Attachment A. Project Narrative

1. Statement of the goals and objectives of the project.

The goals and objectives of the Eagle Lake Eurasian Water milfoil (EWM), (Myriophyllum spicatum), eradication project are to:

- Implement an integrated management plan that includes;
  - Referencing a 2003 GPS survey of existing EWM patches for guidance to select target work areas. (See attached *2003 GPS Final Report*)
  - Hand harvesting and bagging for removal, isolated plants and small patches up to about 100 square feet in size, by divers using a "Hooka" (breathing compressor) enabling a full lake bottom swim over.
  - Matting small dense beds in areas to about 100 feet by 100 feet.

    Note 1 (See attached page; *Notes supporting Goals and Objectives*)
  - Being minimally disruptive of the herbivores that are currently living in the EWM.

    Note 2 (See attached page; *Notes supporting Goals and Objectives*)
  - Using a herbicide (Sonar) for localized, site-specific, curtain contained treatment(s) to monocultures of EWM. This will be done where stands are too large and dense to permit economical hand harvest or matting. Action will seek APA/DEC and other interested party support and aid in completion of an herbicide use permit. This will start with planning for treatment of the largest patch, approximately 1 acre, located in the center of the main lake section. Follow-up to a herbicide treatment will be done with hand harvesting and matting as necessary. Bi-annual follow-up observations will also allow documentation of the return of native vegetation.

    Note 3 (See attached page; *Notes supporting Goals and Objectives*)

- Remove approximately 30 percent of the EWM identified in the GPS survey along with checking for and removing the as yet unidentified isolated plants in the lake.
  Note 4, 5 (See attached page; *Notes supporting Goals and Objectives*)
- Complete a post project GPS survey report to document both removed and remaining sites and determine the approximate amount of EWM removed.
- Continue visual lake observations for any changes in EWM patch size and distribution related to previous plant removal sites and hand harvest as time and funds permit to maintain the plants eradication.
- Continue education of current/future lake residents as well as transient users regarding the issues of invasives and the measures lake users can take to prevent their spread.
- Continue monitoring water quality for indicators that could impact the growth of EWM utilizing ELPOI funded analytical testing and additional CSLAP program analysis.

2. Site Description- Describe in detail the waterbody for which the project is proposed:

A. Location- Eagle Lake is located in the southern portion of Essex County on NYS Route 74, east of the Northway (I 87) exit 28 and west of the Village of Ticonderoga. It has waters situated in two Towns, Ticonderoga (Ti) and Crown Point (CP). The lake's watershed is located in the foothills of the Adirondack Mountains in the Hudson River drainage system. The lakes elevation is 944 feet above sea level.

B. Type- Eagle Lake is a natural, spring and small seasonal stream fed lake, with an out flow dam at the far western end that is used to help regulate water level. Its outflow waters travel about 4 miles before combining with the waters of Paradox Lake.

C. Size- Eagle Lake has approximately 420 surface acres and is divided by Route 74 into a larger, 340 acre eastern section and an 80 acre western section.

D. Mean and maximum depths- Eagle Lake has a mean depth of approximately 19 feet and a maximum depth of approximately 42 feet.

E. Description of shoreline- Eagle Lake's shoreline is a mix of mature trees, natural low brush, large and small rock outcrops, with very limited grass lawns and other landscaping. The bulk of the shoreline remains in its "natural" state. The lake bottom slopes rapidly away from the shoreline in many places. It has a mix of sand, silt, rock, cobble and ledge rock with limited areas for the growth of aquatic plants. The lake bottom shows very little disturbance from any type of activity.

F. Public and private access facilities- a NYS DEC owned public use boat launch (partially improved) is at the western end of the lake. The Route 74 Causeway height limits the size of boats that can get to the eastern section of the lake. On the northeastern end of the lake is a small, water access only, NYS DEC day use beach, with attached limited use unimproved camping/picnic area.

