

# **Heron Pond Preserve: A Habitat Management Plan**

A report prepared for the Essex Land Trust  
Essex, Connecticut



**May 2011**

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## **I. INTRODUCTION**

### **A. Authors:**

Plan prepared by Andrew Hughes, Yale University School of Management; Jonathan Peterson, Yale University School of Forestry and Environmental Studies. May 2011.

### **B. Purpose:**

This management plan describes a vision for the future condition and public use of the Heron Pond Preserve, a 29-acre parcel held since 2007 by the Essex Land Trust. This plan details the natural and cultural resources of the Heron Pond Preserve and recommends management activities to preserve, protect and restore the Preserve's natural habitats, significant species, and cultural resources. The management activities to preserve these values are recommended in the context of a desire for continued public use and enjoyment of the property.

### **C. Property Description:**

1. **Location and Access:** The Heron Pond Preserve is located in the town of Essex, part of Middlesex County, Connecticut. The Preserve is directly east of CT Route 9 in the southern portion of the town: its southern boundary forms the town line of Essex and Old Saybrook. The property is accessed via public roads from the north, with a pull-off parking lot on Truebe Lane. (See Appendix I for map).

2. **Physical Description:** The bulk of the property exists in a roughly rectangular configuration oriented in a general north-south direction. Two narrow extensions exist on the eastern edge of the main parcel; the first, extending from the northern portion of the parcel, is designed to provide access to Heron Pond. The second, extending from the southern portion of the property, arcs to the north encircling the residential development and nearly closing the circle with the northern extension. (See Appendix II for map; see Appendix III for metes and bounds description).

The property consists of two distinct topographical features: high ground runs north-south along the western portion of the property, while a low-lying, wetland area forms the eastern portion of the property. The high ground is an elevated ridge with portions of exposed bedrock running generally parallel to Route 9. A small east-flowing stream cuts through this elevated ground near the northern extent of the property. This stream, which originates west of Route 9, drains into Heron Pond, a small pond located immediately to the east of the conserved parcel. The low-lying wetland area is bisected by another stream system. Again a source of this stream is located west of Route 9, under which it flows before entering the Preserve. This stream likewise drains to Heron Pond. Outflow from Heron Pond flows to Essex's South Cove of the Connecticut River and on to Long Island Sound.

3. **Property History:** The property was owned by Truebe Associates, Ltd, from 1986 until 2007, when it was sold to Essex Highlands LLC. Per Town of Essex Planning

Commissions regulations (see Section 2A for a more detailed description), the land was transferred to the Essex Land Trust that same year. A conservation easement was granted in favor of the Essex Land Conservation Trust, Inc., in February, 2007. The original acquisition was 25 acres in size, but an excluded area on the western edge of the parcel (abutting Route 9) was subsequently added in 2010 to create the current 29 acre Preserve.

The Essex Land Trust has traced the origins of the property back to the late 1700s; it is believed that the Preserve was originally settled as part of a homestead by Lieutenant John Clark Pratt in the 1780s. The impacts of past land uses remain evident on the landscape. A series of stonewalls on the elevated ridgeline suggest that much of the property was at one time cleared for agricultural use. Based on the general age of the forest, it appears the pastures were abandoned to succession roughly 100 years ago (based on surrounding land use history). Timber harvest became viable as the forest reclaimed the parcel. An old logging road remains evident. Further, tree growth patterns from resprouting and decaying stumps suggest that the logging occurred roughly thirty years ago.

4. Ownership and Restrictions: The property is owned by the Essex Land Trust, which acquired the property in 2007 from Essex Highlands LLC. A conservation easement has been granted in favor of the Essex Land Conservation Trust, Inc. This easement restricts development of the property and is designed to preserve the natural habitat and open space that the property provides. See Section IV (Allowed Uses) for a more detailed description of the restrictions.

5. Current Management: The Preserve is currently undergoing no active management beyond trail construction and maintenance. A trail network has been installed on the property; several small footbridges facilitate the stream crossings and the trails are marked with color-coded aluminum plates. Four separate trails have been defined in this fashion. In total, the length of trail is approximately  $\frac{3}{4}$  of a mile. As of spring of 2011, a fifth trail is in the process of being constructed.

