The Nature of Owasippeland

by

Jim Marshall

July, 1961

Read this booklet slowly, otherwise you will miss a great deal of information. Refer to the 1961 edition of the Owasippe trail map for the locations of these areas.

This booklet is divided into the following sections:

1. The Ice Age
2. Owasippeland Lakes
3. Forests
4. Steep Slope Trees
5. Bogs
6. What is of interest in bogs
7. What grows in bogs:
    a. Aspen
    b. Calomagrostis
    c. Chamaedaphne
    d. Tall bog shrubs
    e. Lowland forest
    f. Tamaracks
    g. White Cedar
    h. Spruce
    i. A thicket of pussy willows
    j. Pinery
    k. Mixed hardwoods
    l. Sugar Maple
8. The White River
9. Floodplain Forest
10. The White River Valley
11. Marl Beds
12. Lichens
13. Scouring Rush
14. Ferns
15. Mushrooms
16. Mosses

While at Owasippe, there are certain points of interest you can see. The areas and the section in which the points of interest is described are listed below.

Cherry Valley: 7c
Owasippe Lake: 1,2,6
Austin Lake: 2,6
Kopec Lake: 11
Lost Lake: 5,6
Headwaters and Silver Creek Valley: 1,5,6,7a,7f,7j
Long Valley: 1,5,6,7a
Teall Swamp: 5,6,7j,7k
Marl Beds Campsite: 5,7a,7f,11
Big Blue Lake: 2,7j,7k,71
Paradise Valley: 4,5,7g,7k
Hogs Back Area: 4,5,7h,7j,7k,8,9,10
White River Canoe Trips: 4,5,7g,8,9,10
Campsite Diamond 1,2, and 3: 4,5,7g,8,9,10

Any Bog in the region: 5,6,7a through 71.
Any Lake in the region: look for the water plants shown in the Scout Handbook.

1 - THE ICE AGE

During the last Ice Age, several glaciers pushed through the Owasippe area from Lake Michigan and then melted. Eventually the last glacier rapidly melted back to a point a few miles west of Owasippe Lake. Then the Owasippe area was occupied by huge blocks of ice buried in sand and silt washed off of the melting glacier. See Figures 3 & 4.

Channels formed in the sand and silt to drain off the melt water from the glacier. When these channels became choked with debris other channels formed. These former melt water channels can be seen in the Owasippe area now. They form long narrow valleys trending in a northwest-southeast direction. Silver Creek from Headwaters to beyond the spillway occupies one such channel. Long valley and Ninepins valley are others. Long valley was probably connected with Silver Creek valley at one time, but later silt flows separated them.

When each ice block melted in the sand and silt it left a depression which gradually filled with water and became a lake of swamp. Owasippe Lake, Kopec Lake, Echo Valley and the Dust Bowl were the sites of one irregular piece of ice.

Finally the glacier melted from the area. The water from the glacier flowed into Lake Michigan and overflowed it.

