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Eye on the Environment

Pondering the Ponderosa

By Nancy Moore, University of Montana Student for Swan Ecosystem Center

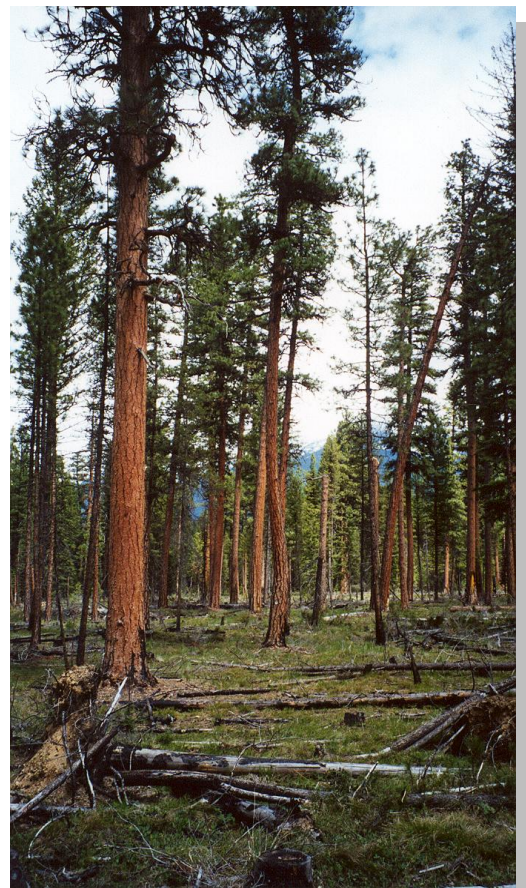
It was a brisk morning in January when I started out on the Swan Ecosystem Center interpretive trail along with fellow students. It was my first time wearing snowshoes (*yes, ever!*) and I marveled at their buoyancy as I stomped flat the parallel snow tracks laid by resident naturalist Anne Dahl's cross country skis.

We stopped several times along the trail to learn secrets of the land's winter makeover. We marveled at otter tracks on the frozen creek's snow-covered surface, noted where deer had munched on Douglas-fir saplings, and uncovered a buried mound of pinecones cached by red squirrels.

What I found most intriguing from our hike, however, was an exhibit of cross-sectioned tree trunks. The wheels of wood, propped on their sides, had accumulated several inches of snow that formed white nightcaps on their rounded heads.

One by one, we identified the trees aspen, cottonwood, juniper, fir, and larch until only two remained. They were disparately sized ponderosa pine trunks, one only nine inches in diameter and its neighbor nearly three feet across.

"How old do you think each of these is?" Anne asked her curious audience. We shuffled a bit closer, careful not to step on each other's snowshoes, and looked at the rings. The smaller trunk's rings were like the topographic lines of a desert tower, each concentric circle so close to the next they nearly touched. The larger trunk, on the other hand, had unevenly spaced rings reminiscent of the contour lines of a gently rolling hill; the gap between each suggested long years and periods of substantial growth.



Ponderosa Pine grove. Photo provided by Swan Ecosystem Center.

Anne confirmed what some had suspected: the two trees were the same age. They are estimated to have lived one hundred and twenty years.

The explanation for the difference in size is simple: the smaller tree grew in a dense forest where it was forced to compete for sunlight and soil nutrients; its growth was impeded by competitors and a lack of space. The larger tree grew in an open forest where it had ample space and filled out accordingly, stretching its limbs to the sky. Both utilized the space they had, one was just blessed with more of it. Space is a determining factor in a species' growth, and how we manage our forests shapes that space.

Fire was an important element in shaping the Swan Valley ecosystems historically. The area experienced fires roughly every eight years, with a major fire event occurring every forty-six years, on average. Most fires were lightning ignited, although American Indians occasionally used burning to promote healthy, spacious forests.

The orange flames would lap at low-lying vegetation, consuming shade-intolerant conifers with its heat. It would lick around the thick, rust-colored bark of ponderosa pines, scorching the exterior but leaving the inner tree healthy, stronger even, after enduring such hardship.

When settlers moved to the Swan Valley in the late 1800's, they drove their horse-drawn wagons through groves of majestic, widely spaced ponderosa pines. The wheels of their wagons rolled unevenly across the forest floor as horses weaved among the thick, bronze trunks whose tall crowns formed an interlocking canopy and ample shade.

Around that same time, the movement to stop forest fires in the United States was gaining momentum. In 1879, western pioneer John Wesley Powell identified the single largest problem facing forest protection in arid lands with a question: "Can the forests be saved from fire?"

Once established in 1905, the U.S. Forest Service began "protecting" our public land by practicing fire suppression. In the Swan Valley, the Forest Service has squelched most of the flames since 1919 when a major fire affected the valley. Forest managers have since learned more about the role of fires in forested ecosystems and moved from fire exclusion to fire prescription. This transition has proven difficult, however, as our dense, spindly forests are not amenable to low-intensity burns.

As we hiked on, I took note of how the forest had reacted to the overnight snowfall; the boughs of firs and pines drooped toward the ground under heavy pillows of white. Balloons of snow presented a lesson in geometry as they balanced precariously on triangular treetops. Younger trees were especially burdened, their green barely discernable amid so much white.

We came upon a ponderosa pine with a missing section of bark, ovular in shape and the height of my shoulders. This was a cultural scar, Anne explained. The bark had been peeled away by human hands nearly a century ago. Women and children from the Kootenai Tribe had a spring ritual of bark peeling; they would strip the bark to access the sweet sap that was a confectionary treat during ceremonies. They never

peeled all the way around the tree so as not to kill it. Most of the culturally scarred trees in the Swan Valley were peeled between 1850-1920 by the Pend d'Oreille, Salish or Kootenai people. I ran my fingers over the tree's exposed interior and imagined the Tribes' respect for this tree and its personal space.

The name "ponderosa" comes from the Latin root *ponderosus*, meaning "heavy, weighty, significant." Indeed, a tree whose oldest known fossil suggests that it lived at least 600,000 years ago deserves such a name. When allowed space to grow, the ponderosa's size suggests significance, if not magnificence. In many ways, I see the human condition reflected in the ponderosa pine. A century of management by humans has led the species astray from its natural state. The disturbance has caused overcrowding, which leads to competition. Competition, it seems, in any species, does not foster growth; it rather suffocates the competitor. In pondering the plight of the ponderosa pine in the Swan Valley and across the Western U.S., it seems obvious that we should question management tactics and be wary of competition and overcrowding. I hope that we can learn the significance of space from the ponderosa pine, and that this recognition can help us grow— personally, metaphorically, spiritually— to respect the space of all living beings.

Nancy Moore is a graduate student in the Environmental Writing program at the University of Montana. Originally from Ohio, Nancy studied English Education at Ohio University and went on to work in education and environmental conservation in Chile for four years before moving to Montana. In the future, she hopes to continue work that blends her interests in writing, the natural world, and community-based conservation.