## **II. GENERAL GOALS OF THE PRESERVE**

The Heron Pond property has existed as timberland and/or open space for many years and provides natural habitat for a variety of plants and animals. In accord with the State of Connecticut's declaration that it is in the public interest to preserve forest land and open space and to hold open space land in perpetuity for educational, scientific or aesthetic uses, the Essex Land Trust acquired the property for the purpose of providing open space protection, a wildlife sanctuary, and a scenic resource for the community. In considering the future of this Preserve, the Essex Land Trust has articulated four goals for the property:

1. To maintain and enhance public access and use, providing the public with opportunities for recreational and scenic enjoyment;
2. To proactively manage for invasive species control and eradication;
3. To maintain forest habitat and biological diversity;
4. And to protect the hydrologic health and water quality of aquatic systems on the property and downstream, including Heron Pond and the South Cove of the Connecticut River.

#### A. Open Space

The Heron Pond Preserve is a 29-acre conservation property in the southern portion of the town of Essex. It is part of a host of properties owned and maintained by the Essex Land Trust that protects more than 500 acres of open space within the town boundaries. It does not abut any existing conserved open space, but its proximity to and drainage into Essex's South Cove of the Connecticut River makes it an important conservation property.

The majority of the Heron Pond property fits into a specific Town of Essex open space requirement related to subdivisions that was enacted in 1995 and revised in 2006. Section 5.8 of the Essex Planning Commission's Subdivision Regulations "guides" the Commission to reserve the equivalent of 20% of a subdivision's land area for open space. At an absolute minimum, the open space offset must be one acre. Inland or tidal wetland areas do not count towards the open space offset. Open space may be deeded to the town or an "acceptable" non-profit, held by a corporation of subdivision owners, or placed under conservation easement. In this case, the deed to the property was transferred to Essex Land Trust, which also holds a conservation easement on the property.

Under the mandate, the Commission retains the right to determine what the appropriate use of the land is in order to satisfy open space needs. These needs range from the retention of natural drainage ways to the avoidance of "undifferentiated sprawl patterns" to the provision for active and passive recreation. The Heron Pond property satisfies several of these goals, while providing existing public access and recreation opportunities.

The 29-acre property was placed under easement in two stages, with the initial 24 acres a result of the Town's response to the adjacent subdivision. An additional five acres were added to the easement in 2010 by the Essex Land Trust in a move that is consistent with the town's 2005 Plan of Conservation and Development.

#### B. Public Use

The primary goal of the property is to continue to provide the public with opportunities for recreational and scenic enjoyment. Recreational opportunities supported by the property include walking, hiking, bird watching, non-motorized biking (biking use is under review by the ELT Board) and other passive uses. To that end, a new trail accessing the most recent addition to the property was prepared in the Spring of 2011. The pond is located beyond the boundaries of the Preserve, but access is maintained from the property via a narrow right-of-way; fishing or boating is not a supported activity. Motorized modes of travel are prohibited as well. Further description of current activities is available in Section IV.

See Appendix IV for a map of trails on the property. Note that the most recent addition is not included.

### **III. CHARACTERISTICS OF THE PRESERVE**

#### A. Natural Habitats

The Heron Pond Preserve is entirely a forested habitat; the forest is dominated

primarily by oak and beech species. The Preserve provides “core forest,” as the majority of its forests fit the definition of core forest provided by the University of Connecticut’s Center for Land Use Education and Research (CLEAR) as being more than 300 feet in all directions from non-forested areas (see appendix V, Core Forest Areas; see [http://clear.uconn.edu/projects/landscape/forestfrag/forestfrag\\_public%20summary.pdf](http://clear.uconn.edu/projects/landscape/forestfrag/forestfrag_public%20summary.pdf) for definition of core forest). Core forests can be important for area-dependent and/or edge-intolerant species and can promote biodiversity. Species characteristic of New England coastal forest habitat can be also be found on the property. These species include sassafras, bigtooth aspen, mockernut and bitternut hickory, black gum, highbush blueberry, and azalea. A site visit in late spring/early summer emphasizing herbaceous vegetation would be helpful to develop a more refined classification of habitat types.

