

✓ WATERFOWL

WATER AREAS USED BY DUCKS AND GEESE

Introduction--The numbers of waterfowl (the term is used here to refer to both ducks and geese) have decreased throughout North America in recent years ( ). This is especially true of such duck species as Aythya valisineria (canvas back), Aythya americana (redhead), and Aix sponsa (wood duck). The daily bag limit on these species in the Mississippi Flyway have varied from a closed season to one per day.

Although the rocky shores and low fertility lakes of the Minesite area are not prime breeding habitat for most species of waterfowl, there is a need for a generalized waterfowl survey during the present study. Ponds, rivers and lakes that may serve as temporary nesting areas during spring and fall migration are especially important and should be located and a value placed on their importance to this group of species.

Obtaining information on breeding <sup>Pairs</sup> ~~pairs~~ and pair densities/area on a 560 square mile study area is quite another problem. We will surely need to rely on secondary information for estimates of this nature for the region. A literature survey has not been conducted at this time.

The methods used during this study to evaluate waterfowl use of the area have been largely qualitative and based on observation. However, some quantification using aerial surveys were conducted during October, with more being planned for the 1977 field season.

## Methods

We are using a number of sources of information to characterize water areas used by waterfowl within the region;

- 1) Observations of waterfowl by members of the fisheries and terrestrial team while conducting other field activities;
- 2) lake locations that are known to be used by waterfowl, at least seasonally, obtained from professional biologist employed by the MDNR and USFS for the region;
- 3) informal conversations with local sportsmen concerning waterfowl hunting areas;
- 4) flights with the USFS to locate water areas that may serve as migration "stop-overs" or resting areas.

All of these techniques are primarily aimed at characterizing the importance or unimportance of the region during spring and fall migration. Estimates of breeding densities of selected species will almost entirely rely on the literature, which we anticipate may be limited for this ecosystem.

## Results

Waterfowl observations--All waterfowl observed by the terrestrial team were recorded as to species, size of flock, location, date and other parameters noted on Data Form A (P- ). These observations will be summarized to provide location data, a species list and the <sup>RELATIVE</sup> frequency of occurrence of species ~~relative to each other~~ in future papers. Duck species most commonly seen <sup>IN 1976</sup> (mainly during spring migration) were Mergus merganser (common merganser), Bucephala clangula (Common goldeneye), Aythya affinis (lesser scaup), and Bucophala albeola (bufflehead).

Fewer numbers of Anas platyrhynchos (mallard) and Anas rubripes (black duck) were seen. We are not aware of observations of geese using any river, stream, pond or lake in the region.

In addition to our observations, members of the fisheries team have recorded waterfowl observed during their stream, river and lake surveys. This data is being compiled and is not available at this time. We may be able to estimate the relative number and frequency of waterfowl/species/mile of stream from their data. Although this data is biased ~~ON~~ ~~by~~ an unknown number of refuges<sup>4</sup> as a ~~stream or river~~ <sup>SURVEY</sup> ~~survey~~ proceeds, it will probably be the best data available on the number of waterfowl using these small bodies of water for the region. We are indebted to the fisheries staff for their farsightedness in recording this type of wildlife data during their surveys.

Waterfowl areas as designated by area biologist and sportsman

Fred Thunhorst (area Game Manager, Winton, MDNR) and Karl Sideritz (Biologist fo Superior National Forest, USFS) were asked to identify lakes that they knew were used by waterfowl in or near the Minesite region. Thunhorst stated that Slate and Bald Eagle are waterfowl lakes (Figure W-1, Nos. 3 and 4). The seasonal use pattern of these two lakes is not presently known. Carl Sideritz indicated that limited waterfowl hunting is done on <sup>Lake</sup> Tony Lake (Figure W-1, No. 5). Conversations with local sportsmen indicate that the majority of the duck hunting in the area is done on Burntside and Shagawa Lakes (Figure W-1, Nos. 1 and 2). We have noticed<sup>D</sup> a concentration of (mainly diving ducks) at the Birch Lake Dam on Highway 1 (Figure W-1, No. 6). Attempts will be made to visit the four accessible sites (Figure W-1, Nos. 1, 2, 4, & 6), and any other accessible lakes that we are informed of as many times as

possible during the spring and fall migrations, and several times during the summer. This will provide estimates of the value of these lakes based on <sup>waterfowl</sup> use patterns for the region.

