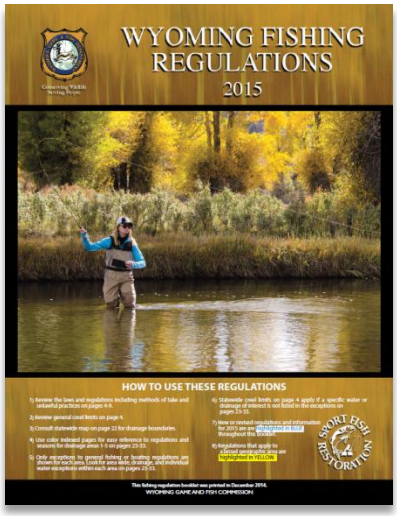
photograph © Trent Tatum

Get Your Line Wet!

New Regulations & Booklet for 2015: Live Baitfish, Artificial Light, & Corn.

Several new fishing regulations went into effect with the New Year. If you have not already, please look at the new fishing regulations before you begin fishing. Grab a copy of the 2015 edition where you get your license or the booklet is on our web site: https://wgfd.wyo.gov/web2011/fishing-1000428.aspx#fishregs

You may have a copy of the 2014-2015 regulations booklet; however, the current changes for this year are found in the booklet dated 2015. **New changes are highlighted in blue throughout the 2015 booklet.**



Changes were made to allow live baitfish dealers to transport live baitfish into the state from approved commercial hatcheries. Live baitfish can be in very short supply in the winter and the changes are hoped to address limited supplies. The changes allow holders of commercial hatchery licenses or a live baitfish dealer license to import fathead minnows from Game and Fish Department approved commercial hatcheries.

Artificial light may now be used with legal fishing methods but the regulations continue to prohibit the use of artificial light when attempting to spear gun game fish. Also added in 2015, corn may be used as bait in all waters where fishing with bait is allowed.

Guidance on Beads

While no change has been made in regulations, recall that fishing with a plastic bead resembling a trout egg is growing in popularity around Casper. A bead used as an attractor for a fly is legal to use. When used as an attractor the bead should be fixed on the leader no more than two (2) inches above the fly to minimize injury to the fish. Information collected by Department Fishery Biologists on this technique can be found in this edition of the newsletter.

INSIDE:

"New" Casper Fisheries Biologist

While not new to the Game and Fish Department, Gordon Edwards is new to the Casper Fisheries Management Crew. Gordon was our native fish biologist working on special projects around the state for nine years. He transferred to the Casper Crew in May 2014 and, in addition to working throughout the region, he will be the lead biologist for Glendo, Pathfinder and the Miracle Mile. He is from Sheridan and obtained his BS in Fisheries at the University of Wyoming. After working as a biologist technician for the Game and Fish he received his MS from the University of Connecticut. Following graduation, he was a lake and reservoir sport fish biologist with the Utah Division of Wildlife Resources before returning to Wyoming Game and Fish in 2006.

Gordon on the Snake River in 2013

Aquatic Invasive Species Program Update

As the 2015 boating season gets underway, here's an update on what has been happening with the aquatic invasive species (AIS) program. In 2014, we focused our inspection efforts on border locations to help people meet the inspection requirement as boaters entered the state. Little will change in 2015 for the Casper region. Any watercraft entering the state is **required by law** to be inspected before launching on Wyoming waters from March through November. Resident boaters who have not left the state do not need inspections unless they encounter a check station. Notable this year are two new suspect waters within a short drive of the Wyoming border. Veligers (larval zebra or quagga mussels) were recently detected in Angostura Reservoir, South Dakota and Deer Creek Reservoir, Utah. As with any zebra or quagga mussel positive water, if you boat on either of these waters you must have your boat inspected before launching in Wyoming again regardless of the time of year. A list of known positive waters can be found at; https://wgfd.wyo.gov/web2011/imgs/QRDocs/AIS_INFESTED_WATER.pdf.

In Wyoming, check stations will operate at ports of entry and on a rotating basis at major waters during the peak boating season from April 25th through mid-September. The Glendo check station will operate Wednesday through Sunday throughout the summer. Please remember that if you get your inspection at a port of entry on your way to Glendo or any other water, by law you still must stop and show the receipt at the Glendo check station or any other you encounter. The check station at the Torrington port of entry will operate seven days a week throughout the season. Periodic inspections will be conducted at Alcova, Grayrocks, Guernsey, Pathfinder and Seminoe reservoirs, and at some North Platte River access points. A list of certified inspection locations and operating hours is at: https://wgfd.wyo.gov/web2011/fishing-1001292.aspx.

Glendo AIS Checkstation

During the 2014 boating season, technicians performed over 43,000 inspections on watercraft originating from all 50 states and Canada. Of those, 2,087 were considered high risk and 880 required decontamination. The majority of decontaminations were performed on boats with standing water in the motor. Ten watercraft had confirmed zebra or quagga mussels attached and were completely decontaminated. The mussels were determined to be dead on all of those vessels.