Other habitat features are present on the property. The property is defined by two topographical features: an elevated ridgeline running generally north-south along the western half of the property and a low-lying wetland/riparian zone comprising the eastern portion of the property. Exposed bedrock is evident along the ridgeline, providing micro-habitat features. Stonewalls existing in the wild condition (i.e. forest has re-established around them) provide similar types of habitat on the western portions of the property. The wetland and riparian areas likewise form smaller-scale habitat features. Aquatic habitat is provided by the various watercourses moving through the property. (Note: a site visit in late spring/early summer may better classify habitat types).

## B. Plants and Wildlife

The property is classified as a mixed hardwood forest with red oak and beech dominating the species mix. Some species characteristic of a New England coastal forest are present (ex. sassafras, bigtooth aspen, mockernut and bitternut hickory, black gum, highbush blueberry, and azalea), yet at low densities; more traditional northern hardwood species dominate the canopy. The Preserve does not intersect areas mapped by the Connecticut Department of Energy and Environmental Protection as containing state and federal listed species (threatened, endangered, or special concern) and significant natural communities. However, it abuts areas mapped as such (see Appendix VI, Natural Diversity Data Base Areas). The property then may serve an important function in buffering and enhancing protection of such species. A full list of shrub and tree species found on the property is included in the Appendix VII. A second vegetation inventory in late spring/early summer is necessary to identify the herbaceous vegetation of the property.

The forest’s oak population is succeeding to beech species. The understory is dominated by beech seedlings and saplings (two age classes are present, one four to five years in age, and another about a year old) that are root sprouting. This is indicative of disturbance, and may be explained by the presence of beech bark disease on the property. Beech trees are not a preferred food source for browsing deer, and as such the understory is robust for this area of New England.

The majority of the property is void of invasive species. The highest concentration of invasive species is at the entrance/right of way into the preserve, and along the property’s eastern edge where it abuts the subdivision’s parcels. Invasive species identified on the property include tree of heaven, Japanese barberry, Asiatic bittersweet, burning bush, multiflora rose, Japanese honeysuckle, and American yew.

### C. Cultural Resources

Remnant stone walls are prominent on portions of the property, indicative of past agricultural use. These walls are observable on the western portion of the property, on the high ground above the wetland areas; historic pastures have long since been abandoned and the stone walls are in a wild condition presently, surrounded by forest. No other cultural artifacts were evident on the property during site visits.

The Heron Pond property has a significant connection to the Pratt family of Essex. Essex was founded by Lieutenant William Pratt, and it is believed that his son, John Clark Pratt, owned land in the Heron Pond area through his wife, Phebe. Phebe allegedly received the land as a wedding present from her father Samuel Pratt. This presents a unique connection between the preserve, Essex Land Trust and the Essex Historical Society. The Pratt House, located on West Avenue in the village of Essex, was listed on the National Register of Historic Places in 1985.

## IV. EXISTING ACTIVITIES IN THE PRESERVE

### A. Current Recreational Uses:

The property is open to public access from daybreak to dusk. A small two car improved pull-off is located to the northeast of the property on Truebe Lane, a public road off of route 154. A trail easement crosses private property to provide access to the Preserve from this parking area. The property boundaries have been painted and a trail network system has been built to accommodate public access. Trails are marked with circular aluminum placards, color-coded to distinguish four separate trails. A fifth trail is under construction as of Spring 2011. Passive recreation – walking, hiking, cross-country skiing, and non-motorized bicycling – is allowed and encouraged on the system. The Essex Land Trust reserves the right to construct and maintain trails and paths for such purposes. Other forms of public use and recreation are prohibited. These prohibited public uses include horseback riding, the operation of motorized vehicles (including snowmobiles, motorcycles, all-terrain vehicles, motorized boats), and hunting or trapping. (See Appendix XI for a map of the trail network)

### B. Research and Educational Uses:

The right to conduct research is reserved on the property, yet no such use is currently occurring. The Essex Land Trust at this time is not interested in encouraging scientific research on the property. Likewise, use of the property for educational observation and studies has been reserved in the easement, but again, no current such use is occurring and the Essex Land Trust is not currently interested in pursuing such activities on this parcel.

