Snowshoe Hare Project

A volunteer carefully searches a plot for snowshoe hare pellets. Each plot is 2 inches wide by 10 feet long, delineated by an elastic band wrapped around plastic stakes at each end.

The fact that snowshoe hare populations cycle dramatically from very low to very high densities over a 10 year period is fairly common knowledge. What is not as well understood is what causes this cycling and what controls the amplitude of hare population peaks. Some hare populations in and around Gates of the Arctic National Park consume mineral soils when their populations become more dense. Hare populations in these areas seem to reach higher densities than hare populations that do not consume such minerals. Questions about how hare populations in "mineral" vs. "non-mineral" areas differ are a primary focus of this project.

7th Annual Pellet Count

During the 7th annual pellet count in 2013, a total of 221 pellets were counted in 408 plots at six sites. This continues the downward trend from the mini-peak a few years ago in the non-mineral sites of Rosie Creek and Cathedral Mountain south of Coldfoot. At Slate Creek, also a mineral site, and at the mineral sites (Wiseman Creek, Jennie Creek and Gold Creek), which did not experience pronounced increases, the trend of low numbers of hares continues (Figure 1).

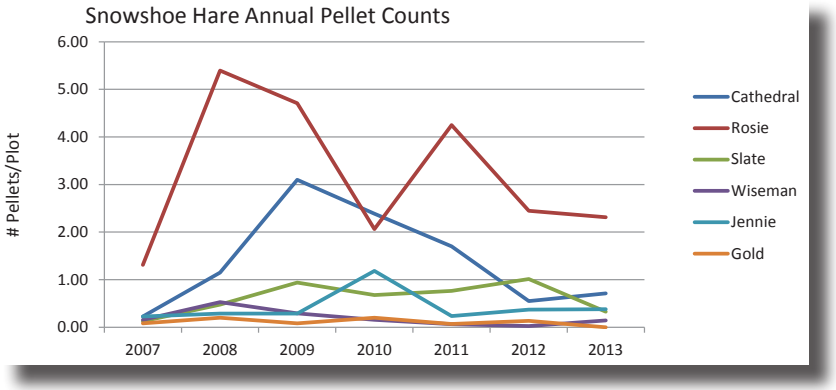

Figure 1. Number of snowshoe hare pellets/plot deposited annually at six study sites in the snowshoe hare study area in and near Gates of the Arctic National Park near Wiseman, Alaska.

The last major peak in hare densities in our area was in 1998-2001, which we documented in the park (our current "Wiseman" site) using winter track counts that began in 1997.

Establishment of New Site

This grid may eventually replace the nearby Jennie grid.

In addition to checking the established pellet plots, we cleared pellets from 47 plots in the new Hammond grid, established in 2012. This grid may eventually replace the nearby Jennie grid if the miner there bulldozes his entire claim (on which the Jennie grid lays). The new site is as close to the large Jennie Creek bluff as we could put it (where we believe hares consume soil during extreme peak population densities) while being outside the mining claim area. With the grid cleared of all old pellets, we will be ready to conduct the first annual count at Hammond in 2014.

This large bluff lies across the Hammond River from the Jennie Creek pellet plot grid. During the last major peak in snowshoe hare densities, hares purportedly risked exposure to predators to visit this bluff and consume its soils.

In August, we made a second trip to the snowshoe hare study area, mainly to collect vegetation data from the new Hammond site. We recorded tree and shrub densities and vegetation strata from 50% of the plots on the Hammond grid. Density data show that the Hammond site has an even lower density of trees than Jennie (Jennie already having the lowest tree density of the other six sites) (Figure 2). However, shrub density at Hammond is greater than at Jennie (Figure 3), which has the second greatest density of shrubs of all study sites.

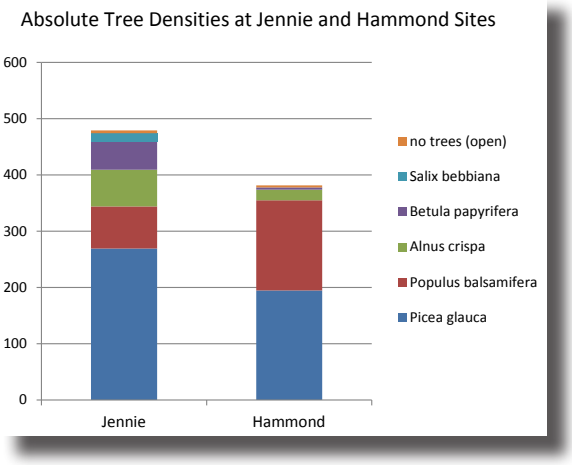

Figure 2. Comparison of absolute tree densities on the Jennie Creek grid and neighboring Hammond River grid in the snowshoe hare study area near Wiseman, Alaska. Tree density here is relatively low. The Hammond site may need to replace Jennie if mining operations in the area continue to spread.

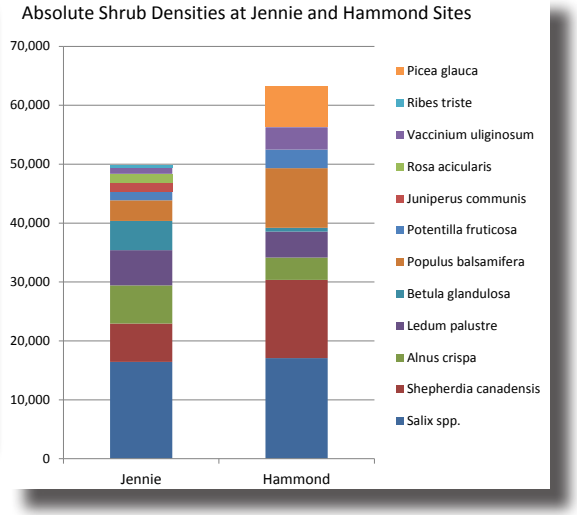

Figure 3. Comparison of absolute shrub densities on the Jennie Creek grid and neighboring Hammond River grid in the snowshoe hare study area near Wiseman, Alaska. The Hammond site has the second greatest shrub density (after Cathedral Mountain) of all seven sites in the snowshoe hare study area.

For more information on Gates of the Arctic National Park and Preserve's snowshoe hare project, contact Donna DiFolco at (907) 455-0625 or email her at Donna_DiFolco@nps.gov.

Gates of the Arctic National Park & Preserve