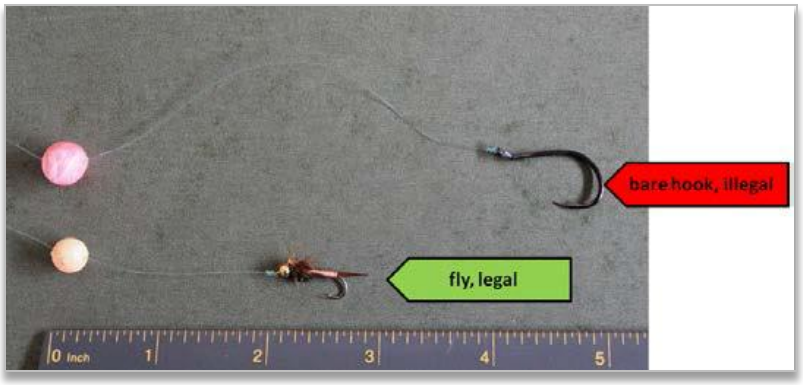
Zebra and quagga mussels are not the only threats to our waters. New Zealand mudsnails, Asian clams, brook stickleback and curly pondweed are already present in some of our waters. Asian clams have been found in the North Platte River below Guernsey Reservoir, and curly pondweed has been found in the North Platte River at the Miracle Mile. It is important that everyone does their part to keep invasive species from spreading. Please remember to Drain, Clean and Dry your watercraft and fishing equipment: **DRAIN** water from live wells, ballast tanks and bilge; **CLEAN** mud from wading boots and anchors, and plants from the trailer; allow your equipment to **DRY** before taking it to another water.

Help us protect Wyoming water resources so that our children and grandchildren can enjoy them in the years to come.

Bead Fishing

The preliminary data is in

We collected data in April and May of 2014 to investigate potential for hooking injury related to the use of trout beads. In particular, we were interested in how many people use the technique, at what distance people fix the bead from the hook, and finally, what the relationship between the distance from hook to bead and where a fish is hooked.



A legal bead rig must use a fly no more than 2" below the bead

Thirty seven percent of interviewed anglers said they use bead rigs while fishing trout on the river. Most people said they use them seasonally (March – June) but nearly 10% said they fish them all year. Hook size was highly variable among individual anglers and ranged from size 2/0 to size 18. The most common hook size we saw was size 8 (44% of all rigs we saw) and most anglers (64%) preferred hooks of size 8 or larger. The average distance between the bead and the eye of the hook was 2.2 inches and ranged from 0 – 8 inches. Forty percent of anglers who were fishing beads, had the bead further than 2 inches from the hook. In terms of catch rate, there was no difference between bead fishing and traditional flies. Bead anglers reported an average catch rate of 2.4 trout per hour, while the catch rate on flies was 2.2 trout per hour, with the two being statistically indistinguishable.

To assess injury, fish were caught using a single bead rig during April and May. The distance between the bead and the hook was varied from 0 – 6 inches in order to represent the typical range we see on the river. Hooks used were size 8, barbed octopus hooks which was the most common hook we observed anglers using. Data collected included the size of the fish, if it was hooked in or on the mouth, how much bleeding was evident after hook removal and the severity of the hooking location.

When we caught trout and our bead was less than two inches from the hook, 100% of the fish were hooked superficially in the corner of the mouth. At two inches, we began to see some fish being hooked in places other than the mouth, but not in severe locations such as gills, belly and eyes. Commonly it was in the cheek below the eye or on the top of the snout. When the distance was increased to three inches, we began to see fish hooked in severe locations. Interestingly, the percentage of foul hooked and severely foul hooked fish did not increase with increasing distance beyond 3 inches, and was the same at 6 inches as at 3. To simplify the data graphically we show the data at 1 inch or less, 2 inches and 3 or more inches.

Hooking injuries and mortalities increase with larger distance between beads and hooks.

The incidence of severely hooked fish has implications for survival of released fish. A mortality model that incorporates water temperature, bleeding severity, and fish size, among other variables, shows fish hooked severely have at least a 30% chance of dying as a result of how they were caught. In comparison, an average sized Gray Reef trout caught superficially on a fly has around a 2% chance of dying from being caught. With the ratios we measured, fishing a bead more than 2 inches from the hook will result in at least 4.5 times more hooking mortality as compared with traditional flies. If the bead is kept within 2 inches of the hook, no increase in hooking mortality is expected relative to traditional flies.

Speas Fish Hatchery

Transformation of a Fish Hatchery to a Fish Rearing Station – and Back Again

Speas Fish Hatchery was originally built in 1957 and stocked its first fish in 1959. Even then it was the largest fish producing hatchery in the Wyoming Game and Fish Department equipped with what was then state of the art fish production equipment and facilities. Speas in those days consisted of 30 linear raceways, a hatchery building and approximately 6,000 gallons per minute of 60°F water from one of the largest freshwater spring in Wyoming, the Goose Egg Spring. Utilizing these technologies and the fisheries management plans of the times, Speas annually produced 80,000 to 100,000 pounds of trout.

To improve water quality and fish health, packed columns were installed at the head of each raceway series in 1989 to reduce the amount of nitrogen gas in the water and increase the oxygen level. Due to a crumbling infrastructure, Speas Fish Hatchery became a rearing station (a station that grows fish but can't hatch eggs) in 1991 when the hatchery building was condemned and demolished. With the loss of a hatchery building Speas could no longer hatch eggs and rear fry and instead became dependent on other Department fish culture facilities to start the early rearing process and then transferred the fish to Speas. The transition from a Fish Hatchery to a Rearing Station did not have much effect on the production of the facility as it continued to produce 80,000 to 100,000 pounds annually.

Flash forward to 2005, with legislatively budgeted and mitigation dollars from the Wyoming Water Development Commission, the Speas facility began its transformation from a rearing station back to a fish hatchery. Completed in 2012, Speas is no longer the facility many remember from their childhood. It is now a fish production machine, rearing 270,000 to 300,000 pounds annually. The renovation of the facility resulted in one of the most advanced trout production facilities in the nation. The improvements include the development of a new production water well that produces up to 900 gallons per minute of colder 54°F water; a water treatment facility including oxygen generators, low head oxygenators, vacuum degassers, and pumps capable of pumping 8,200 gallons per minute; three new production buildings utilizing dual drain circular technology with oxygen supplementation; and a fish hatchery building with rotating drum filters and UV water treatment batteries.

