New Zealand mudsnails (NZMS)

(Potamopyrgus antipodarum)

IDENTIFICATION GUIDE FOR KING COUNTY, WA

How and when to use this guide: The highly invasive New Zealand mudsnail (NZMS) has been identified in 10 King County stream systems (Big Soos, Kelsey, May, McAleer, Thornton, Longfellow, Pipers, Mapes, Sunset, and Maple Leaf creeks) as of summer 2017. We ask that everyone doing freshwater field work turn over a rock or two to look for NZMS to help expand our understanding of its presence in King County.

This identification guide is intended to help distinguish between the NZMS and native snails similar in size and appearance.

A hand lens and flashlight will be helpful for seeing some features.

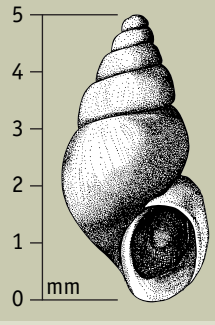
IDENTIFIABLE AND DISTINGUISHING FEATURES OF NZMS AND NATIVE SNAILS

Hold snail with tip up and opening facing you. Please note that measurements are approximate and will vary.

Invasive non-native species

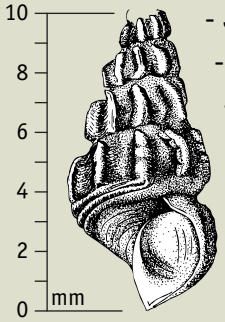
New Zealand mudsnail (NZMS)

Potamopyrgus antipodarum



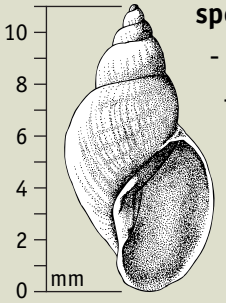
- Usually less than 6 mm long
- Elongate shells with 5 to 8 whorls
- Right opening
- Variable shell color; gray to brown
- Has operculum (opening lid)

Juga sp., no common name



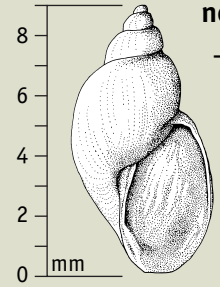
- Juvenile similar in size to NZMS
- Right opening
- Reddish-brown shell
- Thin spiral incised lines and raised folds
- Has operculum
- Only known from Soos Creek basin and Mill Creek

Pondsnails, *Stagnicola* and similar species in family *Lymnaeidae*



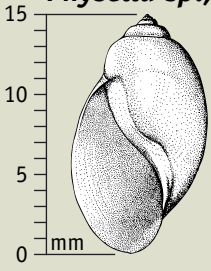
- Broader shell relative to length
- D-shaped right opening with twisted inner lip
- No operculum

Galba sp., formerly *Fossaria*, no common name



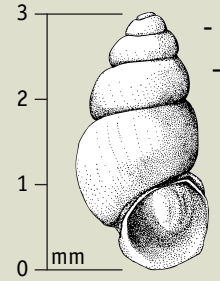
- Thin, broader shell relative to length
- Oval right opening half of the entire shell length
- No operculum

Physella sp., no common name



- Thin, fairly transparent shell
- Left oval opening that is ¾ the length of the shell
- No operculum

Pristine pyrg (*Pristinicola hemphilli*)



- Very narrowly conical shell
- Clear to white coloration
- Oval, elongate right opening
- Lives in springs, unlikely to make large populations in streams or lakes
- Has operculum

If you find NZMS, please identify the location and take pictures.
Contact Kate Macneale at **kate.macneale@kingcounty.gov** or **206-477-4769** to report potential King County infestations.

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New Zealand mudsnail Identification Guide *continued*

Snails found in local streams (left to right) NZMS, Pristinicola, Galba, Physella, Juga (juvenile), Stagnicola

These boots were worn while walking in the mud at the edge of Capitol Lake in Olympia. Over 120 NZMS were found while cleaning the boots.

Gear decontamination tips for avoiding the spread of aquatic invasive species

- Avoid going in the water unless necessary for the work to be done.
- Do not wear felt soles on boots or waders; use hard soles only.
- Plan field trips to move from least to most likely areas of contamination; go from upstream to downstream along a water course.
- Scrub, clean, rinse, and examine all gear on-site before moving to a new water body.

Scrub

No Felt Boots

Drain

Rinse

When entering areas of known infestation, add one of the following decontamination procedures to the basic cleaning procedure:

- Dedicate equipment only to that site and use it nowhere else.
- Freeze for 8 hours (14 °F /-10 °C).
- Soak in hot water for at least 5 minutes (140 °F / 60 °C).
- Soak in 2% solution of Virkon Aquatic formulation for 20 minutes.
- Allow to dry in a warm, non-humid environment for at least 72 hours.

Resources

For more information including up-to-date King County infestation sites, please visit: *www.kingcounty.gov/mudsnails*

Search **"New Zealand mudsnail"** on the internet for additional information about NZMS and field gear decontamination.

Alternative formats available
206-477-9333 TTY Relay: 711

Thank you

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King County
Department of Natural Resources and Parks
Water and Land Resources Division
Science and Technical Support Section

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