Action Taken By The Department Of Agriculture And Food To Prevent The Spread Of Whirling Disease

The Utah Department of Agriculture and Food governs fish species that are imported into the state and possessed or transported within the state that are applicable to commercial aquaculture or fee fishing facilities. It is the responsibility of the department to prevent the outbreak of whirling disease (WD) and to control the spread of the disease among trout in commercial aquaculture and fee fishing facilities. An entry permit is required for trout species imported into Utah, and all sources of trout must test negative for WD prior to entry. Trout in all aquaculture facilities undergo testing for WD at least once a year. Trout must test negative before they may be transported from one facility to another. If the disease is confirmed at an aquaculture site, then the trout are either quarantined or destroyed. The department either regulates the destruction of fish at the facility or the remediation of the site if possible. All commercial aquaculture facilities that sell live trout in Utah must have their fish tested negative for WD during the past 12 months prior to the sale. Sales of dead trout are also regulated. Time is also spent educating operators of aquaculture facilities on how to prevent the spread of whirling disease.

Trout importation and sales are controlled in Utah to prevent the spread of WD. Fish imported into Utah are subject to inspection at ports of entry or during transport. Fish haulers are required to carry documentation upon entry into Utah and may be required to stop at ports of entry.

Documentation must verify that trout are WD free. If problems arise, fish health specialists from the Department of Agriculture may be contacted. Anyone who illegally transports and sells fish in Utah is subject to fines and legal action. Fish operators who haul trout through Utah are only allowed to remain in the state up to 72 hours and may be subjected to inspection by local authorities.

For more information contact the fish pathologist or fish health specialist at the Utah Department of Agriculture and Food (801) 538-7029.
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PRACTICES TO PREVENT THE SPREAD OF WHIRLING DISEASE

Do (If local trout are infected with whirling disease)

- Remove all mud and aquatic plants from your vehicle, truck, tractor, boat, ATV, four wheeler, anchor, trailer, axles, waders, boots, shoes, and fishing gear before departing from the fishing location.
- Drain all water from and dry your boat and equipment before entering another fishing location.
- Disinfect gear and equipment with 10 per cent chlorine bleach to kill the WD spores.
- Dispose of inedible, uncooked fish parts by total burning, by burying away from the fishing location, or by placing in the garbage.
- Wash down livestock in contaminated areas before moving them to a new location.

Don't (If local trout are infected with whirling disease)

- Transport live or dead fish from one body of water to another. Don't use dead or live contaminated fish as bait.
- Dispose of fish entrails down the disposal, as spores are not destroyed at sewage treatment plants.
- Dispose of fish entrails, skeletal parts or other by-products in any body of water.
- Leave fish entrails where wild animals or birds may access them.
- Travel from a contaminated area to an uncontaminated area without first throughly washing all mud off of your agricultural or recreational vehicle.

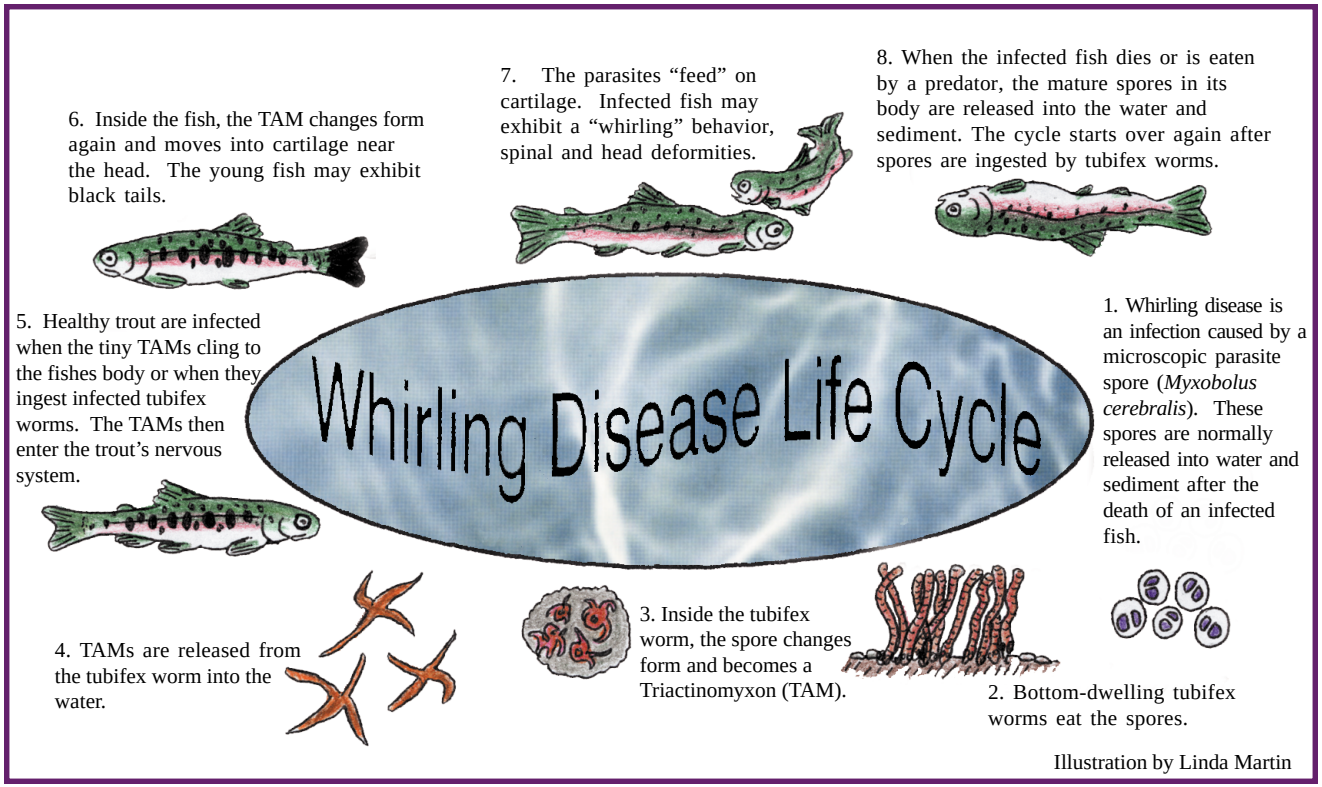
This brochure is endorsed by the Utah Fish Health Policy Board.

