

Prairies Region

Confederated Salish and Kootenai Tribes of the Flathead Reservation

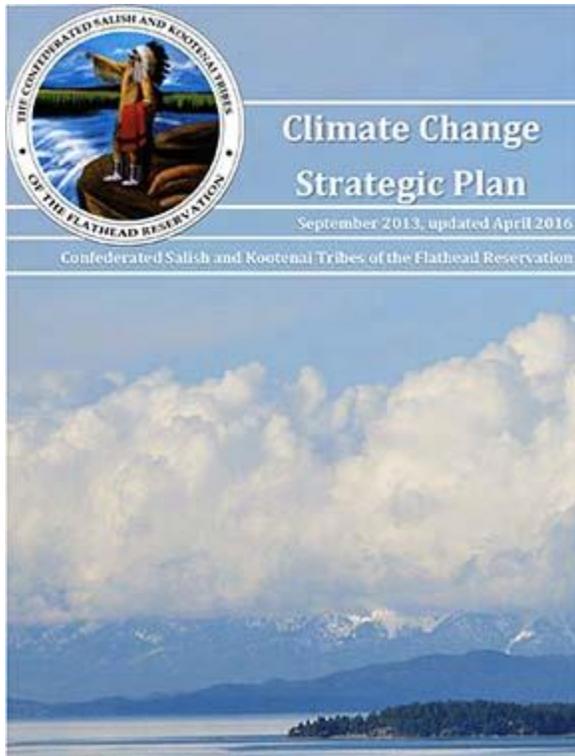
A Reverence for Forests, Lakes, and Mountains

Surrounded by towering mountain peaks, sparkling lakes, and lush forests, the Confederated Salish and Kootenai Tribes (CSKT) have long made their home in the heart of the Rocky Mountains. About an hour south of Glacier National Park in western Montana, their reservation spans 1.2 million acres, 72% of which is owned by the Tribe. The other 28% is non-member fee land, schools, parks, and wildlife refuges. The Flathead River runs through the center of the reservation, flowing into Flathead Lake, one of the largest and most pristine lakes west of the Mississippi River. Mike Durglo, Jr., Head of the Tribal Historic Preservation Department, calls it, “God’s country.”



Sustainability is central to the Tribe’s mission. As stated in their [2011 Annual Report](#), the Tribe, “...strive(s) to provide sound environmental stewardship that preserves, perpetuates, protects and enhances natural resources and ecosystems.” Accordingly, CSKT houses a large [Natural Resources Department](#) with 140 employees running three divisions: the Division of Environmental Protection, the Division of Fish, Wildlife, Recreation, and Conservation, and the Division of Water. The Tribe has successfully managed their natural resources, including a profitable timber industry, through a combination of carefully observed Traditional Ecological Knowledge (TEK) and findings from western science.

In September 2013, the Tribe drafted its first [Climate Change Strategic Plan](#) (CCSP) after attending a training with ITEP with funding from the [Great Northern Landscape Conservation Cooperative](#) and the [Kresge Foundation](#). A living document, the Tribe will continue to update and enhance the plan as new data emerges and climate models become more accurate. Interestingly, as part of the CCSP process, one species that was thought to be a low priority concern, quickly rose to high priority status.



CSKT's Climate Change Strategic Plan

Slow but Steady, the Whitebark Pine

[Whitebark Pine](#) (*Pinus albicaulis*) is a conifer species that thrives in areas above 6,000 feet in the mountainous regions of the US and Canada. It is one of the few trees that can grow up to the treeline often marking the divide between alpine and subalpine ecosystems. Whitebark Pine is a slow growing species. Durglo says that it may take 80 years before the trees mature and produce their first cones. The Whitebark Pine is therefore not considered a valuable species from a timber industry perspective.

