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March 3, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
EXPANDED ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Pontoosuc Lake Annual Drawdown Project
PROJECT MUNICIPALITY	: Lanesborough and Pittsfield
PROJECT WATERSHED	: Housatonic River
EEA NUMBER	: 16656
PROJECT PROPONENTS	: Department of Conservation and Recreation (DCR) and Division of Capital Asset Management and Maintenance (DCAMM)
DATE NOTICED IN MONITOR	: January 25, 2023

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G.L. c. 30, ss. 61-62L) and Section 11.06 of the MEPA Regulations (301 CMR 11.00), I have reviewed the Expanded Environmental Notification Form (EENF) and hereby determine that this project requires the submission of an Environmental Impact Report (EIR). In accordance with Section 11.06(8) of the MEPA regulations, the Proponents requested that I allow a Single EIR to be submitted in lieu of the usual two-stage Draft and Final EIR process. I hereby grant the request to file a Single EIR, which the Proponents should submit in accordance with the Scope included in this Certificate.

Project Description

As described in the Expanded Environmental Notification Form (EENF), the project consists of an annual three-foot drawdown of Pontoosuc Lake to achieve dam safety purposes. The Pontoosuc Lake Dam is managed by the Department of Conservation and Recreation Office of Dam Safety (ODS) and owned by the Division of Capital Asset Management and Maintenance (DCAMM) and is currently considered a "High" hazard dam. A similar type of drawdown has been undertaken since the 1970's for purposes of dam safety and aquatic vegetation control, and the measures used are consistent with practices described in the Eutrophication and Aquatic Plant Management Final Generic Environmental

Impact Report (GEIR), which completed MEPA review in 2004 (EEA# 6934). The Proponents now seek to conduct a drawdown for a separate purpose, not covered by the GEIR, to preserve the structural integrity of the dam and reduce downstream flooding risks. The Proponents are undertaking this MEPA review to disclose the practices and impacts associated with the proposed drawdown method, and propose to continue the drawdown on an annual basis as Routine Maintenance activity as defined in MEPA regulations.

The drawdown was most recently permitted under the Wetlands Protection Act (M.G.L. Chapter 131 Section 40) and its regulations (310 CMR 10.00) by the Pittsfield and Lanesborough Conservation Commissions in 2011. The approvals have been extended to remain in effect until 2023. In connection with the application for permits, the Proponents seek authorization to conduct the drawdown for purposes of dam maintenance as a separate and distinct activity from other aquatic plant management activities. This review will clarify the purpose of the drawdown and establish modified drawdown and refilling operations associated with flood control and dam maintenance activities. According to the EENF, the purpose of the drawdown is to preserve the structural integrity of the dam and reduce downstream flood risks. Drawing down the lake during the winter months accomplishes this goal by providing additional flood storage in the lake to accommodate winter storms and snow and ice melt and to reduce the amount of water that would overtop the dam in very large storms. In addition, the process for refilling of the dam will be modified to protect the dam and adjacent banks from ice damage and ice scour by delaying commencement of refilling until after significant ice cover is no longer present on the lake. As described in the EENF, the drawdown is proposed to continue with modifications to existing procedures as described below.

Dam Safety

Pontoosuc Lake Dam is comprised of a masonry and reinforced concrete primary spillway with earthen embankments. The dam is 150 feet long (distance between the embankments) and 19 feet high. The primary spillway is 80 feet long, four feet high and 2.5 feet wide. The top of the spillway is at elevation 1,097.4 ft NAVD 88. During the summer months, water flows over the spillway crest, the elevation of which establishes the lake's water level. The spillway includes a three-foot deep notch with a slide gate that can be used to draw down the water level of the lake, as described below. The low-level outlet for the dam is located between the spillway and the abutment on the right side (looking downstream) of the dam. The low-level outlet consists of a seven-foot diameter steel conduit with an outlet elevation of 1,086.8 ft NAVD 88 which extends below Hancock Street and discharges to a downstream section of the West Branch Housatonic River channel.

According to the EENF, the dam is designated as a "High" hazard potential, Large-sized dam. It is considered to be a High hazard dam because its failure would likely cause loss of life and serious damage to buildings and infrastructure. It is considered a Large dam because it can store over 1,000 acre-feet of water. The EENF reviewed the results of a hydrologic and hydraulic (H&H) analysis conducted in 2021 which evaluated the ability of the dam to withstand heavy precipitation and flooding from large storm events. The Dam Safety Regulations at 302 CMR 10.14 specify that a Large, High-hazard dam should be designed to withstand a Spillway Design Flood (SDF) equivalent to one-half the Probable Maximum Flood (PMF). The PMF is the inflow rate generated by runoff from the 24-hour Probable Maximum Precipitation (PMP) event, which is calculated as 28.56 inches of rainfall across the watershed; the SDF for the Pontoosuc Lake Dam is therefore based on a 24-hour precipitation depth of

approximately 14 inches. According to the EENF, the H&H analysis determined that the SDF would overtop the dam by 7.5 feet if the lake was already at full volume and the spillway and low-level outlets were closed; with a three-foot drawdown and gates open, the H&H analysis estimated that the dam would be overtopped by 6.5 feet of water. Therefore, the continuing an annual three-foot drawdown would not allow the dam to withstand the SDF; however, it will allow the dam to withstand major storm events that cause flooding less than the SDF but occur more frequently. The EENF also indicated that the dam is structurally sound, such that dam failure is not anticipated even with overtopping of up to five feet.

The EENF did not identify the return period for a storm that would overtop the dam by five feet. However, as detailed below, it provided modeling results of an October 2005 storm with a 24-hour precipitation depth of 7.4 inches, which is approximately equal to the 250-year (0.4% chance) storm event as of 2005 but well under the SDF of 14 inches. The model predicted that the dam would not have overtopped during that storm with a three-foot drawdown and the gates open.

According to the EENF, the drawdown is also needed to minimize damage to the dam caused by ice. At the three-foot drawdown level, ice would exert pressure on a lower part of the spillway than with no drawdown. According to the EENF, pressure from ice at the top of the spillway would be more likely to cause the dam to tip over or otherwise become damaged. In addition, ice can cause scour along the dam embankments, which could destabilize the banks.

Drawdown

Drawing down the lake is accomplished primarily by opening a gate in the spillway notch that controls the rate at which water flows through the dam spillway. After 14 days, the low-level outlet gate is opened to its winter setting, which maintains a drawdown depth of three feet. The drawdown is conducted such that the downstream flow rate does not exceed the maximum allowable rate of 25 cubic feet per second (cfs). This project proposes to modify the timing of this drawdown under certain circumstances in order to support the purpose of dam safety.

Under existing permit conditions, lowering of the water level in the lake begins on or around October 15 at a rate of 2 to 3 inches a day until the lake is drawn down by 36 inches in the middle of November. The revised procedure would allow the Proponents to begin the drawdown prior to October 15 if a significant rain event is forecasted prior to that date or if necessary to address damage to the dam or other circumstances that pose a flood risk. If possible, the rate at which the water level is lowered would not change from the standard operating procedure but would be accelerated, if necessary, under an emergency. Commencement of the drawdown prior to October 15 would require the Proponents to provide prior notification to the Massachusetts Department of Environmental Protection (MassDEP) and the conservation commissions and harbormasters of Lanesborough and Pittsfield. During the winter, the water level in the lake is maintained at three feet below the dam crest by opening or closing the low-level outlet gate to match inflows and outflows.

Refilling of the Lake

Refiling of the lake is accomplished by partially closing the spillway gate to slow the rate of water discharging from the dam, while maintaining a minimum downstream flow of 10 cfs. The low-

level outlet gate is closed 14 days after refilling commences.

Under existing permit conditions, refilling of the lake must begin on March 1 and be completed by April 1. As described in the EENF, the Proponents propose to modify this procedure by delaying the commencement of refilling if a significant ice cover remains on the lake, if significant snow pack is present within the watershed of the lake that could cause a sudden increase in water levels by rapid melting, and/or if a significant rainfall event is predicted prior to the scheduled refilling of the lake. The Pittsfield and Lanesborough conservation commissions and harbormasters, and MassDEP, will be notified if there will be a delay commencing or completing the refilling of the lake. However, the EENF did not propose any definitive dates for commencing the drawdown or refilling the lake.

Project Site

Pontoosuc Lake is approximately 541 acres in area. The northern half is located in Lanesborough and the southern half is in Pittsfield. The dam is located at the southern end of the lake near the intersection of North Street (Route 87) and Hancock Road. Tributaries to the lake include Secum Brook, which flows into the lake from the northwest, and Town Brook, which enters the lake from the northeast. Residential properties are located along most of the shoreline. Public access to the lake is provided primarily at Pontoosuc Park and a boat ramp, both of which are located adjacent to and west of the dam. The lake is used for recreational purposes, including boating and fishing.

The lake is a Great Pond subject to the jurisdiction of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to M.G.L. Chapter 91 (c. 91). In addition to Land Under Waterbodies and Waterways (LUWW) and Bank, wetland resource areas present at the lake include large areas of Bordering Vegetated Wetlands (BVW) along Town Brook and Secum Brook where they enter the lake. As shown on the Federal Emergency Management Agency's (FEMA) National Flood Insurance Rate Map (FIRM) numbers 2500370010C (effective February 19, 1982) and 250027003B (effective June 15, 1982), the 100-year floodplain (Bordering Land Subject to Flooding or BLSF) has a Base Flood Elevation of 1101 feet NAVD 88 and is limited to a fringe around the shoreline of the lake.

According to the Massachusetts Division of Fisheries and Wildlife (MassWildlife), Pontoosuc Lake is a popular location for recreational fishing. Species targeted by anglers include Largemouth Bass, Smallmouth Bass, Yellow Perch, Chain Pickerel and Northern Pike, as well as annually-stocked trout. MassWildlife's Angler Education Program has hosted Learn-to-Fish clinics at the lake. The lake and its surrounding wetlands provide important habitat for waterfowl, semi-aquatic mammals, reptiles, amphibians, and invertebrates.

The project site is located within one mile of an Environmental Justice (EJ) population (census block)[1] designated as Minority and Income located in Pittsfield. The project site is within five miles of 21 additional EJ populations in Pittsfield designated as Minority; Income; and Minority and Income, and three EJ populations in Dalton designated as Income.

Environmental Impacts and Mitigation

[1] "Environmental Justice Population" is defined in M.G.L. c. 30, § 62 under four categories: Minority, Income, English Isolation, and a combined category of Minority and Income.

Potential environmental impacts of the project include alteration of 73.2 acres of LUWW and 7.15 miles of Bank which are exposed when the lake is drawn down; as noted below, the Singe EIR should include an estimate of the area of BVW adjacent to the lake that is affected by the drawdown.

According to the EENF, the purpose of the project is to provide flood storage and attenuation to protect the dam from overtopping during large storms and to minimize damage to the dam from ice loading and scour. Measures to protect the dam will minimize risk of dam failure, which would threaten downstream populations in Pittsfield. Measures to avoid, minimize, and mitigate environmental impacts include maintaining a minimum of flow of 10 cubic feet per second to downstream sections of the West Branch of the Housatonic River and restoring the lake to its normal water surface elevation in the spring.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to preparation of a mandatory EIR pursuant to Section 11.03(3)(a)(1)(b) of the MEPA regulations because it requires an Agency Action and will alter ten or more acres of any other wetlands (LUWW). The project is also required to prepare an EIR pursuant to 301 CMR 11.06(7)(b) because it is located within a DGA (1 mile) around one or more EJ Populations. The project requires a c.91 Permit for the drawdown and a c.91 License for the dam, which has not been previously authorized, from MassDEP. The project is subject to the MEPA GHG Emissions Policy and Protocol.

The project requires Orders of Conditions (OOC) from the Pittsfield and Lanesborough Conservations (or a Superseding Order of Conditions from MassDEP in the event the Order is appealed).

Because the project will be undertaken by an Agencies (DCAMM and DCR), MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Request for Single EIR

The MEPA regulations at 301 CMR 11.06(8) indicate that a Single EIR may be allowed provided I find that the EENF:

a. describes and analyzes all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the Scope;
b. provides a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and,
c. demonstrates that the planning and design of the project use all feasible means to avoid potential environmental impacts.

For any Project for which an EIR is required in accordance with 301 CMR 11.06(7)(b), I must also find that the EENF:

d. describes and analyzes all aspects of the project that may affect Environmental Justice Populations located in whole or in part within the Designated Geographic Area around the

project; describes measures taken to provide meaningful opportunities for public involvement by Environmental Justice Populations prior to filing the expanded ENF, including any changes made to the project to address concerns raised by or on behalf of Environmental Justice Populations; and provides a detailed baseline in relation to any existing unfair or inequitable Environmental Burden and related public health consequences impacting Environmental Justice Populations in accordance with 301 CMR 11.07(6)(n)1.

Consistent with this request, the EENF was subject to an extended comment period under 301 CMR 11.05(8).

Review of the EENF

The EENF included a description of existing and proposed drawdown operations, an evaluation of the structural capacity of the dam and an alternatives analysis. It described existing conditions in and around the lake, including wetlands and wildlife resources and identified measures to avoid, minimize and mitigate environmental impacts. Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ENF contained an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Tool"),[2] together with information on climate resilience strategies to be undertaken by the project. As described below, the Single EIR should provide additional details about drawdown operations, a supplemental alternatives analysis, responses to comments received on the EENF and updated draft Section 61 Findings.

Alternatives Analysis

The EENF included an analysis of alternatives to the project. The Discontinue Drawdown Alternative would maintain a constant year-round water level in the lake. This alternative would avoid impacts to wetlands and aquatic habitat in the lake; however, it would not meet the project purpose because it would not provide additional capacity for the dam to safely convey large storm events and would not minimize the potential for ice to damage the dam. The Breach or Remove the Dam Alternative would reestablish a more natural condition with restoration of stream channels and a smaller pond. However, it would result in a loss of at least 195 acres of open water aquatic habitat and significantly reduce or the recreational use of the lake. According to the EENF, it would likely result in an increase in flooding along downstream sections of the West Branch Housatonic River. The Modify or Upgrade the Dam Alternative would significantly renovate or replace the dam so that it can safely discharge the SDF. This alternative would avoid the need for drawdowns to provide the additional capacity for the dam to store large storm events. According to the EENF, the footprint of the existing dam may not be wide enough to adequately widen the spillway to pass the SDF; therefore, it is likely that removal of the existing dam and construction of a new one would be necessary. As a result, this alternative would be much costlier than the Preferred Alternative.

Under the Reduce Drawdown Depth Alternative, the lake would be drawn down less than three feet to maintain a greater area of aquatic habitat while still providing some measure of increase storage capacity and protection against ice damage. Alternative drawdown depths were not directly evaluated in the EENF. Instead, the EENF provided modelling results for two recent large storm events: the October

[2] https://resilientma.org/rmat_home/designstandards/

2005 rain event which deposited 7.4 inches of rain in a 24-hour period (an approximately 250-year flood event), and Hurricane Irene in August 2011 which deposited 4.9 inches of rain in 24 hours (approximately equivalent to a 100-year storm event). According to the Proponents, these storm events were modelled because no direct measurements at the dam were taken during the storms. The model evaluated these storms under two conditions: one where the drawdown was in effect with outlets open and the other with no drawdown and outlets closed. For the October 2005 storm, the model estimated that the lake would reach an elevation of 1100.6 ft NAVD (approximately 0.6 ft below the dam crest) with the lake drawn down and outlets open, and an elevation of 1101.9 ft NAVD 88 with no drawdown and the outlets closed, which would result in the lake overtopping the dam by 0.7 feet. The model estimated that the August 2011 storm (Hurricane Irene) would have reached 1099.3 ft NAVD 88 under drawdown conditions with outlets open (approximately 1.9 feet below the dam crest) and elevation 1100.6 ft NAVD 88 (0.6 feet below dam crest) with no drawdown and outlets closed. The results suggest that the 2005 storm flows could be prevented from overtopping the dam with less than three feet of drawdown. Furthermore, the modeling suggests that the dam could withstand overtopping from a larger storm even with no drawdown. As described in the Scope, the Single EIR should provide a more detailed analysis of the relationship of drawdown depth to the storm intensity that can be withstood by the dam as currently designed.

The Preferred Alternative involves generally maintaining the existing practice of drawing down the lake level by three feet beginning in the fall and commencing refilling of the lake in the spring. However, as described above, the Proponents have requested flexibility regarding the dates on which drawdown and refilling operations commence in order to protect the structure of the dam and minimize downstream flood risks. A minimum downstream flow will be maintained under all conditions to maintain the water level in the West Branch Housatonic River.

As described below, the Single EIR should include a supplemental alternatives analysis. It should evaluate additional alternatives for protecting the dam from ice damage and for determining the start and end dates of the drawdown..

Environmental Justice

Pontoosuc Lake is located within one mile of an EJ population designated as Minority and Income located in Pittsfield. Within the census tract containing the above EJ population, no languages are identified as those spoken by 5% of more of residents who also identify as not speaking English very well. Effective January 1, 2022, all new projects within a DGA, as defined in 301 CMR 11.02, around EJ populations are subject to new requirements imposed by Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* ("Climate Roadmap Act") and amended MEPA regulations at 301 CMR 11.00. Two related MEPA protocols – the MEPA Public Involvement Protocol for Environmental Justice Populations ("MEPA EJ Public Involvement Protocol") and MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations ("MEPA Interim Protocol for Analysis of EJ Impacts") – are also in effect for new projects filed on or after January 1, 2022. Under the new regulations and protocols, all projects located in a DGA around one or more EJ populations must take steps to enhance public involvement opportunities for EJ populations, and must submit analysis of impacts to such EJ populations in the form of an EIR.

Community Engagement

Consistent with the MEPA Public Involvement Protocol for Environmental Justice Populations ("MEPA EJ Public Involvement Protocol"), the Proponents sent advance notification of the project in the form of an EJ Screening Form to a "EJ Reference List" provided by the MEPA Office and consisting of Community Based Organizations (CBOs) and tribes/indigenous organizations. The EJ Screening Form was also provided to a list of 200 individuals who had previously responded to surveys conducted by the City of Pittsfield regarding Pontoosuc Park, which is located adjacent to the dam, and to 230 individuals on the Friends of Pontoosuc Lake mailing list. The EJ Screening Form included information about two on-site public meetings held on December 8, 2022 at 3:00 PM and 5:30 PM, which were attended by over 25 people. The notice of the MEPA in-person site visit and remote consultation session was distributed to the EJ Reference List. The site visit was held at 1:00 PM on February 14, 2023 and the remote consultation session was held at 6:00 PM on February 15, 2023.

The EENF described a public engagement plan that the Proponents intend to follow for the remainder of the MEPA review process, which includes frequent updates to the project website and continuing discussions about the project with the Friends of Pontoosuc Lake, the City of Pittsfield and the Pittsfield and Lanesborough Conservation Commissions.

Baseline Health Assessment

The EENF included a baseline assessment of any existing "unfair or inequitable Environmental Burden and related public health consequences" impacting the identified EJ population in accordance with 301 CMR 11.07(6)(n)(1) and the MEPA Interim Protocol for Analysis of EJ Impacts. The baseline assessment included a review of the data provided by the Department of Public Health (DPH) EJ Tool applicable to the DGA regarding "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average. According to the EENF, the data surveyed indicate that the City of Pittsfield exceeds 110% of the statewide rates of all four vulnerable health EJ criteria, which include Childhood Lead Exposure, Childhood Asthma Emergency Department Visits, Low Birth Weight and Heart Attack Hospitalizations. In addition, the census tract containing the EJ population within the DGA exceeds 110% of the statewide rate for Childhood Lead Exposure.

The EENF indicated that the following sources of potential pollution exist within the DGA, based on data available in the DPH EJ Tool:

- Major air and waste facilities: 1
- M.G.L. c. 21E sites: 4
- Sites with Activity and Use Limitations (AULs): 1
- Underground storage tanks (USTs): 3
- EPA facilities: 1
- Public Water Suppliers: 14
  Road infrastructure: 1 (Route 7)
- Regional transit agencies: 2 bus routes operated by the Berkshire Regional Transportation Authority

According to the output report from the MA Resilience Design Tool included in the EENF, the project site has a high exposure to riverine flooding due to extreme precipitation and moderate exposure to extreme heat. EJ populations within the DGA are likely also exposed to these climate risks. As noted above, the project will minimize flood risks to downstream communities, including EJ populations, caused by failure of the dam by protecting the dam from overtopping during large storms and by minimizing damage to the dam from ice loading and scour.

While the above indicators show some indication of an existing "unfair or inequitable" burden impacting the identified EJ populations, the EENF asserted that the drawdown will help to minimize flood risks on downstream neighborhoods under existing and future climate conditions while maintaining recreational use of the lake. In addition, the project does not include construction of any new structures; cause air emissions; generate traffic, wastewater or hazardous substances; contribute to urban heat island effect by cutting trees or creating impervious area; or change stormwater runoff patterns that could cause urban flooding.

Wetlands and Aquatic Habitat

According to the EENF, the drawdown will expose 73.2 acres of LUW and 7.15 miles of Bank. The EENF did not estimate the area of BVW affected by the drawdown; this should be provided in the Single EIR. According to the EENF, the drawdown will continue to be conducted in a manner consistent with the GEIR with respect to duration and water level, and therefore should not permanently impact wetland resource areas. The drawdown will occur largely outside of the growing season for plant species constituting the BVW and the plants are anticipated to continue to receive hydrologic inputs from groundwater during the drawdown period. According to the EENF, supplemental information about drawdowns developed in 2020 in support of the GEIR documented that annual drawdowns have resulted in no significant changes to wetlands. In addition, comparison of aerial photographs taken from 1990 to 2021, during which the annual drawdown was conducted, do not appear to show loss of BVW. As detailed below, the Single EIR should provide an estimate of the area of BVW impacted by the drawdown, including areas of BVW along Secum Brook and Town Brook upstream of the lake.

The EENF reviewed potential impacts of the drawdown on fish, amphibians, reptiles and invertebrates inhabiting the lake. According to the EENF, the 2004 GEIR evaluated potential impacts to aquatic animals and determined that drawdowns have temporary impacts on habitat and could potentially have negative effects of animal populations; however, the 2020 GEIR supporting documentation found that there has not been evidence of negative outcomes on animal populations since drawdowns have been conducted in accordance with the 2004 GEIR. As noted, however, the GEIR evaluated methods for purposes of aquatic vegetation and nutrient management, which is not the stated purpose of this project. I note that comments provided by MassWildlife dispute the assertion that the drawdown does not impact animal populations, and, in particular, raise concerns about the extended period of drawdown proposed by the project and the lack of definitive dates proposed for commencing the drawdown and refilling the lake. Comments indicate that freshwater mussels appear to be impacted by the drawdown, as evidenced by the reduced population in areas exposed during the drawdown. In addition, the drawdown can kill other invertebrate species, such as snails, that live in areas exposed to the drawdown; expose beaver lodges to cold temperatures at a time when beavers are unable to relocate; and impact fish spawning in the spring, which could be exacerbated if refilling is delayed. As detailed below, the Proponents should evaluate alternatives that minimize impacts associated with the drawdown.

Climate Change

Adaptation and Resiliency

For the purpose of evaluating the climate risks of the project using the MA Resilience Design Tool, the project was identified as an ecological restoration project and Lake Pontoosuc as the only asset. Based on the MA Resilience Design Tool output report attached to the EENF, the project has a "High" exposure rating based on the project's location for riverine flooding associated with extreme precipitation and a "Moderate" exposure rating for extreme heat. Additionally, the project scored high in ecosystem benefits. As the only assets identified for this project are natural resources (Lake Pontoosuc), the project received a standard recommendation of a 25-yr (4%) return period design storm as of 2030, which was provided as a consideration for users and not a formal standard. Because this project proposes a drawdown for dam safety purposes, it should not be analyzed as a natural resources project, but rather a flood control structure. For such structures, standard recommendations are to plan for resiliency associated with a 100-year storm for a 11 to 50 year planning horizon (until about 2070), and for a 500-year storm for the 51 to 100 year planning horizon.

As noted, the regulatory SDF for a Large, High hazard dam is one-half of the PMF, which is associated with a 24-hour rainfall depth of approximately 14 inches. According to the EENF, an H&H analysis that the SDF would result in the dam being overtopped by 7.5 ft of water with no drawdown and the outlets closed; with the three-foot drawdown and outlets open, the dam would be overtopped by 6.5 ft of water. The dam is believed to be in good structural condition such that it can withstand overtopping with 5 ft of water. The project does not propose to make structural alterations to the dam so that it can withstand the SDF; instead, maintaining the winter drawdown is proposed to as an operational measure to address large storms that are more common than the one-half PMF. The Single EIR should provide an estimate of the storm return period that the dam can withstand with a three-foot drawdown and outlets open and without the drawdown. It should evaluate future planning options that would facilitate a more resilient design to fully accommodate the SDF of one-half PMF (14 inches).

Greenhouse Gas Emissions (GHG)

This project is subject to review under the May 2010 MEPA GHG Policy and Protocol (GHG Policy) because it exceeds thresholds for a mandatory EIR. The GHG Policy includes a de minimis exemption for projects that are expected to produce minimal GHG emissions. The project does not include any activities that will generate direct stationary- or mobile source GHG emissions. Therefore, the Proponent was not required to submit a GHG analysis in conjunction with the EENF. However, exposure of the bottom of the lake results in GHG emissions. The Single EIR should review the potential impacts of the drawdown on increasing GHG emissions and identify potential mitigation measures, including the possibility of shortening the extent of the drawdown period.

Conclusion

Based on review of the EENF and consultation with State Agencies, the Proponents should prepare a Single EIR to address the Scope below. The Scope consists of a supplemental alternatives

analysis, additional analysis of impacts to wetlands and aquatic habitat and a qualitative analysis of GHG emissions associated with the lake drawdown.

SCOPE

General

The Single EIR should follow Section 11.07 of the MEPA regulations for outline and content and provide the information and analyses required in this Scope. It should demonstrate that the Proponent will pursue all feasible measures to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible.

Project Description and Permitting

The Single EIR should identify and describe state, federal and local permitting and review requirements, provide an update on the status of each of these pending actions, analyze applicable statutory and regulatory standards and requirements, and provide a discussion of the project's consistency with those standards, including c. 91 license and permit standards applicable to the project. It should identify, describe, and assess the environmental impacts of any changes in the project that have occurred between the preparation of the EENF and Single EIR.

Alternatives Analysis

The Single EIR should provide a more detailed description of the proposed drawdown and refill operating procedures outlined in the EENF, including a discussion of likely maximum delay in refilling operations and likely maximum early commencement of drawdown operations. It should discuss the predicted storm intensity and other conditions that would lead to an earlier start of drawdown operations, whether a full drawdown would be initiated under those circumstances and the areal extent and thickness of ice and snow cover in the watershed that may lead to a delay in refilling operations.

The Single EIR should review alternative measures to minimize potential ice damage to the dam. At a minimum, it should review the feasibility of using bubblers or other methods for breaking up ice, shoreline reinforcement such as placement of additional riprap and structural changes to the dam. The Single EIR should specifically evaluate whether these alternative measures for addressing potential damage from ice could minimize the need to extend drawdown conditions in the spring.

Environmental Justice

A summary of the Single EIR should be circulated to the EJ Reference List prior to filing the Single EIR. The Proponents should continue to implement the public engagement measures identified in the EENF. I encourage the Proponents to hold a public meeting prior to filing the Single EIR to ensure that information is widely disseminated in the EJ populations downstream of the dam. The Single EIR should describe community engagement activities conducted by the Proponents between the filing of the EENF and Single EIR.

Wetlands and Aquatic Habitat

The Single EIR should provide an estimate of the area of BVW affected by the drawdown, including upstream areas along the Secum Brook and Town Brook. The Single EIR should include an evaluation of potential loss of BVW in these areas due to the drawdown based on a comparison of aerial photographs from different time periods.

As noted above, MassWildlife and other commenters identified significant impacts to aquatic habitat and organisms associated with the drawdown. It should provide responses to comments submitted by MassWildlife and others which identify potential impacts of the drawdown, and describe potential measures to mitigate these impacts. The Proponents should consult with MassWildlife regarding data and analyses that should be prepared to evaluate aquatic habitat impacts.

Climate Change

The Single EIR should include an updated analysis of the project using the MA Resilience Design Tool. The project should not be analyzed as a natural resources project, but rather a flood control structure. As noted, the dam is believed to be in good structural condition such that it can withstand overtopping with 5 ft of water. The Single EIR should provide an estimate of the storm return period that the dam can withstand with a three-foot drawdown and outlets open, representing winter conditions, and with no drawdown and outlets closed, as the dam is maintained in the spring and summer. The Single EIR should clarify whether this design will be resilient to future climate conditions, and if so, estimate the specific storm condition (e.g., 2070 100-year storm). To the extent the Proponents wish to make use of recommended design standards available through the MA Resilience Design Tool, they should revise the output report by characterizing the project as including an infrastructure/flood control structure asset. The design can then be compared against the resulting return period recommendations associated with the project.

The Single EIR should discuss potential long-term dam management and structural improvement scenarios to address more frequent and intense storm events anticipated under future climate conditions. It should describe conceptual measures that may be necessary, such as deeper drawdowns, a year-round drawdown, structural changes to the dam or construction of a new dam.

The Single EIR should include a general discussion of potential GHG emissions from the exposed lake bottom. It should identify any operational measures or other mitigation measures that could minimize GHG emissions, such as shortening the drawdown period.

Mitigation and Draft Section 61 Findings

The Single EIR should include a separate chapter summarizing all proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ populations. The filing should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties

responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, EJ, etc.) and identify the Agency Action or Permit associated with each category of impact. Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project. The filing should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing to ensure that adequate measures are in place to mitigate impacts associated with each development phase.

Responses to Comments

The Single EIR should contain a copy of this Certificate and a copy of each comment letter received. It should include a comprehensive response to comments on the EENF that specifically address each issue raised in the comment letter; references to a chapter or sections of the Single EIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended, and shall not be construed, to enlarge the scope of the Single EIR beyond what has been expressly identified in this certificate.

