

Clark's Nutcracker Project

2017 Season Summary

- 60 surveys:

Barbara Pitman
& Jeff DiBenedetto

- 42 surveys:

NOLS

- 6 surveys:

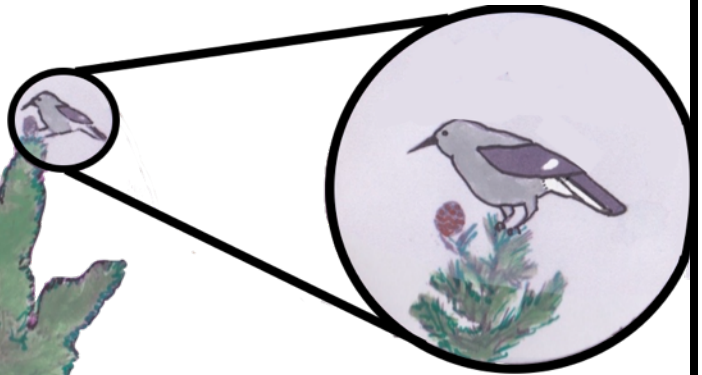
Swan Valley's
Community School

- 5 surveys:

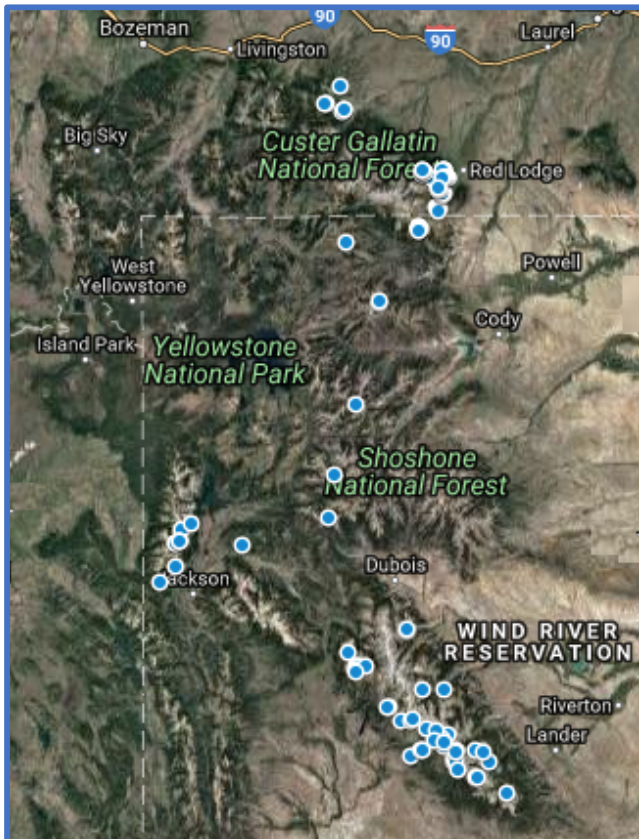
Teton Science Schools

- 1 survey:

Wyoming Catholic
College



**114 total surveys
for nutcrackers and
whitebark pine**



One out of every two whitebark pines has perished in the last few decades due to the combined effects of an invasive fungus and a native bark beetle. The Clark's Nutcracker Project addresses this environmental crisis by asking backcountry hikers to collect data on whitebark pine and seed-dispersing Clark's nutcrackers. In the summer of 2017, two dedicated adult volunteers and four educational organizations (NOLS, Teton Science Schools, the Community School, and Wyoming Catholic College) reinforced their commitment to wild landscapes by documenting whitebark pine health and the presence of Clark's nutcrackers on wilderness expeditions. In total, they completed 114 surveys across four remote mountain ranges — the Wind Rivers, Absarokas, and Teton in Wyoming— and the Beartooths in Montana.

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Project Background: “With a great view comes great responsibility”

When you scale a peak in western Wyoming, you will marvel at the sheer cliffs and the expansive skyline, but you may also find cause to grieve. Here, at the rooftop of the Greater Yellowstone Ecosystem, you don't have to look far to see the gray skeleton of a dead subalpine forest. The deceased? More often than not, it's a whitebark pine, *Pinus albicaulis*.

Dead or alive, the whitebark pine is the spirit tree of any serious mountaineer in the northern Rockies. It grows on wind-tortured ridges, striking improbable and beautiful poses to match the elements. And though the conditions may be inhospitable, the whitebark pine is not — with boughs that shelter snowpack, roots that stabilize soil, and seeds that are more calorically dense than chocolate chips. These seeds feed over 30 species of animals, but the survival of whitebark pine depends on a single species of bird. While a climber puts her life entirely in the hands of her belayer, future generations of whitebark pine rely solely on the Clark's nutcracker, *Nucifraga columbiana*, the seed-dispersing champion of high-elevation forests. By studying nutcrackers, we can identify and protect the habitat features that will sustain nutcracker populations — and their capacity for seed dispersal — in the face of whitebark pine decline.



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Project Outcomes:

The Whitebark Pine Subcommittee of the Greater Yellowstone Coordinating Committee will use our ground-truthed and photo-verifiable dataset to update the 2010 maps of whitebark pine distribution and stand condition over the next year. Dr. Taza Schaming will also use the nutcracker presence-absence dataset in the future as she continues to model nutcracker habitat use. As far as peer-reviewed results, a paper on the motivations, barriers, and benefits experienced by participating NOLS instructors during the first season of the Clark's Nutcracker Project is currently in review and can be expected in publication in 2018 in the journal *Citizen Science: Theory and Practice*. Though we cannot report on other scientific or land management outcomes at this time, we can share more about the value and experiences of our excellent volunteers.

We believe that a conservation ethic takes root when individuals sit still, with intention, in wild places. If you total each observer's 10-minute survey, over 65 hours were dedicated to silent wilderness observation in 2017 as a result of the Clark's Nutcracker Project. Memorable stories from the field include many intimate wildlife encounters — red-tailed hawks, inquisitive nutcrackers, and even a thrilling wolf sighting. As one of our student participants wrote: "I am so glad to participate in this study ... This world is worth it!" We couldn't agree more.

We would like to share our gratitude with each of our incredible volunteers and project partners: Barbara Pitman, Jeff DiBenedetto, Shannon Rochelle, the Whitebark Pine Ecosystem Foundation, and the instructors and students of NOLS, TSS, WCC, the Community School and Powell High School. Also, we would like to extend a huge 'thank you' to our funders: Clif Bar Family Foundation, American Alpine Club, Jackson Hole Wildlife Foundation.