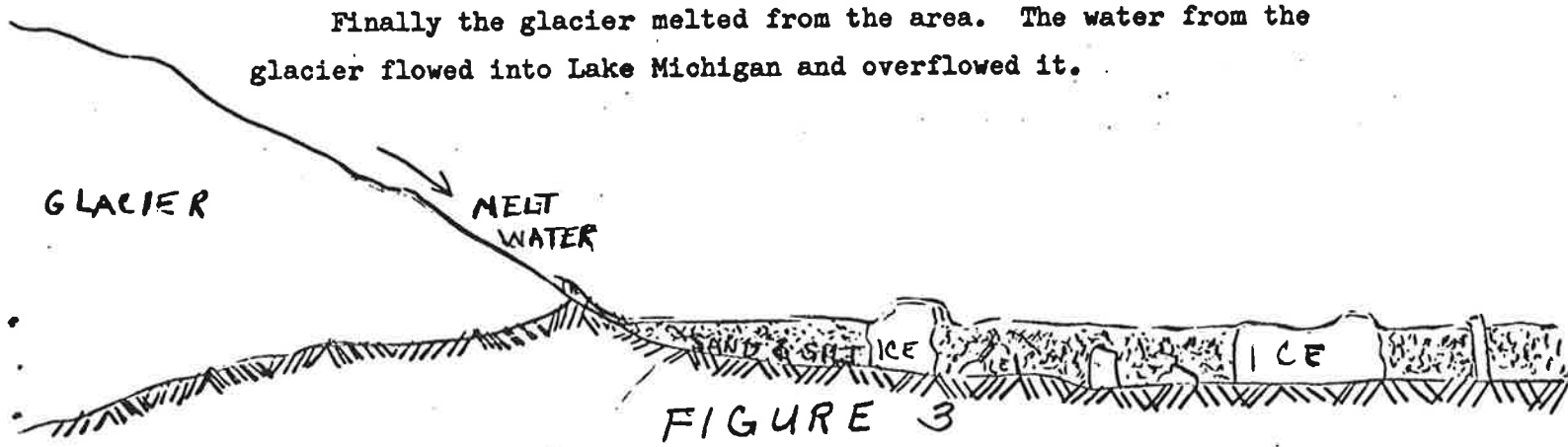


FIGURE 3

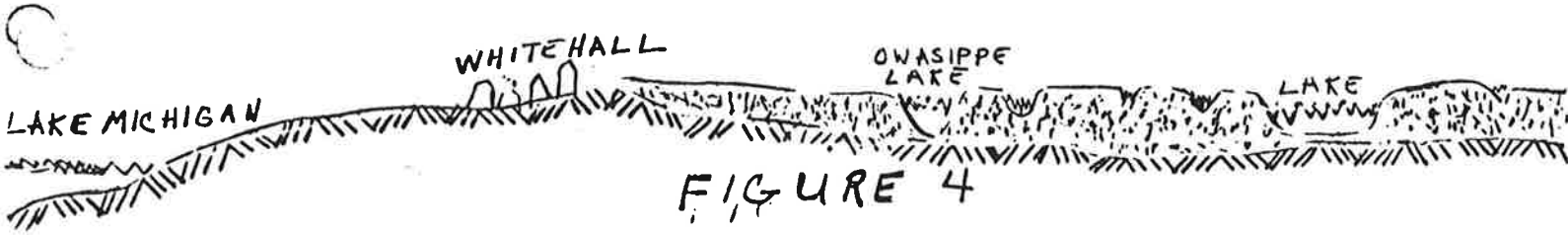


FIGURE 4

2 - OWASIPPELAND LAKES

The lakes lie in saucers of peat or other impervious substance. See Figure 1. Right next to the shore of Owasippe Lake it is possible to dig a dry hole below the surface of the lake. If you let lake water pour into the hole it will drain out the bottom. By this process, the entire lake could be drained dry.

Wind blowing on the surface of a lake moves water from one shore to another. Water currents then form along the shore to return this water to the part of the lake from which it came. This current picks up sand grains and carries them along with it. Where this current leaves the shore and spreads out, it deposits these sand grains forming a spit.

Figure 2 shows the water currents and sand spits formed in Big Blue Lake and Owasippe Lake and the direction of prevailing winds.

Austin Lake, south of Owasippe Lake, contains a sand spit which was built by currents centuries ago when the water level was higher. Now the lake is dry most of the time, having been filled up by vegetation.

Because the lakes are shallow, the water in them is not overturned by the wind. The water at their bottoms remains cold the year around. Owasippe Lake is about 19 feet deep; Big Blue Lake is about 44 feet deep.

On Big Blue Lake at Camp Wilderness is one of the sources of Gerken Creek. At this point a natural sand dam holds in the waters of the lake. If this dam were cut through the lake would drain down the creek.