The new Speas Fish Hatchery is not only raising all the usual species of fish that it used to but some new ones as well. Speas Fish Hatchery currently raises sauger (the cousin of Walleye native to many Wyoming rivers), tiger musky, kokanee, rainbow trout, brook trout, brown trout, Colorado River cutthroat trout, and Snake River cutthroat trout on an annual basis. Speas may not be the same fish hatchery that you knew as a child but it plays just as big a role in creating great Wyoming fishing. The hatchery is open to the public year round, 8:00 am to 5:00 pm daily and you are encouraged to visit to see all the new changes. Also near the Speas facility located on the Wyoming Fly Caster's River Access is Jessica's Pond. The pond provides good angling opportunities for people of all ages on a year around basis.

The new Speas Fish Hatchery in 2015

Something is missing … Sauger!

Sauger were common in the North Platte River in 1900. They are a member of the perch family and look a lot like a walleye. As with their cousins the yellow perch and walleye, sauger are an excellent food fish and a valuable game fish. Sauger prefer large rivers but also occur in reservoirs. It is tolerant of turbid water and will survive in water too turbid for walleye. Their range in the North Platte River in Wyoming was probably from Nebraska to Fremont Canyon.

Sauger are Wyoming sportfish native to the Bighorn-Wind River, Powder-Tongue River, and formerly the North Platte River.

The North Platte River has undergone a great deal of change in the past 115 years. Development of multiple dams on the river began with the completion of Pathfinder Dam in 1909. Dams have fragmented river habitat and produced drastic changes in river flows and water temperatures. Pollution from cities and refineries also degraded water quality. In 1948, a U.S Public Health Service report offered the North Platte River from Casper to the Nebraska state line was so polluted there were doubts if recovery could ever be obtained.

Today the river continues to change. The improvement made in water quality is remarkable. Water released from the bottom of the reservoirs is cold and provides Blue Ribbon trout fisheries in the tailwaters below the dams. The river and reservoirs proved excellent fishing opportunities; however, sauger are no longer present in drainage. This may also change.

The North Platte River below Gray Reef Reservoir is a Blue Ribbon trout fishery for 85 river miles downstream. As the river flows downstream it warms and the 61 river miles between Glenrock and Glendo Reservoir provide, at best, only marginal trout habitat. The Casper Fish Management Crew is currently evaluating this 61 mile reach as a location for sauger reintroduction. Work currently being done in the Wind River to bolster sauger numbers in that drainage is encouraging, suggesting a reintroduction in the North Platte may be possible. Obtaining sauger fingerling to stock in the North Platte River will probably involve a cooperative effort between fish culturists and biologists in three states. The earliest date for the reintroduction, perhaps as soon as 2017.

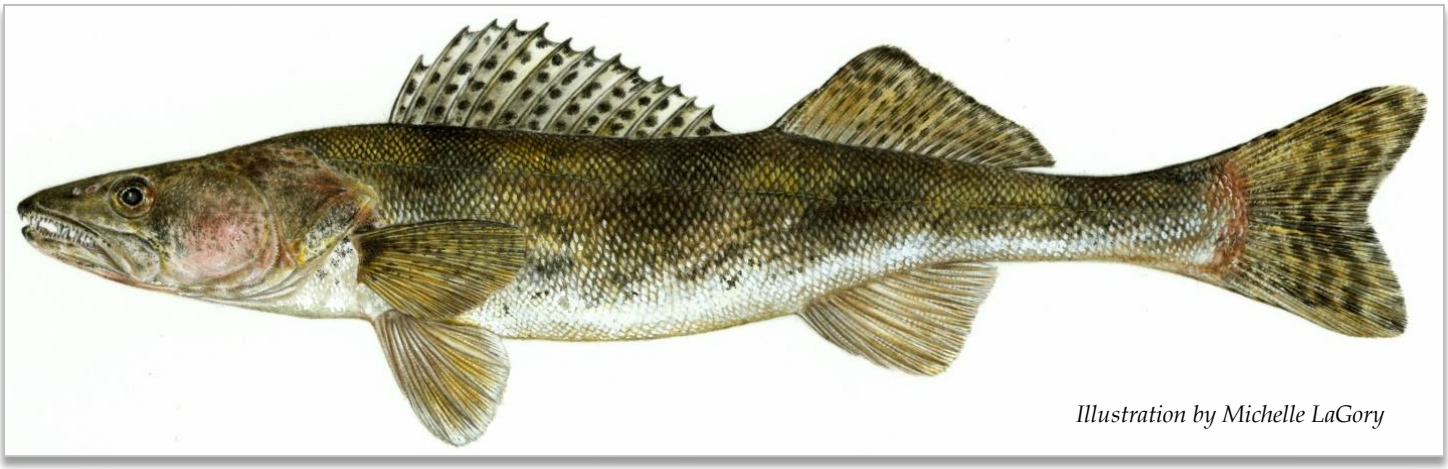


Illustration by Michelle LaGory

Sauger (Sander canadensis) are in the same genus as walleye (Sander vitreus). Notice, on the sauger above, spots on the spiny dorsal fin membranes, the absence of a white blotch on the anal fin, and the mottled coloration – all of which dintinguish sauger from walleye.