Aerial survey--An aerial survey of lakes and rivers was to be initiated in early October to locate and quantify migrating concentrations of waterfowl. A member of the terrestrial staff was to accompany regularly scheduled flights conducted by the USFS with float equipped aircraft and flown over much of the study area. A combination of problems plagued this portion of the project; 1) interagency coordination problems between the MDNR and the USFS prevented us from making late September and early October flights; 2) the fire danger placed heavy demands on any available space in aircrafts; 3) poor weather conditions in mid-October suspended many flights; 4) early ice-up on many lakes may have moved waterfowl south, out of the region. Two flights were finally made late in October.

October 22 Flight--This flight covered only a small portion of the Minesite area, but provided a long flight over water areas within the BWCA (Figure W-2). The take-off and landing pattern did not allow us to view waterfowl we knew were present on the east end of Shagawa Lake. No ducks were seen on Burntside Lake on this day.

Since the flight was not conducted especially for our waterfowl survey, the altitude flown at was often at what we considered to be the limit for observing water fowl present on the surface of ~~the~~ lakes. Also, some of the smaller lakes and rivers were completely covered with ice, while most lakes were open and had no ice present. The temperature was 22<sup>o</sup>F and the flight began at 0800 hours with overcast skies.

The only waterfowl seen during the entire 120 km flight were at Hoist Bay (Figure W-2). Approximately 100 ducks (species unknown) were seen on the surface of the water at that location. As mentioned earlier, the altitude may have prevented waterfowl sightings on some lakes.

October 30 flight--This flight covered only a fraction of the Minesite area, but extended to and along the Canadian Border to north of Grand Marais, and then back to Ely (Figure W-3). The total flight was about 275 km, began at 1400 hours with clear skies and a temperature of 45°F.

THE SECOND FLIGHT ALSO

Similar problems occurred on ~~the first flight~~, with a varying but usually higher than desired altitude, combined with additional icing problems. By this date only large lakes were open, with the rest completely ice covered. No waterfowl were seen <sup>During the</sup> ~~on this~~ flight.

Although the two flights made in October to survey lakes ~~were~~ used by migrating waterfowl provided data on only one area outside of the main study area, they have a great deal of potential if modifications are made. We need to make earlier and more frequent flights, with the main emphasis the Minesite area. We also need to fly at a lower altitude to <sup>observe all</sup> ~~prevent missing~~ waterfowl concentration. The proper altitude will be determined from the literature.

We plan to continue to use previously scheduled Forest Service flights if these modifications can be implemented. If problems arise, we suggest that money be budgeted for spring and fall flights which would be conducted solely for the purpose of waterfowl survey work.

## Conclusion

The distribution and frequency of waterfowl species on and adjacent to the Minesite area will be determined by; 1) routine observations during normal field duties; 2) more intensive ground and water searches on accessible lakes known to be used by waterfowl; 3) and aerial surveys over <sup>ADJACENT TO</sup> the Minesite area in the spring and fall to determine if, and how many, migrating waterfowl use the area. This phase will depend on cooperation with the USFS <sup>OR</sup> ~~and for~~ budgeting for specific survey flights.

Our findings must be considered preliminary and subject to change at this time, but this year's data, ~~greater as it is,~~ <sup>as it is,</sup> allow us to make some generalizations about the use of the Minesite area by waterfowl (ducks and geese);

- 1) geese probably rarely nest on the area, and were not observed using lakes or river during the spring or fall migration;
- 2) only six lakes are known to be used by ducks to any degree, and mainly during migration (FIGURE W-1);
- 3) breeding densities are and probably will remain unknown, but are expected to be low due to the low fertility of the water <sup>IN THE</sup> region (with the exception of Shagawa Lake), the rocky shorelines of river and lakes, and the absence of marshes, and cattail or bullrush-<sup>RINGED</sup> bays that provide excellent breeding habitat farther north and west in Minnesota and Canada.
- 4) the area probably provides a very small number of ducks and an even smaller numbers of geese to the state and flyway populations each year.

