WETLAND & SHORELINE PLANTING

Benefits of Wetland and Riparian Planting

Maintaining a healthy balance of aquatic plants is critical to a pond's ecosystem. Aquatic plants provide the basic resources for the rest of the pond community including oxygen production, spawning and nesting habitat, and food resources. Some benefits for wetland and riparian planting in our area include habitat for ducks and songbirds as well as safe zones for young fish, sediment reduction, nutrient removal and improved aesthetic values.

Cleaner Water. A buffer strip of native vegetation including wetland plants around your pond will help trap soil and nutrients before they enter the water. The mechanisms for nutrient removal include nutrient uptake, sedimentation, adsorption, precipitation and dissolution, filtration, biochemical interactions, volatilization and infiltration.

Improved Habitat. A pond with a buffer strip of trees and native plants surrounding it can become the perfect home for a variety of birds and animals. The wider the buffer zone the better habitat provided for songbirds, ducks, amphibians and other creatures. Buffer strips will also reduce the potential for geese to populate the area. Geese often shy away from thick vegetation that may hide predators.

Aesthetic Values. A well-planned native shoreline around the pond can be a beautiful and unique addition to both individual and community sites. Many municipalities have native-buffer ordinances requiring installation around ponds. Often developments and associations are not aware of the professional care and maintenance to ensure the shorelines are an enhancement to the landscape. Poorly maintained shorelines become overgrown, weedy, and non-functional. On the other hand, a well maintained native shoreline is both an ecological and aesthetic benefit. Homeowner education is important to allow residents greater understanding of the purpose and function of the pond and shoreline vegetation.

Shoreline Stabilization. Erosion is a pervasive problem, especially in developments where turf grass was planted to the pond edge. Healthy turf grass has roots extending only 3" – 6", and the plants can drown if underwater for more than 72 hours. Native wetland and wet prairie species stabilize soils with deep and dense root systems extending up to several feet, many of which are well suited to periodic flooding conditions. Planting sedges, forbs, and emergent plants provides the needed stability to more effectively absorb wave energy, freeze-thaw cycles, and water level fluctuations.

Aquatic and wetland plants can be added in the enhancement, restoration, or creation of freshwater systems. In enhancement, the current condition of the system is generally good but can be made better. Restoration is the return of a degraded area to its former condition. In creation, wetland systems are established where none existed previously. After your specific goals are set then a plan and budget must be devised to accomplish these goals.

Design and Planting Considerations

Restoring, enhancement or creation of a balanced wetland population requires the use of hydrology, wildlife biology, ecology, botany and invasive species biology. A vegetation management plan needs to clearly define vegetation zones and how each zone will be prepared, seeded or replanted as well as managed for both the short and long term including weeding, watering and fertilizing. Plants are placed according to their tolerance of water depth with four zones along a depth range from completely exposed to completely submerged. Areas can either be seeded or plugged depending on budgets and time-frames. There are a variety of matting and erosion control fabrics available for differing soil, slope, and scouring conditions that may be present.

Plants selected should include natives that will provide shoreline stabilization, food and cover, as well as be aesthetically pleasing. The placement of plants relative to each other is important. Consideration must be given to how they may interact as they grow and mature toward achieving a desirable, low maintenance landscape. Most importantly the selection and placement of plants must correspond to the conditions suitable for each plant species, most of which grow best in a relatively narrow range of soil conditions and moisture tolerances.

As a general rule, the larger the buffer the more effective it will be. All areas above the wetland plantings should be landscaped to prevent erosion and siltation of plantings. To avoid disturbing newly established vegetation, deeper-zone vegetation should be planted first.

Maintenance

Once a shoreline has been planted a maintenance program may be necessary to remove nuisance vegetation as needed. Reseeding and replanting may become necessary as growing conditions change or due to herbivory from ducks, geese, and other animal populations.

It is also important to know about surrounding land use because watershed factors will affect the long-term success of implementing a wetland planting plan. For instance, if the majority of the surrounding land use is urban there will probably be a considerable amount of urban run-off pollution coming into the pond. If the adjacent land use is agricultural, then there may be fertilizer and possibly pesticide run-off that could affect the wetland. Excess sedimentation is possible from both of these sources. If adjacent lands are natural areas then it is likely that hydrology in the areas to be restored will be very stable and clean with little pollution coming in.

Conclusion

The pond and shoreline serve essential storm-water functions that can be designed to include both an aesthetic and ecological component. A shoreline with wetland plantings provides many benefits and values, including water purification, shoreline stabilization, fish and wildlife habitat and improved aesthetic values. Implementation of a successful planting will include extensive site assessments, functional design, and then professional installation and long-term maintenance.