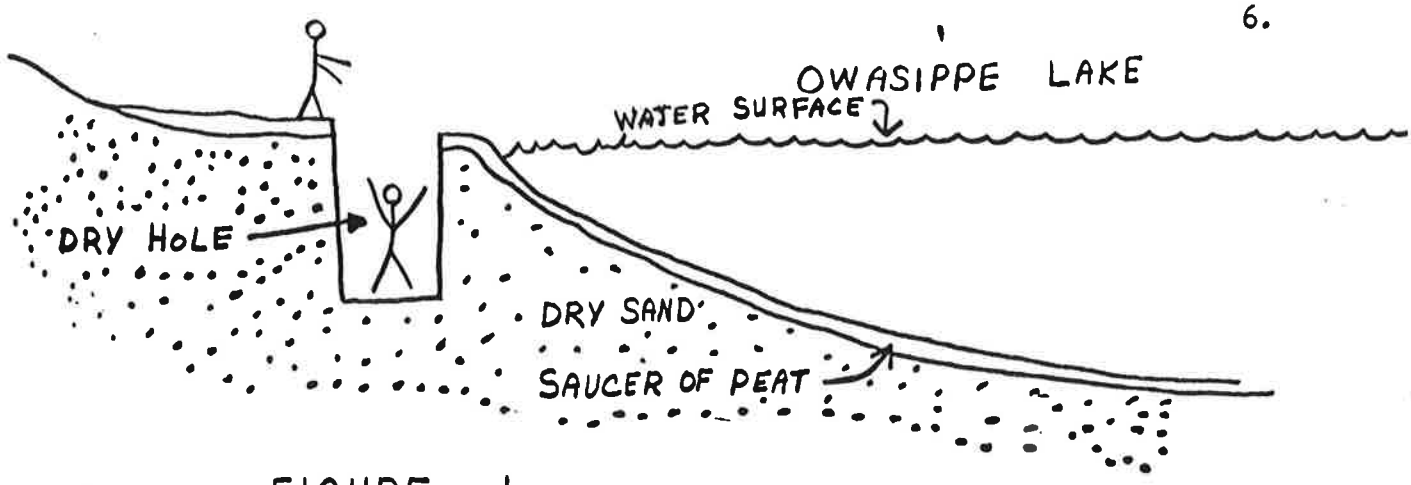


FIGURE 1.

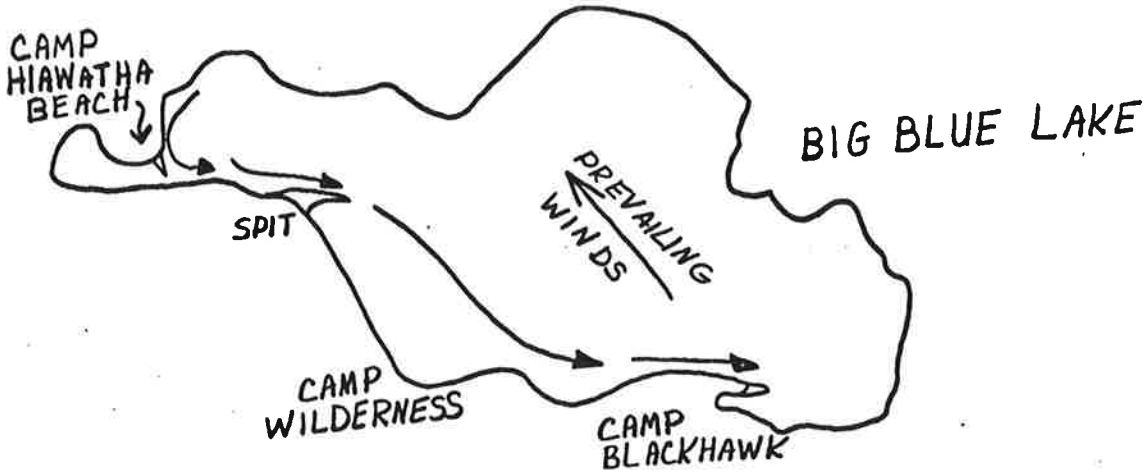
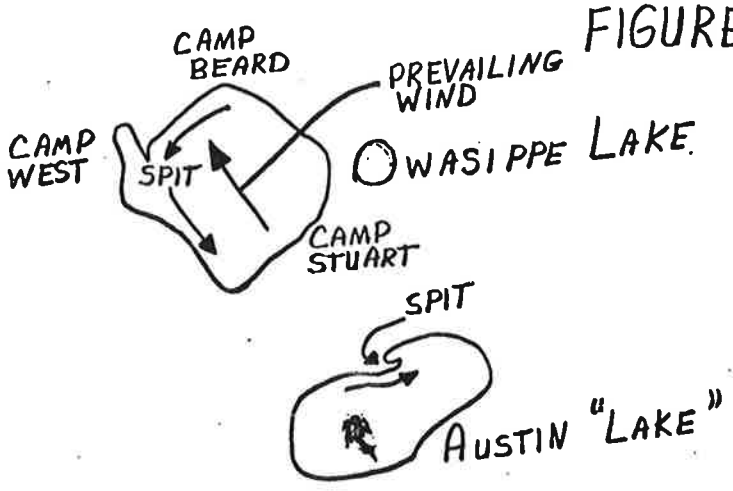