Regional Fisheries Updates

Seminoe Reservoir

Rainbow trout fishing was very good in Seminoe Reservoir in 2014. Sixty two percent of trout anglers we interviewed reported trout catch rates that met or exceeded our objective. The average catch rate was 0.52 fish per hour or about one fish for every two hours of fishing. Rainbows averaged 15.5 inches and 1.53 pounds. The largest rainbow we captured was 20.6 inches and 2.70 pounds. Unfortunately, our netting shows less than average survival of the 2013 stocked rainbows. What this means for anglers is that there will be fewer 2 year old fish in the lake in 2015 which are 14-16 inches. Anglers should expect to catch fewer of these fish this summer. But on the bright side, good survival and higher numbers stocked in 2012 means there will be plenty of 3 year old rainbows to catch. These fish range from 16 to over 20 inches. Besides rainbows, there are quite a few brown trout present in Seminoe. The browns in Seminoe are not stocked, but rather are wild fish which move into the reservoir from upstream. Since the high water years several years ago, we have seen an overall increase in brown numbers. They are most abundant up the Platte Arm of the reservoir. The Snake River cutthroat stocked in 2011 are still present in good numbers. These fish have shown a higher survival rate than rainbows, but slower growth. The cutthroats are averaging 15 inches and 1.3 pounds at 3 years of age, versus an average length of 18 inches for a 3 year old rainbow.

A 30" female Seminoe walleye.

The number of 5 year old walleye in Seminoe this summer will be at an all time high. These fish should average around 14 inches this summer and fishing is expected to be fast and furious for these good "eater" size walleye. On top of the large year-class of 5 year old fish, the number of 9 and 10 year old walleye will also be good thanks to strong reproduction in 2005 and 2006. These older fish will range from 16 to 22 inches for males with females ranging from 25 to 32 inches. If you are looking for that 10 pound walleye for the wall, this summer will be the best opportunity in the last several years and given the lack of age 6-8 walleye in the population, probably the best for the next 4 years.

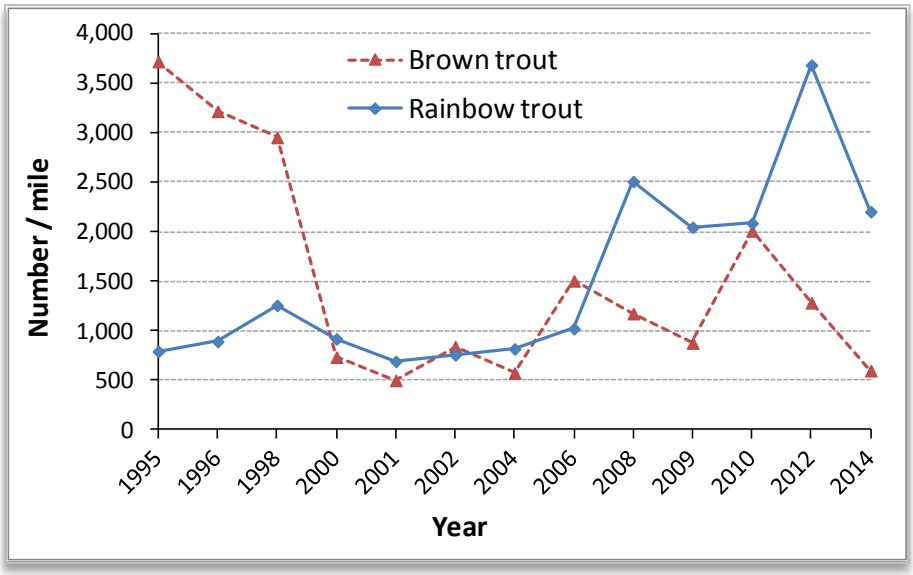
She goes back about her business.

Miracle Mile, North Platte River

The Casper Fish Management Crew completed biennial population estimate sampling in July, 2014 to monitor the abundance and condition of trout in the Miracle Mile reach of the North Platte River. This amazing fishery lies between Kortes Dam and the confluence of Sage Creek, just upstream of Pathfinder Reservoir. Trout were collected using raft-mounted electrofishing gear, examined, and released within a standardized section of the river over a four day period. In addition to length and weight measurements that provide insights into the fishery's health, the composition of new and recaptured fish during each day allowed the calculation of population estimates.

A typical rainbow at the Mile.

Fishing at the Mile should remain fairly good in 2015 although some population shifts will be noticeable to anglers. Overall, the trout population was doing well in 2014, although abundance (2,882 fish/mile) had returned to near average numbers, following an all-time high two years ago (4,967 fish/mile). The drop in trout numbers was partly explained by weak recruitment of wild rainbow trout during the last two years when low and erratic spring stream flows produced poor spawning and rearing conditions. Annually, Game and Fish stocks approximately 100,000 fingerling rainbows at the Mile to hedge against sporadically poor years of wild trout recruitment. Nevertheless, abundance of age-1 rainbow trout at the Mile (6.0 – 11.9 inches) had declined 65% in 2014 compared to 2012. On the bright side, the high numbers of juvenile fish from several years ago produced a phenomenal cohort of large rainbows in 2014 for anglers to enjoy in 2015. Total rainbow trout abundance in 2014 was 2,203 fish/mile. The number of age-3+ rainbows (larger than 17 inches; 227 fish/mile) had remained strong since 2012 (132 fish/mile). A few Snake River cutthroat trout (80 fish/mile) were colonizing the Mile from stocking in Pathfinder Reservoir in 2014, providing a little species diversity.