Whitebark Pine, however, plays a critical role within its ecosystem. The seeds of the tree are a rich source of fat and protein. Many animals rely on the seeds for survival including [Red Squirrels](#), [the Clark's Nutcracker](#), and [Grizzly Bears](#). Long ago, tribal members also incorporated this food source into their diet. The seeds are so rich that it is said that parents would have to moderate the number of seeds their young children consumed in order to avoid stomach aches.

Unfortunately, Whitebark Pine has been in severe decline over the past 100 years due to the arrival of a deadly fungus called [White Pine Blister Rust](#). This fungus was introduced from Eurasia to British Columbia in 1909 and quickly spread east. The USDA Forest Service has documented the fungus in 38 states and has observed that its spread has caused substantial damage and tree mortality.

Climate change is also playing a role. Average temperatures in the region have [increased](#) over the past few decades meaning more moderate winters and longer summers. The warming

trend has allowed mountain pine beetles (*Dendroctonus ponderosae*) to move further north into Whitebark Pine territory and reproduce at higher rates. Unlike other pine species, Whitebark Pine has not evolved defense mechanisms against the beetles, making them highly susceptible to deadly beetle infestations.



A BLM professional climber ascends a Whitebark Pine Tree.



Mike Durglo, Jr. stands beside an ancient Whitebark Pine tree affectionately known as 'Ilawye.'

As CSKT began to conduct the research needed to write their CCSP, they learned that the Whitebark Pine served an additional and important role in its particular environmental niche. Climate change has reduced snowpack and triggered earlier snow melt. The Whitebark Pine counteracts that by providing coverage and shade helping to maintain snowpack longer into the spring. As CSKT completed their vulnerability assessment for their CCSP, Whitebark Pine went from a low priority to a high priority keystone species as the Tribe began planning for the future effects of climate change.

The Tribe drafted a Whitebark Pine Habitat Management Plan. As far as Whitebark Pine restoration, Durglo says that originally the Tribe felt like they were lagging behind efforts by the USDA Forest Service, the Bureau of Land Management (BLM), and the National Park Service. These groups were already researching strains of Whitebark Pine that appeared to be resistant to White Pine Blister Rust.

The Tribe began by surveying existing Whitebark Pine trees on their land as well as scouting regions that would be hospitable to new plantings. With funding from the Dreaming Tree Foundation, they brought on both college and high school interns to help with field work and cultural research. To capture the valuable seeds, they incorporated a method called caging where mesh bags are placed around the cones in the spring and harvested in the fall. A unique

character of Whitebark Pine cones is that they only grow at the very tops of the trees. The Tribe hired professional climbers from the BLM to come out and cage the cones. When the BLM staff arrived on site, they were awestruck by the positive health and vast numbers of Whitebark Pine trees on the reservation.

Once collected, the seeds are sent to a USDA Forest Service Facility in Cordelaine, ID where they are genetically tested for resiliency against multiple factors. The facility houses an immense greenhouse where Whitebark Pine seedlings are started and then distributed to restoration efforts across the US. Durglo is proud that seeds from CSKT's healthy Whitebark Pine trees contribute to healthy new populations of Whitebark Pine forests in many areas.

So far, CSKT has planted 1,500 Whitebark Pine seedlings on their land and has plans to plant 100,000 seedlings in total. Durglo reflects that the Whitebark Pine would have never been on their radar had the Tribe not started down the path of writing its first CCSP.

Durglo has developed a special relationship with Whitebark Pine trees. There's one particular tree - an older tree, possibly 3,000 years old - that sits alone high in a clearing. The tree is known as 'llawye,' or great, great grandparent. Although it is no longer alive, Durglo feels a connection with it. He reminds his students that trees like this still contain knowledge in their trunks and limbs - knowledge about weather patterns of the past, cycles of precipitation and cycles of drought. In this way, perhaps the tree has earned its affectionate title, storing and sharing the history of the region with current and future generations.



Student Interns and staff head out to survey Whitebark Pine with guests from the Blackfeet Nation



Caging the cones

References and Resources

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