FIGURE 2



3 - FORESTS

The original forest covering Owasippeland was removed about 1870 by lumbermen. The bogs were usually burned and reburned. A forest primeval similar to that which originally covered the Owasippe area may be seen at Hartwick Pines State Park, about 150 miles northeast. This forest consisted of White Pine, Red Pine, Hard Maple, Beech, Oak, Hickory, and Paper Birch.

The areas of Owasippeland that are completely barren of trees were farmed for a few years. Early settlers got a good crop of wheat the first year but a very poor one the following years. Finally the sandy soil blew away. These areas and most of the woodlands have been so severely disturbed by lumbering and farming that they are not worth studying now.

4. STEEP SLOPE TREES

Different types of trees grow on a tall steep slope depending on whether the slope is facing north or south. The north facing slope receives less sunlight than does flat ground; the south facing slope receives more sunlight. You will find the north facing slope cool and damp and the south facing slope hot and dry. Different plants prefer these different conditions.

North facing slopes	South facing slopes
Black Walnut	Jack Pine
Butternut	White Pine
Linden	Black Oak
Sugar Maple	Sand Willow
Beech	Red Pine
Hemlock	Cottonwood
Tulip Tree	
Northern Red Oak	
Hickory	

Many slopes in the region are not steep enough or tall enough to show these differences. Others have been too severely distrubed.

The slopes of the White River Valley and lower Cleveland Creek are the best for showing these differences. An area called Hog's Back west of Big Blue Lake has both north and south facing slopes nearby for comparison.

Paradise Valley and the valley in which the pump is at Headwaters have slopes that are covered with the trees of the north facing slopes.

5 - BOGS

These lowland areas are the best places in Owasippeland to study nature:

a. The Silver Creek lowlands near Headwaters is good but it has been disturbed somewhat.
b. Teall Swamp.
c. Marl beds west of Square Lake.
d. Cleveland Creek Valley below the Wolverine Dam.
e. White River Valley
f. Paradise Valley.

However there are certain dangers in all these areas:

a. Quicksand. At the base of slopes around these areas quicksand can be found. You may sink to your waist in it but it is not likely that you will drown. Quicksand occurs near springs where water is pressured up from below.
b. Poison Sumac, much more poisonous than poison ivy. The leaf of poison sumac is compound with from 11 to 15 leaflets on the side of a central red-purple leaf-stem.
c. Treacherous footing on the bog mat. Commonly the surface of a bog is a mat of floating vegetation. To walk on it causes its surface to quake, to weave up and down. In places the vegetation is floating on water that is from 6 to 20 feet deep. Altho the danger of breaking through is somewhat remote, it can happen. A Roman soldier perfectly preserved, was removed from a bog in Germany 50 years ago.

6 - WHAT IS OF INTEREST IN BOGS?

Bogs are intensely interesting because they contain the pitcher plant, sundew, sphagnum (peat moss) and other peculiar plants.

The pitcher plant and the sundew are plants that catch and eat insects. Find their pictures in a book and look for them. Observe them in action. Bogs also are interesting because they show the complicated relationship between the plants that grow in them. A bog is a matlike cover over a body of water. Over a long period of time, lakes fill up with vegetation, turning them into bogs, and then to dry land.

These different stages of progression from open water to dry land can be observed in Owasippeland. Owasippe Lake has open water. Cherry Lake and Mud Lake are well filled with vegetation, Austin Lake more so and Lost Lake is nearly always dry.

