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Invasion of the mudsnails puts more stress on sensitive habitats

New Zealand mudsnails are taking over the Feather, Yuba rivers

Left alone, dense populations could change rivers' invertebrate composition

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Out of sight in the Feather River in Butte County, New Zealand mudsnails are attempting to establish an enclave. Scrabbling into niches now held by native snails, they are popping out live offspring at the mind-boggling rate of 600 million a year.

Left alone, the prodigiously prolific mudsnails will take over the native snail habitat and scarf down food critical for mayflies, caddisflies and other native insects. That's bad news for trout and salmon, which feed on these aquatic invertebrates. And the entire unhappy sequence obviously affects anglers.

Colin Purdy, a state Fish and Wildlife Department scientist who confirmed the presence of the invasive snails in the Feather and Yuba rivers last month, is leading the campaign to limit their spread and ultimately eliminate them from Northern California waters. Even critics of the department should support him.

Plants, animals and fungi have been moving around the world for as long as humans have, but the pace of these largely anonymous hitchhikers is picking up speed with changing climates.

Like New Zealand mudsnails, they settle in places halfway around the world where they compete with native species for food and habitat. Unprepared to defend themselves, the natives often die off.Scientists consider the spread of alien species one of the leading threats to biodiversity.

The stakes are particularly high for California. Its more than 6,000 different species make it the most biodiverse state in the nation. More than 50 of these natives are already extinct, and 28 percent of those remaining are considered at risk of extinction.

It's easy to blame anglers for New Zealand mudsnails in local rivers. Fishermen boat, float and wade in and out of waters around the world, and may have transported the copper-colored snails so tiny that 100 could fit on the surface of a dime. It's easier still to blame boaters. While anglers are generally naturalists at heart, boys with big boats have been known to brag in darkened bars about sneaking around back roads to avoid state inspection stations looking for quagga mussels and other aquatic invaders.

The reality is that we are living on a rapidly changing planet where flora and fauna are on the move as temperatures rise. Before the consequences were understood, many species were imported in the name of science. Alexander Von Humboldt did it and so did CharlesDarwin, sending exotic specimens from far-flung places back to their curious counterparts in Europe.

Even William Shakespeare contributed to loss of biodiversity, if unwittingly. European starlings, which now number more than 200 million in North America, are here because of an absurd attempt in the 1890s to introduce to North America all of the birds mentioned in his plays. Those that suffered include bluebirds, purple martins and woodpeckers.

More recent agents of exotic species introductions include the very agency now dedicated to "decontaminating" New Zealand mudsnails from north-state rivers. It was once common practice for the Fish and Game Department to stock lakes and rivers with non-native brown trout and striped bass, and to air-drop native rainbows into places they had never inhabited.

The presence of New Zealand mudsnails in Northern California is not scientific, literary or intentional. They arrived the way most aliens do: accidentally. The Feather River colony is dangerously close to one of the state's major facilities for raising Chinook salmon and steelhead.

With California's aquatic habitats already compromised by river diversions, dams and reservoir management that releases water for salmon so warm it effectively kills them, New Zealand mudsnails may be the least of the worries for native fish. Left alone, however, dense populations could, over time, change the rivers' aquatic invertebrate composition, Purdy said.

Asked whether he is optimistic about eradicating them, he pauses, then says: "I've got to be."

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