Circulation

In accordance with 301 CMR 11.16, the Proponent should circulate the Single EIR to each Person or Agency who commented on the ENF, each Agency from which the project will seek Permits, Land Transfers or Financial Assistance, and to any other Agency or Person identified in the Scope. Pursuant to 301 CMR 11.16(5), the Proponent may circulate copies of the Single EIR to commenters in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. Copies of the Single EIR should be made available for review in the Lanesborough and Pittsfield public libraries.

March 3, 2023
Date

Rebecca L. Tepper

Comments received:

02/09/2023 Berkshire County League of Sportsmen
02/15/2023 Daniel Miraglia
02/17/2023 Berkshire County League of Sportsmen
02/19/2023 Berkshire County League of Sportsmen
02/20/2023 Mike and Therese Callahan
02/21/2023 Councilor Karen Kalinowski, Pittsfield City Council
02/21/2023 Sean Callahan
02/22/2023 Louise Conlon
02/22/2023 Michele Rivers Murphy

02/23/2023	Daniel Miraglia
02/23/2023	Lee Hauge, Lanesborough Harbormaster
02/24/2023	Massachusetts Department of Environmental Protection (MassDEP)/Waterways Regulation Program (WRP)
02/24/2023	Massachusetts Department of Environmental Protection (MassDEP)/Western Regional Office (WERO)
02/24/2023	Kathleen L. Ciccarello
02/24/2023	Marita Jillett
02/24/2023	Massachusetts Division of Fisheries and Wildlife (MassWildlife)

RLT/AJS/ajs

BERKSHIRE COUNTY LEAGUE OF SPORTSMEN
150 Phelps Ave
North Adams, MA 01247

February 9, 2023

To whom it may concern:

The Berkshire County League of Sportsmen, which is the umbrella organization for a dozen sportsmen's clubs representing over four thousand sportsmen in Berkshire County, would like to go on record as opposing drawdowns on Pontoosuc Lake in Pittsfield/Lanesboro, MA.

To implement a sound science-based lake management plan, both drawdowns and herbicide applications should be discussed at the same time with one single comprehensive filing. If there are little to no invasive species such as milfoil present, then broad band non selective herbicides such as Reward should not be allowed. In turn if there are little to no invasive aquatic plant species in the littoral zones then annual draw-downs become a broad band non selective method to target aquatic plants which adversely impact fisheries, wildlife and benthic creatures. There must also be a mandatory comprehensive wildlife habitat evaluation required for this filing and the applicant shall carry the burden to establish that there will be no adverse impacts to fisheries, wildlife and benthic creatures within the 3 million acres of Pontoosuc lake watershed open to public comment.

We totally disagree with the DCR assessment that dam safety is an existing issue and a reason the lake must be drawn down every year. Furthermore, we would like to see documentation and inspections required by a third-party certified engineer for this dam structure. We are aware that this dam structure is also subject to a comprehensive Chapter 91 filing for this dam is currently, to our surprise, an unlicensed structure. We can also argue the point that there is more potential for dam safety concerns from continued lake drawdown practices which expose the dam structure to freezing temperatures and subsequently can cause stress cracks.

We would also like to remind everyone that drawdowns on Pontoosuc Lake expose hundreds of acres of land under water which is a great loss of the Commonwealth's public resources for recreational use. Drawdowns also present serious dangerous safety issues as we witnessed this past winter at Richmond Pond with a loss of life. First responders were not able to reach a victim in time because the drawdown exposed vast mud and silt flats which interfered with rescue efforts. The same conditions exist during drawdowns at Pontoosuc Lake every year and any potential loss of life or injury should result in a lawsuit against the permit holder for negligence.

We would also like to see former DEP Western District Officer David Cameron's comments entered for the record as he did a site visit to Pontoosuc Lake in January, 2018 to visually inspect the Pontoosuc Lake draw down. He was accompanied by David Fowles, Wetlands Specialist, and they were both shocked to see the vast amount of drained backwater estuaries at Pontoosuc Lake and could not believe this practice was even allowed. Their comment was that before any

draw down would be considered in the future, a coffer dam should be required to protect the regulated wetland resource in the back [coves] and prevent significant habitat loss to protect fisheries and wildlife. The draining of this enormous watershed without a wildlife habitat evaluation is an egregious violation of the wetland permitting process that was previously listed as a limited restoration project.

The north cove and back water estuaries are comprised of silt and heavy solids and are responsible for vast amounts of nitrogen and phosphorous overloading in the watershed. The early spring refills at Pontoosuc Lake disturb the bottom sediments that are flushed into the water column causing increased turbidly because of extreme muddy, and silty conditions. These man-made conditions adversely impact fisheries especially early spawners such as perch, pickerel and pike. Also, the herbicide Diquat Reward is not recommended for use in silty turbid water such as Pontoosuc Lake. The high turbidity also is not healthy for the lake's ecosystem and fuels potential early growth of algae, cyanobacteria and early curly leaf pondweed growth.

We must also mention the lack of accountability for non-compliance of the Orders of Conditions for Pontoosuc Lake. The previous applicants, including the DCR, were reported multiple times to the DEP and local conservation commission for failure to reach stable pool elevations by target date. This is why a mandatory specific refill date of April 1 needs to remain a standard in the Order of Conditions. The applicants, including the DCR, were also in non-compliance with minimal flow standards down-stream and the violations were reported to Division of Fisheries and Wildlife, Pittsfield Conservation Agent Robert Van Der Kar, the DCR and DEP. If it was not for heavy rains on March 31 2022, the DCR and applicants would have had an enforcement order issued for non-compliance.

There is a long history of violations on record for non-compliance so we have to question whether the DCR is the proper applicant for this NOI filing. I (Dan Miraglia) must also mention in my professional opinion the DCR has been manipulating the daily logs for water elevations as we saw this past November at the Pontoosuc dam. 42 inches on November 24 and then the DCR shut off the side chute on November 26 to raise water levels to the current 28 inches; but their log stayed at 35 inches for the time period of November of 2022. Photo documentation was provided and still available upon request.

Another serious issue is the reported fisheries loses at Pontoosuc Lake from fish going over the dam and side spillway chute during draw-downs but nothing like we witnessed this past November 2022 at the Pontoosuc dam. An estimated 8-10 thousand perch were lost over the dam and sucked into the side chute as documented in video evidence provided to multiple agencies and local news publications. This is a clear example of negative impacts to fisheries and wildlife directly related to draw-downs.

The significant length of draw-downs must also be questioned. Currently, the applicant is allowed to drain the lake over a six-week period which is unacceptable in our opinion because it comes with significant negative impacts and loss of the Commonwealth's public resources for recreation. Also, there is currently no fish screen at the dam and if any drawdown is permitted, a mandatory fish screen must be a required in the Order of Conditions. There is also no clear way for the public to read the staff gauge on the dam for the public to view water levels other than the

established hard water line on the dam structure visible during draw down. A new staff gauge and electronic lake level monitor must also be included as an order of conditions.

Another negative impact from the drawdowns is extensive damage to the regulated wetland inland banks in the Narragansett Cove. The change of water level impacts the normal directional flow of the water channel altering its course hugging the inland bank cutting a new channel and eroding the inland bank for approximately 1,000 feet.

The Berkshire County League of Sportsman is opposed to the current multiple filings and any permit that gives the applicant a green light to use drawdowns and herbicides every year.

Pontoosuc lake needs sound science-based lake management that puts the health of the lake's resources first. We have unfortunately witnessed Pontoosuc Lake going from one of the best fisheries in the State to becoming one of the worst. We attribute this significant change from 50+ years of drawdowns and 18 years of over aggressive herbicide applications which have resulted in extreme habitat loss and negative impacts to fisheries and wildlife. What is needed for the health of Pontoosuc Lake is continued monitoring and a less aggressive approach to lake management when the realization that a limited ecological restoration has already been achieved.

Respectfully yours

Berkshire County League of Sportsman
President, Wayne McLain
BCLS Representative Daniel Miraglia

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: Pontosuc lake vidio
Date: Wednesday, February 15, 2023 10:46:13 PM

Alex,
Not sure if allowed because of size but I am sending a link to short vidio of Fisheries lose at pontoosuc lake 11/26/22,
Thousands of perch, white perch and small bass.
Daniel miraglia
Bcls deligate

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: Pontoosuc link 11/26/22
Date: Wednesday, February 15, 2023 10:46:20 PM

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https://photos.app.goo.gl/gMkeXKjqDUKp1jPj8

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: South West branch housatonic river3/29/22 downstream impacts
Date: Wednesday, February 15, 2023 4:50:06 PM

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: Pontosuc March 30 2022 side chute shut down
Date: Wednesday, February 15, 2023 4:45:34 PM

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: March 30 2022 pontoosuc lake, no minimal flow
Date: Wednesday, February 15, 2023 4:41:02 PM

Energy & Environmental Affairs (https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs)

Public Comments Portal

alexander.strysky@mass.gov

View Comment

Comment Details

EEA #/MEPA ID 16656	**First Name** daniel	**Address Line 1** 68 ontario st	**Organization** berkshire county league of sportsman rep
Comments Submit Date 2-15-2023	**Last Name** miraglia	**Address Line 2** --	**Affiliation Description** --
Certificate Action Date 2-24-2023	**Phone** --	**State** MASSACHUSETTS	**Status** Opened
Reviewer Alexander Strysky (857)408-6957, alexander.strysky@mass.gov	**Email** danrags@verizon.net	**Zip Code** 01201	

Comment Title or Subject

Topic: pontoosuc lake

Comments

additional comments,,

I would like to state for the record past complaints against permit holders at Pontoosuc lake for non compliance of the order of conditions regarding lake refill and non compliance for minimal flow requirements. There has been no accountibility in the past for non compliance and find it troubling that the DCR wants flexibility on stable pool date and controlled water fluctuations down stream.? It is imperitive to establish a stable pool date of April 1 for the protection of fisheries and wildlife and refill earlier is also desired as stated by fisheries and wildlife. In the past the lake association made the call when to start refilling the lake and should this not be concidered clear conflict because the president of the lake association is also applicant, harbour master and abutter to the project. The lake asociation according to recent letter submitted to lanesborough and pittsfield conservatin commission have not met or held a directors meeting in five years and yet there name was listed on the permit as applicant without board approval.. ? The Pontoosuc lake refill needs to start march 1 and stable pool by achieved by April 1 so there is consistency and accountibility and ensures the protection of fisheries and widlife as a standard.

This past fall of 2022 the dcr waited to long to start the refill of Pontoosuc Lake and in order to achieve stable pool elevation date they the outflow of discharge was shut down from the lake and minimal flow CFS downstream was -0- zero. This event was documented by Fisheries and wildlife , Pittsfield conservaton agent, and myself. The minimal flow requirement currently is 0.5 CFS over 1/2 mile of watershed and in my opinion is not adequate for a cold water river with a native brook trout population as well as other fisheries species and creatures without potential adverse impacts. I am also concerned with a statements made by the dcr that would allow for the lowering of Pontoosuc lake in the summer in case of heavy rains. Any man made flucuations of water downstream is concidered a lake drawdown and only permitted by DEP through an emergency order with conditions.

We have to highly question the true intent of this NOI filing listed as Dam safety project. There is no evidence of any structural issues with this dam that was built in 1997 and recently inspected in 2021. The city of pittsfield conservation agent was recentally asked the question at the Jan 24 pittsfield city council meeting if he was aware of any dam safety issues and he answered not to his knowledge, . The gza represenitive miss dunk made the statement that the old permit was for aquatic plant control and the new permit is for dam safety not for aquatic plant control . We ask how is this possible when the same alterations to the aquatic plant communities will continue under a dam safety permit. ?? It is clear that this filing needs to be amended to include aquatic plant control .

Continued negitive adverse impacts to fisheries, wildlife , aquatic plant species and creatures in the regulated wetland resources must not be overlooked in this vast 21 mile watershed.

Daniel Miraglia

b.c.l.s. represenitive

Attachments

Update Status

Status

Opened

SUBMIT

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BACK TO SEARCH RESULTS

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: Fwd: file # 16656 request for drawdown
Date: Friday, February 17, 2023 2:55:26 PM

-----Original Message-----
From: Daniel Miraglia <danrags@verizon.net>
To: Daniel Miraglia <danrags@verizon.net>
Sent: Fri, Feb 17, 2023 2:48 pm
Subject: file # 16656 request for drawdown

Additional comments

> The Berkshire County League of Sportsman is opposed to file # 16656 lake drawdown for dam safety because this filing has not included goals for the betterment of the resource area , alterations to the resource area will most certainly occur from the lake drawdown and the risk of adverse negative impacts to fisheries ,wildlife, benthic creatures and aquatic plant resources is highly probable. In some cases rooted aquatic plants may seem to be a nuisance weed but their overall benefit to a lakes ecosystem is immense.
> Aquatic plants provide habitat and nursery areas for virtually all warm water fish, Insects and crustacean's that live within the shallow coves and estuaries that this proposed three foot drawdown will impact , aquatic plants also provide important food sources for both fisheries and waterfowl.
>
> Aquatic plants absorb nutrients such as phosphorus and help reduce undesirable algae growth as well as stabilize lake sedimentation
> and reduce shoreline erosion.
> One of the negative impacts from lake drawdowns is the high risk of increased turbidity to the watershed. Suspending solids will make the water color appear murkier .
> High concentrations of particle matter can modify light penetration, cause shallow lakes to fill in faster and smother benthic habitats impacting both organisms and eggs.
> Fine particulate material also can clog or damage sensitive gill structure, decrease their resistance to disease, prevent proper egg and larva development and interfere with particle feeding activities.
> When light penetration is reduced significantly Macrophyte growth may be decreased which in turn impact the organisms dependent on them for food and cover.
> Reduced photosynthesis can also lead to lower releases of oxygen in the water that could lead to fish mortalities .
> In our opinion the request to issue certificate for drawdown for dam safety must be denied.

Daniel Miraglia
Pittsfield ma
BCLS Represenitive

THE DESTRUCTION OF PONTOOSUC LAKE ECOSYSTEMS AND FISHERIES FROM THE APPLICATION OF REWARD

BY VICTORC. CAPELLI ENVIRONMENTAL ANALYST

The application of Reward to Pontoosuc lake for the last 14 years is a mismanagement and ecocide for the simple reason that Reward or Diquat dibromide is a non-selective herbicide that kills everything in the lake and has now produced a lake ecosystem that is essentially dead or for all practical purposes at a suppressed unnatural biological state that is no longer producing a fisheries population consistent with a stable and functioning trophic food web una1tered by toxic herbicidal weed control measures.

The fact that the herbicide control program started in 2008 to control invasive plants that has since reduced invasive plant numbers down to 3% and allowed native plants to repopulate the Pontoosuc Lake Littoral or Umnetic zones fails to account for the fact that the liquid application of Diquat twice a year (aione with bi-annual drawdowns) has also decimated all the littoral vegetation; emergents, sub-emergents, floating vegetation macrophytes, microphytes, algae, diatoms, Invertebrate crustaceans, shrimp, aquatic insects that support a healthy fisheries in Pontoosuc Lake. The aesthetic considerations for a pretty lake shoreline has replaced sound lake management for Pontoosuc Lake regardless of the elimination of invasive plant species,

TOXIC CHEMICAL EFFECTS OF DIQUAT

Reward or Diquat dibromide (dihyropyrido pyrazinedium) is a non-selective contact herbicide that is activated by exposure to sunlight to form oxygen-compounds that damage cell membranes and dessicates plant or animal tissue. "According to the Ecological Incident Information System (EISS) database run by the USEPA OPP Diquat (Reward) has been associated with ten reported "ecological incidents" involving damage or mortality to non-target flora and fauna: It was listed as probable (7 incidents) or possible (3 incidents) that registered use of Diquat was responsible." (Ecological Risk Assessment, Final Report, 2005, Bureau of Land Management)

Further; "Aquatic macrophytes were adversely affected by Diquat Concentration as low as 0.00075 mg/liter and typical herbicide application rates in this ERA (Ecological Risk Assessment) resulted in pond concentrations of 0.11 mg a.i/L and stream concentrations of 0.56 mg a.i/L (A.I-Active Ingredient)."

The BLM document revealed that the "toxicity of Diquat to freshwater fish was evaluated by testing both cold and warm water fish species. The acute toxic effects of Diquat were evaluated for Rainbow Trout (Oncorhynchus mykiss), Coho Salmon, (O.kisutch) and Brown Trout (Salmo trutta) and coldwater species. These studies found 50% mortality occurred after 96 hours of exposures to concentrations (I.E. the LC50 or Lethal Concentration of 14.83 mg/L using a19.8% Diquat product (USEPA 2003 MRIDO 00138987). Acute toxicity tests were also conducted on 12 warm water fish species. In these studies, the 96 hr LC or Lethal Concentration was found to be as low as 0.75 mg/L active ingredient. (Paul et al 1994)" Walleye, a warm water fish was noted to

have a toxic impact point of 0.75 mg/L a.i., Rainbow Trout had a lethality of 14.83 mg/L, LC 50 and Fat Head Minnow a LC of 0.58 mg/L.

Toxicity was also tested on amphibians-(frogs, toads and salamanders). The Northern Leopard Frog was adversely affected in a 16 day exposure period by Diquat concentration in water as low as 5 mg/L. The implication is that even at these low Diquat levels amphibian species populations in the Pontoosuc shore line ecology are affected and suppressed, not to mention that their insect trophic food base is similarly reduced by the loss of shoreline plants and vegetation.

Diquat toxicity was also demonstrated on aquatic invertebrates as required for the registration process. The USEPA noted that in acute and chronic toxicity tests-the "statistical endpoint" (median lethal concentration or LC 50 or the Median Effective Concentration was tested for Hyallela Azteca (water scud) was 0.14 mg/L- indicating that the Water Scud and the variety of crustaceans in the Malocostraca which includes **isopods, shrimp (Decapoda) and crayfish are all biologically compromised at even this low level of Diquat** application. Crayfish, shrimp, isopods and other species of aquatic invertebrates inhabit the littoral habitats of Pontoosuc and their absence or low presence on the Pontoosuc shorelines represents the inevitable biological and ecological result of systematic poisoning of the Pontoosuc Lake ecosystem from Diquat application.

Diquat dibromide, even though it has a low BMF (Bio-Magnification Factor), degrades according to the percentage of clay colloids in soils and lake bottoms. Diquat degrades in terrestrial systems by a process called "sorption" where it becomes immobile in clay cations (especially Montmorilionite). The Koc (Organic Carbon-Water Partitioning

Coefficient) determines the Diquat molecules affinity for organic carbon in soil particles, rather than in water. The higher the Koc-the more likely it will become fixed in the soil. Half-lives of Diquat have been reported in soils ranging from 2.7 to 3 years. In Florida, Diquat was calculated to have a half-life of 74 days with strong sunlight. Diquat become activated under the influence of sunlight and has a photo-degradation half-life ranging from 8-74 days. If it does not degrade in surface waters because it was not adsorbed to soil particles, it may last as long as 3 weeks. (Howard 1991). It is safe to say that Diquat is fixed in the bottom muds and shoreline of Pontoosuc Lake.

Salmonids such as lake trout, brown trout, and rainbow trout are directly affected by the loss of their prey species, the forage fish of minnows or dace that inhabit Pontoosuc and the loss of insect larvae such as mayflies, caddisflies, daphnia, crustaceans that live in the littoral habitats. The fact that "significant negative habitat modification" has occurred in Pontoosuc in the past 14 years from the Reward application has directly affected these species biological recruitment behaviors, breeding, spawning, rearing, feeding, or sheltering) and subsequent population maintenance.

Observable indirect effects from Diquat application to the Pontoosuc lake ecosystem are the impacts to the food chain and the physical disturbance to the fisheries habitat.

FISHERIES IMPACT

The negative fishery impact by the Diquat application on the fisheries net productivity from the destruction of the food chain is most readily seen in the notable decline of major fish species from the year 2011 to 2018. Two creel electro-surveys were taken by DEP; one on July, 2011 and the other on June 7th, 2018. The survey data indicated that there was a marked decline of fish caught from a grand total of 164 fish of 11 species in 2011 to only 48 fish from 13 species in 2018. This is a dramatic illustration of the eco-cidal properties of Diquat on lake ecology.

The use of Reward should be discontinued for the health and biological sustainability of the Pontoosuc Lake Ecosystem.

REFUTATION OF INFORMATION PROVIDED BY SOLITUDE LAKE MANAGEMENT FOR AN AQUATIC MANAGEMENT PROGRAM AT PONTOOSUC LAKE IN LANESBOROUGH AND PITTSFIELD AS PART OF THEIR NOI TO THE LANESBOROUGH AND PITTSFIELD CONSERVATION COMMISSIONS

The project: "An integrated aquatic management program at the Pontoosuc lake to monitor, assess and implement measures for control of excessive and non-indigenous aquatic vegetation, specifically with the use of USEPA/state registered herbicides/algaecides"-under the Massachusetts Wetland Protection Act guidelines (gen laws-131-section 40)

The project that was filed as an Ecological Restoration Limited Project under 310 CMR 10.53(4) to protect the interests of the Wetland Protection Act by controlling non-native/nuisance or invasive species such as Eurasian Millfoil, Curlyleaf Pond Weed or Water Chestnut in order to improve fish habitat, water quality and slow eutrophication does not address the harmful effect of the application of the aquatic herbicides such as Diquat dibromide that has for the past 14 years seriously compromised and degraded the lake ecosystem, fisheries and trophic food basis on which the lake ecosystem depends.

- Solitude Lake Management's program for the 480 acre lake will aggravate and systematically degrade the existing poor net productivity, fisheries, invertebrate habitat and bio-chemical recharge of the Great Pond's ability to generate oxygen stocks for the entire lake food web for the winter by eliminating aquatic and littoral plant populations that regenerate 02 during the summer.

- The use of herbicides such as Diquat-a contact herbicide that destroys cell structures in plants and animals, (especially lower trophic level organisms such as aquatic insects, crustaceans, annelids, mollusks, zooplankton and phytoplankton and algae) and Aquatholl-K, Florpyravxifen-benzyl, Procellacor and other herbicides will create a rebound retrograde effect of more dead plant and nutrient matter that will increase the amount of nutrients on the lake bottom for further growth of bacteria and algae. This in turn will aggravate a higher B.O.D. and subsequent potential anoxia for fish throughout the water column in the summer and winter especially in areas of the lake where 02 is seasonally lower and chronically restrict fish to the more oxygenated layers of the lake such as the limnetic open zones above the compensation level. The risk for fish kills will rise exponentially.
- Higher air and lake temperatures during the summer that will intensify the B.O.D. will be compounded from extreme weather events caused by climate change such as meteorological and hydrological droughts and the resultant doubling of biological activity and unbalanced hormonal pathways in fish, and in microscopic plants and animals; algae, bacteria, phyto-plankton, zooplankton and macroscopic lake fauna.
- In many situations the use of these herbicides will create a health risk to people. In Diquat's case there is no drinking or cooking with treated water for 3 days, no irrigation of turf for 3 days or of food crops for five days and no livestock watering for one day. Since Diquat dibromide is a systemic cell dessicant and disruptor it poses a lethal biological risk for every living thing in the lake.

- Diquat dibromide is also moderately toxic to birds and moderately toxic to mammals. According to the Diquat Environmental Assessment Risk Report by the Bureau of Land Management (2005) there was a 50% mortality rate in rabbits if their skin is exposed to the herbicide.
- Because Diquat is a non-selective contact herbicide it will have adverse effects on native aquatic plants such as Duckweed, diatoms and algae. In one 14 day study, 50% of Duckweed (Lemna sp.) were killed by aquatic concentrations as low as 0.00075 mg/L (i.e. the Environmental Concern was EC50) using a 35.3% Diquat product (USEPA 2003 MRID 41883002). Pontoosuc Lake's sterility is a direct consequence of applied Diquat solution twice a year for 14 years along with twice yearly drawdown that alters the ability of the lake to maintain a high enough water level for a complete dimictic cycle to effectively mix nutrients, pH levels, dissolved ions and oxygen for a balanced lake ecosystem.
- One of the assertions in the Problem Statement by Solitude Lake Management that "the sediment build-up in water bodies with excessive plant growth is approximately five times faster than in water bodies that do not have excessive plant growth " misses a crucial ecological point. The natural eutrophication of lakes, (part of the lakes normal aging process), is inevitable and sediments that anchor the normal development and progression of littoral vegetation is the necessary material and regenerative matrix for a healthy lake ecosystem. No amount of chemical modification to delay eutrophication or halt invasive plant colonization to prevent Pontoosuc lake's eventual transition to a wet meadow or a swamp will be effective. The fact that the regular application of

Diquat has been fixed in the lake sediments is a systemic result that will take years of natural cycling to remove. The Pontoosuc lake ecology has been irreparably damaged by lake mismanagement and obsession with aesthetic appearances of clean lawns, clean shorelines and open views of the lake.

- Application of Diquat to Pontoosuc Lake is contraindicated because it promotes the depletion of nutrient resources (phosphorus and calcium) from B.O.D. from decaying plant materials, a Catch 22 situation. Diquat Kill >nutrient buildup>HAB.

REFERENCES

"Diquat Ecological Risk Assessment" Bureau of Land Management, Reno, Nevada, ENSR, November, 2005, Bureau of Land Management Contract # NADO1015 ENSR DOC # 09090-020-650

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: File 16656 additional comments
Date: Friday, February 17, 2023 4:17:21 PM
Attachments: pages.PDF

Can you include this n.h study in our comments,
Thanks
Daniel miraglia
Bcls rep

danrags

From: "danrags" <danrags@verizon.net>
Date: Tuesday, July 02, 2019 4:01 PM
To: "danrags" <danrags@verizon.net>
Subject: Fw: new hampshire drawdowns

From: danrags
Sent: Friday, March 08, 2019 12:38 PM
To: danrags
Subject: new hampshire drawdowns File #16656 additional Comments

Lake level drawdown and the subsequent exposure of sediments to prolonged freezing and/or drying is an inexpensive means of aquatic weed control. Drawdowns serve to stress plants and could physically remove them from their habitat. Low water levels will expose the plants to desiccation and could ultimately affect plant vascular structure, thereby rendering the plant incapable of nutrient transport and function. This can temporarily reduce plant density for an undetermined period of time. While being an economical means of plant control, lake drawdown is also rather unpredictable, and may cause some species to actually increase in abundance, or not affect some target species at all. Further, draining the water from an aquatic system can be detrimental to non- target organisms. Factors Necessary to Increase Potential for Drawdown Success Several factors are necessary to increase the potential for drawdown success. The amount and degree of the drawdown are probably the foremost important factors to consider. Most importantly, the capability to draw down the lake to a level suitable to maximize the exposed littoral zone is necessary. Typical fall/winter drawdowns are usually conducted in New Hampshire from October through early spring. The length of winter drawdown is based on ice and snow cover, water uses, and expected water renewal rates. It is imperative that the water level be brought down slowly, in order to allow for aquatic fauna to adapt to the changing water levels. It is also important that the lake be brought back to normal full-lake levels before the summer season begins for a variety of reasons, including ecological, recreational, aesthetic, and for keeping terrestrial species from encroaching on the lake bed. Water level fluctuations should always be coordinated through the DES Dam Bureau in consultation with the DES Biology Section Fall/winter drawdowns can be beneficial in that some desiccation takes place as the waterbody is dewatering, but thorough freezing of the plants and the lake sediments is the key. Freezing of the plants damages the structure and integrity of the vegetative material. Freezing of the lake sediments will impact rooting systems and rhizomes, both by freeze damage, scouring, and subsequent uplifting of the rooting systems. Scouring action of ice moving over the exposed lakebed will force tubers and rooting systems from the substrate. When the water level is again raised, these anchoring plant structures will often float downstream and discharge through the lake basin, or they can be hand-removed as they float around. Adverse Impacts of Drawdown Though drawdowns may be a relatively low cost technique to reduce the abundance of some littoral zone aquatic macrophytes, there may be several unanticipated problems associated with drawdowns. Algal or cyanobacteria blooms may follow a drawdown. Cyanobacteria blooms may be toxic, while an increase of green filamentous algae may decrease aesthetic values of the waterbody. Planktonic blooms of cyanobacteria typically turn the water a bluish or greenish color, while filamentous algae blooms form large green billowing masses in the shallows. Other algae may also bloom causing taste and or odor problems. Algal blooms are caused by nutrient release from decaying plants. Large amounts of aquatic plants and organisms that succumb to the drawdown begin to decay shortly after drawdown but nutrient release to the waterbody may not occur until full-pond level is achieved. Nutrients released from decayed material will quickly be utilized by algae and cyanobacteria, leading to increased cell production. Waterbodies, particularly shallow system, tend to maintain a balance between macrophyte

and algal growth. Once plant populations diminish, the degree of nutrient competition in the waterbody favors increased algal populations due to their ability to quickly uptake available nutrients. Shallow lakes have shown shifts from clear, plant- dominated conditions to turbid, algal dominated systems following a drawdown. Aquatic food web changes may result in shifts in plant and animal structure due to drawdown. Impacts to organisms lower in the food web (plants, algae and insects) will have negative impacts on those organisms higher in the aquatic food web (fish, animals and waterfowl). Oxygen concentrations throughout the water column may be impacted by the drawdown. As bacteria further decompose the accumulated detritus they create an oxygen demand to the water. During summer stratification, hypolimnetic oxygen levels and even mid-thermocline oxygen levels may be dramatically reduced, resulting in large-scale fish kills. The difficulty of achieving complete sediment dewatering in target areas of the waterbody is also a potential problem. Physical constraints due to dam construction, underground springs, weather conditions and inflowing water may limit the degree of drawdown, lessening the expected range of impacts to the littoral zone. Changes in the bottom sediment may also occur as a result of drawdown. Softer sediments may become compacted or frozen segments that are now lighter than water could loosen and float around in large masses or as floating islands in the waterbody, only to settle once again in a new location. Several notable drawdowns resulted in the formation of floating islands that settled at the public access, blocking all ingress and egress. These are extremely difficult to move or remove, and a Wetlands Permit would be necessary for any removal activities. Impacts and even mortality to aquatic animal species is a big risk during drawdown. The impacts may result from leaving animals stranded 'in the dry' as a result of drawdown, or could involve more complex impacts that result from modifications in the food chain or various stressors associated with the drawdown. Many organisms that make their home in the aquatic environment, including fish, frogs, salamanders, turtles, aquatic insect larvae, mussels, and others can all feel the impacts of drawdown. Agile and faster moving organisms (like fish) may be able to move upstream or downstream to other unimpacted habitats; still, these fish may be confined to smaller, shallower areas where they become easy prey to consumers or suffer from oxygen deprivation. The Fish and Game Department, in cooperation with DES, has documented changes in the fishery over time in one lake that was the focus of a study on drawdowns. Slower moving, more sedentary organisms have a greater risk to negative impacts. Freshwater mussels, snails, insects, and crayfish may not be able to find suitable habitat, and may succumb to the drawdown. In a long-term study of deep drawdown on one lake in New Hampshire, DES measured significant shifts in macroinvertebrate populations from non-drawdown to post-drawdown years. Finally, there may also be a long-term change in plant species composition from "drawdown susceptible" plants to "drawdown-resistant" plants. Several studies show that annual drawdowns can actually influence the growth of these resistant plant species. A study of lake drawdown conducted by Dennis Cooke (1980) found that various aquatic plants responded differently to drawdown. Summary of Winter Drawdown Study Findings (Cooke, 1980) Decrease in Abundance Increase in Abundance No Change Watershield (Brasenia) Bulrush (Scirpus) Bladderwort (Utricularia) Pondweed (Potamogeton) Arrowhead (Sagittaria) Bur-reed (Sparganium) Yellow water lily (Nuphar) 3-way sedge (Dulichium) Tape grass (Vallisneria) White water lily (Nymphea) Spike rush (Eleocharis) Water milfoil (Myriophyllum spp) Pickerelweed (Pontedaria) Summary Water level drawdown may be an effective technique for at least the short-term control of susceptible aquatic plants, and can be accomplished at low costs without the introduction of chemicals or machinery. However, this technique may or may not affect target species with a predictable outcome, it requires careful identification of the target plants before drawdown to avoid rapid establishment of resistant species, and it could have long-lasting effects on non-target biota like freshwater mussels, macroinvertebrate populations, the fishery, and other organisms. For More Information Form more information about lake drawdowns, please see www.des.nh.gov

Daniel Miraglia
B.C.L.S Representive
2/17/23

From: Daniel Miraglia
To: Strysky, Alexander (EEA)
Subject: Additional comments 16656
Date: Sunday, February 19, 2023 5:04:46 PM
Attachments: DOC117.PDF

Alex
Can you add this pdf file for additional comments. This pdf highlights complaints filed against the permit holders for non compliance with refill dates and minimal flow requirements.
Daniel miraglia
Bcls representative

Sent from the all new AOL app for Android

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Pontoosuc lake complait
Date: Mon, Nov 28, 2022 9:54 am
Attachments:

I would like to file a complaint with the conservation cmission for non compliance of order of conditions for pontoosuc lake exceeding the three foot drawdown level. On 11/27 the water level from top of spillway to low water was 41".