Visit Lost Lake valley. The bed of the lake feels like walking on a mattress. If you jump on it the vibrations will carry through the peat and someone 50 feet away may feel the "kick". You may also fall through the mat.

Small lakes are more likely to become bogs than large lakes. Wave action in large lakes hinders development of bog plants and would tend to break up the mattress-like cover.

Most of these bogs have springs from which clean water flows. The most interesting springs are those in Teall Swamp. Water currents from them form Hidden Creek. Hidden Creek flows downstream about one-half mile and them disappears into the ground along the bluff north of Headwaters forming one of the sources of Silver Creek.

7 - WHAT GROWS IN BOGS.

7a - Aspen: All the bogs in the region have been burned and reburned. Those with aspen in them have had the most frequent fires. Usually these trees do not grow over large areas but only in small groves. Fires increase the density of these groves because several aspen sprouts will come from each burned stump and form root suckers. They are usually accompanied by brambles, raspberry and black berry. Aspen is not usually present unless the bog has been burned.

7b - Calomagrostis is the grass growing in bogs. It usually follows fires and can be found with aspen. It can stand a lot of flooding but not too much.

7c - Chamaedaphne is very common and can be found in nearly every bog in the region. It forms a dense stand of low shrubs rarely more than 30 inches high. Some bogs are almost entirely covered with it. Cherry Lake Valley is one. It also grows on logs that have fallen into bogs.

7d - Tall bog shrubs: These include the Mountain Holly, the Bog Willow, Hoary Alder, and the birch. They are not so very common. They shade out Chamaelaphne but are in turn shaded out by trees.

7e - Lowland Forest of Black ash and Red Maple may come up in burned areas with aspen or instead of it. They are often accompanied by beech, sugar maple, oaks and hickories.

7f - Tamaracks are "evergreen" trees that shed their needles in autumn. They cannot stand much shade. Light penetrates them to the ground. Their root system is very shallow and so they are easily toppled by the wind. Old tamaracks are seldom present. They will grow wherever there is sufficient light and are quite common in the Marl Beds west of Square Lake.

7g - White Cedars grow with hemlocks in our bogs. They cast a shade so dense that no ground plants occur under them. Fallen trees are frequent because of shallow root systems. Roots usually do not decay. The ground is covered with needles, twigs, and general debris. White Cedar bogs are very common at the bottom of the slopes of the White River Valley.

7h - Spruce grows in a few bogs of the region. One place is near Cleveland Creek below Blue Lake Town Hall. Balsam is often found with it. It shades out the tamaracks.

7i - A thicket of pussy willow and dogwood is found around the edges of certain bogs and along roadways cut through bogs. It grows in areas disturbed by man. It forms an overarching canopy which shades out shrubs and the other bog plants.

WHAT GROWS IN BOGS (continued)

7j - Pinery of white pine usually with basswood. This stage and those following can be found just southeast of the beach at Camp Blackhawk. Also at the bottom of Paradise Valley, along the White Trail at the Marl Beds, in the swamp near Hogs Back, and in several other places. It forms the pineries at the Indiana Dunes State Park. This stage is shaded out by the one below.

7k - Mixed hardwoods of northern red oaks, red maple, basswood, hop hornbeam, black walnut and butternut can be found in most of the lowlands in the region.

7l - Sugar Maple, beech, hemlock, tulip trees and basswood stage shades out the Mixed hardwood stage. It is the climax forest of the region.

Looking at all of these groups of plants together and remembering that some shade out others and eventually replace them we can plot all of them on a diagram to see what is happening in bogs. See Figure 5.

