

## ESTABLISHING LAKE EDGE PLANTS IN CHALLENGING SITUATIONS

The benefits of a buffer of native plants along the edge of ponds and lakes include reduced shoreline erosion, absorption of nutrients, reduced usage by Canada geese, and improved habitat for beneficial wildlife. However, establishment of native shoreline vegetation can be challenging in certain situations, particularly existing ponds with shoreline erosion, fluctuating water levels, and high wildlife populations.

Many existing ponds suffer from wave action erosion that has eaten away the shoreline, leaving a steep unstable bank topped with disintegrating chunks of sod. Prior to installation of a native buffer, this erosion must be repaired and the shoreline graded to a 2 to 1 or gentler slope. Once the earthwork is complete, emergent plugs should be installed in the shallow water. Above the normal waterline, seeds or plugs may be utilized, however in either case, erosion blanket should protect the newly placed soil. If plugs are utilized, the blanket should be put down first. A sharp tool should be used to cut an X in the blanket to facilitate installation of each plug. If the area is to be seeded, the seed should be broadcast across a firm seed bed and covered with blanket. Many wetland seeds need light to germinate, so do not rake in or cover the seed with anything other than the straw blanket.

Many constructed ponds are utilized for storm water management, resulting in considerable water level fluctuations. During hot dry weather, water levels may recede by several feet. Many wetland plants can tolerate these variations once established, but require continuous high moisture levels during the establishment period. Wetland plants establish best during the first half of the growing season, however in ponds with large seasonal fluctuations, spring is the only option for successful installation in the absence of continuous irrigation. The plants should be installed based on the high spring water level. Choose plants that spread by rhizomes such as Riverbank Tussock Sedge (*Carex emoryi*), Creeping Spikerush (*Eleocharis erythropoda*), Three-Square Bulrush (*Scirpus pungens*), or River Bulrush (*Scirpus fluviatilis*). As the water levels recede, they will send rhizomes toward the receding water, helping to cover the mudflats that typically develop late in season. Do not install plants at the water's edge during late season drawdown. The following spring, they will be covered with excessive water depths. Certain wetland forbs including Pickerel Weed (*Pontederia cordata*) and Lizard's Tail (*Saururus cernuus*) do not thrive in areas that dry down severely in the summer and should be avoided in those situations.

Existing ponds with large populations of herbivorous wildlife will require several preemptive measures for wetland plant establishment. The two primary concerns are muskrats and Canada geese. Muskrats are the more difficult species to deal with since they can burrow under fence. If muskrats are present in the pond, it is imperative to have them removed prior to planting. Their diet consists primarily of emergent plants, so they will decimate a newly installed planting. It is best to contact a licensed nuisance wildlife service to have them trapped or relocated. Muskrats usually have obvious burrows or constructed houses, so it is relatively easy to determine their presence.

Canada geese have become ubiquitous in Midwestern suburban environments over the past several decades. They too can quickly decimate newly installed plantings by pulling up and consuming the plants. Unlike muskrats, however, Canada geese are relatively easy to exclude with fence. Typically, a low cost plastic netting sold as garden fence at home improvement stores is utilized with light duty fence posts. The fence should be placed on the outer edge of the planting shelf between the open water and the planting area and should extend from the pond bottom to at least 2 feet above the water level. A 48" width of fence is normally sufficient. Fence should also be placed on the land side if there is lawn or open areas above the pond that could harbor grazing geese. String may be tied between these fences across the planting area to discourage geese from gliding into the enclosure.

## PLANT FEATURE: DIARRHENA AMERICANA (BEAK GRASS)



An attractive grass of mesic woods, Beak Grass is an excellent species for mass planting in well-drained shady habitats. The shiny dark green 24" leaves of this attractive grass arch gracefully. In mid summer, it produces seed heads on long stems that also arch due to the weight of the heavy grains. Native to mesic wooded slopes and terraces, it requires well-drained neutral soil and mostly shady conditions. It is very tolerant of dry shade. The leaves turn golden in the fall, eventually fading to a straw color. In the landscape it makes a very attractive mass planting in shady areas, particularly on slopes where the shiny leaves all arch downhill, creating the illusion of the green cascading waterfall. Its tenacious root system is also excellent



for erosion control on slopes. In a restoration, it should be utilized in woodland situations with associates from our [Upland Woodland Mix](#).