

STOP New Zealand Mudsnail from Spreading

New Zealand Mudsnail populations can take over the natural ecosystem:

- One female can produce a population of millions of snails in a single year
- Mudsnails outcompete native macroinvertebrates and snails—important food sources for fish
- Mudsnails do not provide proper nutrition for native fish
- Small size makes them easily transportable on gear



Photo: MDEQ

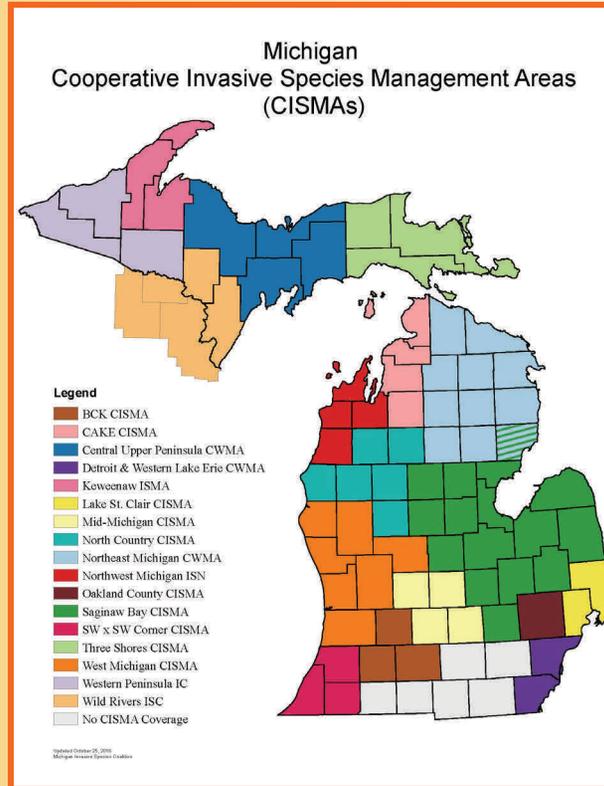


Photo: Robyn Draheim/USFWS

New Zealand Mudsnails can be easily mistaken for grains of sand

Find Your Local CISMA

Contact your local CISMA to learn more about invasive species.
Visit www.michiganinvasives.org



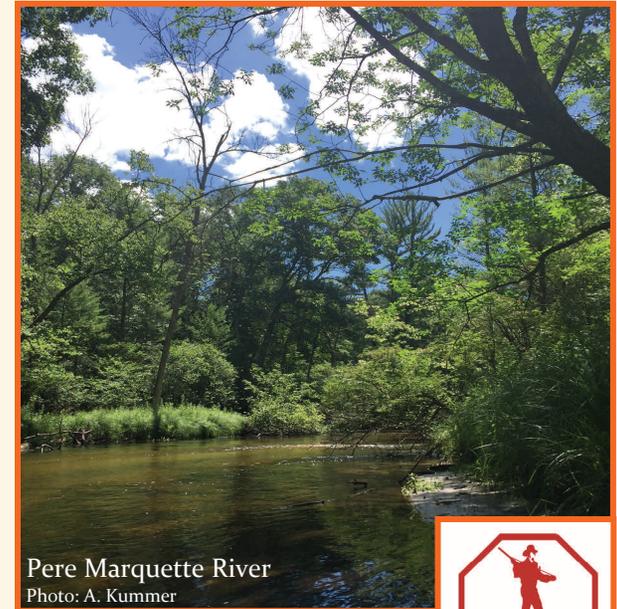
Report Invasive Species

Visit Midwest Invasive Species Information Network, MISIN,
www.misin.msu.edu to report



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Pere Marquette River
Photo: A. Kummer



Protect Michigan's Rivers and Streams

Stop Invasive New Zealand Mudsnail!

Invasive species can be anywhere and can easily hitchhike without us even knowing! Learn how you can help stop the spread.



Photos: A. Kummer

Help Minimize the Risk of Spread

Protect the streams you fish and enjoy!

- Plan to visit uninfested rivers first, if possible, by checking with your local fly shop
- Keep a pair of waders strictly for use in infested rivers & a pair for clean rivers
- **Clean ALL** gear before leaving and entering a new location
- Dispose of unused bait or unwanted fish in the trash

Before leaving the site:

Check ALL gear inside & out

- Boots: treads/soles, shoe laces, under the tongue, other cracks & crevices. Take out the insole to check inside too!
- Gear: fishing rod, line, and lures, fishing vest and basket.

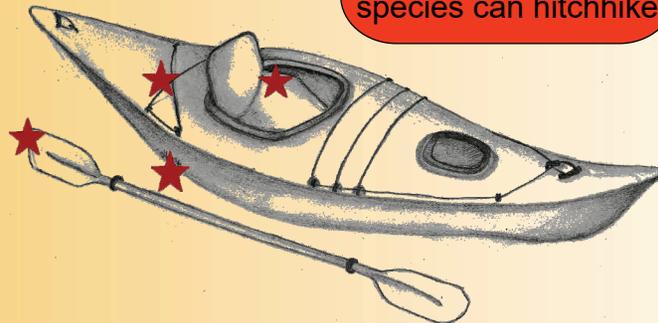


Photo: USFS

Remove any attached plant material and mud

- Use a stiff bristle brush to remove sand and mud from rubber & felt sole waders, pant legs, and boat.
- Drain water from boats and dry the outside with a towel

Non-motorized boats carry invasive species too! The stars in the drawing indicate some of the places invasive species can hitchhike



New Zealand Mudsnails cling to shoe soles & laces and can live out of water in humid environments for 10+ days



Photo: Robyn Draheim/USFWS

Ideas for Deep Cleaning

Choose one of these methods to thoroughly clean and decontaminate fishing gear, waders, and boats

- **SCRUB:** use stiff brush to scrub in crevices to remove mud, plant material & unseen organisms
- **WASH, SOAK, or STEAM:** use boiling water (212°F) to wash, soak, or steam gear
- **FREEZE:** 8 hours minimum
- **DRY:** In direct sunlight, dry gear for at least 5 days before reusing



Photo: A.Raymond/Ingham CD

Cleaning Solution: If you travel to many different rivers and streams you may consider using one of these cleaning solution in between travel:

- Mild Bleach solution— 1Tbsp bleach in 1 gallon of water
- Formula 409, undiluted
- 2% Virkon solution—(available online from Western Chemical and other retailers)