



Lake Drawdown

Onota Lake, Pontoosuc
Lake, and Richmond
Pond

What is a drawdown?

Established controls on the outlet such that water flows out at a proscribed rate from October 15-December 1st to ensure the downstream is not washed out by too much waterflow

Used nationally to provide storage capacity for flood control, to protect dams, outlets, engineered shorelines and other structures from ice damage, to facilitate dredging and dam maintenance, to control aquatic vegetation and to prevent or control colonization by invasive animals such as zebra mussels

First line of defense to control problematic aquatic vegetation

Advantages	Disadvantages
May reduce available nutrients	Possible impacts on non-target resources
Alters exposed sediment in ways that tend to support less algae growth	Possible impairment of water supply
Provides opportunity for shoreline cleanup/structure repair	Alteration of downstream flows
Flood control utility	Alteration of water level and accessibility
May provide rooted plant control	Refill dependent on weather; may be slow
Protect shoreline from ice damage. Allows sediment oxidation and compaction, with potential reduction of sediment oxygen demand, sediment volume, and available nutrient content.	Possible shoreline erosion and slumping Possible impacts on emergent wetlands and water dependent wildlife Less habitat available for aquatic organisms in winter months
Impacts vegetative propagation species with limited impact to seed producing populations	Possible fish impacts May result in greater nutrient availability for algae
Develops coarser sediment in drawdown area	

GEIR Standards

- Generic Environmental Impact Report (GEIR) for Eutrophication and Aquatic Plant Management is a document providing best management practices for management of algae and aquatic plants.
- Currently operating under the 2004 version but a new version has been drafted but not fully adopted yet

Eutrophication and Aquatic Plant Management
in Massachusetts

Final Generic Environmental Impact Report



Executive Office of Environmental Affairs
Commonwealth of Massachusetts
2004

Pittsfield Lakes Dams

- Onota Lake Dam owned by City of Pittsfield and controlled by Harbormaster
- Pontoosuc Lake Dam owned by Division of Capital Asset Management and Maintenance (DCAMM) and controlled by Department of Conservation and Recreation (DCR)
- Richmond Pond Dam owned by Mill Town/Camp Arrowwood and controlled by Mill Town/Camp Arrowwood

