



Trout in the Casper Region

Inside this issue:

<i>The North Platte River</i>	2-5
<i>Speas Rearing Station</i>	6-7
<i>Drought</i>	8
<i>Pathfinder Reservoir</i>	9
<i>Alcova Reservoir</i>	10
<i>Dome Rock Reservoir</i>	11
<i>Hydroacoustics</i>	11
<i>Fishing Regulations</i>	12

Special points of interest:

- What is a goldeye?
- How are trout doing in the Casper Region?
- What's new at Speas Rearing Station?
- Watch for changes in fishing regulations in 2008-2009.

On June 17, 1902 President Teddy Roosevelt's signature created the Bureau of Reclamation. While Teddy did not know it, the stroke of his pen began the transformation of a prairie river into some of the most productive trout habitat in Wyoming. Pathfinder Dam was one of the first projects started by Reclamation. Work began in 1904 and Pathfinder Dam was completed in 1909.

If you recall in the last issue of the Casper Region's Angler Newsletter we addressed primarily walleye; this issue we are concentrating on trout. Prior to 1909 the North Platte flooded in the spring and got pretty low in the summer here in Casper. The river was much wider than it is today because of spring flooding. There were also more miles of river habitat prior to the dam construction. Dams on the North Platte River upstream of Casper transformed approximately 146 miles of river into 45,000 surface acres of reservoir habitat: Seminole, Kortez, Pathfinder, Alcova and Gray Reef reservoirs. These large reservoirs (by Wyoming standards) are deep which provides cool water suitable for trout.

The dams also transformed the sections of rivers below the reservoirs called tailwaters, from warm and muddy, to cold and clear – trout habitat. Cold water settles to the bottom of the reservoirs in the summer and with water being released from the bottom of the reservoirs, the tailwaters provide ideal water temperatures for trout. The reservoirs are also sediment traps. The sediment carried by the river settles out in the upper end of the reservoirs and by the time the water is released at the dam, it is clear and nearly free of sediment. The North

Platte tailwaters have been recognized for many years as some of the premier trout waters in Wyoming. The Miracle Mile has been a destination fishery for years; today the "Reef" is the current superstar.



Trout fisheries are a result of the reservoirs, but unfortunately, our reservoirs are struggling. The continuing drought as taken a toll on the amount of water stored in them. Even with the late March storm, the water forecast for 2007 does not look very promising for the North Platte River. In this issue we will update you on some of our better-known trout fisheries.

The North Platte River - Gray Reef

The Gray Reef tailwater is arguably one of the best trout fisheries in Wyoming. The 87 river miles from Gray Reef Dam to Dave Johnston powerplant is classified as Blue Ribbon water (meaning greater than 600 pounds of trout per mile) making it a fishery of national importance. The upper 42 river miles from Gray Reef Dam to Robertson Road Bridge are managed as a wild trout fishery, where natural reproduction has proven capable of sustaining the trout population at or above our objectives. From Casper downstream to Dave Johnston, the fishery is annually supplemented with 20,000 rainbow trout fingerlings from our hatcheries.

The entire river from Gray Reef to Dave Johnston is first and foremost a rainbow trout fishery. Rainbows dominate the catch throughout the river, never making up less than 92% of the total trout population. Brown trout are the second most common species, making up 4-7% of the population, depending on the location. Cutthroat trout are present in low numbers (less than 2% of the population). While three species of cutthroat have been stocked in the river (Yellowstone, Bear River and Snake River) in recent surveys, only Snake River cutthroat have been found. Many of the rainbows show evidence of hybridization with cutthroat (fish show characteristics of both rainbow trout and cutthroat trout). It is likely that Snake River cutthroat have persisted through spawning segregation (they typically spawn later than rainbow trout) while the other cutthroat species interbreed with the rainbow population.

As the river progresses downstream, the habitat gradually shifts from a cold clear stream that is relatively impervious to the effects of hot summer temperatures and sediment, to a river that is susceptible to elevated temperature and mud deposited on the bottom. As such, the river supports a decreasing number of trout as it gets closer to Glenrock (Figure 1). Taking this into account, we have established four reaches that we monitor and compare to population objectives that would be considered average for that particular reach.

GRAY REEF TO LUSBY

Last autumn we estimated 2,400 trout per mile and 3,900 pounds of trout per mile. The population is below our objective of 3,600 trout per mile, but the overall pounds of trout is statistically similar to the biomass objective of 4,100 pounds of trout per mile. This means that there are fewer trout than “normal”, but the fish are larger on average. The population is made up of 96% rainbow, 3.5% brown trout and less than 1% cutthroat. Rainbows average 16 inches with fish up to 24 inches sampled. Browns average 20 inches with individuals up to 28 inches and nearly 10 pounds.



