



Aquatic Nuisance Species

Importance: A Threat to Resources

Aquatic nuisance species (ANS) are a threat to water resources and visitor use within Big Hole National Battlefield (BIHO). In Montana, the primary route for introduction and transport of aquatic invasive species (AIS) is recreational anglers and boat users. Given the yearly influx of anglers to the Big Hole River and the North Fork of the Big Hole River, the odds of ANS introduction to the park is relatively high. The Montana ANS Technical Committee lists the following two species as “present and established in Montana and have the potential to spread”: New Zealand mud snail (*Potamopyrgus antipodarum*) and whirling disease (*Myxobolus cerebralis*). New Zealand mudsnails have no natural predators in the U.S. and can reach high densities. At high concentrations they alter aquatic insect communities and restrict food available to native fish. Whirling disease is caused by a parasite which damages spinal cartilage in trout. Infected trout swim erratically and are unable to feed and avoid predators. Another nuisance species of concern in Montana is “Didymo” algae (*Didymosphenia geminata*). Didymo is capable of forming thick mats which smother aquatic organisms. Didymo grows well in clean, clear flowing rivers such as the North Fork of the Big Hole River.

Before Moving to New Water

Check your clothing, shoes, waders, gear, and all items that have been in the water for mud and plant debris.

Remove the material and leave on site.

Empty all water from your gear.

At home either...

Wash gear with hot water, soap, bleach, or table salt,

Freeze gear until frozen solid and completely dry, or

Dry gear completely for at least 48 hours.

2011 Status

So far no ANS have invaded the North Fork of the Big Hole River in BIHO. The National Park Service’s inventory and monitoring program has developed integrated water quality and stream channel characteristics monitoring protocols to provide a means of detecting these invaders. If whirling disease or mudsnails were present, they would be detected during the park service’s regular aquatic sampling procedures. In addition, periodic riparian condition monitoring provides a means for detecting Didymo.

You Can Help By:

- Being aware and avoiding transport of these unwanted species.
- Decontaminating (check, clean, dry) your gear before entering park waters.
- Avoiding felt-sole waders.
- Never transporting live fish or other aquatic species to new waters.

Contact Information

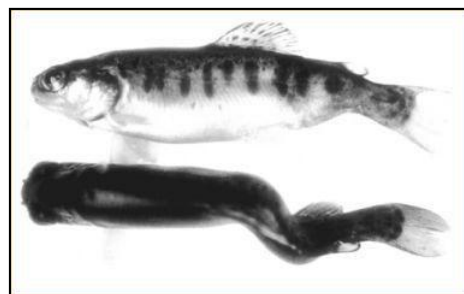
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Didymo algae (*Didymosphenia geminata*).



New Zealand mudsnails (*Potamopyrgus antipodarum*).



Deformed skeletons of 8-month old rainbow trout with whirling disease (*Myxobolus cerebralis*) (USGS 2011).

