

## Whirling Disease Frequently Asked Questions

Ministry of Water, Land, and Resource Stewardship

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### 1. What is whirling disease and what causes it?

- Whirling disease is caused by *Myxobolus cerebralis*, a microscopic parasite with a lifecycle that involves both juvenile fish and bottom dwelling aquatic worms. The parasite invades the head, spinal cartilage, and nervous tissue of fish. Damage to the brain stem and spinal cord results in the characteristic erratic "whirling" swimming pattern of infected subjects. When infected fish die, spores are released into the water and substrate to seek out aquatic worm hosts to then repeat the cycle.

### 2. How is whirling disease spread?

- The movement of infected fish, mud, and water can spread whirling disease. It can be transmitted through spores that attach to equipment (used for swimming, paddling, boating, water pumping, fishing), pets, or through infected fish (alive or dead) and fish parts.

### 3. What species are susceptible to whirling disease?

- Not all fish populations are affected the same way. Whirling disease can cause significant mortality in susceptible fish populations (trout, salmon, whitefish). Juvenile fish are most susceptible to infection.

### 4. What are the symptoms of whirling disease?

- Outward signs of infection include a blackened and/or deformed tail and skull deformities.
- Damage to the brain stem and spinal cord results in the characteristic erratic "whirling" swimming pattern of infected fish.
- These deformities are not exclusive to whirling disease and are not considered proof of infection. Diagnosing whirling disease requires laboratory testing.

### 5. What are the potential impacts of whirling disease?

- The severity of an outbreak is difficult to predict due to various interacting factors between habitat, and environmental conditions. Young fish like rainbow, cutthroat, and brook trout under four months old are more vulnerable. Overall deaths of infected young fish can reach 90%.

### 6. Are there health concerns from whirling disease to people or pets?

- Whirling disease is not a health risk for humans or pets. The parasite that causes whirling disease does not affect humans or animals other than finfish, such as trout and salmon. There is no risk associated with swimming or eating fish caught from infected waters.

## 7. Where has whirling disease been detected in Canada and specifically in British Columbia?

- The first case of whirling disease in Canada was confirmed in August 2016 in Banff National Park, Alberta. It has since been confirmed in a number of watersheds in southern and central Alberta. In December 2023, a single site in Yoho National Park (Columbia River watershed) was confirmed for whirling disease in British Columbia (BC)
- In the United States, whirling disease has been detected in watersheds in Utah, Idaho, Colorado, Washington, and Montana.

## 8. What is the Province of BC doing in response to finding whirling disease in BC?

- Since 2017, BC has been monitoring for whirling disease in the Kootenay region due to its proximity to watersheds in Alberta where whirling disease has been confirmed. To date, whirling disease has not been detected outside Yoho National Park.
- BC is working closely with Parks Canada and the Canadian Food Inspection Agency regarding the response and next steps which includes identifying high priority areas for surveillance and testing for the upcoming field season. Additional updates will be posted on the Provincial website as they become available.
- We are also working closely with our neighbouring jurisdictions on lessons learned to help inform appropriate next steps in BC. A team has been established to support coordinated action through a collaborative cross-ministry approach.
- The province recently announced an order issued by BC's chief veterinarian making it illegal to transport watercrafts in BC with the drain plug still in place as of May 17, 2024. This order is part of government's ongoing actions to contain and prevent further spread of Whirling Disease and keep invasive mussels out of BC waterways. Information products, including the new Whirling Disease website, guidance documents and signage are being produced and distributed.

## 9. What can the public do to reduce the spread of whirling disease?

- There is no treatment available for whirling disease therefore containment and prevention are critical.
- Before moving a boat or any equipment between water bodies, be sure to **Clean, Drain, Dry**.

## CLEAN

- Clean and inspect all watercraft, trailers, and equipment on dry land away from storm water drains, ditches, and waterways.
- Remove all mud, sand, and plant materials before leaving the shore.
- Rinse or wash your boat and equipment away from storm drains, ditches, or waterways.
- Bathe pets before allowing them to enter another water body.
- Never move fish or fish parts from one waterbody to another.
- Use fish-cleaning stations where available or put fish parts in the garbage. Do not dispose of fish parts in a kitchen garbage disposal or down a drain.