Eight pound brown trout captured near Sechrist

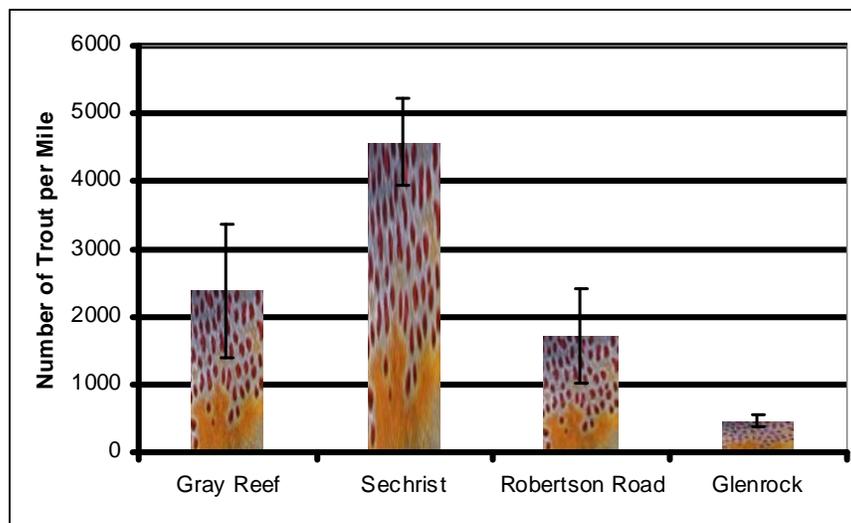


Figure 1. Number of trout per mile (\pm 95% confidence interval). North Platte River, Gray Reef to Glenrock.

The North Platte - Gray Reef continued...

SECHRIST TO BESSEMER BEND

The population in this reach is exceptional with an estimated 4,600 trout per mile representing 3,400 pounds of trout per mile. This significantly exceeds the objectives of 2,700 trout per mile and 1,600 pounds of trout per mile. The majority of the rainbow trout were under 15 inches indicating strong numbers of young fish. The population in this reach consists of 95% rainbow trout, 4% brown trout and 1% cutthroat trout. Rainbows averaged 12.5 inches with few individuals exceeding 20 inches. Brown trout averaged 18 inches with fish over 20 inches being the “norm” rather than the exception.

ROBERTSON ROAD TO MILLS BRIDGE

There were 1,167 trout per mile representing 1,348 pounds of trout per mile. The population is currently at our objective of 1,000 trout and 1,200 pounds per mile. The trout population consists of 92% rainbows, 7% brown trout and 1% cutthroat trout. Rainbow trout average 14 inches with a few individuals exceeding 20 inches. Among brown trout, fish over 20 inches are common.

GLENROCK

There were 450 trout per mile comprising 920 pounds of trout per mile. The population is meeting the objective of 500 trout per mile, and exceeding the biomass objective of 650 pounds per mile. Similar to the Gray Reef reach, there are more large fish than historically present. Similar to other reaches, the population is composed mostly of rainbow trout (94%) with brown trout making up the remaining 6%. Rainbow trout average 16 inches with few exceeding 20 inches. Brown trout over 20 inches are relatively common.



Five pound Snake River cutthroat at Bessemer Bend



Casper fisheries personnel measuring fish at Gray Reef

The North Platte—The Miracle Mile

We have some long-awaited good news for the Miracle Mile, as trout numbers have finally increased and are the highest observed since 1998. We came to these conclusions after conducting a mark/recapture population estimate for trout in the Miracle Mile in 2006. To conduct the population estimate, two rafts (with an oarsman and two netters in each raft) electrofished the same 1.2-mile reach of the Miracle Mile four times in two days. In order to sample the Miracle Mile safely and efficiently, the Bureau of Reclamation decreased flows to 500 cfs while we electrofished. In each electrofishing pass, all captured trout were identified as being caught in that pass by cutting a small notch into a fin, with a different fin being notched in each pass. These marked trout were then released immediately and allowed to mix with the unmarked trout in the river. All captured trout were also measured and weighed. By determining how many trout were recaptured in the four passes, fisheries biologists estimated the number and pounds of trout that were in the river per mile. Estimates for 2006 were 2,527 trout per mile and 1,329 pounds of trout per mile. We have been doing mark/recapture population estimates in the Miracle Mile at least every other year since 1993. Trends for numbers and pounds of trout per mile are reported in Table 1.

