SINGLE ENVIRONMENTAL IMPACT REPORT SUMMARY

PONTOOSUC LAKE ANNUAL DRAWDOWN PROJECT

MASSACHUSETTS ENVIRONMENTAL POLICY ACT (MEPA) PROCESS

The Massachusetts Environmental Policy Act (MEPA) requires a comprehensive review and opportunity for public input on projects that exceed certain sizes and require a State-issued permit or utilize State monies. Because the Pontoosuc Lake Annual Drawdown Project (the Project) will seasonally alter wetlands and waterbodies, requires a State permit, and is funded by a State agency, the Project is currently undergoing MEPA Review. In addition, MEPA requires any project within 1 mile of a State-designated Environmental Justice population to conduct additional informational outreach to those populations to seek their engagement in the MEPA review and permitting processes.

So far, the Department of Conservation and Recreation Office of Dam Safety (DCR ODS) has conducted pre-filing outreach in December 2022, and filed an Expanded Environmental Notification Form (EENF) in January 2023. This EENF was reviewed by State regulatory agencies and the MEPA analyst. The public was invited to attend onsite and online meetings about the project, and several members of the community did submit comments about the Project. The Secretary of the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) issued a certificate detailing the MEPA office's review of the EENF and providing a Scope for actions to be taken and content to be provided in a Single Environmental Impact Report (SEIR), the next and final required filing with MEPA for the project. The MEPA Project file number is EEA #16656.

At this time, the DCR ODS has prepared an SEIR for the second round of MEPA review. This SEIR will be submitted to the MEPA Office on or before June 30 for review in July. We anticipate that the Secretary of EEA will issue findings on the SEIR in August 2023. After those findings are issued, DCR ODS will prepare and submit permit applications to the Massachusetts Department of Environmental Protection, the City of Pittsfield Conservation Commission, and the Town of Lanesborough Conservation Commission. Each of these permit applications will be advertised in the Public Notices section of the Berkshire Eagle and lake abutters will be directly notified by mail.

This document has been prepared to summarize the SEIR prior to submitting it to MEPA**. The DCR ODS and Project representatives will be available on Thursday June 22, 2023, from 5:00 to 7:00 PM at the John T. Reid Middle School located at 950 North Street, Pittsfield, for an informal "drop-in" session.** No presentation will be made, but interested parties are welcome to come and ask questions or review full-sized maps and summary information about the Project.

Information on the Project, and a link to the SEIR, once submitted, will be available here:
https://www.gza.com/pontoosuc-lake-annual-drawdown-project

PROJECT BACKGROUND AND PROJECT DESCRIPTION

The Pontoosuc Lake Annual Drawdown Project (the Project) in Pittsfield and Lanesborough, Massachusetts (EEA #16656), is proposed by the Department of Conservation and Recreation Office of Dam Safety (DCR ODS) and Division of Capital Asset Management and Maintenance (DCAMM). The Project entails the continuation of the annual three-foot winter drawdown of Pontoosuc Lake. The drawdown, implemented since at least 1967, serves to protect the dam and downstream communities by:

1. Creating flood storage and attenuation during the late fall, winter, and spring snowmelt; and
2. Providing preventative maintenance to the dam by limiting direct ice scour, ice damming of the spillway gate, and reducing lateral ice loading on the structure to meet United States Army Corps and Office of Dam Safety recommendations for structural stability.

The drawdown has previously been permitted under the Wetland Protection Act and the Generic Environmental Impact Report for aquatic vegetation management; however, at this time, the Project is no longer proposed for vegetation management, and it is appropriate to seek new permits to continue the drawdown. The sole purpose of the proposed drawdown is dam safety and flood risk reduction. The operational difference between the drawdown previously conducted and the one proposed is variation on the exact start and end dates of the drawdown period to accommodate weather, ice cover on the lake, and snowpack in the watershed.

The drawdown is facilitated through the operation of the dam spillway gate to gradually lower the lake level in the fall, thus maintaining it in the lowered condition throughout the winter and refilling it in the spring following ice out. The DCR ODS proposes to initiate the lake drawdown on or around October 15 of each year with limited flexibility on the start date requested to respond and react to weather forecasts of significant precipitation prior to that date. During the drawdown the lake level will be lowered by two to three inches per day, on average. Refilling of the lake would be timed to occur following both the ice out of the lake and the dissipation of the snow melt within the watershed. Lake refilling would occur as quickly as the inflows allow while meeting requirements for maintaining a minimum flow rate downstream of the dam.