Additional field work must be done if we are to modify or place more confidence in these four statements for the final regional assessment.

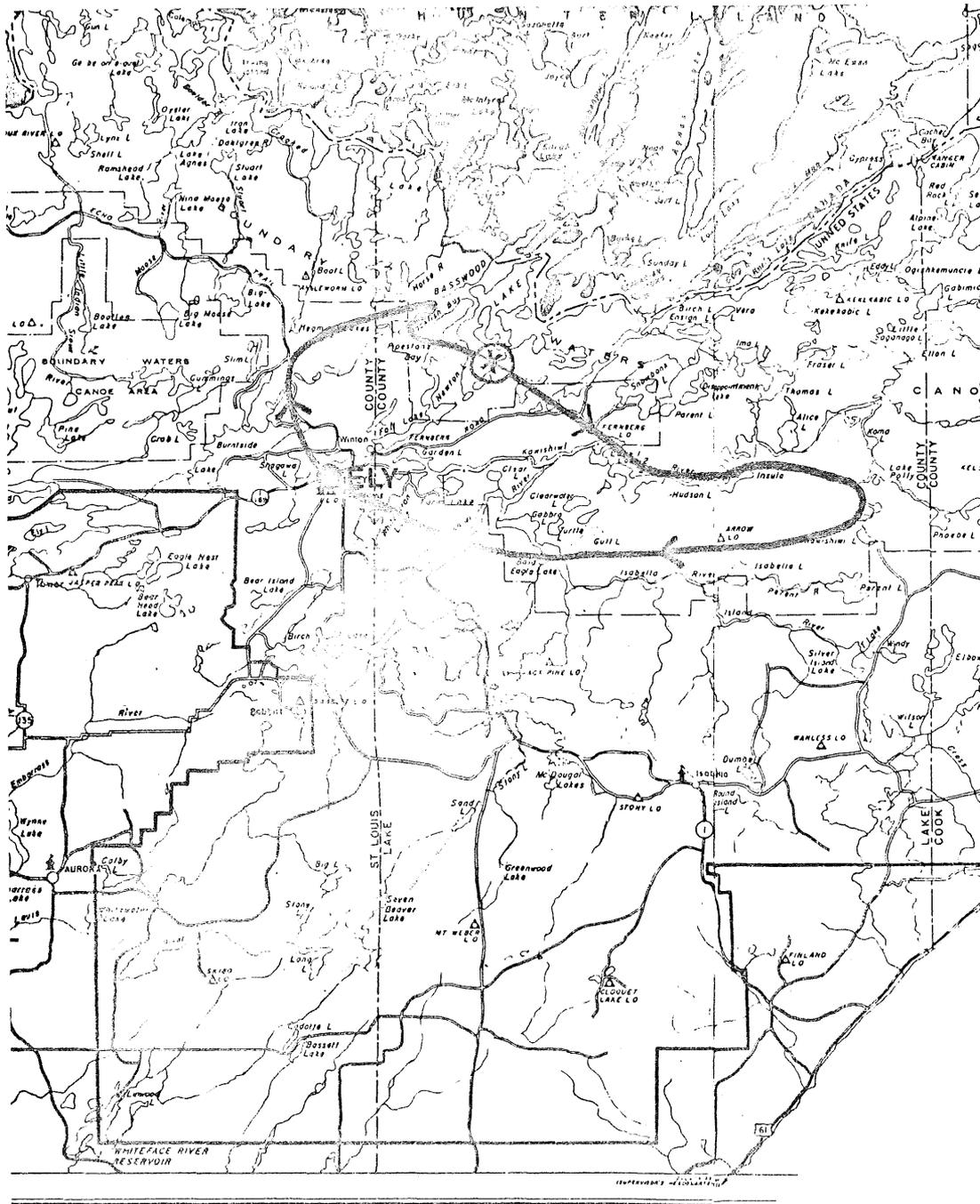
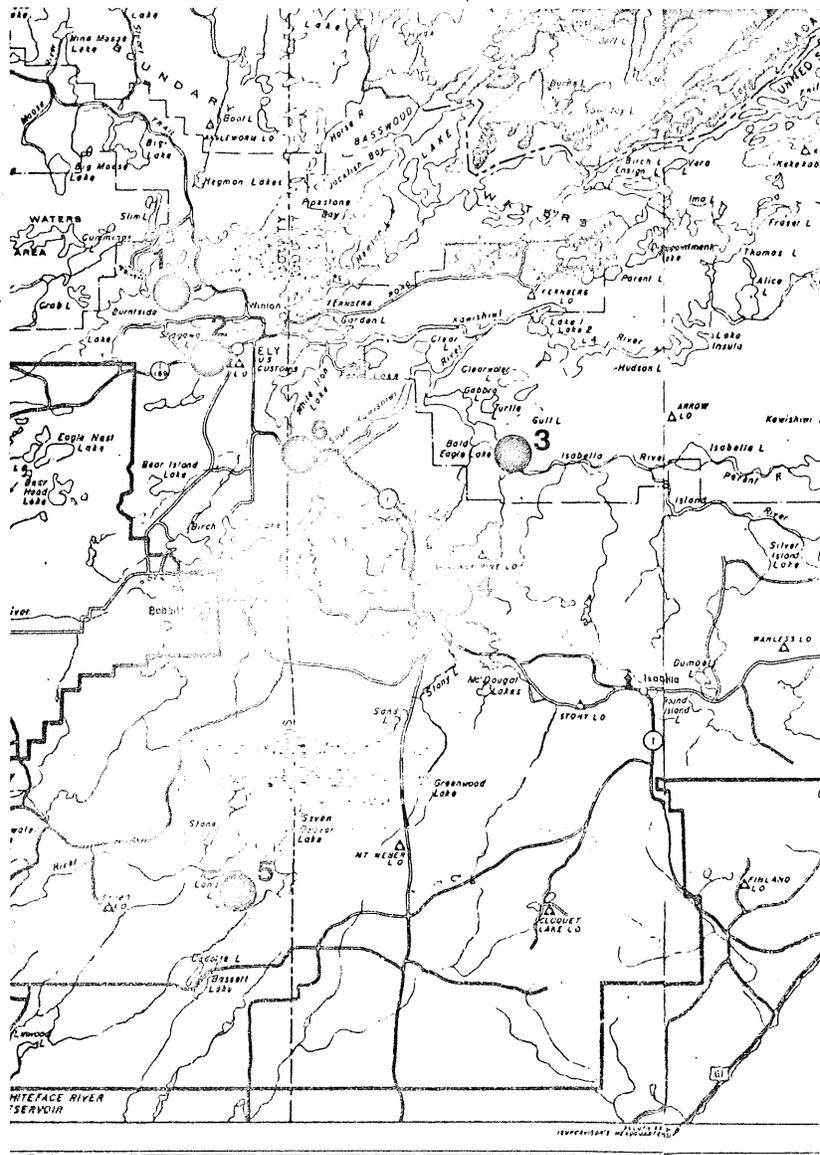


Figure W-2.  
 Aerial waterfowl survey--October 22, 1976.  
 (X Hoist Bay--100 waterfowl were observed,  
 species unknown)



25 km

Figure W-1.  
 Waterfowl lakes within the Minesite area  
 (1-Burntside, 2-Shagawa, 3-Bald Eagle,  
 4-Slate, 5-Long, 6-Birch Lake Dam)

