

Tall woolly-heads: what are they doing here?

by Matt Bowser



Tall woolly-heads off of Mystery Creek Road, August 2, 2017.

Every summer in the course of our work on the Refuge we biologists inevitably collect plants to be identified later. We arrange specimens in folded newspaper in a plant press in which they are compressed and dried.

Last week as biological technician Kyra Clark and I opened up a press and started looking through specimens from last summer, we pulled out a plant that I could not identify. It was a small, fuzzy, unfamiliar plant I had picked up from Mystery Creek Road where it had been abundant around puddles. Even after scrutinizing it under the microscope and consulting what

books I had, I could not figure out which family this plant belonged to.

I posted photos of the plants on [iNaturalist.org](https://www.inaturalist.org), a website for sharing observations of living things. Members of the community identified them as tall woolly-heads, also known as meadow woollyheads, tall woolly-marbles, or *Psilocarphus elatior*. Native to the Pacific Northwest, these are small, short-lived plants that live almost exclusively on muddy, drying margins of temporary pools and puddles where few other plants grow.

This was a surprising find, the farthest north and

farthest west record for the genus *Psilocarphus*, 560 miles northwest of the nearest known population on Cichagof Island, Southeast Alaska. Found by the Forest Service in 2012, it appeared that this population had been introduced through logging activities. It was considered to be a weed, but the population does not appear to be spreading and may even be decreasing. No action has been taken to remove it.

A few hundred miles to the south in British Columbia, *Psilocarphus elatior* is considered to be native and critically imperiled, with only five small populations known. Nationally, it is classified as endangered in Canada, but it is not considered to be of conservation concern in the U.S.

Finding Tall woolly-heads on the Kenai raises two related questions. How did they get here and what should be done about it? As to how they got here, there are only three possibilities: they could have been brought here by human activities, they could have arrived by natural means, or they may have been here for a long time. Woollyheads are not especially good at getting around, with no special structures on their seeds for dispersal by wind or animals. It has been speculated that woolly-head seeds might be transported on muddy feet of waterfowl, but this has not been confirmed.

It seems likely that tall woolly-heads arrived on the Kenai Peninsula recently. We have been doing botanical work in the Mystery Creek area since at least the late 1990s. If it was there, someone should have noticed this peculiar, woolly plant even though it is small.

Probably, seeds of tall woolly-heads were transported here with equipment, vehicles, feed, or manure from the lower 48. Mystery Creek Road has a relatively long history of human disturbance beginning with construction in 1960 and continuing with maintenance since that time. The area has been popular for hunting since at least 1964, accessed mainly by four-wheel-drive vehicles. Horses are also used to travel this part of the Refuge. Controlled burn operations have been conducted in this area since the 1990s.

Even with Mystery Creek Road's history, it seems

odd that tall woolly-heads would show up there before being found at more highly-disturbed areas on the Kenai Peninsula. It is possible that waterfowl brought *Psilocarphus* here. If this is the case, we would expect to find it on muddy pool margins well away from roads.

I intend to check for woollyheads at other likely locations on the Peninsula that might give us clues as to how they arrived and how they are fitting into our Kenai Peninsula system. For now I added *Psilocarphus elatior* to the Refuge's checklist as an exotic species because our best guess is that it was introduced recently by humans. Would it be appropriate to label this species as exotic if it had arrived here via waterfowl or should this be considered natural?

Unlike *Elodea* and northern pike, examples of North American species brought to the Kenai Peninsula by humans which we consider to be injurious, tall woolly-heads pose little threat because they thrive only in particular habitats and are not expected to have much of an effect on other species. The only interaction we have a guess about is that woollyheads may serve as some small portion of the diet of snowshoe hares because we know that cottontails eat another species of *Psilocarphus* in California.

Whenever and however they arrived, it appears that there are plenty of woollyheads on Mystery Creek Road now. The second question remains: what, if anything, should be done? If they were brought here recently by people, then tall woolly-heads could be added to our list of weeds to be controlled. On the other hand, this species is endangered in other parts of its range, so it might be best to conserve it.

Should our response depend on when and how a species arrived? Should it depend on whether or not we expect a newly-arrived species to be injurious?

Matt Bowser serves as Entomologist at the Kenai National Wildlife Refuge. Matt thanks Justin Fulker-son and others on the AkRarePlant-L mailing list for helpful information on this topic. Find more information at <http://www.fws.gov/refuge/kenai/> or <http://www.facebook.com/kenainationalwildliferefuge>.