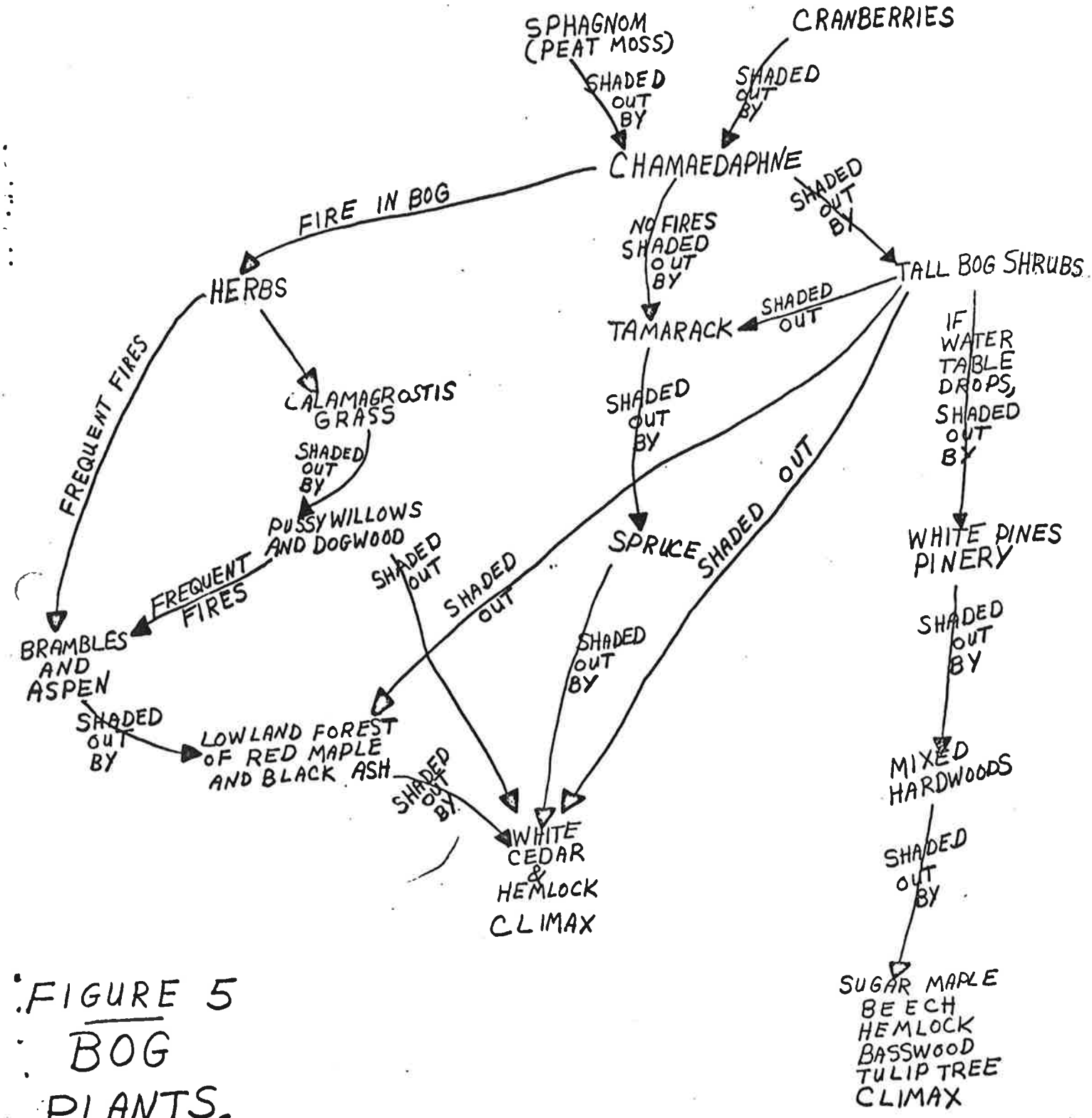


FIGURE 5
BOG
PLANTS.

8 - THE WHITE RIVER

The currents in streams and rivers carry along sand and silt. Where a small stream enters a larger one, the sand and silt carried by the smaller stream settles out and dams the larger streams. This creates a pool of deep water above the mouth and sandbars down stream. See Fig. 7

If you start your canoe trip in Cisco Rollway on the White River, canoeing will be easy until you reach the mouth of the North Branch of White River at Camp One Diamond. This is because you will be paddling in the deep water pool. Below the mouth of the North Branch the river will be full of sandbars so canoeing will be difficult for a few miles. Farther downstream you will enter the deep water above the mouth of Cleveland Creek and then canoeing will be easy. At the mouth of Cleveland Creek the sandbars begin again for a few miles.

It has been said that the easier canoeing is above the mouth of a tributary, the more difficult it is below.