Year	Number/mile	Pounds/mile
2006	2,527	1,329
2004	1,437	1,266
2002	1,650	1,959
2001	1,781	2,953
2000	2,342	3,360
1998	4,460	3,341
1996	4,356	3,251
1995	4,513	4,327
1993	1,570	3,230

Table 1. Number and pounds of trout per mile during summer population surveys in the Miracle Mile from 1993 – 2006.

After looking at Table 1, you may notice that the number of trout per mile was the highest since 1998, but pounds of trout per mile were much lower than in 2000 - 2002 estimates. That is because most of the trout population is currently made up of small fish. The average length of brown trout caught during the 2006 population estimate was only 8.8 inches, and rainbow trout length averaged 11.4 inches.

A recent increase in rainbow stocking may have caused an increase in small rainbow trout, whereas the large number of small brown trout may be the result of an increase in spawning habitat caused by low Pathfinder Reservoir water levels. A spawning gravel structure installed in 2004 may also be providing additional spawning habitat for Miracle Mile trout. Additionally, low trout numbers in Pathfinder Reservoir may be having a direct effect on the Miracle Mile because few large fish are swimming upstream from the reservoir. Nevertheless, the large number of small trout in the Miracle Mile is very encouraging because it indicates that we have recently had some strong year classes of wild brown trout. Hopefully the large numbers of young trout will provide good future angling opportunities as they grow larger.

Rainbow Trout Strain Evaluation

We are currently involved in a study to evaluate the growth, survival, and return to anglers of two different strains of rainbow trout. The first strain is from Eagle Lake in California (ELR), and the second strain is from the Firehole River in Yellowstone National Park (FHR). From 2005 – 2008, we will fin clip 40,000 of each strain in the summer before stocking. All ELR will receive a right pelvic fin clip, and all FHR will receive a left pelvic fin clip. Success of each strain will be determined through population estimates and creel surveys.

The 2006 population estimate on the Miracle Mile provided some early results for this strain evaluation. Seventy-three FHR and 64 ELR were captured in the four-pass estimate. The number of recaptured fish on successive electrofishing passes was too low to calculate population estimates. However, there was a difference in the size of fish in each strain. Firehole River rainbow trout had greater length, weight, and relative weight (body condition) than ELR in July 2006. The fact that FHR are larger than ELR in 2006 was interesting because ELR were a little bigger than FHR when stocked in August of 2005. However, these are early results, and we still have three more years of evaluation before we can determine which strain will perform better in the Miracle Mile.



The North Platte River -Cardwell

We conducted a population estimate at Cardwell in September, 2006. There were 170 trout per mile, of which approximately 94% were rainbow trout and 6% were brown trout. Fish averaged 18.4 inches and 2.8 pounds. Overall, the trout population has been stable to slightly increasing in number since a constant flow of water was returned to the channel in 2002 (Figure 3). The average size of rainbow trout in this reach increased rapidly between 2003 and 2005, with only a slight increase from 2005 to 2006. The maximum size of sampled fish has remained constant since 2004.



Fisheries technician Steve Warmer displaying a typical 3-year-old rainbow trout from Cardwell

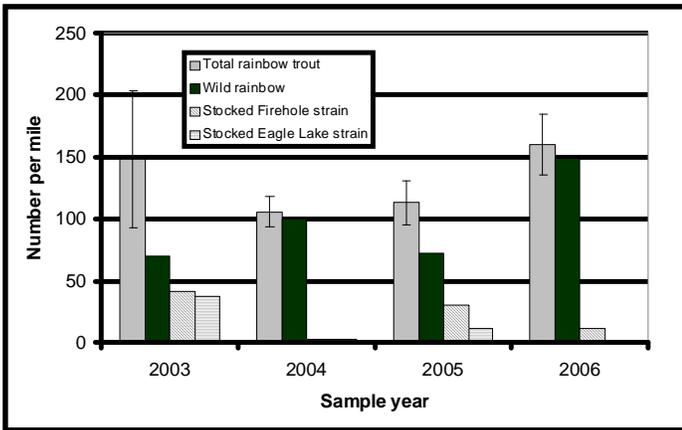


Figure 3. Total number of rainbow trout per mile and number of wild, stocked Firehole strain and stocked Eagle Lake strain rainbow trout per mile. North Platte River, Cardwell easement, 2003 – 2006.

stocked fish as a whole contributed little to this fishery, as 93% of the fish sampled in 2006 were unmarked, indicating they were the result of natural reproduction. We plan on conducting further sampling this summer, but in all likelihood will phase out stocking and manage this reach as a wild fishery, since we have evidence of sufficient natural reproduction to sustain current population levels.

