussels, and shoreline surveys to look for any visible aquatic invasive species (adult mussels or clams, crayfish, snails, and aquatic plants). No zebra of quagga mussels were detected in any Wyoming waters in 2021. The Laramie Region has known populations of Brook Stickleback (an invasive minnow-sized fish), Curly Pondweed in Wheatland Reservoir #3, Rusty Crayfish in the Laramie River drainage, and Asian Clams in Horse Creek near Torrington. A current map of all known AIS can be found on our website: https://wgfd.maps.arcgis.com/apps/webappviewer/index.html?id=935acbec194f4d42823af3db59272409. If you think you have found any unknown populations of AIS, please report your findings through the email ReportAIS@wyo.gov or call 1-877-WGFD-AIS. Including photos of your find is immensely helpful in our efforts to identify these organisms.

Remember to purchase your annual AIS decal before boating in Wyoming, remove all plugs while transporting your watercraft, and always Clean, Drain, and Dry your watercraft between waters!

Boot Brush Stations coming to the Laramie Region

Installation of 10 boot cleaning stations will be happening this upcoming summer. Anglers and boaters will come across these stations at waters most susceptible to the spread of New Zealand Mudsnails, which are a state-listed AIS. Locations of boot brush stations include numerous public access areas along the Laramie and North Platte rivers, Twin Buttes Reservoir, Diamond Lake, and Wheatland Reservoir #3. The stations will consist of a boot brush, grate, catch basin, and informational signs. The stations are intended for anglers and users to brush off mud and debris that may harbor AIS into the catch basin for containment. We thank you for your participation in preventing the spread of AIS.

Please report any AIS to 1-877-WGFD-AIS or ReportAIS@wyo.gov

Largemouth Bass — Age, Growth, Diets

Sampling in 2020 at Lake Absarraca, Packers Lake, Rock Lake, and Sloans Lake was part of a statewide effort to assess Largemouth Bass population characteristics in order to inform management of bass waters. In addition to evaluating relative abundance and size structure, scales were collected from bass ≥ 12 inches to evaluate age and growth characteristics of bass at each lake.

Age and Growth

Growth rates of Largemouth Bass are variable and like other fish species depend on genetics, forage, and environmental conditions. Although growth is good in some waters, the average growth of Largemouth Bass in Wyoming is generally poor compared to other states. Since most Wyoming Largemouth Bass fisheries have average to slow fish growth, longevity is likely important when managing for large size. Largemouth Bass should live 13 years or longer in most waters in Wyoming.

Largemouth Bass within Lake Absarraca, Packers Lake, and Sloans Lake reach 15 inches at age-8. In comparison, Largemouth Bass within Rock Lake exhibit faster growth and reach 15 inches at age-6 (Figure 1). Largemouth Bass growth is slow in all four lakes and within the range of other Wyoming Largemouth Bass populations.

