The Establishment of an Introduced Source Population of Yellowstone Cutthroat Trout in the Headwaters of Duck Creek, Montana

2013 Report

By

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Introduction

We performed follow-up sampling of Yellowstone cutthroat trout that were introduced above a natural barrier on the Henry Fork of East Fork Duck Creek in 2010 and 2011 by Montana Fish Wildlife and Parks (Figure 2). Cutthroat trout were introduced as eggs from donor individuals captured below a natural barrier on the Henry Fork.

We conducted sampling in 2013 to confirm the success/failure of this initial reintroduction and as a means to better understand how this source population may help seed Yellowstone cutthroat trout in the portions of Henry Fork below the natural barrier and EF Duck Creek.

Methods

During 2013 we sampled 4 reaches in Henry Fork totaling approximately 600 m of stream. Reaches were spaced systematically between the natural barrier on Henry Fork and the culvert adjacent to the highest building structure (Figure 1). We sampled using a backpack electrofisher and marked all cutthroat trout 80 -120 mm with 12-mm half-duplex PIT tags and fish >120 mm with 23-mm PIT-tags.

Results

We collected 115 Yellowstone cutthroat trout across the four sampling reaches and their size distribution ranged from 55 to 258 mm. We PIT-tagged a total of 104 fish. We found multiple age classes and evidence of natural recruitment in 2012 and 2013(Figure 2). The average length differed across reaches, with fish in the upper- and lower-most reaches being substantially smaller than fish captured in the middle two reaches (Figure 3).

Figure 1. Length-frequency histogram of Yellowstone cutthroat trout captured during 2013 in Henry Fork.

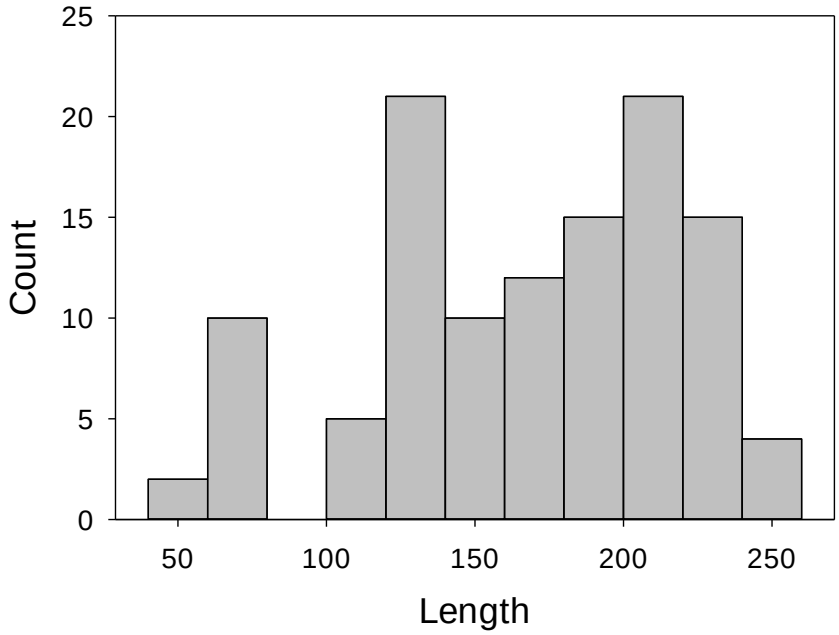

Figure 2. Average measures of total length (±2 SE) of Yellowstone cutthroat trout at four sample reaches. Reaches are in order from upstream (1) to downstream (4).