New York State Environmental Quality Review Act Findings Statement

For

Town of Cazenovia Treatment of Cazenovia Lake With the Herbicide Renovate OTF

Pursuant to Article 8 (State Environmental Quality Review Act - SEQRA) of the Environmental Conservation Law and 6 NYCRR Part 617, the New York State Department of Environmental Conservation as an Involved Agency makes the following findings:

Name of Action:

Application (treatment) of the herbicide, Renovate OTF to portions of Cazenovia Lake for control of the invasive aquatic plant species, Eurasian Watermilfoil (*Myriophyllum spicatum*).

Description of Action:

The action involves treatment of portions of Cazenovia Lake through the application of the herbicide "Renovate." The treatment is designed to address the continued presence of the invasive aquatic plant species Eurasian Watermilfoil (*Myriophyllum spicatum*) which has been prevalent within the Lake surface area in recent years.

Target treatment areas proposed for the initial application are as described in the Final EIS to include the most northerly 234 acre area of the Lake.

Project Location:

Cazenovia Lake, northern portion; Town of Cazenovia, New York

Agency Jurisdiction:

Applicant requires from the NYSDEC Freshwater Wetland and Aquatic Pesticide permits in accordance with Environmental Conservation Law (ECL) Articles 24 and 15, respectively.

Applicant/Lead Agency:

Town of Cazenovia Town Board
Elizabeth C. Moran, Ph.D., Supervisor
Town of Cazenovia
7 Albany Street
Cazenovia, New York 13035

Date Final Environmental Impact Statement Accepted: May 14, 2009

Project Description:

The pending permit application is for an application of the aquatic herbicide Triclopyr, trade name Renovate OTF, to the northern section of Cazenovia Lake for the management of nuisance aquatic vegetation. DEC permit issuance will be for the year 2009. Additional treatment for the Lake southern end was reviewed within the EIS and is anticipated in 2010. A separate permit and prior resolution of impact concerns for that application will be required. The primary goal of the herbicide treatment program is to mitigate the dense growth of Eurasian watermilfoil, which significantly impairs conditions for recreation and other cultural uses of the lake. Approximately 420 acres of the 1164 acre lake exhibit dense growth of Eurasian watermilfoil. As outlined in the permit application submitted to NYSDEC, the herbicide program will treat 234 acres of the lake's northern littoral infested by Eurasian watermilfoil in late May or early June, 2009. An additional 173.5 acres along the remainder of the southern section will be treated in 2010, again, subject to a separate permit application and SEQR process.

There are protected macrophyte species present, and areas of the lake are classified as wetlands. Autumnal water starwort (*Callitriche hermaphroditica*) was found during a 2008 plant survey. This plant is included on the Active Inventory List of the New York State Rare Plant List and is ranked as an SI, indicating it is found in five or fewer sites statewide. It occurred in only one of the 302 sample sites in Cazenovia Lake; and was present adjacent to the inlet. Because of the presence of this plant and the listed wetland area in the northern segment of Cazenovia Lake, a 100 ft buffer will be maintained around the littoral zone located in the lake's northern segment. This boundary has been field-delineated at the 5 ft. depth contour.

The outlet of Cazenovia Lake flows to Chittenango Creek. At a distance of approximately 5.3 miles downstream of where the lake outlet enters the Creek, an endangered species of snail (*Novisuccinea chittenangoensis)* is present in the spray zone of Chittenango Falls. There are no data specifically testing the toxicity of triclopyr to aquatic snails. A toxicity test will be completed prior to the second year treatment program.

It is reported that several households draw water from Cazenovia Lake for potable use. The Town has completed mailings and multiple contacts to riparian households to advise them of the need to use an alternative source of potable water during the treatment period, until the residual concentration if triclopyr falls below a concentration of 50 ppb. The Town is making water available.

Facts and Conclusions Relied on to Support the Decision:

A number of potential environmental impacts associated with this Proposed Action were raised during the SEQRA process conducted by the Town Board and other involved and interested agencies. Issues with potentially adverse impacts were raised prior to and during the preparation of the DEIS. A formal scoping session was conducted prior to preparation of the DEIS. Primary issues relate to the Action's potential impact on water resources; potable water supply and human health; terrestrial flora; aquatic flora; aquatic fauna; wetlands; recreational pursuits and economic stability; aesthetics and human perceptions.

In response to the concerns presented on the Draft EIS and Final EIS, the Applicant/Lead Agency has identified mitigation measures it will undertake to address both short-term and long-term impacts related to the Proposed Project. Potential impacts and mitigation measures identified in both the Draft EIS and Final EIS are summarized below.