Also there has been approximately over 8 thousand juvenile fish tha thave been negitively impacted and no longer in the lake,they have been sucked into the outlet chute and also have gone over the spillway due to the current and high volume of water leaving the lake.

Daniel miraglia
11/28/22

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Pontoosuc lake refill
Date: Tue, Nov 29, 2022 1:58 pm

Robert
The dcr is refilling the lake,.they closed the outlet chute which resulted in more water going over the spillway and about four thousand fish went downstream before mass wildlife could relocate them.
It is obvious that the permit holders were in non compliance of the Order of Conditions for three foot allowance and ask that my complait move forward with the conservation commission and dep .
Daniel miraglia
Pittsfield ma
11/29/22

Sent from the all new AOL app for Android

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Complaint for pontoosuc
Date: Wed, May 25, 2022 10:10 am

Rob
I sent you and came into your office on or around 3/28/22 with a complaint of no minimal flow to pontoosc dam, I showed you several photos and you followed up after you. Visited site and took photos , you also stated you were prepared to do enforcement order if lake was not refilled on time. Could you send me your report so i can include it with the report from mass wildlife as well to the dep.
Thanks
Daniel miraglia

Sent from the all new AOL app for Android

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Pontoosuc lake drawdown
Date: Mon, Oct 4, 2021 4:33 pm

I am opposed to granting another extension for drawdowns on pontoosuc lake.

The city of pittsfield managers had gone on record that the permit would expire in nov 2021 and a new NOI would be filed. This is a breach in trust from the city of pittsfield and we ask that the extension be denied.

Furthermore the pontoosuc lake association president and harbor master has gone on record stating at conservation meeting that the lake is not drawn down for aquatic plant control but for the protection of there shorelines . This statement alone should void the current permit and also not allow any further extensions at pontoosuc lake.

Lake drawdowns and repeated herbicide treatments have for years negatively impacted fisheries and wildlife and benthic creature's . The back water estuaries have been severely impacted and a complete environmental evaluation and wildlife habitat survey needs to be done before any further drawdowns are allowed.

If by chance the commission considers an extension I ask that it will be for 6 months with a guarantee no further extensions will be granted and a amended order that reduces the drawdown depth to two feet instead of three feet, and a refill date for stable pool by april 1 2022.

Daniel miraglia
68 ontario st
Pittsfield ma

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: pontoosuc lake noi
Date: Mon, May 16, 2022 11:16 am

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robert and commisssion members
5/16/22

I am strongly opposed to the current application for herbicides at pontoosuc lake and recommend the city hire a third party limnological consultant for a complete independent review of the pontoosuc lake watershed. one has to question the sound professional ability of solitude lake management who recently misidentified aquatic plants at stockbridge bowl to have continue providing services for the city of pittsfields natural resourses . I have also observed solitude lake management treat pontoosuc lake schedule herbicede treatments several in early may which is not recommended by the manufacturer of REWARD because there is little to no active growth of aquatic plants at this time. I have observed solitude treat pontoosuc lake during heat indexes above 100 degrees with water temperatures in the mid to upper 80s . The department of environmental protection was notified and agreed it should of been a no brainer to avoid herbicide treatments in extended heat waves due to decaying plant matter and further dissolved oxygen concerns which can lead to adverse impacts to fisheries and wildlife. pontoosuc lake has also had two major cyanobacteria outbreaks after secondary herbicide treatments late in the season have occured with no concern about leaving overwinterig aquatic plant habitat. Also as a point of reference pontoosuc lake is ahighly turbid lake and REWARD is not recommended in turbid waters ,,,, In my opinion as a life long lake user and fisherman is that solitude and the friends of pontoosuc lake are managing pontoosuc lake currently without sound science based lake management practices in mind and the lake is on solitudes schedule rather than what is the best interests of the lakes ecosystem and fisheries and wildlife.... the lake is not being managed for the intended purposes of the wetlands act which is shared public recreational interests and the protection of fisheries and wildlife.

just a reminder to the commission that the original NOI from 2011 was for the treatment of aquatic nuisance plant eurasion milfoil which has been eradicated from the lake for several years, the logical approach is to stop herbicide treatments at this time and moniter the macrophytes in the lake, the lake association has gone on record stating the lake bottom has 94 percent native plants and they further state lake draw downs are not done to control aquatic plants but to protect there shorelines which is not a standard in the wetlands protection act... this is a perfect example of why the applicant for the pontoosuc lake draw down who is also an abutter to the project should not be the applicant because of special interests.

daniel miraglia
68 ontario st
pittsfield ma

past 18 year board of directors pontoosuc lake
past 30 year president b.a.s.s
past 35 years conservation director for berkshire county bass
current 35 years board of directors berkshire county league of sportsman
life long user of pontoosuc lake ..

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Pontoosuc lake NOI
Date: Thu, Apr 28, 2022 9:39 am
Attachments:

Robert and commission members
I am attaching several photos of the non target aquatic plants that washed up on the shores of pontoosuc lake after the July 2020 herbicide treatment with reward. All plants that were visible were native plants ranging from common pond weed, elodea,.water starwort and a dense population of native eel grass.
This herbicide treatment should never have been allowed because of the diverse natives plants that were negitively impacted and loss of Fisheries and wildlife habitat.
I will also mention soon after this late herbicide treatment a cyanobacteria outbreak occured.
Daniel miraglia
Pittsfield mass

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: RE: Pontoosuc Lake 2021 Survey Summary
Date: Wed, Apr 27, 2022 9:53 am

The county league

Sent from the all new AOL app for Android

On Wed, Apr 27, 2022 at 9:39 AM, Van Der Kar, Robert <rvanderkar@cityofpittsfield.org> wrote:

> Thanks, Dan. Ill send this along to the Conservation Commissioners. Just one point of clarity. Are you submitting this on behalf of the Berkshire County League of Sportsman, or is it just from you?
>
> **From:** Daniel Miraglia <danrags@verizon.net>
> **Sent:** Tuesday, April 26, 2022 4:37 PM
> **To:** Van Der Kar, Robert <rvanderkar@cityofpittsfield.org>
> **Subject:** Fw: Pontoosuc Lake 2021 Survey Summary
>
> CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.
>
> Robert
> Can you supply this information to commission members,
> I am strongly opposed to Any further herbicide treatments at pontoosuc lake until a comprehensive independent watershed shed study is done to include environmental impact study. The lack of adult fish from the last electro shocking survey at pontoosuc is very sound evidence that the continued loss of aquatic habitat has negitively impacted fisheries and wildlife.
> We also question how this project can be listed as an ecological restoration for wildlife habitat. The use of contact herbicides will always have negitive impacts to non target plants and benthic creatures...
> The dep has established guidlines on the ratio of native plants and exotics in any treatment zone that must be calculated and included in the permit application.
> Reviewing the documents from the applicant pontoosuc lake has an estimated 3 percent exotic plants then it seems logical that there is no current need for herbicide treatments at pontoosuc lake.
> Daniel miraglia
> 68 ontario st
> Pittsfield ma
> Delegate Berkshire county league of sportsman.
>
> Sent from the all new AOL app for Android
>
> > ----- Forwarded Message -----
> > **From:** "Fontaine, Leanda (FWE)" <leanda.fontaine@state.ma.us>
> > **To:** "Danrags" <Danrags@verizon.net>, "Madden, Andrew (FWE)" <andrew.madden@state.ma.us>
> > **Cc:**
> > **Sent:** Tue, Apr 26, 2022 at 3:53 PM
> > **Subject:** Pontoosuc Lake 2021 Survey Summary
> >
> > Dan,

Here is a copy of the summary from the Fall 2021 boat electrofishing survey we conducted on Pontoosuc Lake.

Pontoosuc Lake was surveyed on October 21, 2021 by boat electrofishing. The areas shocked spanned from the southern shoreline near the boat launch along the western shoreline & northern shoreline to the northern most cove, as well as around the 2 islands. No fish were caught around the islands. Five sampling runs were completed along these shorelines. A total of 186 fish & 13 species were sampled, identified, measured, weighed, and released.

Species	Species Total	Minimum Length (mm)	Maximum Length (mm)
Bluegill	61	32	142
Brown Bullhead	2	145	204
Black Crappie	3	75	85
Common Carp	4	170	630
Golden Shiner	2	94	95
Largemouth Bass	29	22	455
Pumpkinseed	23	41	160
Rock Bass	16	52	165
Rainbow Trout	2	315	430
Smallmouth Bass	16	58	153
White Perch	1	345	345
White Sucker	1	470	470
Yellow Perch	26	81	263

Total caught	**186**	

DFW caught 16 Smallmouth Bass during that survey. The sizes ranged from 58mm to 153 mm, with the majority of the fish caught measuring between 58 – 81mm. Only 1 individual was over 100mm (153mm/6 inches).

Most of the fish sampled were smaller, juvenile fish. The majority of Largemouth Bass caught were between 60 – 120mm. Only 1 legal-catchable size Largemouth was caught, weighing in at 3lb 12oz. All but one of the carp caught were large adults, up to 8lbz 4oz at the heaviest. All carp were caught in the northern cove. The Rainbow Trout caught were from the Fall stocking efforts.

Water temperature was 54F, measured by a handheld thermometer. Most aquatic vegetation was dying off, as it was late in the season. A large dead Northern Pike was found on the eastern side of the middle island (>36" in length). Death is unknown but it became food for a juvenile bald eagle flying around the island.

Leanda Fontaine (she/her)

Aquatic Biologist, Western District
Massachusetts Division of Fisheries & Wildlife
88 Old Windsor Rd, Dalton, MA 01226
p: (413) 684-1646 | f: (413) 684-1705
mass.gov/masswildlife | facebook.com/masswildlife

Robert Van Der Kar
Conservation Agent

Community Development
City of Pittsfield
70 Allen Street
Pittsfield, MA 01201
(413) 499-9359
rvanderkar@cityofpittsfield.org
www.cityofpittsfield.org

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: onota- pontoosuc
Date: Mon, Dec 28, 2020 9:44 am

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rob
regarding our visit to both lakes and measurements taken to determine accurate water levels have you looked into why there is a huge difference at pontoosic lake as to what is being reported by dcr and also what is being reported at onota
thanks
daniel miraglia

From: Danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Pontoosuc extension
Date: Wed, Sep 16, 2020 4:10 pm

Rob
I just wanted to add that the milfoil is gone at pontoosic lake so any drawdown does not impact curly leaf which is strain resistant to drawdowns, native plant community will never get a chance to establish itself with lake drawdowns, the commission members should understand the vast lateral zone and back water estuaries that are impacted year after year, this practice needs to change, the county league does not support lake drawdowns with the current herbicide treatments targeting plant communities in the spring and summer, the county league again is opposed to the extension and the worst case scenario would be a one year extension instead of three, this would give time to work on onota lake management plan first and if it looks good for all interested parties then it could be structured similar for pontoosuc , both lakes have to be looked at differently than other bodies of water because of the extensive flats which comprise of the majority of fisheries habitat for spawning fish and wildlife habitat for mammals, reptiles, and benthic creatures, the common species we are used to seeing are slowly disappearing and a wildlife evaluation is essential, thanks daniel miraglia delegate to Berkshire county league of sportsman

Sent via the Samsung Galaxy S8, an AT&T 5G Evolution capable smartphone

From: rvanderkar@cityofpittsfield.org,
To: danrags@verizon.net,
Subject: RE: pontoosuc lake
Date: Mon, Nov 25, 2019 11:01 am

Hi Dan,
It was good to talk with you today. As always, I appreciate your input and insight. Here's my cell phone number....feel free to call while I'm out of the office this week. 413-717-0013.
Thanks,
Rob

From: danrags <danrags@verizon.net>
Sent: Monday, November 25, 2019 8:43 AM
To: Van Der Kar, Robert <rvanderkar@cityofpittsfield.org>
Subject: pontoosuc lake

robert.
the gate valve for pontoosuc lake was opened again I believe on 11/ 21 or 22 and water is pouring out of the lake, I had several people that live on the lake report lake level went down a foot in a couple days. can you look into who is responsible for this late drawdown date which is supposed to start on october 15 not november 22 ,, I would think this is a violation of the order of conditions and the wetland protection act.
daniel miraglia
pittsfield ma

Robert Van Der Kar
Conservation Agent

Community Development
City of Pittsfield
70 Allen Street
Pittsfield, MA 01201
(413) 499-9359
rvanderkar@cityofpittsfield.org
www.cityofpittsfield.org

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: Fw: 11/4/19 conservation commission meeting
Date: Tue, Nov 12, 2019 10:06 am

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this is letter sent by the berkshire county league of sportsman to lanesborough, they do not have email..
we felt the city of pittsfield needs to be aware of this meeting for their records.

From: danrags
Sent: Tuesday, November 12, 2019 10:01 AM
To: danrags
Subject: 11/4/19 conservation commission meeting

Town of Lanesborugh
C/O Kelli Robbins, Town Manager
83 North Main St.
PO Box 1492
Lanesborough MA 01237

Dear Ms. Robbins,

On November 04, 2019 I attended the towns conservation commission meeting to listen and speak if necessary on behalf of the Berkshire County League of Sportsman (BCLS). My attendance at the meeting was in regard to issues such as herbicide applications and lake drawdowns, specifically surrounding the possibility of granting extensions for the order of conditions for Pontoosuc Lake.

The BCLS, who represents over 4,000 sportsmen and women supports sound science based management for the commonwealth's lakes. Ponds and forests. It is our strong opinion that continued lake drawdowns and herbicide treatments have negatively impacted the Commonwealths fisheries, wildlife and aquatic plant recourses in and along Pontoosuc lake.

At this meeting on the 11/4/10, a vote was taken by the members of the Con Com, to grant a one year extension for drawdowns and a two month extension for herbicides. What we find troubling is after voting, I asked the board chairman why Mr. Jack Hicky, who is a board member for friends of Pontoosuc, member of Lanesborough conservation commission, and an abutter to the project, did not recuse himself from voting?

The chair of the Con Com answered; "*Because then we would not have a quorum.*" This is a clear violation of the conflict of interest laws and any action taken in this vote on this extension of the order of conditions is invalid.

The BCLS and our representatives have worked closely with both the City of Pittsfield and the town of Lanesborough on lake management issues and will continue to do so. We ask that the you the town manager, the town selectman, and the conservation commission chairman address this serious breach of ethics at hand.

We look forward to hearing from you concerning a remedy for this issue.

Respectfully submitted,

Daniel Miraglia
Berkshire County League of Sportsman delagate
president Wayne MClain
e-mail -- danrags@verizon.net

From: danrags@verizon.net,
To: rvanderkar@cityofpittsfield.org,
Subject: pontoosuc lake draw down
Date: Mon, Nov 11, 2019 9:20 am

---

robert,
pontoosuc lake is currently being dewatered at a fast rate. I was informed that lake association directors from both lakes showed up for river meeting with jim ??? I surly was not invited were you ??
my question to the conservation commission is it not to late in the year to start dewatering both lakes ?? the order of conditions states october 15 for start on drawdown . does starting thee and a half weeks late require an amendment to the conditions ?? the berkshires is looking at snow this week and single digit temperatures ,, what is the commissions role to make sure there is not going to be negative impacts to the lakes inhabitants because of freezing conditions. who makes the ultimate decision on dewatering the commonwealths lakes this late in the year ?? [community development , the lake association }?? I think this needs to be a discussion for the conservation commission and the DEP and mass wildlife
daniel miraglia
pittsfield ma

From: rvanderkar@cityofpittsfield.org,
To: danrags@verizon.net,
Subject: RE: pontoosuc lake
Date: Wed, Apr 4, 2018 3:57 pm

HI Dan,
Thank you for your email. This matter is currently being addressed this office and by the Commission and will appear on the April 19th meeting agenda.
Thank you,
Rob

From: danrags [mailto:danrags@verizon.net]
Sent: Wednesday, April 4, 2018 10:33 AM
To: Van Der Kar, Robert
Subject: pontoosuc lake

robert,
from are previous conversations over the last two weeks you are aware that pontoosuc lake water levels are still two feet below refill or stable pool standards required by the April 1st date.
if this is clearly a violation of the order of conditions then a enforcement order should be required.
I further ask that this matter be forwarded to the commission and it warrants to be placed on the agenda for discussion on who is making the overall decisions pertaining to the order of condition for Pontoosuc lake.
I also feel there should be discussion on revoking the current NOI before its expiration date of 2019..
daniel miraglia
pittsfield ,ma
413-442-3568

Robert Van Der Kar
Conservation Agent

Community Development
City of Pittsfield
70 Allen Street
Pittsfield, MA 01201
(413) 499-9359
rvanderkar@cityofpittsfield.org
www.cityofpittsfield.org

From: Danrags@verizon.net,
To: david.cameron@mass.gov,
Subject: Pontoosuc lake 2019 april 1 violation not refilling on time
Date: Wed, Dec 11, 2019 9:35 am
Attachments: 20190330_182220.jpg (5133K)

This is two consecutive years not refilling on time another violation that was reported to city of pittsfield con comm

Sent from my Verizon, Samsung Galaxy smartphone

1 Attached Images

From: danrags@verizon.net,
To: david.cameron@state.ma.us,
Subject: Fw: onota lake
Date: Thu, Dec 12, 2019 1:50 pm

not portloosve lake but shows problem with order of conditions - ice -

response from robert to ice on lake and if they are going to draw the lake down in december ??
thanks
daniel miraglia

this was illegal drawdown - city did not have valid Permit for drawdowns.

From: Van Der Kar, Robert
Sent: Thursday, December 12, 2019 11:18 AM
To: danrags
Subject: RE: onota lake

Hi Dan,
The special condition states "the Lake drawdown ends by December 21st or Lake ice-over". I wish there was a scientific definition I could reference to remove some of the ambiguity (which is what you and I would prefer), but in terms of this Order, ice-over conditions is intended to mean the entire lake, and not just portions. Although I'm not suggesting you're implying this, an extreme interpretation of ice-over to mean any ice within the confines of the Lake would mean, amongst other things, anticipating the potential for any ice and would result in a much earlier start date. This early and extended period of drawdown simply would not be practicable due to its ecological consequences, which I know you already understand. So, in order to stay consistent from year to year and to provide a definitive meaning, we interpret ice-over to mean the point in time when the entire lake is covered with ice. It is much more common, however, that this ice-over condition doesn't occur before 12/21; which is why drawdown normally ceases on that specific date. Admittedly, these conditions could be better and the reason why the conservation commission is pushing for a new permit application in 2020. We hope that a new Order of Conditions will clear up some of these issues.
Please feel free to let me know if you have any questions, and as always, I appreciate your diligence in reporting these matters to me.
Thank you,
Rob

From: danrags <danrags@verizon.net>
Sent: Tuesday, December 10, 2019 8:37 AM
To: Van Der Kar, Robert <rvanderkar@cityofpittsfield.org>
Subject: onota lake

robert,
I was told the gate valves for onota lake were opened on friday 12/6/19 ,,, are you aware of this and is this a violation of the order of conditions,, no drawdown when lake has ice on it,, if there is a draw down currently happening at this time under mass general laws would this not be considered a change to a condition and require a letter written to the commission and a hearing for an amendment for a condition ?? I have to question the december 21 date for refill also,, is that date just for a year that a deep drawdown might happen to allow more time ... the date to my recollection dec 1 has been the date for stable pool and that is the date given in the mass wildlife performance standards for drawdowns ,, has mass heritage been contacted about change of dates and timing if the drawdown is started ??
daniel miraglia
pittsfield ma

Robert Van Der Kar
Conservation Agent

From: mike callahan
To: Strysky, Alexander (EEA)
Subject: Comment On Pontoosuc Lake Draw Down
Date: Monday, February 20, 2023 7:29:21 PM

Hello

The Callahan Family have lived on the lake since 1963 . In the early years there was no draw down. The ice destroyed the shore line and did a lot of damage along the way. With the draw down it stopped the damage and helped improve the lake . The opponents of the draw down have said it has hurt the lake in terms of fishing, but that is far from the truth. The fishing has been fine . They never mention about the Northern Pike that were put in the lake by people who brought them down from Lake Ontario and Lake Champlain in the late 60's and early 70's. The Mass Department of Fisheries and Wildlife also stocked the lake with Tiger Musky. The Pike and the Musky will eat any fish or wildlife in the lake that is smaller than them.

A few weeks ago, at the Lanesborough Firemen's fishing tournament, there was over an 8 pound Pike caught along with several Bass over 2 pounds. We have seen wildlife flourish on the lake; several bald eagles, swans, ducks, beavers, otters and turtles.

It's not just about fishing at Pontoosuc Lake. There are many kayaks, canoes, paddle boards and swimmers that frequent the lake. The draw down helps keep the non native weeds at bay. This practice is beneficial for everyone who utilizes the lake.

I attended the two meetings regarding the draw down and agree that it will help with dam safety in protecting the inhabitants of the streets downstream. After living on the lake for so many years we have seen the damage that ice can do and would be afraid to see catastrophic damage to the dam and the habitat below the dam.

In closing we are very strong supporters of the draw down on Pontoosuc Lake.

Sincerely,

Mike and Therese Callahan
15 Narragansett Ave
Lanesborough, MA. 01237

Energy & Environmental Affairs (https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs)

Public Comments Portal

alexander.strysky@mass.gov

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Comment Details

EEA #/MEPA ID	First Name	Address Line 1	Organization
16656	Karen	63 Shaker Lane	Pittsfield MA
Comments Submit Date	**Last Name**	**Address Line 2**	**Affiliation Description**
2-21-2023	Kalinowsky	--	Municipality
Certificate Action Date	**Phone**	**State**	**Status**
2-24-2023	--	MASSACHUSETTS	Opened
Reviewer	**Email**	**Zip Code**	
Alexander Strysky (857)408-6957, alexander.strysky@mass.gov	kkalinowsky@cityofpittsfield.org	01201	

Comment Title or Subject

Topic: Pontoosuc Lake Drawdowns

Comments

I am writing this in regard to the DCR drawdowns of Pontoosuc Lake. This issue came to my attention over a year ago when I became a city Councilor for the city of Pittsfield. This last fall a Pittsfield resident brought to my attention that a large school of young juvenile fish went over the spillway and down the side chute into a shallow riverbed. There were thousands of fish in this school which the Division of Fisheries and Wildlife commented that there would be a high mortality rate on these juvenile fish which went into the river system. I asked the Conservation Commissioner if there was any issue with the integrity of the structure of the dam during a council meeting and he said no. When I asked about the difference in how much the water was drawn down from what the resident reported to him and me and what DCR had written was different; he didn't know why. Up until this last year they were conducting the drawdowns for weed control and now their stating it's for Dam safety. As I see this it has become a political issue instead of for the health of the lake ecosystem.

Attachments

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Status

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SUBMIT

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BACK TO SEARCH RESULTS

From: Sean Callahan
To: Strysky, Alexander (EEA)
Subject: Pontoosuc Lake Draw Down Support
Date: Tuesday, February 21, 2023 1:31:35 PM

Hello Alexander,

I am writing to you supporting the annual Pontoosuc Lake drawdown. If the drawdown is discontinued, I believe there will be extensive damage to not only homeowner's properties, but the damn as well. The drawdown also helps with flood protection and invasive weed growth.

Thank You
Sean Callahan
15 Baglee Ave
Pittsfield, MA 01237

From: Louise Conlon
To: Strysky, Alexander (EEA)
Subject: Draw down
Date: Wednesday, February 22, 2023 8:56:17 PM

I support the draw down.

Thanks

Louise Conlon
17 Narragansett avenue
Lanesborough ma 01237

Sent from my iPhone

Energy & Environmental Affairs (https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs)

Public Comments Portal

alexander.strysky@mass.gov

View Comment

Comment Details

EEA #/MEPA ID	First Name	Address Line 1	Organization
16656	Michele	6 Wren Street	--
Comments Submit Date	**Last Name**	**Address Line 2**	**Affiliation Description**
2-22-2023	Rivers Murphy	--	--
Certificate Action Date	**Phone**	**State**	**Status**
2-24-2023	--	MASSACHUSETTS	Opened
Reviewer	**Email**	**Zip Code**	
Alexander Strysky (857)408-6957, alexander.strysky@mass.gov	drmicheleriversmurphy@gmail.com	01201	

Comment Title or Subject

Topic: Opposing Pontoosuc Lake Drawdown

Comments

Please see word attachment #1 re: my comments opposing the 3 foot drawdown and email to the Western MA DEP office dated December 09, 2022, and attachment #2 re: Environmental Refutation.

Thank you.
Michele Rivers Murphy

Attachments

ENVIRONMENTAL REFUTATION OF DEP DECISION (2) (1).pdf(null)

PontoosucLakeDrawdownComments.02.2023.docx(null)

Update Status

Status

Opened

SUBMIT

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BACK TO SEARCH RESULTS

Michele Rivers Murphy, Former Friends of Pontoosuc Lake Vice President.

As the former VP of Friends of Pontoosuc (FOP) Lake for over 20 years, I go on record opposing the Pontoosuc Lake 3 foot annual drawdown.
This application for drawdown is a politically motivated move by the DCR, GZA consultant and, President (Lee Hauge) of the former advisory group: Friends of Pontoosuc (FOP) Lake as evidenced below.

For the record,

- While FOP served as the advisory group for Pontoosuc Lake for approximately 25 years, FOP no longer exists according to its bylaws since no annual meeting or Board-Member-held meetings or votes have taken place for at least 4 years.

- Yet, the President of FOP has continued to inappropriately use the FOP data base to support his personal positions regarding lake management.

- The President has used his position as the former advisory group (FOP) to influence the town of Lanesborough, city of Pittsfield's Conservation Commissions and the general public in regards to drawdown and herbicides. This is both highly inappropriate and presents a conflict of interest given that he is also the Harbor Master of Lanesborough, an abutter to the project, and theoretically FOP no longer exists.

- Therefore, any comments from FOP should be duly disregarded since they are the opinion of a person acting on his own personal beliefs and since any FOP comments are not representative of any Board Member approval or membership review, vote, or endorsement.

- **DCR's Discrepancy on Application for reason for drawdown.** First, I disagree with the DCR's assessment that dam safety is an existing issue since less than two years ago (04.2021) by their own omission and inspection of Pontoosuc Dam—they did not deem this dam unsafe (Pontoosuc Lake Dam, Pittsfield, Last Inspection and Date: DCR - Dept of Conservation & Recreation on behalf of DCAMM, 04/05/2021). Nor can DEP confirm that Pontoosuc Dam is deemed unsafe. Yet, DCR states dam safety as the reason for the drawdown each year. Second, the DCR changed their reason for the drawdown from: controlling the invasive aquatic plant species to dam safety once it was determined that invasive aquatic plant species were no longer problematic (less than 3% stated by Lee Hauge & the City of Pittsfield's limnologists, 2023). These DCR changes and shifts, with no verifiable proof of unsafe dam condition are suspect.

- These changes are also in direct violation of:

According to M.G.L. Part I, Title XIV, Chapter 91, Section18 wherein:

> Any changes in use or structural alteration of a licensed structure or fill, whether said structure or fill first was licensed prior to or after the effective date of this section, shall require the issuance by the department of a new license in accordance with the provisions and procedures established in this chapter. **Any unauthorized substantial change in use or unauthorized substantial structural alteration shall render the license void.**

QUESTIONS TO BE ANSWERED:

1) How can this change not require a new license?
2) How did this unlicensed structure built in 1997, not require a Chapter 91 permit?
3) How did an addition to the side chute (several years later), also not require a Chapter 91 permit?

