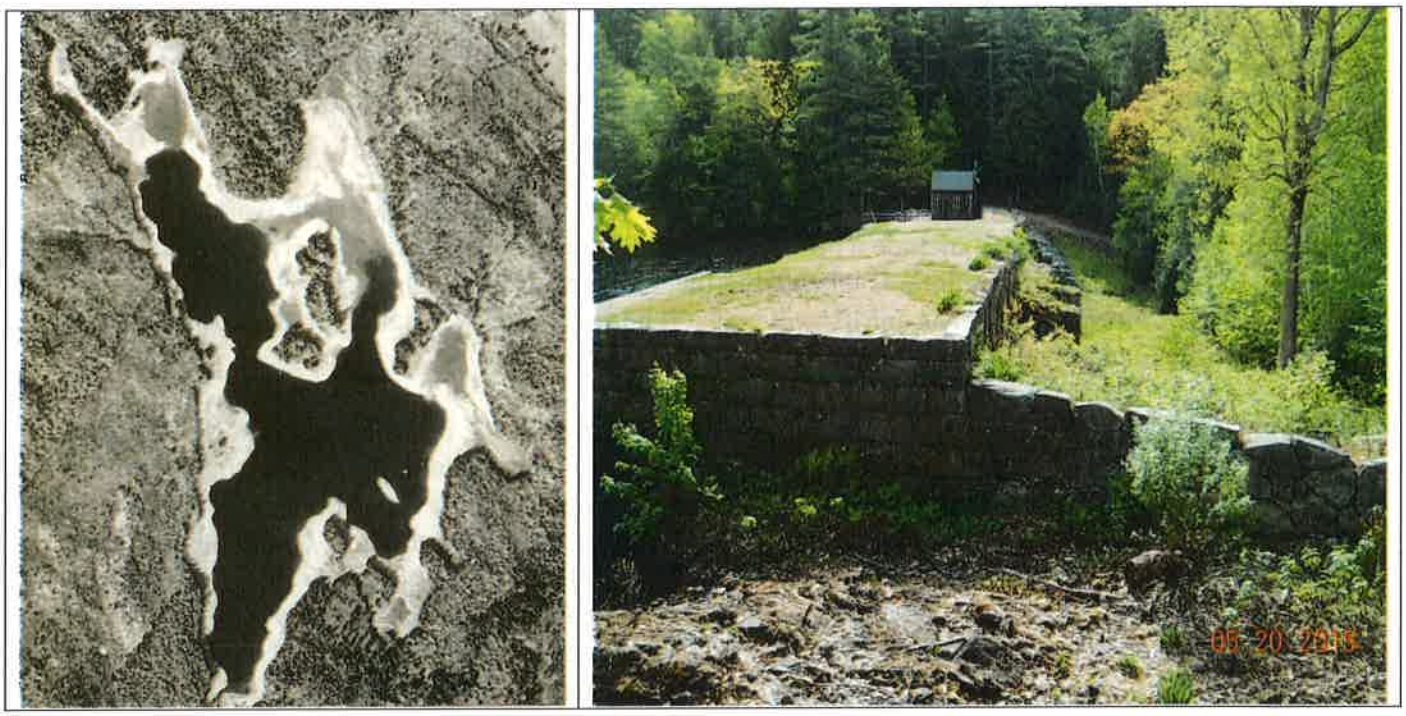
NEW HAMPSHIRE DEPARTMENT OF Environmental Services

ENVIRONMENTAL BULLETIN

PO Box 95, Concord, NH 03302-0095 des.nh.gov (603) 271-3503

Mendums Pond Dam Repair Project
Project Update & Nottingham Lake Notice – September 1, 2015



The New Hampshire Department of Environmental Services' Dam Bureau (NHDES) has been busily preparing for the Mendums Pond Repair during all of August. As noted in the first Environmental Bulletin (issued July 24, 2015), NHDES is preparing for the drawdown of Mendums Pond Dam in order to effect much needed repairs.

Beginning on September 9th, 2015, NHDES will begin the drawdown (i.e. temporary lowering of water level) by opening the gates of the dam and directing approximately 95 cubic feet per second (cfs) of water downstream of the dam. This will result in higher-than-normal flows in the Little River, which drains to Nottingham Lake. Residents on Nottingham Lake can expect an increase in elevation of approximately 1 foot over normal water levels from this flow. It is anticipated that the water level in Mendums Pond will reach the targeted 20-foot drawdown stage in 30 to 45 days, weather dependent.

