

Whirling Disease Detection in Wisconsin



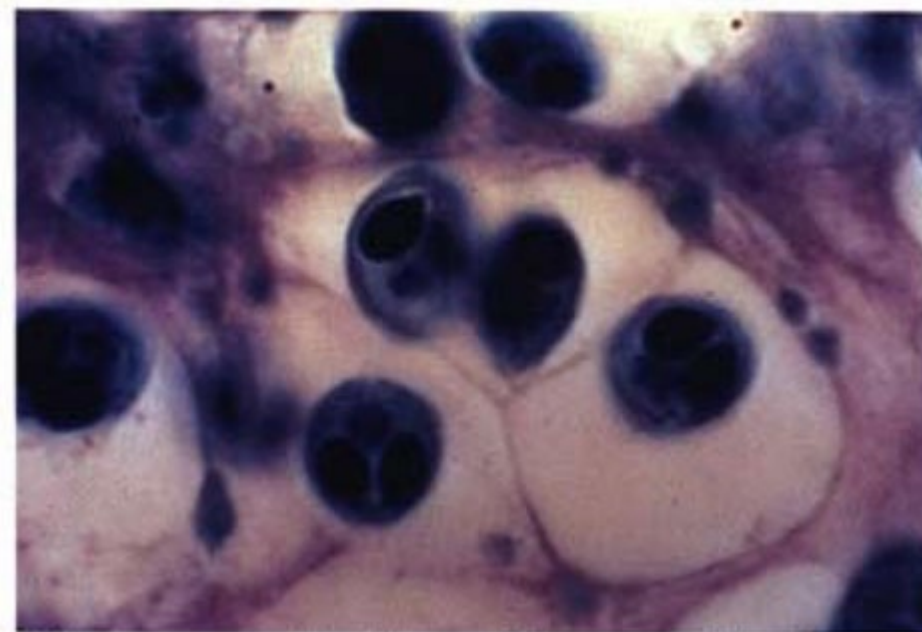
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WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

February 21, 2025

WHAT IS WHIRLING DISEASE?

- Caused by a microscopic parasite called *Myxobolus cerebralis*
- Affects Salmonid fish species
- Young fish are most susceptible
- Rainbow and brook trout are the most susceptible trout species in Wisconsin
- Does not affect humans
- *M. cerebralis* first appeared in North America in Pennsylvania in 1956 and is currently found in 23 states



⬆ DEADLY PARASITE: *Myxobolus cerebralis* causes whirling disease, a trout-killing infection that is devastating in some wild trout populations.

Dr. Thomas L. Wellborn, Jr. via U.S. Fish and Wildlife Service



WHAT DOES IT LOOK LIKE?

- Possible symptoms:
 - Fish may swim in a circular, “whirling” motion
 - Develop blackened tails, most notably with younger fish
 - Spinal or skull deformities
- It is possible for fish to be infected and never show signs of the disease
- There is no treatment



Note Classic darkening of the skin from vent to tail.
Source: J Bartholomew



Note Typical skeletal deformities caused by infection with *Myxobolus cerebralis*.
Source: J Bartholomew