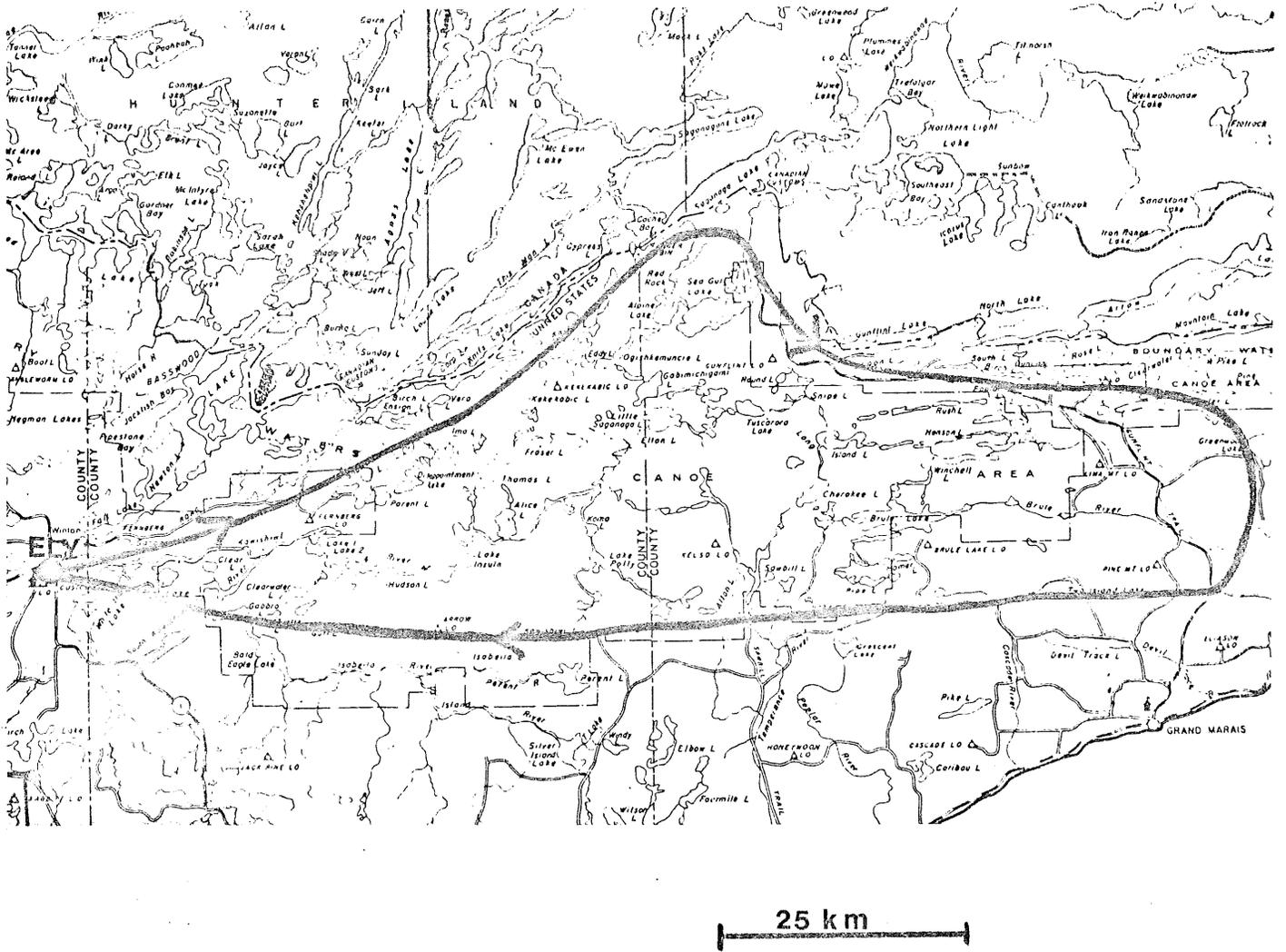


Figure W-3.  
 Aerial waterfowl survey--October 30, 1976.  
 (No waterfowl observed)

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