



Snohomish County

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Testimony Submitted by
Snohomish County, Washington
Jason Biermann, Senior Policy Advisor on Resilience
on
H.R. 7003
National Landslide Preparedness Act Reauthorization Act
before the
Committee on Natural Resources
U.S. House of Representatives
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Mr. Chairman, and members of the Committee, thank you for the opportunity to provide remarks on behalf of Snohomish County regarding the importance of maintaining this critical effort. I sincerely appreciate the opportunity to contribute our perspectives today on the vital work that you are undertaking in this legislative hearing. My name is Jason Biermann, and I currently serve as the Senior Policy Advisor on Resilience to Snohomish County Executive Dave Somers. Before assuming my current role, I spent 13 years in the County's Department of Emergency Management. I began there in 2009 as a program manager focused on hazard mitigation, became the deputy director in 2014, and served as the director from 2016 through 2022. I also served as the Chair of Washington's Emergency Management Council, which is statutorily mandated to provide an annual report to the Governor on the status of emergency preparedness throughout the state.

Located just north of Seattle, Snohomish County's 2200 square miles provides a beautiful, diverse, and dynamic home to almost 850,000 residents. Within our borders one can experience everything offered by the Puget Sound, the flowing waters of our river systems, and the heavily forested Cascade mountains. We contain large cities, most of which lie along Interstate-5 in the western third of the county, as well as small towns, unincorporated areas, and the lands of three Tribal Nations. Because of our proximity to the "Ring of Fire,"¹ our residents and businesses face the constant threat of seismic and volcanic activity. In addition, we routinely experience significant flooding, severe weather, an increasing number of wildland fires, and the effects of landslides.

My testimony today emphasizes the real-world value of your continued support for the critical and innovative programs initiated by the National Landslide Preparedness Act, which is the focus of this hearing. The enhanced mapping and hazard research greatly increased our understanding of the extent to which landslides could affect our residents. This, in turn, led to better assessments of our county's vulnerability to landslides and advancements

¹ According to the USGS, the Ring of Fire "is the most seismically and volcanically active zone in the world."
<https://www.usgs.gov/faqs/what-ring-fire>

in our ability to warn our residents. These programs remain essential for protecting lives and property, and for helping to ensure we invest in resilient infrastructure.

To better illustrate the importance of these programs, I offer first-hand insights from the response to a tragedy that happened in Snohomish County. At 10:37 a.m. on Saturday, March 22, 2014, a massive landslide occurred in unincorporated Snohomish County near the small community of Oso. Approximately 8,000,000 cubic meters of debris – mud, trees, and boulders – slammed into a neighborhood near the Stillaguamish River, claiming 43 lives and dozens of homes.² The SR-530 (Oso) slide also covered nearly 1000 linear feet of State Route 530 and destroyed the telecommunications fiber running along the road, effectively isolating the small town of Darrington, Washington.



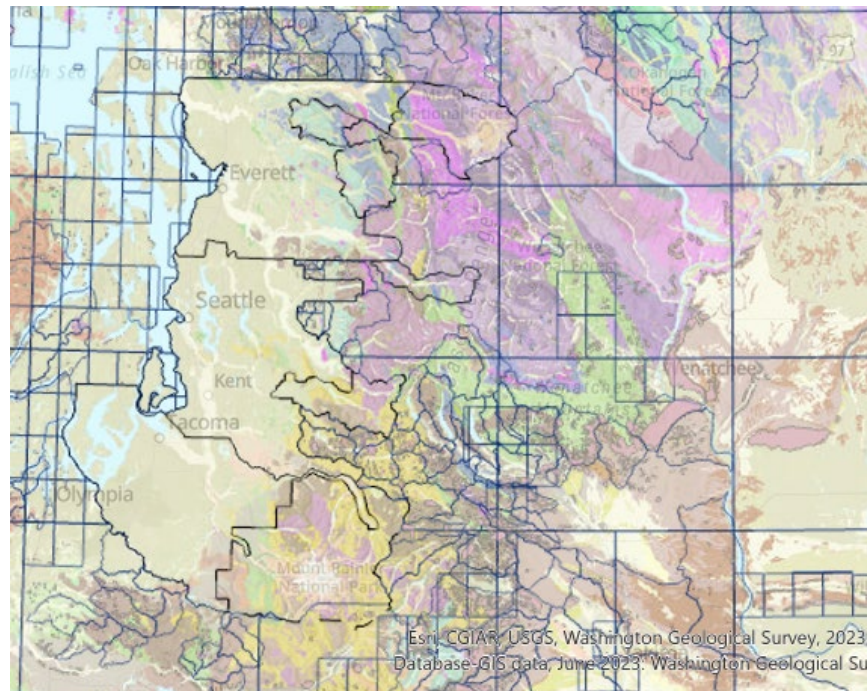
For weeks, volunteers and first responders from state, local, and federal agencies searched the area for the remains of the victims. They located the final person on July 22, 2014, four months to the day after the slide occurred. In addition to those efforts, and for years following the slide, agencies from all levels of government and private/non-profit organizations worked to help the area recover from the devastation. They restored the road and communications, and they worked with the affected communities to help them heal and rebuild their vibrancy. We remain profoundly grateful for the assistance we received, both during and after the incident.