Further Discrepancies in Practice and Requirements. As part of this filing, a Chapter 91 licensure is required for this pre-existing, unlicensed structure. And therefore, this unlicensed structure is required to be inspected and "shall be certified to be structurally sound by a registered professional engineer" before issuance of a Chapter 91 license.

I agree that this dam should be a licensed Chapter 91 structure and brought into compliance (accordingly to 310 **CMR 9.39**, performance standards) since it is long overdue due regarding: **non-compliance of MA CMR and MGL.**

Therefore, I respectfully **request that a 3rd party professional engineer** complete the required inspection and determination in order to decrease the political nature of this whole filing. However,

ADDITIONAL QUESTIONS MUST BE ANSWERED:

Re: Pontoosuc Lake Dam is currently an unlicensed structure which is in direct violation of MGL. **310 CMR 9.39** wherein Performance Standards clearly states structures shall be certified to be structurally sound by a registered professional engineer:

Activities Requiring Authorization. There are five basic types of activities subject to Chapter 91 authorization. These include both new and existing unauthorized activities, and are as follows: Structures - Placement or construction of any structure, regardless of size, whether permanent or seasonal. Examples of typical structures include, but are not limited to: piers, wharves, dams, seawalls, weirs, booms, breakwaters, bulkheads, ripraps …

While there is agreement that the dam should be licensed and in compliance with the commonwealth's law and regulations re: Chapter 91, there is discrepancy in state agency practices again.

Please clarify this discrepancy.
QUESTION:
Why is the DEP not requiring that **all unlicensed pre-existing structures** on Pontoosuc Lake to file a Chapter 91 and be certified to be structurally sound by a registered professional engineer?

As one example, at 22 Waubeek Road (Pontoosuc Lake, Pittsfield, MA), a previous filing (Application #: BRP WW 01b, Transmittal #X282446 & Wetland File # 263-1123) was granted a Marina License by the DEP but **DEP did not require a Chapter 91 filing for a pre-existing bulkhead wall structure which the proposed marina will be attached**. This is a direct violation by DEP's own omission that any unlicensed structures such as the dam need a Chapter 91 filing and certification of determination that such structure is structurally sound by a registered professional engineer but yet the DEP doesn't, and didn't, require other pre-existing unlicensed structures on same Great Pond to file a Chapter 91?

These are important procedural and ethical questions that need to be answered. The email to WMass DEP office offers similar concerns regarding GZA's /DCR's behavior and practices. As indicated on the *link* of Pittsfield's ConCom meeting provided below in the email to DEP, this public meeting *link* most certainly warrants scrutiny.

Thank you.

Michele M. Rivers Murphy

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*The following is an email I sent on 12.09.22 to W.MASS.DEP Office.
It is important to note that I received no acknowledgement or response from DEP in this regard.

Attachment: Email to Western MA DEP, Thomas Gruszkos dated 12.09.2022

Pontoosuc Drawdown Violation

Michele Rivers Murphy <drmicheleriversmurphy@gmail.com> Fri, Dec 9, 2022, 12:05 PM
to Thomas.Gruszkos, Western MA DEP

Tom.

It is my understanding that this matter is being investigated by your western MA DEP office, although not in the timely manner that could have prevented thousands of fish being caught downstream with many fish eventually dying.

However, it should have been resolved prior to yesterday's meeting held at the boat ramp.

Here is additional information that the DEP should take into consideration when investigating this situation regarding the drawdown.

Please view the May 19, 2022 Pittsfield Conservation Meeting link below and go to 37:00 minutes. This meeting is highly implicative of DEP interference, with a reference

to Brian Harrington who attended the GZA/DCR meeting in April re; drawdown application.

https://watch.pittsfieldtv.net/CablecastPublicSite/show/44750?channel=3

I forwarded my opposition to the Extension of Pontoosuc Lake Drawdown #263-1188 to Commission Members in writing ahead of said meeting.

This meeting was not only a breach of public hearing protocol wherein GZA/DCR "zoom bombed" our local ComCon meeting on May 19 before the public could weigh in, they also unethically bullied the local ConCom as stated in the link by indicating whether the ConCom voted for the extension or not, DEP would make it happen. *See at approximately 53:00 wherein a female ConCom member clearly states that if local ConCom votes against this extension, then the state will in fact, step in and overrule them anyway, and the Representative from GZA confirms that yes, the DEP will support them and keep the drawdown happening.

This is highly problematic on many levels:

- There was no DEP advisement that this 4th extension of NOI should have not been allowed **but rather should have required a new filing** since the current NOI is for a drawdown to control invasive aquatic species and recent surveys have clearly stated that conditions of the lake in this regard have changed, resulting in a vegetation community that is almost completely native species. Moreover, an extension of the OOC would require an additional permitting, public review and comment as Mass Wildlife also points out.
- The interagency stated support from DEP, specifically Brian Harrington and spoke of **dam safety only regarding this Extension (which is a change that most definitely should be a new filing)** and, they also spoke of **flood storage compensation** which would require a separate filing all together since it would be a violation of OOCs. In other words, they amended a legal document as they saw fit, stating they had DEP's blessing and if the local ConCom chose not to vote in favor, DEP would step in and overrule.
- Moreover, DCR falsely indicates the drawdown is necessary because it is a dam safety issue. There is no evidence as such to their claim so this application is a false depiction of truth. A dam inspection took place 2 years ago and DEP confirmed no knowledge of dam safety issues.
- This is the **4th Extension** which is egregious in itself but the **reason for drawdown has also changed to dam safety** so it should absolutely require a new filing.
- The interagency (specifically, GZA) also suggested **changing the sole applicant to DCR** which is another significant change to such legal document.
- Friends of Pontoosuc (FOP) was listed as an applicant unbeknownst to me who served as Vice-President of FOP over 20 years. This placed all Board Members at great risk for litigation and was also never voted on and approved by the Board in accordance to FOP bylaws.

This heavy handedness as a state supportive directive to overrule the local ConCom before they made a decision was inappropriate on every level. It is also evident that it was a done deal in your so called "pre-permitting" process-- so that in of it itself, is egregious. To then change the reasons for the drawdown and applicant on a legal document is equally concerning.

I am trying to understand how the DEP or DCR is protecting our environment. This Extension will not protect the Wetland Protections Act as DEP is charged to and the environmental impact to the fishery and wildlife is most concerning.

I have also forwarded you an email I sent to local ConCom re: my concerns. Thank you.

Please contact me if you have further questions.

Michele
Michele M. Rivers Murphy, Ed.D.
413.212.9379

ENVIRONMENTAL REFUTATION OF DEP DECISION

COMPLIANCE WITH MASS REGULATIONS:

310 10.56, 310 CMR 10.54(3), (**PHYSICAL STABILITY OF BANK**), **310 CMR 9.33 (3) (PROTECTION OF WILDLIFE), 310 CMR 9.33 (3)- PROTECTION OF FISHERIES.**

BY VICTOR C. CAPELLI (FIELD ECOLOGIST, A.A.S, B.S, SUNY COBLESKILL, CORNELL UNIVERSITY AGRICULTURAL COLLEGE)

MORPHOMETRIC AND PHYSIO-CHEMICAL PARAMETERS OF PONTOOSUC LAKE

Pontoosuc Lake is an early Eutrophic Great Pond in Berkshire County, Massachusetts with a 1.2 mile shoreline of 511. 3 acres adjoining the towns of Pittsfield, Cheshire and Lanesboro with an average depth of 14-15 feet in the middle of the lake and shoreline depths of 11 feet or less, but increases to as much as 40 feet. The mean width of Pontoosuc Lake is 2,806 feet with a maximum width of 4,800 feet and shoreline length of 25, 532 feet (4.81 miles). A typical Berkshire County dimictic and stratified lake, the thermocline separates the epilimnion and the hypolimnion at 5-15 feet intervals. The epilimnion increases in size as the summer continues and the thermocline is pushed downward from warmer surface water conditions. DO is very low at the bottom of the lake because of the high BOD of decaying vegetation and anaerobic conditions. The upper DO range of 10 mg/l declines to almost 0 at 33 feet. Nutrients at the surface are quite low in early summer, because of increased biological activity from algal and diatom growth.

An early stage Eutrophic lake, Pontoosuc Lake has a TSI (Trophic State Index) between 40-60, with a 4-10 UG—1, TP Total Phophorus concentration and a chlorophyll concentration of less than 8 UG-L-1 with a Secchi depth range between 6 and 3 meters, (11-12 ‘) based on the Corvallis LEI (Lake Evaluation Index and Composite Trophic State Index of (Total Nitrogen, TN, Chlorophylla, (Cha) and Secchi disk, (SD) lake transparency gauge, macrophyte coverage and dissolved oxygen (D0) values. (http://dnr.wigov/lakes/CLMN/exit extensions Lake) University of Wisconsin-2100 Main Street, Stevens Point, Wisconsin, 54481. The average pH is above neutral at all depths, with a maximum of 9.2 at the surface of the lake and the alkalinity and hardness data indicates that is a well buffered hard water lake surrounded by limestone soils and bedrock. The pH values at surface and 10 foot levels are 11.0 and 8. 0 mg/l alkalinity indicates contributory leaching of limestone carbonate geology and soils, so eutrophication (or aging) of the lake would be accelerated at these high alkaline pH levels. There are three inlets to the lake; two on the northwest part of the shoreline and one on the northeast and one outlet on the southeast side. The watershed drainage is approximately 21.35 miles.

BIOLOGICAL PROFILE

Algae, phytoplankton, zooplankton and protozoa populations have been surveyed in Pontoosuc Lake with Bacillariophycae, Cyanophycaeae and Chlorophyceae being the commonest **algal** species, Bosmina, Daphinia and Diaphonosoma-**Cladocerans**, **Copepod** species include ; Diaptomus, Cyclops, Sarcodina, Protozoan species are Mastigophora and Infusoria. **Rotifers**; Ploesoma, Testudinella, Kellicottia, Platyias and Conochilus**. Diatom species** consist for the most part of Fragilalria and Tabellaria. Littoral vegetation consists mostly of Pondweed (Potamogeton crispus), Water Millfoil, Yellow Water Lily , Eurasian Millfoil, Stonewort and Hydrilla. **Seventeen** species of fish are native to Pontoosuc Lake: Largemouth Bass, Smallmouth Bass, Pumpkin Seed, Black Crappie, Bluegill, Yellow and White Perch, Chain Pickerel, Common Carp, Brown and Yellow Bullhead, White Sucker, Common Shiner, Golden Shiner, Rock Bass,

Northern Pike. 600 Tiger Muskies were also introduced in 2015, but in the creel surveys of 2011 and 2018 none were taken.

According to Leanda Fontaine, Aquatic Biologist for the Western District of Massachusetts Division of Fisheries and Wildlife, two electro fishing surveys were conducted in Pontoosuc Lake; one in July of 2011 and the last one on June 7th, 2018. The survey data indicated that there was a marked decline of fish caught from a grand total of 164 fish of 11 species in 2011 to only 48 fish of 13 species in 2018. In the 2018 survey 22 Yellow Perch, 4 Smallmouth Bass, 2 Rock Bass, 6 Common Carp, 2 Blue Gills, 5 Pumpkinseeds and 1 Brown Bullhead were caught. It was noted that in the areas where shocking was conducted fish numbers were poor. This fishing survey contrasts sharply with 2018 where 164 fish from 11 species were collected; Black Crappie, Blue Gill, Common Carp, Hybrid Bluegill/Pumpkinseed, Largemouth Bass, Pumkinseed, Rock Bass, White Sucker, Yellow Bullhead and Yellow Perch and White Perch. These fishing surveys may indicate an overall loss of net productivity in the lake due to overfishing and destruction of littoral breeding habitat due to lakeshore development. The negative impacts of further lake shore development from the proposed marina construction will be addressed later in the paper.

- **310 CMR 10.54 (3) " To corroborate that the physical stability of the bank will be impacted by this development as evidenced by the local com con decision and specifically, a more narrow lens of impact to the bank that will occur from boats accessing the bankward slips of the proposed dock."**

The proposed site area of the Proprietor's Lodge Marina will enclose approximately 4000 square feet of lake surface and 1145 feet of shoreline that will be directly impacted by the construction of docks, buoys and concrete/cement infrastructure in the following ways: **1). Alteration and acceleration of hydrodynamic elements- wave currents, internal and external seiches and scouring effects will erode adjacent shorelines.** Unprotected shorelines above and below the proposed marina site will be eroded heavily by the re-direction and speed of the lake currents, boat mediated waves and altered shoreline profile. This contradicts the WRS survey stating that " the nature of the

sediment is not expected to result in any significant erosion or sub-surface sediment redistribution as a consequence of boat use. The presence of the dock infrastructure will actually **increase turbulence and disturbance** in water currents and bank ward erosion by the elimination of littoral plant buffering by marina construction. Physical evidence of bank erosion from shoreline housing and dock construction already exists, especially in front of Proprietor's lodge due to heavy spring rainfall runoff and ice melt. It should also be noted that DEP has already recognized that the "shore is already heavily eroded" and that the further erosion of these unprotected surfaces will reduce size of the littoral habitat for bass, perch, sunfish, minnows and other forage fish species and wildlife which need such biological imperatives like predator aversion, thermoregulation, "loafing", feeding, breeding and growth to keep their populations viable.

2). Underwater displacement of shoreline rock and pebbles by anchor buoy action, new docks and piers will be destabilized through the excavation of rock and gravel around their bases. This occurs because the wave currents are accelerated by the smooth surfaces of the concrete/cement or wood rather than the friction producing (roughage) rock and rubble lake bottom.

3). Long anchor buoy mooring chains will scour and disturb lake sediments and littoral, sub-emergent, emergent or floating vegetation associated with fish breeding habitats along the shoreline. The intensive water disturbance provided by buoy mooring chains and or anchors attached to the floating docks and new marina infrastructure will shred and uproot underwater plant roots, floating leaves, muddy lake bottom sediments and natural lake shoreline stabilizing vegetation. This will be especially noticeable in storms sweeping across the lake that swing the chains violently back and forth, creating a sub-surface and surface agitation, which only increase turbid conditions on the lake bottom.

4). **Scouring and removal of shoreline vegetation through dock construction will rob the stability of the banks above and below the boat slips.** In heavy rainstorms, turbulent wave erosion of the bank will be unimpeded from the lack of rooted lake emergent, floating and littoral vegetation removed by marina

construction**.** Plants such as Yellow Water Lily, Eel Grass, Pondweeds, Pickerel Weed, Arrow Arum, cattails, Water Hyacinth, Yellow Iris or phragmites- all stabilize the shallow muddy lake bottom sediments that provide cover and food for fish and littoral dwelling vertebrates and invertebrates. The marina construction will remove that natural beneficial feature of shoreline stability.

5) Boat bow wash and propeller wash,(cavitation) "bow" waves and boat mediated currents will multiply the erosion of the shoreline. Agitated currents both above and below the lake surface from increased boat traffic at the marina will disturb the stability of cove and inlet waters that are protected by littoral emergent, floating and sub-emergent vegetation. The repeated propeller wash, oar strokes, embarking and disembarking from the shoreline banks create artificial wave disturbance that negates the natural wave calming effects of littoral vegetation.

6) Tree root and vegetation trampling and shredding by marina patrons/human activity will further compromise the shoreline stability of the marina by compacting the soil, accelerating storm water runoff from the parking lot, outdoor dining areas, boat ramps and marina infrastructure. Repeated foot traffic, bike traffic and dogs that compress the forest topsoil in the riparian corridor alongside the shore is a negative cumulative and chronic impact on the structural integrity and stability of the topmost organic soil horizon. Leaf litter, understory plants, trees and shrubs are the natural rainfall stabilizing components of the forest soil. The marina development will increase the "human footprint" on this fragile shoreline ecosystem and destroy the inherent ability of the shoreline soil structure to withstand the seasonal changes of weather and climate and hasten the dystrophic decline of lakefront properties.

7) Added retaining walls, patio construction, ceremony area, covered porch and walkways, will add to increasing total water runoff by funneling and accelerating rainwater sheet wash into Pontoosuc Lake that will further undermine the Proprietor's Lodge shoreline, especially during severe weather

events. Unmitigated or un-retarded sheet wash runoff that develops over friction less surfaces (cement, blacktop, hard packed gravel), especially on a gradient leading down to the lake, develops into vertically dissecting head ward expanding rill networks and gully wash, where it undermines and destabilizes the protruding edge of the shore line. It should be noted that heavy erosion because of the lack of stabilizing littoral vegetation has already occurred at this shoreline bank/interface at Proprietor's Lodge, as a direct result of current runoff and further physical, cultural degradation of the shore line.

8) Subsurface shoreline soil undermining and collapse from agitated lake waters, boat propeller cavitation and torrential storm runoff and seasonal frost heave due to increased dock and marina development derived storm water runoff. Due to the thin topsoil and rocky subsoil and stratum of this Pittsfield Loam (Pwe and Nellis Loam) of the shoreline edge adjacent to Proprietor's Lodge, geomorphological excavation and dislodgement of supporting glacial till(large rocks and stone) of the underlying bedrock will be accelerated by frost heave, storm water sheet runoff and infiltration from newly created marina development surfaces. Subzero temperatures and lake water infiltration will combine to force stones upward through the soil profile through the process of ice expansion and melting, collapsing and undermining the shoreline edge. This process of shoreline destabilization will be especially enhanced in the spring from the accumulated layers of snow and ice on the shore and on the adjacent woodland forest floor.

The fact that DEP has found that the project is "not subject to the General Performance Standards" (310 CMR 10.56 (4) (a)4 because the associated envisioned removable articulated gangways, structures, upper and lower landings, mooring ball system, floating lateral and finger piers, pilings and anchors etc. will not exceed the required 24 inland linear feet or 886 square feet to require a "wildlife habitat evaluation" (310 CMR 10..54(4)(a) or CMR 10.56(4)(a) misses the point entirely. The synergistic ecological effect (annual 3-6 foot drawdowns, boat wash and new marina construction) of this project will further

destabilize the littoral corridor of the affected shoreline area that includes the Proprietor's Lodge property.

The continued erosion of the shoreline will be enhanced because the marina construction of Proprietor's Lodge will remove any bank stabilizing vegetation that would have a chance to become established, prior or existing lake management protocols. Aquatic vegetation, aquatic macrophytes help to mitigate and attenuate shoreline erosion and wave action, regulate and filter nutrients and absorb C02 (carbon sink) and these vital eco-services are at their most effective at mid-summer, when photosynthesis and boat traffic are at their peak of activity.

Many studies (Loflin 1995, Burdick and Short 1999, Sanger and Holland, 1999) have analyzed the effects of dock shading on benthic vegetation and found that boat activity negatively impacts aquatic plant communities and the shoreline littoral plant community in the marina project area confirms those findings.

In addition to the marina's destabilization of the shoreline by the removal of littoral/riparian vegetation or aquatic plants; the direct erosion of the lake shoreline by soil compacting human foot traffic, boat launch activity, rainwater runoff from the adjacent lawn, patio, dining areas, walking paths and impervious parking lot surfaces will **dramatically increase**, **during heavy spring and fall rain and snow events** or of **freezing/ melting episodes regardless of 3-6 foot annual drawdowns.**

In addition to the elimination of the loss of natural precipitation, interception, infiltration soil surfaces that the marina construction will deprive the Pontoosuc Lake shoreline, there will also be a dramatic increase of annual precipitation captured and funneled into Pontoosuc Lake by the construction of the artificial residential catchment basins of the marina; (storm sewers, blacktop gullies, parking lot drains). Burges (et al 1998) wrote that the annual precipitation collected by residential catchment basins averages about 48% compared to only 12% in naturally forested areas. Burges added that this 36% increase of captured

precipitation run off has dramatic negative impacts for lake ecology (toxic auto chemicals, Phosphorus, Nitrogen) and drinking water potability for nearby residential or commercial water systems.

The further destruction and compromise of the riparian and littoral vegetated zones, the increased turbidity from the scouring effects of anchor buoys, floating piers or floating docks, boat mediated wave action-all act synergistically to depress the lake populations of phytoplankton, zooplankton, algae, diatoms or rotifers-not to mention the toxic effects of discharged oil and gasoline pollution from motor boats which eventually enters the flesh of preferred fish species like bass, pike or pickerel through their consumption of forage fish(i.e. yellow perch, shiners, minnows, bluegills) at the bottom of the food chain through biomagnification. The fact that the dock/marina construction will eliminate potential vegetation stabilized shorelines that buffer them from boat wash will also eliminate their beneficial effect on reducing lake turbidity as well.

All of this contradicts the assertion of Kenneth Wagner in his letter to Matt Puntin, SK Design, (July 19th 2019) stating that "there is no minimal likelihood of any erosion or sediment alteration from the proposed dock installation and no expected alteration of conditions from the use of those docks by boats."

REFERENCES

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Minnesota Second Edition, WM. C. Brown Company, Dubuque, Iowa, 1969

- Freshwater Fishery Biology, Karl F. Lagler Professor of Fisheries and Zoology and Chairman, Department of Fisheries, University of Michigan, Second Edition, 1973, WM. C. Brown Company Publishers Dubuque, Iowa

- Effects of Boat Traffic and Mooring Infrastructure on Aquatic Vegetation. A Systematic Review and Meta-Analysis, Josefin Sagerman, Joakim P.Hansen and Sofia A. Wikstrom, July 11, 2019-Ambio 49, pp 417-530 (2020) https://link.springer. Com/article/10.1007/513280-019-01215-9#cite as

View Comment

Comment Details

EEA #/MEPA ID
16656

Comments Submit Date
2-23-2023

Certificate Action Date
2-24-2023

Reviewer
Alexander Strysky (857)408-6957, alexander.strysky@mass.gov

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bcls, berkshire county league of sportsman rep

Affiliation Description
Individual

Status
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Comment Title or Subject

Topic: pontoosuc lake file #16656

Comments

As an avaid user of pontoosuc lake with over 4-5 thousand hours of experience of this body of water from angling , aquatic plant surveys, fisheries and wildlife stream team volunteer, former board of directors of Pontoosuc for 18 years , past president and conservation director for b.a.s.s. fishing organizations for 30 years i would concider myself an expert on this body of water. I have watched this lake go from one of the best fisheries in the state to one of the worst in the last fifteen years. 50 years of lake drawdowns coupled with over agressive herbicide treatments have negitively impacted the fisheries and wildlife and over excessive loss of aquatic plant habitat has contributed to an unhealthy lake echo-system . The path to restore the health of this lake is to address the issues at hand which are both current and future lake management pratices .There needs to be discussions weather there is a need to do drawdowns every year and herbicide applications when there is currently less than three percent exotic plant population,, The lake can not be managed properly with two seperate filings for herbicide and drawdowns for plant control and a fabrication from applicant that the drawdown is now for dam safety only ?????? I have to question weather two open NOI filings on the same resource that both will have the same negitive imacts and alterations to the commonwealths resources is allowed under whats called segmentation . One project is listed as limited resteration and the drawdown is listed as a ecological resteration but both will have the same alterations as the limited project ?? Another issue i currenty see is the applicant making demands on the timming of drawdowns and refills when they are not qualified to make sound science based decisions for lake management. In the best interestes of the lake and sound science based lake management Division of Fisheries and Wildlife who are the stewards of our lakes and ponds should be making the decisions on refill and drawdown dates. Secondly with the DCR having such a bad track record for non compliance issues as a permit holder at Pontoosuc lake why is this agency even be considered for this permit application?? I currenty believe there needs to be a secondary applicant such as the city of pittsfield for this NOI filing with sharred accountibility to better ensure the protection of the WPA.

I would also once again suggest that the town of Lanesbouough impliment a no wake zone in Bull Hill cove which is less that three feet of water for the purpose of reducing the nuitrient overloading from lake bottom distributions of silt and heany solids which cause high turbidity levels and impair the already fragile lake echo-system. I further recommend prohibiting jet skis in guns cove or whats called the back naragansette cove which is a shallow less than two feet back water estuary for the same reasons. Both these recommendations are sound and should be goals for inlake management.

daniel miraglia

68 ontario st

pittsfield ma

Attachments

Update Status

Status

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SUBMIT

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BACK TO SEARCH RESULTS

COMMENTS TO JAN 17, 2023 EENF
PONTOOSUC LAKE ANNUAL DRAWDOWN
FEB 23, 2023

INTRODUCTION

These comments are being submitted by the Lanesborough Harbormaster to the Jan 17 2023 EENF for the annual drawdown of Pontoosuc lake.

There is little that can be added to the primary rationale for the drawdown; prevention of loss of life and property damage downstream from a dam failure. However, there are other benefits to the annual drawdown which make the argument for drawdown continuation even more compelling. Also, some have expressed concerns about the drawdown which need to be addressed.

ADDITIONAL BENEFITS FROM PONTOOSUC DRAWDOWN

CONTROL OF INVASIVE MACROPHYTES.

One of the primary reasons for conducting the drawdown in the past was the benefit obtained in the control of nuisance macrophytes which can significantly impair the lake value as a recreational resource. Eurasian watermilfoil is a non-native invasive species which has been a problem for lake users since its introduction over 40 years ago. It is a perennial which re-grows from its root structure every year. A drawdown which exposes the roots to freezing is a very effective means of control in the areas which are exposed, as the previously frozen roots do not regrow. The native plants which we are trying to encourage are annuals and the seeds dropped the previous year if exposed by drawdown remain viable and germinate as they would with no drawdown. We have managed to gain control over the milfoil with the use of herbicides as well as drawdowns, but it is a continuing problem: Since it spreads by fragmentation and there is a healthy population in the lake inlets which we cannot eradicate it will quickly spread back into the lake if control is not continued. Much of the re-introduction via fragmentation occurs in the area exposed by drawdown, so the drawdown will help in the battle for control, and enable us to use less herbicide which will help the propagation of the desirable native weed species.

PREVENTION OF DAMAGE TO SHORELINE STRUCTURES.

The dam is not the only thing at risk from an iced-over lake. Homeowners, businesses, and government entities all have significant investment in shoreline structures such as retaining walls, highway support structure, and lake access facilities. An ice sheet on the lake exerts tremendous force on these structures in the presence of even normal winds and can cause severe and expensive damage. Without a drawdown, these forces will be exerted throughout the winter, not just under unusual conditions as a lake level rise from a winter rain event.

COMMENTS ON DRAWDOWN PLAN AND CONCERNS

ICE-OUT DATE

Refill timing is critical to drawdown success, and to minimizing any negative impacts from the drawdown. Completion of refill by April 1 has been a regulatory element in drawdown permitting which needs to be reexamined. Attachment 1 is a spreadsheet with data and analysis of ice-out dates from 1925, 98 years. There are 87 data points over those years (some years the date was not recorded). Source of the data is shown; that thru 1988 was obtained from the Berkshire Eagle, subsequent data was recorded by volunteers from the Friends of Pontoosuc. Definition of ice-out for the Friends data is: The first day when there is no large sheet of ice anywhere the lake. Typically there are small chunks of ice (less than I foot) floating against the downwind shore for a day or more after this date, but they could not damage shoreline structures like the large sheets can. The dates recorded by the Eagle are probably the dates when a reporter could see no ice when observing the lake from public areas and could possibly be a little earlier than what would have been recorded by the above definition.

The above table summarizes the earliest and latest dates over the entire data set and for the last 13 years. Climate change has impacted the dates, but there is still a large range of dates in the recent data, showing ice-out as early as March 10, and as late as

ICE OUT DATES 1925 - 2021			
EARLIEST		**LATEST**	
year	**mo/day**	**year**	**mo/day**
2016	3/10	1972	4/27
2002	3/12	1956	4/29
2012	3/16	1940	4/30
Average: 4/10			
Median; 4/9			
ICE OUT DATES 2010 - 2022			
EARLIEST		**LATEST**	
year	**mo/day**	**year**	**mo/day**
2016	3/10	2015	4/18
2012	3/16	2018	4/14
2020	3/21	2014	4/13
Average: 4/2			
Median; 4/6			

April 18. Clearly an April 1 refill-by date results in high risk to the dam and other

infrastructure. The EENF suggests deviating from the April 1 date sometimes. An alternate approach is suggested below.

DRAWDOWN/REFILL PROCEDURE

The drawdown and refill are controlled by the sluice gate (3.5 feet below the spillway), and the low-level outlet opening. The description paragraph 2.1.1 correctly lists the spillway crest (Elevation 1101.3) and a Sluice Gate (Elevation 1093.9). The sluice gate is controlled by moving a gate up from the closed condition. It is unclear what the data in table 2.1 is describing. It appears to be describing a "spillway" gate operated by moving the gate down from the spillway elevation instead of up from the sluice gate elevation. Once the lake level is below the bottom lip of the movable sluice gate its position has no impact on the outlet flow. (Raising that gate up from 26 to 40 inches between day 14 and day 21 would have no impact on flow if the lake level is at the required 14 inches down (22 inches above the sluice gate elevation) on day 14. I suggest that the nomenclature talk only about the sluice gate and the lower gate, not sure what Is meant by the spillway gate.

I also suggest that the goals and requirements of the drawdown be clearly stated, and that the implementation by using some combination of the sluice gate and the lower gate be left the operator. The requirements which were in place in 2005 when the new dam was built were: Drawdown elevation 3 feet +/- .5 feet below spillway crest. Allowing the lake level to be regulated by the elevation of the sluice gate was the intent when the dam was rebuilt, and it seems quite reasonable to implement that now.

The refill procedure described in the EENF is somewhat decoupled from the calendar dates which were in past orders of conditions, but it is unclear why any calendar dates are retained. Initiating refill at the time of ice-out and refilling at the maximum rate possible while maintaining the required minimum downstream flow seems the most logical course of action. The typical inflow rate of 100 cfs and a 3.3 ft drawdown for a 500 acre lake yields a refill time of 8.3 days. If conditions are such that there is minimal risk of an extreme inflow raising the lake to a height risking the dam or downstream infrastructure, then there seems to be no reason for not implementing refill as quickly as the inflow will accomplish it while maintaining the required minimum downstream outflow. I suggest that refill be targeted to start at ice-out day unless there are weather conditions which make alternate actions preferable. Dry weather and little or no snowpack would be cause for initiating refill before ice-out, and wet conditions/ forecast and/or significant snowpack would be reasons for initiating refill later. The EENF identifies an intent of refilling the lake in 4-6 weeks. I know of no rationale for this.