PART I: INTRODUCTION - PROCEDURAL REVIEW

1. The proposed action (application of Triclopyr - commonly known as Renovate OTF to Cazenovia Lake) was a result of numerous concerns by area property owners, visitors and users of Cazenovia Lake over the years due to the abundance of Eurasian Watermilfoil on the surface and subsurface of Cazenovia Lake. A Lake Summit was held by the Town of Cazenovia in conjunction with the Cazenovia Lake Association to review various potential solutions to the identified problem of the infestation of the Lake by Eurasian Watermilfoil. Participants in the Lake Summit included representatives of the Department of Environmental Conservation ("DEC") and other Lake water experts.

2. As a result of a study of various options available to the Town, it was determined that the Town Board of the Town of Cazenovia would conduct a review of the most promising potential treatment of the Eurasian watermilfoil problem for Cazenovia Lake. Therefore on January 12, 2009, the Town of Cazenovia Town Board established itself as the appropriate body to act as lead agency under SEQR. Notices of intent to take lead agency were mailed to involved and interested agencies. Initially, the involved agencies were the following: NYS Department of Environmental Conservation; NYS Department of Environmental Conservation (Region 7); U.S. Army Corps of Engineers; Village of Cazenovia Board of Trustees and the Town of Cazenovia. The list of interested agencies included the following: Madison County Health Department; NYS Office of Parks, Recreation and Historic Preservation; and NYS Thruway Authority & Canal Corp. Subsequently, after discussions with DEC, it was determined that the Army Corps of Engineers was more appropriately termed an "interested" agency. That action was completed on May 14, 2009.

3. Subsequent to establishment of the Town Board as lead agency, the Town conducted a public scoping session on February 26, 2009. Input was received from involved and interested agencies, as well as the public. The Draft Scoping Document was revised to incorporate suggested changes by the public and involved agencies, including the DEC.

4. Subsequent to the acceptance of the Final Scoping Document, the Lead Agency caused the preparation of a Draft Environmental Impact Statement. The Draft Environmental Impact Statement was prepared and reviewed by the Lead Agency and made available to the public for review.

5. The Draft Environmental Impact Statement was accepted by the Lead Agency on March 16, 2009 and a public hearing was held shortly thereafter on April 7, 2009 with an extended public comment period being provided at the request of the DEC, which ended on April 20, 2009.

6. The Draft Environmental Impact Statement was subject to numerous comments from both members of the public, including lakefront property owners, the involved and interested agencies, and the DEC. In addition, the Department of Health was contacted for their input.

7. In particular, the DEC issued a letter dated April 20, 2009 with seventeen (17) specific comments to the Draft Environmental Impact Statement.

8. A Final Environmental Impact Statement was subsequently prepared by the Lead Agency for consideration and review. Portions of the Final Environmental Impact Statement responsive to the April 20, 2009 correspondence from the DEC were reviewed with representatives of the DEC on May 14, 2009. Additional input was received from the DEC to be addressed in the Final Environmental Impact Statement.

9. Additional revisions were made to the Environmental Impact Statement to be incorporated into the Final version of the document after meeting with the DEC.

10. The Final Environmental Impact Statement was revised to incorporate DEC comments and other additional public comment. The Final Environmental Impact Statement was accepted as complete on May 14, 2009 and notices of completion were transmitted at that time.

11. In addition, specific personal notifications were prepared and transmitted to certain objecting waterfront owners relating to their concerns regarding the treatment of the lake as proposed in the action. Additional responses were solicited from those individuals and the same were incorporated into the Final Environmental Impact Statement and provided for consideration to DEC.

PART II: THE ACTION

12. The Town of Cazenovia has made a decision to provide for the application of the herbicide Renovate to portions of Cazenovia Lake for the purpose of managing the nuisance aquatic plant known as Eurasian Watermilfoil. The use of Renovate in Cazenovia Lake requires a permit from the DEC and is subject to criteria contained in such permit, law and regulation.

13. This decision to take the action is made in consideration of several social and economic considerations along with the potential environmental impact to the Lake, plant, fish and related aquatic life communities. From a social perspective, the presence of Eurasian Watermilfoil at nuisance levels, presents conflicts with the recreational uses of the Lake, including swimming, diving, waterskiing, general boating, sailing, jet skiing and access to land from near shore areas. Under some conditions, the density of Eurasian Watermilfoil creates a hazard to swimmers. Documentation of these conditions, impairing and preventing use of the Lake for recreation, are contained in numerous letters and comments offered by the effected public as part of the SEQR Scoping meeting process and at the Town's public hearings on the Environmental Impact Statement. Other individuals have noted that the value of their property has been negatively affected by their inability to carry-out recreational activities expected at a Lake setting.

