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# PROTECTING PLANTS FROM HERBIVORES

## TECHNICAL GUIDANCE DOCUMENT



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### INTRODUCTION

Newly planted wetlands and uplands can be very attractive to wildlife as a food source. Wetland plugs and woody tree and shrub seedlings are subject to predation by insects, deer, muskrat, and other animals (Marburger 1993). Geese can be a serious problem in urban areas if there is a large resident population nearby. They will pull up newly planted seedling plugs and will graze germinating plantings. Deer will also graze seedling vegetation as well as tree and shrub buds. Rabbits can eat bark during winter months, which is damaging for established trees and shrubs and can be fatal to newly planted ones.



The size and location of a restoration can influence the amount of predation that may occur. Large restorations where many acres of vegetation are establishing may be able to absorb the impact of grazing herbivores, as the damage is spread across the entire site. Urban restorations, however, present a limited, high-value food source for deer, muskrats, and large populations of geese. Carp are also a threat to both emergent and submergent vegetation in urban as well as agricultural areas.

### APPLICATION

**Geese Control** - There are various ways of dealing with unwanted predation by geese ranging from scarecrows, noisemakers, trapping, and even chasing off with trained dogs. Stakes with flagging tape strung between them are used in areas where emergent vegetation is planted in open water. The flagging tape prevents geese from landing and does not leave enough room for them to take off.

**Deer Control** – Deer exclosures created with welded wire fencing have been the most effective method for protecting young trees. In wetlands that are seeded to many acres, deer will not have a significant impact on overall establishment. Bud caps are sometimes used to protect seedling trees and shrubs, particularly evergreens. There has also been success with using solar powered fencing, though this requires regular checking to keep wires free of weeds and branches. Deer-repelling sprays that commonly include ingredients such as cayenne pepper, garlic, and rotten eggs are available to prevent grazing; these sprays need to be re-applied after rains and are not practical for large areas. One approach that has been successful involves

spraying plants when they are still in containers before planting and then re-applying about a month later (Tracy, 2008).

**Rabbit Control** – Rabbits can damage trees and shrubs by eating bark during winter months. Wire fencing or other bark protection can be used to prevent extensive damage. Rabbits can also chew buds of seedling trees and shrubs, particularly when snow is deep and lower branches can be reached. Wire exclosures or bud caps can be used to minimize this problem.

**Carp Control** – Water control structures should be designed to prevent carp from entering a restoration site. If carp are already in a wetland system that is being restored, they should be controlled before planting. Two methods of control include lowering water levels or applying chemicals to kill fish. If carp cannot be controlled, wire exclosures are needed to protect submergent and emergent vegetation. Carp likely will prevent the plants from expanding past the exclosures. Wire exclosures for carp can also prevent herbivory by muskrats.

## **OTHER CONSIDERATIONS**

The installation of barriers for herbivores may interfere with some maintenance activities such as mowing, burning, and herbicide application.

## **COSTS**

Some methods of protecting plants--stakes, flagging tape, and bud caps--can be inexpensive, while methods such as wire exclosures are much more expensive. The installed cost for fencing around individual trees is around \$2-5, installed.

## **ADDITIONAL REFERENCES**

Deer Predation on a White Cedar Restoration Project in Northwestern Wisconsin, Wagner, H.

Minnesota SWCD Tree Handbook, USDA