Meridian Township Land Preservation Program
Management Plan for Invasive Species

Steps 1-4 of this plan is in part a summary of Michigan's Terrestrial Invasive Species State Management Plan, Coordinated by the Terrestrial Invasive Species Core Team.
A cooperative effort of: MDARD, MDEQ, MDNR, & MDOT

1. **Prevention**
    a. **The most efficient management method is preventing the introduction of new terrestrial and aquatic species using a combination of the methods listed below**
        i. Identify species that pose imminent threats (risk assessment)
        ii. Determine pathways through which species are introduced
        iii. Work to interrupt these pathways
        iv. Periodically examine and address new pathways
    b. **Outreach and education is another very important tool in the prevention of new species being introduced as well as the spread of already existing species**
        i. Meridian Conservation Corps (MCC) will increase community involvement and knowledge of invasive species
        ii. Educational signage: boot brushes, identification of invasive species vs. native species in parks and preserves
2. **Early Detection & Response**
    a. **Early detection requires a system of continuous monitoring and reporting throughout the area; this system will be built through the collaboration of community volunteer groups and training of committed citizens (MCC)**
        i. Monitoring: Identify invasive species and map out their location and stand size through GPS mapping
        ii. Response: Design a best management plan for individual sites depending on priority of site as well as invasive species present
        iii. Suppression Activities: Implement management plan
    b. **Preparation is the key to a successful early detection and response program**
        i. A Response Plan will be created to outline the process of communication, action and evaluation

      ii. Together these plans will identify habitat, species, and vulnerable ecosystems to focus management resources creating a strategic assessment for allocating resources

3. **Control & Restoration (long-term management)**
   a. **Control invasive species to minimize the harmful environmental, economic, and public health effects resulting from established populations; restore habitats as appropriate.**
      i. Once an invasive species becomes established or widespread, the ability to control it and effectively eradicate it, decreases radically. Many factors have to be taken into consideration when considering resource allocation:
         1. Valuable/vulnerable ecosystems
         2. Established native communities
         3. Threat level of invasive species (density/size of stands)
         4. Potential for success
         5. Location/accessibility to site
         6. Public interest
         7. Available resources vs. cost of control efforts
   b. **Once priority sites have been assigned, control and restoration plans will be put into place. Throughout management these sites will be continually monitored and re-assessed (using Invasive Species Adaptive Management Framework-ISAMF)**
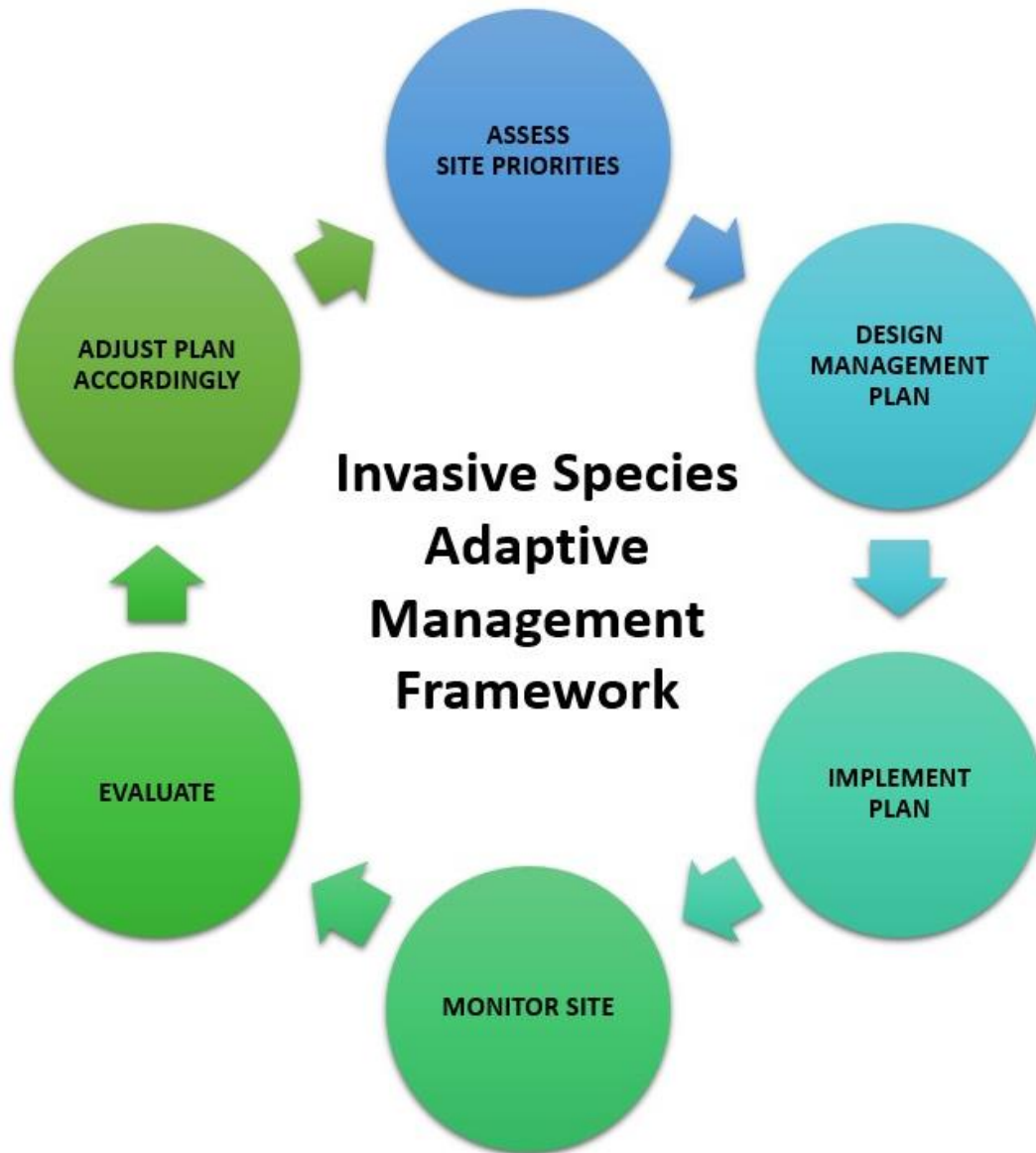
4. **Collaboration throughout management**
   a. **Collaboration will remain a strong goal for the invasive management program, utilizing shared resources, knowledge, skills and solutions.**
      i. Universities
      ii. CISMA
      iii. Government agencies
         1. DNR, USFWS, local municipalities
      iv. NGOs
         1. Conservation Districts
      v. Private Sector
      vi. Citizens from the community
   b. Successful control of invasive species requires a lot of expertise, knowledge and flexibility. The program will need to remain open to new methods of control (such as glyphosate alternatives) and new threats ecosystems will face with the onset of climate change.

5. **Invasive Species Adaptive Management Framework (How we get from A -> Z?)**

a. This model is based off of the USFWS, Native Prairie Adaptive Management (NPAM) and Great Lakes Phragmites Collaborative, Phragmites Adaptive Management Framework (PAMF)

ASSESS
SITE PRIORITIES

DESIGN
MANAGEMENT
PLAN

ADJUST PLAN
ACCORDINGLY

Invasive Species
Adaptive
Management
Framework

IMPLEMENT
PLAN

EVALUATE

MONITOR SITE

b. Using adaptive management and participatory science the collaboration of professionals and citizens will guide successful management. This framework is meant to create a space of learning so that we reduce uncertainty in management, reduce the 'trial & error' approach, and improve effectiveness of management