Whirling Disease and Aquaculture

Courtesy of Angler's Inn

An Agricultural Perspective

Utah Department of Agriculture and Food
Division of Animal Industry
Fish Health Program



WHAT IS WHIRLING DISEASE ?

Whirling disease (WD) is an infection of trout and salmon caused by a microscopic parasite known as *Myxobolus cerebralis*. When present in the water the minute parasite attacks the cartilage of the head and spine of salmonids. In severely infected fish it can cause skeletal deformities (especially of the head), darkening of the tail, and a distinctive rapid whirling or swimming in circles. Whirling disease particularly affects young trout and can lead to death in cases when many parasites are present. In descending order, those trout in Utah most susceptible to whirling disease include rainbow, golden, cutthroat, brook, brown and splake. Trout can reproduce without passing the parasite to their offspring. There is currently no known cure for fish infected with the parasite. Whirling disease can be controlled in hatchery environments, but currently cannot be controlled in wild fish environments. Trout infected with WD will not harm humans and are suitable to eat.

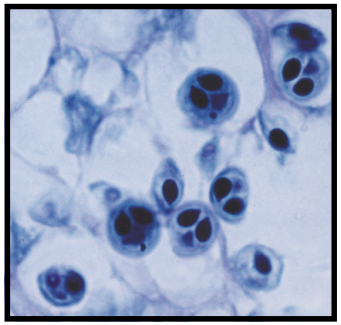
WHIRLING DISEASE IN UTAH

Whirling disease has been in the Eastern United States since 1956 and was first discovered in Utah in 1991. The disease was probably present in Utah up to five years prior to its discovery. Whirling disease is presently found in all of the Western United States. Rainbow trout appear to be the most susceptible of all the trout family. Studies have suggested that the parasite originated in Europe in brown trout. Over the years the brown trout has possibly developed immunity to the parasite. Young trout are most susceptible to WD.

When an infected fish dies, hundreds to thousands of the spores are released into the water. These spores are extremely durable; they can withstand extremes in heat, cold, and dehydration and can survive in dried mud up to one year and in a stream or lake 20 to 30 years. A tiny aquatic worm known as *Tubifex tubifex* may eventually ingest them. When the tubifex worms release the parasite, they become an infective TAM that may infect a trout.

HOW CAN WHIRLING DISEASE BE SPREAD IN AGRICULTURAL AREAS ?

- Shipping and stocking of unapproved pond fish or fish from any unapproved source.
- Sportsmen or fishermen may spread the pathogen to agricultural ponds from mud or debris on boots and gear.
- Flood irrigation or sprinkling roadways with irrigation water that is contaminated with whirling disease spores. In this manner vehicles traveling the roads may pick up the spores and transport them to another location when contaminated matter falls from vehicles.
- Grazing livestock in contaminated pastures and then relocating them to another vicinity may spread the disease. Spores in the mud or water may attach to animals and dislodge at another site.
- Livestock and wildlife that frequent contaminated rivers and streams may travel to other areas and spread the disease from mud attached to their legs and bodies. Wild fish in water that supplies a pond on a farm may be contaminated.
- Tractors, farm equipment, four wheelers, and vehicles that travel though contaminated areas may carry contaminated mud and spread the disease by traveling to uninfected areas. Mud from these vehicles may contain whirling disease spores that dislodge at another location. Those responsible may include ranchers, farmers and sportsmen. They may spread the disease over large distances.



Salmonid whirling disease spores