

THE KLOO WETLAND
A RECONNAISSANCE OF ITS ECOLOGICAL DIVERSITY 1988-93



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D. Mossop

Northern Research Institute
Arts and Science Div
Yukon College,
Box 2799, Whitehorse, YT

Partners:
Govt of Yukon, Dept. of Renewable Resources
Ducks Unlimited, (Can)
Champagne & Aishihik First Nation

SUMMARY:

- Five years of field survey were carried out (during the summers of 1988-89 and 92-93) on the 100 sq. km. Kloo Wetland

in South-eastern Yukon,. Both ground and air survey were involved.

- Ground work was on a representative study area (approx. 6.5% of the wetland). The project had a strong public education component; in all, over 70 observers were directly involved. Ground work was regular visits to all the ponds in the study area to describe vegetation, conduct total counts of water bird pairs, and broods. Air survey was of the entire wetland.
- The ponds are mostly thermokarst and oxbow depressions in the flat valley floor isolated from the river channel by raised levees.
- Old growth spruce forest occupies the levees along the river; the wetlands are mostly sedge fens.
- 28 species of water birds were recorded. Spring numbers of ducks averaged just over 2,700 birds (1.4 adults per ha. Water).
- 14 species of water birds produced 500-750 broods (2,200-3,700 young) annually.
- Concentrated use of 4 key water bodies for post-breeding, brood and pre-migration staging was noted.
- 632 bandings suggested that water birds of the area are mostly wintering in the Pacific Flyway.
- The diversity of other wetland species included amphibians, aquatic furbearers, moose, wolves, grizzly bears, mustelids and song birds (total bird list:97 species).
- Recommendations for future conservation of the area's ecological system include protecting the unique hydrology, managing disturbance and protecting the levee old growth forests.

INTRODUCTION:

The Kloo Wetland is an area of approximately 100 sq. km. of just over 340 small to medium sized ponds and lakes associated with the floodplain of the Jarvis River in the South Western Yukon. It includes two larger lakes, Kloo and Sulphur, and is about 30 km NW of the village of Haines Junction, YT. In 1980, an area of 447 sq. km. including the wetland was identified as 'critical'

wildlife habitat by map notation for Land Use decision purposes (Yukon Waterfowl Management Plan, 1985, 1990). This designation was based simply on the obvious concentration of waterbodies and the area's known value to wildlife species and to local people.

Wetlands are recognised in the Yukon as supporting a major portion of the territory's biodiversity. Documenting wetland values at Kloo was a first step in developing conservation and management plans for the area. Two major sources for this data base are technical wetland analysis as reported here, and local traditional knowledge of the elders of the Champagne/Aishihik First Nation. This report is mostly the portion contributed by the former from a five-year period of field research (1988-93) although C.A. First Nation elder Frank Joe (deceased) gave valuable assistance with the field logistics and offered good sound advice about the area generally.

The water birds of the area provided a powerful 'focus' of study. They are totally dependant on the functioning of the wetland ecosystem; understanding their relative abundance, productivity and general use of the area gives a good ecosystem-level understanding of the critical features which will have to be protected if the wetland is to continue to function in the future.

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Figure 1. The location of the Kloo Wetland in the Jarvis River drainage of the South-western Yukon. The core study area is about 6.5% of the whole 100 sq. km wetland.

OBJECTIVES:

This survey was largely reconnaissance. A good understanding of the area by the original people of the area exists. The focus of this work was to establish a baseline of science-based data to complement that historic local knowledge. Our tasks were to:

- a) Develop a basic understanding of why the physical wetland system exists;
- b) Describe generally the habitat the system provides,
- c) Quantify the populations of waterbirds and other riparian species using the wetland,
- d) Describe the use made of the wetland by waterbirds,
- e) Suggest conservation criteria for the future planning of the area.

FIELD METHODS:

A field camp was established in the wetland at the approximate centre of a representative concentration of water bodies immediately north of the larger Kloo Lake.

This area became the core study area. It measured 5.0 sq. km. (6.5% of the entire wetland) and contained 37 waterbodies (11% of the water of the wetland). Two to three field workers occupied the camp for periods of one to two weeks at key times of the year over 4 years (1988-89 and 92-93). The ponds were accessible from the channel of the Jarvis River and by foot trails that we established throughout.

The logistic basics of the study were ground surveys and counts supported by canoes, supplemented periodically by a total of about 4 hours of helicopter annually. Regular counts were taken of waterbirds using the study ponds, brood searches were made early and late in the summer and a waterfowl banding station was operational at all times when the camp was occupied. As a matter of course, a running record of bird species and other wildlife was kept and plants were collected, pressed and prepared as permanent specimens. (Other specifics of methods are below in the appropriate sections):

STUDY TEAM, EDUCATIONAL OUTREACH:

A feature of this work was the way it was conducted. A basic study planning team was established at the outset, a series of standardised data sets were agreed upon and then various field teams took the responsibility of conducting the field trips necessary to collect the data. The author provided co-ordination and tried to ensure standardisation of the field procedures. The educational opportunity this strategy provided allowed a broad spectrum of people to visit the site and become familiar with its ecology. Two classes of students from Yukon College visited the site, two groups of the 'Conservation Action Team' and one 'Y2-C2' team visited. All visitors had the opportunity to assist with the field work. In all 70 individuals were directly involved with the research.

Planning team: D. Mossop (Wildlife, Y.T.G./Yukon College)
J. Hawkings (C.W.S. Whitehorse)
D. Eftoda (Ducks Unlimited, Whitehorse)
V. Loewen (Habitat Management, Y.T.G)

Field work assistance: J. Majeski, J. Staniforth,