Trout abundance (estimated number per mile) is cyclic at the Miracle Mile. In 2014, rainbow trout numbers were down from 2012 but higher than the 20 year average. Brown trout numbers were down in 2014.

Unfortunately, total brown trout abundance in 2014 (599 fish/mile) had declined by 53% over the last two years. Trout populations are cyclic at the Mile, and the dip in brown trout numbers falls within the range of abundance observed over the last 15 years. Brown trout numbers bounced back after several years of low abundance in the mid-2000s and may well display a similar pattern over the next few years.

The Bureau of Reclamation provided a steady stream flow of 500 cubic feet per second from Kortes dam for these surveys. The influence of sustained high flows leading up to the population estimates is unknown, but a factor that may have influenced the trout population or the survey results. Be cautious of stream flows when fishing at the Mile – operational changes at the power plant can result in rapid increases in water release from Kortes Dam.

Biologists work-up fish and visit with anglers on the Mile in 2014.

Pathfinder Reservoir

Early spring water levels in the upper North Platte system of reservoirs was above average for the 2015 water year (October 2014 through September 2015) as of March 1st, but spring snowmelt was predicted to end below average.
Annual spring gillnetting at Pathfinder Reservoir indicated that trout fishing should remain pretty good for 2015, but the overall number of rainbow trout may have slightly declined. Anglers may notice a slight dip in the number of 16-18 inch rainbows they catch in the near-term. The overall gill net catch rate for rainbows dropped from 0.80 fish/net-hour to 0.54 fish/net-hour, although the decline was not statistically significant. Pathfinder receives about 100,000 catchable sized (9 inch) rainbows every fall, which grow quickly to about 12 inches by the following spring. The 2013 cohort of rainbows showed lower abundance in the spring 2014 netting survey than expected, which at least partly explains the decline in rainbow catch rate. An unknown environmental factor, particularly high predation from walleye, or the fact that they were stocked at a slightly smaller size than most years could all explain the low survival of these fish. A good sign for the rainbow fishery at Pathfinder is that the overall condition of rainbows has held pace with steadily increasing reservoir levels since 2012. On average, rainbows captured in our nets were slightly larger in 2014 (16.7 inches) than 2013 (15.8 inches), and their relative condition has remained satisfactory.

A nice Pathfinder rainbow.

Brown trout and Snake River cutthroat provide some diversity for trout anglers at Pathfinder reservoir. The adult brown trout population in Pathfinder appeared relatively unchanged from 2013. Most browns ranged from 15-18 inches, and a few

over 20 inches were sampled. It was concerning that almost no 6-14 inch browns were sampled. This paralleled an overall decline in brown trout abundance at the Miracle Mile in 2014. Together, these observations confirm that conditions for brown trout spawning and recruitment have suffered in the Pathfinder-Miracle Mile system over recent years. Anglers may catch fewer small browns over the short-term but the brown trout population has rebounded from similar lows in the past.

Biologists work-up fish at Pathfinder in 2014.

A cohort of Snake River cutthroat stocked into Pathfinder Reservoir during 2011 has displayed remarkable survival and produced quality sized fish. The average length of these fish was 15.7 inches. Oddly, we haven't seen many anglers catching these fish, but trust us, they are out there! Trying something new – a new technique or fishing in new areas may discover a way to target these beautiful fish.

Walleye fishing at Pathfinder should provide the "best of both worlds" in 2015. The overall catch rate for walleye in our fall gill net surveys remained steady from 2013 to 2014. However, the abundance of small walleye, under 15 inches, was more than double the observations from five years ago. Higher reservoir levels during recent years than the mid-2000s benefitted walleye recruitment and body condition. In fact, just the slight improvement in annual mean water storage (acre-feet of water) at Pathfinder over the 2014 water year (October 2013 through September 2014) coincided with a substantial increase in the relative condition of juvenile walleye. Take advantage of the strong 2012 and 2013 cohorts of walleye at Pathfinder Reservoir and harvest these fish, which range from about 10 to 15 inches.

Lurking at large.

Walleye growth at Pathfinder is exceptional between ages 4 and 5, when walleye here approach 20 inches and become capable of foraging on stocked catchable sized rainbow trout (7 to 9 inches). Stocked rainbow trout are expensive walleye forage and this impacts the trout fishery. Large walleye, greater than 24 inches, were abundant in 2014 at Pathfinder. Remarkable numbers of 24 to 27 inch fish were sampled in our gill nets, along with a few near 30 inches. These large walleye create some great trophy opportunities for 2015. Don't shy away from taking these fish home from Pathfinder for your wall! Walleye harvest at Pathfinder Reservoir is encouraged and will help balance the walleye fishery with the trout fishery.

Dome Rock Reservoir

Don't be fooled by its small size! It is worth stopping in at this small impoundment with a developed public access adjacent to the Kortes road on your way to the Miracle Mile. Regulations at Dome Rock Reservoir allow only the use of artificial flies and lures and require the release of all trout less than 20 inches to maintain this trophy cutthroat trout fishery. Snake River cutthroat trout regularly grow in excess of 20 inches within a few years at Dome Rock. Short-duration netting (≤ 1 hour per net) is used every other year to collect fishery assessment data here. This technique maximizes the survival of sampled fish to minimize impacts on this small trout population. Game and Fish has worked to "dial-in" a stocking rate, frequency, and size of fish that works best at Dome Rock.

A beautiful Snake River cutthroat from Dome Rock Reservoir in 2014.