## DRAIN

- Before leaving a waterbody, drain all water on dry land (including all internal compartments such as ballasts, bilges, and livewells), coolers, life jackets and other gear.
- Raise and Lower outboard engines several times to ensure all water has drained out.
- Drain non-motorized watercraft by inverting or tilting the watercraft, opening compartments, and removing seats if necessary.
- **Pull the plug! It's the law! In BC it is now illegal to transport your watercraft with the drain plug still in place.**

## DRY

- Dry the watercraft and/or equipment completely between trips and allow the wet areas to air dry.
- It is recommended to allow for a minimum of 24 hours of drying time before entering new waters.
- Leave compartments open on boats and equipment.

### **10. If someone is carrying out water-based activities within the Columbia River Watershed are there additional steps they should take before moving their boat and/or equipment between waterbodies?**

- In addition to Clean, Drain, Dry all watercrafts, equipment, and gear (outlined above), within the Columbia River Watershed the public should decontaminate all watercraft, equipment and gear.
- The Columbia River Watershed has been identified as the high-risk area for whirling disease due to the connectivity to upstream areas where whirling disease has been detected within Yoho National Park.
- The Decontamination Protocol is published on the Provincial website.

### **11. What is the new Pull the Plug requirement in BC?**

- To support governments efforts to contain and prevent further spread of whirling disease, BC's chief veterinarian has issued an order making it illegal to transport watercraft in British Columbia with the drain plug still in place as of May 17, 2024.
- Before transporting a boat or other watercraft, owners/operators must remove the drain plug and drain all water on dry land including all internal compartments such as ballasts, bilges, and live wells.

### **12. Why is this order from the chief veterinarian necessary now?**

- The order from the chief veterinarian supports government's ongoing actions to contain and prevent further spread of whirling disease and keep invasive mussels out of BC waterways. The May long weekend is typically when we start to see more boaters on BC's lakes and waterways, so it is important to have this order in place now.

### **13. How will government enforce the pull the plug order?**

- Inspectors at BC's Invasive Mussel Defence Program inspection stations will be checking boats and watercraft for compliance. The inspection stations are open at key entry points along BC's borders with Alberta and the United States from April until October. In addition, Conservation Officers throughout BC will be inspecting boats and watercraft on highways to ensure compliance with the order when able.

### **14. What are the penalties for failing to pull the drain plug when transporting a boat or watercraft in BC?**

- Our priority at this point is to get the word out to boat and watercraft operators about this new order. In these early stages our main focus will be on education and awareness.
- That said, we are also taking the necessary steps to establish the associated fines.

### **15. My boat does not have a drain plug, how do I ensure I am not spreading invasive species?**

- If you boat or watercraft does not have a drain plug, you do not have to pull it. However, there are steps you can take to protect BC's waterway from invasive species.
- All boat operators, anglers and water enthusiasts should "clean, drain, dry" all watercraft, trailers, and equipment (lifejackets, paddles, coolers, etc.) on dry land away from storm water drains, ditches, and waterways. All mud, sand, and plant materials should be removed from boats before leaving the shore. Operators should also allow for a minimum of 24 hours drying time for watercraft and/or equipment before entering new waters.

**16. Does this new order apply to boats coming from or going to the ocean?**

- Yes, the order applies to all boats with drain plugs that are being transported overland in BC regardless of where they are being transported to and from.

**17. What should one do if fish are observed that are showing signs of whirling disease?**

- Do not remove or transport the fish, instead take photos and submit reports to [WhirlingDisease@gov.bc.ca](mailto:WhirlingDisease@gov.bc.ca)

**18. Where can I find more information?**

The Province of BC whirling disease website: [Whirling Disease - Province of British Columbia \(gov.bc.ca\)](#)

BC Invasive Mussel Defence Program: [www.gov.bc.ca/invasivemussels](http://www.gov.bc.ca/invasivemussels)

Parks Canada: [Aquatic Invasive Species Prevention - Yoho National Park \(canada.ca\)](#)

Canadian Food Inspection Agency: [Whirling Disease - Fact sheet - Canadian Food Inspection Agency \(canada.ca\)](#)