Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Assessment of Tubificid Assemblages, Abundance and Prevalence of Disease in worms as part of the Yellowstone National Park Whirling Disease Study

Type of Project: Research

Funding Agency: National Park Service, RM-CESU

Effective Dates: June 15, 2002 – December 31, 2004

Funding Amount: $1300 plus $8700 = $10,000

Investigators and Agency Representative:
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Project Abstract:
Whirling disease (WD) is a serious health threat to salmonid fish in the United States. Exotic to the United States until 1958, WD has rapidly spread throughout the country and is now found in hatchery and wild salmonid populations in 22 states. The effects of WD have been particularly devastating to salmonid fish populations in the Rocky Mountain states and have caused a 90% decline in rainbow trout populations in the Madison River of Montana as well as the complete recruitment failure of rainbow trout in the Colorado River.
Objectives of this research include:

1) Conduct field sampling to collect tubificid worms from sentinel cage sites in the upper Yellowstone basin and throughout the entire period in which young cutthroat trout are rearing in tributary pools
2) Determine species composition, abundances, and degree of infection of tubificid worms
3) Determine the geographic isolate of T. tubifex worms
4) Relate T. tubifex infection to infection in native cutthroat trout
5) Relate important thermal, hydrological, and sediment characteristics of streams to tubificid assemblage composition and T. tubifex infection

Studies in YNP will also be compared to similar studies being performed on other streams in Montana including Little Prickly Pear Creek, the Madison River, Rock Creek, and the Gallatin River. By combining the data obtained by our studies in YNP with similar ongoing studies in other river systems, managers will be able to assess the potential effect of WD on cutthroat in a variety of environments. Our overall goal is the creation of predictive models so managers from multiple state and federal agencies can predict locations within the intermountain region with a high probability of whirling disease infection in native cutthroat trout.

Outcomes with completion dates:
All information collected during this study will be provided in electronic format to the Fisheries and Aquatic Sciences Section, Yellowstone Center for Resources. Final product describing overall research results will be in the form of a technical report or draft M.S. thesis.

Keywords:
Yellowstone National Park, tubificid assemblages, Tubifex tubifex, Whirling Disease, Myxobolus cerebralis

For Administrative use only:
Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: