



The State of New Hampshire  
**Department of Environmental Services**



**Robert R. Scott, Commissioner**

March 20, 2018

The Honorable Chris Christensen  
Chair, Resources, Recreation and Development Committee  
Legislative Office Building, Room 305  
Concord, NH 03301

**RE: SB 172-FN, An Act relative to Non-Menace dams**

Dear Chair Christensen and Members of the Committee:

Thank you for the opportunity to testify on SB 172-FN. This bill would eliminate the ability of the New Hampshire Department of Environmental Services (NHDES) to reclassify any dam that was assigned as a Non-Menace structure as of February 20, 1981, unless NHDES determines that conditions downstream of the dam have changed to warrant reclassification or until such time as formal permitting associated with its reconstruction is needed.

The bill was filed on behalf of a constituent whose Non-Menace dam had been reclassified by NHDES based on an analysis of the failure of the dam using tools that were not available at the time the dam was originally classified in the 1970's, even though downstream conditions had not changed in that time. These new tools were developed to more accurately determine the extent of downstream flooding due to dam failure. The original bill, filed in 2017, would have required concurrence of the governing body of the municipality in which a dam is located for NHDES to identify the dam as a menace to public safety. NHDES objected to this bill, and it was re-referred to the Senate Public and Municipal Affairs Committee. NHDES then worked with the committee and the constituent to develop the current version of the bill. While the current bill is acceptable to NHDES as a reasonable compromise to private dam owners who may face additional costs if their Non-Menace dams are reclassified even if downstream conditions have not changed, the legislature should recognize that, if the bill is passed, life and property downstream of the dams, which would be exempted by this bill, could be at a higher risk due to the inability to regulate these structures consistent with their proper classification and associated dam safety standards.

The hazard classification of a dam is important because it dictates the frequency of NHDES safety inspections for that dam. Our Dam Safety Specialists (licensed professional engineers) inspect all menace, or hazardous, dams on a regular basis to make sure they are engineered, operated, and maintained safely. It is not uncommon for such inspections to reveal changed conditions downstream of the dam that warrant a reassessment of the hazard classification. Non-Menace dams are not inspected on a set schedule, but are inspected primarily in response to information NHDES may receive or come to know on its own. This tends to result in long spans of time between visits of Non-Menace dams, as well as reassessment of their hazard classification. The ability of NHDES to make these assessments has been greatly enhanced over the years due to advancements in modeling and mapping techniques and greater awareness of downstream damage centers due to the flooding that the state has experienced over the past several years. These new tools enable NHDES to gather information and make conclusions that were not possible previously, even though downstream conditions may not have changed since the dam was originally classified.

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There are currently 2,624 dams in New Hampshire. Under RSA 482:9 and RSA 482:12, NHDES has classified 836 of these dams as hazardous dams because the flooding produced by their failure or mis-operation would result in loss of life or property damage downstream. The hazard classification is based solely on the extent of impact to development downstream within the potentially inundated area. It is not, in any way, related to the condition of the dam.

Of the 836 hazardous dams, 146 are classified as High Hazard dams because their failure would inundate houses or other occupied structures downstream to a degree that would likely cause loss of life. One hundred and fifty-eight dams (158) are classified as Significant Hazard dams because their failure would cause a slightly lesser degree of flooding to occupied properties, though result in significant economic loss, and damage to state routes, and 532 are classified as Low Hazard dams because their failure would cause significant damage and economic loss to such things as unoccupied downstream property and damage to one or more town or city roads. The remaining 1,788 dams are classified as Non-Menace or Non-Hazardous dams. These dams are considered to pose no threat to development downstream, as the failure or mis-operation of these dams would not cause loss of life or property damage.

In determining the hazard classification of a dam, NHDES assesses the size and storage capacity of the dam and performs a detailed inspection of the areas downstream of the dam that could be flooded by the failure or mis-operation of the dam. Often, hazard classification determinations require NHDES to perform hydrologic analyses of the watershed upstream of the dam to determine the proper design flood, followed by computer simulations of the dam failure flood to identify the area that would be inundated, the depth of the flooding and the speed of the flood wave if the dam were to fail.

Under the bill, NHDES will be unable to reassess the impacts of failure/mis-operation of Non-Menace dams that were classified so as of February 20, 1981 and that have not seen physical changes to their downstream reaches. As noted above, advances in technology enable NHDES to make more accurate impact assessments. Therefore, it is likely that dams could retain a Non-Menace classification even though evidence may indicate that downstream damages could occur that would warrant reclassification of the dams to a high hazard.

Thank you again for the opportunity to comment on SB 172-FN. Should you have further questions or need additional information, please feel free to contact either Jim Gallagher, Dam Bureau Administrator ([James.Gallagher@des.nh.gov](mailto:James.Gallagher@des.nh.gov)), 271-1961 or me ([Robert.Scott@des.nh.gov](mailto:Robert.Scott@des.nh.gov)), 271-2958.

Sincerely,



Robert R. Scott  
Commissioner

cc: Sponsors of SB 172-FN: Senator Sanborn; Representatives Cordelli, Vadney