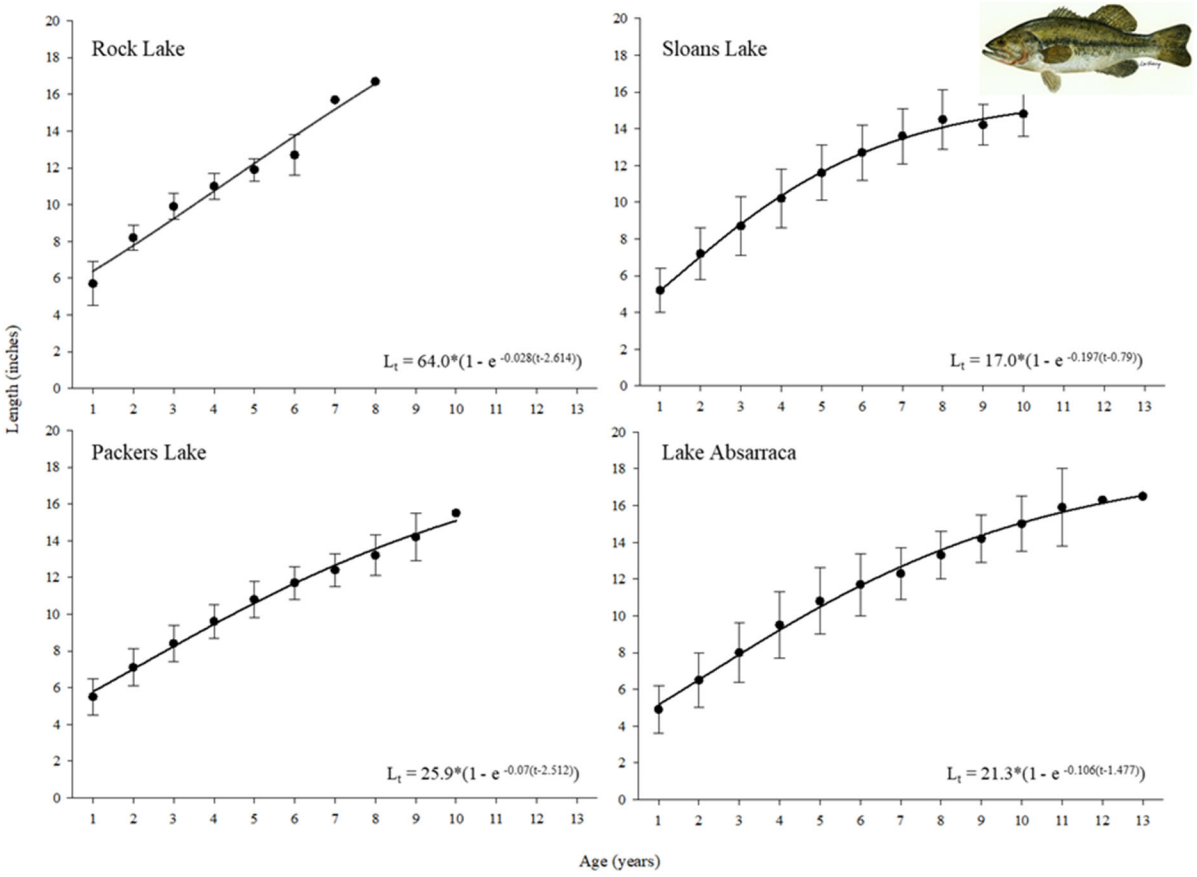


Figure 1. Mean length-at-age and growth curves for Largemouth Bass from Lake Absarraca (n = 15) , Packers Lake (n = 22), Rock Lake (n = 9), and Sloans Lake (n = 21). Error bars represent standard

Largemouth Bass continued

Diets

Sampling in 2021 at Packers Lake and Rock Lake was part of a larger project to evaluate warmwater fish habitat in southeast Wyoming. The goal of the project is to gain an understanding of the current in-lake and watershed habitat conditions that influence the sport fisheries. One of the objectives was to use boat electrofishing to collect Largemouth Bass for diet analysis.

Collection of bass occurred over the course of one day using boat electrofishing targeting desirable bass habitat. Twenty-six bass were collected at Rock Lake ranging in length from 7-17.5 inches. Thirty-nine bass were collected at Packers Lake ranging in length from 6.4-15 inches. To process collected fish, stomachs were pumped with water, which is a non-lethal method to sample diets. Stomach contents were examined in the lab and identified.

The top three most frequently encountered diet items in stomachs of bass at Rock Lake were water boatmen (35%), damselflies (29%), and crayfish (23%). The top three diet items at Packers Lake were fish (53%), damselflies (16%), and crayfish (10%; Figure 2). At Rock Lake, Largemouth Bass of all sizes consumed crayfish, while bass ≤ 10 inches consumed more water boatmen and bass ≥ 10 inches consumed more damselflies. Packers Lake bass of all sizes consumed fish, while bass ≥ 11 inches also consumed crayfish. The lack of fish in stomachs of bass at Rock Lake was surprising. This is especially true since bass at Rock Lake have great body condition and grow faster than bass in other Wyoming waters. One explanation may be due to the lack of age-0 fish at Rock Lake in June, as fry emergence has not yet occurred. Additional diets will be collected in August 2022 at Rock Lake. Top diet items for bass at Rock and Packers lakes were similar to bass from waters around Alabama, where top diet items included crayfish, aquatic insects, sunfish, bass, shad, and other fish.

