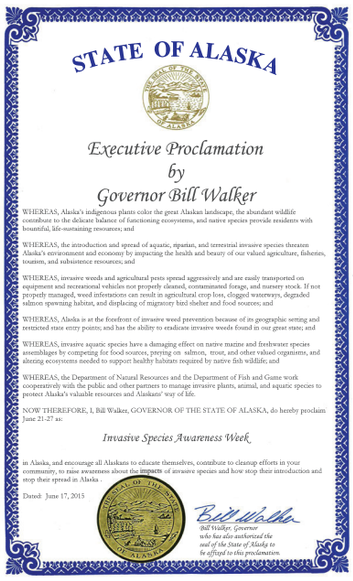
U.S. Fish & Wildlife Service / Alaska Maritime National Wildlife Refuge / Aleutian Islands Unit

FROM THE WILDSIDE

July 2015

Invasive Species Awareness Week

In honor of Alaska's native plants and wildlife and their contribution to the delicate balance of functioning ecosystems, and in recognition of the threat invasive species pose to Alaska's environment and economy, Governor Bill Walker proclaimed June 21-27 as Invasive Species Awareness Week. He encouraged all Alaskans to learn about the impacts of invasive species and how to prevent their introduction and spread.



STATE OF ALASKA

Executive Proclamation
by
Governor Bill Walker

WHEREAS, Alaska's indigenous plants color the great Alaskan landscape, the abundant wildlife contribute to the delicate balance of functioning ecosystems, and native species provide residents with bountiful, life-sustaining resources; and

WHEREAS, the introduction and spread of aquatic, riparian, and terrestrial invasive species threaten Alaska's environment and economy by impacting the health and beauty of our valued agriculture, fisheries, tourism, and subsistence resources; and

WHEREAS, invasive weeds and agricultural pests spread aggressively and are easily transported on equipment and recreational vehicles not properly cleaned, contaminated forage, and nursery stock. If not properly managed, weed infestations can result in agricultural crop loss, clogged waterways, degraded salmon spawning habitat, and displacing of migratory bird shelter and food sources; and

WHEREAS, Alaska is at the forefront of invasive weed prevention because of its geographic setting and restricted state entry points; and has the ability to eradicate invasive weeds found in our great state; and

WHEREAS, invasive aquatic species have a damaging effect on native marine and freshwater species assemblages by competing for food sources, preying on salmon, trout, and other valued organisms, and altering ecosystems needed to support healthy habitats required by native fish wildlife; and

WHEREAS, the Department of Natural Resources and the Department of Fish and Game work cooperatively with the public and other partners to manage invasive plants, animal, and aquatic species to protect Alaska's valuable resources and Alaskans' way of life.

NOW THEREFORE, I, Bill Walker, GOVERNOR OF THE STATE OF ALASKA, do hereby proclaim June 21-27 as:

Invasive Species Awareness Week

in Alaska, and encourage all Alaskans to educate themselves, contribute to cleanup efforts in your community, to raise awareness about the impacts of invasive species and how stop their introduction and stop their spread in Alaska .

Dated: June 17, 2015

Bill Walker, Governor who has also authorized the seal of the State of Alaska to be affixed to this proclamation.

Adak's invasives...or are they?

Here on Adak we have many introduced species, but not all are invasive. In order to be considered invasive, a species must be introduced (not native to a specific location), but must also adversely affect the habitats and bioregions they invade economically, environmentally, or ecologically. Invasive species cause damage by dominating a region or threatening biodiversity, by preying upon or outcompeting native species or removing natural controls (such as predators or herbivores).

Most of the non-native species on Adak are plants introduced by people planting gardens or by contractors spreading seed mixes to revegetate disturbed areas. Some species are widespread near town (like the little white "lawn daisies" in our yards, or the spruce trees), but have not affected native vegetation, so they are not considered detrimental or invasive. Orange hawkweed (left) has had catastrophic effects on natural diversity in other areas in Alaska, but so far it has not been found beyond the disturbed areas on Adak; we are not sure yet if it poses a threat here.

Adak also has an introduced fish species: rainbow trout (above right) and steelhead (anadromous version of a rainbow trout) were stocked by the Navy in the late 1950s, by Alaska Department of Fish and Game in 1968-1974, and by USFWS in 1974-76. They were released in most of the streams and lakes on at least the north half of the island, and are still regularly caught in many places. They aren't considered invasive, because they don't adversely affect native species or the environment.

There are no native land mammals in the central and western Aleutians, but four species were introduced on Adak. Arctic foxes (right) were stocked by fur ranchers in the 1920s. The introduction of foxes had devastating direct effects on birds; ground nesting birds were extirpated or reduced to low population levels over broad ranges. There were also indirect effects: the loss of seabirds resulted in a loss of seabird guano, rich in nitrogen and phosphorus, and island soils became nutrient-impoverished, which coincided with strong shifts in the structure of plant communities. In order to restore habitat and save native species, the Alaska Maritime National Wildlife Refuge (Refuge) has since eliminated invasive foxes from most islands in the Refuge, including Adak. On many larger islands, remnant populations of seabirds persisted on offshore islets, and these quickly recolonized the main islands once foxes were removed. Populations of waterfowl, shorebirds, ptarmigan and possibly passerines also increased following fox eradication.

Recovery of some bird populations on Adak has been less noticeable, probably in part due to the effects of another invasive mammalian predator: Norway rats (left), which were inadvertently released on Adak during World War II. Rats negatively affect burrow and crevice nesting birds primarily by eating eggs. Presently the Refuge is actively involved in prevention of rat introductions from ships to islands that don't already have rats. We have a harbor defense plan in the Pribilofs, and a rat response team and supplies set up, ready to respond when there's a shipwreck on or near an island. Here on Adak, we can help by keeping rats off the boats that stop here, to minimize the risk of Adak's rats hitching a ride to rat-free islands.