### C. Additional Uses:

Forestry activities are a reserved right of the Essex Land Trust under the conservation easement; such activities must be pursued in accordance with generally accepted forestry practices. Clear-cutting, or any activity that approaches clear-cutting, is prohibited. The grazing of domestic animals has been prohibited, as has mining and removal of soils. The property cannot be used for storage of refuse or other materials.

Improvement of existing logging roads or construction of new roads is likewise prohibited. (See the Conservation Easement for a complete description of prohibited uses).

## **V. MANAGEMENT ISSUES and CURRENT MANAGEMENT ACTIVITIES**

### **A. Natural Habitats/Plants/Wildlife**

1. Invasive Species - Invasive species threaten the natural habitat and vegetation of the Preserve. The species present are prolific reproducers and capable of outcompeting and marginalizing native vegetation. The potential of such species to form dense, mono-specific thickets threatens native habitat, vegetation, and biodiversity.

- a. *Existing Conditions*: Multiple invasive species are present in small numbers on the Preserve, and are found primarily along the property boundaries adjacent to existing development. Isolated cases do exist in other portions of the property as well. Observed invasive species include tree of heaven, Japanese barberry, Asiatic bittersweet, burning bush, multiflora rose, Japanese honeysuckle, and American yew.
- b. *Current Management Activities*: No current management activity is occurring.
- c. *Planned or Desired Outcome*: Given the low concentration of invasive species on the property, the desired outcome would be to control and eliminate all invasive species from the property, and work to limit future introductions of non-native exotic species either through planting native species in place of removed invasive species or other methods.

2. Beech bark disease - Beech bark disease results from both insect and fungal components; a tree becomes infested with the beech scale insect and is subsequently infected with one of two fungi. The colonizing fungus uses the insect's feeding wounds to access the tree's living tissue. This complex of interactions that constitutes beech bark disease may kill the tree, or disfigure it; disfigured trees are more susceptible to other damaging organisms. Some individual trees may be resistant but beech bark disease threatens to decimate the beech population in the forest. This can significantly alter forest structure and species composition, and threatens to have a negative impact on wildlife species that rely on the beech nut crop and bird species looking for nesting habitat.

- a. *Existing Conditions*: Beech bark disease is manifest on several trees on the Preserve, indicating that the beech scale insect is present. The air-borne fungus has begun to spread to some of the older beech in the Preserve. Instances of the disease are limited on the Preserve, but the disease will eventually spread to all trees in the stand.
- b. *Current Management Activities*: No current management activity is occurring.
- c. *Planned or Desired Outcome*: A range of management options exist, but a

desired outcome has not yet been articulated.

3. Water quality - Water pollution, runoff and sedimentation from Connecticut Route 9 threatens the structure and function of aquatic habitat and the health of aquatic species.
  - a. *Existing Conditions*: The current status of the aquatic ecosystems on this property is largely unknown. The proximity to a major highway - and the passage of watercourses underneath this highway immediately prior to entering the Preserve - is worrisome. Water discoloration has appeared on the property's southern brooks where the water flows into the property from a culvert under Route 9.
  - b. *Current Management Activities*: No current management activity is occurring.
  - c. *Planned or Desired Outcome*: The desired outcome would be to have confidence in the quality of the aquatic ecosystems and the health of the aquatic species through consistent and regular water quality testing. The water systems, close to the entrance to the Connecticut River and Long Island Sound, should be of high quality and support diverse, robust populations of native aquatic species.

## B. Cultural Resources

1. Stonewalls - Stonewalls are a dominant feature of the New England landscape, serving as a remaining testament to the agricultural history of the region. Following the widespread abandonment of agriculture in the region, forests have reclaimed the agricultural land and these cultural features can now be found "wild" in the middle of maturing forests.
  - a. *Existing Condition*: A network stonewalls exists on the property, most prominently on the higher ground of the ridgeline. Forest has grown up around these structures since the pastureland was abandoned.
  - b. *Current Management Activities*: No current management activity is occurring.
  - c. *Planned or Desired Outcome*: No clear goal for this cultural resource has been considered. Likely, the trail network will continue to take public visitors past these historical features.

