Mount St. Helens - Lawetlat’la - Designated as National Historic Site

When most of us think of the National Register of Historic Places, the images that come to mind are of famous buildings, like Washington’s Mount Vernon home, the Empire State Building, or maybe a well-known battlefield like Gettysburg. Did you know that mountains, waterfalls, and other natural features can also qualify for listing in the National Register? Mount St. Helens became one of the first such landforms in the region to receive the honor when it was officially listed in the Register on September 11, 2013. Listing was based on the cultural significance of the mountain to local Native American groups, including the Cowlitz Indian Tribe and the Yakama Nation.

The mountain is of particular importance to the Cowlitz Tribe, falling within the area of their land claims made during treaty negotiations with the federal government in the 1850s. The traditional name for the mountain, Lawetlat’la, translates as “smoker” in English. The official seal and emblem of the Cowlitz Indian Tribe features an image of the volcano. Mount St. Helens qualified for the National Register of Historic Places as a Traditional Cultural Property – a cultural landscape central to the oral traditions, geography, and identity of local Tribes. The designated area includes 12,501 acres, entirely within the Mount St. Helens National Volcanic Monument, with a boundary that roughly corresponds to timberline.

Cowlitz Tribal Chairman William Iyall said, “The listing of Lawetlat’la as a Traditional Cultural Property honors the long relationship between the Cowlitz People and one of the principal features of our traditional landscape. For millennia, the mountain has been a place where Tribal members went to seek spiritual guidance. She has erupted many times in our memory, but each time has rebuilt herself anew. She demonstrates that a slow and patient path of restoration is the successful one.”

The National Register of Historic Places was established in 1966 and is administered by the National Park Service. To date, more than 80,000 properties have been listed in the National Register, but only 23 of these are Traditional Cultural Properties. In Washington State, the only previous designation of this kind was for Snoqualmie Falls, a landscape feature important to the cultural traditions of the Snoqualmie Tribe. In the case of both Snoqualmie Falls and Mount St. Helens, National Register designation is one way to publicly recognize and honor the traditional, cultural, and sacred qualities of these places.

Rick McClure, Heritage and Tribal Programs, Gifford Pinchot National Forest

Join Rick McClure and Cowlitz Indian Tribe Ecologist Nathan Reynolds on our July 19 Field Seminar; “Lawetlat’la-Exploring the Cultural Significance of Mount St. Helens with a Hike Above Tree-line”. Explore the cultural significance and spiritual power of Mount St. Helens by hiking up to that “thin place” at tree-line near Butte Camp on the southwest side of Mount St. Helens.

*More information about July 19 Field Seminar on Page 6*
Mission

Mount St. Helens Institute is a non-profit 501(c)(3) organization that advances understanding and stewardship of the earth through science, education and exploration of volcanic landscapes.

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Contact Information

Website: mshinstitute.org
Telephone: (360) 449-7883
Email: info@mshinstitute.org
P.O. Box 1208, Vancouver, WA 98666

The Rumblings newsletter is produced by the Mount St. Helens Institute. Please submit articles by the 8th of the month to Luke Wakefield - lwakefield@mshinstitute.org

We depend on your contributions.

It’s a Blast at Johnston Ridge Observatory

Join MSHI at the Johnston Ridge Observatory and Science & Learning Center for a day of interactive activities to celebrate the annual opening of the Johnston Ridge Observatory.

May 10, 2014 10am - 6pm $8 Admission fee*

- Hands-on activities for adults and children
- Book signing with David Anderson, author of Images of America - Mount St. Helens
- Educational demonstrations of the Cascade Volcano Observatory’s Spider Monitoring Unit at Science & Learning Center
- Interpretive talks by MSHI Volcano Volunteers and Forest Service Interpretive Rangers
- Guided hikes

*It’s a Blast! is a MSHI fundraising event made possible by the support of the Mount St. Helens National Volcanic Monument.
Executive Director Passes MSHI Baton

I am passing the baton of leadership of the Mount St. Helens Institute to a talented familiar face this month. It is a good time for transition in the executive director position. MSHI is strongest in the summer/fall when virtually everyone is out on the Volcano. This year we are scheduled to break all records for science education, exploration and climbing programs because of your support and our talented staff and volunteers. Ray Yurkewycz, our Science Manager, will serve as Interim Director.

