

CARIBOU-TARGHEE NATIONAL FOREST FISHERIES PROGRAM 2007 ANNUAL REPORT

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Fisheries Biologists



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**Featured External
Partners**



US Bureau of Reclamation



Trout Unlimited



US Fish and Wildlife Service



Idaho Department of
Fish and Game



Wyoming Department of
Game and Fish



US Bureau of Land
Management



Henry's Fork Foundation

Skinner Creek Makeover Completed

In 2007, Skinner Creek, a tributary to the Bear River near Georgetown, Idaho, received a makeover, from the upper to lower watershed. In the upper watershed, the Forest Service Road Crew replaced an under-capacity, perched culvert with a bottomless arch to facilitate fish passage. At the Nounan Road crossing in the lower watershed, the Bear Lake County Road Crew replaced an under-capacity, perched culvert with a bridge. Also in the lower watershed, the U.S. Bureau of Reclamation constructed diversion structures at 3 irrigation diversions on the Alleman Ranch (downstream of the Forest) that screen fish from irrigation canals and provide passage for upstream-migrating fish. With the help of the Forest hydrologists, they also stabilized a downcut segment of stream below Nounan Road with rock structures. Willows were reestablished in the floodplain.

The Caribou-Targhee National Forest Fisheries Program orchestrated this partnership that included U.S. Bureau of Reclamation, the Allemans, U.S. Fish and Wildlife Service, the Bear



Irrigation diversion screens and bypass designed and constructed by U.S. Bureau of Reclamation in lower Skinner Creek.

River Environmental Coordinating Committee, the Bear Lake County Road Crew, and U.S. Natural Resources Conservation Service.

Bonneville cutthroat trout are a Forest Service Sensitive species and are an emphasis species for Forest management in the Bear River system. Skinner Creek provides habitat for resident life history Bonneville cutthroat trout, but prior to this project, migratory adults from Bear River were excluded from spawning in the stream because of the barriers presented by the diversions and perched culverts.



Bottomless culvert installed by the Forest Service Road Crew in the South Fork of Skinner Creek.

This project increases the resiliency of the Bonneville cutthroat trout population in Skinner Creek and provides additional spawning habitat for Bear River migratory Bonneville cutthroat trout. Mortalities have been eliminated in the Skinner Creek diversion canals. For additional information about this project, please refer to the Skinner Creek Accomplishment Report at <http://www.fs.fed.us/r4/caribou-targhee/fisheries/documents/Skinner%20Accomplishment%20Narrative.pdf>

Time for Action

Non-Natives are Replacing YCT Populations in the Sinks

The Caribou and Targhee Forest Management Plans require us to resurvey our stronghold cutthroat trout populations every 10 years. We last sampled the Sinks Drainage streams on Dubois Ranger District in 1997 using a backpack electroshocker to collect fish. Last summer, we resampled those populations to check on their status. What we found was a reason for concern. Half of the streams that were Yellowstone cutthroat trout (YCT) strongholds in 1997 were



Yellowstone cutthroat trout from a Sinks stream

now dominated by non-native fish.

The streams we classified as strongholds had greater than 50% cutthroat trout in the salmonid community. In 2007, 4 of those streams contained more brook trout than YCT, 1 had more rainbow/hybrid trout than YCT, and 5 streams were greater than 90% YCT (with 2 streams 100% YCT).

We have observed this replacement in other streams around the Forest, primarily where migratory life history fish were excluded from accessing the resident fish populations due to barriers. Migratory YCT would have a difficult time migrating long distances in the Sinks Drainages due to the intermittent nature of some of the streams and frequent irrigation diversions that often create passage barriers or entrain downstream-migrating fish. Active management will be required to maintain the long term viability of the Sinks Drainages YCT populations. Starting in 2008, the Forest fisheries program will work in partnership with Idaho Department of Fish and Game and other partners to eliminate non-native fish and reintroduce native YCT where feasible in the Sinks.

IDFG Commissioners Approve Statewide Bonneville Cutthroat Trout Management Plan

In 2007, Dave Teuscher (IDFG Southeast Regional Fisheries Biologist) and James Capurso completed the Statewide Bonneville Cutthroat Trout Management Plan. The document will be helpful in the restoration of Bonneville cutthroat trout because it organizes the species' range into management units, describes the status of populations and habitat in each unit, and recommends management actions.

The full document is available on the web at:

http://fishandgame.idaho.gov/fish/programs/bonneville_cutthroat.pdf

Cooperative Diversion Surveys Discover Illegally Stocked Rainbow Trout Threatening the BCT in the Thomas Fork

Last summer, Idaho Department of Fish and Game, Trout Unlimited, and the Forest Fisheries Program joined forces to inventory irrigation diversions in key Bonneville cutthroat trout (BCT) stronghold tributaries of the Bear River. The inventory results are one of the cornerstones to the interagency Bonneville cutthroat trout restoration plan because they will be used to prioritize irrigation screening and bypass projects to facilitate the safe migration of Bonneville cutthroat trout throughout the system.