We have been conducting a rainbow trout strain evaluation on this water since 2002. Similar to the Miracle Mile, we are comparing Eagle Lake rainbow against Firehole rainbow. We have been stocking around 1,000 of each strain annually, giving each strain a unique mark prior to stocking. After 4 years of monitoring, we found that stocked Firehole rainbows are more prevalent than stocked Eagle Lake rainbows. While Firehole rainbows outperformed Eagle Lake rainbows,

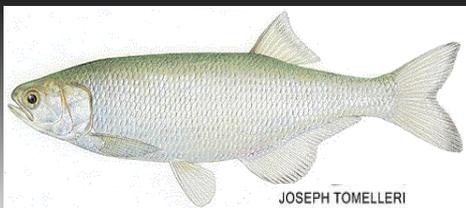
In order to determine catch rate, harvest rate and angler satisfaction, we are running an angler survey on this water. We put out three creel card boxes at common access points. The boxes contain cards where anglers can fill in information such as how long they fished, how many fish were released or harvested and their satisfaction with both the number and size of fish caught. If you are fishing Cardwell this year, we ask that you take a few minutes to fill out a card.



Five pound wild rainbow trout from Cardwell

While it is easy for us to measure the fishery in terms of population and size structure, we can only gauge catch rates and angler satisfaction through the cooperation of individual anglers.

Dan Speas Rearing Station Improvements

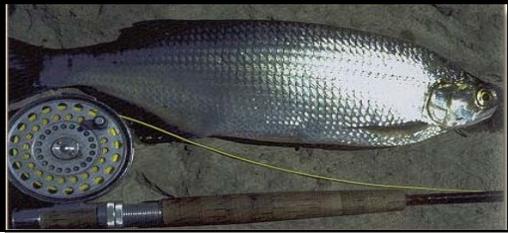


Something is missing....

Dams on the North Platte River transformed a prairie stream much like the Powder River into trout habitat. While the dams created trout habitat, the transformation meant the loss of habitat for some fish species native to the North Platte River. Goldeye are still present in the Powder and Little Missouri River drainages but no longer inhabit the North Platte River drainage.

At first glance, a goldeye might be mistaken for a mountain whitefish. Both are silver in color with a similar body shape. The goldeye has a very large eye and a large mouth with teeth. Average size for an adult is 10 inches but in 1938 a 16 inch and nearly 3 pound goldeye was caught in the North Platte.

Goldeye range is from the Hudson Bay drainage in Saskatchewan through the Missouri and Mississippi river drainage basins east to Ohio, south to Tennessee and west to Texas. Anglers catch them on a variety of baits including grasshoppers, minnows, worms and small spinners. Goldeye are considered a valuable food fish in Canada where smoked goldeye is considered a delicacy.



Better water means more fish habitat, even if that habitat is at a fish hatchery or rearing station. That's why the Wyoming Game and Fish Department is working to remodel Speas Rearing Station in Casper.

Work started recently to improve production at the rearing station, which currently produces about 500,000 catchable (8-inch) trout a year for stocking in Wyoming waters. When construction is complete the results are expected to significantly increase the number of trout – up to 1.2 million fish per year – that can be raised at the facility.

The project involves several steps, with the first being the installation of a de-gassing tower.



New de-gassing tower at Speas Rearing Station

High levels of nitrogen gas in water cause gas bubble disease in fish. So the goal is to strip off the super saturated nitrogen and increase the oxygen levels in the water. To do this, two 14-foot de-gassing towers have been constructed to reduce nitrogen gas levels. Then oxygenators will add oxygen to the water to bring levels up to optimal conditions of at least 100 percent, with a goal of 105 percent. "More oxygen equals more fish and healthier fish," says Gordon Townsend, superintendent of Speas Rearing Station.

The next phase of construction involves expansion of the production facility. Eight large circular tanks will be built to replace some of the existing concrete raceways. The circular tanks will be 40 feet in diameter, 10 feet deep, and will be installed in the ground, with only about 3 feet above ground for access. Each tank will hold just over 90,000 gallons of water and will be capable of producing two crops of

Speas continued...

7-9" trout per year at about 45,000 fish per crop.

Once the large circular tanks are in place, 10 of the 30 existing raceways currently in use will be removed and replaced with small circular units. These will be 12-16 feet in diameter and will further increase production of the facility.