Minimum downstream flow required by the most recent Pontoosuc OOC is .5 cfs. Minimum suggested by the Riverways group in MA DER is .5 cfs per square mile of watershed, which for Pontoosuc would be 21 cfs. The .5 cfs / mile rate is based on the 20th percentile of inflow rates, and would therefore require that the lake be lowered 20% of the time while we are trying to refill in the spring. So a reasonable compromise is to implement the high outlet streamflow when practical but revert to the .5 cfs for

times when inflow rates are low. This is, in general, what the proposed EENF would accomplish, but it would be an improvement in the description to have this better articulated.

FISHERIES IMPACT AND DATA NEEDED.

There has been concern about the fish population and on the possible impact of a drawdown. There have been inconsistent claims on the robustness/health of the current fish population and on the parameters which are critical to the maintenance of a healthy fishery. Clearly more data is needed. Below is a short list of data which would be useful:

- What is the population of the desirable (and other) species at present? Is it declining?
- What are the optimum and acceptable parameters for fish spawning, Temperature, depth, etc. ? There is literature (on-line and elsewhere) on spawning temperature, but claims are being made about spawning observed at other temperatures.
- Can spawning be successful if done in an area drawn down and then refilled?
- How does macrophyte density impact the fishery? Invasive species and native species?
- What is the water temperature during and after refill?

Much of the above data is hard to come by and even when there are numbers there may be doubt about its validity/objectivity. Water temperature during refill is easy to measure, and an effort should (and will) be made to gather information on this parameter starting with the spring 2023 refill. If we could have a better understanding of some or all the above information it might be possible to adjust the drawdown parameters to the benefit of the fishery without compromising the objectives of the drawdown. At the present, the drawdown is not believed to have any significant impact on fisheries, as it is believed that refill being completed before spawning, and there is no evidence of any fish kills for the duration of the drawdown.

SUMMARY AND RECOMMENDATIONS

The plan as described in the EENF will meet the objectives of protecting downstream infrastructure and preventing loss of life from a catastrophic spring refill event. It is also , to some degree, complementary to other lake management objectives including protection of shoreline structures and controlling invasive macrophytes. The situation is very complex, different every year, and being impacted by climate change. Fixed calendar dates are inappropriate to use even for guidelines. It is unclear in the EENF who makes the final decisions. It would be desirable to have the decisions made with more interested parties represented. Perhaps a team led by the Pittsfield DCR with participants including the two harbormasters, and a DFW representative could be charged with developing a refill plan every year based on conditions as ice-out is approaching. The Dam Safety office would have the final say to ensure that the dam as well as downstream life and infrastructure are not put at risk. This group should also be charged with identifying data needed to improve the decision making in future years, and to the extent possible developing some of the required data. The list of data above in the fisheries impact section could be a starting point for the data categories where we need more information.

Lee Hauge,
Lanesborough Harbormaster

	PONTOOSUC LAKE ICE-OUT RECORDS							
	FROM THE BERKSHIRE EAGLE THRU 1975 (E)							
	FROM EAGLE VIA USGS (U)							
	FROM THE FRIENDS OF PONTOOSUC (F)							
	year	**mo/day**	**Month**	**Day**	**days fr 3/1**	**Julian day**	leap	source
	1925	4/2	4	2	33	92		E
	1926	4/24	4	24	55	114		E
	1927	4/8	4	8	39	98		E
	1928	4/7	4	7	38	98	1	E
	1929	4/7	4	7	38	97		E
	1930	4/3	4	3	34	93		E
	1931	4/10	4	10	41	100		E
	1932	4/21	4	21	52	112	1	E
	1933	4/17	4	17	48	107		E
	1934	4/18	4	18	49	108		E
	1935	4/10	4	10	41	100		E
	1936	4/1	4	1	32	92	1	E
	1937	4/15	4	15	46	105		E
	1938	3/28	3	28	28	87		E
	1939	4/26	4	26	57	116		E
	1940	4/30	4	30	61	121	1	E
	1941	4/15	4	15	46	105		E
	1942	4/8	4	8	39	98		E
	1943	4/26	4	26	57	116		E
	1944	4/19	4	19	50	110	1	E
	1945	3/30	3	30	30	89		E
	1946	3/27	3	27	27	86		E
	1947	4/14	4	14	45	104		E
	1948	4/1	4	1	32	92	1	E
	1949	3/28	3	28	28	87		E
	1950	4/9	4	9	40	99		E
	1951	4/10	4	10	41	100		E
	1952	4/11	4	11	42	102	1	E
	1953	3/27	3	27	27	86		E
	1954	3/28	3	28	28	87		E
	1955	4/15	4	15	46	105		E
	1956	4/29	4	29	60	120	1	E
	1957	3/31	3	31	31	90		E
	1958	4/15	4	15	46	105		E
	1959	4/18	4	18	49	108		E
	1960	4/16	4	16	47	107	1	E
	1961	4/21	4	21	52	111		E
	1962	4/12	4	12	43	102		E
	1963	4/16	4	16	47	106		E
	1964	4/17	4	17	48	108	1	E
	1965	4/18	4	18	49	108		E
	1966	4/18	4	18	49	108		E

	1967	4/20	4	20	51	110		E
	1968	4/6	4	6	37	97	1	E
	1969	4/16	4	16	47	106		E
	1970	4/24	4	24	55	114		E
	1971	4/25	4	25	56	115		E
	1972	4/27	4	27	58	118	1	E
	1973	4/1	4	1	32	91		E
	1974	4/5	4	5	36	95		E
	1975	4/22	4	22	53	112		E
	1976	4/3	4	3	34	94	1	U
	1977	4/14	4	14	45	104		U
	1978	4/19	4	19	50	109		U
	1979	4/21	4	21	52	111		U
	1980	4/7	4	7	38	98	1	U
	1981	4/2	4	2	33	92		U
	1982	4/22	4	22	53	112		U
	1983	4/2	4	2	33	92		U
	1984	4/14	4	14	45	105	1	U
	1985	4/2	4	2	33	92		U
	1986	4/4	4	4	35	94		U
	1987	4/5	4	5	36	95		U
	1988	4/9	4	9	40	100	1	U
	1989	3/29	3	29	29	88		F
	1990	4/3	4	3	34	93		F
	1991	3/27	3	27	27	86		F
	1992	4/8	4	8	39	99	1	F
	1993	4/17	4	17	48	107		U
	1994	4/19	4	19	50	109		F
	1995	3/26	3	26	26	85		F
	1996	4/11	4	11	42	102	1	F
	1997	4/9	4	9	40	99		F
	1998	3/31	3	31	31	90		F
	2001	4/22	4	22	53	112		F
	2002	3/12	3	12	12	71		F
	2011	4/13	4	13	44	103		F
	2012	3/16	3	16	16	76	1	F
	2014	4/13	4	13	44	103		F
	2015	4/18	4	18	49	108		F
	2016	3/10	3	10	10	70	1	F
	2017	4/6	4	6	37	96		F
	2018	4/14	4	14	45	104		F
	2019	4/12	4	12	43	102		F
	2020	3/21	3	21	21	81	1	F
	2021	3/29	3	29	29	88		F
	2022	3/28	3	28	28	87		F
	Average all				40.7	99.9	4/10	
	Average 12 years					92.5	4/2	

	Median 12 years				96.0	4/6	

ICE OUT DATES 1925 - 2021			
EARLIEST		**LATEST**	
year	**mo/day**	**year**	**mo/day**
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2012	3/16	1940	4/30
Average: 4/10			
Median; 4/9			
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Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
100 Cambridge Street 9th Floor Boston, MA 02114 • 617-292-5500

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Gary Moran
Acting Commissioner

Memorandum

To: Alexander Strysky, MEPA Unit

From: Susan You, Waterways Regulation Program, MassDEP/Boston

Cc: Daniel Padien, Program Chief, MassDEP/Boston

Re: Pontoosuc Lake Annual Drawdown Project, Pittsfield and Lanesborough, EENF (EEA #16656) Chapter 91 Waterways Regulation Program Comments

Date: February 24, 2023

The Department of Environmental Protection Waterways Regulation Program (the "Department") has reviewed the above referenced EENF (EEA #16656), submitted by GZA Environmental, Inc. on behalf of the Massachusetts Department of Conservation and Recreation and Massachusetts Division of Capital Asset Management and Maintenance (the "Proponent") for the Pontoosuc Lake annual drawdown project located in Waters of Pontoosuc Lake at 4 Hancock Road in the City of Pittsfield and extending through lake area within the City of Pittsfield and Town of Lanesborough, Berkshire County (the "project site"). The project proposes conducting 3-foot annual drawdown of Pontoosuc Lake to reduce flood risk and damage to the Pontoosuc Lake dam.

Water Dependency:
The Department has determined that this project is a water-dependent use project pursuant to 310 CMR 9.12(2)(a)12.

Chapter 91 Jurisdiction:
Pontoosuc Lake is defined as a Great Pond as defined at 310 CMR 9.02 and is subject to Chapter 91 jurisdiction pursuant to 310 CMR 9.04(1)(a). As the dam is located within the Chapter 91 jurisdictional boundaries of the lake and the drawdown activities throughout the lake will occur within the Chapter 91 jurisdictional boundaries, both are subject to M.G.L. Chapter 91.

Chapter 91 Comments:

The EENF states that the dam does not have a Chapter 91 authorization and that structural alteration has occurred after January 1, 1984, and therefore a Chapter 91 license is required for the dam, and a Chapter 91 permit is required for the drawdown activities pursuant to 310 CMR 9.05(2)(e). The Proponent intends to submit a single WW01 Water-Dependent application for both the license and permit.

If you have any questions regarding the Department's comments or would like to schedule a pre-application meeting, please contact me at susan.you@mass.gov or at (857) 972-5638.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Maura T. Healey
Governor

Kimberley Driscoll
Lieutenant Governor

Rebecca L. Tepper
Secretary

Gary Moran
Acting Commissioner

February 24, 2023

Rebecca Tepper, Secretary
Executive Office of Energy & Environmental Affairs
Massachusetts Environmental Policy Act Office
Alexander Strysky, EEA No. 16656
100 Cambridge Street, 9th Floor
Boston, MA 02114-2524

Re: Pontoosuc Lake Annual Drawdown
Pittsfield and Lanesborough, EENF

Dear Secretary Tepper,

The Massachusetts Department of Environmental Protection (MassDEP), Western Regional Office (WERO) appreciates the opportunity to comment on the Expanded Environmental Notification Form (EENF) submitted for the proposed Pontoosuc Lake Annual Drawdown project located in Pittsfield and Lanesborough (EEA #16656).

The applicable MassDEP regulatory and permitting considerations regarding wetlands and waterways is discussed.

I. Project Description

The Proponents, Massachusetts Department of Conservation and Recreation (DCR), Office of Dam Safety (ODS, applicant) and the Massachusetts Division of Capital Asset Management and Maintenance (DCAMM, owner) are seeking to re-permit the annual drawdown of Pontoosuc Lake, a Great Pond located within both the Town of Lanesborough and the City of Pittsfield. Pontoosuc Lake is fed by Secum and Town Brooks and discharges to the West Branch of the Housatonic River which flows through the City of Pittsfield. The dam which impounds the 541-acre lake is located at the southern end of the lake. The dam listed as "High Hazard" was constructed in 1866 for industrial water supply purposes and has been maintained, upgraded, and reconstructed. Upgrades in 2005 included reconstruction of the spillway and installation of sluice gate in the spillway controlled by a steel slide gate. The dam is approximately one hundred feet long and twenty feet in height. The low-level outlet is approximately fifteen feet below the top of the dam.

A permit for the annual drawdown of the lake was obtained in 2011 by the Lanesborough Conservation Commission and the Pittsfield Conservation Commission and has been extended every three years but is set to expire and will not be renewed. The Proponent states that the annual drawdown is required as a dam safety measure to protect downstream communities from flooding, to protect the dam from potential ice damage and to provide flood storage volume seasonally. The Office of Dam Safety has conducted annual three-foot drawdowns of the lake. Three-foot drawdowns and refilling have been occurring since the mid-1970's by opening and closing a slide gate. The newly proposed drawdown will begin in mid-October each year lowering the level of the lake by two to three inches per day totaling a three-foot drawdown by mid-November. The lake level would be maintained at thirty-six inches below the spillway crest until refilling begins on or about March 1. There is no construction associated with this project.

Environmental Justice populations are identified within one and five-mile radii of the project site. The categories are Minority, Income, and Minority and Income. The Proponent posits the project will have a beneficial impact as the drawdowns will protect the downstream communities and infrastructure from flooding risk. The project exceeds the threshold for a mandatory Environmental Impact Report (EIR); the Proponent is requesting a limited scope and that the Secretary allow submittal of a Single EIR.

Environmental Impacts associated with this project include:

- Total site acreage (existing) – 541 acres
- Square feet (SF) of new other wetland alteration – 3,188,592 SF (Temporary/Annual)

II. Required Mass DEP Permits and/or Applicable Regulations

Wetlands
310 CMR 10.000
Waterways
314 CMR 9.00

III. Permit Discussion

Bureau of Water Resources

Wetlands Protection Act
The proponent acknowledges the Project is subject to the Wetlands Protection Act (WPA) and the associated regulations and will file a Notice of Intent (NOI) requesting an Order of Conditions. In the event a municipal Order of Conditions (OOC) is appealed to MassDEP, MassDEP cannot issue a Superseding OOC until after the Project has received a final Certificate from the Secretary. To ensure full opportunities for public involvement and to avoid any potential conflict with the final Certificate from the Secretary, MassDEP recommends that no such filing occur until after the Project has received a final Certificate

from the Secretary. Should the Proponent file an NOI prior to the issuance of a final Certificate from the Secretary, MassDEP recommends the local Conservation Commission defer a decision on the filing and keep the meeting open until a final Certificate from the Secretary has been issued to ensure consistency with any requirements in that Certificate.

As part of the NOI filing for the project, the Proponent will be required to identify any and all Resource Areas (as defined at 310 CMR 10.04) that occur in or near the project site, as well as any Resource Areas potentially impacted by the proposed Activity. Resource Areas potentially impacted by the activity include those within or adjacent to Pontoosuc Lake as well as those upstream and downstream of the Lake which could be impacted by the drawdown activity. Through the WPA permitting process, the Proponent is required to demonstrate how the project will protect the interests of the WPA.

The Proponent indicates that the water was found to be impaired due to the introduction of several non-native organisms, including along with other species, what the Proponent refers to as Water Chestnut (*Eleocharis dulcis*). MassDEP recommends the Proponent clarify if this is the correct species intended to be referenced or if the correct reference is *Trapa natans*, also known as water chestnut.

The EENF purports to depict the MassDEP Wetlands Layer on Figure 3. However, the map legend identifies wetlands classifications that are inconsistent with the MassDEP wetlands layer. The Proponent should clearly indicate whether it is referring to the MassDEP Wetlands (2005) dataset served by MassGIS or another source.

Limited Project

The project may be eligible for review under the Limited Project provisions contained at 310 CMR 10.53(3). As for all Limited Projects, allowance under these provisions is at the discretion of the local Commission and to the extent practicable, work must comply with the General Performance Standards. During the WPA permitting process, the Proponent will need to demonstrate how the project will protect the interests of the Act.

The project Proponent has indicated that the project will be filed under the WPA as a limited project as described at 310 CMR 10.53(3)(i). 310 CMR 10.53(3)(i) refers to, *The maintenance, repair and improvement, (but not substantial enlargement except when necessary to meet the Massachusetts Stream Crossing Standards) of structures… However, the Proponent states: No construction or physical alteration is proposed to the dam, within the lake, or around the lake.* It is currently not clear whether the referenced limited project provision applies to the project as described.

MassDEP notes that the limited project provisions contained at 310 CMR 10.53(3)(m) refer to: *Lake drawdown projects (except those related to the breach of a dam or a reservoir or appurtenant work to such dam or reservoir) undertaken in response to written Orders or recommendation Letters issued by the Department of Conservation and Recreation Office of Dam Safety (DCR).* The Proponent should consider whether 310 CMR 10.53(3)(m) is the more appropriate limited provision and if so seek to meet the requirement for appropriate documentation from DCR.

Drawdown Management

The Proponent indicates that the project will consist of an annual winter three-foot drawdown. The NOI for the project should clearly identify the specific elevation (i.e. baseline) that establishes the normal pool elevation from which the three-foot drawdown will be measured. In order to provide consistency in measurements and public transparency, as part of the NOI filing for the project, MassDEP recommends the Proponent include provisions for establishing a visually identifiable baseline and an objective means of measuring lake water levels to verify compliance with a final OOC. Suggested options include affixing or marking on the spillway wingwall or upstream face of the dam, a water level gauge, calibrated in three-inch increments between specified elevations above mean sea level (AMSL) National Geodetic Vertical Datum (NGVD) which is easily visible from a public way; establishing a real-time data logger which provides water level elevation on a publicly available website; or other similar approaches. Selected option(s) should be maintained.

While the proposed project has generally designated times of year for the initiation and duration of drawdown conditions, the Proponent seeks limited flexibility on the start date of the initiation of the drawdown to account for severe weather which could result in significant rainfall and potential flooding which potentially threatens public safety. MassDEP understands and supports the need for such adaptive management. However, in order to avoid any subsequent misunderstandings about when such non-standard operating procedure will be implemented, MassDEP recommends the Proponent clearly articulate, to the extent practicable, the conditions under which an earlier start date or longer duration may be sought, such as specified predicted rainfall events or specified weather conditions in subsequent submittals and the NOI. In addition, conditions under which a non-standard drawdown would be maintained and/or subsequent re-filling would occur should be identified.

Waterways

The Proponent has identified Pontoosuc Lake as a "Great Pond" as defined at 310 CMR 9.02 and acknowledges that the current dam structure was not previously authorized; therefore, in accordance with 310 CMR 9.05(1)(b), a License application under MGL Chapter 91 is required. The Proponent further acknowledges the lowering of the water level of a Great Pond, in accordance with 310 CMR 9.05(2)(e), requires filing a Permit application under MGL Chapter 91. MassDEP's Division of Wetlands and Waterways, Western Regional Office, in coordination with the Boston office of MassDEP is and will be available to meet with the project Proponent to discuss permitting pathway and technical issues regarding Chapter 91 Licensing and Permitting.

The general purposes of 310 CMR 9.00 include the protection and promotion of the public's interests, and to protect public health, safety, and general welfare. As part of the License and Permit application the Proponent will be required to demonstrate how the dam structure and proposed drawdown preserves public rights, protects water-dependent uses, meets engineering standards, and serves a public purpose.

IV. Other Comments/Guidance

Single EIR
MassDEP has no objections, should the Secretary determine a Single EIR is acceptable.

Section 61 Findings
MassDEP has reviewed the Draft Section 61 Findings in the EENF that include a summary table of mitigation measures. MassDEP will reserve comment regarding acceptability of these Findings until the (S)EIR is finalized, and any potential project modifications are provided.

Greenhouse Gas (GHG)
There is no construction associated with this project; the Proponent indicates no impact to GHG from this project and requests a *di minimis* exemption.

MassDEP staff is available for discussions as the project progresses. If you have any questions regarding this comment letter, please do not hesitate to contact Kathleen Fournier at (413) 755-2267.

Sincerely,

Catherine V. Skiba, P.G. for
Michael Gorski
Regional Director

cc: MEPA File

From: Kathleen Ciccarello
To: Strysky, Alexander (EEA)
Subject: Pontoosuc Lake Drawdown comments
Date: Friday, February 24, 2023 7:08:08 PM

Dear Mr. Strysky,

I am writing this testimonial directly to your email referring to the Pontoosuc Lake drawdown as I was unable to respond on the website under “comments”.

We have lived on the estuary which empties into Pontoosuc Lake (Narragansette Ave causeway) in excess of forty years enjoying the numerous wildlife shows it offers. Since the drawdowns began, we have not seen snapping turtles travel to our yard to lay eggs (they do not exist), the migrating birds do not find safe haven in their protected estuary, especially in the late winter and the amphibious frogs, etc fail to winter over.

We especially enjoy watching the American bald eagles fish and roost in the pines surrounding this estuary until they disappear after the lake is drawn. The grey blue heron, geese, many variety of ducks also make there home here but also disappear quickly once the water becomes a pencil sized stream.

The weed problem no longer threatens the health of the lake and we observe none as we kayak on the lake daily.

We are adamantly opposed to the drawdown because it a non specific method of plant control and adversely impacts all fisheries, wildlife and aquatic plants. It is excessive and unwarranted.

As an abutter to the proposed project and having observed the negative impacts and loss of habitat in the regulated wetland resources in our backyard, we believe it is now time to put a stop to the practice of drawing down the lake. It is unnecessary and is a cruel and unwarranted practice which should be halted.

Sincerely,
Kathleen L. Ciccarello

Sent from my iPhone

Energy & Environmental Affairs (https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs)

Public Comments Portal

alexander.strysky@mass.gov

Dashboard(javascript:void(0);) › View Comment(javascript:void(0);)

View Comment

Comment Details

EEA #/MEPA ID
16656

Comments Submit Date
2-24-2023

Certificate Action Date
2-24-2023

Reviewer
Alexander Strysky (857)408-6957, alexander.strysky@mass.gov

First Name
Marita

Last Name
Jillett

Phone
--

Email
marita.callahan@gmail.com

Address Line 1
17 Briarwood Ln

Address Line 2
--

State
MASSACHUSETTS

Zip Code
01803

Organization
--

Affiliation Description
--

Status
Opened

Comment Title or Subject

Topic: Pontoosuc Lake Annual Drawdown Project file number EEA 16656

Comments

I am submitting comments in support of the Pontoosuc Lake Annual drawdown project. This drawdown has been conducted and permitted for several years.

Attachments

Update Status

Status

Opened

SUBMIT

Share Comment

SHARE WITH A REGISTERED USER

BACK TO SEARCH RESULTS

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

February 24, 2023

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alexander Strysky, **EEA No.16656**
100 Cambridge Street, Suite 900
Boston MA 02114
Via Email

Dear Secretary Tepper:

The Massachusetts Division of Fisheries and Wildlife (MassWildlife) is the agency charged with the statutory responsibility for the conservation of freshwater fish and wildlife in the Commonwealth, including endangered plants and animals and are submitting comments on the Expanded Environmental Notification Form (EENF; EEA 16656) *Pontoosuc Lake Annual Drawdown Project*.

MassWildlife's position on the proposed drawdown is that it alters and causes harm to biological resources without substantive justification or full consideration of alternative approaches with less impact to the biological resources.

Specifically, MassWildlife identifies the following concerns:

- Project Segmentation (should be considered in totality)
- Inconsistencies between the EENF and previous filings for lake management in Pontoosuc Lake
- Incomplete/Insufficient alternatives analysis
- The proponent's assertion that the ecology of the lake is unimpacted by the drawdown

<u>Importance of Pontoosuc Lake</u>

Pontoosuc Lake is a recreationally and ecologically important and valuable resource. Ensuring access to high-quality outdoor recreational opportunities is especially important in Pittsfield, as it is designated as a community in Massachusetts with Environmental Justice populations.

With the lake's proximity to Pittsfield and the public access boat ramp makes Pontoosuc a destination lake for anglers and other recreational users. MassWildlife's Angler Education Program has hosted Learn-to-Fish clinics at Lake Pontoosuc to introduce people to fishing and connect the local community to nature.

The lake is annually stocked with trout by MassWildlife to provide additional recreational opportunity for anglers. In addition to trout fishing, recreational anglers target Largemouth Bass, Smallmouth Bass, Yellow Perch, Chain Pickerel, and Northern Pike. The naturally reproducing Pike fishery in Pontoosuc is particularly sought after. The lake and its supporting wetlands are also important habitat for waterfowl, semi-aquatic mammals, reptiles, amphibians, and invertebrates.

Project Segmentation

MassWildlife agrees that this drawdown is no longer necessary for aquatic vegetation control. The proponents have identified dam safety and downstream flood protection as the sole reason for the MEPA filing. Yet, at the same time, the Town of Lanesborough and the Friends of Pontoosuc Lake have a Notice of Intent (NOI) to manage aquatic vegetation under review by the Lanesborough and Pittsfield Conservation Commissions (Attachment 1). The NOI for aquatic vegetation management will impact the same resources as those affected by a drawdown, leading to two concurrent permitting pathways with overlapping resource impacts. This eliminates the ability of the Conservation Commissions and MassWildlife to consider these activities cumulatively. This separation of the actions into two different permits is counter to the anti-segmentation language of the MEPA that "*the Secretary shall consider the entirety of the Project, including any likely future Expansion, and not separate phases or segments thereof. The Proponent may not phase or segment a Project to evade, defer or curtail MEPA review*" (301 CMR 11(2)(c)) **and will prevent understanding of the impacts for the two lake management actions combined**.

Inconsistencies between the 2023 EENF and previous filings

The drawdown was last permitted in 2011 pursuant to the WPA as a lake management action to control aquatic vegetation. Although the flood control box is checked on the 2011 NOI, neither the 2011 NOI narrative (Attachment 2) nor the issued Order of Conditions identify flood storage or dam safety as a purpose. However, the EENF states in Section 4.5 that the drawdown since 2011 was conducted for flood control with vegetation management as an ancillary benefit. This is not consistent with the 2011 filing and previous filings to the local Conservation Commissions where aquatic vegetation control was the clear intent. **The EENF fails to adequately describe these inconsistencies in permitting or what change in condition has occurred to the dam or Lake to justify a shift in purpose of the same 3-foot drawdown previously used for aquatic vegetation control**.

Dam Protection and Operation

The proposed drawdown does not match the timing of extreme weather events. While rainfall in Massachusetts is relatively consistent across all months, hurricane season, which presents the highest risk of catastrophic single rainfall events, runs from June 1 to November 30 – peaking in Massachusetts from the beginning of August to mid-October. The proponent proposes to conduct the winter drawdown outside of this time period, providing no benefit for flood control during significant climatic events. As an example, both rainfall events cited in Alternative 4 (EENF Section 3.4) occurred outside the winter drawdown period. **The Proponent should provide more information and analysis to demonstrate that the annual winter drawdown will achieve the stated flood control benefits.**

The EENF identifies the drawdown as necessary to protect the dam from ice scour, freeze/thaw, and ice loading (EENF Section 1.2). However, the three-foot drawdown will not eliminate ice, but only lower the zone of ice scour three feet in elevation. The face of the dam, now exposed to the air from the proposed drawdown, would still be experiencing freezing, as well as increased freeze-thaw cycles.

The dam at Pontoosuc is currently rated in good condition. The EENF fails to adequately describe how ice or freeze/thaw would affect the dam face nor demonstrate any existing damage from ice since the dam was repaired in 2005/2006. If areas of the dam are vulnerable to erosion or scour from ice, they should be repaired to withstand those forces or employ alternative solutions with less environmental impact. **The Alternatives analysis should be expanded to consider repair of the dam to address the vulnerability to ice forces described by the Proponent**.

The Proponents point out that the spillway is inadequate to pass the Spillway Design Flood. The alternatives analysis rejects repair of the spillway due to feasibility and expense. However, the proposed drawdown, as stated, will not protect from flood events even if conducted during high-risk time periods. The single largest threat to downstream populations would be from a catastrophic failure of Pontoosuc dam during a significant hurricane, which generally occur when the lake is proposed to be a full pool elevation. MassWildlife recommends further analysis of the alternative to modify and upgrade the dam to provide adequate downstream protection.

The Proponent proposes changes to the timing of drawdown and refill from the dates recommended in the GEIR to a discretionary timeline based on ice coverage and/or watershed snowpack. The rate and timing of drawdown and refill has impacts on fish and wildlife resources in the lake and downstream and should strongly consider fish, wildlife, and wetland impacts, in any decision.

The dam is currently without a flow gauge or other means of determining discharge or drawdown rate. Absent this technology, there is no way for the Proponent to monitor the drawdown for compliance themselves or allow the public or resource agencies to determine compliance. A publicly inaccessible logbook is not a sufficient solution.

Impacts to Fish and Wildlife Resources

The impacts to wildlife resources from drawdowns have the potential to be extensive, both in-lake and downstream. Throughout the EENF, the Proponent describes the impacts from the drawdown as temporary. The dewatering of littoral zones may be temporary, but the impacts of a drawdown are long lasting. Shallow water habitats in Pontoosuc Lake have been impacted for many years as a result of the long running annual drawdown. Native freshwater mussels, snails, and other invertebrates die from exposure to the dry, freezing conditions as they are unable to fully relocate (Carmignani et al. 2019). Beaver lodges and muskrat dens are exposed to freezing conditions at a time when the animals cannot relocate to thermally safe environments. Delayed refill impacts spawning activities of fish who deposit eggs within littoral habitats. MassWildlife disagrees with the presumption of the Proponents that the ecology of the reservoir has somehow adapted to the consequences of drawdown over the many years that it has been implemented. Rather, it is equally, if not more likely, that the ecology has in-part succumbed to the cumulative impacts of annual drawdown.

The EENF states that recent/ongoing research has not documented significant impacts from drawdowns on lake biological assemblages. However, recent research in Massachusetts lakes has shown that the decades-long application of annual winter drawdowns significantly alters littoral habitat and associated biological assemblages within exposure zones. In MassWildlife's opinion, the Proponents incorrectly describe the results of Carmignani et al. 2019. Carmignani et al. (2019) found a near absence of mussels at depths exposed to drawdown compared to the same depths (<2ft) in lakes without drawdown. Lakes without drawdowns contained significantly more mussels in shallow waters. This pattern strongly suggests depths exposed during drawdown have become low quality or no longer suitable mussel habitat.

The Proponent points out that mussels were found at higher densities in deeper water in drawdown lakes compared to non-drawdown lakes; however, the Proponents misinterpret this pattern as mussels compensating for the loss of habitat with increased abundances below the drawdown exposure zone. In fact, Carmignani et al. (2019) explicitly demonstrates this pattern does not hold in western Massachusetts lakes, which would apply to Pontoosuc.

The Proponents also misinterpret that small and likely colonizing mussels found within the drawdown exposure zone during the summer will persist year-round. In stranding surveys across multiple drawdown lakes, Carmignani et al. (2019) found subsequent drawdowns cause stranding and mortality of these smaller mussels.

