REPORT ON WATERFOWL ABUNDANCE AND HABITAT ON SEBEWAING BAY

General discussion: During the past several years, local hunters have attributed the change in feeding habits and the local movements of waterfowl in Sebewaing Bay area to the presence or absence of food.

The changes in water levels in the Great Lakes and other dynamic forces have made some rather significant changes in the habitat of this bay. The physical changes which were responsible for the disappearance of important feeding and resting grounds in some places have created habitats of equal value in other parts of the bay. For the most part, these changes in habitat have been to the advantage of waterfowl by comparison to conditions ten to twenty years ago.

There have been frequent demands by well-meaning sportsmen for the Department of Conservation to plant wild rice and other foods in this area. A local sportsmen's club has spent a considerable amount of money in attempting to re-establish some of the wild rice beds. These attempts, as well as those carried on by the Conservation Department some years ago were unsuccessful. The sportsmen have seen the disappearance of certain rice fields and the movements of waterfowl to grain fields, and consequently believe there is a lack of food for waterfowl. This assumption is obviously the result of restricted observations. Undoubtedly these sportsmen have seen the habitat deteriorate in some particular spot they hunt and have failed to see other feeding grounds improve. To obtain more information about this area an inventory of food and cover conditions was made in August. 1941.

Discussion of Maps

Emergent Vegetation: The most common emergent aquatics were as follows:

Bulrushes	Scirpus acutus
Three square	Scirpus americanus
Cattail	Typha latifolia
Cane	Typha angustifolia
Pickerel weed	Phragmites communis
Wild rice	Potenderia cordata
Arrowhead	Zizania aquatica var. angustifolia
Wapato	Sagittaria cuneata
Bur reed	Sagittaria latifolia
Sedges	Sparganium eurycarpum
	Carex

Figures compiled from this map show that Sebewaing Bay, comprising 12,760 acres (approximately 20 square miles), has 4,840 acres of vegetation providing mainly cover but also some food. This is 38% of the total area. Of this, 2,760 acres may be classified as dense to medium cover; 1,497 acres as medium to sparse cover; and 578 acres as sparse cover.

Submerged Vegetation: The submerged aquatics provide the bulk of the food for ducks

visiting this bay. The abundance of these aquatics is given on the map in relative terms according to the following classification:

Dense - foliage forming a more or less continuous mat;

Medium - foliage partially covering the bottom (approximately 50% of the bottom soils visible);

Sparse - scattered plants on the bottom (an average of less than one plant per square foot).

No attempt was made to classify the species in the order of their abundance in each bed. It appeared that the principal species occurred in approximately equal abundance when all of the beds were considered together.

The most common submerged aquatics were as follows:

Musk-grass	-	Characeae (vulgaris?)
Coontail	-	Ceratophyllum demersum
Clasping-leaved pondweed	-	Potamogeton Richardsonii
White-stemmed pondweed	-	Potamogeton praelongus
Floating-leafed pondweeds	-	Potamogeton gramineus var. ?
Flat-stemmed pondweed	-	Potamogeton zosteriformis
Waterweed	-	Anacharis canadensis
Bladderwort	-	Utricularia vulgaris
Sago pondweed	-	Potamogeton pectinatus
Bushy pondweed	-	Najas flexilis
Wild celery	-	Vallisneria americana
Water milfoil	-	Myriophyllum sp. ?

There are 6,378 acres, or 50%, of the 12,760 acres in Sebewaing Bay that have submerged aquatics. Further dividing the submerged aquatics as to density of stand shows that 1,694 acres provide a dense to medium amount of plants; 2,471 acres medium to sparse; and 2,213 acres sparse. Submerged and emergent aquatics occupy the same area in many places. This over-lapping is shown on the map by superimposing symbols which represent 13.6% of the area. This figure is significant if an attempt is made to total the percentages given.

Judging from the results obtained by mapping, the Sebewaing Bay unit is not lacking in food plants or cover. There also appears to be an abundance of animal matter available for food. The movements of ducks inland to grain fields is believed to be the result of a preference for variety in diet rather than a lack of food.

Areas Lacking in Vegetation: The map shows 3,272 acres, or 25.6% of the bay to be lacking in both food and cover. The physical features observed where both food and cover were lacking clearly indicated the reasons for the absence of vegetation. It was found that aquatic vegetation is present in all parts of the bay except on areas that may be classified roughly as follows:

(1) Shallow water sand bars that become dry with strong offshore winds but are also characterized by a shifting bottom due to wave action during high water caused by strong onshore winds. When the water is high, wave action and currents are significant.

(2) Deep water sand and rocky bars that are subject to a moving bottom due to the severe wave action and to strong currents around the Islands.

There is little doubt that the limiting factors for the success of plants in these areas are a moving bottom resulting from wave action and currents, and extreme variation in water levels which exposes aquatics to the direct rays of the sun.

The shallow water sand bars, however, are used extensively by waterfowl for loafing and resting. Numerous pockets may be found which result from the puddling and feeding activities of ducks on these bars. Although aquatic plants are lacking, the shallow water bars should be considered as needed since their consistent use by waterfowl and shorebirds demonstrates that they provide a desirable type of habitat when adjacent to a sufficient amount of food and cover.

These bars and islands also provide migrating waterfowl with protection from the full sweep of the waves from Saginaw Bay, and they further divide Sebewaing Bay into separate units. Protection from the full force of the elements is important on expansive bodies of water. The islands and bars which divide Sebewaing Bay into physiographic units are believed to be major factors in encouraging large concentrations of waterfowl in this area.

Comparative abundance of waterfowl this season

The 1944 waterfowl season was very unusual in that an abundance of ducks were present on the Great Lakes Marshes but many wildfowlers experienced poor shooting.

Observations by Department personnel, together with reports from other experienced observers indicate there was an abundance of ducks. Great rafts of birds were observed at all the important concentration areas along the shores of the Great Lakes. There appears to be little change in the total number of ducks passing through the state as compared to last fall's migration. There was a noticeable increase in the numbers of redheads and canvasbacks but this was compensated for by a slight decrease in the number of dabblers observed.

Sebewaing Bay was a typical example of conditions in other parts of the State. The birds stayed out on the open water far from shore to feed and rest. Some movements to inland grain fields were noted but by and large the birds avoided the shore line and marshes throughout the season. If the large rafts were disturbed they would move a short distance and congregate again.

There are two plausible reasons for these abnormal movements.

1. Weather conditions were very favorable for the birds and many migrants lingered at the favored feeding beds. These birds soon learned the sites frequented by hunters and avoid them in their normal flights. Storms did not force the birds into the marsh during the season.

2. Disturbance from excessive hunting pressure along the shore encouraged many birds to remain out on the broad expanses of open water where there was safety.

Many hunters have voiced the opinion that the lack of ducks in the bordering shore line is the result of an absence of food there.

There is no evidence of a lack of food in the area and whether, providing additional foods on the shore will attract and hold waterfowl there to improve hunting is definitely questionable.

The influence of increased hunting pressure and mild calm weather appears to be the important factors influencing the movements of waterfowl.

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12/6/44