

Four 6"-8" Yellowstone cutthroat trout removed from the stomach of an adult lake trout.

## Conserving, protecting & restoring Wyoming's coldwater fisheries and their watersheds



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# Yellowstone **Cutthroat Trout**



### **A Cutthroat in Crisis**

The iconic population of Yellowstone cutthroat trout in Yellowstone Lake has been decimated by the introduction of non-native lake trout and needs your help! While the Yellowstone Lake/Upper Yellowstone River system was once home to an estimated 4,000,000 Yellowstone cutthroat trout, the size of the current population is unknown: latest estimates place it at no more than 10%, likely less than 5%, and potentially as low as 1-2% of historic levels.



The unique environment of Yellowstone Lake was once considered a stronghold for genetically pure Yellowstone cutthroat trout and relatively safe from the impacts of climate change. In addition. Yellowstone cutthroat trout are noted as a keystone species for this entire ecosystem with over 40 other species dependent on them for survival.



While theories as to the time and means of the illegal introduction of lake trout in by the Yellowstone Lake vary, they were officially discovered decline of in the lake in 1994. Of the the native main threats to Yellowstone cutthroat cutthroat trout subsistence that trout. have been identified lake trout are overwhelmingly recognized by fisheries biologists to be the most significant.

To combat invasive lake trout the National Park Service has been employing gill netting on Yellowstone Lake since 1995 and currently spends approximately \$1,500,000 annually on the effort. To date a total of over 1.1 million lake trout have been netted; 302,000 in 2012 alone. The lake trout population is now estimated at 500,000 adult fish.

### **Working Towards Recovery**

The key to Yellowstone cutthroat trout recovery is major suppression of lake

trout while, at the same time, cutting off recruitment into the lake trout population. The first step in cutting off that recruitment is gathering information on lake trout spawning beds and travel corridors. To accomplish this goal a hydroacoustic telemetry study on Yellowstone Lake was initiated on August 16, 2011.

A total of 221 hydroacoustic tags have been surgically implanted into lake trout. Eighty of these monitor fish depth and water temperature. The movements of these fish are monitored by 52 strategically placed receivers and VPS arrays to pinpoint their spawning beds. This three-year telemetry effort requires a significant National Park Service (NPS), US Geological Survey (USGS), and non-governmental organization (NGO) commitment of money, research time, and support. NGO's such as Trout Unlimited have already donated\$134,000 to support the project in 2011 and 2012. In 2013, we are committed to raising \$118,000 in

additional money. NPS and USGS have committed \$685,000 in manpower, scientific analysis, and direct support.

The combined efforts of the NPS, USGS and NGO's are making a difference for the Yellowstone cutthroats. All of the indicators for lake trout population decline and autthroats.

decline and cutthroat population rebounds are positive. One spawning bed is now well studied and others are tentatively identified. Testing of ova suppression has begun.



A major advancement has been initiation of a three-year hydroacoustic telemetry study to identify lake trout movement patterns and spawning beds.

It is not too late to save the **Yellowstone cutthroat trout**.

We need your help to make it happen. Support this effort by donating the cost of a hydroacoustic tag at \$400, a depth-recording telemetry tag at \$750, or more for a receiver. **Every donation is crucial to success.** 

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