14. Renovate usage in aquatic environments in New York State has been previously approved and was evaluated under the Environmental Impact Statement process by the New York State DEC. Potential impacts were addressed in a Supplemental Environmental Impact Statement (SEIS) prepared on behalf of the DEC. Through evaluation of the scientific literature of the application of Renovate to lakes, it is expected that, with time, native aquatic plants will repopulate the Lake. With

the significant reduction in Eurasian watermilfoil, it is expected that the Lake plant community after treatment will be dominated by native plants. It is not expected that fish community will be affected.

PART III: ANALYSIS OF IMPACTS

The potential for Renovate to affect Chittenango Creek and related downstream waters was assessed. To minimize this risk, the treatment area for the first year has been changed to the north end of the Lake only. (As versus the initial intent to treat both the north and south ends in 2009.)

15. The DEC has carefully and thoroughly reviewed the information contained in the Final Environmental Impact Statement, which consists of the Draft Environmental Impact Statement and the appendices and exhibits attached thereto, all comments submitted thereon and the DEC has found it to be an adequate examination of all important potential impacts that would result from the proposed action for the treatment of portions of Cazenovia Lake with the herbicide Renovate. In particular, a review of the impacts on water resources; potable water supply and human health; terrestrial flora; aquatic flora; aquatic fauna; wetlands; recreational pursuits and economic stability; aesthetics and human perceptions was undertaken and included in the Draft Environmental Impact Statement, comments received on that information and responses to that commentary were included in the Final Environmental Impact Statement.

16. The SEQR review is conducted prior to any agency decision regarding permits or approvals, when the proposed project is still in its formative stages. This early environmental analysis of a proposal is particularly appropriate where the request relates to an herbicide permit to treat portions of a lake environment. The environmental review of this proposed action has afforded a clear understanding of the potential environmental impacts that might arise from the application of the herbicide to the targeted areas of the Lake. To the extent possible, detailed information regarding certain impacts, which could be reasonably anticipated and analyzed, was provided at an early stage for review. Analysis of other impacts could only be performed in a conceptual manner and project modifications have been implemented to allow for later review of subsequent treatments, all of which will require additional permits at a later time. Any additional permitting process will also undergo its own SEQR review.

Specific findings are reported in the sections that follow.

I. Water Resources - It has been determined that the use of Renovate to control Eurasian watermilfoil will not cause or contribute to adverse water quality or habitat conditions in Cazenovia Lake. An early season chemical treatment program targets the invasive macrophyte prior to its establishing significant biomass. Triclopyr is a systemic herbicide, and will kill the Eurasian watermilfoil slowly, thus avoiding a sudden increase in organic material to be decomposed on the lake bottom. Moreover, dissolved oxygen concentrations are higher as the water is cold in the early season. Oxygen is readily replenished from the atmosphere in the littoral zone where the Eurasian watermilfoil is present in abundance. The treatment program is not assumed to adversely affect littoral habitat.

II. Impact on Potable Water Supply and Human Health – Some property owners abutting Cazenovia Lake are reported to use lake water as a source of drinking water, as well as for cooking

and bathing. Notification to the homeowners through multiple channels has been undertaken and will continue. Specific mitigation measures have been offered to provide an alternative potable water supply to residents during and subsequent to the treatment program. It was determined that the groundwater aquifer supplying water to the Owera Point public water supply is not influenced by Cazenovia Lake. This public water supply well will be sampled once annually for triclopyr when the chemical is applied. A small number of riparian owners expressed an objection to the action due to concerns for impacts to drinking water and domestic usages. As requested by the DEC, the Town contacted these individuals and further explained the available mitigation measures. The Town has since provided DEC with statements from those parties with expressed concerns which indicate a willingness by these parties not to use Cazenovia Lake water for potable purposes.

III. Impact on Terrestrial Flora - Water treated with Renovate should not be applied to lawns and gardens, with the exception of established lawns. Riparian homeowners have been advised of this restriction. Alternative water sources such as rain barrels and on-site wells can be used.

IV. Impact on Aquatic Flora - As described in the Supplemental EIS for New York State (ENSR 2007), triclopyr is a systemic herbicide that kills susceptible plants including the roots. The chemical is taken up by plants and kills them by mimicking the plant growth hormone auxin (indole acetic acid) and when administered at effective doses, causes uncontrolled and disorganized plant growth that leads to plant death. The auxin-like action of triclopyr controls broad-leaf plants (dicots) while grasses (monocots) are tolerant. The application to Cazenovia Lake will target the dense beds of Eurasian watermilfoil. The relative susceptibility of the macrophyte species present in Cazenovia Lake was assessed and the conclusion was reached that the treatment program will target the invasive species Eurasian watermilfoil while not adversely affecting the native submerged aquatic vegetative community.