In the aftermath of the Oso slide, we learned much from our partners at the United States Geological Survey. They brought high-resolution digital topographic (lidar) data and modeling capabilities that helped understand the conditions that led to the slope, which had a long history of prior historical landslide activity, failing so

² Iverson et al., *Landslide mobility and hazards: implications of the 2014 Oso disaster*, (Earth and Planetary Science Letters, January 2015).

catastrophically. They were also able to peer beneath our forested hillsides to uncover evidence of slide activity that has occurred throughout the preceding millennia.

What we learned, we used. Better mapping of our known landslide hazards revealed an estimated 60,000 people living in areas where steep slopes, soil types, and significant rainfall could combine to make the earth more prone to sudden, violent movement. We identified 12,400 structures as being potentially at risk of slides, 95% of which were homes. This information helped us to swiftly develop a system for early detection and warning based on rainfall and other factors. We now routinely monitor the amount of moisture in the ground and issue countywide alerts when the risk of landslide becomes elevated during our rainy season. We began educating our residents to report when they see tilting trees or cracks in the ground. In a region where landslides occur frequently (see graphic), this helped tremendously.



It is important to note we applied these lessons learned not only to address the potential for landslides as large as the Oso slide, but to those that occur regularly throughout Snohomish County. Thankfully these minor slides do not cause casualties; however, they do disrupt transportation and commerce on our roads and railways, and they have on multiple occasions blocked access to residents trying to reach their homes. It is critical to note that we learned these things because of resources made available to us in the aftermath of a tragedy and believed, and continue to believe, that similar resources should be available to local jurisdictions across the Nation. Some of the most critical aspects of the assistance we received fall within the parameters of the National Landslide Preparedness Act, which benefits local jurisdictions throughout the country.

Specifically, in 2021 the National Landslide Preparedness Act (P.L. 116-323) began to provide these resources to local jurisdictions. Landslides occur in all 50 states and the U.S. territories, causing estimated damages exceeding \$2 billion and between 25 to 50 fatalities annually.³ The National Landslide Hazards Reduction Program, which the National Landslide Preparedness Act authorized, helps local communities to better understand their risk. It allows us to reduce our losses to landslides by making more informed decisions on land use and the placement of critical infrastructure. It has also expanded the ability of the USGS and NOAA/NWS to provide debris-flow

³ U.S. Geological Survey. *Landslide hazards: A national threat*. (USGS Fact Sheet 2005-3156, 2005).

warnings after wildland fires. In 2022, when the Bolt Creek Fire scorched nearly 15,000 acres of eastern Snohomish County and western King County, it brought federal expertise to help us make decisions about when to close U.S. Highway 2 and keep people safe from debris flows below the burn scar. Not only were their insights vital to our decision making, but they also helped us clearly explain the decisions to our residents and visitors. As we anticipate an increasing number of wildfires to affect Snohomish County, that federal expertise will remain invaluable.

Snohomish County strongly supports a reauthorization of the National Landslide Preparedness Act. Natural hazards can cause substantial damage throughout the Nation, but if armed with the appropriate information, local communities can take action to avoid and mitigate potential harm. The USGS earthquake, volcano, and landslide programs help to strengthen our resilience to these hazards and protect our communities and residents from harm. All these hazards pose a risk to Snohomish County and our efforts to prepare for earthquakes and volcanoes have benefitted greatly for many years. While the landslide program is newer than the earthquake and volcano programs, it is just as critical.

I hope my testimony conveys how important this reauthorization is to Snohomish County and to counties throughout the country. The support of our federal partners remains integral to our ability to keep our residents and businesses safe from landslides. Losing the resources and technology for mapping, ongoing monitoring, and research will have a significant, negative effect on our chances of preventing another tragedy like the one we endured nearly a decade ago.

Thank you for the opportunity to submit testimony, and I look forward to answering any questions you may have. I may be reached by email at jason.biermann@co.snohomish.wa.us or by phone at 425-754-2679.