Caribou (left) were brought to Adak in the 1950s to provide recreational hunting opportunities for personnel stationed here. The Aleutians did not evolve with large herbivores, and they can change the vegetation structure and composition and cause significant erosion. Caribou tend to overgraze favored areas before moving on, but on an island, their range is limited. As an island reaches carrying capacity for an invasive grazer, herd size typically declines because of increasing damage to vegetation and soils. Eventually the population crashes after a severe winter; such die-offs may result in the extinction of the herd (as occurred with reindeer on St. Matthew Island). With the closure of the Adak Naval Air Station, we are very concerned that the Adak herd will grow unchecked and severely damage the island's habitat, and expand their range to other islands. Currently the Refuge is interested in how many, how often, and what kind of caribou (e.g. bulls, cows, calves) are swimming to Kagalaska Island. The Refuge would like to regularly count, and eliminate, caribou on Kagalaska Island to find answers to these questions.

The fourth land mammal introduced to Adak is cats (right). We're not sure how established they are, but for at least the last ten years feral cats have been spotted outside the town area. In recent years they've been observed as far afield as the Lake Andy and Clam Lagoon seawalls. Study after study documents the toll feral cats take on wildlife, especially on island ecosystems that have evolved without terrestrial predators. Rat haters might embrace the idea of hungry cats roaming Adak, but employing a non-native, invasive predator to control a problem species can have unintended serious consequences. Cats won't extirpate rats from Adak, and they destroy much more than rats – the collateral damage does not justify the use of cats as ratters. We can help prevent this problem becoming worse by being responsible pet owners: keep your cats indoors, and get them spayed/neutered.

Invasive species elsewhere on the Alaska Maritime National Wildlife Refuge

Foxes and rats have caused damage on many islands, but they are not the only introduced species on the Refuge. During the last century, cattle and reindeer were stocked on islands that are now within the Refuge. Reindeer, native to Siberia, were stocked in Alaska primarily between 1892 and 1902, and were introduced on six islands that are partly refuge-owned and partly private land. Currently cattle persist on seven islands with Refuge-owned land; two islands are entirely Refuge. Reindeer and cattle overgrazing can result in long-term plant community changes and interfere with nesting of native birds, especially shorebirds and waterfowl. Feral island cattle trample nests, compact the soil, and cause down-cutting of streams, lowering of the water table and soil erosion. Burrow-nesting seabirds are directly affected, especially where introduced foxes are also established. Large populations of ancient murrelets and Cassin's auklets disappeared from Sanak Island after foxes and cattle were introduced, for example. Horses were introduced to several mixed ownership islands where cattle were also introduced. In some ways, horses are worse for the vegetation on the islands and cause more erosion than cattle.

So what are we doing about all these potentially harmful invaders? The Refuge was established to conserve marine mammals, seabirds and other migratory birds, and the marine resources upon which they rely. If introduced species are damaging bird populations or their habitat, then we try to remove them, if possible. We have eliminated introduced foxes from most islands, and the recovery of ground nesting seabirds and waterfowl is remarkable. Norway rats have been eradicated from one Refuge island, but eliminating rats from islands where they are established is a major undertaking and is not anticipated for large islands in the near future. Because of the extensive habitat damage introduced hoofed animals cause, they are considered invasive species when they occur on Refuge islands; islands with mixed ownership are more complicated, especially if a community is present. We eliminated reindeer from Hagemeister, a Refuge-owned island, but we do not plan to eliminate reindeer on the remaining two islands, which are not entirely under Refuge administration, nor caribou on Adak, unless island co-owners desire it. Cattle have been removed from three Refuge islands, and we are currently writing a document to explain to the public our plans for dealing with cattle grazing on Chirikof and Wosnesenski islands.

Deer mice, house mice, arctic ground squirrels, marmots, rabbits, voles and shrews were also introduced to some islands. Although most rat and mice introductions were accidental, other rodents were intentionally stocked by fox ranchers as alternate prey for their furbearers. Arctic ground squirrels (below) were farmed on some islands for the same reasons foxes were raised – as a source of marketable furs. The total acreage where these exotics occur is slight compared with foxes, rats and ungulates. Also, compared to foxes and rats, most of these species cause less of a problem for seabirds. Determining the effect of these introduced mammals on islands' natural biodiversity helps us decide whether control measures are warranted. Another inventory recently underway examines invasive plants and marine invertebrates.

The goal of the Refuge's invasive species program is to protect and restore the natural diversity of Refuge islands. The results have been dramatic over the last 50 years. Judging from the response in areas we have monitored, the project to remove alien foxes has likely increased populations of 15 to 20 bird species by more than 200,000. That number should continue to rise for several decades. One endangered species has been restored and several endemic forms saved that formerly had been candidates for the Endangered Species List (Evermann's rock ptarmigan, for example).

Preventing new introductions of exotics and removing existing infestations are the most effective management actions to protect the native wildlife given in trust to Refuge stewards.

Wonderful Walkabouts!

As if to make up for May's rain and wind, Wednesdays in June were graced with mostly lovely, calm, sunny weather. We are venturing out in smaller groups now, without Miss Molly and Miss Muey here to help keep track of everyone. One benefit is everyone has a chance to ask questions and have them answered, and it is easier to stop and investigate interesting discoveries. The drawback is not everyone can come each week; there are lots of "Please, Miss Lisa, can we come again next Wednesday???" ...Any volunteers to lead a Friday Frolic?