Annual stocking was reduced to a biennial schedule in 2011 at Dome Rock, following the observation of reduced condition and growth of Snake River cutthroats in 2008 and 2009. This management change benefitted the fishery by reducing the competition for forage. The condition of trout at Dome Rock has improved substantially since 2009, and remained steadily above average since 2010. In 2014, the relative conditions for all length categories of cutthroats were well above average, showing that the balance between trout abundance and productivity of their environment had improved. The cohort of 16-18 inch (age 3) cutthroats was strongest in 2014, followed by a group of 10-14 inch fish (age 1). A couple trout exceeding 20 inches (age 5+) were also sampled, proving that trophy cutthroats are waiting for anglers at Dome Rock reservoir in 2015.

Cardwell Reach, North Platte River

The population estimate we conducted in September showed 890 trout per mile in the Cardwell reach of the North Platte River (785 rainbow trout and 105 brown trout). The average trout in Cardwell is 16.1 inches and 1.62 pounds. 2014 marked the second year in a row where trout population declined. We are not worried about the decline. In fact, we are pleased to see the population adjusting downward, balancing towards our management objectives. The objective for this river reach is to provide a blue ribbon fishery with a high emphasis on trophy sized trout. Analysis of fish condition and growth rates showed that under the high population numbers seen since 2011, fish were in poorer than optimal condition with reduced growth rates. Food was limited to the extent that individual fish were not growing past 25 inches as they had before the population increase. Lack of spawning habitat had once limited the trout population to around 150 trout per mile. Under those conditions, trophy size trout were present but with fish so few and far between, angler catch rates were well below ideal levels. We added spawning gravel and saw a remarkable increase in natural reproduction, also boosted by several years of optimal water. Of course the high water did move the gravel around and even moved some out of the low water channel. With the recent reduction in spawning habitat, we are seeing less reproduction and are measuring a corresponding decrease in population. Ideally, the population would be around 450-500 fish per mile, with 20% or so exceeding 20 inches and 5-10% exceeding 25 inches. Right now we are taking a wait and see approach. Once we identify average annual reproduction, we will decide if we need to add more spawning habitat or change regulations to achieve management goals.

Biologists sample fish at Cardwell for a population estimate in 2014.

Alcova Reservoir

The increased limit for walleye at Alcova Reservoir seems to be attracting more interest in this fishery. Our creel surveys have consistently shown more than 95% of all anglers at Alcova were trout fishing. In 2014 however, walleye anglers increased to 12% of the total anglers. Shore anglers are still overwhelmingly fishing trout with 98% indicating that is what they are targeting. The percent of boat anglers fishing walleye increased from just 4% 2 years ago, to 37% in 2014. Walleye anglers reported fair fishing with an average catch rate from May 1 – August 30 of 0.4 walleye per hour. The highest average catch rate was in June at 0.7 walleye per hour. Walleye anglers reported harvesting 61% of the walleye caught. The average length of a harvested walleye was 16 inches.

Netting samples indicate the walleye population is still above objective while the rainbow trout population is below objective. Netted walleye averaged 15.1 inches with the largest individual measuring 32.1 inches and 13.53 pounds. The 2009 and 2012 year classes were both very large, meaning anglers should expect to catch a lot of 14-16 inch walleye and a lot of 22-25 inch walleye. The 2013 year class looks to be weak, although we will not be able to verify that until this fall, but anglers should not expect to see many 11-13 inch walleye this summer.

Rainbow trout in our netting samples averaged 14.7 inches in 2014. Unfortunately, it looks like survival of the fish stocked in fall of 2013 was poor, with our net samples showing a decrease in number of 1 year old rainbows of approximately 75%. This will in all likelihood result in a decrease in rainbow trout catch rate, for fish in the 14-15 inch range. The number of 3-year old rainbows will be about average though so anglers should expect to catch rainbows 16 inches and larger this summer.

Kokanee were stocked into Alcova in 2014 to see if that species may be better able to avoid predation by walleye. The Speas hatchery raised 15,000 kokanee to around 8 inches for Alcova. These fish were stocked in fall of 2014 and we anticipate they will be around 10-12 inches this spring. We hope to be able to stock every year for 3 years so we can evaluate survival, growth, condition, and return to anglers of this species. This year, we will also be stocking two different strains of cutthroat into Alcova. Fifteen thousand Snake River and 15,000 Bonneville cutthroat will be stocked along with 15,000 kokanee and 50,000 rainbows. As with the kokanee we hope to continue this for a three year period so we can collect data on survival, growth and return in an effort to maximize the benefit to anglers of trout stocking in this lake.

Technicians with two huge Alcova walleye in 2014.

Gray Reef and Bessemer Reaches, North Platte River

Last fall, population estimates were conducted on the North Platte at the Gray Reef and Bessemer stations. The Gray Reef station starts at the boat ramp and ends at the BLM boundary below Pete's draw, while the Bessemer station starts at the upper end of the narrows and ends just above Speas. We use 4-pass mark recapture estimates where we shock the same reach of river four different days. All fish captured are weighed, measured and given a small fin clip unique to that day. We keep track of how many unmarked fish are captured on a given pass, along with how many marked fish are recaptured. After four passes, we generally have enough recaptured fish that we can accurately estimate the number of fish in that reach. We can also break the estimates down by individual size or age groups, in other words, we can estimate the number of 1 year old fish in the reach which gives us insights into spawning conditions the previous year as well as an idea of how the fishing will be during the next two years. Other valuable information we get from these samples is growth and condition of fish, and we often sample for whirling disease while we are collecting fish.

A typical Gray Reef rainbow trout swims free.