This past year has been a wonderful climb toward sustainability for the Institute. We have reached new heights in our mission-focused service. MSHI acquired a new computer system and completed a new organization mission, set of goals and strategic plan on which to build our programs and service. We reorganized our small staff to evaluate, plan and lead programs and projects focused more effectively on MSHI goals and priorities.

We produced our first printed newsletter, Rumblings, and successfully piloted a membership program. We heard much encouragement and received generous support from many old and new acquaintances. We improved our administrative, financial and budget processes and reporting, and upgraded service agreements to better serve you and our partners in public work.

In coming months you will hear good news, we hope, about MSHI’s requests for capacity-building foundation grants and our cooperative proposal for improving the Science & Learning Center at Coldwater for year-round programs and enjoyment. Winning these will enable us to sustain our growth. The high summer season of program activity is a good time to save money for a new administration necessarily focused on financial development this next fall.

In the meantime, I will be available to assist with MSHI fund raising as a volunteer and to help a new non-profit organization, Run2Connect, directed by my son, Adam.

Please join me in continuing your support of Mount St. Helens Institute.

Thank you,

Richard Meyer

Volcano Camps

Summer camp is returning to Mount St. Helens! Two fun-filled camps are available this year. Join us either July 12-13 or July 21-24. Hike, paddle, learn, discover and make new friends in the shadow of Mount St. Helens. Registration open.

For more information and to sign-up, visit: mshinstitute.org

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Fire and Ice

By Lawrence Nagel

After spending many summers in my younger life at Mount St. Helens and Spirit Lake, three friends and I made our final visit to the lake in March of 1980, just two months before the eruption. We had arranged to stay at Harmony Falls Lodge and visit acquaintances serving as winter caretakers at this rustic resort on the eastern shore. Arriving from Portland along the Spirit Lake Highway, we hoisted our backpacks and skied across the frozen lake. That evening we gathered around the lodge’s fireplace to tell stories and share a meal. Snow was deep, but temperatures warming.

The next day we decided to ski further across the lake to Camp Loowit (the Longview YMCA Camp of my youth). Loowit is one of several Native American words for the mountain: “Lady of Fire.” We skirted a large melt pond, shed our skis and climbed up on the deck of the main lodge, new since my days there many years earlier, and much larger than the old dining hall of my youth. I peered through the windows and with delight was able to make out the original swimmers’ board that had once hung in the old dining hall, a hand-painted history with the names of campers and staff who had accomplished the various distance swims across the lake over the decades. I was amazed to see my own name, remembering the long evening hours of lap swimming we’d been required to complete in order to qualify for the long, cold lake swims, and the shivering exhilaration of finishing the laps under a summer’s night sky, a luminous August moon casting Saint Helens in a faint glow. After exploring more of the northern most cove of the lake we skied back to Harmony Falls, said our farewells, and prepared to ski back across the lake to Duck Bay.

About half-way, offshore of the Donnybrook campsite and, we thought, about on track with our out-bound route, two of us were perhaps 50 feet ahead of our friends. We had ventured further from shore than we realized. In a flashing moment of terror, the ice began to give way. Spirit Lake was very deep, very cold. The two of us in the lead, with the added weight of carrying the backpacks, were breaking through. Our reaction was abject panic as we thrashed and lunged and willed ourselves forward, sideways...any way we could…and somehow fought our way from terror to firma. Apparently some sub-strata of slushy ice prevented the full catastrophe --- sinking into a frigid catacomb. Our friends, naturally, panicked as well, though fortunately, without the added weight of backpacks, were able to avoid this fragmenting field of ice and move quickly closer to shore, all four of us a chorus of incredulous fright and flight.