CHANGES SINCE THE EENF

No significant changes have been made to the Project since filing the EENF. In accordance with the Secretary's Scope, this SEIR clarified the proposed operation and performance standards for the drawdown related to potential early drawdown and later refill dates than are currently in use. Additional engineering evaluations were performed since filing the EENF to support the Project purpose and need and the results are included in the SEIR.

Following consultation with the Massachusetts Division of Fisheries and Wildlife, additional literature review was conducted to more fully describe the existing conditions in Pontoosuc Lake and anticipated impacts of the Project. Environmental Justice (EJ) outreach efforts while preparing the SEIR included maintaining the Project website and providing the Secretary's Certificate, circulating this summary document to interested parties, and hosting an informal information meeting to update the community.

SCOPE OF THE SINGLE ENVIRONMENTAL IMPACT REPORT

The Secretary's Certificate provided a scope of work for the SEIR, as follows:

- Formatting in accordance with Section 11.07 of the MEPA regulations for outline and content;
- Identification, description, and assessment of the environmental impacts of any changes in the project that have occurred since the filing of the EENF;
- Provide a discussion of the Project's consistency with applicable permitting and review requirements;
- Expanded discussion and analysis of alternatives;
- Continued Environmental Justice engagement;
- Wetlands and Aquatic Habitat
    - Estimation and evaluation of potential BVW impacts resulting from the drawdown;
    - Respond to comments regarding potential wildlife impacts;

    - Consult with MassWildlife to determine if additional data or analysis should be conducted to evaluate aquatic habitat impacts (Completed March 27, 2023);
- Climate Change
    - Update the MA Resilience Design Tool Output report;
    - Provide additional information about the storm return period accommodated by the drawdown;
    - Clarify if the dam and drawdown are resilient to climate change with reference to specific storm conditions and planning horizon;
    - Discuss possible long-term management options to protect the dam under future climate conditions; and
    - Discuss potential GHG emissions from the exposed lake substrate;
- Section of proposed mitigation measures;
- Section of Draft Section 61 Findings for each Agency Action;
- Copy of Secretary's Certificate and each comment letter received with direct response to comments within MEPA jurisdiction and the Scope requirements set forth in the Secretary's Certificate; and
- Circulation to those parties who commented on the EENF and State and municipal agencies from whom the Project will seek permits or approvals.

PROJECT ALTERNATIVES

The following Project alternatives were identified in the EENF and expanded upon in this SEIR:

Alternative 1 – No Action (discontinue the drawdown)

Under this alternative, the annual winter drawdown would not be conducted resulting in no increased flood protection, no preventative maintenance to the dam, and increased risks to downstream communities, properties, and infrastructure. The dam would be expected to overtop and flood adjacent roadways for storms identified as a 50-year storm or greater either based on precipitation alone, or for flows resulting from lesser precipitation events paired with spring snowmelt. The dam would not comply with Dam Safety Regulations and United States Army Corps of Engineers recommendations on dam stability under ice loading conditions.

This alternative was dismissed as it does not address the Project purpose and increases risk of damage to the dam and potential flooding to downstream communities.

Alternative 2 – Breach or Remove the Dam

Under this alternative, a portion or all of the dam would be removed, resulting in the loss or significant reduction in water surface area of Pontoosuc Lake. Based on bathymetric data and historical records, breaching or removing the dam would be anticipated to result in the permanent dewatering of approximately 195 acres of the 541-acre lake (36% reduction). Pontoosuc Lake is economically and ecologically important to the region and provides significant outdoor recreational opportunities. The reduced lake water surface elevation would directly impact hundreds of homeowners and several businesses around the lake shore. Based on available flood maps prepared by the Federal Emergency Management Agency (FEMA), it is anticipated that breaching or removing the dam may increase flood risks along the West Branch of the Housatonic River downstream of the dam, which is counter to the Project purpose.

This alternative was not selected at this time to preserve the existing lake and its open water habitats and avoid increases or changes to flood risks.

Alternative 3 – Modify or Upgrade the Dam

Under this alternative, several potential modifications or upgrades to the dam were evaluated including:

- Increasing the spillway capacity of the dam to accommodate the spillway design flood (SDF) as defined in the Dam Safety Regulations (302 CMR 10.00);
- Installing rip rap or other physical protection along the upstream face of the spillway; and
- Installing a bubbler system along the upstream face of the spillway.