## C. Recreational/Educational Activities

1. Property Boundaries – Clearly marked property boundaries are essential for facilitating annual monitoring of the property and for ensuring unintentional encroachment by neighboring landowners does not compromise the conservation value of the property.
  - a. *Existing Conditions*: Property boundaries were marked and painted for the initial acquisition. The Preserve has been expanded in size subsequently. The property boundaries have not been remarked. The right-of-way entrance to the property off Truebe Road is poorly defined as well.
  - b. *Current Management Activities*: No management activities are ongoing.
  - c. *Planned or Desired Outcome*: The desired outcome is complete marking of the property boundaries with scheduled monitoring to ensure the property remains clearly marked. It should be clear where the right-of-way passes and



where the property boundaries begin.

2. Trail Network – Trail networks are required to encourage responsible and sustainable public use and enjoyment of the property.
  - a. *Existing Conditions*: A trail network is present on the Preserve. Four trails have been created and marked, measuring approximately  $\frac{3}{4}$  of a mile in length. Trails are well maintained and in good shape; bridges are in place and likewise in good shape.
  - b. *Current Management Activities*: Trail monitoring and maintenance is ongoing. A fifth trail, as of Spring 2011, is being created to connect two existing trails and bisecting the newly acquired four-acre parcel.
  - c. *Planned or Desired Outcome*: The desired outcome is a well-maintained, safe and enjoyable trail network that facilitates continued public use and enjoyment of the Preserve. Monitoring of the trail system should be ongoing and consistent; attention should be given to trail surface to ensure erosion (especially in the wetter regions of the Preserve) does not become a problem.

## **VI. MANAGEMENT RECOMMENDATIONS and PLANNED ACTIVITIES**

The management recommendations reflect the land trust's goals and future vision for the Heron Pond Preserve. Some activities will be concrete, defined steps with the potential of existing state and federal cost-sharing programs to assist in their implementation. Other activities will be recurring and continual. Finally, some recommendations should be considered over a longer time frame on the basis of the land trust's priorities and any change in the severity of the management concern.

### **A. Natural Habitats/Plants/Wildlife**

#### *1. Landowner engagement*

The Heron Pond Preserve was conserved in conjunction with a sub-division development. As such, it is located in a residential area and is surrounded by housing lots. Much of what happens on the property could be influenced by the actions of neighboring landowners. Pro-active engagement of neighboring landowners is recommended to develop working relationships and trust. We recommend steady communication with landowners. An initial meeting with landowners by members of the land trust would establish open lines of communication; the land trust should share its goals and vision for the property and ask landowners for their views and vision for the property. New insights or ideas may spring from these conversations. Initial outreach and conversations should be handled by active members of the land trust board. Neighboring landowners should be kept apprised of activities or events occurring on the property. These steps will recruit the neighbors as advocates for the property, and will help to minimize threats to the conservation value of the property.

The actions that neighboring landowners take on their properties may influence the Preserve. As mentioned, invasive species are concentrated at areas immediately adjacent to development. It is recommended that efforts concentrated on landowner outreach regarding invasive species control on their own priorities be pursued. A local-

based land steward could be a crucial ally in creating working, active relationships between local landowners and the land trust. Such relationships should be leveraged to prevent the continued or further spread of invasive plants and shrubs in the Heron Pond Preserve.

## *2. Annual monitoring*

As highlighted above, the Preserve was conserved in conjunction with a subdivision and conversion of open-space to a residential area. Hence, a large number of landowners surround the property. The concentration of residential lots in the vicinity of the property elevates the threat of intentional or unintentional encroachment. The land trust should monitor the boundaries of the property on an annual basis to ensure that encroachment is not an issue and that the conservation value of the property remains intact. Monitoring can be conducted by a Preserve steward familiar with the property. The boundaries should be walked; it is easiest to do this in fall after leaf-off, to have improved visibility in the forested landscape.