Finally on firm ice we trembled, gasped, and tried to gather our wits and the courage to continue on. Hugging the shoreline like leaky canoes, we managed to make it back to Duck Bay, our car, and its heavenly heater. Our drive back to Portland was alternately filled with the conversation of stunned bewilderment, silent contemplation, a reinforced bonding of camaraderie, and a levitating bliss of peacefulness.

Over future years I have often reflected on how terribly close I’d come to a frigid grave in the lake I loved so much, at the foot of the mountain which has always been a cornerstone of my youth, a formative place for finding a renewed sense of peace as I follow the pathways of my life.

Lawrence Nagel lives in Ashland and now confines his skiing to snow and mountains.
Portrait of the Volcano as a Young Artist

By Christine Colasurdo

(On Clear Days from My Window in Portland, Oregon
I Can See the Volcano that Destroyed My Family’s Cabin)

all day you look at the mountain
it’s your mountain
always been your mountain
that hulk through firs
snow bright in winter
ash gray in summer
big-shouldered as though going nowhere
illusions cut like paper
dead souls scattered
under pumice
some words never found
editions, iterations, annotations
no one’s mountain
just earth
rewriting itself

Quick sketch done by Christine Colasurdo at Climber’s Bivouac in fading twilight on the eve of a summit climb of Mount St. Helens

Listening to Pumice

By Lawrence Nagel

On the north shore, looking toward Loowit across the magical stretch of frigid water
I am audience for the ever present pumice frolicking in lapping lips of the lake

Sirens on a stage of sand
I listen to them, witchy apparitions
laughing, crying, whispering
dancing to and fro on the beach
some floating, some sinking
all stoney witness to an ancient fire
that cast them whitely
near the half submerged Snag
just off-shore, its bleached limbs reaching wildly up, incriminating the mountain

The Creation of Mount St. Helens

From “Xwa’ni Travels” – a Cowlitz oral tradition

“Xwa’ni was traveling far up in the country; he had started from Puget Sound. He was making hills as he travelled. He thought to himself, “I’m going to make a snow mountain here. I won’t make the top very round; I’ll make it in three different parts.” He made the mountain and said, “This shall be called ‘texo’ma’ (Mount Rainier).” From there, he went south, making large hills and small ones and giving shape to the land as he travelled. After he had one a long way, he looked back: texo’ma’ was no longer visible. “I’ll make another,” he said, “I’ll make this one round at the top. This shall be called ‘lawe’late’ (Mount St. Helens).” After he had finished it, he stood off and looked at it. It was too far away from the first, so he made another about half-way between. “This one shall be called ‘tciliil (Mount Adams),” he said, “this shall be the husband of the two others.” They say that lawe late got jealous of texoma and threw some fire at her. She burnt texoma’s head off and also burnt her backbone and shoulders.”

-Story narrated by Minnie Case in 1926, from Thelma Adamson’s Folk-Tales of the Coast Salish (1934).
June 28 - Geology and Biology in the Heart of the Blast Zone

$35 - $15 is tax-deductible

Details: Join Peter Frenzen, Monument Scientist, for this exploration of geology and biology in the blast zone. Participants meet at the Mount St. Helens Science & Learning Center, hike atop the debris avalanche on the Hummocks Trail and take in breathtaking stories and views from the Johnston Ridge area. This is a perfect hike for families with children 10 and older. Includes free admission to Johnston Ridge Observatory.

Hike Level: Easy to moderate

Requirements: Participants should be able to hike a couple miles on trail.

