Whitebark Pine
A KEYSTONE SPECIES

Whitebark pines form subalpine and treeline forests that provide shelter for hundreds of species. They catch snow and slow spring runoff, helping provide the valleys below with a vital supply of water through the summer.

Whitebark pines hold rocks and soil on steep slopes where other trees cannot survive. Their pinecones hold large nutritious seeds that are prized by more than 30 species of animals including bears, foxes, rodents, and birds.

An ecosystem in trouble:

Whitebark pine has declined by more than 50% across its range. Whitebark has been designated as endangered in Canada and as "warranted" for listing in the United States. This decline has primarily been caused by:

White pine blister rust, a lethal, non-native fungus accidentally imported in the early 1900s.

Increasingly severe outbreaks of mountain pine beetle, a native species that has climbed higher in elevation as a result of climate change.

Whitebark Pine Facts and Conservation

Old and Bold

The oldest whitebark on record is 1,250 years old. Whitebarks often stabilize the soil in extremely cold and dry conditions, helping other plants gain a toehold near treeline.

Better than Chocolate

Ounce for ounce, whitebark pine nuts have more calories than chocolate. This makes them an important food source for grizzly bears. In years with a good whitebark cone crop, researchers noticed that bears stayed at higher elevations to eat whitebark pine cones and came into less conflict with humans as a result.

What's Hidden in that Midden?

Though black bears will climb trees to feast on whitebark cones, black bears and grizzly bears often take advantage of middens, the ground-level stockpiles of red squirrels. Red squirrels industriously snip whitebark cones from trees and may stash thousands in their centrally located middens.

Symbols of Symbiosis

Clark's nutcrackers are the primary seed disperser of the whitebark pine. They may fly up to 20 miles to 'cache' whitebark pine seeds. Because whitebark pine seedlings arise almost exclusively from unretrieved seed caches, whitebark is considered an "obligate mutualist"—meaning its survival as a species depends on Clark's nutcrackers.

CONSERVATION: The U.S. Forest Service is cultivating around 400,000 blister-rust resistant seedlings annually in order to restore whitebark pine populations. However, the task of re-planting entire mountain ranges falls largely to the Clark's nutcracker as it has for millennia. Conservation biologist Taza Schaming has spent the last eight years studying nutcrackers. Her research investigates which habitat features help the Clark's nutcracker persist across the western U.S. in a time of declining forest health.