



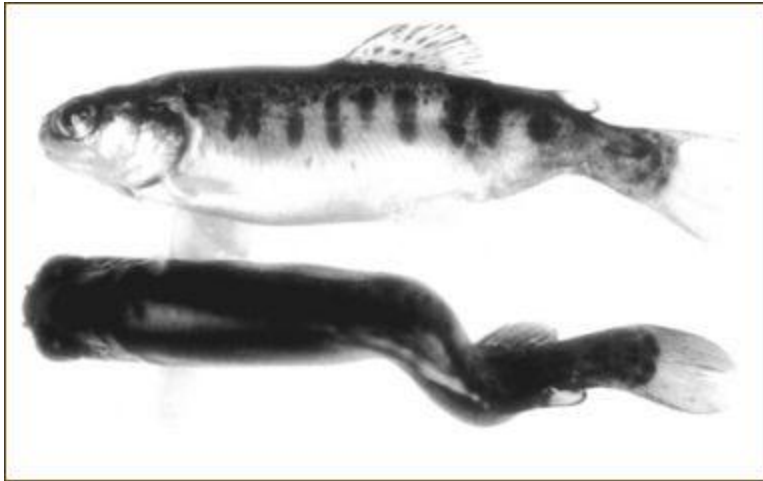
Whirling Disease (*Myxobolus cerebralis*)

What Is a New Zealand Mud Snail?

Whirling disease is caused by a parasite which damages spinal cartilage in trout. Infected trout swim erratically and are unable to feed and avoid predators.

Why Is Staff Concerned About This Disease?

Whirling disease has become a highly significant problem for fisheries managers in federal and state agencies throughout the nation. Thought to have been introduced from Europe, whirling disease was first detected in the U.S. in 1958 and has now been reported from fish in more than 20 states. The potential for whirling disease to cause losses in natural stocks of trout became a national concern in 1993-1994 when losses of up to 90% of the wild rainbow trout (*Oncorhynchus mykiss*) in streams in Colorado and Montana were attributed to whirling disease. Subsequently, a large, ongoing survey revealed that naturally spawning rainbow and brown trout in many western rivers were infected with the parasite with some of the fish showing clinical



disease. Of additional concern was the presence of whirling disease in native stocks of cutthroat (*Oncorhynchus clarki*) and bull trout (*Salvelinus confluentus*) which are of special status due to their declining numbers. Improved diagnostic methods now provide epizoo-tiological information about strains of the parasite or the alternate host (<http://wfrc.usgs.gov/fieldstations/hq/whirling.html>).

Figure 1 Deformed skeletons of 8-month old rainbow trout with whirling disease (USGS 2011)

For more information about whirling disease visit the Montana University System Water Center Whirling Disease Initiative pages. <http://whirlingdisease.montana.edu/>