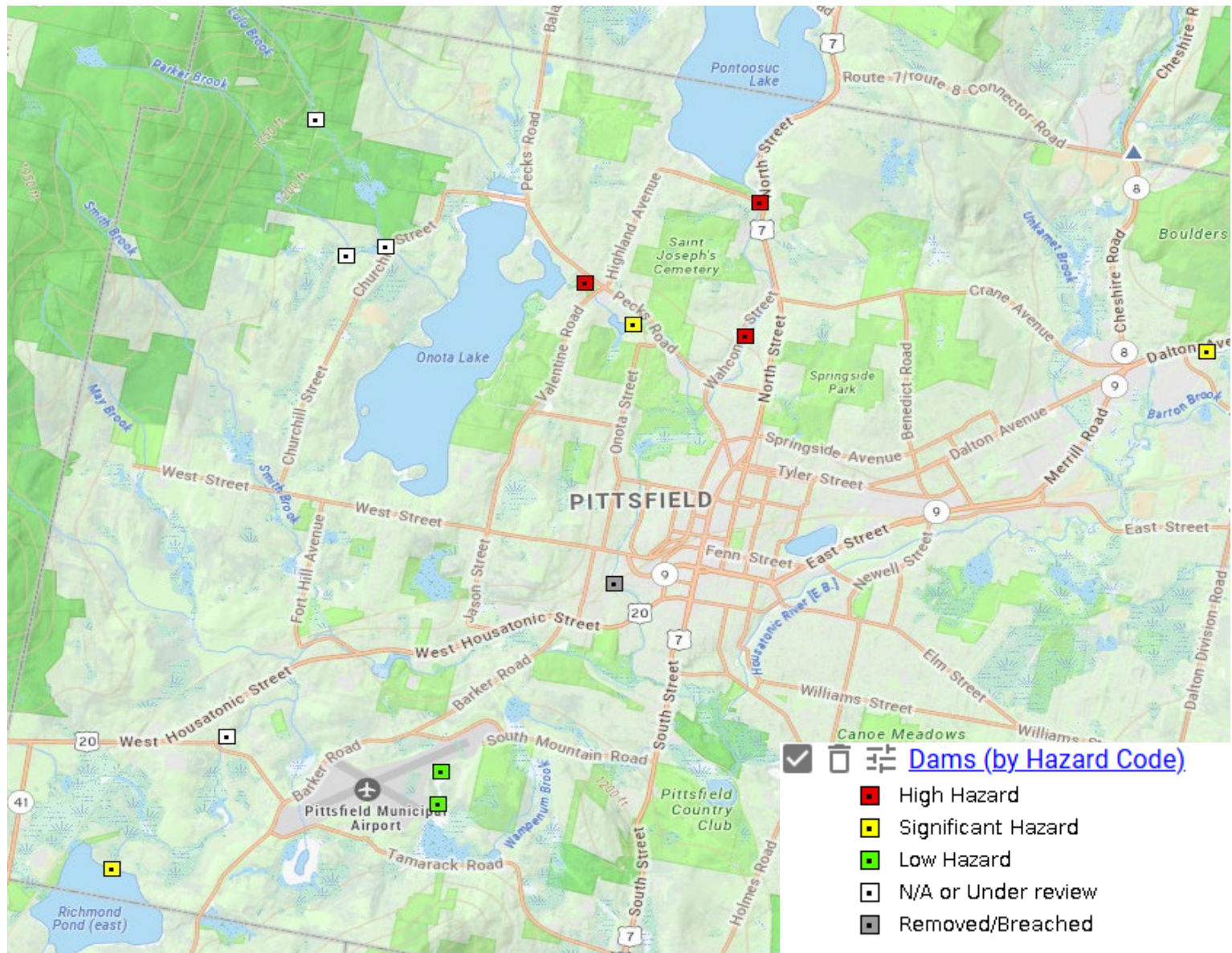


Owning a Dam

- Owning a Dam comes with strict legal, financial, and maintenance responsibilities managed by the Office of Dam Safety (ODS)
- Dam owners must file a Dam Registration Form
- Owners must maintain the dam in safe operating condition and hire qualified engineers to conduct regular safety inspections
- Emergency Action Plans (EAPs) are required specifically for dams classified under High Hazard or Significant Hazard potential (meaning a failure could cause loss of life or major property damage).



