

invasives. The Friends tackled white sweet clover growing along roadsides in Tok and along rivers flowing into Kanuti Refuge.

In fact, Friends Vice President Carla Stanley felt that she and the other Friends “pulled up almost every (white sweet clover) plant north of the Arctic Circle.” It made a lasting impression. On a recent drive along the Seward Highway, Carla stopped and spent hours pulling white sweet clover, doing her part to make a difference.

The Friends also pulled dandelions off of a Kenai Refuge mountaintop, yanked weeds along roadsides in downtown Kodiak, and obliterated patches of Canada thistle in Cold Bay. For the last Friends invasive project of the year, volunteers will visit Unalaska to take out more Canada thistle, and to spend some time with the school and community discussing invasives.

The Friends of Alaska National Wildlife Refuges is a non-profit organization dedicated to promoting the conservation of the natural resources of all 16 of Alaska’s national wildlife refuges. If you would like to become a Friends member please send an e-mail to: akrefugefriends@gmail.com.

*Story by Maeve Taylor
Volunteer Coordinator, R7 Refuges*

Productive Partnerships Highlighted Species

Spotted Knapweed

(Centaurea biebersteinii)



Cindy Roche, www.forestryimages.org

Spotted knapweed is ranked as one of the Top 3 most invasive plants in Alaska (see AKNHP link below), along with Japanese knotweed and purple loosestrife (both of which will be covered in future ARIS News).

Spotted knapweed is a short-lived perennial, usually 1 to 4 feet tall, with 25 to 35 purple to pink flowers which bloom from mid-summer to early fall. It has a long taproot that allows it to access water beyond the reach of more shallowly rooted native species. This weed can be hand pulled, but be sure to get that taproot!

Its seeds can be transported by people, wildlife, livestock, vehicles, and in soil, crop seed, and contaminated hay. Gravel pits, soil stockpiles, power line corridors, railroad and equipment yards are important seed distribution points.

This weed can outcompete native plants, reduce native species diversity, increase soil erosion and stream sedimentation, decrease forage value for wildlife and livestock, and can even be toxic, especially to horses. In Montana alone, spotted knapweed infests more than 4.5 million acres and costs its ranchers, homeowners, and land managers tens of millions of dollars to control.

With strong partners and citizen involvement, this is one we could eradicate before we share Montana’s experience. That would be a great service to Alaska’s economy and ecosystems!

Information adapted from the following:
<http://www.nps.gov/plants/alien/fact/ceb11.htm>
(PCA, Invasive Plant Working Group)
<http://www.ext.nodak.edu/extpubs/weeds.htm>
(North Dakota State University)
<http://weeds.montana.edu/urban/knapweed.htm>
(Montana State University Extension Service)
<http://aknhp.uaa.alaska.edu>
(Alaska Natural Heritage Program)
<http://www.cnipm.org>
(Alaska Committee for Noxious & Invasive Plants Mgt.)

European Green Crab

(Carcinus maenas)

Introduced to the U.S. Atlantic coast over 150 years ago, green crabs were found in San Francisco Bay around 1989 and have now spread north to Vancouver Island, British Columbia. This aggressive crab feeds on bivalves and may compete with or even eat native crabs, such as the commercially important Dungeness crab, which can co-occur with green crabs in intertidal areas. As an intermediate

host of the acanthocephalan worm, *Proflicollis botulus*, green crabs may also indirectly impact the health of shore birds that prey upon them.

Green crabs are not always green. The top is mottled, dark brown to dark green, with small yellow patches. The underside can be green, orange or even red. A distinctive trait separating it from other Alaska crabs is the set of 5 spines on either side of the eyes on the front of the carapace. Adults are typically about 3 inches across the carapace, but can range up to 4 inches.



Washington Department of Fish & Wildlife

The green crab’s ability to outcompete native species, high reproductive capacity, and wide environmental tolerances may allow this species to fundamentally alter community structure in coastal ecosystems.

In Alaska, the Service works with the Alaska Department of Fish & Game, the Prince William Sound Regional Citizens’ Advisory Council and the Smithsonian Environmental Research Center to enable citizen-based monitoring (see a future ARIS News for more). To report a green crab find, call ADF&G at 1/877 INVASIV.

Information adapted from Congressional Research Service, U.S. Geological Survey, Washington Dept. of Fish and Wildlife and SERC materials. Some online resources:

<http://nas.er.usgs.gov/queries/FactSheet.asp?SpeciesID=190>
(USGS/BRD fact sheet on green crab)
<http://anstaskforce.gov/Species%20plans>
(ANS Task Force mgt. plan for green crab)
<http://www.pwsrca.org/docs/d0018700.pdf>
(study of coastal AK waters at risk of invasion)

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