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Alaska Region Invasive Species News

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Kids, Kachemak & Crab Monitoring

Excerpted from a wonderful story by Terry Thompson, and reprinted with permission from the "Alaska Fish and Wildlife News" (ADFG Online Magazine).

It was a typical summer morning in Halibut Cove. Brothers Clem and Hunter Tillion were doing what many young boys dream of doing – exploring and looking for “gunnels and crabs” along the beach below their grandparents house.

Suddenly, 9-year-old Hunter yells to his 11-year-old older brother Clem to come look at a couple of crabs he found under a log. Hunter didn't recognize the crabs as anything that he or Clem had seen on the beach before. One of his first questions to Clem was, “Do you think they might be green crab?” Clem had just learned about the European green crab as part of his classes' role as community monitors in Kachemak Bay. Immediately, Clem began looking for key identifying characteristics to see if he and Hunter had found what everyone hopes will not be found in Alaska, the European green crab. (see Aug-Sep 2006 issue of ARIS News)

In cooperation with several agencies and organizations, the Alaska Department of Fish and Game's Kachemak Bay Research Reserve (KBRR) in Homer has developed and tested tools that will allow residents throughout coastal Alaska to assist in the monitoring and detection of non-indigenous aquatic species; in particular the European green crab (*Carcinus maenas*). [Note: Service funds and technical assistance support this citizen-based invasion monitoring effort.]

Over the past few years, staff from the Prince William Sound Regional Citizens Advisory Council in Valdez and KBRR have developed protocols for community monitors to use as they trap and track crab populations in areas where the probabilities of invasion and detecting the alien European green crab are high.

The design of the community monitoring program encourages Alaskans of all ages to participate. Last year, a fourth grade classroom in Homer taught by Carole Demers volunteered to test the trapping protocols and ability of her students to successfully carry out a series of trapping events. By all accounts, it was a huge success.

“This is such a cool program!” Demers said. When describing how the monitoring program works in her classroom Demers said, “It gives kids the opportunity to be involved in hands-on science. The kids learn how to identify and handle crabs, how to use scientific equipment, and how to work in teams. It's just a great program at all levels.” [Note: It also provides the Service with an extensive and tested monitoring network for the detection of new invasions.]

Months after seeing her students leave her fourth grade classroom for their summer vacation Demers is still impressed and proud of their enthusiasm and quest for science knowledge. Clem and Hunter exude a contagious excitement when they talk about the crabs they found in Halibut Cove. Their curiosity and desire to know more about their unidentified crabs led them to seek more information.



Clem Tillion IV (left), age 11, and Hunter Tillion (right), age 9, explore the beach in front of their Homer home overlooking Kachemak Bay.

Terry Thompson/KBRR

Clem and Hunter's crabs proved to be a major surprise. No, they didn't find the first European green crab in Alaska – (luckily!). But, they were the first to document the presence of a new species of crab in Kachemak Bay, the yellow shorecrab (*Hemigrapsus oregonensis*).

For Demers, her reward for teaching comes by watching her students' passion for science and the natural world grow throughout the year. And as you might expect, she feels rewarded each year. If you would like to become involved in a community monitoring program for the European Green Crab contact the Kachemak Bay Research Reserve at 907-235-4799. [Note: This effort now also monitors for invasive sea squirts, with protocols developed and tested by the Smithsonian!]

(Terry Thompson is the Education Coordinator for the Kachemak Bay Research Reserve in Homer. For the full story, visit: <http://www.wildlifenews.alaska.gov>).

Didymo
(*Didymosphenia geminata*)



Didymo growing on rock.

Affectionately known as “rock snot” by those who don’t appreciate its stream clogging growth form, this species is actually native to some parts of Alaska and other U.S. states. However, this stalked diatom is expanding its range beyond its usual high latitude or high altitude low nutrient waters to more nutrient-rich waters.

In its early growth form, didymo appears as ¼ to 1-inch, tan to brown cottony, non-slimy clumps, but can grow into rope-like strands or bloom into light tan to whitish mats – which give it its other less than attractive moniker, “toilet paper” algae, for its appearance when it dries out and senesces.

Blooms of this species can completely cover benthic surfaces and this may reduce invertebrate production, the prey base for many fish species, and may also inhibit oxygen penetration, and thus risk damage to incubating salmon eggs.



Single diatom

Recent investigations in New Zealand, one of the countries suffering most from this invasive expansion, indicate that the source of its spread to New Zealand is from the United States. Since Alaska is a global mecca for anglers, there is concern that we may have been the source.

We are only beginning to learn about this species and its distribution and ecology in Alaska. We need your help to learn more about the risk this species may present to Alaska waters, and the waters to which our visitors return after enjoying the Alaska wilds. If you suspect you have found didymo, record its location, collect a sample, dry it out well, bag it, and mail it to me at the contact address provided below. No special handling or preservative is needed for simple identification.

For more information, also visit:

<http://www.epa.gov/region8/water/didymosphenia/>

Cypress Spurge
(*Euphorbia cyparissias*)



Flower head

An infertile form of this plant was apparently imported from Europe as an ornamental plant. However, a fertile and more vigorous form also managed to arrive and spread across several northern states and Canadian provinces, particularly in the latter half of the 20th

century. Its early use as a ground cover in graveyards earned its other common name - graveyard weed.

The taproot of this plant can be over three meters long and when its fruit “explodes,” seeds can be thrown up to five meters. Its ability to spread vegetatively is also a major factor in its spread.



Fruiting bodies

Cultivating infested fields can spread cypress spurge by moving root pieces caught on machinery to clean locations. Other states warn that farmers who are unaware of cypress spurge in their hay fields can also spread the weed when transporting hay infested with its seeds.

This is a serious concern because this species contains a toxic latex that can cause eye, skin and gastric irritation in humans, and if cattle ingest it they can “become weak, collapse and may die.” While its effects on native grazers do not appear to be well known, the rapid growth of cypress spurge can result in almost pure stands that may displace native plant species.

“Graveyard weed” may currently be limited to a few gardens in Haines and Anchorage, and it has not yet been ranked for invasiveness by the Alaska Natural Heritage Program (<http://akweeds.uaa.alaska.edu>). However, Colorado warns that this species should be a priority for immediate eradication if found.

For more information, also visit: <http://www.na.fs.fed.us/fhp/invasive%5Fplants/weeds/>

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