By producing so many fish, Speas will be able to stock areas of the state not formerly stocked through this facility, including major reservoirs such as Boysen, Fontenelle, Flaming Gorge and Lake DeSmet. It will also produce additional fish destined for Alcova, Pathfinder and Seminoe Reservoirs currently stocked by Speas.

Currently Speas raises mostly rainbow trout, but the improvements should make it possible to rear brown, brook, and cutthroat trout at the facility in the future. A well has been drilled and its 55-degree water is currently being evaluated as to whether it will support the addition of these cold-water loving species.

While anglers will readily welcome so many more fish in Wyoming's fisheries, the amount of waste created by such a large facility is a concern. That's why there are also plans to develop five settling ponds to help remove fish waste from the facility. The ponds will be ½ to ¾ of an acre each and will be lined with plastic to concentrate the fecal material and prevent it from being released into the North Platte River. There are also plans to develop wetlands at the facility to further treat expelled water.

The large circulars and the treatment ponds will sit on 35 acres of land purchased by the department in 2003. At the time of purchase, the price for the property was \$20,612 above the appraised value. Because the Game and Fish Department cannot purchase land above appraised value, the Wyoming Fly Casters made up the difference and allowed the purchase to go through. Besides assisting with the land purchase, the Wyoming Fly Casters raised and granted to the Game and Fish Commission another \$19,388 for the development of a public fishing area. This purchase and development made an additional ½ mile of river accessible to the angling public. It was dedicated as the Wyoming Fly Casters Memorial Access Area in 2004.

A final step of the project will involve putting a cover on the exposed portion of the natural spring from which Speas gets its water. The cover will prevent the possible introduction of fish diseases, such as whirling disease, into the water source. It will also eliminate direct sunlight on the spring. Sunlight causes vegetation growth in the water, which increases maintenance and causes fish health problems.

The entire facility project is funded through \$10.46 million in legislative money that was appropriated beginning in 2006. The project is slated for completion by the end of 2008.

Speas remains open to the public during construction.



Fin clipping crew at Speas



Rainbows being marked for the studies at Cardwell and Miracle Mile

Drought and Catch-and-Release

Because Wyoming is grappling with yet another year of drought, trout are struggling with reduced food and oxygen and in many instances, for their very survival. These conditions have us very concerned about the impacts on both fish and anglers.

As the water levels drop, the temperature rises. Cool and warm water species such as walleye or bass can generally tolerate the harsher conditions -- but warm water is a real threat to trout and other coldwater species. Trout experience significant mortality at prolonged exposure to water temperatures greater than 75 degrees Fahrenheit and brief exposure to temperatures over 80 degrees is lethal. Trout also become stressed quicker in warmer water, because the water holds less oxygen, which greatly hampers a fish's ability to recover from the rigors of being caught. Catching and releasing a trout in 40-degree water is not a problem if done correctly. However, as water temperature approaches 70 degrees the chance trout species to survive being caught and released is greatly reduced.

The North Platte River from Gray Reef Reservoir through Glenrock has become an extremely popular trout fishery. During non-drought years, normal summer flows exceed 2,000 cubic feet per second (cfs), but 500 cfs during the heat of late summer may be a reality if the drought continues. Hot weather and a 500-cfs flow will cause warm water temperatures, particularly in downstream reaches. We urge anglers to be aware of the water temperature and change fishing techniques with changing conditions. Water temperature is particularly important for anglers practicing catch and release or where our regulations require fish to be released.

We ask catch-and-release anglers to consider the following during the dog days of summer:

- Fish early in the morning while water temperature is cooler.
- Carry a pocket thermometer and monitor the water temperature.
- If the water temperature is at or above 65 degrees, consider keeping what you catch within the regulations, if 70 degrees or higher, do not attempt to catch and release trout.
- As water temperature increases, using the proper techniques to catch and release a fish become increasingly more important to help insure the fish has a chance to survive:
 - o Play and land fish as rapidly as possible to reduce exhaustion stress.
 - o Keep the fish in the water as much as possible.
 - o Do not squeeze the fish or place fingers in the gills.
 - o Remove the hook gently. If hooked deeply, cut the leader.
 - o Flies and lures are recommended whenever many fish are being caught and released.
 - o Barbless hooks allow easier hook removal.
 - o If a fish is exhausted and cannot hold itself upright, and if regulations allow, consider having it for supper because the fish has a poor chance of surviving.

