



Subject: Public Safety Notice Regarding Winter Risks to Dams

Dear Dam Owner:

The Department of Conservation and Recreation (DCR) Office of Dam Safety (ODS) is contacting you to share information pertaining to potential risks to dams associated with typical winter weather in New England.

Please be advised as with any work that a dam owner plans to undertake at their dam, any plans to manipulate water levels for any purpose, including, but not limited to, conducting repairs, seasonal winter drawdowns, vegetation management, etc., will require you to seek permission from the applicable local, state, and federal permitting agencies, including, but not limited to, your local Conservation Commission. See second page for additional details.

Some common risks associated with winter weather are as follows:

- Frozen and saturated ground in the watershed limiting infiltration and increased runoff rates and velocity compared to the warmer months
- Ice loading outside accepted range as established by the United States Army Corps of Engineers, additional details available at the following link:
https://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-1612.pdf
- Ice debris potentially becoming jammed in spillway(s) and obstructing outflow
- Scour and other direct damage occurring to concrete spillway(s) due to ice

In addition to the potential risks associated with winter weather, there are risks associated with spring weather:

- Ice on the lake posing the same risks as in the winter
- Seasonal heavy precipitation in spring
- Ripe snowpack releasing a water equivalency that increases the inflows to the pond, compounding with direct precipitation to increase the "experienced" precipitation depth
- Waterways (upstream and downstream) already at or near high water, limiting discharge capacity without causing flooding

It is recommended that you communicate with your engineering consultant to develop a plan to identify possible risks such as those noted above and assess options to mitigate these issues, for example, conducting a seasonal drawdown and allowing an impoundment to refill during the spring when risks to the dam have been minimized. The potential benefits of conducting seasonal drawdowns are as follows:

- Reducing freeze/thaw cycles on dam and appurtenances
- Reducing ice scour on dam and appurtenances
- Reducing ice loading on dam and appurtenances
- Reducing potential for dam overtopping
- Mitigating for the predictable, seasonal risks that occur in winter and spring by:



- Creating flood storage and attenuation for inflows from watershed
- Providing "head-start" on discharging water downstream to create additional flood storage without causing dangerous downstream flooding
- Shifting ice loading forces on the dam into the accepted range established by the United States Army Corps of Engineers by lowering water surface elevation
- Avoiding ice jams within spillway(s)
- Mitigating possible ice scour impacts to the lower, wider portion of spillway

As a dam owner, you are responsible for maintaining and operating your dam in a manner that is protective of public safety. Per 302 CMR 10.13 (1), you are reminded that a dam "owner shall be responsible and liable for damage to property of others or injury to persons, including but not limited to, loss of life resulting from the operation, failure of or mis-operation of a dam."

You are reminded that it is the obligation of the dam owner to contact and notify all applicable local, state, and federal permitting agencies prior to conducting any work at a dam including manipulation of water levels.

In order to maintain compliance with the Commonwealth's Wetlands Protection Laws you may have to seek requisite approval from your local Conservation Commission in accordance with G.L. c. 131, §40. You are obligated to contact and maintain communication with your local Conservation Commission and any other local, state, or federal permitting agencies to ensure compliance with the Wetlands Protection Act and any other regulatory requirements, which may include, but not be limited to, Department of Environmental Protection, Wetlands and Waterways Program, whose website can be viewed at the following link: <https://www.mass.gov/topics/wetlands-waterways>, the Massachusetts Environmental Policy Act (MEPA) Office, whose website can be viewed at the following link: <https://www.mass.gov/orgs/massachusetts-environmental-policy-act-office>, and the US Army Corps of Engineers Regulatory/Permitting Division, whose website can be viewed at the following link: <https://www.usace.army.mil/missions/civil-works/regulatory-program-and-permits/>.

Thank you for your attention to this important public safety concern and for your anticipated cooperation.

Sincerely,



William C. Salomaa, Director
Office of Dam Safety