**Invasive species could be transmitted by school teachers releasing critters into wild**

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By [Ian C. Campbell, The Oregonian](http://connect.oregonlive.com/user/campbe-i/index.html)

Mount Vernon, population 524, isn't described as ground zero too often. After crawfish from Ohio and Kentucky started showing up in a stretch of the nearby John Day River in 2005, however, researchers said the term fits.   
  
Well-intentioned teachers released the invasive rusty crawfish at the end of science lessons, it seems, and it began to push out the signal crawfish, the only Oregon native species.   
  
Perplexed wildlife officials put the classroom together with the invasion by process of elimination. It's illegal in Oregon to fish with its [invasive brethren](http://www.fish.washington.edu/research/oldenlab/pdf/2011/Fisheries_2011a_Cray.pdf) as bait so none escape into the wild, and unlikely someone would import bait from 2,000 miles away. However, the rusty crawfish was a frequent visitor to science classrooms in the area.   
  
Call them crawfish, crayfish, crawdads or even mudbugs. In elementary and middle schools in the middle of Oregon and across the country, they're a popular science lesson. Typically, students raise live crawfish in aquariums for months to learn about their life cycle. But as the school year ends, the crustaceans have to go somewhere. Why not, someone figured, the nearby river?   
  
It's another reminder of how easily a species can establish itself when it's transplanted into a new area.   
  
About four years ago, [Sam Chan](http://seagrant.oregonstate.edu/people/sam-chan), an assistant professor at Oregon State University, got invited to a fourth grade "spring release party" at a parent-teacher conference in Corvallis. He soon found out the students weren't the only thing being released for the summer.

This red swamp crawfish is underwater in a spring feeding into a pond in Albany.

"It turned out to be a true release of organisms," said Chan, an aquatic invasive species expert. "I couldn't sleep that night."   
  
Chan started investigating and found a big problem, and not just limited to crawfish. Everything from crustaceans to goldfish to plants -- all non-native invaders -- get set free into the waters of Oregon by well-intentioned schools. In eastern Oregon, [goldfish](http://cms.oregon.gov/OISC/docs/pdf/ra_asiancarp2010.pdf), a type of carp, dominates some reservoirs. Elsewhere, ponds have been taken over by invasive [elodea](http://cms.oregon.gov/ODA/PLANT/WEEDS/pages/profile_southamerwaterweed.aspx), a standard aquarium plant.   
  
With 22 collaborators from the U.S. and Canada, he surveyed about 2,000 schoolteachers about the fate of animals in their classrooms. The [results](http://eco.confex.com/eco/2012/webprogram/Paper37050.html), which Chan presented at the [Ecological Society of America](http://www.esa.org/portland/) conference in Portland this week, were sobering. One in four teachers surveyed reported releasing live animals outside after the lesson. Most aren't invasive -- but his concern is for those that are.   
  
"Many of the teachers were mortified when we pointed out they may be exacerbating the invasive species problem," Chan said.   
  
But they weren't sure what else to do. Euthanasia is a sensitive topic -- the survey found teachers were about evenly split on it. Given that most teachers aren't experts in invasive species, many instead release the animals at the end of class.   
  
Compared to middle school, elementary teachers were more likely to release and had less knowledge of invasive species, said Chan. "We need to start working with teachers while they are getting their certifications."   
  
A [popular scientific curriculum](http://fossweb.com/) for grades 2-8 nationwide details how to include animals like crawfish in the classroom. Originally, the materials didn't emphasize what to do with animals after use. Chan's group has worked with the curriculum publisher to include [an update](http://lhsfoss.org/newsletters/archive/FOSS35.liveanimals.html) explaining never to release classroom animals into the wild.   
  
Teachers can purchase animals through the mail from biological supply houses. Often, however, the animals aren't labeled with their scientific name, and it's unclear if they are native or not.   
  
Chan's research group is working with biological supply houses to include directions for teachers. [Mountain Home Biological](http://www.pelletlab.com/live_material_in_bulk) in White Salmon, Wash., includes a note not to release any animals into the wild, even if it's a native species.   
  
"We stay within the bounds of the law," says Rick Bretz, operations manager at Mountain Home Biological, "and we like to do what we can for the environment as well."   
  
The company now provides instructions with specific details with shipments and also switched to providing the native signal crawfish to Northwest classrooms.   
  
As for teachers, Chan found that the majority wanted to incorporate invasive species into their lessons. He said it didn't take long for one elementary classroom to figure that crawfish from Louisiana probably didn't climb the Rocky Mountains. Instead, they learned how human activities can have unintended effects.   
  
Classes also asked students to decide what to do with the crawfish. "Students came up with some pretty innovative solutions," said Chan. Many elected to euthanize their crawfish with slow cooling, but some suggested a different fate: eating. Science class just got a little more delicious.