July 26-27 - From Old-Growth to Spirit Lake - the Changing Face of the Blast Zone

$110 - $70 is tax-deductible

Details: Explore natural history in the blast zone alongside Mount St. Helens, scientist Charlie Crisafulli and MSHI Science Manager, Ray Yurkewycz. This seminar begins Saturday morning at Cedar Flats Natural area with a brief hike through the old-growth forest. We then drive closer to Mount St. Helens, stopping at tephra fall, standing dead, and blowdown disturbance zones from the 1980 eruption. The day ends with spectacular views of Spirit Lake and Mount St. Helens at Windy Ridge field camp for dinner (included) and a campfire. The next morning during a 6 mile hike, learn how life has reestablished and evolved over the last 30+ years in the most highly impacted landscape on Mount St. Helens, the Pumice Plain. Enjoy spectacular wildflower displays and learn what factors determine who lives and dies in one of the Pacific Northwest’s most extreme natural environments.

Hike Level: Difficult

Requirements: Sunday includes a 5 mile hike involving a 1,000 foot ascent to Loowit Falls. Participants should be able to hike over rough terrain over long distances.

July 19 - Lawetlat'la- Exploring the Cultural Significance of Mount St. Helens with a Hike Above Tree-line

$50 - $20 is tax-deductible

Details: Lawetlat’la (the Cowlitz name for Mount St. Helens) was recently designated as a Traditional Cultural Property in the National Register of Historic Places. This field seminar will explore the cultural significance and significant spiritual power of Mount St. Helens by hiking up to that “thin place” at tree-line near Butte Camp on the southwest side of Mount St. Helens with Nathan Reynolds, Ecologist for the Cowlitz Indian Tribe, and Rick McClure, Heritage and Tribal Programs Manager for the Gifford Pinchot National Forest.

Hike Level: Difficult

Requirements: This is a 7-8 mile hike with 1,500 feet of elevation gain. Participants should be able to hike up steep and fairly rough terrain for long distances.
August 9 - The Awesome Hike
One of the most spectacular hikes in the Cascades

$75 - $30 is tax-deductible

**Details:** An amazing 10 mile hike from Johnston Ridge Observatory through the heart of the blast zone in the Mount Margaret Backcountry. Hike past Coldwater Peak and along south Coldwater Ridge to experience the fascinating and diverse landscape. Led by Mount St. Helens Institute guides and includes science lessons throughout the hike.

**Hike Level:** Difficult

**Requirements:** Participants should be able to hike up steep and fairly rough terrain for long distances on this rigorous and exposed hike.

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Foraging for Edible Mushrooms

October 11 - With Reinhard Böhme and Kate Hobbie
October 18 - With Joe Boldensmith and Ray Yurkewycz

$50 - $20 is tax-deductible

**Details:** Explore the magical kingdom of fungi! Learn how to identify common characteristics of wild edible mushrooms. Then learn how to harvest different types of edible mushrooms and cook them into delicious dishes. Plan to get your shoes and hands dirty as you discover the forest’s most striking and sometimes delectable offerings.

**Hike Level:** Easy

**Requirements:** Participants should be prepared to walk off-trail on uneven terrain.

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Ray’s Book Pick

Wolves in the Land of Salmon
By David Moskowitz

No, there are no wolves at Mount St. Helens… not yet, anyway. David’s beautiful book shines a light on the historical role of wolves in the Pacific Northwest and chronicles their return to the North Cascades and the mountains of northeastern Washington and Oregon. In pursuit of this story, David watched wolves feeding on whales and salmon on the coast of British Columbia and on elk in central Idaho. “Wolves in the Land of Salmon” masterfully weaves together the facts of wolf natural history with the richness of his own travels and experience. A compelling narrative bound together with David’s stunning photography. A wonderful resource of wolf information, travelogue and photo journal deserves a place on your shelf.
Mount St. Helens Welcomes Chilean Scientists

Charlie Crisafulli, Ecologist with the USFS Pacific Northwest Research Station, is a long-time partner with MSHI in the cutting edge science being done on Mount St. Helens. This summer he is leading important international outreach to volcanic landscapes from afar. Charlie and Abi Groskopf, MSHI’s Science Education Manager, have organized the visit of two Masters Student interns from Universidad Austral de Chile, Valdivia, Chile.

