

ECOLOGICAL INVESTIGATION OF HURON
MOUNTAIN CLUB FOREST TYPES

Eric A. Bourdo, Jr. and James A. Johnson

September 1962

ECOLOGICAL INVESTIGATION OF HURON MOUNTAIN CLUB

FOREST TYPES STUDY NO. 28

(1962)

I. Introduction

The Huron Mountain Club property, located approximately five miles north-west of Big Bay, in Marquette County, is one of the most unique and one of the last few remaining "virgin forests" of Michigan. The Club has preserved a "natural area" around the many lakes within the property. This area is to be preserved as an undisturbed natural area for the enjoyment of club members and for the furtherance of ecological studies of flora and fauna of a climax forest community. It has been the policy of the club to encourage researchers to pursue scientific studies on their property. Through the efforts of the Huron Mountain Club Wildlife Committee, working with University officials, the way was prepared in 1962 for University researchers to begin short or long term research projects on club lands.

II Objectives

The University recognizes the immense value of having such an extensive natural area at its disposal for the furtherance of scientific studies by both students and faculty. The University will, therefore, encourage graduate students and faculty members to avail themselves of the opportunity extended by the Huron Mountain Club to engage in scientific studies in their respective fields of interest on Club property.

III. Research Projects

A. Long Term Studies

1. The first study initiated in 1962 was for the purpose of studying the kind, rate and direction of change that occurs in a climax forest stand. A series of one-fifth acre circular plots were established in selected timber stands. These plots are identical with the research plots established on the Ford Forestry Center research forest. Every tree 5 inches d.b.h. and larger is numbered and detailed tree measurements recorded on I.B.M. cards. All plots will be measured at 5 year intervals. Additional plots will be continually added as time permits.

It has been a popular opinion that the virgin forest is in equilibrium, although this has never been proven. However, trees are living, growing, changing individuals, which germinate, mature, age, and die much as humans do. Therefore, the climax stand is really a dynamic entity which continually changes in composition and population; and the change is most marked when relatively small areas are considered. With each succeeding remeasurement we expect to record the rate of growth of individual trees of different species, and to note the effect of competition between trees of various sizes and species. We will also note the changes which take place in the plot as a whole and will, for the first time, have produced a reliable, long-term record of what happens over a relatively long portion of the very long life of a climax stand.

Only on Huron Mountain Club land is it likely that plots in virgin timber will remain undisturbed for a long enough time to obtain adequate

data. Attempts to obtain similar information on private lands were negated by unforeseen (and in all fairness, unavoidable) corporate policy changes which resulted in decimation of the timber.

The first series of twenty-one study plots established in 1962 were remeasured in 1968. An additional 7 plots were established in 1969 and 1970 and will be due for a five year remeasurement in 1974 and 1975.

2. The second long term study involves soil-site studies tied to the same permanent study plots. We have initiated a study of the relationships between soil type and forest growth which has already been completed on our research forest and now is being extended on a cooperative basis to cover the entire Upper Peninsula. Nowhere, however, can we study the relationship between soil types such as occur on Club lands in virgin growth, because to our knowledge no virgin stands any longer exist on these soils except on Club property.

It is for this reason, therefore, that we secured the assistance of the U. S. Soil Conservation Service to classify the soil at each established plot and to describe the profile in detail. These data, in conjunction with our plot measurements, will provide productive capacity of the soils and will be useful as a guide for forest growth potential on lands being managed for timber production.

B. Short Term Studies

1. University personnel have conducted the following short term studies on Huron Mountain Club lands. Dr. Beaufait studied jack pine stands as a part of his broader interest in the origin and reproduction

of jack pine as a commercial species. Prof. Fred Bevis surveyed the lichens (especially Cladoniae) of the Club as part of his survey, and publication on, the Cladoniae of the Upper Peninsula. Dr. Robert Brown made phytosociological releves across the jack pine stands of the Club's littoral stands as a part of his study of the phytosociology of the jack pine type, and especially for comparison with his work on the much more extensive Baraga and Yellowdog outwash plains. Dr. Kenneth Kraft sampled jack pine cones to compare infestation of the cone parasite, Lespyresia toreuta, in littoral stands with those on the outwash plains named above. Dr. Eric Bourdo collected plants on the Club's property for inclusion in the Center's herbarium.

IV. Conclusions

It is obvious that the research potential of the Huron Club property has hardly been tapped. The variety, purity and undisturbed character of the Club's forest and lakes can provide challenging studies in many fields. Extensive phytosociological studies within the reserved area should be made.

The Club has provided Cedar Cabin on Ives Lake for exclusive use of University personnel. The availability of this Cabin provides a comfortable, convenient headquarters and living quarters for researchers. Continued efforts are needed to promote and support the use of these facilities which have been so generously provided for our use by the Huron Mountain Club.