The bottom of the White River Valley is full of abandoned river beds. When a river flows on nearly level ground it meanders; that is, horseshoe bends develop in it and then break off. Washouts develop across the necks of these bends. On your canoe trip, you can choose whether to follow the washout or stick to the river. The washout is much faster and shorter but there are many fallen trees and snags in it.

Tails of river bends (called BAYOUS) develop because the bend tends to move downstream over a period of time.

A full discussion of these river mechanics is given in the Fort Dearborn Trails Handbook.

The slopes of the valley bear marks of where the river has cut into them in past centuries and then changed its channel. Goose Island has been cut into by at least four different river bends, each one at a different time.

9 - FLOODPLAIN FOREST

The White River floodplain forest grows on sandbars along the river. An explanation of how it is formed is found in the Fort Dearborn Hiking Trails booklet. It contains trees not found in the Chicago area. See Figure 6. Because the river has changed its course and cut back on itself so many times, these trees can be found in scattered belts up and down the river valley, wherever the river has deposited sand. White Cedars and Hemlocks grow in the former river beds.

FIGURE 6.

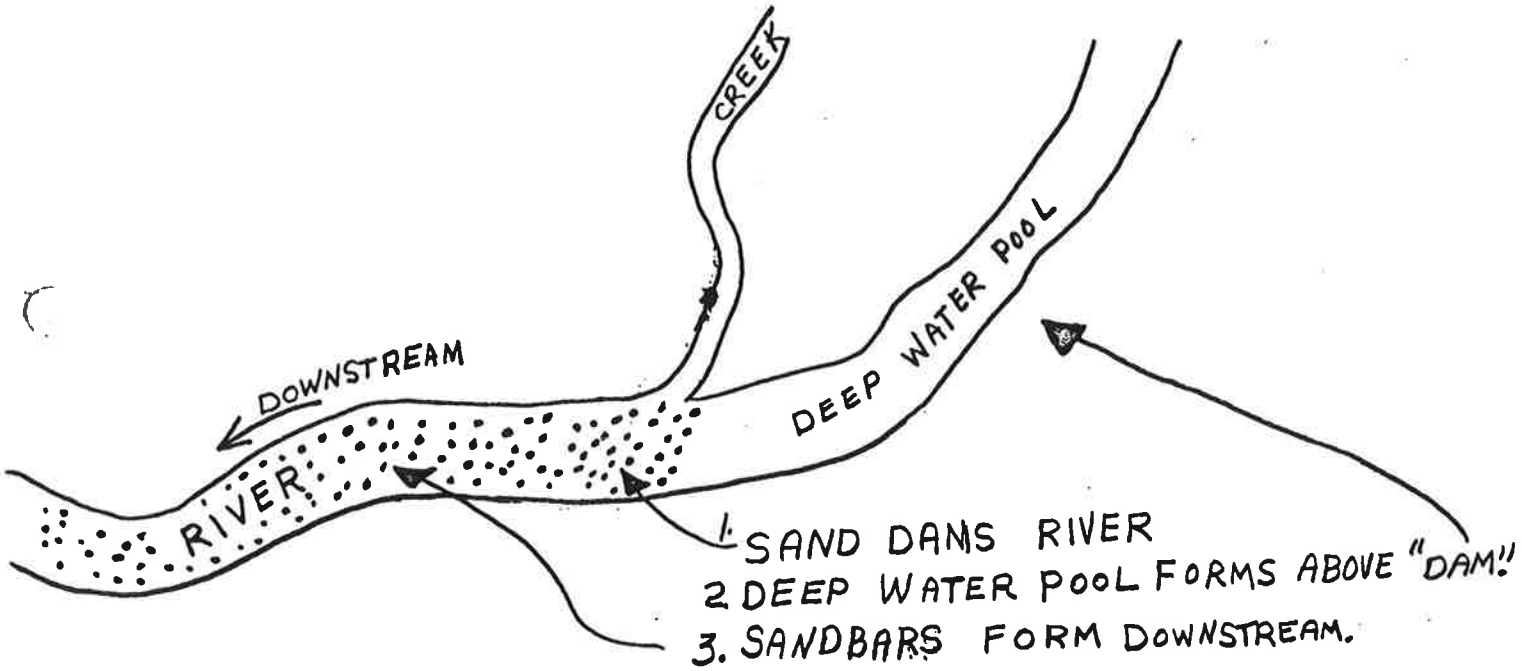


FIGURE 7.

