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Experts studying West Salt Creek landslide expect more to occur on Grand Mesa

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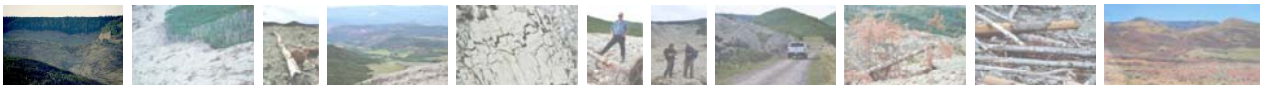
A view of the headwall in the background with the slump block falling away from the Grand Mesa. In between the two lies a 190 acre-foot lake that will likely fill to capacity and spill over in springtime, possibly draining the entire lake.



LANDSLIDE BY THE NUMBERS

The West Salt Creek landslide is located approximately six miles southeast of Collbran, along Salt Creek Road. The upper portion of the slide is located on National Forest land, while the bottom half occupies private property.

Length: 2.8 miles

Max Width: 0.53 miles

Elevation: 7,420-9,740 ft.

Area: 500-600 acres

Volume: 39 million cubic yards

Weight: 50 million tons

Max Thickness: 150 feet

The seismometer at Rapid Creek Station, part of the Colorado Mesa University Seismic Network located at various points around Grand Junction, started recording the waves of motion at exactly 5:44 p.m. on May 25. The next two minutes would mark an unprecedented moment in Colorado history, the largest landslide ever recorded. At nearly three miles long and over a half mile wide, the West Salt Creek landslide instantly put the sleepy town of Collbran on the map, and changed the lives of several nearby residents.

To shed light on the catastrophic slide event, Mesa County's administrator Victoria Patsantaras assembled more than 25 people on Thursday, Sept. 4, to tour the Grand Mesa site, comprised of Mesa County officials, news writers, photographers, news channels, experts in geology, oil and gas employees, emergency response authorities, Collbran town administrators, and landowners.

"A media tour of the landslide, such as the one that Mesa County just coordinated, is not likely to occur again," Patsantaras said.

"More than half of the landslide flowed onto private property. Public access, as well as media access, is not anticipated at this time or in the immediate future."

EXPERTS EXPECT ANOTHER SLIDE

As first responders to arrive at the slide on May 26, Frank Kochevar, Mesa County Public Works' professional surveyor, and Tim Hayashi, Mesa County Public Works' engineer and field commander, remember getting a glimpse of the area, and uttering the words, "Oh my God." No one had seen a slide of this magnitude — ever.

After nearly three and half months, Hayashi and Kochevar traveled to the slide dozens of times, setting up surveillance equipment, clearing roads, building trails, and juggling 14 different organizations that have a stake in the outcome. From CMU and U.S. Geological Survey (USGS) geologist to landowners and Mesa County officials, a rather fragile landscape has created a thoughtful and organized crew of individuals working every day to better understand the event.

Sensitive monitors have recorded every movement around the slide, evacuation routes have been established, maps have been rewritten, gas lines have been shut down, roads reconstructed, cell lines installed, and lines of communication set up. All this collaboration is designed to answer the one question on everyone's mind: Will a landslide of this magnitude happen again? And if so, where, when and how?

After meeting with a host of experts, the definitive answer is yes, there will be another landslide on the Mesa — but as to when, that is all speculation. No one could have predicted the West Salt Creek Slide, its size and destructive force. However, in the aftermath, all eyes turn to similar terrain that flanks the side of the Grand Mesa.

Dr. Rex Cole, a geology professor at CMU, explained the unique geography and the complicated history that encompassed the slide area. The region has a long history of landslides; in fact, landslide zones surround the entire Grand Mesa. Gravity has been exerting its force on the Mesa for eons, contributing to a form of erosion called mass wasting. The term used by geologists describes the movement of soil and rocks down the side of a mountain.

A quick examination of the slide area shows mostly a greenish shale rock from the Green River formation, a kind of fine-grained sedimentary rock that literally crumbles in your hand. It's not the best foundation, especially on the side of a slope.

During the two days prior to the incident, over an inch of water fell in the area. Jeff Coe, with USGS, said there was no doubt the rain added to the "juiciness" of the slide. When one adds an intense rain or snow event to an unstable surface, it's the perfect recipe for a landslide.

Geologists are still concerned about the West Salt Creek slide area, especially with the formation of a new 190-acre-feet lake at the headwall. The lake continues to fill and is expected to breach the spillway this spring. At that point the entire headwall has the potential to erode away, sending a wall of water down the slide path. Residents of Collbran are concerned about the influx of water, however Bill Edwards of the United States Forest Service concluded that the amount of water is consistent with spring runoff and the watershed should absorb the excess water. Still, nearby residents and businesses are preparing for the inevitable, the resurfacing of West Salt Creek somewhere along its historic path.

Jerald Hawkins, owner of the property, and Oxy, an oil and gas exploration company, are taking a proactive stance by digging a potential drainage where the creek can safely enter and reconnect with its historical waterway. The slide path narrowly missed the Oxy gas pad located on the Hawkins property. Oxy immediately responded to the incident by shutting down all activity at the site. Much speculation has surrounded the proximity of the well pad to the slide, especially with the use of fracking. All experts concluded there was no connection between the oil and gas activity in the area and the slide. In particular the geologists point to the obvious fact that the drilling occurred 5,000 to 8,000 feet into the Wasatch formation, while the slide occurred roughly 2,000 feet higher up the side of the Mesa. All historical evidence suggests that landslides have and will occur on the Grand Mesa regardless of human activity.

In general, unless gravity mysteriously disappears, landslides will continue to shape the landscape; and wherever humans interact with these landscapes, disaster can occur. For example, the state of Washington's deadly Oso landslide killed 43 people on March 22, taking out an entire rural neighborhood.

Despite its isolated location, tragedy also struck at the West Salt Creek slide. While investigating a small landslide that had blocked an irrigation canal, Wes Hawkins, 46, Clancy Nichols, 53 and his son, Danny Nichols, 24, were evidently in the path of the second and more destructive landslide. Their bodies still remain missing.

While standing on the slide path, Hawkins led our group in a moment of silence, reminding each and every one of us that the site is hallowed ground. He also explained how his family "lost a way of life." Generations of his family played on and explored this section of the Mesa. Now, Hawkins said he often lies in bed at night thinking about the trails of his childhood and the annual cutting of the Christmas tree during the autumn colors.

While investigating the site, a helicopter hovered over the area, obviously checking out the destruction. Hawkins explained that since the slide helicopters constantly buzz the area, resulting in an area now devoid of animal noises due to the constant barrage of eavesdroppers. It's one thing to have an entire part of your life ripped away in minutes; it's another to be constantly reminded about it.

According to Patsantaras, it's important to remember the landslide happened on private property. Hawkins and Bonny Gardner, the other property owner, "have been very gracious" in letting the media and experts examine the area.

"Now it's time to let their lives return to normal," she said.

As Grand Mesa residents prepare for winter and the eventual spring runoff, experts are also looking at positive aspects of the West Salt Creek slide. As Bill Edwards of the U.S. Forest Service points out, from an ecological perspective, area experts have an amazing opportunity to observe and monitor the area as life again takes hold. Already flowers and plants are starting to take root in the area.