G. Extent of shoreline development- the northern shore of Eagle Lake has 10 seasonal cottages; the western end has 4 seasonal and 1 full time residences. The southern side of Eagle Lake contains the bulk of the development (approximately 60 home/ cottages) predominately grouped in 2 locations. One is just east of the causeway and the other at the far eastern end surrounding Ti Bay. These two developed areas contain predominantly seasonal residences as well as a few year round. Route 74 runs close to the shoreline preventing further development.

H. Habitat- Eagle Lake is a soft water (CSLAP pH average 7.5), low alkalinity water body typical of many lakes in the Adirondack region. It is dimictic, exhibiting both summer and winter thermal stratification. The lake is best classified as oligotrophic; nutrients

necessary for the growth of algae and, subsequently, the myriad of organisms that feed on these plants, are low.

3. The work proposed- Activities to be conducted as part of the project include:

A. Eurasian Water milfoil (EWM), (Myriophyllum spicatum) is the species targeted for eradication.

B. EWM impairs the recreational uses of the lake for shallow water swimming, general lake access, recreational boating and water skiing. EWM grows year round even after ice is on. It grows to depths of 30 ft. creating negative visual impacts, both in the water and when it "tops out". These impacts result in a reduction in real property values. EWM adversely impacts the native vegetation, displacing and out competing it. Reductions in native plant biodiversity negatively impacts normal fish habitats.

C. Certified divers and volunteer property owners will be trained how to: identify EWM and other important non-target plants, hand harvest EWM with root removal, contain fragments and set/remove mats. Once trained, surface support helpers and a diver team will swim the lake removing EWM and apply mats to sites deemed addressable by these methods. Careful selection of where and how much EWM is removed should minimize harm to the herbivores. Removed EWM will be collected, then moved to shore for de-watering and upland disposal. Dialogs will continue with interested parties to pursue the permits necessary for using Sonar. A licensed applicator will be secured to proceed with the permitting and an actual herbicide treatment. Personnel will be trained in the placement/removal of curtains as applicable and appropriate pre/post herbicide monitoring will take place. Timely decisions about the entire herbicide treatment process are necessary to accomplish our goal within the grant's 3-year window. As isolated plants

and beds are eradicated, visual and GPS waypoint data for the post project survey will be gathered. ELPOI will continue to distribute its educational newsletter and maintain the in-place signage (located at the boat launch and State beach) to educate lake residents and other interested parties on the EWM eradication program and steps to identify and prevent the spread of invasives. CSLAP and ELPOI volunteer water testing programs will be continued. This entire process is expected to take place over the summers of 2006 – 2008.

D. By physically and chemically removing EWM this project will allow human uses such as fishing, swimming, water skiing and boating to return to "normal" and at safer levels, property values to be retained and native vegetation to re-establish itself allowing "normal" fish habitats to return.

E. An integrated approach allows each method to be utilized for its most environmentally friendly and cost effective attributes. Hand harvesting isolated plants is very selective. Matting small to medium sized dense EWM beds provides a level of control not obtainable by hand harvesting alone. It is not overly detrimental to native vegetation, and yet is very effective in killing EWM. Minimizing disturbance to herbivores will allow them to continue to provide a "natural" balance. Selective site use of a herbicide will allow for environmentally responsible, fast and effective control of larger patches that are beyond the means of other methods.

4. Those involved will include, but not be limited to: volunteer and paid participants, ELPOI Board Members/ Officers, Ti and CP town officials, State Agencies staff, State Legislative officials, RPI Fresh Water Institute, CSLAP, Glenn Sullivan (Professional Applicator/ Certified Lake Manager), Bo Burns (Aquatic Plant Specialist) and Bob Johnson (Herbivore

Research Scientist). An EWM project manager will assure that those working on the project are trained in plant identification, eradication techniques and proper plant disposal. The project manager's qualifications include a long history of working with town and various state agencies, conference attendance, consulting with lake management professionals and extensive reading. The services of a licensed applicator will be retained to acquire the permits necessary for herbicide use and for application of an herbicide product.

