Responses Of Yellowstone Cutthroat Trout Populations In The Upper Yellowstone River To In-Stream Flow Restoration[AFS]

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Yellowstone cutthroat trout (YCT) in the upper Yellowstone River rely on quality spawning habitat in tributaries for most of their reproduction. For over 20 years, research and conservation efforts for this mixed-stock of pure and hybridized YCT focused on restoring minimum flows and habitat in spawning tributaries. FWP has leased irrigation water in six tributaries of the Yellowstone River since the mid-1990s. Intermittent monitoring of water leases demonstrated localized benefits such as increases in fry production and spawner and redd counts, but the efficacy of these efforts relative to the greater Yellowstone River population is not clear. YCT population estimates dating back to the 1970s provide a means of analyzing population trends relative to limiting factors. Earlier researchers documented a relationship between mid-summer streamflows and YCT reproductive success. In the Corwin Springs section, age-2 YCT abundance is correlated to mean September flow at the Livingston gage. In low flow years, year class strength is weak. However, since water leases were implemented, year classes have been strong, even during record drought years. The YCT population has been well above long-term median since leases have been in place. In the Springdale Section, YCT populations continue to fluctuate around the long-term median. The only lease affecting this reach was implemented in 2002, so no response is expected for a few years. Apparently water leases and habitat restoration efforts are successfully mitigating a primary factor limiting recruitment of YCT to the Yellowstone River.