In order to protect Autumnal water starwort (*Callitriche hermaphroditica*), an impermeable membrane barrier will be placed around the lake area where the plant occurs during the period of active treatment and for the following seven days. Also, in conjunction with protection of the mapped wetland area OR-3, a 100 foot wetland buffer will be applied to the north end of the lake, which includes the area of Autumnal water starwort. Therefore this mitigative measure will limit any impact from the proposed actions.

V. Impact on Aquatic Fauna - The application of Renovate OTF to Cazenovia Lake will not have a direct impact on the lake's warmwater fish community due to toxicity. The concentration proposed for application, which can be up to 2000 ppb falls below levels of potential harm to the lake's fish community. According to published toxicological data, EPA considers triclopyr to be practically non-toxic, with a 96-hour LC_{50} greater than 240,000 ppb for all fish species tested. LC_{50} is defined as the concentration of a substance that is toxic to 50% of a test population within a defined time period (in this case, 96 hours). There have been no verified cases of toxicity to fish when triclopyr is used at the maximum intended rate of 2,000 ppb (Washington State Department of Ecology 2004).

The application of triclopyr will not harm the aquatic biota on which the lake fish community feeds including water column and benthic macroinvertebrates. Reduction in and eventual eradication of Eurasian watermilfoil and the resulting potential for expansion of native macrophyte species will

enhance the habitat of the warmwater fish community, particularly for spawning and nursery areas.

The herbicide triclopyr is not expected to have any ecotoxicological impact on the Chittenango amber ovate snail. While no gastropod species have been tested for the toxicity of the chemical during the registration process, the compound is classified as "practically non-toxic". Triclopyr has been tested on a range of aquatic and terrestrial species as part of the registration process. The most sensitive mollusk species tested is the Eastern oyster, with a 96 hour LC_{50} of 58 mg/l. This concentration is orders of magnitude above the expected concentration to which in-lake or downstream mollusks would be exposed. It is expected, based on an ecotoxicological evaluation of the effect of this chemical on other animal species, that application of triclopyr in Cazenovia Lake will have no adverse impact on the mollusk community in-lake or downstream. This assumption will be evaluated by completing a 96-hour toxicity test of the effect of triclopyr on an aquatic snail. This test will be completed prior to treatment of the lake's southern areas. In addition, the modification proposed to the application will concentrate treatment to the northern end of the lake for the first year. This action should result in no exposure to the amber ovate snail. Therefore, there are no expected environmental impacts to aquatic fauna.

VI. Impact on Avian Fauna - Triclopyr is classified as "practically non-toxic" to avian species, the lowest ecotoxicological category. Water fowl are potentially at greatest risk due to the multiple exposure pathways as the birds swim in, feed in, and drink lake water. The factors mitigating the potential risk of harm to waterfowl include: low toxicity to avian species, the lack of bioaccumulation of triclopyr in other food web organisms, and the rapid breakdown and dilution of triclopyr in lake water. Because the application proposed for Cazenovia Lake is at an initial concentration (up to 2,000 ppb) that is below the concentrations of concern for avian species due to subacute dietary exposure, it is concluded that the application will have no adverse impact on birds through this exposure pathway. This conclusion includes the Pied-billed Grebe, reported to nest in the northern marshy areas of Cazenovia Lake.

VII. Impact on Recreational Pursuits and Economic Stability - Swimming in the lake water will be restricted for a period of three hours following completion of the triclopyr application. In addition, the Town proposes to restrict boating during the actual application in order to minimize interference with the planned application route. Public notices will be posted to inform the recreational users of the lake of the Renovate treatment program. The EIS describes specifically the various notices to be provided. The application will be completed during a period of low recreational usage and will be temporary in nature.

Restoration of the aesthetic quality and habitat conditions of Cazenovia Lake will help maintain property values and economic stability throughout the Town. Therefore, it is concluded that there will be no adverse impacts on recreational pursuits and economic stability.

VIII. Alternatives to the Proposed Action - The FEIS examines six alternatives to the proposed action and outlines the rationale for their rejection.

A. No action alternative - The "no action" alternative does not address the proliferation of Eurasian watermilfoil in Cazenovia Lake. Without effective action, this invasive organism will continue to dominate the macrophyte community. Recreational use of the lake will become increasingly impaired. The quality of the aquatic habitat will be diminished.