5. Discuss the relationship of the proposed the project to any significant resources on the property and how those resources will be protected from any project-related impacts.

A. To the best of our knowledge no "regulated or significant" habitats exist on Eagle Lake.

B. There are no significant or unresolved environmental issues (other than those associated with the long time unresolved control of EWM) associated with this project or property.

C. A recent check by Tim Sinnott of the DEC's data base for Eagle Lake showed that a 1988 plant identification survey of the lake found *Potamogeton Alpinus*, a plant listed on the NYS list of protected species that is categorized as "threatened". At that time the survey showed it in just one location (Crown Point Bay). Larry Eichler of the RPI Fresh Water Institute has additionally indicated that a 1998 Eagle Lake RPI survey found 1 plant on the watched list and 1 on the rare list. (See attached *RPI survey of Eagle Lake Final 1998*). No adverse impact to these plants is expected due to the selectivity of the integrated control methods being utilized. Divers working in areas where these plants may exist will be given adequate training to identify them and will be instructed to exercise extra care to prevent their disturbance. Prior to placing matting in these areas, a swim over survey will be made and placement of mats will be adjusted if these plants are present. The planned site(s) for an herbicide treatment is/are located some distance from

where these plants are believed to be located. An early season, site-specific, monoculture application of a selective herbicide should further reduce impact to native plants.

6. Describe past efforts, if any, over the preceding 10 years to prevent, control, or eradicate the target species.

   A. See the attached *"History of Milfoil late 70's to 2005."*

   B. The 2005 diver hand-harvesting attempt had mixed results. It was successful in removing isolated plants from around a dense bed, but in the dense beds themselves, only a very small volume of EWM was removed in relation to the time, effort and cost put forth. Numerous lake property owners have, however, successfully used hand harvesting for control of isolated and small patches in shallow waters in past years.

   C. Adding matting for the control of small dense beds and an herbicide for large dense beds will increase the efficiency of EWM control.

7. Long term monitoring plan

   A. As isolated plants and beds are eradicated, visual and GPS waypoint data for the post project survey will be gathered. A summation of changes will be generated as this information is compared to the 2003 GPS survey. Lake residents will continue their own informal monitoring. A swim over of selected project sites will be conducted @ 1, 3, and 5 year post project intervals for re-growth/new infestation determination, contingent upon funding and volunteers. The CSLAP volunteer water-testing program started in 1999 will be continued, as will ELPOI's independent analytical water testing for fecal coliform and other elements. Manageable pre and post herbicide application water testing and plant surveys will need to take place as prescribed by both the DEC and APA. These tests are yet TBD.

B. A volunteer completed GPS survey undertaken in 2003 to document EWM distribution and patch size in Eagle Lake only targeted the largest and densest beds and the overall distribution of EWM around the lake. It did not look to identify individual plants. This survey will serve as the base line to quantify pre-treatment distribution and patch sizes

8. The EPLOI and the Town of CP will be providing matching funds for this project as detailed in the attached break down (see *2006-02-21 budget income break down*). The Town is administering a $25,000 Senator Stafford Aid to Localities Grant issued for the control of EWM on Eagle Lake. (See *Grant M000036*) The ELPOI has over $6,000 in a restricted fund for this purpose and has asked its membership and other interested parties to pledge $30,000 to the project in a combination of cash, volunteer in-kind labor and material donations. (See *ELPOI Balance Sheet February 2006*) To date approximately $22,750 worth of combined pledges has been made. (See *Cash and Labor Pledge Break Down February 24, 2006*) It is anticipated that the remaining $7,250 will be raised over the projects 3-year period.

9. In 2005 the APA issued a Non-Jurisdictional Letter to the towns of CP and Ti covering the hand harvesting and matting of EWM in waters deeper than 2 meters. The DEC and OGS also provided letters indicating approval for this part of the project. Copies of these 3 letters are attached. Inquiries to determine specific APA/ DEC permits for the application of an herbicide will be made upon being award a grant. Dialog was started to determine this at the Dec. ’05 meeting of interested parties.