

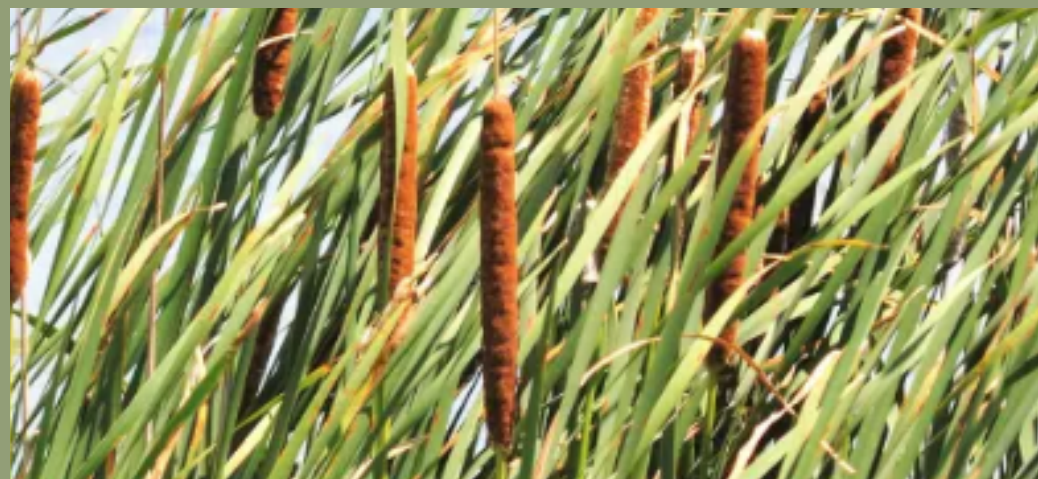
Invasive Species



HOOSIER AQUATIC MANAGEMENT, INC.

WHAT ARE INVASIVE SPECIES?

- 1) Non-native to ecosystems
- 2) May harm economies, ecosystems, environments, and human health
- 3) Spreads rapidly



WHY DO WE CARE?

- Rapidly reseeds and spreads
- Outcompetes native vegetation
- Reduces biodiversity
- Can cause soil erosion / water quality issues
- Holds bad qualities that harm other plants or soil
- Many are unsightly with spikes / thorns
- Dominates pond areas quickly
- Spreads into homeowners yards



IMPORTANCE OF ROUTINE MAINTENANCE

- We think of invasive species as weeds in your garden. If you tend to them once a year, they get out of hand.
 - Important to spray and remove twice a growing season
 - Mitigates further growth
 - Routine maintenance is essential to eradicate the species
- Treating early on is crucial.
 - Ensures native plants are not being compromised
 - Reduces treatment costs
- Spreads rapidly becoming more expensive to treat / remove
 - May spread to the other ponds in the HOA

TWO FORMS OF REMOVAL

- Some should be chemically treated, while some should be physically removed.
- Plants reproduce differently, cutting could lead to issues through fragmentation
- Chemically treat green herbaceous plants
 - Cattails, thistle, water primrose
- Use systemic aquatic safe herbicides that transfer down into the root system to kill the plant
- Woody plants should be cut, then treat the stumps

Common Invasive Species around Ponds



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Please note: Chemical may take up to 2 weeks to develop after treatments



Impact of Cattails

- Spreads rapidly
- Can fill in pond over time
- Alters water flow and disturbs ecosystems
- Contributes to sediment build up
- Can grow up to 6 inches per week
- Returns every season if left untreated
- Treat monthly to mitigate growth
 - Remove in the fall



Impact of Woody Species

- Can grow and compromise concrete structures connected to the pond
- Can get into homeowners pipes
- Competitor toward native plants
 - Soaks up sunlight, nutrients, and water
- Can grow 4-6 feet per year
 - Becomes more expensive to remove
- Root systems are resilient, can pop up for years after removed
- Cut and treat stumps at least twice a year



Impact of Invasive Thistle

- Very aggressive / self seeds easily
- Outcompetes native vegetation quickly
- Makes land less suitable for wildlife habitats
- Depletes soils nutrients and moisture
- Grows several inches per week
- Difficult to control if left untreated
- Treat monthly during growing seasons

Common Invasive Species in Ponds

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Please note: Chemical may take up to 2 weeks to develop after treatments



Impact of Algae

- Thick matts
 - Unsightly and contain a foul smell
- Depletes oxygen levels as algae dies, leading to fish kills
 - Treating early on is essential to mitigate dead algae
- Produces harmful toxins affecting wildlife, water quality, and humans
- Can clog water quality units and flood the pond
- Treat algae throughout season to mitigate spread



Impact of Pondweed

- Grows aggressively and reproduces through fragmentation.
- Forms dense matts under the surface shadowing out native plants
- Blocks sunlight, reducing oxygen
- Can lead to fish kills
- Can clog water quality structures
 - Resulting in improper water flow
- Treat regularly throughout growing season



Impact of Water Primrose

- Spreads rapidly along shoreline
- Alters water flow
- Leads to sediment build up in ponds
- Competes aggressively for nutrients
 - Can kill fish and native aquatic plants
- Difficult to treat when left untreated
 - Strong root systems
- Will take over whole pond if left untreated
- Treat regularly throughout growing season