Eastern Invasives Management Network
Milford Neck

Threat Abatement Priorities

Priorities for controlling invasives within the preserve are based on location then upon the particular invader and its scale within the location. TNC guidelines were used to determine the control priority rankings for the eight invasive plant species occurring in the area (TNC 1998). The guidelines give high priority to the prevention of new problems rather than expending efforts on infestations that realistically may never be fully eradicated. Thus, species which are not yet on the managed area, but are known to occur nearby, are given a high priority. In addition, small, fast growing and easy to control infestations affecting highly valued habitat are considered a high priority.

Priority 1: Prevent new infestations of invasive weeds not on the preserve, but known to exist outside the preserve or site.

Priority 2, Reforestation zone: Most areas with in the reforestation zone were formerly agricultural lands bordered by existing woods. Consequently state listed agricultural noxious weeds are mandated to be controlled. Hedgerows of multiflora rose and autumn olive form the boundary between former farm fields and the adjacent woods or marshland. A few of the reforestation areas have a single common boundary with active farmland. Where reforestation areas border marshland or wet woods, *Phragmites* is present and poses a fast moving threat to reforestation efforts. Priority ordering within the reforestation zone has placed agricultural weeds first, multiflora rose and autumn olive second, *Phragmites* as third, and Japanese honeysuckle as last.

Priority 3, Beach dune, tidal marsh and upland ecotone: the primary invader is *Phragmites*. Aerial applications of *Rodeo* were done on 800 acres of open marsh in 1997 and 1998. Since then *Phragmites* has crept back into the marsh from ecotone areas. An adjacent property is also heavily invaded. The landowners – a non-profit conservation group and partners in the conservation area plan – have thus far been unwilling to control the infestation on their lands due to cost.

Priority 4, contiguous forest blocks: The threat of invasives within contiguous forest blocks is thought to be low. Most wooded areas have a relatively closed canopy. Salt levels within wet woods are high nearest the open marsh. Other seasonally wet areas maintain enough water throughout the year to deter the invasion of most candidates even if a catastrophic event such as a blowdown should occur. The 1994 ice storm has allowed for some invasion (towards the interior) of multiflora rose, autumn olive and Japanese honeysuckle along edges of upland blocks. The effect appears not to be far reaching. Additional mapping is needed to understand the full extent of the invasion.

Threat Abatement Strategies

Strategy 1, Prevent new invaders: *Lythrum salicaria* (purple loosestrife) and *Polygonum perfoliatum* (mile-a-minute), are known to exist locally outside the preserve and within a short distance from the site. Monitoring is constantly being done at each visit to the preserve. Current management activities within the reforestation areas and regular visits to the beach-dune and salt marsh communities seem to be sufficient to monitor effectively. A team of volunteers is being sought for the near future. This team

will be responsible for monitoring the preserve – and hopefully some of the site – in a more formal way. *Clematis terniflora* is known to exist on another TNC Delaware preserve. Management activities on both this preserve and the Milford Neck preserve utilize the same equipment. Equipment is cleaned before being moved between preserves. Clothing of all personnel moving between the preserves is also examined.

Strategy 2a, Reforestation agricultural weeds: Those weeds (Canada thistle, johnsongrass) listed as ag. noxious weeds are controlled chemically or mechanically in areas visible to state inspectors or adjacent to active farmland. Within other reforestation areas, small patches of Canada thistle are usually left untreated. Mapping efforts indicate that as former farm lands succeeds to the forested condition, Canada thistle is at a severe competitive disadvantage and quickly disappears from the landscape. Johnsongrass is killed in all areas as soon as it is located.

Strategy 2b, Reforestation area woody invaders: Multiflora rose and autumn olive mapping was initially completed in 1999. Remapping has been done in the spring of 2001 and is planned for the spring of 2003. Mapping is used to measure success in controlling these exotics. Control is by chemical and mechanical methods as appropriate. Volunteers were used for the first time this past spring to locate and remove small rose plants within the reforestation fields. Greater use of volunteer labor is planned for the spring of 2003. This effort will include training days aimed at identification, mapping, and control methods. Prior to the last workshop, it was thought that volunteers could not be effectively used against exotics due to the difficulty of training these people to learn to identify and properly map the location of exotics, and the risks associated with control. Following the example of other chapters, we are designing a volunteer training program to address these issues at a small scale (teams of 5 volunteers closely supervised by TNC employees) to be expanded if successful.

Strategy 2c, Reforestation area *Phragmites*: This weed is quickly beginning to creep from adjacent marshland and wet woods into reforestation areas. Currently, weed height is above all desirable plant growth over 30% of the edges where invasion is possible. Herbicide application utilizing wick bars on mounted on tractors, a technology developed for controlling woody growth along tax ditches, has been employed to control *Phragmites* in currently invaded areas and edges where the threat of invasion is high. Funding for this year's effort has come form the chapter. Funding for future efforts will likely come form a USFWS grant designed to cover reforestation costs related to invasive weed control.

Strategy 2d, Reforestation Japanese honeysuckle: Most infestations of honeysuckle are associated with the boundary between woods and old field. Populations are rapidly expanding into all old fields. Warm winters have allowed nearly year round growth and prohibited winter applications of *Roundup* over infested areas mixed with grasses and hardened woody growth. The priority level assigned to this invader has been downgraded form medium to low primarily because of the difficulty of controlling this rapidly spreading invader. Chemical and labor costs are potentially high. Should the current trend of warm winters continue, it seems likely that we may never gain meaningful control until other methods are developed.

Strategy 3, beach dune, tidal marsh and upland ecotone: *Phragmites* control in this area was previously thought to be extremely difficult to achieve with any long-lasting success due to cost, the density of the weed on adjacent property, and the difficulty of

controlling the pest in the ecotone where *Phragmites* is mixed with desirable vegetation. Several factors have combined to make control more feasible. Delaware has now revived its cost-share program for *Phragmites* control. USFWS funding may become available under a partners agreement targeted at invasive weeds in habitat restoration projects. The adaptation of wick-bar herbicide applications to treat *Phragmites* growing taller than desirable vegetation has led to the possibility of expanding the use of this method to treat affected ecotone areas. Meetings are planned for this winter that will bring together state cost-share officials, USFWS partners, the adjacent landowners and the tax-ditch division employees responsible for herbicide application. It is hoped that a strategy will evolve that will provide funding for TNC and the adjacent landowner through a combined grant using state and federal money. The funding, if developed, will then be used for aerial herbicide applications in open marsh and wick-bar applications in ecotone areas. The combination of these two methods will provide the opportunity for meaningful long lasting control of *Phragmites* at a scale relevant to the conservation area as a whole.

Strategy 4, contiguous forest blocks: Recently, the Delaware Chapter has redirected personnel resources to allow for 40% of one employee's time to be dedicated to volunteer development. A major part of the volunteer program will be targeted at invasive control on the preserve. As a result, the possibility exist that small teams of volunteers can be utilized to map the extent of the exotic populations within contiguous forest blocks and along edges of the forest adjacent to farm fields, reforestation areas and roadways. The result of this work may be that the priority designation of this target will change.