Eastern Invasives Management Network
Workshop #3, March 2003

Southern Lake Champlain Valley, VT

1. **State clearly what conditions (invasive species distribution, abundance, etc) would have to prevail to allow you to reduce (or maintain) the invasive species threat rating(s) on your conservation area to medium or low. Use these condition statements to form objectives for your conservation area, and where possible, state these objectives in quantitative terms.**

At the Southern Lake Champlain Valley, invasive species are rated as high threats for 3 conservation targets; (1) the riparian/floodplain/wetlands, (2) mussels/darters, (3) lacaustrine. The Efroysom process rated invasive species as a low threat to the northern hardwood forest mosaic and the clayplain forest. Since the way that the Efroysom process was applied to SLCV assessed current threats but not potential threats we feel it is important to expend energy to survey the terrestrial sites for invasives even though they are ranked a low threat. We feel that the potential threat from upland invasives is actually quiet high We visitedthe Berkshires Taconic Landscape project last fall and saw the extensive understory cover of barberry which we are still thankfully free of)In addition, TNC's The Invasive species Initiative promotes early detection and rapid response so surveying invasive species on terrestrial sites it is a priority for maintain a low rank..

We have not conducted any quantitative landscape scale surveys, so we do not have answers for this question. But two types of surveys are planned for this summer. One will be a quantitative survey at a the matrix block scale for the upland invasive species (such as honeysuckle, buckthorn and barberry). The other program also at the matrix block scale, will be an early detection and rapid response program focusing on garlic mustard, bittersweet, Japanese knotweed, Phragmites, black swallowwort and frogbit. These are all examples of species that are just arriving in our landscape and still have limited distributions.

For some invasive species threatening the conservation targets such as the submerged aquatics, the zebra mussels and alewife, there are no known acceptable control methods so they are not priorities for survey or management at this point.

A suite of other wetland invasive species, flowering rush, yellow flag, , and yellow floating heart, are potentially high threats but we need more information about their ecological threat and methods of management..

The one species we have focused on managing is the water chestnut. In many wetlands, we have seen 90-96% reduction in the amount of water chestnuts after five years of management.

2. **What area(s) beyond the bounds of your conservation area do you believe should be included when assessing invasive species threats?**

Aquatics:

In the SLCV project area, 3 of our 8 conservation targets are aquatic centered. We are blessed with large and diverse freshwater wetlands as well as several rivers and a large lake system. We attempted here to identify primarily the pathways of invasives travel, as well as some of their obvious vectors.

- St. Lawrence Seaway/ Richelieu River/ Lake Champlain
- Hudson River/ Champlain Canal
- Boats, Barges, Recreation: boat launches, ballast, baits
- Wind, Waterflow

The St. Lawrence Seaway/Richelieu River/ Lake Champlain also bring up the need to work with wide and varied partners: multi-state, international, interagency.

Uplands:

Since we are still in the initial assessment stages, buffer zones to our matrix blocks are still undefined, as well as those areas where there is the greatest threat and what our desired condition will be. Plenty to be done yet!

- Bird and Wildlife Spread- poop vectors, fur, feather, migration, travel routes
- Wind, Waterflow
- Nursery Trade
- Road Maintenance and Disturbance, as well as use of "contaminated" fill.
- Land Use/ Agricultural Disturbance.

As we move towards a desired condition of an area, and begin the holding pattern of long-term maintenance, we will have to continue to look beyond our boundaries at the ultimate sources of invasive threats.

3. **Identify 3 to 5 strategies that will allow you to achieve the objective(s) you identified in Question 1.**
    - Continue the existing successful water chestnut program.
    - Implement a comprehensive early detection program
    - Conduct rapid response control for species identified in the early detection program.
    - Initiate a quantitative landscape survey for upland species.
    - Complete weed management plans using data acquired from the survey.
    - Continue gathering information on the threat, spread, and control of specific invasive species.

4. **Measures of success towards objectives.**

    We have not yet identified our measures, as we have not clearly defined our objectives. Some potential measures could be:

- Transects in/out of control areas
- % cover by species- could be designed to measure effectiveness of control and/or the effects of the removal on targets on native vegetation
- for aquatics, low level aerial surveys
- various GIS/GPS mapping techniques

Working on this question, brought to mind several concerns that need to be addressed by TNC, the organization.

- *Where is TNC "Measures Team" on developing these?*
- *What support will we have?*
  -Money
  -Capacity
  -Contractors
  -Standards
- *What are other sites doing for this?*
- *"Science-Light" won't pass statistical scrutiny. We have several examples of difficult challenges regarding varied opinions on the statistical POWER necessary, on methods, etc.*
- *It can be extremely difficult and time-consuming to develop sound statistical designs. Sometimes, after a lot of staff time is invested in developing a long-term monitoring project, future colleagues and shifting priorities causes loss of interest?*