We estimated 5,218 trout per mile at the Gray Reef reach in October, 2014. This is down from the 2012 estimate of over 8,000 trout per mile, but above our objective of 3,600 trout per mile. Our estimate of age 1 rainbows in this reach is 570 per mile which is below average and indicates poor reproduction in 2013. Anglers are not likely to notice a single poor year-class in this fishery right now as the 2011 and 2012 spawned fish are present in very high numbers. Anglers at Gray Reef should expect to catch a lot of rainbows 16 inches and larger this year with relatively few fish under 14 inches.

The estimate conducted through the Bessemer reach (aka the narrows) showed 6,205 trout per mile of which most are age 1 and 2, meaning that while there are more fish in this reach, they are smaller on average than in the Gray Reef reach. Although brown trout are not numerous anywhere below Gray Reef dam, the Bessemer reach is typically one of the best for browns with an estimated 146 per mile through the narrows in 2014, compared with 31 per mile at Gray Reef.

A bruiser brown trout from the Narrows in 2014.

Goldeneye Reservoir

Goldeneye Reservoir suffered a partial winterkill during the winter of 2013-2014. It was hardest on rainbow and brook trout as we did not catch either in April, 2014. We did capture a few Bonneville cutthroat, but their numbers were down significantly. The lake was stocked in fall 2014 with brook trout, Snake River cutthroat and rainbows. These fish should be catchable size this spring but expect the fishing to be better next year after these fish have a chance to grow.

Glendo Reservoir

Walleye

Walleye fishing at Glendo Reservoir should remain fairly good for 2015, but a dip in abundance is coming over the following couple years. Overall abundance, indexed by standardized August gill netting, remained steady in 2014 compared to the previous several years. Walleye measuring 14 to 17 inches were most common during the 2014 survey and should provide ample numbers of desirable sized fish for anglers in 2015. A few large walleye were also sampled, up to 26 inches and 5.9 pounds. The proportion of the walleye population measuring at least 15 inches (known as proportional stock density or PSD) continued to increase from 2012 (PSD=57), through 2013 (PSD=74), and 2014 (PSD=85). A PSD of 85 is so high that it reflects a population of walleye that lacked young fish, in this case, due to two several years of poor recruitment. Age-1 walleye (8 to 10 inches) appeared weak in the length frequencies from the last several years, and were nearly absent in 2013. A slight return of age-1 walleye was a positive sign in 2014 that all was not lost.

A Glendo walleye is let go.

Monthly water storage at Glendo Reservoir remained low over the 2014-2015 winter, around 75% of average, due to ongoing work to the southwest spill dike. Hopefully, the fishery's productivity benefits from higher than normal nutrient inputs as water levels rise this spring.

Effects of the 15 inch minimum length limit on Glendo's walleye?

The 15 inch minimum length limit (MLL) on walleye was implemented five years ago at Glendo Reservoir and its effects are still unclear. Nearly all of the metrics followed to track the MLL have yet to prove a benefit to anglers. Population structure recently shifted but was due mostly to natural variation. The increase in PSD from 57 to 85 over the last three years was due to poor recruitment of small fish (< 15 inches) rather than a growing number of larger fish (≥ 15 inches). As mentioned above, small walleye were scarce during the last two years, which skewed this metric. Approximated angler yield was 0.46 pounds of fish harvested per hour of angling in 2014 but has fluctuated widely with no trend following the MLL (0.31-0.61 pounds/angler-hour). The condition of walleye and how it related to growth has not changed. Comparisons of the statistical relationship between walleye length and weight showed no change pre and post MLL as of 2014. One positive observation was a substantial reduction in mortality for age three walleye after the MLL (80.6% pre MLL, down to 49.6% in 2014), the age at which they grow into harvestable size. However, this has not yet translated into a more desirable population structure.

So far, any positive effects of protecting young walleye from harvest with the 15 inch MLL have been muted by sporadic recruitment driven by environmental variation at Glendo Reservoir. Buffered recruitment from protecting small walleye has yet to be seen, and will likely take more years than anticipated to confidently evaluate. Luckily, over 95% of anglers interviewed at Glendo in 2014 continued to support the 15 inch MLL for walleye, which shows a willingness to remain patient for evaluation of its effects. The Casper fish management crew will continue monitoring the Glendo fishery and gathering harvest data with creel surveys. Your cooperation and support is appreciated!

Gizzard Shad

Wyoming Game and Fish plans to supplement the adult gizzard shad population at Glendo with fish from an out of state source, most likely from lakes in western Nebraska. Adult gizzard shad provide the primary forage base at Glendo Reservoir by spawning multiple times throughout each summer which creates multiple cohorts of small fish. Abundant young shad also buffer predation on other species, such as yellow perch. Adult gizzard shad aren't very hardy and most do not survive a typical Wyoming winter in our northern, high elevation climate. Normally, this is a convenient natural control on their population growth. Enough adults typically overwinter at Glendo to repopulate the reservoir and create a forage base. Unfortunately, the exceptionally cold winter of 2013-2014 prolonged ice cover at Glendo (60 days of ice cover is about all they can handle) and resulted in a nearly complete loss of the gizzard shad population. It was suspected that far too few adults remain to rebuild the population and provide ample forage to support the walleye fishery in the near term.

An adult gizzard shad (the state record!).

A juvenile gizzard shad reported by an angler in the fall of 2014.

