

A Big, Bad, Crawdad: The Invasion of the Monocacy River by the Rusty Crayfish

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Photos courtesy of: Matt Sell

The Monocacy River has been invaded by an alien species, the rusty crayfish (*Orconectes rusticus*), that may harm native crayfishes, aquatic vegetation, fishes, and other stream species. It was first discovered in Marsh Creek, a tributary to the Monocacy River, in June 2007 by biologists from the MDNR Maryland Biological Stream Survey. This discovery was the first documented report of this non-native species in the state.

Rusty crayfish is native to portions of the Ohio River in Illinois, Kentucky, Ohio, and Tennessee. As popular bait for game fishes, this species has been widely introduced outside of its native range. Bait bucket introductions of rusty crayfish have been documented in at least 14 other states and portions of Canada. All of these introductions have had devastating effects on the invaded ecosystems. Rusty crayfish can eliminate native crayfishes and can reduce the quality and quantity of habitat available to other stream species. Rusty crayfish feed heavily on mayflies, stoneflies, and other invertebrates that are important food sources to stream fishes. This species also consumes fish eggs and can destroy aquatic vegetation beds. These habits can impact game fish populations.

In October 2007, the Maryland Department of Natural Resources (MDNR), in partnership with Hood College and the University of Maryland Appalachian Laboratory, began a multi-year survey of rusty crayfish in the Monocacy River. The objectives of this survey are to determine the extent to which this species has become established in the mainstem Monocacy River and its tributaries, monitor the dispersal of rusty crayfish over time, and document its effects on native crayfishes in the watershed. Given its potential to damage stream insects, freshwater mussels, and fishes in the Monocacy River, students from Hood College have also recently initiated research projects to study the effects of the rusty crayfish on other components of the river ecosystem.

In 2007, field crews conducted sampling at 50 sites in the Monocacy River watershed. The results of this effort indicated that rusty crayfish is established in the northern 18 river kilometers (as far south as Sixes Bridge Road) of the Monocacy River mainstem in Maryland. Native crayfishes were not collected in this portion of the watershed, but remain abundant in downstream areas where rusty crayfish were absent. Surveys scheduled for 2008 will determine the rate of dispersal of this species in the watershed.

The rusty crayfish is believed to have been unintentionally introduced by anglers as discarded bait dumped into Pennsylvania tributaries to the Monocacy River.

It has since spread south across the state line, and MDNR biologists are concerned that the spread of this species may be hastened by additional bait bucket introductions in Maryland.

Rusty crayfish cannot legally be imported, transported, purchased, possessed live, propagated, sold, or released into Maryland waters. If you find a rusty crayfish, MDNR asks that you freeze it, note the exact capture location, and call the Maryland DNR invasive species hotline at 1-877-620-8DNR.

To help prevent the further spread of rusty crayfish and other aquatic invasive species: 1) Never release live unused bait; and 2) do not transport live fish or crayfish from one body of water to another.

For more information on rusty crayfish and other invasive species, visit www.dnr.state.md.us/invasives