These are not new regulations, just recommendations to assist with the conservation of the fishery resource. If water temperatures are high, perhaps try fishing for a different fish species or escape the heat with a trip to the high country.



Catch-and-release can be hard on trout in warm water conditions

Pathfinder Reservoir

The Pathfinder Reservoir rainbow trout fishery has significantly declined over the past few years. The cause of the decline in rainbow trout numbers in Pathfinder may be the result of a combination of factors. First and foremost, low water levels are having a negative effect on the trout population. Increases in water temperature associated with low water levels are very stressful to fish, especially trout, which are a coldwater species. Decreasing water levels also cause aquatic plants that grow near the shoreline to die from exposure to air. These aquatic plants are important habitat to the plankton and aquatic insects that fish rely on for food. Thus, decreasing water levels can have negative effects on the entire food web of a reservoir, and eventually result in reduced food availability for fish such as rainbow trout.

Stocking practices may also have had a negative effect on Pathfinder rainbow trout. While the number of rainbow trout in the reservoir has decreased over the past few years, the number of larger rainbow trout has increased every year since 2002 (Figure 2).

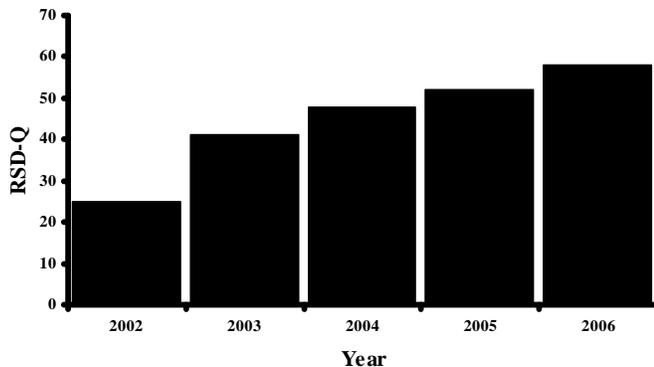


Figure 2. Percentage of rainbows (RSD-Q) over 16 inches in spring gillnets from 2002-2006

The number of rainbow trout in the reservoir has decreased, but the fish are larger, indicating that many of the trout stocked into Pathfinder have not survived in recent years. A possible explanation for the low survival of stocked trout could be the smaller than normal stocking size of trout in recent years. Normally, we stock trout that are 9 inches in length in reservoirs that contain walleye such as Pathfinder. However, because of renovations to hatcheries over the past few years, we have been unable to grow as many trout to 9 inches, and have stocked many

trout in the 7-inch range. These 7-inch trout are just the right eating size for the number of large walleye that are currently in Pathfinder. Walleye body condition increased significantly in 2006, which is unusual considering that low water levels are expected to reduce food availability in the reservoir. However, the low survival of stocked trout combined with the increased body condition of walleye is evidence that the walleye were eating stocked rainbow trout. We were able to stock larger trout in 2006. Hopefully these larger fish will survive and create better trout fishing in 2007.



Algae bloom caused by high water temperatures in the North Platte arm of Pathfinder Reservoir, September 2006.

Land Your Copy of the Free Wyoming Game and Fish E-Newsletter

**DEADLINES
EVENTS
NEWS**

**MERCHANDISE
FISHING TIPS
RECIPES**

Visit <http://gf.state.wy.us> and click on E-newsletter to subscribe today and get great Game and Fish news delivered right to your e-mail inbox!



Rainbow Trout Facts...

Rainbow trout are the most abundant trout species in the North Platte System. While arguably the most important sport fish in the system, it is not native to the North Platte River. For that matter, rainbow trout are not native to Wyoming. The origin of all the rainbow trout in Wyoming is the Pacific Coast area. We have developed three strains of rainbow trout within our fish hatchery system the Fall Rainbow, Eagle Lake Rainbow and Firehole Rainbow.

Our Fall Rainbow strain derives its name from the fact that they spawn in the fall, not the spring, which is normal for the species. Their origin was the McCloud River in northern California. The brood stock was developed in the hatchery systems of Missouri, Utah and California. During years in the hatchery systems the brood stock underwent years of selection and manipulation to develop the fall spawning attributes. Fall spawning provides rainbows to be stocked the following spring as fingerlings or held until fall to be stocked at catchable size, making these fish larger than spring spawn.. All rainbows stocked in Seminoe, Pathfinder and Alcova are Fall Rainbows.