B. Mechanical Harvesting - Cazenovia Lake has had a mechanical harvesting program in place for decades. While this action provides temporary reduction in the biomass of plant material susceptible to the cutting depth, it does not kill the plants. Eurasian watermilfoil can propagate by vegetative fragments; pieces of plant material that break off during harvesting can become new plants, thus spreading the undesirable species into new areas in the lake. Mechanical harvesting also removes the apical tips of plants, where potentially effective herbivorous insects may be present. This alternative may continue to be part of an integrated macrophyte management plan for Cazenovia Lake. However, it is not effective in reducing the proliferation of Eurasian watermilfoil.

C. Biological controls - As discussed in the SEIS for NY (ENSR 2007), biological control methods are generally experimental, with few long-term documented case studies. Three biological control agents were reviewed: grass carp, aquatic moths, and weevils. Each of these biological controls was rejected due to the massive extent of the Eurasian watermilfoil infestation of Cazenovia Lake. As the dominance of Eurasian watermilfoil is reduced over time, biological controls using he moth and/or weevil may become feasible. Grass carp are not a feasible long-term option, due to the size of the lake, its interconnectedness to other significant waterways, and the feeding preferences of the fish.

D. Suction dredging to remove plant material - Use of a suction dredge is practical for clearing aquatic plants from small areas. This method uses a diver to remove (vacuum) plant material from sediment. Depending on the experience level of the diver, removal can be relatively selective. This process is slow and labor-intensive (treatment rate is about 0.25 acres per day) and can be costly. This alternative is an attractive option for shoreline property owners wishing to clear macrophytes from their shoreline areas or docks, and for public swimming areas. Similar to the herbivorous insect alternatives, suction dredging may be an important component of a long-term integrated plant management strategy for Cazenovia Lake, once the Eurasian watermilfoil infestation is brought under control.

E. Benthic barriers - Covering sediment to prevent growth of nuisance aquatic plants is another effective technique useful for limited areas of Cazenovia Lake. A benthic barrier prevents light from reaching the sediment surface, while crushing vegetation underneath. Bottom barriers should be installed prior to the active growing season. While prohibitively expensive for application to a large area, benthic barriers are a cost-effective, chemical-free and reversible technique for use in limited areas of the lake. They are likely to continue to play a role in Cazenovia Lake as individual homeowners use this technique to improve recreational quality along their shoreline area.

F. Alternative chemical treatment programs - There are five other aquatic pesticides (herbicides) currently approved by EPA and registered for use in New York State in addition to triclopyr: diquat, 2.4-D, endothall, glyphosate, and fluridone. None of these alternative chemicals offer the specificity to Eurasian watermilfoil. Adverse impacts on native submerged aquatic vegetation have been documented.

Additional Permits and Approvals Needed

There are a number of review and approval processes that will be required subsequent to the SEQRA process, should the Action be approved. The project requires the issuance of an aquatic pesticide permit and a wetland permit from the New York State Department of Environmental Conservation.

SEQRA REVIEW

The Town of Cazenovia Town Board, on January 12, 2009, established itself as the appropriate body to act as lead agency for this review, in conformance with Article 8 (State Environmental Quality Review Act - SEQR) of the Environmental Conservation Law and the regulations of 6 NYCRR Part 617. In accordance with SEQR procedures, the Town Board determined that the application represents a "Type I" action and required the preparation and dissemination of an Environmental Impact Statement (EIS). The Draft EIS was accepted by the Town Board on March 16, 2009, and a public hearing was held shortly thereafter, following a public comment period on April 7, 2009. The Town Board accepted the Final EIS on May 14, 2009, and has since provided their Findings Statement to the DEC. The DEC SEQRA review as an involved agency is concluded with this Findings Statement.

Certification of Findings to Approve/Fund/Undertake:

Having considered the permit application materials submitted, including the Draft and Final Environmental Impact Statements, and having considered the preceding written facts and conclusions relied on to meet the requirements of 6 NYCRR Part 617.11, this Statement of Findings certifies that:

1. The requirements of 6 NYCRR Part 617 have been met; and

2. Consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is the one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse impacts will be avoided or minimized to the maximum extent practicable by incorporating in and as a condition of these findings of fact and conclusions of law those mitigation measures that were identified in this document and the FEIS, as well as conditions to the Herbicide Application Permit and Freshwater Wetlands Permit to be issued by the Department of Environmental Conservation.

Involved Agency:

NYSDEC
615 Erie Blvd. West
Syracuse, New York 13204

Signature of Responsible Official: _____

Name of Responsible Official: _____

Title of Responsible Official: _____

Date: _____

cc: Liz Moran, Supervisor, Town of Cazenovia