## *3. Invasive Species*

Various invasive species have been identified on the property through initial property inspections. Species include tree of heaven, Japanese barberry, Asiatic bittersweet, burning bush, multiflora rose, Japanese honeysuckle, and American yew. The incidence of such species is generally limited to specific locations on the property though and is not widespread; therefore, control and eradication remains possible.

Control and eradication activities can be pursued for the various invasive species. A thorough inspection of the property should be conducted initially to refine a detailed baseline condition assessment and to map locations of invasive species. Initial inspections identified concentrations of invasive species near Heron Pond on the trail easement that provides access to the property and along the southeastern edge of the property where it abuts private lands.

Hand-pulling when soil is damp and loose is the most effective eradication effort for most invasive plants. With larger plants, mechanical cutting with subsequent herbicide application is most effective. Apply herbicides via a painting technique to cut stem immediately following the cut. Seed-bearing plants should be bagged and removed from the Preserve. Hand-pulling can be conducted by volunteer work parties. The application of herbicides should be conducted by an individual (board member or Preserve steward) that has received proper training. Financial resources may be required to acquire appropriate herbicides and to ensure appropriate training.

In all cases, repeated monitoring and re-treatment of management areas is recommended and required for successful control and eradication of invasive species. A more detailed description of managing the invasive species found on the property is provided in appendix VIII; see appendix IX for a possible funding mechanism to facilitate removal of invasive species.

## *4. Beech bark disease*

Beech bark disease cannot be eradicated or controlled in forested landscapes. Once present in a stand, it will run its course. However, because infestation is recent and the disease is only beginning to manifest, some management options are available.

One option would be simply to let the disease run its course. The disease will spread throughout the property over time and all trees will be exposed. It is likely that some trees will exhibit resistance though and not be afflicted. While the pace at which the spread of the insect/fungus would occur is unclear, this management option would over time severely reduce the prominence of beech on the property. Additionally, trees weakened by beech bark disease may present safety issues near the recreational areas of the Preserve (where trails pass); wind events or storms could cause these infected trees to blow down.

A second management option is to fell the trees currently infected. Such management should target infected individuals as opposed to all beech individuals; trees not showing evidence of the disease may be resistant, and over time these individuals will constitute the bulk of the beech retention in the forest.

Control and eradication of beech bark disease is not possible. Widespread harvest or silvicultural prescriptions are inadvisable as damage or disturbance in stands causes beech to root sprout. Stands of root sprouting beech regeneration (which will be susceptible to beech bark disease as well) are already present on the property and will limit the re-sprouting of other species, such as oak. The best course of management action in this case is isolated, individual felling of infected trees that present a safety hazard to recreational usage of the property (i.e. along trails).

#### *5. Water quality and aquatic health*

To date, the water quality of streams and aquatic systems on the Preserve is largely unknown. The necessary first step in preserving the aquatic health of the Preserve then is the implementation of water testing protocols. The Connecticut Department of Environmental Protection is the resource to consult on water quality testing parameters. An innovative technique to conduct the testing may be to engage Project Search. This program, administered jointly by the CT DEEP and The Children's Museum (formerly the Science Center of Connecticut) engages secondary education classrooms, providing experiential education opportunities for high school students to conduct water quality monitoring. More information is available at [www.projectsearch.org](http://www.projectsearch.org), and it appears that Essex has trained teachers but no active program at the moment. This may offer a logical partnership.

With the establishment of good baseline information on the status of the aquatic systems, additional management may become advisable. Likely, if this is the case, the Essex Land Trust will need to partner with state agencies including the Department of Transportation to pursue activities that result in the promotion of healthy aquatic systems.

### **B. Cultural Resources**

#### *1. Stonewalls*

Stonewalls exist in forested portions of the property. Trails approach and highlight these features. No management activities are needed or recommended for the "wild" stonewalls throughout the Heron Pond Preserve.