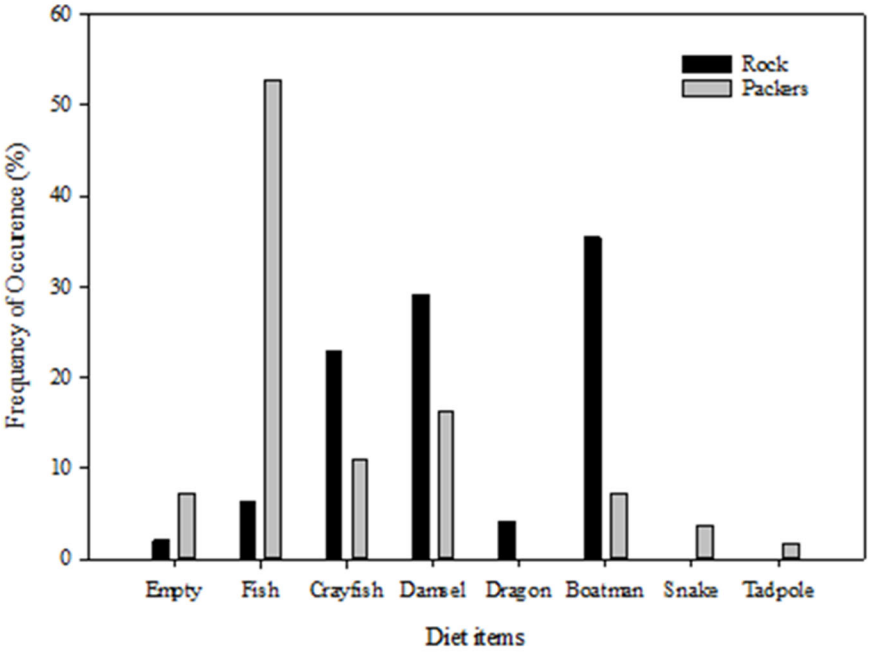


Figure 2. Frequency of occurrence (%) of items found in bass stomachs collected from Rock Lake (n = 26) and Packers Lake (n = 39)

Earning their (Tiger) Stripes

Angling may be slow at Upper North Crow Reservoir as elusive Tiger Muskie can be hard to catch. Even so, the rewards may be big! Upper North Crow Reservoir was sampled in September 2021, and many large game fish were captured and Tiger Muskie were the star of the show. Tiger Muskie are a sterile hybrid between a Northern Pike and a Muskellunge. They are often stocked to provide a unique opportunity to anglers, or to introduce a top predator that will feed on other fish. Since the goal is often to produce large fish that are efficient predators, many places have a minimum length limit regulation for Tiger Musky. The statewide minimum length limit in Wyoming states that all Tiger Muskie less than 36 inches in length shall be released to the water immediately. This regulation should not deter anglers at Upper North Crow Reservoir, as fish captured during sampling varied in length from 25 to 37 inches, and weighed between 4.3 and 12.4 pounds. Finding large Tiger Muskie was very exciting as it confirmed that they are reaching the size required for legal harvest and are providing a unique opportunity in southeast Wyoming. In addition to Tiger Muskie, some Splake and Rainbow Trout have reached lengths exceeding 25 inches and weights over 6 pounds.