Pilar Ester Fierro Carrera has been studying insect responses to the 2011 eruption of the Puyehue-Cordon Caulle volcanic complex at the Universidad Austral de Chile. She is evaluating patterns of survivorship and community assembly and has primarily focused on beetles (Coleoptera), which are well-suited to serve as a barometer of ecological change.

Romina Anne Novoa Melson’s research focus is on documenting plant community responses to the 2011 eruption of Puyehue, Cordon Caulle Volcanic Complex. Romina’s work will contribute to a body of literature addressing vegetation responses to the most important form of volcanic disturbance globally, tephra fall.

Pilar and Romina will serve as part of Charlie’s field ecology crew and will focus on sampling bird, small mammal, fish, amphibian, insect and plant assemblages throughout the blast area. Romina and Pilar will also participate in some of the Mount St. Helens Institute youth and adult education programs throughout the summer.

MSHI and the USFS Pacific Northwest Research Station are excited to host these international scientists and the promising exchange of ideas and understanding.

Species Spotlight!

Willows (Salix spp.)

Willows are unfurling their fuzzy catkins (catkins are a cluster of flowers) and shiny green leaves this time of year. However up on the mountain, they are still dormant. Willows are part of a diverse genus that typically grows in moist soils. In the Mount St. Helens blast area, willows provide essential habitat for numerous species of small mammals and birds. Willows are also the host to a non-native insect called the Willow Stem-boring Weevil. Three willow species found at Mount St. Helens are: Sitka willow, Scouler’s willow and Pacific willow.

Volcano Views and Brews

Of Butterflies and Bigfoot

Dr. Robert Michael Pyle, biologist and author

When and Where:
May 19 | Kelso Theater Pub | 214 S. Pacific, Kelso, WA
May 20 | Loowit Brewing Company | 507 Columbia St. Vancouver, WA.

Doors at 5:00pm, program starts at 6:30pm.
$10 suggested donation for this special Volcano Views and Brews event.

Description: The wildlands around Mount St. Helens are famous for the abundance of Bigfoot reports they have generated. Fewer people may be aware that the Gifford Pinchot is also good butterfly country. Author and biologist Dr. Robert Michael Pyle has researched and written extensively about both of these phenomena. His book “Where Bigfoot Walks: Crossing the Dark Divide” is considered by many to be the most affecting account of the Sasquatch tradition in the Northwest; In “The Butterflies of Cascadia”, Pyle acquaints lovers of these mountains with the lives that flit by on the bright wings of summer. In this program, Dr. Pyle will bring Bigfoot and butterflies together in a fascinating blend of natural history and lore. Dr. Robert Michael Pyle is the author of 17 books, including Chasing Monarchs, Where Bigfoot Walks, and Wintergreen, which won the John Burroughs Medal. A Yale-trained ecologist and a Guggenheim fellow, he is a full-time writer living in Southwest Washington.

Get Outdoors with a Purpose!

Last call: 2014 Volunteer Applications will be accepted through Friday, May 23rd. The final New Volunteer Orientation will be 6pm – 8pm on Thursday, May 29th in Vancouver. Volunteer openings are still available for Volcano Volunteers (engaging the public at visitor centers) and Mountain Stewards (assisting climbers and hikers on trails of Mount St. Helens). Visit us at mshinstitute.org and click “Get Involved” to learn about volunteer opportunities and benefits or contact Amy Tanska at atanska@mshinstitute.org or 360.449.7826.
As a young geologist in 1980, I felt a powerful attraction to volcanoes, and I thought I knew volcanoes rather well. I had studied volcanology. I had climbed volcanic peaks in the Cascades. And I had tried to be an attentive citizen of my volcanic region, the Pacific Northwest. But when I had a chance to go with other scientists to Mount St. Helens within days of its May 18, 1980 eruption, that all changed. I stepped out of a helicopter into the dust and mist of the blasted landscape, and I could barely comprehend where I was. Everything was gray in the normally green Pacific Northwest landscape. Muddy geysers erupted on the newly formed Pumice Plain below, and the volcano responsible for this chaos was hidden in clouds. The helicopter radio passed on messages of continuing harmonic tremor, signaling possible further eruptive activity. My preconceptions of how volcanic landscapes behave in the aftermath of an eruption were blown away like the top of St. Helens, and I’ve been reconstructing my understanding ever since.