Taken together, it is MassWildlife's assertion that annual winter drawdown in Pontoosuc negatively impacts its freshwater mussel population by reduction of suitable habitat and through annual stranding and mortality of young colonizing mussels. Consequently, the annual winter drawdowns have likely reduced the overall mussel population size in Pontoosuc, and abatement of annual winter drawdowns would enable mussel colonization into the former drawdown exposure zone providing important restoration opportunities.

The Proponent mentions at several points that drawdown impacts are temporary and abated once the pond refills. This is not supported by any documentation and the opposite can be expected. Wetlands associated with this drawdown, once frozen, are impacted for the long term. To imply that these wetlands immediately recover is counter to winter drawdown for vegetation control, which relies on more permanent impacts to negatively impact the vegetated community. **The EENF does not adequately support the arguments of temporary impacts. We recommend that they address these issues in a revision to the EENF or future EIR to more closely reflect the information herein or provide other literature support for their positions.**

Attachment 4 of the EENF provides output from the Resilient Massachusetts Action Team (RMAT) analysis. The Proponents identify the project as an ecological restoration in this analysis. While MassWildlife is not familiar with all the details of RMAT process, nothing in this proposal would constitute an ecological restoration project for fish and wildlife resources.

Summary

Pontoosuc Lake is an ecologically and recreationally important resource in proximity to a DEIJ community Winter drawdown of lakes and ponds in Massachusetts alters resources that MassWildlife is mandated to conserve and protect. The submitted EENF appears to be segmented from other outstanding lake and pond management activities that are currently under review; is inconsistent in intent with previous permits for the same drawdown; does not propose to operate in such a way as to minimize downstream flooding; does not adequately address alternative solutions that would benefit downstream resources; and discounts historical and long-term impacts to fish, wildlife, and wetland resources.

MassWildlife believes that the drawdown is harmful to the biological communities in Pontoosuc Lake. **All alternatives should be considered and weighed against the harm to the biological communities with thorough and conclusive evidence for the stated management action.**

MassWildlife respectfully requests that the Secretary to require the Proponent to provide additional details to address the issues described herein. Without additional information, MassWildlife does not feel the project has adequately and completely analyzed impacts. We appreciate the opportunity to comment on the EENF.

Sincerely,

Todd Richards
Assistant Director of Fisheries

Andrew Madden
Western District Supervisor

CC: Dr. Mark Tisa, Director Massachusetts Division of Fisheries and Wildlife
Steve Sears, Chair Massachusetts Fisheries and Wildlife Board

Reference Cited

Carmignani, J.R., A.H. Roy, P.D. Hazelton, and H. Giard. 2019. Annual winter water level drawdowns limit shallow-water mussel densities in small lakes. Freshwater Biology. 64(8):1519-1533.Cyr, H. 2008. Physical forces constrain the depth distribution of the abundant native mussel *Elliptio complanata* in lakes. Freshwater Biology 53:2414-2425.

Notice of Intent Application
Pontoosuc Lake
Aquatic Management Program

Lanesborough and Pittsfield, MA

April 2022

Prepared for:
Friends of Pontoosuc Lake
% Lee Hauge
4 Katherine St
Lanesborough, MA 01237-9858

Prepared by:
SŌLitude Lake Management
590 Lake Street
Shrewsbury, MA 01545

SŌLITUDE
LAKE MANAGEMENT

TABLE OF CONTENTS

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

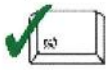
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

Pontoosuc Lake
a. Street Address

Lanesborough/Pittsfield
b. City/Town

01237/01201
c. Zip Code

Latitude and Longitude:

42.494522
d. Latitude

-73.249435
e. Longitude

f. Assessors Map/Plat Number

g. Parcel /Lot Number

2. Applicant:

Lee
a. First Name

Hauge
b. Last Name

Town of Lanesborough / Friends of Pontoosuc Lake
c. Organization

4 Katherine St
d. Street Address

Lanesborough
e. City/Town

MA
f. State

01237
g. Zip Code

413-442-1167
h. Phone Number

i. Fax Number

lhauge@verizon.net
j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name

b. Last Name

Commonwealth of Massachusetts
c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Dominic
a. First Name

Meringolo
b. Last Name

SOLitude Lake Management
c. Company

590 Lake Street
d. Street Address

Shrewsbury
e. City/Town

MA
f. State

01545
g. Zip Code

508-865-1000
h. Phone Number

i. Fax Number

dmeringolo@solitudelake.com
j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$0.00
a. Total Fee Paid

$0.00
b. State Fee Paid

$0.00
c. City/Town Fee Paid

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

A. General Information (continued)

6. General Project Description:

The applicant, The Town of Lanesborough is seeking an Order of Conditions for an Aquatic Plant Management Program at Pontoosuc Lake to control the excessive and non-indigenous aquatic vegetation in the lake, utilizing and integrated management plan, including US EPA registered and state approved herbicides.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☐ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☐ Transportation
9. ☒ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53 inland ecological resortation limited project

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middle Berkshire County
a. County

b. Certificate # (if registered land)

3968
c. Book

222
d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☒ Land Under Waterbodies and Waterways	1. square feet: 21,780,000 3. cubic yards dredged: 0	2. square feet: 0

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced

f. ☐ Riverfront Area

1. Name of Waterway (if available) - **specify coastal or inland**

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 – Notice of Intent
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Pittsfield
City/Town

C. Other Applicable Standards and Requirements

☒ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

   a. ☐ Yes ☒ No

   If yes, include proof of mailing or hand delivery of NOI to:

   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   1 Rabbit Hill Road
   Westborough, MA 01581

   8/1/2021
   b. Date of map

   If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

      1. ☐ Percentage/acreage of property to be altered:

         (a) within wetland Resource Area _____ percentage/acreage

         (b) outside Resource Area _____ percentage/acreage

      2. ☐ Assessor's Map or right-of-way plan of site

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

   (a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

   (b) ☐ Photographs representative of the site

---

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 – Notice of Intent
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Pittsfield
City/Town

C. Other Applicable Standards and Requirements (cont'd)

(c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

*Projects altering **10 or more acres** of land, also submit:*

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☐Not applicable – project is in inland resource area only b. ☐Yes ☐No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 – Notice of Intent
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Pittsfield
City/Town

C. Other Applicable Standards and Requirements (cont'd)

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

   a. ☐ Yes ☐ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

   a. ☐ Yes ☐ No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

   a. ☐ Yes ☐ No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

   a. ☐ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

      1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

      2. ☐ A portion of the site constitutes redevelopment

      3. ☐ Proprietary BMPs are included in the Stormwater Management System.

   b. ☐ No. Check why the project is exempt:

      1. ☐ Single-family house

      2. ☐ Emergency road repair

      3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

☒ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☐ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☐ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

D. Additional Information (cont'd)

3. ☐ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☐ List the titles and dates for all plans and other materials submitted with this NOI.

Notice of Intent Pontoosuc Lake Aquatic Plant Management Program
a. Plan Title

SOLitude Lake Management
b. Prepared By

Dominic Meringolo
c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☐ Attach NOI Wetland Fee Transmittal Form

9. ☐ Attach Stormwater Report, if needed.

E. Fees

1. ☒ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield

City/Town

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	2. Date: 3/17/2022
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Eligibility Checklist

Provided by MassDEP:

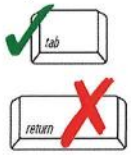
MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

This Ecological Restoration Limited Project Eligibility Checklist guides the applicant in determining if their project is eligible to file as an Inland or Coastal Ecological Restoration Limited Project (310 CMR 10.53(4) or 310 CMR 10.24(8) respectively). These criteria must be met when submitting the Ecological Restoration Limited Project Notice of Intent to ensure that the restoration and improvement of the natural capacity of a Resource Area(s) to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Regulatory Features of All Coastal and Inland Ecological Restoration Limited Projects

(a) May result in the temporary or permanent loss of/or conversion of Resource Area: An Ecological Restoration Limited Project that meets the requirements of 310 CMR 10.24(8) may result in the temporary or permanent loss of Resource Areas and/or the conversion of one Resource Area to another when such loss is necessary to the achievement of the project's ecological restoration goals.

(b) Exemption from wildlife habitat evaluation: A NOI for an Ecological Restoration Limited Project that meets the minimum requirements for Ecological Restoration Projects and for a MassDEP Combined Application outlined in 310 CMR 10.12(1) and (2) is exempt from providing a wildlife habitat evaluation (310 CMR 10.60).

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

(c) The following are considerations for applicants filing an Ecological Restoration Limited Project NOI and for the issuing authority approving a project as an Ecological Restoration Limited Project:

- ☐ The condition of existing and historic Resource Areas proposed for restoration.
- ☐ Evidence of the extent and severity of the impairment(s) that reduce the capacity of the Resource Areas to protect and sustain the interests identified in M.G.L. c. 131, § 40.
- ☐ The magnitude and significance of the benefits of the Ecological Restoration Project in improving the capacity of the affected Resource Areas to protect and sustain the other interests identified in M.G.L. c. 131, § 40.
- ☐ The magnitude and significance of the impacts of the Ecological Restoration Project on existing Resource Areas that may be modified, converted and/or lost and the interests for which said Resource Areas are presumed significant in 310 CMR 10.00, and the extent to which the project will:
  - a. avoid adverse impacts to Resource Areas and the interests identified in M.G.L. c. 131, § 40, that can be avoided without impeding the achievement of the project's ecological restoration goals.
  - b. minimize adverse impacts to Resource Areas and the interests identified in M.G.L. c. 131, § 40, that are necessary to the achievement of the project's ecological restoration goals.
  - c. utilize best management practices such as erosion and siltation controls and proper construction sequencing to avoid and minimize adverse construction impacts to resource areas and the interests identified in M.G.L. c. 131, § 40.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Eligibility Criteria - Coastal Ecological Restoration Limited Projects (310 CMR 10.24(8))

Complete this Eligibility Criteria Checklist ***before*** filling out a Notice of Intent Application to determine if your project qualifies as a Coastal Ecological Restoration Limited Project. (310 CMR 10.24(8)) Sign the Eligibility Certification at the end of Appendix A, and attach the checklist with supporting documentation and the Eligibility Certification to your Notice of Intent Application.

General Eligibility Criteria for All Coastal Ecological Restoration Limited Projects

Notwithstanding the requirements of 310 CMR 10.25 through 10.35, 310 CMR 10.54 through 10.58, and the Wildlife Habitat evaluations in 310 CMR 10.60, the Issuing Authority may issue an Order of Conditions permitting an Ecological Restoration Project listed in 310 CMR 10.24(8)(e) as an Ecological Restoration Limited Project and impose such conditions as will contribute to the interests identified in the WPA M.G.L. provided that the project meets all the requirements in 310 CMR 10.24 (8).

☐ The project is an Ecological Restoration Project as defined in 310 CMR 10.04 and is a project type listed below [310 CMR 10.24(8)(e)].

☐ Tidal Restoration.

☐ Shellfish Habitat Restoration.

☐ Other Ecological Restoration Limited Project Type.

☐ The project will further at least one of the WPA (M.G.L. c. 131, § 40) interests identified below.

- ☐ Protection of public or private water supply.
- ☐ Protection of ground water supply.
- ☐ Flood control.
- ☐ Storm damage prevention.
- ☐ Prevention of pollution.
- ☐ Protection of land containing shellfish.
- ☐ Protection of fisheries.
- ☐ Protection of wildlife habitat.

☐ If the project will impact an area located within estimated habitat which is indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetlands, a NHESP preliminary written determination is attached to the NOI submittal that the project will not have any adverse long-term and short-term effects on specified habitat sites of Rare Species or the project will be carried out in accordance with an approved NHESP habitat management plan.

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Eligibility Criteria - Coastal Ecological Restoration Limited Projects (310 CMR 10.24(8)) (Cont.)

General Eligibility Criteria for All Coastal Ecological Restoration Limited Projects (cont.)

☐ If the project is located in a Coastal Dune or Barrier Beach, the project avoids and minimizes armoring of the Coastal Dune or Barrier Beach to the maximum extent practicable.

☐ The project complies with all applicable provisions of 310 CMR 10.24(1) through (6) and 310 CMR 10.24(9) and (10).

Additional Eligibility Criteria for Specific Coastal Ecological Restoration Limited Project Types

These additional criteria must be met to qualify as an Ecological Restoration Limited Project to ensure that the restoration and improvement of the natural capacity of a Resource Area to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.

☐ This Ecological Restoration Limited Project application meets the eligibility criteria for Ecological Restoration Limited Project [310 CMR 10.24(8)(a) through (d) and as proposed, furthers at least one of the WPA interests is for the project type identified below.

☐ **Tidal Restoration Projects**

☐ A project to restore tidal flow that will not significantly increase flooding or storm damage impacts to the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure.

☐ **Shellfish Habitat Restoration Projects**

☐ The project has received a Special Projects Permit from the Division of Marine Fisheries or, if a municipality, has received a shellfish propagation permit.

☐ The project is made of cultch (e.g., shellfish shells from oyster, surf or ocean clam) or is a structure manufactured specifically for shellfish enhancement (e.g., reef blocks, reef balls, racks, floats, rafts, suspended gear).

☐ **Other Ecological Restoration Projects** that meet the criteria set forth in 310 CMR 10.24(8)(a) through (d).

☐ Restoration, enhancement, or management of Rare Species habitat.

☐ Restoration of hydrologic and habitat connectivity.

☐ Removal of aquatic nuisance vegetation to impede eutrophication.

☐ Thinning or planting of vegetation to improve habitat value.

☐ Fill removal and re-grading.

☐ Riparian corridor re-naturalization.

☐ River floodplain re-connection.

Eligibility Criteria - Coastal Ecological Restoration Limited Projects (310 CMR 10.24(8)) (Cont.)

Additional Eligibility Criteria for Specific Coastal Ecological Restoration Limited Project Types

- ☐ In-stream habitat enhancement.
- ☐ Remediation of historic tidal wetland ditching.
- ☐ Eelgrass restoration.
- ☐ Invasive species management.
- ☐ Installation of fish passage structures.
- ☐ Other. Describe: _____

☐ This project involves the construction, repair, replacement or expansion of public or private infrastructure (310 CMR 10.24(9).

- ☐ The NOI attachment labeled _____ is an operation and maintenance plan to ensure that the infrastructure will continue to function as designed.
- ☐ The operation and maintenance plan will be implemented as a continuing condition in the Order of Conditions and the Certificate of Compliance.
- ☐ This project proposes to replace an existing stream crossing (310 CMR 10.24(10). The crossing complies with the Massachusetts Stream Crossing Standards to the maximum extent practicable with details provided in the NOI. The crossing type:
  - ☐ Replaces an existing non-tidal crossing that is part of an Anadromous/Catadromous Fish Run (310 CMR 10.35)
  - ☐ Replaces an existing tidal crossing that restricts tidal flow. The tidal restriction will be eliminated to the maximum extent practicable.
- ☐ At a minimum, in evaluating the potential to comply with the standards to the maximum extent practicable the following criteria have been consider site constraints in meeting the standard, undesirable effects or risk in meeting the standard, and the environmental benefit of meeting the standard compared to the cost, by evaluating the following:
  - ☐ The potential for downstream flooding;
  - ☐ Upstream and downstream habitat (in-stream habitat, wetlands);
  - ☐ Potential for erosion and head-cutting;
  - ☐ Stream stability;
  - ☐ Habitat fragmentation caused by the crossing;
  - ☐ The amount of stream mileage made accessible by the improvements;
  - ☐ Storm flow conveyance;

Eligibility Criteria - Coastal Ecological Restoration Limited Projects (310 CMR 10.24(8)) (Cont.)

Additional Eligibility Criteria for Specific Coastal Ecological Restoration Limited Project Types

- ☐ Engineering design constraints specific to the crossing;
- ☐ Hydrologic constraints specific to the crossing;
- ☐ Impacts to wetlands that would occur by improving the crossing;
- ☐ Potential to affect property and infrastructure; and
- ☐ Cost of replacement.

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4))

Complete this Eligibility Criteria Checklist ***before*** filling out a Notice of Intent Application to determine if your project qualifies as an Inland Ecological Restoration Limited Project. (310 CMR 10.53(4)) Sign the Eligibility Certification at the end of Appendix A, and attach the checklist with supporting documentation and the Eligibility Certification to your Notice of Intent Application.

General Eligibility Criteria for All Inland Ecological Restoration Limited Projects

Notwithstanding the requirements of any other provision of 310 CMR 10.25 through 10.35, 310 CMR 10.54 through 10.58, and 310 CMR 10.60, the Issuing Authority may issue an Order of Conditions permitting an Ecological Restoration Project listed in 310 CMR 10.53(4)(e) as an Ecological Restoration Limited Project and impose such conditions as will contribute to the interests identified in M.G.L. c. 131, § 40, provided that:

- ☒ The project is an Ecological Restoration Project as defined in 310 CMR 10.04 and is a project type listed below [310 CMR 10.53(4)(e)].
  - ☐ Dam Removal
  - ☐ Freshwater Stream Crossing Repair and Replacement
  - ☐ Stream Daylighting
  - ☐ Tidal Restoration
  - ☐ Rare Species Habitat Restoration
  - ☐ Restoring Fish Passageways
  - ☒ Other (describe project type): Aquatic Plant Management - Fisheries, Habitat, and restoration of water quality

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4)) (cont.)

General Eligibility Criteria for All Inland Ecological Restoration Limited Projects

- [x] The project will further at least one of the WPA (M.G.L. c. 131, § 40) interests identified below.
  - [ ] Protection of public or private water supply
  - [ ] Protection of ground water supply
  - [ ] Flood control
  - [ ] Storm damage prevention
  - [ ] Prevention of pollution
  - [ ] Protection of land containing shellfish
  - [x] Protection of fisheries
  - [x] Protection of wildlife habitat
- [ ] If the project will impact an area located within estimated habitat which is indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetlands, a NHESP preliminary written determination is attached to the NOI submittal that the project will have no adverse long-term and short-term effects on specified habitat sites of Rare Species or the project will be carried out in accordance with an approved NHESP habitat management plan.
- [ ] The project will be carried out in accordance with any time of year restrictions or other conditions recommended by the Division of Marine Fisheries for coastal waters and the Division of Fisheries and Wildlife in accordance with 310 CMR 10.11(3).
- [ ] If the project involves the dredging of 100 cubic yards of sediment or more or dredging of any amount in an Outstanding Resource Water, a Water Quality Certification has been applied for or obtained.
- [ ] The project complies with all applicable provisions of 310 CMR 10.53(1), (2), (7), and (8).

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4)) (cont.)

Additional Eligibility Criteria for Specific Inland Ecological Restoration Limited Project Types

These additional criteria must be met to qualify as an Ecological Restoration Limited Project to ensure that the restoration and improvement of the natural capacity of a Resource Area to protect and sustain the interests identified in the WPA is **necessary** to achieve the project's ecological restoration goals.

☑ This project application meets the eligibility criteria for Ecological Restoration Limited Project in accordance with [310 CMR 10.53(4)(a) through (d) and as proposed, furthers at least one of the WPA interests is for the project type identified below:

☐ **Dam Removal**

☐ Project is consistent with MassDEP's 2007 Dam Removal Guidance.

☐ **Freshwater Stream Crossing Repair and Replacement**. The project as proposed and the NOI describes how:

☐ Meeting the eligibility criteria set forth in 310 CMR 10.13 would result in significant stream instability or flooding hazard that cannot otherwise be mitigated, and site constraints make it impossible to meet said criteria.

☐ The project design ensures that the stability of the bank is NOT impaired.

☐ To the maximum extent practicable, the project provides for the restoration of the stream upstream and downstream of the structure as needed to restore stream continuity and eliminate barriers to aquatic organism movement.

☐ The project complies with the requirements of 310 CMR 10.53(7) and (8).

☐ **Stream Daylighting Projects**

☐ The project meets the eligibility criteria for Ecological Restoration Limited Project [310 CMR 10.53(4)(a) through (d)] and as proposed the NOI describes how the proposed project meets to the maximum extent practicable, consistent with the project's ecological restoration goals, all the performance standards for Bank and Land Under Water Bodies and Waterways.

☐ The project meets the requirements of 310 CMR 10.12(1) and (2) and a wildlife habitat evaluation is not included in the NOI.

☐ **Tidal Restoration Project**

☐ Restores tidal flow.

☐ the project, including any proposed flood mitigation measures, will not significantly increase flooding or storm damage to the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure.

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4)) (cont.)

- [x] **Other Ecological Restoration Projects** that meet the criteria set forth in 310 CMR 10.53 (4) (a) through (d).
  - [ ] Restoration, enhancement, or management of Rare Species habitat.
  - [ ] Restoration of hydrologic and habitat connectivity.
  - [ ] Removal of aquatic nuisance vegetation to impede eutrophication.
  - [x] Thinning or planting of vegetation to improve habitat value.
  - [ ] Riparian corridor re-naturalization.
  - [ ] River floodplain re-connection.
  - [ ] In-stream habitat enhancement.
  - [ ] Fill removal and re-grading.
  - [ ] Flow restoration.
  - [ ] Installation of fish passage structures.
  - [x] Invasive species management.
  - [ ] Other. Describe: _____

- [ ] This project involves the construction, repair, replacement or expansion of public or private infrastructure. (310 CMR 10.53(7))
  - [ ] The NOI attachment labeled _____ is an operation and maintenance plan to ensure that the infrastructure will continue to function as designed.
  - [ ] The operation and maintenance plan will be implemented as a continuing condition in the Order of Conditions and the Certificate of Compliance.

- [ ] This project replaces an existing stream crossing (310 CMR 10.53(8)). The crossing type:
  - [ ] Replaces an existing non-tidal crossing designed to comply with the Massachusetts Stream Crossing Standards to the maximum extent practicable with details provided in the NOI.
  - [ ] Replaces an existing tidal crossing that restricts tidal flow. The tidal restriction will be eliminated to the maximum extent practicable.

Eligibility Criteria - Inland Ecological Restoration Limited Project (310 CMR 10.53(4)) (cont.)

☑ At a minimum, in evaluating the potential to comply with the standards to the maximum extent practicable the following criteria have been consider site constraints in meeting the standard, undesirable effects or risk in meeting the standard, and the environmental benefit of meeting the standard compared to the cost, by evaluating the following:

- ☐ The potential for downstream flooding;
- ☐ Upstream and downstream habitat (in-stream habitat, wetlands);
- ☐ Potential for erosion and head-cutting;
- ☐ Stream stability;
- ☐ Habitat fragmentation caused by the crossing;
- ☐ The amount of stream mileage made accessible by the improvements;
- ☐ Storm flow conveyance;
- ☐ Engineering design constraints specific to the crossing;
- ☐ Hydrologic constraints specific to the crossing;
- ☐ Impacts to wetlands that would occur by improving the crossing;
- ☐ Potential to affect property and infrastructure; and
- ☐ Cost of replacement.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Required Actions (310 CMR 10.11)

Complete the Required Actions before submitting a Notice of Intent Application for an Ecological Restoration Project and submit a completed copy of this Checklist with the Notice of Intent.

☒ **Massachusetts Environmental Policy Act (MEPA) / Environmental Monitor**
http://www.mass.gov/eea/agencies/mepa/submitting-notices-to-the-environmental-monitor.html

For Ecological Restoration Limited Projects, there are no changes to MEPA requirements.

☒ Submit written notification at least 14 days prior to the filing of a Notice of Intent (NOI) to the Environmental Monitor for publication. A copy of the written notification is attached and provides at minimum:

- ☒ A brief description of the proposed project.
- ☒ The anticipated NOI submission date to the conservation commission.
- ☒ The name and address of the conservation commission that will review the NOI.
- ☒ Specific details as to where copies of the NOI may be examined or acquired and where to obtain the date, time, and location of the public hearing.

☐ **Massachusetts Endangered Species Act (MESA) /Wetlands Protection Act Review**

☐ Preliminary Massachusetts Endangered Species Act Review from the Natural Heritage and Endangered Species Program (NHESP) has been met and the written determination is attached.

☐ Supplemental Information for Endangered Species Review has been submitted.

1. ☐ Percentage/acreage of property to be altered:
   a. Within Wetland Resource Area _____ Percentage/acreage
   b. Outside Wetland Resource Area _____ Percentage/acreage
2. ☐ Assessor's Map or right-of-way plan of site
3. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work.
4. ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)
5. ☐ Photographs representative of the site
6. ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm)

Required Actions (310 CMR 10.11) (cont.)

Make check payable to "Commonwealth of Massachusetts - NHESP" and mail to NHESP:

Natural Heritage & Endangered Species Program
MA Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

7. Projects altering 10 or more acres of land, also submit:

   a. ☐ Vegetation cover type map of site

   b. ☐ Project plans showing Priority & Estimated Habitat boundaries

OR Check One of the Following:

1. ☐ Project is exempt from MESA review.

Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59 – see C4 below)

2. ☐ Separate MESA review ongoing.

a. NHESP Tracking # _____ b. Date submitted to NHESP _____

3. ☐ Separate MESA review completed. Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

☐ **Estimated Habitat Map of State-Listed Rare Wetlands Wildlife**

If a portion of the proposed project is located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP), complete the portion below. To view habitat maps, see the **Massachusetts Natural Heritage Atlas** or view the maps electronically at: http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review

☐ A preliminary written determination from Natural Heritage and Endangered Species Program (NHESP) must be obtained indicating that:

   ☐ Project will NOT have long- or short-term adverse effect on the actual Resource Area located within estimated habitat indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetlands Wildlife published by NHESP.

   ☐ Project will have long- or short-term adverse effect on the actual Resource Area located within estimated habitat indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetlands Wildlife published by NHESP. A copy of NHESP's written preliminary determination in accordance with 310 CMR 10.11(2) is attached. This specifies:

      ☐ Date of the map: _____

Required Actions (310 CMR 10.11) (cont.)

☐ If the Rare Species identified is/are likely to continue to be located on or near the project, and if so, whether the Resource Area to be altered is in fact part of the habitat of the Rare Species.

☐ That if the project alters Resource Area(s) within the habitat of a Rare Species:

☐ The Rare Species is identified;

☐ NHESP's recommended changes or conditions necessary to ensure that the project will have no short or long term adverse effect on the habitat of the local population of the Rare Species is provided; or

☐ An approved NHESP habitat management plan is attached with this Notice of Intent.

Send the request for a preliminary determination to:
Natural Heritage & Endangered Species Program
MA Division of Fisheries & Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

☐ **Division of Marine Fisheries**

☐ If the project will occur within a coastal waterbody with a restricted Time of Year, [see Appendix B of the Division of Marine Fisheries (DMF) Technical Report TR 47 "Marine Fisheries Time of Year Restrictions (TOYs) for Coastal Alteration Projects" dated April 2011 http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/NEGP/MADMFTR-47.pdf].

☐ Obtain a DMF written determination stating:

☐ The proposed work does NOT require a TOY restriction.

☐ The proposed work requires a TOY restriction. Specific recommended TOY restriction and recommended conditions on the proposed work is attached.

☐ If the project may affect a diadromous fish run [re: Division of Marine Fisheries (DMF) Technical Reports TR 15 through 18, dated 2004: http://www.mass.gov/eea/agencies/dfg/dmf/publications/technical.html]

☐ Obtain a DMF written determination stating:

☐ The design specifications and operational plan for the project are compatible with the passage requirements of the fish run.

☐ The design specifications and operational plan for the project are not compatible with the passage requirements of the fish run.

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Pittsfield
City/Town

Required Actions (310 CMR 10.11) (cont.)

Send the request for a written or electronic determination to:

South Shore – Cohasset to Rhode Island border, and the Cape & Islands:
Division of Marine Fisheries –
South Coast Field Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore – Hull to New Hampshire border:
Division of Marine Fisheries –
North Shore Field Station
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

☐ **Division of Fisheries and Wildlife –** http://www.mass.gov/eea/agencies/dfg/dfw/

☐ Projects that involve silt-generating, in-water work that will impact a non-tidal perennial river or stream and the in-water work will not occur between May 1 and August 30.
  ☐ Obtain a written determination from the Division of Fisheries and Wildlife (DFW) as to whether the proposed work requires a TOY restriction.
    ☐ The proposed work does NOT require a TOY restriction.
    ☐ The proposed work requires a TOY restriction. The DFW determination with TOY restriction and other conditions is attached.

☐ **MassDEP Water Quality Certification**

☐ Project involves dredging of 100 cubic yards or more in a Resource Area or dredging of any amount in an Outstanding Resource Water (ORW). A copy and proof of the MassDEP Water Quality Certification pursuant to 314 CMR 9.00 is attached to the NOI.

☐ This project is a Combined Permit Application for 401 Dredging and Restoration (BRP WW 26).

☐ **MassDEP Wetlands Restriction Order**

Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

☐ Yes ☐ No

☐ **Department of Conservation and Recreation**

Office of Dam Safety

☐ For Dam Removal Projects, obtain a written determination from the Department of Conservation and Recreation Office of Dam Safety that the dam is not subject to the jurisdiction of the Office under 302 CMR 10.00, a written determination that the dam removal does not require a permit under 302 CMR 10.00 or a permit authorizing the dam removal in accordance with 302 CMR 10.00 has been issued.

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Required Actions (310 CMR 10.11) (cont.)

Areas of Critical Environmental Concern (ACECs)

Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

☐ Yes ☐ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations).

Name of ACEC

Minimum Required Documents (310 CMR 10.12)

Complete the Required Documents Checklist below and provide supporting materials before submitting a Notice of Intent Application for an Ecological Restoration Project.

☒ This Notice of Intent meets all applicable requirements outlined in for Ecological Restoration Projects in 310 CMR 10.12. Use the checklist below to insure that all documentation is included with the NOI.

At a minimum, a Notice of Intent for an Ecological Restoration Project shall include the following:

☒ Description of the project's ecological restoration goals;

☒ The location of the Ecological Restoration Project;

☐ Description of the construction sequence for completing the project;

☒ A map of the Areas Subject to Protection Under M.G.L. c. 131, § 40, that will be temporarily or permanently altered by the project or include habitat for Rare Species, Habitat of Potential Regional and Statewide Importance, eel grass beds, or Shellfish Suitability Areas.

☒ The method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.) is attached with documentation methodology.

☒ List the titles and dates for all plans and other materials submitted with this NOI.

Notice of Intent Application for Pontoosuc Lake Aquatic Plant Management Program
a. Plan Title

SOLitude Lake Management
b. Prepared by

Dominic Meringolo
c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

☐ If there is more than one property owner, attach a list of these property owners not listed on this form.