Snowy Range mountains, endless opportunities

The Laramie Fish Management Crew visited eight alpine lakes within the Snowy Range mountains in 2021. Lakes sampled were Albany South Twin, Big Brooklyn, Golden, East Glacier, Lost, Shelf Lake #1, Shelf Lake #2, and South Gap. Here are a few highlights: Big Brooklyn Lake was sampled to check on the stocked splake population. Two splake measured over 25 inches and both weighed 8 pounds. In addition, about 25% of the splake measured over 16 inches in length. Big Brooklyn Lake also has a nice population of Brook Trout averaging about 9 inches. Lost Lake has a wild population of Brook Trout averaging about 9 inches, and Cutthroat Trout stocking began in 2020. South Gap Lake is helicopter stocked every other year with Cutthroat and Rainbow trout. Both Cutthroat and Rainbow trout average almost 10 inches with some fish exceeding 14 inches. Both Shelf Lake #1 and Shelf Lake #2 are helicopter stocked with Golden Trout every other year. Golden Trout in both lakes range in length from 10 to 14 inches. Anglers wishing to target Golden Trout at these lakes should focus on the deeper waters of each lake. If you are wishing to explore the Snowy Range mountains and take advantage of the many fishing opportunities check out the link below for a great map of the area.

https://wgfd.wyo.gov/WGFD/media/content/PDF/Fishing/FishingTheSnowies_USFS-and-WGFD-Map_2019.pdf

A Wyoming Native Returns, the liver of the river

Plain Pocketbook mussels are a native bivalve listed as a Species of Greatest Conservation Need in Wyoming's State Wildlife Action Plan (https://wgfd.wyo.gov/Habitat/Habitat-Plans/Wyoming-State-Wildlife-Action-Plan). They are native to the North Platte River drainage, but no live Plain Pocketbooks have been found there since 2008, even after extensive surveys. Given they were believed to be extirpated from Wyoming, the Fish Division produced and implemented a plan to reintroduce this species. Mussels were provided by the Nebraska Game and Parks Commission's North Platte Hatchery and were marked with a colored glue dot on both valves or with a small PIT tag. The first reintroduction was completed in four reaches of the Laramie River, above and below Grayrocks Reservoir in 2020. Two survey trips and another stocking event occurred at the same four reaches in 2021. A total of 5,564 Plain Pocketbook Mussels have been stocked in the past two years. This project appears to be succeeding thus far, given the observed survival, growth and even sexual maturity in some individuals. The primary goal of this reintroduction is to achieve a wild, reproducing population of Plain Pocketbook Mussels in the Laramie River. Given the complex life cycle of native mussels, which requires the proper fish hosts (such as bass, sauger, or walleye) to successfully reproduce, time is now needed to allow these reintroduced mussels to get comfortable in their new home. Reproduction will occur if the mussels continue growing and reach sexual maturity, and produce viable gametes. Females are then successfully fertilized by adjacent males, and the reproductive females must be found by a proper fish host at the proper time. Identifying natural reproduction of these Plain Pocketbook Mussel populations is not likely for many years yet, given the challenges of locating wild mussels (especially small ones) and is further complicated by the fact that fish hosts can disperse young mussels across large areas. However, monitoring of the reintroduced mussels will continue. Depending on the observations of survival, growth and reproductive status of these mussels in the coming years, eventually a focused effort will occur to search for wild mussels. The hope is that these efforts will ensure the successful return of one of Wyoming's native mussel species.

Sexually mature female Plains Pocketbook Mussel with developed lure with eye spots (white arrow) and enlarged gills assumed to be full of glochidia (black arrow).

Why are mussels important?

Mussels are an indicator species of water quality and play an important role in rivers by filtering water constantly as they breathe and feed. The liver of the river!

Mullen Fire Impacts to Fish and their Homes

The Mullen Fire burned 176,352 acres in the Snowy Range Mountains in 2020. Within the burned area, the Middle and Lower Douglas watersheds experienced the highest proportion of acres burned, including a large portion that burned at moderate or high severity. The combination of burn severity and site characteristics, like slope and soil texture, resulted in the area having a high chance for erosion, debris-flows, or both. These events pose the largest risk to fisheries as they can cause fish kills by increasing suspended solids and turbidity within streams.

To monitor for impacts to the trout population, surveys were conducted in 2021 at multiple sites within Douglas Creek and its tributaries (Lake Creek and Muddy Creek). No adverse impacts were observed as trout populations at all sites were doing well! All trout species were found in their expected stream segments and in their normal range of sizes. Trout were also in good condition based on weight to length ratios. Fish gills also appeared normal and did not indicate trout had experienced chronic exposure to sediment or ash.

