



NWT COUNCIL
ON INVASIVE SPECIES,
PESTS, AND PATHOGENS



Myxobolus cerebralis actinospore.
Photo: Stephen Atkinson, fishpathogens.net



Whirling Disease (*Myxobolus cerebralis*)

IMPACTS

The parasites cause deformities and damage nervous tissue, causing fish to swim in an abnormal whirling pattern. Fish will often die of starvation or exhaustion and are much more easily preyed upon due to this whirling behavior. The disease can cause high mortality in young fish and may result in population declines for important fish species, impacting fisheries and subsistence harvesting.

INTRODUCTION

Whirling disease is native to Europe and was introduced to the United States in the 1950s. The first confirmed case of whirling disease in Canada was found in 2016 at a lake in Banff National Park, Alberta. The disease was likely spread from the United States through the movement of fish, mud, water, or equipment used in water containing the parasite.

MANAGEMENT

There is no treatment for whirling disease so prevention is very important. You can help reduce the spread of whirling disease by cleaning, draining, and drying your watercraft, trailers, and equipment after each use on the water. Avoid using equipment that is difficult to clean, such as felt-soled waders. Never move fish or fish parts between water bodies.

BIOLOGY

Whirling disease is caused by a microscopic aquatic parasite, *Myxobolus cerebralis*. During its life cycle, the parasite infects aquatic Tubifex worms and salmonid fish, such as salmon, trout and whitefish. Spores of the parasite remain dormant in mud or sediment until they are ingested by Tubifex worms. Once the parasite has matured in the worm, it is released into the water to infect fish.



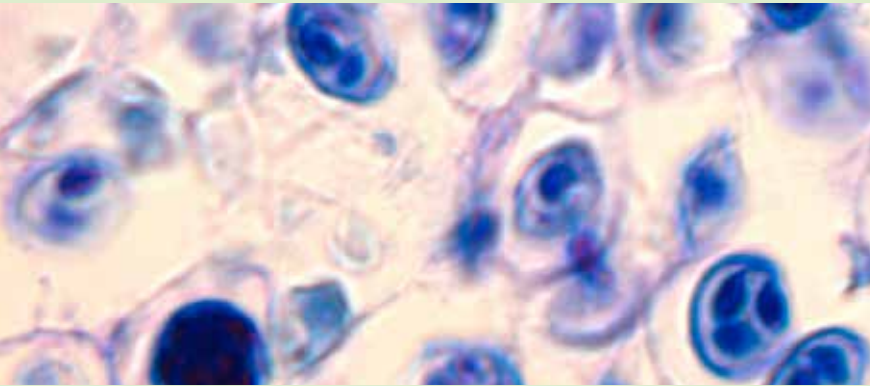
Rainbow trout fry impacted by whirling disease.
Photo: Government of Alberta

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Myxobolus cerebralis myxospore. Photo: Stephen Atkinson, fishpathogens.net



Myxobolus cerebralis developing in head cartilage. Photo: Stephen Atkinson, fishpathogens.net

IDENTIFICATION

Fish infected with whirling disease may have deformities of the head, body, or tail. The tail may also be darkened, sometimes even looking black. Infected fish may be seen swimming in circles.



Infected fish may be seen swimming in circles.



Whitefish impacted by whirling disease. Photo: Government of Alberta

RANGE

In Canada, whirling disease has been confirmed in the Bow, Oldman, Red Deer and North Saskatchewan river watersheds in central and southern Alberta.

HABITAT

Whirling disease parasites replicate slower in cold temperatures, but may still be able to survive in NWT lakes and rivers if introduced.

SIMILAR SPECIES

Fish affected by other conditions or abnormalities may display symptoms similar to whirling disease.



Rainbow trout impacted by whirling disease. Photo: Sascha Hallett, fishpathogens.net