

# Soundings: Mount St. Helens habitat growing in complexity

By John Dodge

Centralia College earth sciences professor Geologist Pat Pringle inspects a chunk of rock blasted into the North Fork Toutle River Valley in 1980 from an exploding Mount St. Helens several miles away.



It's a cloudy, cool mid-May day in the upper North Fork Toutle River Valley. I'm doing something I've done every five years since Mount St. Helens exploded May 18, 1980: I'm hiking the two-mile Hummocks Trail near Coldwater Lake in the northwest corner of the 109,900-acre Mount St. Helens National Volcanic Monument.

In geologic time, five years is less than a blink of an eye. But five years has proved to be a useful gauge for me as a journalist to chronicle the most recent ecological recovery of a volcano defined by its youth — it's the youngest Cascades volcano at 40,000 years old — and its restless history of 23 explosive eruptions in the past 4,500 years, more than any other volcano in the lower 48 states.

My first visit all those years ago, and all the visits prior to this year, were with monument scientist Peter Frenzen, one of dozens of scientists who has made a career of studying and explaining Mount St. Helens. The initial hike was a trip through a barren, gray, lumpy landscape shaped by the debris avalanche that swept down the river valley when the bulging north flank of the volcano collapsed and slid away 35 years ago.

“When we first started doing research here, there was nothing,” Frenzen recalled during our 2010 Hummocks Trail hike. “We'd get excited to see a spider's web.”

But within 25 years, most of the plant and animal species that called the upper river valley home before the eruption were back on the scene, albeit in reduced numbers.

“We're still adding species 35 years out,” noted Charlie Crisafulli, a monument ecologist whose face lights up like a little boy's when he plunges into one of the more than 100 wetland ponds in search of amphibians. The ponds along the Hummocks Trail are ecological oases that in some places resemble lowland wetland ponds found throughout Western Washington, homes to frogs, cattails, red-winged blackbirds, beavers and insect-gobbling swallows. The red alder, willow and cottonwoods are thick like weeds, growing in narrow, secluded valleys above a moist understory

of sword ferns and native and non-native grasses. “The sword fern just started moving in about five years ago,” said Crisafulli, 57, who arrived at Mount St. Helens shortly after the eruption to begin a lifetime of research. “These alder glens are game-changers.”

One of the lessons learned at Mount St. Helens is that the dispersal of species appears tied more to the maturing of the required habitat than to the distance a species has to travel to reach new a home, Crisafulli said.

“We have a large, slowly evolving landscape of highly palatable plants,” he said. “And we have the three ‘P’s’ — pathogens, predators and parasites — which creates these boom-bust populations.”

Crisafulli calls Mount St. Helens a testimony to resiliency. “Just leave a natural system alone, and amazing things happen,” he said.

The resiliency the ecologist references is seen in the salamanders he pulls from traps in H-4, the name given to one of the ponds he and monument geotechnician Elizabeth Schyling sampled Tuesday. This amphibian is capable of living its adult life either in an aquatic or a forested environment. Conifer trees are on the scene, but still scarce, so the salamanders that survive are the ones that stay in the water.

“They benefit from their diversity,” he said. “They’re like a batter that can switch hit.”

Serving as a gracious, knowledgeable interpreter of Mount St. Helens geology this day is **Centralia College earth sciences professor Pat Pringle**, who was hired by the U.S. Geological Survey in 1982 to do fieldwork at Mount St. Helens. He’s gone on to climb the volcano 11 times and has helped train hundreds of volunteer naturalists to share the mountain’s story with the public. He, Crisafulli and Frenzen are among those rare scientists who love to share what they’ve learned and take the time to patiently answer a lay person’s simplistic questions.

“The 1980 eruption stripped things bare enough to see the history of past eruptions at Mount St. Helens,” Pringle said. “This place has been rocking and rolling for a long time.”

Pringle likes to take students to a site just below the South Fork Toutle River Bridge — 27 miles from the volcano — where 13 lahar, or mudflow, deposits are stacked on top of each other like layers of cake, dating back thousands of years. “Some of these were much bigger than the 1980 event,” he said of the debris flows that roll down the river from the flanks of the volcano.

During the dome-building eruptions between 2004 and 2008, Frenzen said his perspective on the mountain started to change.

“We’ve become more and more aware of how often these eruptions occur,” he said. “What we have here is a constantly changing palette of habitats. Right now, we’re starting to see the next forest take over, but every time you think you know what the story is, a new chapter is written.”

Those chapters are composed of geologic forces, not words, and the story is still unfolding.

