

MBSS Decontamination Procedures for Boots and Equipment



Monitoring and Non-Tidal Assessment Division

Resource Assessment Service

Maryland Department of Natural Resources



Why decontaminate?

Helps prevent the introduction and spread of nuisance organisms and pathogens



Didymo



Chytrid fungus



Whirling disease



Box turtle with ranavirus by: Scott Farnsworth

Ranavirus



Largemouth bass virus



Avian influenza



Viral hemorrhagic septicemia

**Statewide ban
on felt-soled
waders went
into effect
March 21,
2011, in
Maryland.**



**Felt can retain
and transfer
organisms and
pathogens at a
higher rate than
rubber.***

* Gates, K.K., C.S. Guy and A.V. Zale. 2008. Adherence of *Myxobolus cerebralis* myxospores to waders: Implications for disease dissemination. *North American Journal of Fisheries Management* 28: 1453-1458.

Decontaminate all boots and equipment that have come into contact with stream water

-Virkon Aquatic

- 2% solution = 2 scoops per gallon of water
- virucide/herbicide
- designed for use in aquaculture facilities
- 10 lb. tub is ~\$100
- powder is corrosive (eye and skin burns)



-10% Bleach solution (1 part bleach per 9 parts water)

- disinfect equipment at least 50 yards from water body

-Dry to touch, then dry for another 48+ hours

Other alternative solutions that are effective...

Disinfection Solution	Recommended Concentration	Dilution Formula	Minimum Exposure (Minutes)
Virkon® Aquatic Solution	1 % solution	10g per liter of water 1.3 oz./ gal (packets) 2.6 oz./ 2 gal (sprayer)	10
Chlorine Bleach	10% solution	100ml per liter of water 377 ml. / gal. 12.6 fl. oz. / gal. 1.6 cups / gal.	10
Lysol (or phenol-based product)	Full Strength	----	> 3
Salt	5 %, 50 ppt., 71,323 μS/cm	0.6 cups / gal. 1.2 cups / 2 gal.	10-30
Ethanol	50%	959 ml per liter of water (for 95% grade)	> 2
Hot Water	>140°F (60°C)		3-10



Soak equipment in disinfectant



Clean water rinse after soak



Take boots off before applying cleaning agent

A sprayer filled with cleaning agent is an easy and effective way to disinfect between sites



- **Take boots off before applying cleaning agent**
- **Disinfect any area that came into contact with water from a stream, lake, etc.**



Didymo

Didymosphenia geminata

- Occurs in the Gunpowder River, Savage River, Big Hunting Creek and North Branch Potomac River
- Spreads rapidly
- Covers substrate when in bloom
- Feels like wet wool (not slimy like most algae)



Microscopic image of didymo cells



Didymo in the Gunpowder River

If you think you see Didymo...

- In a zip-top bag, place:
 - A sample from the center of the colony/mat with a small amount of stream water
 - A paper label with sample location & collection date in pencil
- Store on ice or in the refrigerator
- Call or email:

Katherine Hanna

Maryland DNR

katherine.hanna@maryland.gov

410-260-8609

Sample **must** be received by DNR no more than 36 hours after collection