From that day forward my engagement with volcanoes has only intensified. I eagerly follow the latest developments in geology and ecology, but I’ve also become interested in cultural responses to eruptive landscapes, to the ways in which societies and their languages adapt to living with volcanoes. It has been fascinating to think about the many ways we speak about volcanoes: we use the scientific language of volcanology, of course, but also a language of ecological responses to volcanism, and a language of human engagement with volcanic landscapes. Culture permeates each of these languages.

Cataclysmic volcanic events profoundly change cultures and ecosystems, testing our emotional reactions and our language. Where volcanic events have become familiar, they have spawned technical terms of cultural origin. This geological language of volcanoes has become part of our general vocabulary, and finds a place in the language of poets as well as scientists. The language of human and ecological responses to change commonly carries a sense of personal, corporate, and public values--intended or unintended. Mount St. Helens is a great place to reflect on these intersections of volcanoes, culture and language.

Some Volcano Vocabulary
Volcanoes ring the globe and erupt in many ways and in many cultures. This cosmopolitan setting of volcanism produces a global etymology for the vocabulary of volcanic landforms, materials, and processes. Much of the technical language of volcanology was born in culture, not science. Some terms are obscure and opaque; others evocative. A few examples reveal the richness of this language and its cultural roots.

“Mudflow” is a common descriptive term for the rapidly moving slurries of water, sediment, boulders, and trees that flow from the flanks of volcanoes and down river channels. But volcanologists are more likely to use the Indonesian (Javanese) term “lahar” for volcanic mudflows. A colloquial Chinese term for mudflow translates as “sludge dragon”—a roiling, coiling, and dangerous beast, an appropriate image, since lahars kill more people than other volcanic processes.

A “pyroclastic flow” is a rapid, turbulent flow of exceedingly hot gases, ash, and rock fragments. The French, who have studied such processes at volcanoes in French colonies, such as Soufriere Hills on Montserrat, call them “nuée ardentes” or “glowing avalanches.” Pyroclastic flows occurred repeatedly at Mount St. Helens in 1980, and piled up at the foot of the north flank, forming the Pumice Plain. Like lahars, pyroclastic flows are fast and very dangerous volcanic processes.

Continues on page 10
Any fine-grained volcanic material that falls from the sky is commonly called “ash,” but to a volcanologist this term is restricted to particles less than 0.08 inches (2mm) in diameter. The Greek word “tephra” is the more general term for any volcanic debris—particles big or small—fallen from the sky. A common style of eruption producing tephra of widely ranging particle size is the violent “Plinian” type, named for the Roman Pliny the Younger on the basis of his deliberate description of the explosive eruption of Mt. Vesuvius that inundated Pompeii in AD 79. The Italian term “lapilli” refers to tephra ranging in diameter from 0.04 to 2.52 inches. My favorite tephra term is “accretionary lapilli,” which are little spheres of very fine ash stuck to water droplets, forming mudballs of the lapilli size class. Accretionary lapilli formed in the climatic Mount St. Helens eruption when the finest ash in the dust cloud produced by the blast collected on water droplets condensed from the steam that drove the blast. I got an up-close and bit too personal view of these mudballs as they splattered on the windscreen of our helicopter during that May 28, 1980, foray to Mount St. Helens. As the Ash drifted northeastward with the wind, accretionary lapilli formed and fell to the earth, blanketing the landscape with a layer up to nearly an inch thick. This distinctive deposit impeded the flow of water into the soil and the exchange of gases between the soil and atmosphere, contributing to the death of many old-growth fir trees in areas northeast of the volcano.