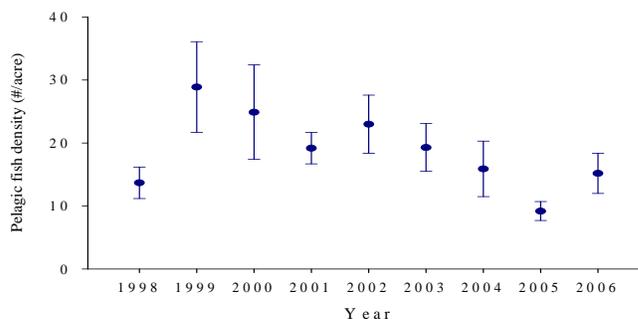
Eagle Lake Rainbows are from Eagle Lake and its single tributary, Pine Creek in California. These fish have been cultured for many years in the California hatchery system and we obtained our first shipment of eggs in 1981 from California's Mt. Shasta hatchery. The brood stock was developed as a reservoir strain but studies on the North Platte River system found them to be very good performers in the North Platte River.

Rainbows captured from the Firehole River in Yellowstone National Park were the source for our Firehole Rainbow brood stock. Rainbows were originally stocked in the Firehole River in 1929 and the population has maintained as a wild fishery since 1955. The goal for developing the brood stock was to provide a pure rainbow trout adapted to river habitats. The study at the Miracle Mile and Cardwell are part of the statewide evaluation of the new brood stock. Early indications suggest the Firehole Rainbow may be doing better than our other strains in the North Platte River.

If you enjoy fishing for rainbows, a tip of your hat is due to our fish hatchery system because the origin of every rainbow trout in Wyoming can be traced back to a hatchery.

Alcova Reservoir

The rainbow trout fishery in Alcova Reservoir depends on annual stocking from our hatcheries. In recent years, producing enough fish in hatcheries to meet statewide stocking needs has been challenging. In an effort to reduce hatchery demands, an experimental switch to stocking smaller rainbow trout in Alcova Reservoir was initiated in 2004. We developed a stocking evaluation study to determine what effects the switch in stocking practices may have on the Alcova Reservoir rainbow trout fishery. In 2003 and 2004, we conducted hydroacoustic (sonar) surveys to estimate rainbow trout abundance. Since these surveys were conducted prior to changing the stocking regime, they provided a reference point to compare with future surveys. After stocking smaller fish in the fall of 2004, we surveyed the reservoir again in both 2005 and 2006. Results from 2003 and 2004 showed similar abundances of rainbow trout as observed in previous years. This was expected since stocking size had not yet been changed. However, results from the first survey after the stocking size reduction were much different. In 2005, rainbow trout abundance was over 50% lower than in previous years and was the lowest abundance observed since we began conducting hydroacoustic surveys in 1998. Our estimate increased somewhat in 2006, but this was partly because we stocked additional fish in the summer to compensate for the poor survival the previous year. In actuality, abundance was likely quite similar to the 2005 estimate. Gill net surveys and creel surveys were also conducted each year and showed a similar trend. These results suggest that rainbow trout stocked at a smaller size do not survive well. Traditionally, rainbow trout were stocked at a length of about nine inches to reduce their vulnerability to walleye predation. We hoped that stocking size could be reduced to about seven inches in an effort to save hatchery resources, while still producing fish that were large enough to avoid predation by walleye. This has not been the case, so we have returned to stocking larger rainbow trout in Alcova and Pathfinder Reservoirs. Larger fish were stocked in the fall of 2006, so our hope is that the rainbow trout fishery will improve in upcoming years.



Dome Rock Reservoir

Hydroacoustics (Sonar)

Although most cutthroat trout fishing opportunities in Wyoming occur in their native range in the western part of the state, the North Platte Drainage does offer a few opportunities to catch a cutthroat trout. One of the waters in the Casper Region that offers the chance to catch a cutthroat trout is Dome Rock Reservoir, which is located along County Road 291 and is on the way to the Miracle Mile if you are driving there from Casper. Dome Rock Reservoir is managed as a “trophy” Snake River cutthroat trout fishery because of the potential for cutthroat trout to grow over 20 inches. The current creel limit at Dome Rock Reservoir is one fish per day or in possession, and all fish less than 20 inches must be released to the water immediately. Additionally, fishing tackle is restricted to artificial flies and lures only. Because of the small size of the reservoir, we stock only 400 Snake River cutthroat trout into Dome Rock Reservoir each year. When managing a “trophy” fishery, stocking a small number of fish is better than stocking a large number because competition for food will not be as intense and allow the stocked fish to grow to a larger size over a shorter time period.