Channel Catfish

Anglers should encounter a similar catfish fishery at Glendo in 2015 as they have in recent years. Abundance of channel catfish during August gill netting was similar in 2014 (0.10 fish/hour) to 2013 (0.09 fish/hour). Studies have shown very few of Glendo's catfish are from natural reproducion and stocking catfish is required to maintain the population. Some very nice sized catfish were also sampled in 2014, up to 29 inches in length, 13 pounds, and 17 years old. Catch rates of channel catfish in gill nets remained steady at this low level over the last ten years, while the ability of Wyoming Game and Fish to acquire channel catfish was sporadic. The channel catfish population was more abundant (gill net catch rates near 0.5 fish/hour) when supplemental stocking was consistent.

A big, old Glendo channel catfish in 2014.

Panfish

The panfish fishery at Glendo reservoir remained marginal, but fishing for yellow perch should improve in 2015. Yellow perch abundance appeared to rebound substantially in 2014 (0.38 fish/hour) from 2013 (0.06 fish/hour) according to our gillnetting data. The population structure of yellow perch shifted rapidly from 2013 to 2014 towards larger individuals due to the growth of a strong cohort into sizes particularly susceptible to our nets. Yellow perch replaced gizzard shad as the most frequently observed prey item in the stomachs of walleye in 2014.

Glendo Wetlands

Glendo wetlands are a series of shallow ponds just downstream of Glendo dam, and can be accessed by foot or bicycle from the public access area near the Glendo power plant. A comfort station, fishing pier, footbridge, and benches highlight an interpretive nature trail with a natural surface at Glendo Wetlands. This warm water fishery provides diversity to angling experiences at the state park and the chance to catch a big largemouth bass, if not fast action. In addition to bass, anglers can catch black crappie, yellow perch, and channel catfish in this unique canyon setting. We are hopeful that anglers will start catching tiger musky soon and that this fish species will help reduce the carp and white sucker populations.

A 6 lb largemouth bass from Glendo Wetlands in 2014.

Shoreline electrofishing at two of the main ponds during 2014 allowed a routine fishery check-up on the 500 juvenile tiger musky that were stocked for the first time in 2013. Largemouth bass were not abundant (16 fish/hour of electrofishing) but several large fish were sampled, up to 19 inches and 6.3 pounds. No tiger musky were found in 2014 but they are difficult to sample even with electricity. We will return to sample again during the spring of 2015 in hopes of finding tiger musky. An additional 500 juvenile tiger musky were stocked in the fall of 2014 to boost the population. Common carp were the most abundant fish at Glendo Wetlands in 2014 (169 fish/hour), and are a challenge for anglers with hook and line or bow and arrow. However, carp and white suckers tie up the majority of food and space resources at Glendo Wetlands and reduce the growth and survival of game fish. Tiger musky should voraciously feed on smaller fish and liberate forage for other game fish as well as provide exciting angling opportunities!

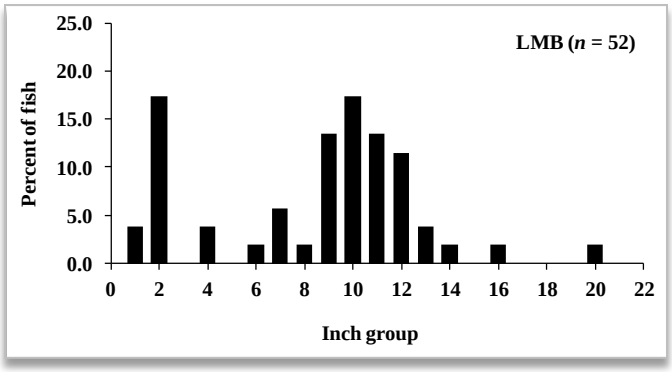
Stocking tiger musky in 2014.

Tiger musky explore their new home at Glendo Wetlands.

Guernsey Slough

Guernsey Slough is a community fishery formed by an abandoned wetland oxbow of the North Platte River on the south side of the town of Guernsey. Camping is available and many historic sites are nearby, including Oregon Trail ruts! The slough is split into two ponds – one east and one west of South Wyoming Avenue. The City of Guernsey dredged the ponds in 2013, which increased depth and improved the slough's water supply. The slough is a great place to fish and explore from your canoe with kids. It hosts a variety of warm water species, including largemouth bass, bluegill, and channel catfish. Bluegill and black crappie were transplanted to Guernsey Slough recently to establish populations. This is the only place in the Casper fish management region, and one of only a few statewide, where you can catch pumpkinseed sunfish.

A 4 ½ lb largemouth bass from Guernsey



Largemouth bass size structure at Guernsey Slough in 2014.

Shoreline electrofishing in 2014 verified the holdover of black crappie and indicated overall good health of the fishery. The largemouth bass population was characterized by a strong number of 8 to 14 inch fish, and a few very nice sized individuals up to 20 inches and 4.5 pounds. The catch rate for largemouth bass with electrofishing gear was steady at 34 fish/hour. Small largemouth bass presumed to be spawned in the spring of 2014 were regularly encountered which was a good sign that recruitment has boosted since water levels increased. The bluegill population has established well with an electrofishing catch rate of 44 fish/hour. Although the average bluegill was small in 2014 (3.8 inches), they should be larger and more available to anglers in 2015.

Unfortunately, it was discouraging to discover the first walleye in Guernsey Slough in 2014. This small, warm water community fishery is unsuitable for walleye. They are very predatory and can reduce populations of other valuable game and forage fish while providing little angling opportunity for most anglers who are unspecialized or novice. Illegal fish introductions are selfish and ignorant acts that can destroy fishery productivity and complicate management. Hopefully these walleye do not do establish in the slough. Please remove any walleye you catch from Guernsey Slough and do not transport live fish – it is illegal for good reason!

A pumpkinseed sunfish from Guernsey Slough.

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