Help Stop the Spread of Whirling Disease

Background

Whirling Disease. Whirling disease is a sickness that affects young salmon and trout. It's caused by a tiny parasite called *Myxobolus cerebralis*, which gets into the fish through their skin. While it doesn't harm humans, it can be deadly, in specific situations, to young fish like rainbow, cutthroat, and brook trout under four months old. Whirling disease was found in Alberta in 2016 and confirmed in British Columbia (B.C.) for the first time in December 2023, in Yoho National Park within the Columbia River Watershed.

How is whirling disease spread? Whirling disease spreads through the movement of fish, mud, and water. It's transmitted by tiny spores that stick to equipment used for activities like swimming, boating, fishing, or pumping water, as well as pets. Infected fish, whether alive or dead, and their parts can also carry the disease. Since there's no cure for whirling disease, it's crucial to focus on containing and preventing its spread to reduce the risk.

Requirements to Prevent the Spread

The actions taken to prevent invasive mussels also help prevent the spread of whirling disease. These include requiring all watercraft to 'pull the plug' and recommending a decontamination process for gear, especially within the Columbia River Watershed. Finally, there will be more signs and information about keeping boats and gear clean, drained, and dry to protect B.C.'s waterways.

NOTE: For industries that use heavy equipment in and around water, or extract water for industrial uses, a separate decontamination protocol is in development.

To make sure these actions are followed, B.C. has introduced new requirements and guidance.

1. Handle fish carefully.
2. Clean Drain Dry all watercraft, equipment, and gear.
3. Decontaminate all watercraft, equipment and gear leaving waterbodies in the Columbia watershed.

1. Handle Fish Carefully

- 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 garburator or down a drain.

2. Clean Drain Dry All Watercraft, Equipment and Gear

Before moving a boat or any equipment (e.g. waders, buckets, life jackets, kayaks, swimsuits) between water bodies, be sure to always follow the Clean, Drain, Dry steps outlined below. As of May 2024, you must pull your drain plug – it’s the law.

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.

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.** In B.C. it is now illegal to transport your watercraft with the drain plug in place.

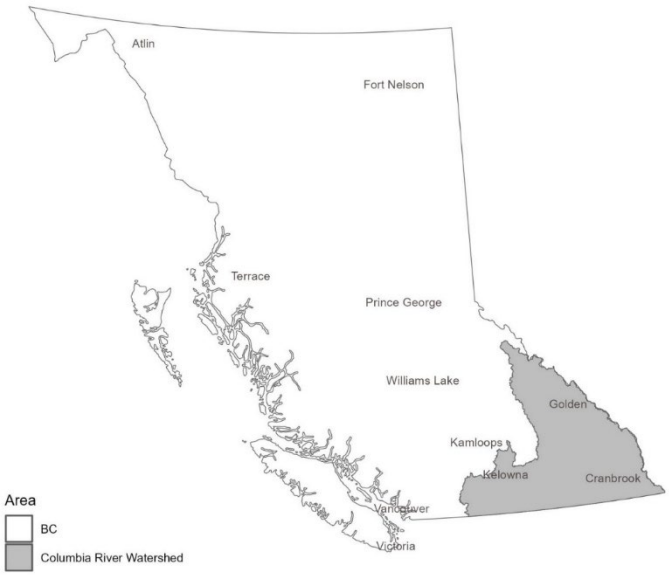
DRY

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

3. Decontaminate All Watercraft, Equipment and Gear Leaving Waterbodies in the Columbia River Watershed

Priority Area – Columbia River Watershed.

- Additional cleaning and decontamination procedures are recommended when moving equipment and boats within and out of high-risk areas for whirling disease to help reduce its spread.
- The Columbia River Watershed (see map to the right) 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 outlined below should be followed after the equipment has been thoroughly cleaned using the clean, drain and dry steps outlined above.



Decontamination Protocol –Checklist

- Prior to working with any disinfectant, refer to the product label or material safety data sheet (MSDS) for safety and handling instructions and appropriate use of Personal Protective Equipment (PPE). The recommended disinfectants and the appropriate concentrations can be found in the table below.
- Please note that household bleach can cause corrosion to fabrics, plastics, rubber, and metal so caution should be taken when applying it. Quaternary Ammonium Compounds (QACs') (eg. Quat plus) are common cleaning agents used in homes and hospitals and are safe for most equipment, vehicles and machinery when used at the recommended concentrations and followed by a thorough rinse.
- Care and maintenance instructions for more sensitive equipment should be carefully reviewed prior to using any disinfectant.
- Bleach should not be disposed of directly into the environment. Small quantities of disinfectant may be disposed through a sanitary sewer but should be diluted with an equal volume of water if indicated on the product label or MSDS sheet. Local authorities responsible for operating municipal wastewater treatment facilities should be consulted before disposing of larger volumes of disinfectant down sanitary sewers.

Decontamination Protocol - Steps

- Ensure that all organic material, including mud, is removed prior to application of chemical treatment. Not doing so can make the application of chemicals ineffective.
- Submersible items must be immersed (consider using a rigid rubber tote) such that all surfaces which were in contact with potentially contaminated water, mud, or fish, are submerged for 10 minutes.
- Non-submersible items, sensitive, non-waterproof or large equipment including personal floatation devices, floater jackets and life jackets that were **not** submerged in the waterbody should be thoroughly wiped or sprayed.
    - Surface disinfection can be accomplished by wiping wetted surfaces with a heavy-duty towel which has been soaked in a disinfectant.
    - Surfaces must be kept damp with disinfectant for 10 minutes.
    - Any disposable items (i.e. shop towels) used for this purpose must be disposed of in the garbage away from water.
    - The disinfectant solution can be applied using garden variety pump-up style sprayers and the solution should be liberally sprayed on both the outside and the inside of the equipment, keeping surfaces moist for 10 minutes. Avoid letting the disinfectant dry on items as it is harder to rinse off once dry.
    - Take care to protect electronic components that are not water resistant.
- Make sure to thoroughly rinse the items using water (not from the exiting waterbody) following the application of disinfectant to prevent the buildup of disinfectant residue.
- Once treatment and rinse are completed, allow items to dry as long as possible (24 hours minimum recommended).

	Concentration	Contact time	Disposal	Cautions	Additional info
Household bleach	1:10 (volume to volume) mixture of household bleach and freshwater	15 minutes	Sodium thiosulphate can be used to neutralize prior to disposal or small quantities of solution may be disposed into a sanitary sewer with an equal volume of water	Can cause corrosion to fabrics, plastics, rubber, and metal. Bleach is quickly inactivated by organics, so organic materials should be removed before disinfection	This is equal to 1 cup (250ml) of bleach with 10 cups of water (2.5 litres)
Quaternary Ammonium Compounds (QACs') (eg. Quat plus)	Soaking: 1500 ppm Wiping and spraying: 1500 ppm	10 minutes for soaking and spraying	Small quantities may be discarded in sanitary sewer if indicated on the product label	QAC products can cause corrosion when used on aluminum. Alternative cleaning methods should be utilized for aluminum equipment.	QUAT PLUS is a common cleaning agent for homes and restaurants.