Dam Classifications

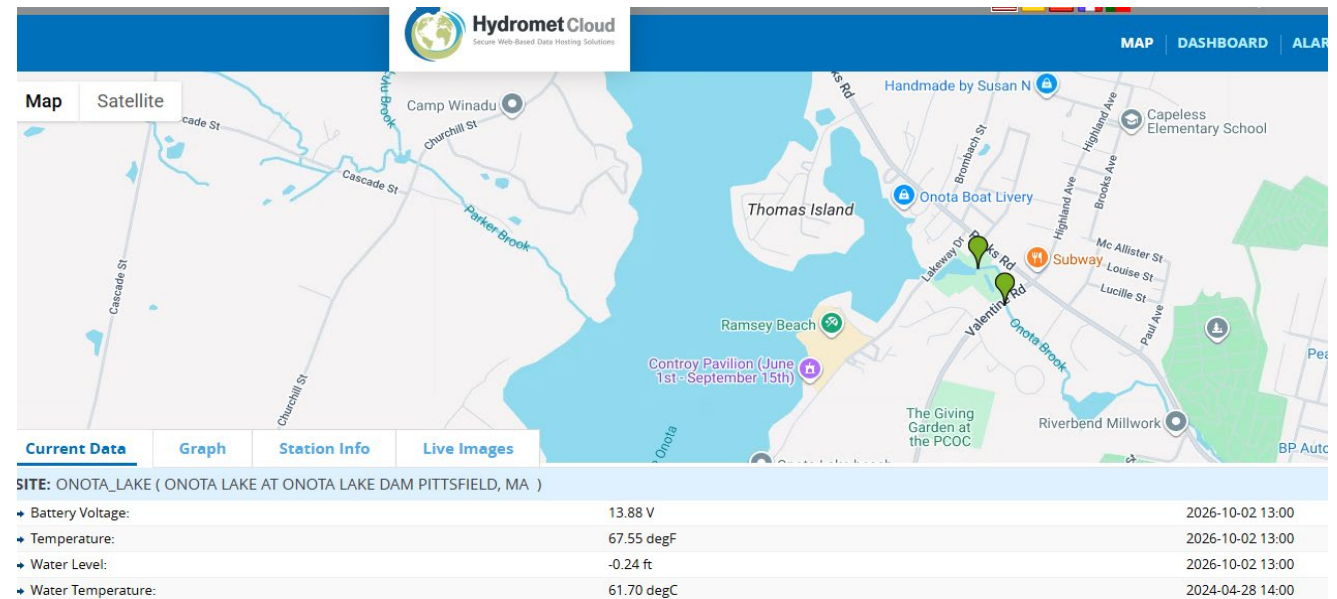


Mass Mapper

How drawdown is monitored

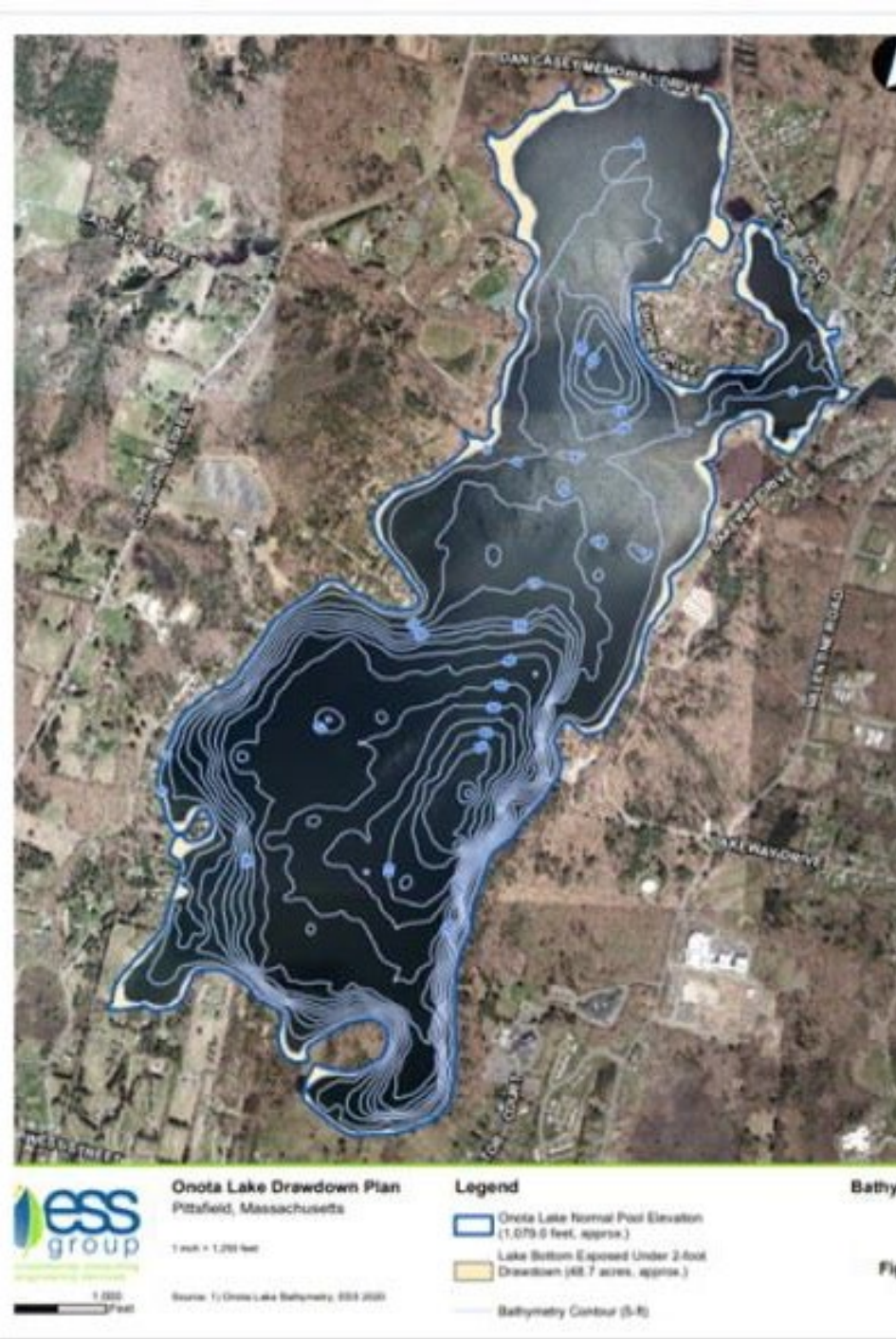


- Staff gauge located on the dam and automatic gauges near the dam
- Onota also has a staff gauge on fishing pier