Lava flows are perhaps the most common image of a volcanic process, but none occurred in the 1980 eruption of Mount St. Helens. The black, fluid lava of Hawaiian volcanoes sculpts fascinating forms in rock and glass. The sharp, clinkery rubble surface of an “a’a” lava flow or the smooth,ropy-textured surface of a “pahoehoe” flow invoke a sense of the exclamations barefoot Hawaiians might have uttered walking across them, perhaps giving the different surfaces their names. One is treacherous, the other provides easy traveling.

Hawaii is also the source of the term “Pele’s hair,” the fine, golden glass threads of cooled lava spun from blobs of lava thrown into the air during a fountaining eruption of very fluid, incandescent magma. The small blobs themselves may take the form of teardrops termed “Pele’s tears.” Pele is the Hawaiian goddess of fire, lightning, and volcanoes.

The language born in these various cultures is widely used because mudflows, eruptions of tephra, and lava flows are common globally where volcanic events occur. Our language for very infrequent volcanic events is more clinical, less settled, and perhaps less interesting. Giant landslides occur in the lifetime of many high, steep-sided stratovolcanoes characteristic of some volcanic chains such as the Cascade Range, but are rare in recorded history. Massive volcanic landslides take on many names, such as “debris avalanche,” “rock avalanche,” and “sector collapse,” indicating that a major chunk of a volcano, including the summit, breaks loose and flows out onto the surrounding terrain. The landslide instrumental in triggering the 1980 eruption of Mount St. Helens—two-thirds of a cubic mile of mountain top—was the largest landslide ever observed on earth. But it was only a tenth the size of one that eviscerated Mount Shasta three hundred thousand years ago.

Huge volcanic blasts, such as the one heralding the eruption of Mount St. Helens, are also rare in human history and probably in geological history as well. Consequently, the terminology is unsettled, even disputed, among specialists who each have their own ways of interpreting the process and, hence, the appropriate, literal terminology. Even within a single geological report documenting the 1980 activity of Mount St. Helens, this single event was referred as the “directed blast,” “pyroclastic density flow,” “pyroclastic surge,” and simply “blast.”

These examples suggest that the language for volcanoes and their self-constructive and self-destructive processes may have strongest cultural undertones where a culture has experienced numerous volcanic events or where chronicles of volcanic eruptions have had lasting impact. The language for volcanic process that are rare, especially in parts of the globe without deep written histories, may be sparse. For these, it may fall to the science community to settle on vocabulary, and the wrangling over terminology may go on for decades.

Language of Ecological Responses to Eruptions

How do we react to, think about, and discuss a landscape transformed by violent volcanic eruption? The scientific language of volcanology attempts to be descriptive, avoiding, as much as possible, references to human values, and in this it has some parallels with language used to describe ecological responses to big disturbances, such as volcanic eruptions; but there are also some important differences between geological and ecological vocabularies. Our language for processes of ecological change, employing terms such as succession, immigration, survival, and competitive interactions, is intended to be descriptive, though we can sense strong anthropomorphic hints in these terms. Human values appear clearly in descriptions of initial effects of the disturbances and prescriptions for management of ecological change thereafter.
Right after the 1980 eruption of Mount St. Helens ecologists and the news media spoke of “the devastated area,” “the zone of devastation,” “a moonscape.” But, soon, surviving organisms and surprising pioneers appeared. It became clear that there were both winners and losers, ecologically speaking—some species had their numbers eliminated or greatly reduced while others found new opportunities to flourish. Ecologists developed a more nuanced understanding of the volcanic impacts, and their language followed. The single devastation zone came to be seen as separate disturbance zones with distinctive properties—the down-tree part of the blast zone, the standing-dead or scorch zone, and the pumice plain of pyroclastic flow deposits where ecological development had to begin essentially from scratch. Ecologists began to avoid the hot language of “devastation” for the greening landscape, and to focus more on the nuanced “responses” of ecosystems to the disturbance.

