

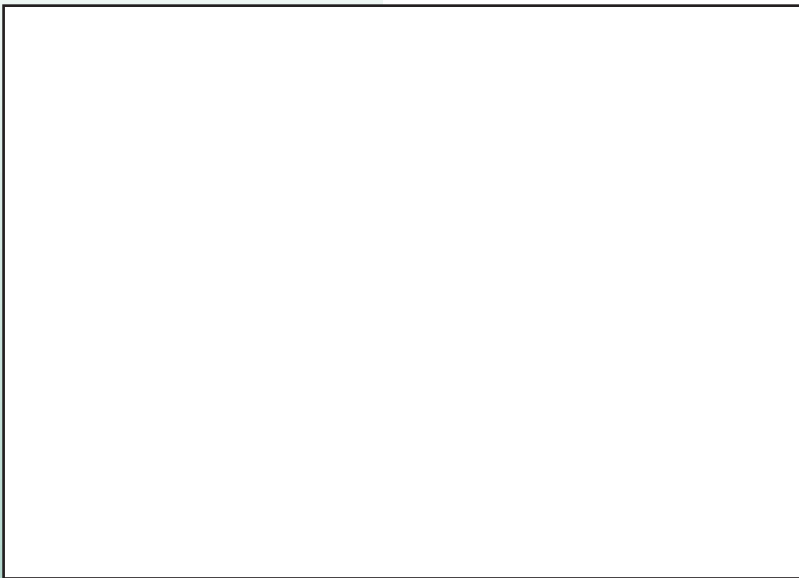


Information Bulletin

Neilson Lake Wetlands Enhancement

PEACE/WILLISTON FISH & WILDLIFE COMPENSATION PROGRAM

Objective: To maintain the existing wetland habitat of Neilson Lake and to enhance it where possible.



▲ An excavator is used to dig a long ditch at Neilson Lake wetlands. The spoil piles on either side of the ditch were later seeded with grasses to provide additional nesting cover and forage for wildlife.

B iologists with the Peace/Williston Fish and Wildlife Compensation Program (PFWWCP), in partnership with Ducks Unlimited (DU), have conducted an extensive wetlands enhancement project at Neilson Lake.

The Neilson Lake wetland supports many different wildlife species, including Canada geese, ducks, loons, beavers, muskrats, moose and several species of songbirds and shorebirds. Its diverse vegetation and habitats make it popular with waterfowl and aquatic furbearers (muskrats and beavers).

During the inventory stage of the project, PFWWCP biologist Fraser Corbould monitored the area to determine which wildlife species used the site and their patterns of use. The survey also determined that the wetland area was maintained by an old beaver dam. If the dam were to breach, approximately 70 percent of the wetland would be lost, greatly reducing the habitat available for the resident wildlife. Based on a detailed engineering survey of the site by Ducks Unlimited, Corbould and DU biologists were able to develop an enhancement plan.

Enhancement was divided into three stages. A dam or weir structure was needed to maintain the integrity of the wetland and to provide a means of manipulating the water level to optimize the vegetation conditions for the wildlife. Level ditching would be undertaken to provide travel corridors and potential feeding and nesting sites. Finally, nest boxes and floating islands would supplement the available nesting and resting habitat.

In the summer of 1995, the PFWWCP and DU installed a steel weir to replace the old beaver dam. To build the weir, the loose surface material was removed at the site and interlocking sheets of corrugated steel were driven into the ground. The engineers cut an opening in the middle of the weir and fitted it with stop

logs to enable the biologists to manipulate the water levels. Large rocks were placed at the base of the structure to prevent any potential water erosion.

The lowering and raising of the water levels will be conducted to best benefit the wildlife. When the water level is lowered, emergent vegetation, such as cattails and sedges, will grow on the newly exposed soil. Once the vegetation has established itself, the water level can again be raised to create feeding and shelter areas for many wildlife species and "over water" nesting habitat for other species, such as scaups, redheads and ring-necked ducks.

Submergent vegetation, such as pondweeds, smartweed, bladderwort and water lily are

abundant in the open-water areas and are a food source for many waterfowl species. Both submergent and emergent types of vegetation also provide microhabitats for water invertebrates which are fed upon by numerous wildlife and fish species.

During construction of the weir, the old beaver dam was kept intact to hold back the water. When the weir was complete, one portion of the beaver dam was retained to provide a potential nesting and resting site and the remainder was removed.

The next stage of the project involved level ditching to enable waterfowl and aquatic furbearers to make better use of the marsh area adjacent to the lake. In 1996, an excavator was used to dig a 400-metre long ditch in the marsh to increase the feeding sites and movement corridors. "Spoil piles" created from the material that was removed were then seeded with grass to provide additional nesting sites along the edge of the ditch. Because ducks and geese are territorial, the ditches were formed in a

zig-zag pattern to maximize the number of separate nesting and feeding sites.

The waterfowl at Neilson Lake also benefit from several artificial nesting and loafing structures installed at the wetland. Two floating islands are used primarily by Canada geese. Five nestboxes were installed for cavity-nesting waterfowl such as bufflehead and goldeneyes.

"It's too early to say whether our enhancements will mean an increase in any specific animal population, but we know that we have conserved this wetland for the many species that use it. We've also seen that the floating islands and nest boxes are being readily used and may need to be supplemented in the near future," said Corbould.

Monitoring of the wetlands will continue for many years to come. Staff from PFWWCP and DU make regular visits to the site to ensure that the weir and the enhancements are functioning properly. Neilson Lake and the surrounding area have received special land status, meaning that the area is to be managed for wildlife habitat purposes. A wildlife viewing/information sign will also be placed at the site to draw attention to the area and to help increase public understanding of the enhancement project.

The Peace/Williston Fish and Wildlife Compensation Program is a joint B.C. Hydro and B.C. Environment initiative to enhance and protect fish and wildlife within the Williston and Dinosaur watersheds in northeastern British Columbia.

For more information, please contact:

Wildlife Biologist
Peace/Williston Fish & Wildlife Compensation Program
1011 Fourth Avenue
Prince George, B.C. V2L 3H9
Phone: 250-565-6135
Fax: 250-565-6629