

## Wander Lake Wetlands Enhancement Project at Wedgewood Resort, Fairbanks Alaska

The Wedgewood Wildlife Sanctuary is a 75-acre private reserve owned by Fountainhead Development, Inc. The sanctuary was created in 2007 to preserve boreal forest and wetland habitats within Fairbanks' expanding urban area. The sanctuary, which is accessed from Wedgewood Resort and the Alaska Bird Observatory, includes 1.5 miles of wheelchair accessible trails lined with 14 interpretive signs describing how plants and animals are uniquely adapted to Interior Alaska's harsh winter climate and short growing season.

A key feature of the sanctuary is Wander Lake, a former gravel pit that was mined in the 1980s. Converting this deep and steep-sided gravel pit to habitat more suitable for a wide variety of bird species has been a tremendous undertaking. Our accomplishments to date include:

- We moved over 171,000 cubic yards (256,500 tons) of dirt to decrease the water depth and carve out new shallow areas in two portions of the lake. Our work has increased the lake's surface area by approximately 5 acres (to 25 acres total) and created over 6 acres of shallow littoral zones.
- We re-sloped approximately 51,000 square feet of bank to prevent erosion and runoff into the new shallows. These areas have subsequently been reseeded with 300 pounds of arctared fescue (*Festuca rubra*) grass seed. Arctared fescue is an aggressive, native grass that we hope will prevent establishment of white sweet clover (*Melilotus alba*), an invasive species common at the sanctuary.
- We created one large and five small islands for waterfowl nesting and loafing habitat. In July and August 2009 a member of Boy Scout Troop 1 helped revegetate the large island for his Eagle Scout project. Members of this scout troop, a Girl Scout troop, and a youth church group planted several willow bushes, numerous rose and raspberry bushes, and irises on the higher parts of the island. They also planted roughly 200 willow cuttings along the island's windward side to help stabilize the bank.
- On 25 July 2009 we hosted a Habitat Restoration Workshop at Wander Lake, sponsored by the Alaska Department of Fish & Game and the U.S. Fish & Wildlife Service. During one part of the two-day workshop 31 students "restored" approximately 50 feet of newly created bank using a variety of revegetation and erosion-control techniques. These included live siltation using willow cuttings and a coir log to secure the toe of the slope, brush layering with grass plugs wrapped in coconut fabric overlaid by willow cuttings, and setting of vegetation mats.
- During June and July of 2009 we transplanted aquatic vegetation into the new shallow areas. Two high-school student employees and five members of the USFWS Youth Habitat Restoration Corps completed much of this work. Approximately 400 cattails, 100 bulrush, 150 sedges, and 50 irises (700 plants total) from 13 donor sites were planted along the shoreline and island edges.
- We harvested roughly 20 pounds of seeds from iris, cattails, bulrush, sedge and native grasses and scattered these on the islands and along the lake edge in August and September of 2008 and 2009. We have also seeded parts of the new shoreline with American sloughgrass (*Beckmannia syzigachne*), a native grass that favors wet areas and can survive periodic flooding.
- Invasive weeds pose a special challenge at Wander Lake. On 27 June 2009 we hosted a workshop sponsored by the Fairbanks Cooperative Weed Management Area as part of Invasive Weeds Awareness Week, followed by a weed pull at Wander Lake. Since then we have hand-pulled approximately 1,537 lbs. (131 large garbage bags) of invasive weeds from around the lake, primarily bird vetch (*Vicia cracca*) and white sweet clover. Much of this work was accomplished by students from Monroe High School. Two student employees and members of the Youth Habitat Restoration Corps also assisted with weed pulling.
- In order to enhance foraging opportunities for piscivorous birds and mammals, we have spent three summers trapping and transplanting three non-game fish species into Wander Lake. To date we have transplanted 3,368 longnose suckers (*Couesius plumbeus*), 675 lake chub (*Couesius plumbeus*) and 208 Alaska blackfish (*Dallia pectoralis*), or 4,251 total fish. The fish trapping has been conducted by members of the Wounded Warriors Transition Unit, the Youth Habitat Restoration Corps, and student volunteers. The lake chub have successfully reproduced each spring, and all species have exhibited overwinter survival. The Alaska Department of Fish & Game is assisting with water chemistry monitoring. This year we have observed loons, grebes and kingfishers foraging on the fish.

