Eastern Invasives Management Network
Chesapeake Rivers, Virginia

Threat Abatement Priorities

List your current priorities for taking action against invasive plant threats at your conservation area.

(1) *Phragmites australis:* Phragmites is a severe threat to the Tidal Freshwater System conservation target and a nested target, the federally threatened *Aeschynomene virginica*. Phragmites would threaten the Tidal Freshwater System by out-competing native plant species, impacting the accretion/erosion rates of the tidal marsh habitat zone, and altering the composition and structure of the vegetation community.

Actions:

a. One of our top priorities is to prevent the spread of the invasive strain of *Phragmites australis* into Cumberland Marsh Preserve on the Pamunkey River (the preserve is within our project area), since this preserve protects an exemplary example of the tidal freshwater system and *A. virginica*. Currently, Phragmites is not established at this preserve, but a stand is present downstream in Cousic Marsh. We conduct annual surveys by boat within the preserve and if/when any Phragmites is found, it will be immediately treated.

b. We actively participate in the Rappahannock Phragmites Action Committee (RPAC), a successful partnership of private citizens and landowners, state and federal agencies, and non-governmental organizations to halt the spread of the invasive strain of Phragmites in the lower Rappahannock River valley (the Chesapeake Rivers Project Area encompasses a large portion of the lower Rappahannock River). To date, RPAC has: delineated the distribution of Phragmites within the watershed; successfully obtained several grants to control Phragmites and to fund public education activities; produced a brochure for local landowners on how to identify and control Phragmites; helped private land owners control Phragmites on their lands by providing information on control methods, coordinating aerial spraying of Phragmites for all local landowners to increase cost efficiency, and providing financial assistance to private landowners.

c. Across eastern Virginia (Chesapeake Rivers Project Area is embedded within this region), we are participating in a landscape-scale cooperative effort with the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DCR-DNH) and the U.S. Army Corps of Engineers to control Phragmites on lands managed by TNC-VA and DCR-DNH. This regional strategy will be administered by DCR-DNH, and TNC-VA and the Corps of Engineers will provide a large proportion of the funds needed to sustain long-term control efforts. We have dedicated $40,000 annually from our Virginia Wetlands Restoration Trust Fund (a partnership between TNC-VA and the Corps of Engineers to restore, enhance and protect wetlands by using mitigation bank funds).

(2) *Murdannia keisak*:

Within the Chesapeake Rivers Project Area, *M. keisak* commonly occurs within the Tidal Freshwater System conservation target. Furthermore, *M. keisak* is being discovered within the same habitat as the rare *Aeschynomene virginica*, a nested target in the tidal system, in Virginia. For example, *M. keisak* occurred in 76% of the *A. virginica* patches within the Cumberland Marsh Preserve in 2001. It is unknown whether *M. keisak* is a threat to any of the species, communities, or natural processes of the tidal freshwater system, and it is unknown whether control efforts are necessary. It is a relatively high priority for our program to determine whether *M. keisak* is a threat to the tidal freshwater system; thus, we hopefully will implement a small pilot study in 2003 to determine if *M. keisak* impacts the abundance and reproductive of *A. virginica*, an important rare element within the tidal system.

Have priorities changed since we last met?

Not really… Phragmites control is our #1 invasive plant species priority within this project area. The only real change with Phragmites control is now to ensure that we are controlling the invasive strain of Phragmites, and not impacting the few native stands that have been located so far. *Murdannia keisak* is our next invasive plant priority, but invasive fish species that greatly impact native anadromous fishes may take precedence over this plant.

Have you lowered the priority of any invasive plant species or infested location because careful consideration indicated that they actually pose relatively low threats to your conservation targets? If so, describe. If not, select a species or infested location and make an argument for lowering its priority .

As alluded to earlier, we have not implemented any control efforts for *M. keisak* within our Cumberland Marsh Preserve because its threat to our conservation targets is unknown. If further investigations determine that *M. keisak* is a low threat, then we would not implement a control strategy because limited funding could be used more wisely on strategies for other invasive species, such as Phragmites. Even if *M. keisak* is determined to significantly impact a conservation target and an effective and affordable control method was discovered, control efforts still may not be implemented if they jeopardized the survival of the globally rare *A. virginica*. A risk analysis would need to be conducted to determine if control methods would cause greater harm to *A. virginica* compared to continued invasion of *M. keisak*.

Threat Abatement Strategies

Describe the strategies that you have developed thus far for abating high priority invasive plant species threats.

- **Strategy 1.** ***Determine invasive/ non-native plant species that contribute the greatest threats to conservation targets***.

  Action Steps:

1. Create list of actual and potential invasive plant species by literature review, consultation with partners and observation.
2. Assess risk of invasion posed by each species based on the following:
   - Life history characteristics.

- Observed invasion of habitats similar to targets elsewhere in the target's range.
- Proximity of species to key conservation area.
- Vector of invasion.

3. Determine degree of impact of high risk invasive plants on conservation targets by performing literature review and expert interview and by working with academic partners to perform applied research. (We will address this action step for *M. keisak*.)
4. Sponsor conferences for the Chesapeake Bay region on the potential impacts of all invasive species to native aquatic and terrestrial biodiversity to communicate the current state of knowledge, research and strategies for effective control measures.
   <u>*Key Partners:*</u>
   Virginia Dept. of Conservation & Recreation, USFWS, Chesapeake Bay Foundation, Virginia Native Plant Society, local river groups, universities

- **Strategy 2.** ***Develop control strategies for priority invasive plant species in key conservation areas***.
  <u>*Action Steps*</u>:

1. Map weed control zones based on degree of threat and feasibility of control for high risk invasive plant species.
2. Acquire management agreements or form collaborative partnerships to control invasive species in weed control zones not in TNC ownership.
3. Recruit volunteer weed watchers to survey and weed control zones for imminent invasions by high risk species on TNC preserves.
4. Assess the availability and risks of bio-control methods for invasive species targeted for control.
5. Work with partners to have priority invasive species listed as noxious weeds by VDACS to limit trade.
6. Continue community-based control of *Phragmites* on the Rappahannock, and expand to the Mattaponi and Pamunkey, lower Dragon/Piankatank.
7. Work with state and federal regulators to implement monitoring and control of *Phragmites* as part all permits granted for wetland-related activities (mitigation, construction of docks, peers, etc.).
   <u>*Key Partners*</u>:
   Dept. of Conservation and Recreation, USFWS, Chesapeake Bay Foundation, Virginia Native Plant Society, Rappahannock Phragmites Action Committee, local river groups, universities

- **Strategy 3.** ***Work with state/federal agencies and other conservation partners to prevent the introduction of new invasive plant species.***
  <u>*Action Steps:*</u>

1. Improve enforcement of noxious weed law.
2. Work with Mid-Atlantic Pest Council and Virginia Dept. of Conservation and Recreation to gather information on new, anticipated invasive species and control strategies for these species.
   <u>*Key Partners:*</u>
   Virginia Dept. of Conservation & Recreation, USFWS, Chesapeake Bay Foundation, Virginia Native Plant Society, local river groups, universities