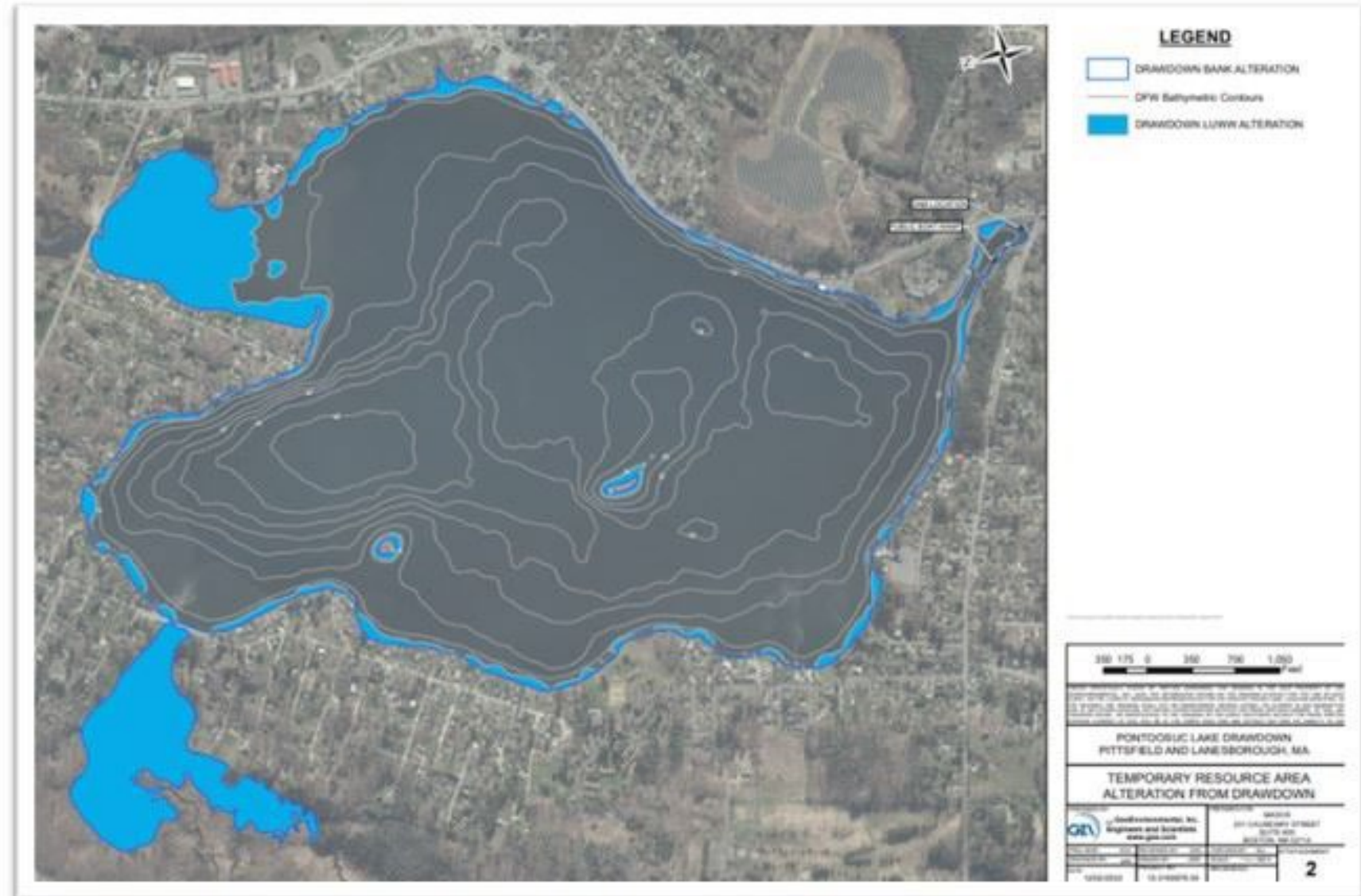
Onota Lake

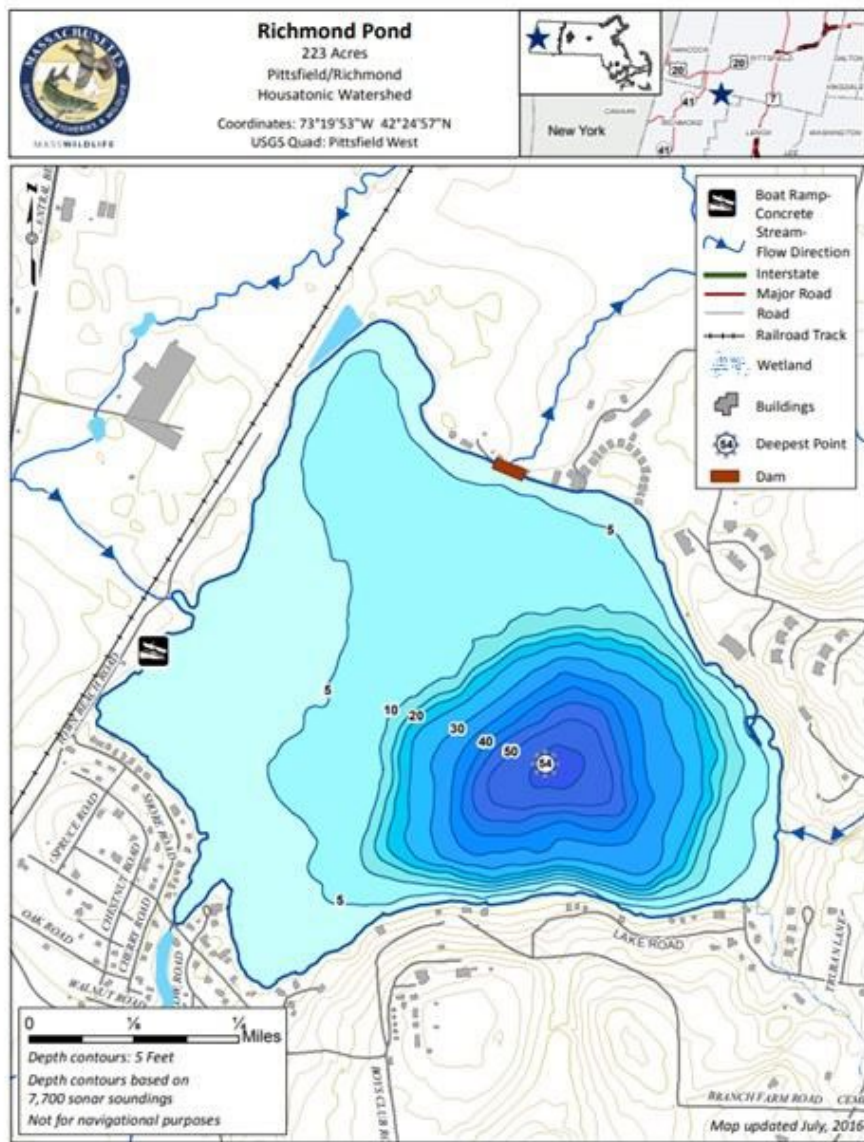
- MassDEP File #263-1152 allows for an annual 2ft drawdown
- New NOI will be filed for 2027 as the current Order will expire October 30, 2027 (with the 2yr Mass Leads Act Extension) with a 3ft drawdown
- Begins on or after October 15th annually
- Rate must not exceed 3 inches per day and outflow from the low-level outlet must not exceed 41.6 cubic feet per second
- Approximately 48.7 acres or 7.5% of the shoreline are exposed
- Normal elevation is 1,079 feet above mean sea level with an approved level of 1,077 ft after drawdown
- Refill on April or before April 1st



Pontoosuc Lake

- MassDEP File #263-0986 allows for a 3ft +/- 0.5 ft drawdown and every few years a 5ft drawdown with added conditions (WQ monitoring in winter)
- Extension is currently being filed with the Commissions
- Begins on October 15th
- Rate of no more than 3 inches/day
- Normal elevation is 1,096 ft above the mean sea level with an approved level of 1,093ft after drawdown completed.
- Refill on or before April 1st





Richmond Pond

- MassDEP File #263-1241 allows for a 2ft drawdown
- Begins on or before November 1st
- Rate of no more than 3 inches/day and outflow from the low-level outlet at the dam must not exceed 4 cubic feet per second
- Normal elevation is 1,100 ft above the mean sea level with an approved level of 1,098ft after drawdown completed.
