

## CLARK'S NUTCRACKER STUDY Taza Schaming



Near tree line lies a beautiful, rugged landscape, full of rocky peaks, an expansive sky, and picturesque, contorted whitebark pines. Among the trees you may hear the loud "kraak" of a Clark's Nutcracker. Before long, you might see a nutcracker land on a pine cone.

In the Greater Yellowstone Ecosystem the birds are still relatively abundant, but over 46% of the whitebark pine stands are classified as "high mortality."

A PhD candidate at the Cornell Lab of Ornithology, Taza Schaming is studying the close connection between Clark's Nutcrackers and whitebark pines. Her work will help give a better understanding of how the pine's decline is affecting nutcracker populations and behavior.

Clark's Nutcrackers and whitebark pines have a fascinating relationship: the trees provide food for the birds, and the birds 'plant' the trees' seeds. Every fall, each nutcracker caches up to 98,000 seeds, ensuring it a steady supply of food for the upcoming winter. The birds might cache up to five times more seeds than they actually need, and seeds which aren't recovered germinate and grow into new trees.

Whitebark pines are adapted to nutcracker dispersal: the cones don't open by themselves, and seeds are only dispersed when Clark's Nutcrackers and red squirrels open the cones and carry the seeds away. In turn, the nutcracker's bill is uniquely suited for extracting seeds from the whitebark pine cone.

Whitebark pines are currently suffering massive die-offs due to a mountain pine beetle epidemic and infections of the invasive fungus, white pine blister rust.

Though nutcrackers eat the seeds of several conifer species, those of the whitebark pine are an important and highly nutritious food source. As whitebark pine declines, so might the nutcrackers. Fewer Clark's Nutcrackers could have a huge impact on the western landscape: fewer seed caches and fewer whitebark pine seedlings.

Taza's study, funded in part by the Meg and Bert Raynes Wildlife Fund, involves radio tracking and surveying birds. She is recording information about habitat use, reproductive success, and foraging behavior, with the ultimate goal of designing management strategies for conserving nutcrackers.



Taza banding a Clark's Nutcracker  
Photo by Stephanie Leonard