

# Jerome Irwin: Earthquake awareness wake-up call long overdue for the North Shore

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by [Jerome Irwin](#) on May 11th, 2015 at 12:16 PM



- Would the Cleveland Dam withstand a mega earthquake? [Jeremy Saunders](#)

The epic human disaster of [Nepal's horrific 7.8-magnitude earthquake](#)—and Japan's 9.0 Tohoku earthquake and [Fukushima nuclear disaster](#)—is [still fresh in all our minds](#). It's imperative that provincial, federal, local, and First Nation governments on the North Shore, and those of the Greater Vancouver Regional District, immediately undertake a thorough, comprehensive seismic assessment of what the potential loss of human life and destruction would be to the North Shore's currently-existing or planned high-rise, high-density developments if another super-quake reoccurs in the region, similar to the mega 9-plus quake that struck the Cascadia subduction zone of the Pacific Northwest on January 29, 1700.

Similar in magnitude to the quake that devastated Japan's coastline, the Cascadia quake of 1700 is said to have ruptured over 1,000 kilometres (620 miles) of coastline, with an average slip of 20 metres (66 feet), from mid-Vancouver Island in British Columbia along the Pacific Northwest as far south as northern California. Seismic experts have estimated that this rupture occurs at intervals of anywhere from 300 to 900 years. Yet in 2010, a panel of geologists predicted a 37 percent chance of an 8.2-plus magnitude event occurring within 50 years, and a 10 to 15 percent

chance that the entire Cascadia subduction zone will rupture with a magnitude 9-plus event within the same time frame.

So a new seismic assessment of the impact such a major quake would have on the North Shore would seem to be called for. This must include a computerized, graphic rendition of what all the already approved high-rise, high-density developments will look like when once completed, and what the loss to human life and property damage could potentially be if a 9-plus magnitude quake—or an even much more dreaded, once every 1,000 years, “monster quake”—was to strike the North Shore. Such a computerized seismic rendition should include what would happen if such a mega quake triggered a catastrophic total failure of the nearby Cleveland Dam, and what would be the consequent result of the epic deluge from the dam’s Capilano Reservoir that would thunder down Capilano Canyon, wiping out everything in its path: from the Marine Drive and Capilano Road village’s proposed high-rise, high-density complex to the Squamish Nation’s residential homes, RV/business parks, waste treatment plant, north footing of the Lions Gate Bridge, and Park Royal Shopping Centre in West Vancouver. Such a computerized rendition might also include what the other probabilities would be of earthquake-triggered land or mud slides, fires, and extensive damage to bridges that would also occur all along the Capilano Canyon escarpment.

No official at this point in time really knows or can predict with any certainty what would or would not be left standing in that portion of the North Shore in the aftermath of such a quake. Emergency planning experts point to the latest seismic upgrade of the Cleveland Dam as proof that it could withstand even a 9-plus magnitude quake. A recent six-year study done by B.C. Hydro also gives a better understanding of any earthquake impact that conceivably could occur to the Cleveland Dam, Seymour Falls Dam, and other dams in the region. The consensus seems to be that such a catastrophic failure is highly unlikely and that the Cleveland Dam and others could withstand an even “one-in-10,000-year” probability earthquake.

Yet the fact remains that before the 9.0 Tohoku earthquake and Fukushima nuclear disaster occurred, Japanese officials were incorrectly making similar predictions, and Japan was arguably said to be one of the best if not the best prepared nation in the world to deal with such a natural disaster. Japan’s abysmal failure to do so should be a reminder how risky it is for government bodies to ever put their unequivocal faith and trust in so-called expert officials without doing their own independent research. This should at least be a sobering wake-up call for Canada’s emergency-response experts to investigate as thoroughly as possible what kind of similar catastrophic natural disaster could conceivably happen to the North Shore, no matter what all the so-called experts say, and then provide residents, politicians, and developers alike with the best possible visual seismic representations for their own independent analysis.

It’s already a stated given (“District Assesses Earthquake Risk”, North Shore News, April 29) that many of the surrounding residential neighborhoods (Lower Capilano, Norgate, Lions Gate, Edgemont, Pemberton Heights) would see extensive residential and commercial property damage. Yet no mention has been made to date about what the potential calamity would be to the Marine Drive and Capilano Road village’s proposed 18, 22, and 26 storey high-rise residential and commercial developments or those of the Squamish Nation’s people, lands, and their own existing or proposed commercial and high-rise developments.

So it would only seem like good foresight and common sense to produce a graphic-generated seismic model that could be made available for public viewing, as well as develop a coordinated emergency response contingency between all the parties that would be directly involved (fire, hospital, police, ambulance, North Shore Rescue, Squamish Nation, City of North Vancouver/District of North Vancouver/West Vancouver councils, provincial and federal emergency services).

It's time for a sobering wake-up call for politicians, developers, and residents alike to perhaps rethink whatever grandiose plans they may have for the future of the North Shore and its surroundings.

*Jerome Irwin is the founding president of the [Lower Capilano Community Residents' Association](#) in North Vancouver.*