More prescriptive terms concern notions of where ecosystems had been in the past and where they may be headed. What are the relevance and meanings of the terms “recovery,” “reestablishment,” and “restoration” in a place of such profound change? What can we hope to restore, what should we not, what can we not? Responses to these questions depend on our attitudes about nature and our place in the world. Initial expectations that we would observe ecological “recovery” and could direct “restoration” to pre-disturbance conditions gave way to the realization that the path of ecological change in natural systems was quite different from human efforts to restore forests, lakes and streams. For systems permitted to develop without human intervention, each spot on the landscape was on its own path, and pre-1980 conditions were probably not their destination. The notion of “recovery” may be relevant to specific components of an ecosystem in specific parts of the Mount St. Helens landscape, such as certain fish species in lakes where both the lake and the fish existed before the 1980 eruption. But some parts of the landscape are new places on the face of the Earth—the crater, new lakes, and the debris avalanche deposit, which raised the land surface up to six hundred feet in places. “Restoration” and “recovery” are not taking place there—these are wholly new ecological systems.

Concepts of recovery and restoration in greatly altered landscapes raise very challenging questions. Where should we plant trees, put fish in lakes, or alter stream channels in the name of ecological recovery, commodity production, or our perception of doing good deeds? This comes down to the matter of personal values, which may be expressed through corporate and government actions. In the blast zone of Mount St. Helens the timber industry quickly “salvaged” dead trees and planted a new forest, and the U.S. Forest Service did likewise on some federal lands. But Congress established the first-ever National Volcanic Monument, directing that natural processes should “proceed substantially unimpeded.” So now vigorous, young tree plantations grow on one side of the boundary of the Monument, and on the other side stands a complex ecosystem with shrubs, herbs, scattered trees, and diverse assemblages of animals. Which is right, which is wrong? Which good, which bad? In America we possess a wealth of space, so we can often have it both ways and learn from the differences.

Personal Language of Volcanic Landscapes

Thus, we reside in several layers of volcanic culture—the global scientific knowledge and language of volcanoes, the experience of the 1980 eruption of Mount St. Helens shared across today’s cultures, and the cultural conflicts over responses to eruptions. In the Mount St. Helens volcanic landscape we can sense the presence of volcanoes in broad cultural terms, and also in strictly personal terms. We have engagements of fear, curiosity, neighborliness, respect, awe. In the myths of Native people of this region, whose cultures have resided here for millennia—long enough to experience many eruptions—volcanoes are battling gods, or wooing lovers. In contemporary society, as Ursula LeGuin has observed, Portlanders ask, “Is the volcano out today?” in reference to viewing our neighbors Mount St. Helens and Mount Hood.

My strongest feelings for volcanoes have no vocabulary. Whether I’m teetering at the lip of a crater rim, so wild and unstable no person should be there, or standing on a huge boulder facing directly up into the crater, or caught up in a moment of silence viewing the snow peak from my home sixty miles away, I come to the edge of language. I look to see what the volcano has to say today—cloud cap or wisp of steam from the dome or trail of dust from rockfall on the crater wall, or silence. The power and the presence are beyond words.
Corporate Membership Levels

Mount St. Helens Institute’s Corporate Membership Program continues with encouragement from a generous supporter of our mission and work in the Pacific Northwest. The donor has offered to contribute up to $5,000 by matching Corporate Membership contributions. Your business contribution will deliver twice the benefit.

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$750 - Glacier — Above, PLUS MSHI logo outerwear

$1,000 - Summit — Above, PLUS one “Into the Crater” hike admission

* Excludes “Into the Crater” hike

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