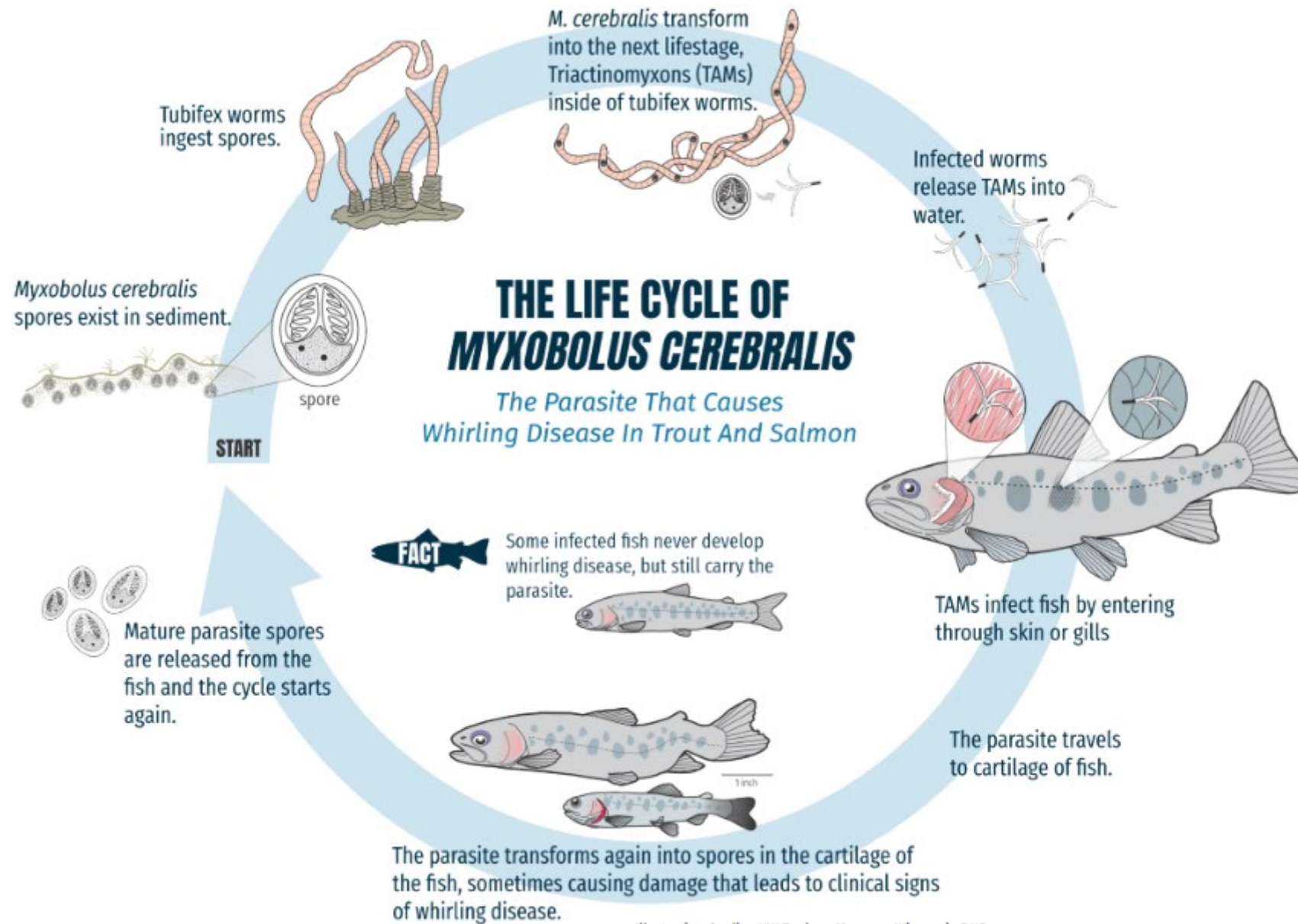


Illustration Credits: UW Zoology Museum, Wisconsin DNR



WHIRLING DISEASE DETECTION AT A WISCONSIN FISH FARM

- DATCP was notified in late December of 2023 of a detection of Whirling Disease at a type II fish farm in Wisconsin
- Testing was done as required for the fish farm's yearly Fish Health Certificate
- No signs of clinical signs of the disease had been observed
- Trout were reared on well water until approximately four (4) months of age then transferred to raceways predominately supplied by creek water
- DATCP began an investigation with collaboration with WiDNR



DATCP'S ROLE IN RESPONSE TO DETECTION

- Prevent disease spread
- Quarantine the affected premises
- Complete an epidemiologic assessment
- Depopulate
- Disposal
- Clean and disinfect
- Release quarantine

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Wisconsin Department of Agriculture,
Trade and Consumer Protection
Division of Animal Health
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ORDER OF QUARANTINE

Issued under sections 93.07 (10), 95.20 and 95.23, Wis. Stats. and chapter ATCP 10, Wis. Admin. Code.

DATE ISSUED:		QUARANTINE NUMBER:
Quarantine Property Address:		Legal Name of Owner:
Quarantine Property City / State / Zip		Business Name (if other than above):
Quarantine Property County / Town / Section		Mailing Address / City / State / Zip (if different than property address)
Premises Registration Number:	Latitude / Longitude	Legal Name of Custodian (if applicable):
BREED/SPECIES/FAMILY:		REASON FOR QUARANTINE:

You are hereby notified that the following described animals or products are quarantined and may not be removed from the premises where now located without written permission of the State Department of Agriculture, Trade and Consumer Protection.

Identification of Animal(s) or Product(s):



EPIDEMIOLOGY- THE STUDY OF THE OCCURRENCE AND DISTRIBUTION OF DISEASE ON A POPULATION

Trace Back – where could it have come from?

- Fishermen's equipment, boats, or trailers
- Imported fish from a state with Whirling Disease
- Avian or mammalian predators; myxospores pass through the GI and remain infective
- Contaminated water from an infected source – creek testing initiated upstream and downstream



EPIDEMIOLOGY CONT.

Trace Out – where could it have gone?

- Six (6) type II fish farms:
 - Quarantine
 - Epidemiologic investigation
 - Determination of status of fish
 - Testing
 - 3/6 farms had fish for testing
 - 2 negative
 - 1 detected
 - depopulated
 - cleaned and disinfected concrete lined ponds
- Type I fish farms:
 - Notified
 - “dead ends”
 - Live fish don’t leave property
 - Public waterways or fish farms in other states
 - Notified other states



DISPOSITION OF FISH

- Large trout sold for human consumption
- Terminal fishing and trout exhibit tank
- Sales to a WD-affected state through collaboration of state officials
- Remaining fish were depopulated
 - MS-222
 - Landfill disposal



CLEANING AND DISINFECTION AND RESTOCKING

- Water shut off and raceways/pond drained and dried
- Lime was then applied at a rate effective at inactivating *Myxobolus cerebralis* myxospores
- Inspections to verify appropriate C&D
- Restocking plan was approved
- Quarantine released





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