In May of 2006 the Casper fisheries crew evaluated the Dome Rock Reservoir fishery with gill nets. A total of 16 Snake River cutthroat trout were captured in eight hours of netting time. The captured Snake River cutthroat trout averaged 18.5 inches and 3.3 pounds, with the largest fish measuring 21.8 inches and weighing 4.5 pounds. Relative weight for these trout averaged 117.7 indicating that the fish were in very good condition (a fish in average condition has a relative weight value of 93).



Snake River cutthroat trout caught in Dome Rock



Hydroacoustic sampling is the most technologically advanced tool used by the Wyoming Game and Fish Department to monitor fish populations. Although more sophisticated, hydroacoustics operates in a similar fashion to recreational sonar units (e.g., fish finders). By transmitting sound through water and recording the sound reflected by fish, hydroacoustics can effectively detect individual fish in the water column. We have a boat specially designed to conduct hydroacoustic surveys on lakes and reservoirs throughout the state. Information provided from hydroacoustic surveys allows us to estimate population sizes of fish that are suspended in the water column (e.g., rainbow trout, kokanee). Also, information on the sizes of fish present, fish depth distribution, and daily and seasonal distribution can often be obtained.

Hydroacoustics has many advantages over traditionally used sampling gears. Most importantly, hydroacoustics gear does not harm or stress fish. Unlike hydroacoustics, traditional gears, such as gill nets and purse seines are more difficult to use for estimating population sizes in lakes and reservoirs. Additionally, much larger volumes of water can be sampled with greater efficiency than with other gears. This increases the precision of population estimates and allows surveys to be conducted on more waters annually than with other gears.

Hydroacoustics does have some limitations. Species cannot be identified, which requires that netting be conducted in conjunction to estimate species composition. Also, fish cannot be detected effectively when they are located in very shallow water or near the lake bottom. Thus, bottom oriented species like walleye, lake trout and catfish typically cannot be sampled effectively with hydroacoustics.

Hydroacoustics is a valuable tool for rainbow trout and kokanee work on large lakes and reservoirs.

Wyoming Game and Fish Department

Wyoming Game and Fish Department
Al Conder
Regional Fisheries Supervisor
3030 Energy Lane
Casper, Wyoming 82604
Phone: 307-473-3400
Fax: 307-473-3433
Email: al.conder@wgf.state.wy.us



The Casper Region Fisheries Management Crew is composed of three full-time biologists: Al Conder, regional fisheries supervisor; Matt Hahn and Paul Gerrity, regional fisheries biologists. Geoff Klein is the region's aquatic habitat biologist.

WE'RE ON THE WEB!

HTTP://GF.STATE.WY.US/

"Conserving Wildlife — Serving People"

**Many Thanks to Newsletter Contributors:
Andy Dux, Paul Gerrity, Matt Hahn, Robin Kepple
and Janet Milek.**

Fishing Regulations

Each spring in odd numbered years, we evaluate fishing regulations. Our Fish Division mission states that we will provide diverse, quality fisheries resources and angling opportunities on balance with the productive capacity of habitats and public desires. We have developed proposed changes with that mission and the following goals in mind: 1) protect the aquatic resource, 2) simplify and clarify the regulations where possible, and 3) continue to provide baitfish for anglers.

We hope you participated in the scoping process that was conducted in February and March. Our proposed regulation changes reflect the public comments we received during that process. Our final recommendations were approved by the Wyoming Game and Fish Commission at their July 19-20 meeting. Be sure to check for the changes in the 2008-2009 regulations.

Noteworthy changes include a combined trout category and a creation of a separate brook trout category. A species of special concern section was added to address special conservation limits for native species of concern. We attempted to reduce and standardize area regulation exceptions and addressed issues with winter ice fishing and spear gun fishing regulations. We also examined the myriad of cutthroat regulations and attempted to standardize those on an area specific basis. Once the statewide and area specific provisions were formulated, we looked at the individual water exceptions within the 2006-07 regulations to determine which should be changed as a result of the newly formulated area specific creel and possession limits. We also standardized many of our area specific special regulations (exceptions) such as slot limits and trophy regulations. Another goal was to reduce the number of exceptions on individual waters.

Changes in the baitfish recommendations include revising the Area 2 baitfish regulations, eliminating the transfer of live baitfish from one seining license holder to another, removing the maximum number of traps that can be used by those who hold a seining and live bait dealers license, expanding the number of methods that can be used for baitfish capture, and changing the length a baitfish receipt is valid from 10 days to 15 days for wild caught bait fish or 30 days if the receipt is for fathead minnows or golden shiners from a Wyoming hatchery.