☒ Attach NOI Wetland Fee Transmittal Form.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Minimum Required Documents (310 CMR 10.12)

- ☐ An evaluation of any flood impacts that may affect the built environment, including without limitation, buildings, wells, septic systems, roads or other man-made structures or infrastructure as well as any proposed flood impact mitigation measures;
- ☐ A plan for invasive species prevention and control;
- ☐ The Natural Heritage and Endangered Species Program written determination in accordance with 310 CMR 10.11(2), if needed;
- ☐ Any Time of Year restrictions and/or other conditions recommended by the Division of Marine Fisheries or the Division of Fisheries and Wildlife in accordance with 310 CMR 10.11(3), (4), (5), if needed;
- ☑ Proof that notice was published in the Environmental Monitor as required by 310 CMR 10.11(1;
- ☐ A certification by the applicant under the penalties of perjury that the project meets the eligibility criteria set forth in 310 CMR 10.13;
- ☐ If the Ecological Restoration Project involves the construction, repair, replacement or expansion of infrastructure, an operation and maintenance plan to ensure that the infrastructure will continue to function as designed;
- ☐ If the project involves dredging of 100 cubic yards or more or dredging of any amount in an Outstanding Resource Water, a Water Quality Certification issued by the Department pursuant to 314 CMR 9.00;
- ☐ If the Ecological Restoration Project involves work on a stream crossing, information sufficient to make the showing required by 310 CMR 10.24(10) for work in a coastal resource area and 310 CMR 10.53(8) for work in an inland resource area; and
- ☐ If the Ecological Restoration Project involves work on a stream crossing, baseline photo-points that capture longitudinal views of the crossing inlet, the crossing outlet and the upstream and downstream channel beds during low flow conditions. The latitude and longitude coordinates of the photo-points shall be included in the baseline data.
- ☐ This project is subject to provisions of the MassDEP Stormwater Management Standards. A copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) is attached.
- ☐ Provide information as the whether the project has the potential to impact private water supply wells including agricultural or aquacultural wells or surface water withdrawal points.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent
Appendix A: Ecological Restoration Limited Project Checklists
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Pittsfield
City/Town

Certification that the Ecological Restoration Project Meets the Eligibility Criteria

I hereby certify under penalties of perjury that the Ecological Restoration Project Notice of Intent application does not meet the Eligibility criteria for an Ecological Restoration Order of Conditions set forth in 310 CMR 10.13, but does meet the Eligibility Criteria for a Ecological Restoration Limited Project set forth in 10.24(8) or 10.53(4) whichever is applicable. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Applicant or Authorized Agent

Lee Hauge
Printed Name of Applicant or Authorized Agent

3/17/2022
Date

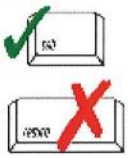
The certification must be signed by the applicant; however, it may be signed by a duly authorized agent (named in Item 2) if this form is accompanied by a statement by the applicant designating the agent and agreeing to furnish upon request, supplemental information in support of the application.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

Pontoosuc Lake	Lanesborough/Pittsfield
a. Street Address	b. City/Town
c. Check number	d. Fee amount

2. Applicant Mailing Address:

Lee		Hauge
a. First Name		b. Last Name
Town of Lanesborough / Friends of Pontoosuc Lake		
c. Organization		
4 Katherine St		
d. Mailing Address		
Lanesborough	MA	01237
e. City/Town	f. State	g. Zip Code
413-442-1167		lhauge@verizon.net
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

a. First Name		b. Last Name
Commonwealth of Massachusetts		
c. Organization		
d. Mailing Address		
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email Address

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2E			0

Step 5/Total Project Fee: 0

Step 6/Fee Payments:

Total Project Fee: 0
a. Total Fee from Step 5

State share of filing Fee: 0
b. 1/2 Total Fee **less** $12.50

City/Town share of filling Fee: 0
c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

ATTACHMENT A

Data Analysis

ATTACHMENT B

Notifications

To: The Environmental Monitor

From: SŌLitude Lake Management

Date: March 16, 2022

Re: Notification of filing an NOI for Pontoosuc Lake

Anticipated date of submission: Lanesborough, MA: April 18, 2022

Pittsfield, MA: April 14, 2022

The proposed project is seeking approval to continue an Aquatic Management Program at Pontoosuc Lake in Lanesborough and Pittsfield, MA. USEPA/State registered herbicides and algaecides will be applied/used to establish safe usage of the waterbody and to protect the interests of the Wetlands Protection Act by impeding eutrophication and improving habitat value.

Reviewing Conservation Commission(s):

Lanesborough Conservation Commission
Lanesborough Town Hall
83 North Main Street
P.O. Box 1492
Lanesborough, MA 01237

Pittsfield Conservation Commission
City Hall
70 Allen St.
Pittsfield, MA 01201

Copies of the NOI may be examined or acquired from the Conservation Commission, or by contacting the applicant's representative, SŌLitude Lake Management, at info@solitudelake.com, or 508-865-1000, Monday and Friday between 9AM and 4PM.

See Conservation Commission website for the meeting schedule for exact dates and agendas.

SŌLitude Lake Management
590 Lake Street
Shrewsbury, MA 01545

Notification to Abutters Under the

Massachusetts Wetlands Protection Act

Chapter 131, Section 40

In accordance with the 2nd paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

A. The name of the applicant is: Town of Lanesborough % Lee Hauge

B. The Applicant has filed a Notice of Intent with the Pittsfield Conservation Commission, seeking to work within an Area Subject to Protection under the Massachusetts Wetlands Protection Act (General Laws Chapter 131, Section 40).

Description of Project: An integrated Aquatic Management Program at the Pontoosuc Lake to monitor, assess and implement measures for control of excessive and non-indigenous aquatic vegetation, specifically with the use of USEPA/State registered aquatic herbicides/algaecides.

C. The location where the activity is proposed is Pontoosuc Lake

D. Copies of the Notice of Intent may be examined at the Pittsfield Conservation Commission office during their normal business hours. For more information, call the Conservation Commission at (413)499-9359. Copies of the Notice of Intent are available (for a fee) from the applicant's representative (SOLitude Lake Management) by calling (508) 865-1000 between the hours of 8 AM and 4 PM (Monday through Friday).

E. Questions regarding this Notice of Intent may be directed to the applicant's representative (SOLitude Lake Management) by calling (508) 865-1000 between the hours of 8 AM and 4 PM (Monday through Friday)

F. The Pittsfield Conservation Commission will hold a public hearing on **April 28th, 2022)** at or after 6:00 PM at Pittsfield City Hall in the City Council Chambers

NOTE: Notice of this public hearing, including date, time and place:

1) Will be published at least five (5) days in advance in the local newspaper

2) Will be posted in the City Hall not less than forty-eight (48) hours in advance of the public hearing.

NOTE: You may also contact your local Conservation Commission or the nearest Department of Environmental Protection Regional Office for more information about this application or the Wetlands Protection Act. To contact DEP, call the Western Regional Office at (413)-784-1100.

SŌLITUDE
LAKE MANAGEMENT

ATTACHMENT C

Project Description

1.0 Introduction

The Town of Lanesborough, acting on behalf of the Board of Selectman and the Friends of Pontoosuc Lake, is seeking approval to continue a successful Aquatic Plant management program to control excessive and non-indigenous aquatic vegetation including Eurasian Water-milfoil (*Myriophyllum spicatum*), Curlyleaf Pondweed (*Potamogeton crispus*), brittle (or spiny) naiad (*Najas minor*) and Thinleaf Pondweed (*Potamogeton pusilius*). Control of potentially harmful cyanobacteria (blue-green algae) blooms is also included as a contingency.

This management plan includes the 480-acre main body of Pontoosuc Lake along with the Secum and Town Brook areas. Secum Brook is a (approx.) 15-acre cove area located northwest of the main body of Pontoosuc Lake and Town Brook is a (approx.) 5-acre cove area located northeast of the main body of Pontoosuc Lake. Both areas were found to have growth of Eurasian Water-milfoil, though only scattered in Secum Brook, it dominates Town Brook. Since these two areas may be a source of propagation and plant matter to Pontoosuc Lake, they are included in this program.

The proposed project has been filed as an Ecological Restoration Limited Project under 310 CMR 10.53(4) and will protect the interest of the Wetland Protection Act by controlling non-native/nuisance species, improving fish habitat, improving water quality and slowing lake eutrophication.[1]

2.0 Problem Statement

Based on the goals of the Applicant, a continued management program focusing on monitoring and treatment with USEPA/MA DAR approved herbicides and algaecides, is proposed to control excessive and non-indigenous aquatic vegetation including Eurasian Water-milfoil, Curlyleaf Pondweed, brittle (spiny) naiad and Thinleaf pondweed as well as potentially harmful cyanobacteria blooms.

If the excessive aquatic plant growth in Pontoosuc Lake is not successfully managed and reduced, it can create a number of impacts including the following:

- Rooted aquatic macrophytes act as nutrient pumps. These root systems seek out nutrients in the sediment and translocate them into the ecological system of the water body.
- Curlyleaf pondweed typically starts active growth early in the season and will naturally start to die off in the middle of the summer. If left unmanaged, curlyleaf pondweed will reach full biomass in June and early July and then senesce, releasing a plug of nutrients to the water column when water temperatures and nuisance algae growth potential is highest.
- The sediment build up in water bodies with excessive aquatic plant growth is approximately five times faster than in water bodies that do not have excessive plant growth.
- The water movement and interchange of oxygen is reduced due to the limitation of wave action and water circulation.
- Higher water temperatures are created leading toward reduced dissolved oxygen levels which in turn can increase bacteria growth.
- Fish populations are stunted.
- Significant increase in the evapotranspiration of the water. This reduces the hydrology budget of the water body and groundwater supply.

By reducing and precluding the spread of non-native aquatic vegetation and managing an overabundance of nuisance plants, the lake will be maintained as a resource area considered "land under water body"

[1] Department of Environmental Protection. Guidance for Aquatic Plant Management in Lake and Ponds as it Relates to the Wetlands Protection Act: April 2004, 1p.

under the Wetland Regulations. If the aquatic vegetation is left unmanaged, the resource area may be compromised, and more extensive management will need to be instituted in the future to maintain the lake as a viable water body.

The proposed management program is a continuation of the program permitted by the previously approved Order of Conditions and will continue the objectives of controlling invasive/nuisance aquatic species growth, while seeking to improve the ecological function of the waterbody.

3.0 Site Description & Existing Conditions

Pontoosuc Lake, located in Lanesborough and Pittsfield, Massachusetts, is five hundred (500) acres in size and divided into northern and southern sections by the Town boundary line with a slightly larger section in Lanesborough. Additionally, Secum Brook is a (approx.) 15-acre cove area located northwest of the main body of Pontoosuc Lake and Town Brook is a (approx.) 5-acre cove area located northeast of the main body of Pontoosuc Lake. Pontoosuc Lake is a valuable resource for the residents of Lanesborough and Pittsfield, providing fish & wildlife habitat and many recreational activities such as swimming, boating and fishing.

The following is a list of both the non-native and native aquatic plant species observed in the past at Pontoosuc Lake. Non-native species are shaded in red. Water chestnut (*Trapa natans*) was also identified in the lake previously but an aggressive hand-pulling program has achieved control of this species, and macrophyte surveys typically find no growth instances. Continued vigilance is needed because there are healthy populations in the feeder streams, and plants are frequently hand pulled from the two inlet coves.

Common Name	Scientific Name
Eurasian watermilfoil	Myriophyllum spicatum
European (spiny) naiad	Najas minor
Curlyleaf Pondweed	Potamogeton crispus
Bushy (naiad) pondweed	Najas flexis
Coontail	Ceratophylium demersum
Flat-stem pondweed	Potamogeton zosteriformis
Muskgrass (Chara)	Chara vulgases
Richardson's pondweed	Potamogeton richardsonii
Robbins' pondweed	Potamogeton robinsii
Sago pondweed	Coleogrton pectinatus
Southern naiad	Najas gaudalupensis
Snail Seed Pondweed	Potamogeton bicupulatus
Water celery (Tapegrass)	Vallisneria americana
Thin-leaf pondweed	Potamogeton pusillus, foliosus
Waterweed	Elodea canadersis
Yellow waterlily	Nuphar variegata
Nitella	Nitella
Ribbonleaf pondweed	Potamogeton epihydrus
Fil. Green algae	chlorophyta

The Friends of Pontoosuc Lake Association, in conjunction with SOLitude Lake Management, has maintained a database of quantitative data from all the vegetation surveys conducted at the lake in the 14 years since herbicide control was initiated. The data includes species presence (both native and non-native), density/biomass rating and species dominance. This spreadsheet database can be provided to the Commission upon request, and a summary of the improvements in lake ecology over the 14 years of the program is in Appendix A.

4.0 In-Lake Management Recommendations

4.1 Program Overview:

Multiple-year approval is being requested for the continued implementation of the successful Aquatic Plant Management Program at Pontoosuc Lake. The goal of the management program is to control any regrowth of Eurasian Water-milfoil, Curly Leaf Pondweed. brittle (spiny) naiad and thinleaf pondweed in addition to other nuisance aquatic plants and algae species (if necessary), to improve and maintain open water habitat, promote the growth of less pervasive plant species, and provide safe recreational access to the pond through an integrated management program. This management program has been developed to be compatible with the goals of the Applicant keeping in mind the regulatory responsibilities of the Lanesborough and Pittsfield Conservation Commission and MA DEP.

As with any dynamic system, the ability to change and modify the management program is paramount to its success. The objectives of improving water quality and maintaining open water habitat can be achieved through regular monitoring supplemented by prudent use of USEPA/MA DAR registered aquatic herbicide. Specifically, we are requesting approval for use of diquat (Reward), florpyrauxifen-benzyl (ProcellaCOR EC), Endothall (Aquathol-K), and copper-based herbicides. The proposed products specifically affect the target species to be controlled and have a negligible effect on the non-target species and wildlife when applied in accordance with the label directions. All chemicals are applied at or below suggested doses according to the product label. All doses are based on plant types and densities, so that a minimum amount of the product is introduced into the waterbody.

No significant alteration to the wetland resource areas will occur as a result of the proposed lake management program; instead, the resource areas will be enhanced by controlling a non-native, invasive aquatic plant species, dense native vegetation, and improving water quality.

4.2 Proposed Products and Management Techniques

Florpyrauxifen-benzyl (ProcellaCOR EC - EPA # 67690-80 or equivalent)
ProcellaCOR (florpyrauxifen-benzyl) is a recently registered herbicide in Massachusetts and is an effective, selective, systemic herbicide on milfoil, hydrilla, and emergent species.

The herbicide will be applied to the area at or below the permissible label dose. Due to the limited contact-exposure time required for control of the target species, concentrations only need to be maintained for hours to several days to achieve management. Temporary water-use restrictions for ProcellaCOR include no non-agricultural irrigation to vegetation other than turf according to the Table on product label (6 hours to 35 days). There are no restrictions on swimming, boating, or fishing, but prudent herbicide/algaecide management suggests that we close the waterbody on the day of treatment. The shoreline of the waterbody will be posted with signs warning of these temporary water-use restrictions, prior to treatment.

The herbicide is quickly absorbed by the target vegetation and translocated within the plant. The mode of action of the herbicide causes impacted vegetation to lose structural integrity at growth nodes. Residual levels of the herbicide in treated water decline rapidly and reduction is due to the uptake by the targeted vegetation and degradation.

Usage of the herbicide has proven effective in limited, targeted spot-treatments for invasive milfoil control. The use rates for ProcellaCOR are 200-400 times lower than older chemistry formulations, achieving a Reduced Risk Classification by the USEPA.

Impacts Specific to the Wetlands Protection Act using Florpyrauxifen-benzyl

- Protection of public and private water supply – Neutral (no significant interaction)
- Protection of groundwater supply – Generally neutral (no interaction)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

Diquat (Reward – EPA #100-1091 or equivalent)

Reward is an effective herbicide for partial- and whole-lake treatments due to its rapid mode of action and short herbicide concentration exposure-time requirements. Even though Reward is considered to be a contact herbicide, longer term control may be seen as plants' root crowns will not be allowed to develop due to the herbicide target-effect. In fact, there has been significant positive, long-term impact from the 14 years of Diquat application in Pontoosuc Lake beginning in 2008;

- Eurasian watermilfoil was dominant in much of the lake before the initiation of the Diquat application program in 2008, but now it is seldom observed. Continued vigilance is required however, because there are healthy populations growing in both inlet streams above the causeways on the north end of the lake which result in an occasional observation of growth in the lake.
- The population of Curlyleaf pondweed has been greatly reduced over the years but it is still present and treatment is required every spring

The USEPA/MA registered herbicide diquat dibromide will be applied to the area at or below the permissible label dose. Reward is a widely-used herbicide, applied to greater than 500 lakes annually, throughout the northeast, to control nuisance submersed aquatic plants. Reward would be applied to control variable milfoil at the application rate of 1.5-2.0 gal/acre, if necessary. Temporary water-use restrictions for Reward are now:

No drinking or cooking with treated water for 3 days
No irrigation of turf for 3 days and of food crops for 5 days
No livestock watering for 1 day

There are no restrictions on swimming, boating, or fishing, but prudent herbicide/algaecide management suggests that we close the pond on the day of treatment. The shoreline of the pond will be posted with signs warning of these temporary water-use restrictions prior to treatment.

Reward is translocated to some extent within the plant. Its rapid action tends to disrupt the leaf cuticle of plants and acts by interfering with photosynthesis. Upon contact with the soil, it is absorbed immediately

and thereby biologically inactivated. Residual levels of Reward in treated water decline rapidly, and their reduction is due to the uptake by the targeted vegetation and adsorption to suspended soil particles in the water or on the bottom mud. Photochemical degradation accounts for some loss under conditions of high sunlight and clear waters.

Impacts Specific to the Wetlands Protection Act using Diquat[2]

- Protection of public and private water supply – Benefit (water quality improvement)
- Protection of groundwater supply – Neutral no interaction as diquat is adsorbed to soil particles
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

Endothall (Aquathol-K – EPA # 70506-176)

The USEPA/MA registered herbicide endothall will be applied to the area at or below the permissible label dose. Aquathol-K will be applied to the area for control of invasive and nuisance vegetation at the application rate of 2-3 parts per million. Aquathol-K is especially effective on pondweeds. The low application rate, along with timing of the treatment, allow for selectivity of the vegetation controlled. Temporary water use restrictions for Aquathol-K are 1) Do not use treated water for livestock watering or domestic purposes within 14 days of treatment. There is no restriction on using treated water for irrigation or swimming and boating, although prudent management practices call for the closure of the area for at least one day following treatment.

Endothall is a contact herbicide. The mode of action is suspected to inhibit the use of oxygen for respiration; only portions of the plant with which the herbicide can come into contact are impacted. Most endothall compounds break down readily and are not persistent in the aquatic environment.

Impacts Specific to the Wetlands Protection Act using Endothall[3]

- Protection of public and private water supply – Neutral
- Protection of groundwater supply – Neutral (no interaction as endothall is adsorbed to soil particles)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances

[2] Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 124 p.

[3] Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 127 p.

- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

Algaecides (Captain – EPA # 67690-9, SeClear – EPA # 67690-55, GreenClean PRO – EPA #70299-15, or equivalent)

Approval for the use of a copper or peroxide based algaecide is requested in the event that nuisance and/or potentially harmful algae conditions develop, warranting treatment.

Copper based algaecides (i.e. CuSO4, Captain, SeClear) are widely used and are applied to lakes and ponds throughout North America to control nuisance filamentous and microscopic algae. There are no water use restrictions associated with copper-based algaecides and SLM treats several direct, potable (drinking) water reservoirs and a number of recreation waterbodies in the Commonwealth with these algaecides, on a yearly basis. The concentrated liquid algaecides are first diluted with pond water and are then sprayed throughout the pond area. The application rate is generally 0.2 ppm or less for algae control. If applied, treatment will not exceed 50% of the pond volume.

Peroxide based algaecides (e.i. GreenClean PRO, GreenClean Liquid) are a recent addition to algae management. Similar to copper algaecides, there are no water use restrictions. The concentrated products are diluted with pond water and then sprayed evenly throughout the treatment area. The application rate is 0.5 – 1.5 gallons per acre-foot for algae control. If applied, treatment will not exceed 50% of the pond volume.

Impacts Specific to the Wetlands Protection Act using Copper[4] and Peroxide algaecides

- Protection of public and private water supply – Benefit (used to control algae)
- Protection of groundwater supply – Neutral (no significant interaction)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution - Generally neutral (no significant interaction), but could be a detriment if algae/plant die-off causes low oxygen at the bottom of the pond or causes release of taste and odor compounds or toxins
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances.
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, direct toxicity)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, direct toxicity)

[4] Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 122 p.

Management Technique Descriptions
Detailed information on all the approaches proposed in this NOI can be found at the **Massachusetts Department of Conservation and Recreation, Lakes and Ponds Program website.** There are links under the Publications tab to the "Generic Environmental Impact Report for Eutrophication and Lake Management in Massachusetts" and the "Practical Guide to Lake Management in Massachusetts."

http://www.mass.gov/eea/agencies/dcr/water-res-protection/lakes-and-ponds/eutrophication-and-aquatic-plant-management.html

Additional information on the herbicides and algaecides can be found at the **Massachusetts Department of Agricultural Resources website:**

https://www.mass.gov/herbicides-for-aquatic-vegetation-management

4.3 Monitoring:

Regular inspections will be conducted in order to assess the growth phase of the target plant species and overall lake conditions. Post-management inspections will be conducted in order to assess the efficacy of the management efforts and any impacts on non-target species so future applications can be properly adjusted to minimize non-target impacts. Year-end reports documenting our annual management efforts, observed conditions, management efficacy, and future recommendations will be provided to the Commission.

5.0 Alternatives Analysis

Alternatives to the proposed Aquatic Plant Management Plan were considered. SŌLitude evaluated all available strategies for management of Pontoosuc Lake. Findings and recommendations are based on direct experience and discussions found in the *Eutrophication and Aquatic Plant Management in Massachusetts Final Generic Environmental Impact Review* (FGEIR, EOEA 2004).

Bottom Weed Barriers: Not Recommended

Physical controls, such as the use of bottom weed barriers (i.e. Aquatic Weed Net or Palco) can be effective for small dense patches of nuisance vegetation but are not cost effective or feasible for large areas. Weed barriers are expensive to install and maintain at ~$2.00/ft^2 (material & installation). Semi-annual maintenance to retrieve, clean and re-deploy the barriers is expensive and time consuming. Additionally, covering expansive areas of the pond bottom may also have detrimental impacts on invertebrates or other types of wildlife.

Mechanical Harvesting: Not Recommended

Harvesting of Eurasian Water-milfoil, Curly Leaf Pondweed and brittle (spiny) naiad is not recommended because of its ability to reproduce through vegetative fragmentation, leading to increased spread into previously un-infested areas or further intensifying growth rates.

Biological Controls: Not Recommended
There are no proven biological controls available or approved by the State for the control of the invasive aquatic plant species present at Pontoosuc Lake.

Sediment Excavation/Dredging: Not Recommended

Dredging nutrient rich bottom sediment is sometimes used as a strategy to control excessive weed growth. Conventional (dry) or hydraulic dredging would require the expenditure of hundreds of thousands of dollars in design and permitting fees alone. Dredging may also have severe impacts to aquatic organisms (i.e. fish and macroinvertebrates) in the ponds with no guarantees of elimination of invasive vegetation.

Do Nothing: Not Recommended

If the invasive and nuisance plant growth is allowed to continue unabated, the native plant species within Pontoosuc Lake will be outcompeted and displaced. Anoxic conditions would degrade water quality and potentially impact fish and other aquatic organisms. Stagnant conditions will also increase water temperatures promoting both algae and bacterial growth as well as providing extensive mosquito breeding habitat. The pond's recreational and aesthetic value would be significantly degraded.

6.0 Compliance

Massachusetts Wetlands Protection Act:

The objective of this project is to continue controlling invasive species. Managing densities of invasive species will typically not adversely affect wildlife habitat and will not negatively impact other interests of the Massachusetts Wetlands Protection Act. No significant alteration to wetland resources areas will occur as a result of the proposed management program; instead, the resource areas will be enhanced by controlling the nuisance plant and algae growth. The proposed management activities are consistent with the guidelines in the following documents:

- Final Generic Environmental Impact Report: Eutrophication and Aquatic Plant Management in Massachusetts (June 2004)
- Guidance for Aquatic Plant Management in Lakes and Ponds: As it Relates to the Wetlands Protection Act (April 2004 – DEP Policy/SOP/Guideline # BRP/DWM/WW/G04-1)
- The Practical Guide to Lake Management in Massachusetts (2004)

DEP License To Apply Chemicals:

All chemical applications will be performed by Certified Applicators. The USEPA/MA registered aquatic herbicides will be applied at recommended label rates, in accordance with the "Order of Conditions" and DEP "License to Apply Chemicals" permits (BRP WM04). Prior to treatment, the shoreline will be posted with signs warning of all temporary water use restrictions. A site specific "License to Apply Chemicals" for the proposed treatment will be filed with Massachusetts DEP, Office of Watershed Management.

Massachusetts Environmental Policy Act:

The strategies proposed in this NOI are options approved under the Massachusetts Environmental Protection Act (MEPA) process that was approved in 2004 with the issuance of the FGEIR and the *Practical Guide to Lake and Pond Management in Massachusetts*. These approaches do not require individual MEPA review.

Massachusetts Endangered Species Act:

According to the most recent Natural Heritage maps provided by MA GIS (Attachment D - Figure 3), Pontoosuc Lake is not located within an area designated as Priority Habitats of Rare Species as determined by the Massachusetts Natural Heritage & Endangered Species Program (NHESP). A formal review by NHESP is not required.

7.0 Impacts of the Proposed Management Plan Specific to the Wetlands Protection Act

Protection of public and private water supply – Pontoosuc Lake is not used directly as a drinking water supply. Aquatic herbicide treatment at the lake will not have any adverse impacts on the public or private water supply, when used in accordance with the project label and conditions of the MA DEP License to Apply Chemicals.

Protection of groundwater supply – According to available studies, there is no reason to believe that the groundwater supply will be adversely impacted by the proposed management strategies, specifically the application of the chemicals at the proposed rates to Pontoosuc Lake, when used in accordance with the product labels. Contamination of groundwater by aquatic herbicides is limited by their low rate of application, rapid rate of degradation, and uptake by target plants. SŌLitude's State licensed applicators take all necessary precautions when mixing and disposing of all chemical containers.

Flood control and storm damage prevention – No construction, dredging or alterations of the existing floodplain and storm damage prevention characteristics of the pond are proposed. However, in some instances, abundant and excessive aquatic plant growth can contribute to high water and flooding. Most commonly this occurs in the vicinity of waterbody outlets or water conveyance channels and structures. The unmanaged, annual growth and decomposition of abundant plant growth is also known to increase sediment deposition at an accelerated rate. Therefore, the proposed management approaches may increase the capacity of the resource area over the long-term to provide flood protection.

Prevention of pollution – No degradation of water quality or increased pollution is expected by the proposed management approaches. The proposed herbicides are relatively slow in controlling the nuisance vegetation. This results in a slow release of nutrients from the decaying plants, reducing the potential for increases in nutrients that can cause algae blooms. Removal of the excessive growth of aquatic vegetation will contribute to improved water circulation and a reduction in the potential for anoxic conditions. The post-treatment decrease in plant biomass will help to decrease the rate of eutrophication currently caused by the decomposing of excessive plant material.

Protection of fisheries and shellfisheries – Contiguous, dense beds of aquatic vegetation provide poor habitat for most species of fish. Dense plant cover frequently results in significant diurnal fluctuations in dissolved oxygen as well as oxygen depletion during certain times of the year. While temporary effects on some desirable submersed and floating-leafed species may occur following the application of an aquatic herbicide, non-target plants typically rebound quickly. Shoreline emergent plants will not be impacted following the use of aquatic herbicides.

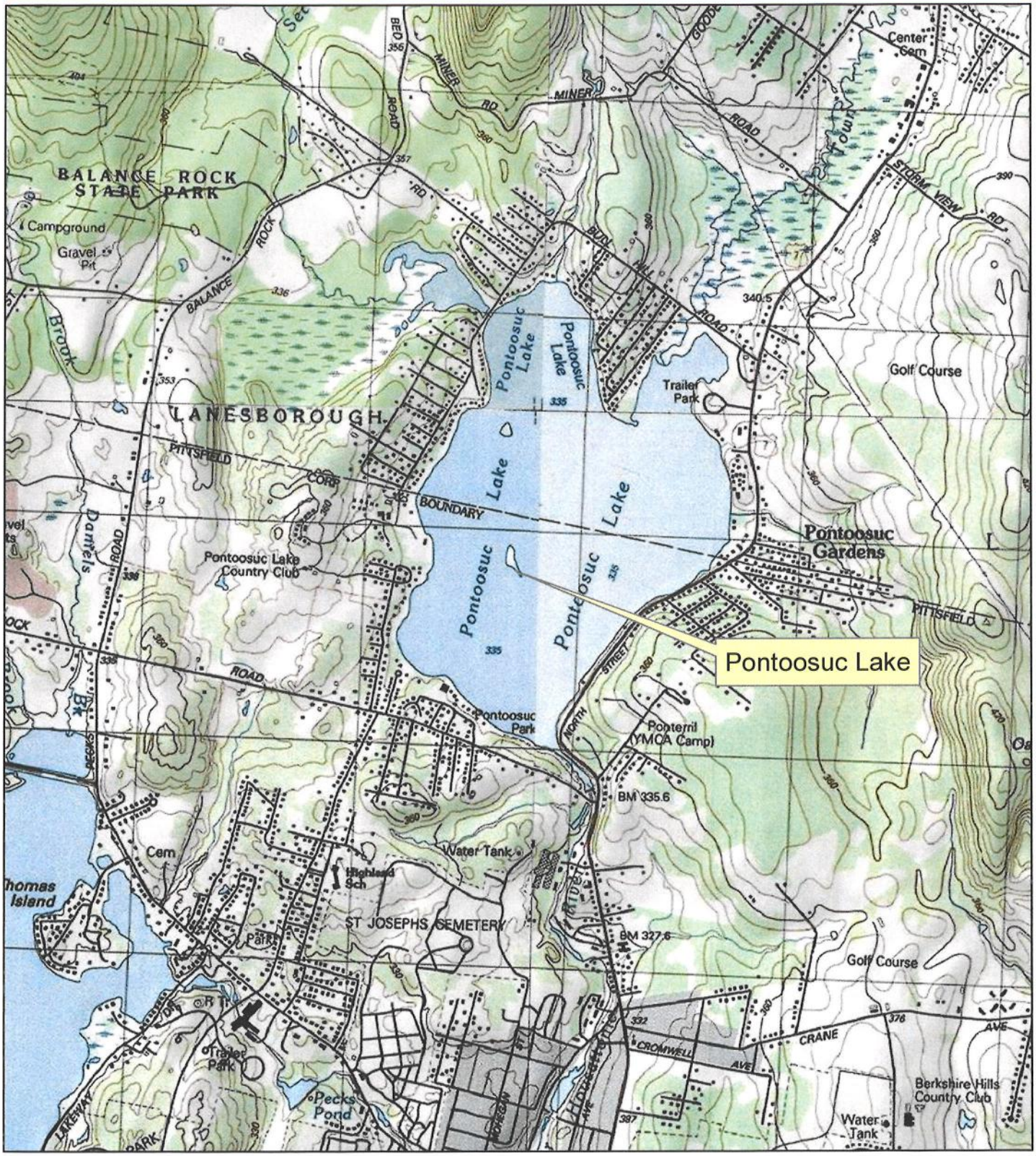
Protection of wildlife and wildlife habitat – In general, excessive and abundant plant growth, especially non-native plants, provides poor wildlife habitat for fish and other wildlife. The proposed management plan is expected to help prevent further degradation of the waterbody through excessive weed growth and improve the wildlife habitat value of the pond in the long-term. Maintaining a balance of open water and vegetated areas is intended.

