

HOUSE COMMITTEE ON NATURAL RESOURCES, FISH AND WILDLIFE

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ON

H.92, AN ACT RELATING TO THE REGISTRATION OF DAMS

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Chairman Deen and members of the committee, good afternoon and thank you for the opportunity to testify on this important matter.

I am Shawn Kelley and I'm a Professional Engineer registered in the State of Vermont. I have been working in the State since 2004 as a Civil Engineer, practicing in the field of Geotechnical Engineering. My work has focused on analyzing soil and water for the purpose of designing infrastructure projects. We design foundations for large buildings and bridges, we evaluate and design repair solutions for soil and rock slopes (like the ones you see along our interstates), and we design and repair dams.

ACEC strongly supports H.92, and my comments will focus on why we believe passage of this bill is so important.

As Professional Engineers, we have a responsibility to protect the health, safety, and welfare of the public. The job of Professional Engineers in our state is to design structures using a set of accepted design standards. We are also tasked to evaluate the infrastructure projects to ensure that they are being maintained and are still performing to today's current design standards (in order to protect the health, safety, and welfare of the public).

My work takes me across the state and I have had the opportunity to see many dams. Just recently, I was asked to evaluate a small earthen dam because of a property sale. The potential buyer (from out of state, looking to buy a second home) wanted an evaluation of the dam that was part of the property prior to a purchase and sale agreement. The construction of the dam was unknown but there were records showing that a dam rehabilitation project occurred in the 1940s. There were signs of an old sawmill just downstream of the dam outlet. That structure has since been destroyed but the dam and its stop log feature used to control the pond level was still in place. The dam did not have an emergency spillway, the low level outlet needed repair, and it has an unknown intake structure. The potential buyer was savvy enough to know that this was a liability to him but how many other land sales occur where the new owner does not understand the responsibility of dam ownership. Luckily, this dam was classified as a high hazard dam and the state had records of inspection over the years but there are many other dams in the state that do not have similar records and this presents a significant problem for the state. Dam registration is a must so regular dam inspections can be made and appropriate dam records can be maintained (on the ANR Natural Resource Atlas).

Dam inspection and documentation is key to monitoring this vital part of our infrastructure. Dams are subject to today's extreme weather events and as seen in the recent news in northern California; the Oroville Dam is in jeopardy of failing. This dam, which was completed in 1968, had never seen water flow over its emergency spillway since its completion and with the rain fall amounts for northern California at 68 inches since Feb 12 (or 226% above normal for this time of year); one never knows when a dam needs to be functioning as designed. Inspection is critical.

Just days ago due to rising water levels, the main spillway outflow at the Oroville Dam was increased. During this controlled release, a large crater in the main concrete spillway was observed and the dam operator had decrease the release volume in fear of enlarging the damaged area. With the runoff into Lake Oroville still increasing, the use of the emergency spillway was inevitable. Just prior to water flowing over the emergency spillway, workers had to clear cut trees on the hillside below the emergency spillway. As water began flowing over the concrete emergency spillway, downslope soils began to erode. And just two days ago, the dam operator had to initiate the emergency action plan and evacuate at least 188,000 people just downstream of the dam because of on-going soil erosion, which may undermine the concrete emergency spillway and create a dam breach. The current cause of the main spillway crater and erosion below the concrete emergency spillway is unknown. We can only hope that the control measures being taken now prevent a dam breach and there is no loss of life. I do not know when the last dam inspection was on this dam but this event emphasizes the importance of regular dam inspection.

The purpose of H.92 is to help the state to track and inspect dams across Vermont. This will improve the system that is already in place and will make Vermonters safer. Structures that are manmade have a certain life expectancy. As these structures age, their level of service deteriorates. At some point, the structure will fail. Timing of a Dam failure is something that we cannot predict but knowing the current "health" of a dam and designing and implementing repairs or actual removal will ensure that the public's health, safety, and welfare is maintained.

Thank you for your time and taking my testimony on this very important bill for our State.