Audubon International

Fact Sheet

Naturalizing Shorelines

Audubon International places great emphasis on wildlife and water. They are interrelated and complementary. Water features provide one of the most sensitive habitats possible for wildlife species, so protecting the health and integrity of water bodies, such as rivers, streams, wetlands, lakes, and ponds, is of utmost importance.

Change can be difficult for some people, so explaining why different projects are being implemented is vital to increasing acceptance. This sign at Stone Creek Golf Club in Oregon explains the benefits of shoreline naturalization for golfers and visitors.

Buffers as Filters

Stormwater runoff occurs when precipitation flows over the ground, taking with it sediment, chemicals, and other pollutants directly to these bodies of water. Polluted stormwater can have many adverse effects on plants, fish, animals, and people.

Naturalizing shorelines minimizes or eliminates chemical runoff, especially when combined with a designated "buffer zone" in which no chemicals are applied. Research has shown that a 25-foot buffer of turfgrass at least 3-inches high provides excellent filtering benefits. Vegetation along the water's edge also helps to stabilize shorelines and reduce erosion.

Buffers inside the water, comprised of aquatic plants, help to improve water quality as plants take up excess nutrients and produce oxygen to aerate the water.

Buffers as Wildlife Habitat

Vegetative buffers also provide improved habitat for amphibians, such as salamanders and frogs, especially in ponds that do not contain fish. The enhanced "structural diversity" (varying heights and types) of plants along the pond margin increase wildlife diversity. Choosing native plants with a high wildlife value will help you attract the greatest diversity of species.

Aquatic vegetation provides food and shelter for amphibians, fish, and freshwater invertebrates. Waterfowl and wading birds rely on shoreline plants as a place to feed and rest. Adding rocks and logs can be used to protection and nesting sites by small creatures and serve as basking sites for turtles.

Vegetative buffers around water features provide important filtering benefits.

Pond Plants

Emergent Plants: Grow best in shallow water and prefer wet conditions. Plant in 6-12 inches of water. Height ranges from 2-4 feet.

- ❒ **Arrow arum** (*Petrandra virginica*): This clump plant does not spread. Seeds are eaten by wood ducks and other waterfowl.
- ❒ **Arrowheads, Duck Potato** (*Sagittaria sp.*): Underground tuber is eated by waterfowl including wood ducks, trumpeter, and whistling swans, sandhill cranes, and king rail.

This pond at Cordova Bay Golf Course in British Columbia has been naturalized with emergent plants.

- ❒ **Bulrushes** (*Scirpus* sp.): Many species of water birds and song birds eat the seeds, while stems and rhizomes are eaten by muskrats and geese. Birds also nest in the upright stems. This plant is also valuable for controlling shore erosion.
- ❒ **Iris, Yellow Water Iris, Blue Flag** (*Iris* sp.): Yellow or blue flowers of ornamental interest, but limited in wildlife value. Roots eaten by muskrats.
- ❒ **Pickerelweed** (*Pontederia cordata*): Slow spreading with colorful bright blue flower spins; seeds eaten by wood and black ducks.
- ❒ **Rice Cutgrass** (*Leersia oryzoides*): Seeds and roots provide food source for waterfowl and songbirds.

Native plant and resource lists are available to Audubon International program members.

Border Shrubs: These plants prefer periodic flooding, and should be planted on pond banks above normal water edge. Height ranges from 5-20 feet.

- ❒ **Alder, Speckled** (*Alnus rugosa*): This attractive shrub provides food for 15 species of songbirds, including goldfinches and pine siskins.
- ❒ **Bayberry, Northern** (*Myrica pennsylvanica*): Provides both cover for nesting sites and food for many songbirds.
- ❒ **Buttonbush, Common** (*Cephalanthus occidentalis*): This food source for waterfowl also bears attractive flowers used by ruby-throated humming birds.
- ❒ **Chokeberry, Red** (*Aronia arbutifolia*): Berries are consumed by 12 species of songbirds; provides fall color interest as well.
- ❒ **Dogwood, Silky** (*Cornus amomum*): Cover, nesting sites, and food source for birds; adds fall color interest.
- ❒ **Serviceberry, Shadblow** *(Amelanchier Canadensis)*: Berry food source for 36 species of songbirds.
- ❒ **Willow** *(Salix discolor)*: Grouse eat buds, American goldfinches use for nesting, mammals and songbirds eat the showy fruits
- ❒ **Winterberry, Common** *(Illex verticulata):* Berries provide a winter food source for birds.

The contrasting textures and colors of shoreline vegetation makes for an eye-catching landscape. Starting with small, attractive areas can help increase acceptance of naturalized shorelines and allow for expansion over time.