ATTACHMENT D

Figures

Figure 1: Site Locus

SŌLITUDE
LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



Pontoosuc Lake
Lanesborough/Pittsfield, MA

Pontoosuc Lake

0 2,200 4,400

1:24,000 Feet

N

Map Date: 12/9/2021
Prepared by: MN
Office: SHREWSBURY, MA

Figure 2: Natural Heritage Endangered Species Program Area

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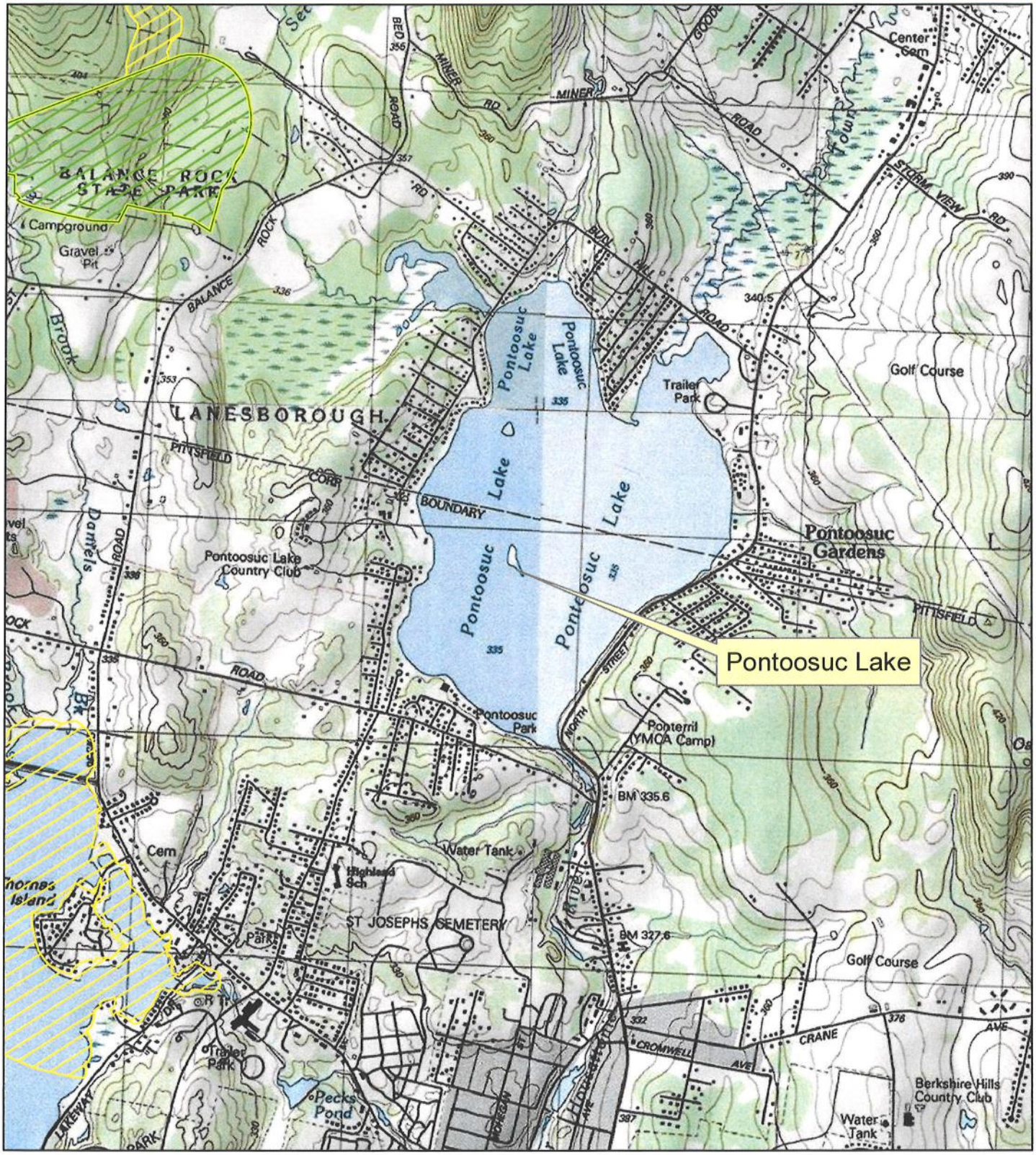

Pontoosuc Lake
Lanesborough/Pittsfield, MA

Pontoosuc Lake

0 2,200 4,400

1:24,000 Feet

N

Map Date: 12/9/2021
Prepared by: MN
Office: SHREWSBURY, MA

ATTACHMENT E

Herbicide/Algaecide Information

Detailed information herbicides proposed in this NOI can be found at the **Massachusetts Department of Conservation and Recreation, Lakes and Ponds Program website.** There are links under the Publications tab to the "Generic Environmental Impact Report for Eutrophication and Lake Management in Massachusetts" and the "Practical Guide to Lake Management in Massachusetts."

<http://www.mass.gov/eea/agencies/dcr/water-res-protection/lakes-and-ponds/>

Additional information on these herbicides can be found at the **Massachusetts Department of Agricultural Resources website**

http://www.mass.gov/eea/agencies/agr/pesticides/aquatic-vegetation-management.html

Initial application can be five years w/ renewal every year to 3 yrs. there after

PONTOOSUC LAKE DEEP DRAWDOWN PLAN
May 2011

CONTENTS

APPENDECIES

This plan was written to accompany the applications to the Pittsfield and Lanesborough Conservation Commissions for a six foot drawdown of Pontoosuc Lake (WPA Form 3 – Notice of Intent). The GOAL is to do a six foot drawdown in the winter of 2011-12 and approximately every three years thereafter. In the other years a three foot drawdown will be done. The three foot drawdown has been done for many years, and the permits for this drawdown were renewed for three years in the fall of 2010.

/ by whom

A periodic deep drawdown of Pontoosuc Lake has long been identified as a beneficial lake management means to help control the non-native invasive aquatic plants which are degrading the lake quality. Exploring implementation of a deep drawdown is required by the Order Of Conditions for herbicide control of the invasive plants. The objective of a periodic deep drawdown is to better control the invasive aquatic plants

1 July 21st => Joint Pittsfield/Lanesborough concom meeting

=> originally Onota Lake Pond

Not sure who the applicant => DCR regulates the dam

and to reduce the amount of herbicide needed.

BACKGROUND

Pontoosuc Lake is a 480 acre lake located in Pittsfield and Lanesborough, about half in each municipality. Until July 2000, the lake was owned by Berkshire County. When the County was dissolved by the state legislature, ownership of the lake was transferred to the Commonwealth. Since that time, the lake has been owned by the Department of Capital Assets Management (DCAM). The dam, which was rebuilt in 2005-6, is the responsibility of the Department of Conservation and Recreation (DCR). The management authority for the lake is divided between both municipalities and several state agencies whose responsibilities range from the maintenance and operation of the dam, permitting authority, and enforcement responsibilities. The Friends of Pontoosuc Lake/Watershed Corporation (The Friends of Pontoosuc) is a volunteer non-profit organization concerned solely with Pontoosuc Lake and its overall management. The organization has worked with the Commonwealth of Massachusetts, the City of Pittsfield, and the Town of Lanesborough in an advisory/advocacy role to maintain and improve the lake. It also has established a variety of effective partnerships utilizing the knowledge and skill base of local groups such as the Berkshire Regional Planning Commission (BRPC), the Lake and Ponds Association of Western Massachusetts (LAPA-West), and the Housatonic Valley Association (HVA).

Pontoosuc Lake is in the early stages of eutrophication which can be attributed to dense development within the watershed and subsequent increases in sediment and nutrient loading through the tributaries and an extensive stormwater drainage system. Non-point source pollution, including erosion must be controlled and actions are being taken. In addition, the excessive growth of nuisance, non-native aquatic plants threatens recreational options and other current uses of the lake. It is the abundance of the non-native vegetation which presents the greatest threat to recreational use of the lake. This problem is not a function of pollutant loading from the watershed but rather a result of the nutrients already in the lake sediments. Combating the aquatic plant problem requires in-lake management. The periodic deep drawdown proposed herein in combination with other measures offers the most promise with the fewest undesirable impacts.

SUPPORTING STUDIES

Several studies and plans for management of the lake and watershed have been developed over the past years and are the source of data for this report and basis for the drawdown program recommended. The most significant of those reports is as follows:

- Pontoosuc Lake Management Plan December 2004 This plan was developed by the Friends of Pontoosuc and the Berkshire Regional Planning Commission using funds provided by the Berkshire Environmental Fund. The deep drawdown is identified in this report as a key element in the multi-faceted approach for the control of non-native invasive plant species.
- Pontoosuc Lake Watershed-based Plan 2008 This plan was developed by the

Berkshire Regional Planning Commission using funds provided by the Mass DEP through a Section 319 Nonpoint Source Pollution Competitive Grant.

- Post Implementation Study of Pontoosuc Lake, Pittsfield/Lanesborough Massachusetts. March 2000. This study was funded by the Berkshire County Commissioners. This 2+ inch report is the definitive study of the lake and has a wealth of data on the lake and discussion of management techniques.
- Pontoosuc Lake Vegetation Assessment. November 2003 and Field Guide to Aquatic Plants of Pontoosuc. November 2003. (Appendix C) These reports were prepared by GeoSyntec Consultants. They identify the species, density, and location of weeds in Pontoosuc Lake. The surveys documented are the basis for subsequent surveys (2-3 per year) done by the friends of Pontoosuc personnel who were trained by GeoSyntec as part of the work in 2003.
- Technical and Environmental Evaluation of Lake Level control for Aquatic Plant Management in Pontoosuc Lake, Berkshire County Massachusetts 1989 this study done by IT Corporation, Aquatic Sciences Division, addresses all the issues associated with a 6 foot drawdown. Although 22 years old, most of the information is still applicable.
- Drawdown Effects on Lake Ecology; *Considerations for Management of Pontoosuc Lake* 1 May 2011 This report was written by 3 MCLA ecology students as a project for a water quality course; Mike Hitchock, Jared Swanson, and Nicholas Smith. Their literature search documents the overall positive benefits of a deep drawdown.
- Notice of Intent and NOI narrative for drawdown of Onota Lake approved November 2004. Because of the similarities between Onota and Pontoosuc Lakes, this plan for Pontoosuc Lake draws heavily on the Onota plan prepared by the Lake Onota Preservation Association (LOPA).

In addition to the above, the three EOEEA documents which are the bible for planning and permitting of weed management in Massachusetts and are familiar to all readers of this document are listed below for completeness;

- Eutrophication and Aquatic Plant Management in Massachusetts – Final Generic Environmental Impact Report. Executive Office of Environmental Affairs. July 2003.
- The Practical guide to Lake Management in Massachusetts 2004
- Guidance for Aquatic Plant Management in Lakes and Ponds April 2004

This drawdown plan is intended to be in compliance with the requirements and guidance in all the above three documents

WATER QUALITY MONITORING

Water quality data has been collected by trained volunteers from the Friends of Pontoosuc for many years. Appendix A is a tabulation of dissolved oxygen and temperature profiles since 2004. No clear trend is apparent; Quality is neither getting better or worse. Of concern is the depth at which DO drops below 6 mg/l. This usually occurs at 15 feet in mid-summer, although sometimes the oxygen is good below 15 feet. Appendix B is a tabulation of water clarity as measured by Secchi depth. Again,

no clear trends. Secchi depth as high as 21 feet was observed in 2007, but in mid-summer readings are typically about 6 feet.

STATUS OF AQUATIC PLANT POPULATION IN PONTOOSUC

Pontoosuc Lake suffers varying degrees of problem from four non-native, invasive aquatics. A pioneer infestation of Water Chestnut (*Trapa natans)*, discovered in 2003, is being controlled via hand pulling. European Naiad (*Najas minor)* is prevalent but because it is low-growing and starts growth in late season, it has not reached major problematic levels except in the very shallow northeast cove. Curly-leaf Pondweed (*Potamogeton crispus)* is fairly widespread, but is only a partial season problem due to its predictable early July die-down. Eurasian watermilfoil (*Myriophyllum spicatum)* is the major problem on Pontoosuc Lake.

Macrophyte surveys are conducted by trained Friends of Pontoosuc volunteers, at least twice a year, and often 3-4 times. Appendix C documents the result of the most recent survey which was conducted in September 2010. The results show that the littoral zone (depth of 12-15 feet max for Pontoosuc) supports a variety of aquatic plants including three of the above identified non-native invasives. (No Water Chestnut plants were found in this survey although the volunteer pickers who remove them while canoeing and kayaking reported removing small quantities throughout mid and late summer.) Milfoil is present in many areas and dominant in some despite the treatment of the littoral zone with Reward in early June. There is a variety of native plants, which is good, although the extent, variety, and density are less than desired. The situation has improved for the native species since the treatments with herbicide began in 2008. Prior to that time the milfoil was dominant all summer and the native species were unable to thrive in any significant quantity. We expect further improvement with continued work on the milfoil.

Control of milfoil with herbicide and drawdown is keeping this very aggressive invader at bay, although better control is clearly needed. Without control the entire littoral zone would be choked with a dense growth of plants reaching the surface. This would pose a significant safety hazard to unwary boaters in small crafts, as well as swimmers trying to swim anywhere other than from boats in deep water. The entire shoreline areas of the lake would be infested to a degree that would make them virtually unusable.

Note that in the above discussion the European Naiad identification was used to identify the low-growing species which has also been identified as Spiny Naiad (*Najas marina L*). The map in appendix C identifies Spiny Naiad. Both are invasive species, with similar characteristics, and Pontoosuc may have one, the other, or both. We'll sort this out, but it does not impact the recommendations in this plan.

ACTIVITIES TO CONTROL THE INVASIVE PLANT POPULATION

The earliest known action to address the invasive species problem (although it was perhaps not recognized as an invasive species issue) was in the early 1970's. The lake was owned by the County. Herbicide treatments were done occasionally, not every year. A dredging project was attempted in the mid 70's without success. The plan was to drawdown 5 feet and use bulldozers to excavate the lake bottom eliminating the nutrient rich sediment at the lake bottom. Work was initiated in the northwest cove, but the equipment became mired in the seemingly bottomless muck and the project was abandoned. Next the County Commissioners used grant money to buy a fleet of harvesting equipment, and operated a harvesting operation every summer from mid-June through Labor Day. Initially the program was funded by the County, later operated by and subsidized by the county but financially supported by Pittsfield and Lanesborough, and then in 2000 when the County government was dissolved, operated by Pittsfield with costs shared 50:50 with Lanesborough. The harvesting operation was conducted for about 30 years, thru the summer of 2007. During that time the milfoil density continued to get worse, and it was becoming increasingly difficult and expensive to keep the lake clear enough for recreational activities. No doubt spread of the milfoil was accelerated by the fragmentation which was a by-product of harvesting. An annual drawdown of 3 feet has also been performed from even before the harvesting program. This was initially done primarily for shoreline protection and flood control, but later recognized as an effective check on the milfoil population in the area exposed. The drawdown has been successful for all three purposes in the areas exposed. Through its annual monitoring programs, the Friends of Pontoosuc has documented existing water quality and macrophyte coverage. No adverse impacts from these drawdowns have been noted. In the winter of 2005-6 a 5 foot drawdown was done in order to rebuild the dam. This cleared all the area less than 5 feet deep of milfoil, although there was regrowth by mid-August, probably as a result of fragmentation from the ongoing harvesting.

In 2008 harvesting was discontinued and an annual treatment of the littoral area with the herbicide Reward was started. This was found to be far more effective than harvesting. The application has been done in late May or early June, depending on the status of the milfoil. The objective is to treat early enough to eliminate the curly leaf pondweed before it goes to seed, and late enough to minimize the extent of the milfoil regrowth.

Plans for the future are to continue the annual treatment with Reward augmented by the drawdown plan proposed herein. The long term goal is to weaken the milfoil with the annual herbicide application to the extent that hand pulling of the resilient old root structures can be done to eliminate the regrowth in August, and hopefully even be able to do the treatment less often. Another option which will be considered is to use a systemic herbicide instead of Reward which is a contact herbicide. At the current time there is not a viable systemic herbicide option because of required contact time, cost, and effect on wells near the lake.

AREA, VOLUME, FLOW, AND DEPTH

The table below summarizes the impact on area and volume for a 3 and a 6 foot drawdown. The values include water above the Bull Hill Rd. above the Narragansett Ave. causeway, and the very shallow areas of the northeast cove (Gunns Cove) which are not part of the 480 acres considered the lake proper. Calculations used to develop the numbers in the table are in appendix D. These calculations were done in support of a pilot study to develop guidelines for streamflow during drawdown and refill. The study is a joint effort of the DFW Division of Ecological Restoration (DER), Friends of Pontoosuc, LOPA, and BRPC. The study is not yet complete, but there was agreement on the volume numbers in the table below.

Note that there is little difference between the 3 and 6 foot drawdown levels for the three areas not in the main lake body. This is because the causeways dam the water behind them (the Bull Hill Rd. causeway bottom of the culvert is 4 feet below lake level when full, and the Narragansett Causeway is 3 feet) and the Guns cove area bottom is fully exposed by the 3 foot drawdown.

PONTOOSUC LAKE
VOLUME AND AREA FOR 3 AND 6 FOOT DRAWDOWN

AREA

	FULL	AFTER 3 FOOT		AFTER 6 FOOT	
	acres	acres	% of full	acres	% of full
main body	477.3	465.6		454.1	
Gunns Cove	34.3	0.0		0.0	
North BH	7.7	1.9		1.3	
West Nar	30	10.0		10.0	
Total	549.3	477.6	86.9%	465.4	84.7%

VOLUME

	FULL	AFTER 3 FOOT		AFTER 6 FOOT	
	acre-ft.	acre-ft.	% of full	acre-ft.	% of full
main body	7,111.8	5,696.2		4,314.6	
Gunns Cove	51.5	0.0		0.0	
North BH	15.4	3.9		2.2	
West Nar	48.0	12.0		12.0	
Total	7,226.6	5,712.4	79.0%	4,328.9	59.9%

In considering water volume available for fish the impact of stratification and oxygen depletion must be taken into account. From water quality data in Appendix A, is noted that in December and January there is virtually no volume of water with low dissolved oxygen (DO), but in July and August, all water below 15 feet can be below the DO level necessary for fish survival. This volume is estimated at 1,300 acre feet, which is 18% of the total lake volume. Therefore, for a 6 foot drawdown, the water volume available suitable for fish survival is 73% of that present in a typical summer month.

From the above volume values the flow resulting from drawdown and refill were calculated and are summarized in the table below. (All calculations are in Appendix D.) The first two columns have the flow released by drawdown, or held back during refill, for 3 and 6 foot drawdowns over either 1 or two months. Drawdown is mid-Oct thru mid-Nov, or mid-Oct thru mid-Dec, and refill is all of April, or April and May. The median inflow numbers were provided by DER and are based on the streamflow statistics in a similar watershed in a natural state and scaled for the 21.2 Sq. Mi. area of the Pontoosuc watershed. The last columns are the .5 min and 4.0 max cfs/sec in the GEIR guidelines scaled for the Pontoosuc watershed.

FLOW REQUIREMENTS FOR DRAWDOWN AND REFILL

	drawdown/refill flow (cfs)		median	Total outflow		GEIR RQTS	
	3 foot	6 foot	inflow	3 foot	6 foot	MAX	MIN
Oct-Nov drawdown	24.7	47.5	20.7	45.4	68.2	84.8	
Oct-Dec drawdown	12.6	24.2	25.9	38.5	50.1	84.8	
April refill	25.5	49.1	88.4	62.9	39.3		10.6
April-May refill	12.6	24.2	68.1	55.5	43.9		10.6

The above outflow calculations show that in a median year even a 6 foot drawdown could be accomplished in 1 month without exceeding the GEIR limits, and that refill after a 6 foot drawdown can be done completely in April. To account for non-nominal conditions however, plan is to conduct the 6 foot drawdown over 2 months, Oct 15 thru Dec. 15, and the 3 foot from Oct 15 to Nov 15. Partial refill from the 6 foot drawdown to 3 feet will commence after the exposed lake bottom has been subjected to a hard freeze, penetrating well into the ground, but no later than Feb. 1. Refill from 3 feet will commence immediately upon ice out. The partial refill will ensure that the lake can be filled while meeting GEIR guidelines even in a dry year.

DAM CONTROL

The Pontoosuc Dam which was rebuilt in 2005-6 has three outlets and a downstream flow gage.

- The top spillway, 80 feet wide less the 6 foot wide spillway cut into the top spillway near the gate house. This top spillway determines water level in the lake in the summer.
- A sluiceway 6 feet wide and with a spillway 3 ½ feet below the above wide spillway. An electrically actuated gate controls the opening. This spillway self regulates lake level during a 3 foot drawdown.
- The lower gate which diverts water into an 8 foot pipe under Hancock road and into a channel which joins with the stream from the dam about 300 yards downstream.
- There is a flow gage on the downstream side of the Wahconah Street bridge over the Housatonic west branch before the confluence of the Onota Lake outlet. The flow at the gage includes discharge from storm drains along Rt. 7, but except during and shortly after rain events, virtually all the water measured at the flow gage is from Pontoosuc Lake

The flow over the top spillway and through the sluiceway as a function of lake level and gate opening can be calculated using hydraulics formulae. The flow through the lower gate can't be calculated because we don't know the configuration of the gate, but using the calculations of the other two and measurements at the gage, over time data can be obtained to understand the relationship between settings of the lower gate and flow. Flow over the spillways as a function of lake level and gate openings is summarized in appendix F

The operation of these controls during a deep drawdown will be as follows;

1. The lower gate will be opened on about Oct 15 and adjusted so that lake level drops about 36" per month.
2. Flow will be read at the gage, and if it exceeds the max in the table above, the gate will be adjusted so outflow is no more than 110% of inflow.
3. On Nov 15, if the lake is near 3 feet down, continue as above until Dec 15, otherwise, continue only until the lake is 3 feet down and revise the target to 3 feet.
4. Once the drawdown target is achieved, adjust the gate so lake level is maintained at the target level until a hard freeze of the exposed lake bottom is achieved, but no later than Jan. 31. Then commence a partial refill.
5. For partial refill, adjust the lower gate to achieve the MIN flow in the table above until the lake is at 3 feet down. Then, adjust the lower gate for the minimum flow in the above table and open the sluiceway gate to maintain lake level at the -3 foot level.

For a three foot drawdown operation is the same as above except when -3 feet is achieved proceed to step 5.

For refill, when ice has left the lake, adjust the lower gate for the MIN flow and allow the lake to refill and the sluiceway to maintain the lake at the spillway level.

CITY WATER LINE

During the deep drawdown in 2005 for repair of the dam it was noted that there is a City of Pittsfield water main in the lake in the outlet channel approximately 400 feet north of the dam. The City DPW says that the line is abandoned. A drawing of the line is in appendix E. The line is identified as 8" water (abandoned)". The top of the pipe is approximately 5 feet below the lake level when at spillway depth, and here is lake bottom material under the pipe so the drawdown behind the pipe was only 5 feet. In order to get a full 6 foot drawdown a channel will be dug under the pipe, and if necessary the pipe will be cut.

KNOWN ENDANGERED SPECIES POPULATIONS

No endangered species of plants or animals have been identified in Pontoosuc Lake.

FISHERIES

A pre-permitting meeting will be held with the Mass DCR, DEP, and DFW. Results of the meeting will be included in the plan here, and the plan additionally modified as necessary.

The desirability of a fish screen has been identified by DFW in past discussions of Pontoosuc drawdowns. When the DCR rebuilt the dam in 2005 it was requested that a fish screen be included in the new dam. However, the cost of a fish screen would have added significantly to the cost of the new dam, adding $500,000 to the cost, so the decision was made not to include the fish screen.

The partial refill from 6 to 3 feet in February will cause some inconvenience to ice fishermen. It is noted that a partial refill has often occurred in the past when a winter rain brings the lake level up nearly to the dam crest from 3 feet down. During these natural occurring instances the fishermen have demonstrated the resourcefulness needed to gain access to the firm ice and continue to enjoy fishing.

DEEP DRAWDOWN PLAN SUMMARY

The following is a brief summary of the deep drawdown plan:

1. In 2011 a 6 foot drawdown will be attempted. If successful, in subsequent years, a three foot annual drawdown will be performed, followed by additional deep drawdowns every two or three years following a successful deep drawdown. A successful deep drawdown is one which achieves a hard freeze of the exposed lake bottom and thereby eliminates Eurasian watermilfoil in the exposed area. Consecutive years of deep drawdown are not expected to be needed unless unusual weather conditions (warm temperatures or early deep snows) prevent the drawdown from having its intended impacts in a particular year.
2. This deep drawdown will expose approximately 72 acres of bottom, near shore.
3. Either the 3 or 6 foot drawdown will protect all shoreline structures from damage.
4. Timing will be the same as has been the historic practice on this lake; commence Oct 15, achieve 3 foot by Nov 15, and in deep drawdown years, achieve 6 feet by Dec. 15. Refill to 3 feet commencing Feb. 1, and commence full refill upon ice-out. Complete refill no later than Apr 30 if possible while maintaining the required minimum outflow.
5. Outflows will be maintained between the minimum of 10.6 cfs. and a maximum of 84.8 cfs. (as recommended in the GEIR) with a further limitation of no more than 2 inches / day lake level reduction. However, if there is unusually high inflow during an attempted drawdown, the 84.8 cfs. limit will be exceeded by adjusting outflow to be no more than 110% of inflow and if there is unusually low inflow during an attempted refill outflow will be adjusted to be at least 80% of inflow.

documentation →

documentation of mussel bed locations

LIKELIHOOD OF SUCCESS

Since Eurasian watermilfoil is the dominant plant in the deep drawdown zone, and the historic drawdown practice has been highly successful in reducing this milfoil in the areas exposed, deep drawdown could significantly reduce milfoil in additional acres of the lake. This reduction will permit indigenous plant populations to reestablish themselves, promote plant diversity and improve edge habitat, thus improving overall wildlife habitat in the lake.

The GEIR Section 4.2.6.2 lists nine factors to use in determining whether drawdown is likely to be a useful lake management option. Pontoosuc Lake meets all 9 of them fully.

IMPACTS TO THE INTERESTS OF THE WETLANDS PROTECTION ACT

The anticipated impacts of the proposed drawdown to the defined interests of the Wetlands Protection Act as pertains to Pontoosuc Lake are as follows:

1. Protection of public and private water supply: None
    - Pontoosuc Lake is not a surface water supply and surrounding properties are to all be served by Pittsfield or Lanesborough public water supplies.
2. Protection of groundwater supply: Minimal impacts
    - For most of the drawdown period, it will be winter and ground infiltration will be slight due to freezing.
    - Due to the natural impoundments the water level will remain the same as previous winters for the wetland systems north of the Bull Hill Rd. and Narragansett Ave. causeways. The wetland plant communities in these areas have been tolerant of the drawdown that have been undertaken for years and continue to flourish, apparently adapted to the historical conditions of the lake. Small wetland systems in other areas of the lake may experience some drying during the winter season but no more for a 6 foot than a 3 foot drawdown, and will have water levels restored before the new growing season. The plants in these communities have tolerated the previous drawdowns and appear adapted to the variations of a local winter climate conditions.
3. Flood control: Positive
    - Flood storage potential will be increased, which will provide additional control in adverse flood conditions during the winter and early spring.
4. Storm damage prevention Positive
    - Ice damage to shorelines and erosion into the lake has historically been a problem when the lake has not achieved at least a minimal drawdown. Drawdown has prevented this damage with no apparent injury to banks or exposed areas.
5. Prevention of pollution: No apparent impacts
    - No significant impacts are expected to wetlands, oxygen levels or water quality
6. Protection of land containing shellfish No apparent impacts

has mussel beds → been identified

- Minimal shellfish resources are present in this lake.

7. Protection of fisheries: Minimal impacts
    - Previous drawdowns, on the same timetable as proposed for this drawdown, have had no discerned impacts on fisheries. Reports from fishing derbies and weigh stations show that large healthy fish, of various species, continue to thrive in the lake.
8. Protection of wildlife habitat B Minimal impacts in wetland area / Positive impacts in lake
    - See discussion of wetland communities in no.2 above
    - In lake habitat lost diversity over the many years of harvesting because milfoil dominated more and more of the near shore area. Drawdown in combination with herbicide treatment will create an opportunity for the vegetative community to increase species richness. Overall, habitat value should be increased.