UF IFAS UNIVERSITY of FLORIDA | CENTER FOR AQUATIC AND INVASIVE PLANTS

Necessity of Aquatic Plant Management

Management is Necessary for Navigation, Biodiversity, Recreation, and More

Invasive plants harm our natural environment and lead to a loss of biodiversity and ecosystem health. They usually cannot be completely eradicated and will grow back quickly if not managed consistently.

What is an invasive plant?

A species that (a) is nonnative to a specified geographic area, (b) was introduced by humans (intentionally or unintentionally), and (c) does or can cause environmental or economic harm or harm to humans.

When invasive plants replace native plants, they:

- Deter native wildlife dependent on native plants from using the area
- Fill completely and/or cover the water, damaging habitat and diversity
- Increase sediment or muck accumulated at the bottom of water bodies
- Excessive infestations cause economic losses to recreational use and property values

Keeping things under control

Research shows most invasive plant species will never be eradicated from Florida; they simply reproduce too fast. However, managing agencies strive to keep them at less harmful levels. Regular management of invasive plants reduces overall environmental and economic damage and maintains habitat for native ecosystems.

Aquatic Plant Management Techniques

Biological Control

Biological control agents are insects, fish or pathogens that target a specific invasive plant and increase the competitive advantage of native plants. The development of a successful biological control agent begins with rigorous procedures for identifying and testing potential organisms. Though many candidates fail to meet the criteria and are never released, successful agents can produce effective results.

- Requires more than 10 years of research and is considered expensive by experts
- Very selective and plant specific
- Not effective for eradication and populations of the agent may not become established
- Once established, it becomes a continual and self-sustaining management practice

Chemical Control

Chemical control refers to the use of specially formulated pesticides to manage plants. All pesticides must complete a multi-year review by the United States Environmental Protection Agency, the Florida Department of Agriculture and Consumer Services and are rigorously tested by universities. These products are then re-reviewed at regular intervals to ensure their safety in the environment. State and federal laws require pesticide users to explicitly follow label directions and participate in continuing education.

- Considered by experts to be more effective and cost efficient than other methods
- Selective in which plants are targeted
- Decaying plants release some nutrients back into the water
- Has a negative public perception

Physical Control

Physical control in invasive plant management refers to the physical manipulation of plants or their habitat. This approach includes a number of different techniques such as pulling plants out of the water by hand; hand-netting floating plants and plant fragments; cutting them with a hand-held blade; or controlling them with environmental alterations such as water level manipulation, bottom barriers or prescribed fire.

- Considered to be a more natural plant removal process
- Prescribed burning can be good for the regrowth of native plant populations
- Can take a significant amount of time and human cooperation
- Can lead to new infestations of invasive plants if the plants are not disposed of properly
- Most Florida lakes are not suitable for versions of this technique such as lake draw downs

Mechanical Control

Mechanical control refers to the use of machinery. Mechanical controls range from shredders, small cutting boats to 90-foot long harvesters to track hoes and drag lines stationed on shorelines or mounted on barges that lift plants and debris out of the water.

- Removes plants and associated nutrients from the water body
- Reduces muck from decaying plants
- Not selective in which plants are targeted and cannot access some areas where they grow
- By-catch, or unintentionally capture of fish or aquatic organisms, can occur
- Typically considered to be more expensive compared to other techniques

Integrated Plant Management

Integrated plant management programs use a combination of the control methods described above; providing managers the opportunity to use the strengths of various control methods to complement one another. This type of management requires continual ecosystem evaluation in order to weigh the pros and cons of each management method and combination. Regularly implementing integrated plant management will reduce the overall environmental and economic damage caused by invasive plants. Ultimately, helping maintain healthy habitats for native plants and animals.

FOR MORE INFORMATION, CONTACT US

University of Florida/IFAS
Center for Aquatic and Invasive Plants
352-392-9613 | caip@ifas.ufl.edu
plants.ifas.ufl.edu

UF IFAS UNIVERSITY of FLORIDA
CENTER FOR AQUATIC AND INVASIVE PLANTS