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B.C. landslide may be over, but debris expected to wreak more havoc



Sediment from Pemberton disaster expected to move through valley 'like a rabbit through a python'

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Pemberton, B.C. — From Monday's *Globe and Mail* Published on Sunday, Aug. 08, 2010 8:50PM EDT Last updated on Monday, Aug. 09, 2010 6:12AM EDT

It tore away roads and bridges, plugged up waterways, and forced 1,500 people to flee their homes near Pemberton, B.C., but the true impact of one of Canada's largest landslides most likely won't be felt until the fall flood season.

That's when the extra debris in the Lilloet River will raise its beds, making the dikes that protect the river valley useless, said John Clague, a landslide expert at Simon Fraser University.

"You have a tremendous amount of loose sand, rock and silt," Mr. Clague said. "The river will likely not be able to deal with that huge amount of sediment.

"It's going to work its way down like a rabbit through a python."

Jordan Sturdy, the mayor of the flood-prone Village of Pemberton, also worries about the danger ahead.

"We could see sediment aggravation in the whole valley," he said on Sunday. "If you have dikes and then you add material to the river channel, essentially the capacity of the dikes is decreased."

When the slide first hit early Friday, officials feared it would trigger a massive flood that would rush down towards homes and ranches more than 35 kilometres away.

The avalanche started at the peak of jagged Mount Meager, about 70 km north of Pemberton. It ripped down the mountainside, settling on top of the confluence of Meager and Capricorn creeks. The natural dam of rock, sand and debris transformed Meager Creek into a rapidly swelling lake that covered a kilometre.

Ministry of Environment geomorphologist Rick Guthrie said by Friday night the growing lake threatened to bust through the dam within hours and could race down the Lilloet River into the valley at a speed 30 times faster than the regular flow of Meager Creek.

The risk forced an estimated 1,500 people to flee their homes under evacuation order late Friday night and left 2,500 more on evacuation alert.

Residents were allowed home on Saturday morning after the Meager Creek cut a new channel through the debris, slowly draining the lake.

While the town, nestled in the Coastal Mountains about 160 km north of Vancouver, escaped the initial danger relatively unscathed, the worst could be to come.

The creek is now running over an estimated 40 million cubic meters of loose debris on its way to the Lillooet River and could take much of the sediment with it.

"That makes it the size of Canada's big historical avalanches," Mr. Guthrie said.

It's still not clear how much this landslide will cost. Forestry roads have been wiped out, at least one bridge decimated, a campsite destroyed and a popular hot spring is now a virtual island surrounded by mud.

"There is still a significant risk of additional debris movement," said acting Solicitor-General Rich Coleman in a statement. "There has not yet been an opportunity to assess damage to roads and infrastructure. An aerial survey is expected next week, followed by on-the-ground assessments."

At least one company is reporting losses from the landslide. Squamish Mills Ltd. just bought the rights to log the timber near the slide area and had recently finished building a bridge over Capricorn Creek to access the wood.

The bridge and three pieces of heavy machinery, worth about \$500,000 each, are now stuck in the mud indefinitely, said manager John Lowe. The company has no way to access the valuable timber.

"We spent a lot of money to buy those timber rights and we probably won't be able to access them ever," he said. "We haven't even finished paying for it yet."

Mr. Lowe said, however, he is grateful nobody was working in the area at the time. "That slide came so quickly that they wouldn't have had a chance to run."

The area is one of the most slide prone in all of Canada, Mr. Clague said, with six notable slides in the area since 1931.

The landslide was likely prompted by melting snow and ice on the upper slopes of Mount Meager, which loosened rock and earth.

"They behave like a rapidly flowing mass of wet concrete or cement that has boulders and trees mixed into it," he said.

In 2008, Mr. Clague recommended the Village of Pemberton invest in a monitoring system to help provide some warning. The systems, which Mr. Clague estimates cost over \$100,000, can detect and track minuscule movements.

"It was quite outside the realm of possibilities with regard to our fiscal resources," said Mr. Sturdy of the 2008 proposal. "I think that's something we will have to revisit and work with the province to see whether we feel it's worthwhile."

'What if?': Hikers blissfully unaware of disaster

Vancouver firefighter Mark Nitychoruk not only survived one of the biggest landslides in Canadian history this weekend, he didn't even realize it was taking place.

He and his friend Jay Pruniak set off from a campsite near the Meager Creek hot springs on Thursday on what they thought would be a spectacular hiking trip through the mountains.

"We sort of stuck our toes in the hot spring, and we were kind of like, we'll save it until we get back," Mr. Nitychoruk said.

They wouldn't get the chance. Early Friday morning, an enormous section of jagged Mount Meager slid into the valley below, a landslide that is one of Canada's largest ever.

Mr. Nitychoruk said he didn't hear a thing. The two hikers slept soundly in Harrison Hut, just a few kilometres away.

It wasn't until Saturday morning, when the pair made their way back down towards the campsite, that they realized something bizarre was happening.

"We were super excited about getting to the hot springs and about three kilometres before we got [there], we heard a helicopter and it was really close," Mr. Nitychoruk said.

As the hikers were airlifted out of the area, they realized what had happened.

"It looked like total devastation," Mr. Nitychoruk said. "What we could see at the bottom was just that mud and rock and debris had taken out the river, taken out the road and climbed up the other side of the valley."

"At first, I think it was kind of like, 'Wow, that was pretty unbelievable,' " he said. "An hour or two later, you just start thinking – what if?"