



January 4, 2022

Sherri Proud  
Director of Parks and Recreation  
1506 8<sup>th</sup> Street  
Coralville, Iowa 52241

RE: Dovetail Pond & Wetland Assessment

To Sherri:

At the request of the City of Coralville, Impact7G staff completed a site evaluation of the Dovetail Pond and Wetland site located between the Dovetail Estates Part One, Auburn East Third Addition, and Welsh Village First Addition subdivisions in Coralville. Previous work includes the original mitigation plan (1997) as well as the Dovetail Estates Wetland Assessment (2015), both prepared by MMS Consultants.

As indicated in previous reports, the pond and associated wetland were constructed in the fall of 1998. At the time of construction, the project created approximately 8 acres of pond and 4.14 acres of wetland. An additional 0.79 acres of wetland was constructed in 2000. The boundary between the wetland and the pond is marked by a berm which is included in the total acres of wetland.

As you are aware, wetland areas are regulated under the Clean Water Act (CWA). Additionally, these wetlands are protected under the approved and recorded mitigation permit. Therefore, areas that are currently wetland cannot be filled, converted to pond, or otherwise impacted as this would be a violation of the CWA and of the mitigation permit for this site.



## WHAT IS THE DIFFERENCE BETWEEN A WETLAND AND POND?

Visually, the difference between a wetland and a pond is depth and vegetation. The U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual states that a wetland has a minimum of 80% vegetated cover and therefore has a maximum open water area of 20%. Any open water area that is unvegetated or supports only floating vegetation is Deep Water Habitat (not a wetland).

Initially, the Dovetail Wetlands were constructed too deep and therefore did not support wetland vegetation. At that time, the permittee was not meeting the performance standards set forth in the permit. It was only after the area silted in and became vegetated that it met the

performance standards and the USACE signed off. Any removal of the silt at this time would be in violation of the Clean Water Act.

## WHAT IS THE PURPOSE OF THE NESTING ISLANDS AND ARE THEY FUNCTIONING?

The purpose of nesting islands is to provide safer nesting habitat for wading birds. The water around the island provides a safety buffer against land predators. In addition, nesting islands need to provide for protection from raptors. Current guidelines recommend a minimum of 50 meters (150 feet) of water buffer along with the removal of any perches such as trees, utility poles, and other areas where raptors can prey on young birds.

Initially, the Dovetail Wetland design included three (3) nesting islands surrounded by open water (see Figure 1, 2002 Aerial photograph). However, based on my professional opinion, the islands were not designed to recommended guidelines and are not functioning nesting islands for the following reasons:

- 1) Inadequate width of water safety buffer (50'-92');
- 2) Adjacent large trees which provide perching habitat for raptors; and
- 3) The wetland area is too small to support nesting islands



Figure 1 Aerial Photograph of Nesting Islands on Dovetail Pond

## GENERAL OBSERVATIONS

- **Cattails** – The cattails are a mixed of the invasive narrow leaf cattail and common/hybrid cattails.
- **Invasive Species** - In addition to the narrow leaf cattail, several invasive species were noted. Reed Canary Grass was noted within the wetland. Along the wetland edge, honeysuckle, white mulberry, oriental bittersweet, and wild parsnip were also observed.
- **Sediment** – Our site visit was conducted during a relatively dry period, but after a recent rain event. We walked in from the north and encountered wet ground, which turned into ponded water as we walked south. At one location the water depth was 8" and the depth of unconsolidated sediment was 1.5 feet.
- **Critters** – Along the east side of the wetland, we encountered a small ditch, and evidence of a muskrat "slide". In addition, we noted crayfish burrows, bird nests, and carp.

## INVASIVE SPECIES MANAGEMENT

The following is a list of recommended management techniques to control the invasive species within the Dovetail Recreation Area.

### **Cattails (*Typha angustifolia*/*Typha x glauca*)**

There are few things more evocative of wetlands than cattails. Unfortunately, of the three types of cattails found in Iowa only one, the broad-leaved cattail (*Typha latifolia*), is native. The other two species, narrow-leaved cattail and hybrid cattail (*T. angustifolia* & *T. x glauca*), are invasive and tend to take over wetlands, especially those receiving nutrient-rich runoff. To make matters worse, distinguishing native versus invasive cattail by physical characteristics alone can be difficult, if not impossible, due to the level of crossbreeding between species. Management, then, depends on assessing how the stand of cattails is behaving. Are the plants sparse with other vegetation intermingled? Then management is likely not necessary. Are the cattails growing densely, crowding out nearly all other species and spreading? Then management will be necessary.