In the event that September brings additional rains, the drawdown may take longer than originally anticipated and the water level in Nottingham Lake may increase over the above-mentioned 1 foot mark as well. Weather will be monitored closely by NHDES, and in the event that a larger storm system is directed to the area, NHDES will reassess the drawdown plan and may suspend flows until water levels recede and it is safe to resume the drawdown.

NHDES expects that the drawndown pond will look similar to the photo on the left side of the first page, which is an aerial image of the pond in 1942, after a drawdown of similar magnitude. It is expected that water levels will be allowed to rise again as soon as NHDES determines it is safe to do so considering the repair work being conducted in 2016.

In the interim, NHDES has been focused on improving access for construction vehicles to be able to properly negotiate and stage the construction, and to bring power to the site for construction activities. As soon as the drawdown begins, NHDES engineers will be observing monitoring wells installed in the dam to gather additional information about the dam. After the drawdown is finished and the pond is lowered to its temporary construction level, NHDES engineers will be inspecting the upstream face of the dam to look for opportunities to repair the upstream face and slow leakage and seepage through the dam.

Additionally, NHDES is currently developing plans and specifications for the repair work. Current plans call for a repair that will include a downstream soil buttress and cutoff wall. The photo to the right side on the first page of this bulletin is taken from the spillway along the right side (looking downstream) of the structure. The cutoff wall and soil buttress will be installed on the downstream face of the dam (the area to the right in the photo).

The cutoff wall will be used to cutoff the leakage currently exiting the dam, while a new downstream soil filter will drain any seepage still passing through the dam or its foundation. The remainder of the soil buttress will act to stabilize the downstream face of the dam, and prevent future erosion and rotation of the downstream face. Current plans and estimates indicate that approximately 6,000 cubic yards of earthen materials (162,000 cubic feet) and approximately 400 cubic yards of concrete (10,800 cubic feet) will be used in the project. It is anticipated that this repair will not only preserve the safety of the existing structure, but will also allow for better access and easier maintenance. The completed repair will result in a safer site for the public as well, as the downstream soil buttress will eliminate many of the fall hazards currently present at the dam.

At the same time, NHDES forces will make improvements to the operational elements of the dam, including the existing outlet channel and gates near the center of the structure. By making these improvements, NHDES is planning to have more reliable operational capabilities in the future.

NHDES consulted with NH Fish & Game (NHFG) regarding removal and relocation of species during the drawdown, as well as the potential for limiting recreational fishing activities during the drawdown. NHFG determined that, while some fish may move downstream during the drawdown, the approximately 100-acre, 30-foot-deep remaining pond would be acceptable habitat for the species remaining in the pond during the construction. In regard to limiting fishing, NHFG determined that the limited access to the pond already restricts fishing opportunities in the area. Some fishing activities may actually help to reduce the stress on the remaining fish in the smaller impoundment.

Our current proposed schedule of activities for the next three months is as follows:

- September 5- October 15, 2015 – NHDES removes trees and constructs road network to access the dam, including stockpile and staging areas.
- September 9, 2015 – October 24, 2015 – Drawdown of pond (NHDES engineers observe monitoring well data).
- October 15, 2015 – November 1, 2015 – Downstream face of dam cleared and grubbed, organic material removed from the toe of the dam.
- On/about October 26, 2015 – NHDES Engineers evaluate upstream face of dam.
- On/about November 1, 2015 – Eversource (formerly PSNH) installs power to the work site.
- On/about November 2, 2015 – Cofferdam construction begins upstream of the dam, water level at the site regulated by pumps.
- On/about November 16, 2015 – NHDES moves construction trailer to site, excavation for cutoff wall construction begins.
- On/about November 20, 2015 – NHDES begins installing new outlet structure in the middle section of the dam and repairing and replacing the gate structure as necessary (under the existing gatehouse).

For more information:
Updated information on the repair project will be posted on the NHDES website – www.nh.des.gov. Search the A to Z list for the Mendums Pond Repair Project. Also, to receive email updates please contact Brian Desfosses, with the NHDES Dam Bureau, at bdesfosses@des.nh.gov, with the subject heading "Mendums Pond".

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