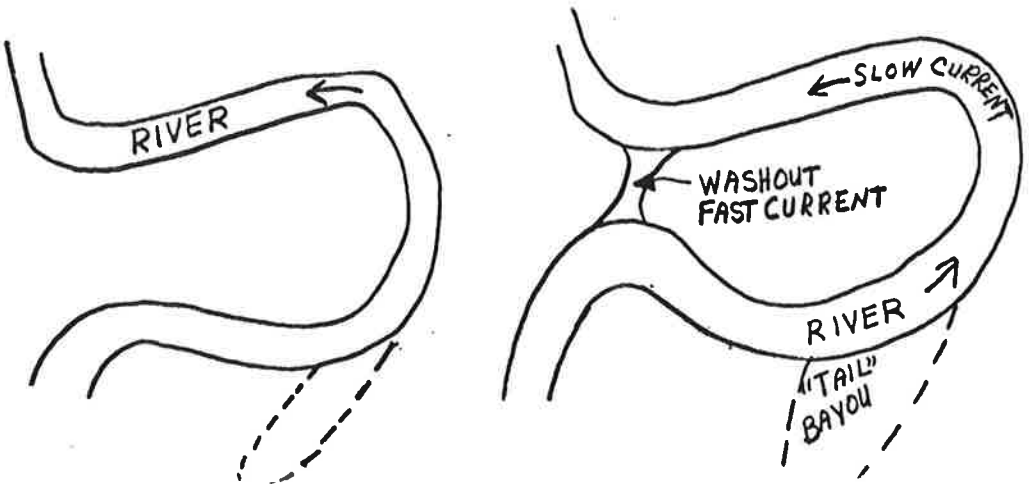


FIGURE 8

11 - MARL BEDS

The White River was called Ouabicipi (which means White River) by the Indian Tribes in this area and is given this name on old maps. It was called this because the Indians found a white clay known as marl here. They used this clay for washing their blankets. Several marl beds are indicated on the map.

This marl was formerly dug up for use as a fertilizer. At Kopec Lake large amounts were removed. The marl beds area west of Square Lake show signs of having been worked also. In the vicinity there is a small waterfall.

The presence of a plant along the bottom of a lake, known as stonewort is of much interest because of the part it plays in the development of marl beds. Where it grows may also be seen great quantities of snail shells. The working together of stone depositing plants and animals eventually produces a layer of marl many feet in thickness and contributes much to the filling of our lakes.

12 - LICHENS

For these interested in special studies Lichens, Mushrooms, Mosses, Horsetails, Ferns and Clubmosses appear. These reproduce by spores, not seeds. Each Lichen is a combination of an alga and a fungus, the green or blue green alga serving as a food producing part, the fungus as a protector and holder of moisture. Mutually the two prove helpful to each other. Across the ages they have become so completely dependent, each upon the other, that the alga and fungus of their respective species must each have the other in order to live.

Our common lichens are of three types: Crustose, Folicse and Fruiticose. Encrusting surfaces of rocks and other hard surfaces are the crustose forms. On the bark of trees throughout the forest about our lakes are foliose lichens. These plants grow on the bark of trees, especially on the north side or on the south side if sufficiently shaded. The commonest of these is called Parmelia. Fruiticose lichens extends upward 1/2 to 2 inches above the ground and are known by bright red tops -- red - - fruited lichens, by spire-like or finger-shaped finger lichens, by branching like reindeer-horns -- reindeer lichens.

13 - SCOURING RUSH

Your attention will be called to the beds of horsetails around the lake. These plants were collected by your great grandmothers and used to scour skillets, teakettles and other kitchenware. The stalks contain silica, a very fine sand-like substance. Because of this use the horsetails are also called scouring rush.

14 - FERNS

Ferns are of many kinds with the bracken fern and the cinnamon fern by far the most common. Bracken fern is called the weed among ferns.