Cattail management is a multi-year endeavor, usually best implemented using a combination of control methods dictated by site conditions, timing, available resources, and extent of invasion. The first step is to actively monitor the site to determine exactly where and how much cattail are present, and if the cattail appears to be spreading. If site conditions permit, a very effective control strategy is to "cut and flood," which involves mowing/cutting the plants close to the ground and flooding the site, so the stems are at least 3" below the water level for at least 2 weeks. This is easily used in wetlands with water control structures but can also be implemented by cutting cattails in the winter followed by spring flooding. If cattail stands are relatively small, manual control can be effective. Repeated mowing/cutting can eventually deplete nutrient reserves over several years. Controlled burning can also have a similar effect to mowing if water levels are low enough and fuel loads are high enough. "Spading" (cutting the plant with a spade below the ground surface) can also be somewhat effective. Hand-pulling can be effective but is generally reserved for very small stands of cattail due to the labor required. Chemical control can be very successful but must be used judiciously to minimize negative effects on any adjacent desirable species and the health of our waterways. Always read the herbicide label to assure proper application. Cattails can be controlled through broadcast spraying, cut-and-stem treatment, and wicking methods. If a seedbank of native species is not present, like in a constructed wetland, then re-seeding or planting the area will be necessary to slow and prevent reinvasion of cattail.



### **Reed Canary Grass (*Phalaris arundinacea*)**

This is dominant in the north and along the drier wetland areas. This invasive grass allows very few other species to establish except in shady environments where it does not flourish. This plant spreads primarily by rhizome but will also readily inter-seed into downstream areas. Chemical-based control methods of this plant will be very intensive due to the nature of the rhizome; dormant nodes do not suffer herbicide damage but activate when other parts of the plant are damaged, sending up new sprouts. Fire does not damage reed canary grass, however, a spring burn will highlight where it is established. At that point, herbicide application or physical removal can be used to target infested areas.

### **Japanese, or Bush Honeysuckle (*Lonicera spp.*)**

This highly invasive shrub is present to varying degrees in most woodland areas. This shrub is often intermixed with the aggressive native species gray dogwood, forming a dense canopy in some areas that reduces herbaceous growth to nothing. Lower quality woodland areas have a very high component of bush honeysuckle. Mechanical removal followed by cut-stump chemical treatment is the preferred method of control for bush honeysuckle. Basal applications can also be utilized for a lower-intensity treatment. If sufficient leaf litter is on the ground, periodic burning will stop young shoots from getting established.

### **White Mulberry (*Morus alba*)**

White mulberry invades forest edges and disturbed forests and open areas, displacing native species. It is slowly outcompeting and replacing native red mulberry (*Morus rubra*) through hybridization and possibly through transmission of a harmful root disease. For larger trees, cut and grind the stump or paint the cut surface with a systemic herbicide like glyphosate or girdle the tree. Seedlings can be pulled by hand.

### **Wild Parsnip (*Pastinaca sativa*)**

Hazardous to humans, the oils on these plants contain a photo toxin that results in blisters, boils, and even scarring when they make contact with skin tissues and are exposed to sunlight. Manage this plant through careful herbicide application prior to seeding in the late spring.

### **Oriental bittersweet (*Celastrus orbiculatus*)**

Despite its aggressive nature and capacity to replace native plant communities, it is still sold and planted as an ornamental. This perennial vine has naturalized and become an extremely aggressive and damaging invader of natural areas. Oriental bittersweet chokes out desirable native plants by smothering them with its dense foliage and strangling stems and trunks. Attacking the root system is the only way to kill the vine. Start with freeing surrounding trees and other vegetation from the weight of the aerial stems by cutting them at ground level. Next, treat the regrowth with foliar-applied herbicides. For more information on controlling this vine see <https://extension.psu.edu/oriental-bittersweet>.



## RECOMMENDATIONS

### Educational Outreach and Programming

Develop educational material, such as a website, educational video and/or on-site signage. Provide for structures such as elevated boardwalks, bird blinds, “rock outcroppings” for access, small outdoor water science station, and maintained access points for tubing and kayaking.

Schedule quarterly events for individuals and families to explore the wetland area. This could be done in conjunction with Take a Kid Outdoors (TAKO), Iowa City Bird Club, Before and After School Programs and/or other groups.

### Vegetation Management

Implement a vegetation management plan and have a responsible party monitor the site 4-6 times during the growing season to make sure issues are addressed in a timely and efficient manner.

Mowing access/viewing points along the wetland/pond edge.

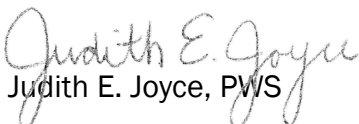
Planting supplemental native vegetation to the wetland to increase diversity. Caution: Grass carp may prevent the establishment of many native species.

### Water Level Control Device

A water level control device would be beneficial in managing cattail and other invasive species. In addition, it may be possible to elevate the water level of the pond. If this is something the city is interested in, Impact7G could determine the feasibility of installing a device, and provide a cost estimate.

We would be happy to answer any additional questions from the city and/or homeowners regarding our findings and recommendations. In addition, Impact7G would be pleased to help you and your team to implement any and/or all the above recommendations.

Sincerely,

  
Judith E. Joyce, PWS

Principal, Senior Geomorphologist



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