During the inventories, the Trout Unlimited diversion inventory crew discovered a relatively newly established population of rainbow trout in Preuss Creek, a tributary to the Thomas Fork of the Bear River. The rainbow trout population was stocked illegally by a private landowner in a pond that connects to Preuss Creek. The non-native fish escaped the pond and, since they were not sterile, interbred with the BCT in the stream, polluting the genetics of the earliest known BCT population in the State of Idaho



Measuring a fish barrier diversion on Georgetown Creek, a tributary to the Bear River.

(within the vicinity of the pond) and potentially affecting populations throughout the Thomas Fork drainage. This emphasizes the need for stricter control over pond practices within the state, particularly when they are adjacent to streams. The discovery will require prompt action to control impacts.

Aquatic Organism Passage Surveys Completed on the Forest

During the summer of 2007, the Forest completed their aquatic organism passage surveys at road crossings of streams that were not surveyed in our



Aquatic Passage Inventory Crew measuring a perched culvert during the 2007 survey.

initial 2005 effort. The surveys were conducted under the supervision of Corey Lyman. He trained survey crews in the Northern and Intermountain regions of the Forest Service in the spring and supervised the Forest survey crew in the summer. In 2005, all road crossings at cutthroat trout stronghold streams and water quality impaired streams were inventoried and in 2007, the remaining streams were evaluated. In 2007, the survey crew completed 80 full surveys and 197 partial surveys to document passage conditions. Analysis of the data from the 80 full assessments indicated that 63% were barriers to adult salmonids and 75% were barriers to juvenile salmonids. The survey results were documented in a final report. These surveys are being used to prioritize fish passage projects across the Forest.

Wyoming Game and Fish and Forest Fish Bios Survey Moose Lake

In August, James Capurso and Lee Mabey hiked into the Jedediah Smith Wilderness with Rob Gipson, Wyoming Game and Fish Jackson Regional Fisheries Manager, to survey the physical and biological conditions of Moose Lake. Moose Lake is a glacial cirque lake with 11 acres of surface area, located approximately 9 miles to the east of Victor, ID. Although previously stocked, the interagency team determined the lake was currently fishless, but full of zooplankton for fish food. It was extremely deep, with a maximum depth of 50 feet. Although the lake habitat was good for adults, no spawning habitat existed. The outlet flowed approximately 1/8 mile before it drained into a sinkhole, eliminating the potential stocked fish could escape the lake and mix with native populations. Amphibian habitat was limited in and around the lake and no amphibians were observed during the survey. A lake survey report was prepared and Wyoming Game and Fish has decided to stock the lake

with the fine-spotted variety of Yellowstone cutthroat trout.

Lake surveys were also completed in Alaska Basin. Two Island Lake was found to be supporting a small population of healthy non-native brook trout, though the lake is only 2 acres in size with a maximum depth of 6 feet. Water chemistry indicated the lake had limited ability to provide food for fish.



Moose Lake as viewed from the south.

Georgetown Fish Ladder Plans Ready for 2008

The C-T Forest Fish Crew worked cooperatively with the Bureau of Land Management and the Bear River Environmental Coordinating Committee to plan a fish ladder at the Georgetown Irrigation Company hydroelectric diversion headgate on Georgetown Creek. Dave Kennington from Sunrise Engineering in Alpine, WY was hired to design the fish ladder. Capurso prepared the environmental assessment for the project in coordination with BLM (the diversion is located downstream of the Forest, on BLM land). Capurso also worked cooperatively with the Idaho Attorney General's Office to help prepare an agreement between the water users and the state that includes conditions regarding the fish ladder. The Forest and BLM plan for ladder construction during the summer of 2008.



Georgetown Irrigation Company hydroelectric facility intake headgate on Georgetown Creek.

Breakthrough in Chester Hydroelectric Negotiations

A proposal to retrofit the existing Chester Dam to generate hydroelectric power is reaching its final stages and promises to provide benefits for the trout fishery in the lower river. This year a settlement agreement was signed between IDFG, Idaho State Parks, US Forest Service, Trout Unlimited, Henrys Fork Foundation, Greater Yellowstone Coalition, US Fish and Wildlife Service, and the hydroelectric developer (Symbiotics) to provide for screening of two previously unscreened irrigation diversions which will keep thousands of fish in the lower Henrys Fork fishery and out of farmers' irrigation water.

