

# Mount St. Helens rises from the Ashes

November 1 2010, By Miles O'Brien

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Michael Sheridan and his colleagues at the State University of New York (SUNY) at Buffalo are developing technology that may identify not only the areas that could be affected by dangerous volcanic flows, but also the expected paths of destructive, hot avalanches and debris, and the probability that a given locality could be inundated. Credit: Tom Pfeiffer

When Mount St. Helens blew its top in 1980, it wasn't a surprise that it happened, but even today the extent of the damage is hard to fathom. The eruption knocked down 100-foot trees like matchsticks and killed just about everything in its path. There have been several smaller eruptions since then, but nothing like what happened in 1980.

Evolutionary biologist and ecologist John Bishop knows Mount St. Helens well; he has been working on the mountain for 20 years. "It began with the largest landslide in recorded history that uncorked an explosion that was directed horizontally and leveled the forest 13 miles out," recalls Bishop. "It was just a barren landscape, gray-and-pumice-

colored, covered with rocks."

Today, dead tree trunks still litter the landscape. But, if you take a closer look, you'll see another kind of eruption; an eruption of life on the mountainside. For Bishop, it's a blessing. "It's a rare opportunity for scientists to get to study a devastated area and how it comes back from scratch in such detail," he says.

With help from the National Science Foundation (NSF), Bishop is documenting the return of living things to the once lifeless mountain. "Up until the last 10 years, the landscape has been completely dominated by lupins," says Bishop. He says these flowering lupin plants are able to create new soil from [volcanic ash](#). That new soil has created a habitat for the Sitka willow. But, Bishop says there is a problem. "One of the things we've realized about these willows is that they're not getting big. And that's important because they create habitat for birds and mammals."

The culprits are small invasive weevils that are on the attack. They've taken up residence inside the willows' stems, stunting the plants' growth or killing them. Bishop says there is a lesson in all of this. "Seemingly insignificant organisms, like insects that consume plants, play an extraordinarily important role in the sorting out process of deciding, essentially, which plants are going to stay in the landscape and which ones are going to disappear."

Bishop points out that the imbalance between plants and insects on Mount St. Helens should be expected in rudimentary systems and will cause instability until a more complex community of plant and animal species is sustainable, or until the day Mount St. Helens itself changes the equation once again.

Provided by National Science Foundation

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