

Quarterly Progress Report

January 1 – March 31, 2005

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Bureau of Reclamation implemented Ecologically Based System Operations (EBSM) on the South Fork Snake River during winter 2003-2004. IDFG began biological monitoring of Yellowstone cutthroat trout during the same time period and continued through spring, summer, and fall, 2004. Most of the 2004 data were entered and analyzed during this quarter, and the first draft of the 2004 annual progress report is in preparation.

A repeat of the 2003 creel survey was initiated during this quarter. The 2003 creel survey documented substantial participation and buy-in by anglers to reduce rainbow trout numbers in the South Fork (Schrader and Fredericks, *in press*). An estimated 5,000 rainbow trout were harvested that year compared to 1,000 in 1996. It is likely that significantly more rainbow trout were harvested in 2004 – and will be harvested in 2005 – with our continued information and education campaign and the major regulation changes that began in 2004. The 2005 creel survey will document the effectiveness of angler harvest to control the growing rainbow trout population. To estimate fishing pressure, anglers are counted by fixed-wing aircraft approximately three days a week. Flights are contracted to the AV Center in Idaho Falls. To estimate catch rates and creel composition, anglers are interviewed on the water during these same days. Fisheries technician Trapper Bradshaw was hired to collect the interviews. Estimates of rainbow trout harvest will be calculated after the data is entered and analyzed using IDFG's Creel Census System software (McArthur 1993). During this quarter, 34 flights were completed and 610 anglers were interviewed.

Preparations for operating three of the four tributary fish weirs were initiated this quarter. Fish weirs have been operated on Palisades, Rainey, Pine, and Burns creeks since 2001 to separate spawning cutthroat trout – which are allowed to pass – from spawning rainbow trout – which are removed. Ideally, this will provide genetic preserves for a large portion of the South Fork cutthroat trout population by excluding rainbow trout. However, design flaws and poor trap efficiencies during 2003 required rebuilding the weir panels. The new Palisades Creek weir panels (floating Mitsubishi from the Blackfoot River) will be installed April 1, although the irrigation drop boards were installed March 18 and the trap funnel March 22. Fish probably did not jump over the drop boards – they are 5' high with minimal plunge pool, and seven rainbow trout have been caught to date. The new Rainey Creek weir (hard picket) will be installed April 7. The Pine Creek weir is the same as last year (hard picket) and will be installed April 6. The Burns Creek weir is not being operated this year. The Palisades canal screens were dropped and the bypass trap installed on March 30. Like previous years, the bypass trap will sample a portion of post-spawners returning downstream. All cutthroat trout trapped at the Palisades weir moving upstream will be marked with an upper caudal fin punch. The proportion of marked to unmarked fish in the bypass trap will estimate weir efficiency. Because similar work at Pine Creek last year revealed 97% efficiency, we will not be evaluating efficiency at either the Pine Creek or Rainey Creek weirs this year. Swan Valley residents Lucian Albano and Chuck Traughber were hired to maintain the weirs, traps, and screens.

Population modeling was initiated this quarter with Dr. Rob Van Kirk (Idaho State University) and Dr. Mary Conner (Utah State University). The purpose of the modeling will be to assess the effects of various management scenarios (angler harvest, tributary management, and flow manipulation) on the likelihood of long-term cutthroat trout persistence in the South Fork. To date, informal meetings have been conducted and a modeling blueprint has been mapped. Fecundity and sexual maturity lab work is near completion, but age, growth, and survival data still needs to be compiled.