While the survey results from 2021 are encouraging, the chance for erosion and debris flow events can remain high for 3–5 years following a burn. Additional monitoring will focus on understanding the impacts of these large flow events, if they occur. No matter what the future holds, a silver lining exists in that trout and insect populations in other streams impacted by fires have recovered quickly (about 3 years) in well-connected systems like Douglas Creek.

In addition to fish sampling, habitat conditions were also monitored at some of the fish sampling stations. Cover, substrate size, flow, water temperatures, eroding banks, and macroinvertebrates were a few of the parameters measured. Conditions measured in the Douglas Creek watershed will be compared with a control site (unburned) in the Middle Fork Little Laramie River. The sites will be monitored every 1-3 years over the next 6 years.

Searching for native non-game fishes in lakes

Plains Killifish

Freshwater habitats and associated aquatic organisms are among the most endangered in the world as a result of habitat loss and alteration, invasive species, water pollution, and overexploitation. However, assessing the occurrence and abundance of fishes in lentic (i.e., standing water) habitats can be challenging. Despite the availability of multiple gear types to sample fish assemblages in lakes and reservoirs, often just one gear type (gill-nets) is used when sampling Wyoming's lakes and reservoirs to assess fish populations. Using a single gear usually provides only a partial representation of a fish assemblage because it cannot capture all species and sizes. A complete understanding of fish assemblage composition in Wyoming's lakes and reservoirs is critical for their effective management and conservation. Long-term data on small-bodied fish abundance is necessary to assess changes in the ecological integrity of Wyoming's lakes and reservoirs. However, there is a limited understanding of the distribution and abundance of small-bodied fishes within southeast Wyoming lakes. Therefore, to improve our knowledge of the distribution and abundance of fish within the Laramie Fisheries Management Region, a concerted sampling effort focusing on lentic systems with appropriate gear will be completed in 2022. There are two goals of the project: 1) Determine the current status of fish species of greatest conservation need (e.g., Brassy Minnow, Common Shiner, Iowa Darter, Plains Killifish, and Plains Topminnow) in lentic systems within the Laramie and North Platte river drainages, and 2) Identify both conservation populations and potential reintroduction sites based on historic occurrence, habitat suitability, and current fish communities in lentic systems in the Laramie and North Platte River drainages. Once completed, the results will help focus routine monitoring within the Laramie Fish Management Region and identify lentic systems suitable for conservation and reintroduction of fish species of greatest conservation need.

Proposed Regulation Changes and Public Comment Process

Fish Division has been working to update eight Department regulations. The proposed changes will be presented at the July 2022 WGF Commission meeting in Evanston. Before that meeting there will be a public comment period opening mid-April for 45 days. https://wgfd.wyo.gov/regulations

Changes will be proposed for Chapter 33, Scientific Research, Educational or Special Purpose Permits; Chapter 49, Private Stocking of Cold-blooded Wildlife; Chapter 50, Fishing Preserves; Chapter 51, Fish Hatcheries; Chapter 52, Nongame Wildlife; Chapter 53, Landowner Fishing Lakes or Ponds; Chapter 62, Aquatic Invasive Species; and Chapter 69, Importation and Possession of Live Cold-blooded Wildlife.

If you stock fish in your private pond (Chapter 49) or you are an approved fish hatchery (Chapter 51) to stock fish in Wyoming, please be aware that there are proposed changes to these regulations. If approved by the WGF Commission, these new changes would take effect January 1, 2023.

Wyoming Game and Fish Department
Conserving Wildlife-Serving People

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North Platte River Public Access Area Improvements

Treasure Island Public Access Area before (top) and after (bottom) construction in 2021. Improvements were made to the parking area and boat ramp, while adjustments were made to the river to improve the flow of boat traffic launching and taking off the water.

We welcome all questions and comments on this newsletter or about the fisheries resources within the Laramie Region. Please feel free to contact us at 307-745-4046 or send an email to:

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