- Approximate target elevation exposes less than 10% of the lake's shoreline
- Refill on or before April 1st

Benefits of Drawdown

- **Aquatic Plants** –can control invasive Eurasian watermilfoil and allows for native species to establish in the littoral zone
- **Shoreline Infrastructure** –helps reduce erosion, damage to the bank and shoreline vegetation, and sedimentation.
- **Water Quality** – annual drawdown has shown no effect on water quality (Pontoosuc has winter WQ data to support)
- **Wetlands** – (Onota Lake) potential effects of winter drawdown on BVW, the GEIR states, “The impact of drawdowns on wetlands that are hydraulically connected to the lake is often a major concern of environmental agencies. Available data does not suggest major effects, positive or negative, from winter drawdowns (http://www.mass.gov/dem/programs/lakepond/main_geir.pdf). This is believed to be a result of dormancy by most plants and frozen soil conditions in some areas; wetlands are generally adapted to fluctuating water levels and fluctuations in the winter are of least concern” [Microsoft Word - Practical Guide_no pics.doc](#).
- **Fisheries** –refill by April 1st or absolute latest April 15th in accordance with the GEIR should avoid detrimental impacts to fish spawning. Helps to provide native species and native vegetation for fish habitat. Gradually reduce fine sediments within the drawdown zone which improves spawning habitat for certain fish species



Questions