Increasing the spillway capacity so that it could adequately discharge the spillway design flood would entail significant renovation or replacement of the dam, assuming that it could be accomplished within the existing footprint of the dam and its associated property. Because the top of the dam embankments are at a similar elevation to Route 7 and Hancock Road, increasing the spillway capacity would likely require elevating these roadways and the dam embankments to avoid unsafe overtopping of the dam. Further, Pontoosuc Lake Dam has been in its current location since 1866 and downstream infrastructure has been designed and constructed based on current conditions. If the dam were modified to allow the additional flows necessary to adequately pass the spillway design flood, increased peak flows downstream could impact downstream infrastructure not designed for these flows. This sub-alternative does not address the ice-loading risks on the dam.

Installing physical protection of the spillway through either placement of rip rap or a bubbler system may avoid direct ice damage on the spillway face and/or ice loading at the dam. These alternatives do not address the flooding and dam overtopping risks.

As the potential modification and upgrades to the dam do not adequately address both the flooding and the ice loading risks, these alternatives were not selected.

Alternative 4 – Reduce the Drawdown Depth

The drawdown depth of three feet has resulted from decades of compromise around the drawdown depth. At this time, a three-foot drawdown provides adequate flood and structural protection for storms up to the 100-year storm; however, it still cannot adequately pass the spillway design flood. Reducing the drawdown depth further would decrease flood protections, increase the risk of overtopping of the dam resulting in damage, and would not meet the gravity stability requirements under ice loading conditions.

Decreasing the drawdown depth would incur similar environmental impacts as the three-foot drawdown related to substrate composition, constrained benthic habitat, and potential greenhouse gas fluxes. Within the one-foot depth contour that would not be exposed under a two-foot drawdown, aquatic habitats may improve compared to existing conditions.

Though there may be benefits associated with a decreased drawdown depth for some uses and functions of the lake, reducing the drawdown depth further would expose downstream communities to unacceptable flood risk by increasing physical risks to the dam itself, and would shorten the response time available to take emergency action in the event of storm events of greater magnitude than the 100-year storm. Because of these risks, a reduced drawdown is not acceptable and therefore was not selected.

Alternative 5 – Continue the 3-foot Drawdown

The three-foot drawdown is the same magnitude as has been conducted since at least 2011 and is a reduction from the drawdown depths used in the 1990s. Though this depth does not adequately pass the spillway design flood, it does provide enough flood storage and flow capacity to pass the 100-year storm with minimal overtopping to the dam. Critically, this is the minimum depth necessary to meet dam stability requirements under lateral lake ice loading conditions.

Continuing the three-foot drawdown maintains the existing conditions at the lake, does not increase adverse environmental impacts, protects the dam structure, and provides adequate downstream flood risk reduction. Therefore, this is the selected alternative.

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

As described in the EENF and SEIR, the drawdown has been conducted to at least three-feet deep annually since the 1960s and has shaped the ecology of the lake which is a destination in the region. Continuing the drawdown is not anticipated to further alter the lake or its ecological community and instead will maintain the lake as-is. There are no negative public health impacts from the drawdown. No construction, earthwork, or development is proposed as part of this Project.

The Project will protect downstream communities, including those mapped as Environmental Justice populations, from flood risks which could result in physical harm up to loss of life, destruction or reduction in services and infrastructure, and property loss.

MITIGATION MEASURES

Implementing the Project as proposed protects public health and safety by avoiding and reducing risks associated with dam failure and/or flooding in Pittsfield. The Project improves the safety to downstream infrastructure, including the sewer interceptor located immediately downstream of the dam, the Bel Air dam which is in poor condition, and other roadways and river crossings. By reducing flood risks, the Project also benefits Environmental Justice communities downstream of the dam by preserving properties and services, provides proactive protection to downstream historical resources. The Project will not result in construction of new structures, cause air emissions, generate traffic, result in wastewater or generation of hazardous substances, contribute to urban heat island effect by cutting trees or creating impervious surfaces, or change stormwater runoff patterns that could cause urban flooding. Other environmental damage has been avoided and minimized over time by reducing the drawdown depth to the minimum necessary to meet the applicable safety standards and increase safety. Additional mitigation measures include:

- Returning the full-pool water surface elevation as soon as is safe in the spring following seasonal snowmelt and ice-out;
- Following sound dam management practices and recommendations from MassWidlife and MassDEP on other drawdown projects for the gradual drawdown and refill rates;
- Maintaining minimum base flows downstream of the dam to the extent practicable based on inflow rates;
- Maintaining regular logbooks of the drawdown elevation from staff visits and providing these data upon request;
- Installing a new staff gauge on the spillway face with the drawdown elevation marked to increase transparency; and
- Investigating the capability to install instrumentation to provide real-time, web-based reporting of lake water elevation and flow rates discharging from the dam.