A screen on the turbine intakes will exclude and protect larger fish and potentially provide a visual barrier to smaller fish. Mortality on smaller fish that pass through the turbine is expected to be minimal and more than offset by gains from screening the diversions. In addition the conservation groups have agreed to fundraise to

provide fish passage around this dam for the first time since its construction in 1938. Fish passage will allow fish from the lower river to be reconnected to the Falls River and potentially the Forest. It is expected that these changes will enhance the lower river and may be a catalyst for improving the lower river through St Anthony.



Chester Dam on the Henrys Fork

Road-Related Sedimentation Reduced in Horseshoe Creek

In 2007, Horseshoe Creek, a tributary to the Teton River on the Teton Basin Ranger District, was improved with projects that reduced sedimentation, decreased stream channel erosion, and protected native Yellowstone cutthroat trout.

Roads are a major source of sediment into many Forest streams, as they are frequently adjacently located. The Horseshoe Creek project removed the water from the road surface before it caused erosion and sedimentation. This was done with the installation of cross-drains and rolling dips into the road surface. Rather than draining the road run-off directly into the stream, it was diverted to vegetated areas where it could be filtered of sediment prior to entering streams. Visual monitoring after rain events indicated the treatments reduced sediment delivery to streams and increased stream clarity.

In addition to the road drainage work, a rock structure was constructed in Horseshoe Creek to stop upstream channel erosion at an old dam site

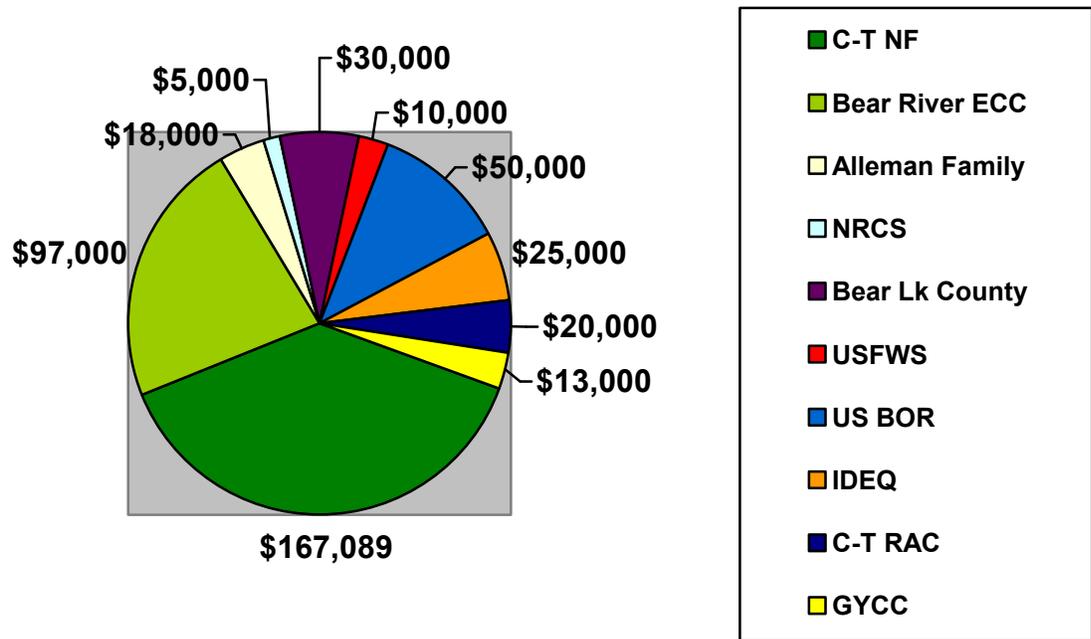
and block the upstream migration of non-native trout, protecting a population of native Yellowstone cutthroat trout located upstream.

This work was funded in partnership with the Idaho Department of Environmental Quality. In the coming year, two undersized culverts will be replaced.



This rock structure was constructed in Horseshoe Creek to exclude non-native fish from the project area and stop head-cutting.

2007 Caribou-Targhee Forest Fisheries Program Funding



The Invasion of the Non-Natives!

I want to end this annual report emphasizing the seriousness of the invasion of non-native fish. As fisheries biologists, we continue to learn more about the mechanisms behind these invasions but individual cases often leave us at a loss for explanations. For example, how does one stocking of 400 brook trout in Indian Creek (tributary to Palisades Reservoir) in 1940 completely replace a native cutthroat trout population within a couple decades while we are just seeing it occur in the Sinks Drainages over the last decade? We don't have all the answers, but we have observed that the presence of multiple life history patterns (resident and migratory fish) within populations increases their potential for long term persistence. That explains the

carefully considered fish passage projects you have been seeing us implement over the last few years. These will continue where the threat of non-native fish invasion from downstream is low. You will also see a growing emphasis upon piscicide treatment of streams overrun with non-native fish to reintroduce native cutthroat trout from neighboring streams. In essence, we are trying to "store our eggs in multiple baskets." We will be working directly with IDFG to treat streams and count upon your support. Thanks.

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