### **C. Recreational/Educational uses**

### *1. Property boundaries*

Given the location of the property, annual monitoring should be conducted. To facilitate the monitoring of this property, the land trust should ensure that the property boundaries of the Preserve are clearly marked. Property boundaries should be painted and marked every five years to ensure the boundaries are clear. Marking property boundaries is best done in the fall, falling leaf-off to facilitate visibility in the forested landscape. This work should be conducted by the Preserve steward, who is most familiar with the property, as well as an active member of the board to ensure the board remains knowledgeable about the status of the property.

### *2. Trail Maintenance*

The land trust has maintained four trails totaling  $\frac{3}{4}$  of a mile in length for several years on the property. ELT has a strong history of volunteer engagement that has benefited the Heron Pond Preserve. A volunteer day in April of 2011 began construction of a new trail in the preserve that traverses the high ground of the new five-acre addition to the property. In order to promote continued public use and enjoyment of the property, ELT should continue to monitor the condition of trails, trail markers, and foot bridges. Maintenance will be preformed as needed to maintain safe and high-quality recreational opportunities.

A more thorough inspection and maintenance visit should occur in the spring to assess the condition of trails following the winter and to prune or cut trees, shrubs, and branches as necessary to maintain an appropriate trail corridor. Throughout the spring, summer and fall, monthly monitoring of trails should be conducted to maintain the passable condition of the trails. Periodic visits in the winter may be advisable as well, depending upon weather conditions and the extent of public usage. Monitoring and maintenance can be conducted or coordinated by the Preserve steward. Volunteer workdays represent a viable option for larger work parties if major activities (trail building or major trail rehabilitation) are required.

## **VII. IMPLEMENTATION SCHEDULE**

### **A. Current activities (Section V)**

<b>Action</b>	<b>Who</b>	<b>Timetable</b>	<b>Resources</b>	<b>Evaluation/ Monitoring</b>
Trail construction and maintenance	Preserve steward; volunteers	Continual and on-going; spring workdays for initial annual maintenance followed by periodic attention as required	ELT may need to acquire appropriate tools	Monthly visits to the property to ensure trail corridors remain open and safe

B. Recommended activities (Section VI)

<b>Action</b>	<b>Who</b>	<b>Timetable</b>	<b>Resources</b>	<b>Evaluation/ Monitoring</b>
Landowner Engagement	Select members of Board of Essex Land Trust; Preserve Steward	Board members should meet with landowners to share goals for property at their earliest convenience; Preserve stewards should maintain open dialogue over time	No financial resources required	None required
Annual monitoring	Preserve Steward	Monitoring should occur on annual basis in fall after leaf-off	No financial resources required	Board should review and compile monitoring reports
Invasive species	Preserve steward; volunteers	All species should be targeted prior to seed maturation; early spring to early summer is recommended; the exception is tree of heaven, for which an August or early September treatment is more effective	ELT could apply to WHIP program (see appendix IX) for funding. Alternatively, ELT may need to acquire herbicides and facilitate appropriate training in usage	Annual monitoring of treated areas is required to ensure control and eradication; more general monitoring of the entire property should occur annual to identify new infestations.
Beech bark disease	Preserve steward; board member	Individual treatment as required for heavily infected trees	Chain-saw training may be required to ensure safe felling of trees	Board members should familiarize themselves with beech bark disease symptoms and periodically monitor trails for instances of the disease in recreational areas of the property.
Water quality and aquatic health	Preserve steward; Board members; possibly local high school students	Monitoring plans should be in place for Spring 2012. Annually Spring monitoring should occur from that point forward	Project Search is a free alternative. Technical expertise may otherwise be required	Annual monitoring of water quality is required. Future management prescriptions may be need based on test results.

If control of invasive plants and shrubs is the primary management concern, and addressing it through a cost-sharing management alternative through the WHIP program is the prescribed management plan then implementation must occur on an expedited schedule. The deadline for grants to the WHIP program is May 13, 2011. However, given the low concentration of invasive species, immediate deadline of the WHIP program, and prescriptions for non-intensive management for which cost-sharing is not necessary, it may be more efficient for ELT to use its volunteer base to perform invasives control.

## VIII. MANAGEMENT QUESTIONS

How much public use does the property receive?

What's happening in the sub-division in terms of occupancy, new construction, and turnover?

Is there interest in doing a bird or small mammal survey?

Photographs:



