Species of Concern in Northwest Ohio

European Frog-bit (*Hydrocharis morsus-ranae*)

One of the more recent invasives to inhabit the region, this plant can quickly cover areas of open water with its dense, mat- like characteristics and choke out native vegetation. As with other emergent invasives, mechanical control is often a lengthy and mostly ineffective means to getting rid of European Frog-bit. Chemical treatments in Northwest Ohio have little evidence pointing towards a reliable method for eradication. In the summer of 2015, European Frog-bit was sprayed with a mixture of 2% Habitat and 2% Roundup at locations on Ottawa national Wildlife Refuge. Positive results were noted not long after application however the long-term effect of the chemicals will not be available until the summer of 2016. Weedar 64, a pelletized form of 2,4-D has been tested in other regions of the country with good results.

Figure 1: Small Lily like appearance with white flowers .www.weedscanada.ca. Web. 28 Mar. 2016.

Figure 2: Michigan DNR. Web. 28 Mar. 2016.

Flowering Rush (*Butomus umbellatus)*

Flowering Rush is an aquatic plant found along lakeshores and slow-moving rivers, and in water up to 9 feet deep. Although it resembles a true rush, Flowering Rush is in its own family and can be distinguished by its attractive pink flowers. Flowering Rush competes with native wetland and shoreline vegetation. In shallow water or along shorelines, plants have stiff, upright leaves. In deeper water, the plants grow submerged and have flexible floating leaves that reach the surface. Trials at Pickerel Creek Wildlife Area consisted of drying wetland units in mid/late June which usually stops or stunts growth followed by herbicide application. Flowering rush was sprayed with either a 5% solution of glyphosate or imazapyr. Spraying with imazapyr resulted in almost a “desert” type effect but when reseeded, native flora began to appear. Reseeding also seemed to put added stress on the Flowering Rush that survived chemical application. These methods have been effective in the short term, however it will take years to see the long term results.

Figure 3: Pink flowers make Flowering Rush easily distinguishable. *Photo by Ben Legler*

Hydrilla (*Hydrilla verticillata)*

This submerged aquatic plant can grow in water depths ranging from shallow to 40 feet deep. Leaves are whorled in bunches of three to eight with underside having small, raised teeth. Primarily found in lakes, ponds, streams, and rivers, it creates dense floating mats which can restrict water flow, outcompete native vegetation, and inhibit recreation. Removal of the plant can temporarily open up waterways however remaining plant fragments can spread and create a larger infestation. Systemic herbicides are a better option for long term control. Fluridone, for example, is meant for large-scale infestations and has minimal long-term effects on native plant populations. Chemical application has been shown to significantly reduce Hydrilla coverage however not eliminate it completely *(Pennsylvania Dept. of Conservation and Natural Resources).*

Figure 4: Hydrilla . www.niipp.net, Web. 28 Mar. 2016.

European Water Chestnut (*Trapa natans)*

Although not currently found in Ohio, Water Chestnut has established itself in Pennsylvania and is cause for concern for northwest Ohio being in such close proximity. Early detection is key to ensuring this plant never gains a foothold in this area. The plant can form nearly impenetrable floating mats of vegetation. The density of the mats can severely limit light penetration into the water and reduce or eliminate the growth of native aquatic plants beneath the canopy. Small infestations can be removed manually, however care must be taken not to spread fragments to other areas. Larger infestations require the use of aquatic harvesters or chemical application. The herbicides 2,4-D and glyphosate have been tested, both with promising results.

Figure 5: "Floating Rosette of Water Chestnut" www.eattheweeds.com. Web. 28 Mar. 2016.

Poison Hemlock (*Conium maculatum*)

Originally introduced as an ornamental plant, Poison Hemlock has since spread out of control and can be found throughout Ohio. It favors many types of environments, especially disturbed soils or wetland areas which are common in the northwest part of Ohio. Reproduction takes place by seeds after a plant reaches two years of age. First year plants will not produce a flower and are hard to identify, however mature plants will have a stalk ranging from 3 to 8 feet with small white flowers in an umbrella shaped cluster. Early detection and rapid response are critical to ensuring newly found plants are treated before they reach seed-bearing age. Fall is the best time to treat first year plants while early spring is the best time for treatment of second year growth. Spraying with herbicide is the most effective means to eradicating Poison Hemlock. Recommended herbicides include 2,4-D, Crossbow (2-4,D plus triclopyr) and glyphosate.

Figure 6: First year plant foliage. www.foodsafetynews.com. Web. 11 May.2016.

Figure 7: Small white flowers in "umbrella" type cluster.

www.gardeningknowhow.com. Web, 11 May.2016.

Resources

DOW AgroSciences Online Weed Guide - http://www.dowagro.com/en-us/vm/weeds-brush/broadleaf-weeds/p/poison-hemlock

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