

# A Preliminary Floristic Survey of the New Botanical Gardens

by James S. Wilson

The following report is the result of a floristic survey conducted on the site of the new University of Michigan Botanical Gardens located near Dixboro, Michigan. The survey was managed by the writer **June 15 to September 15, 1958**.

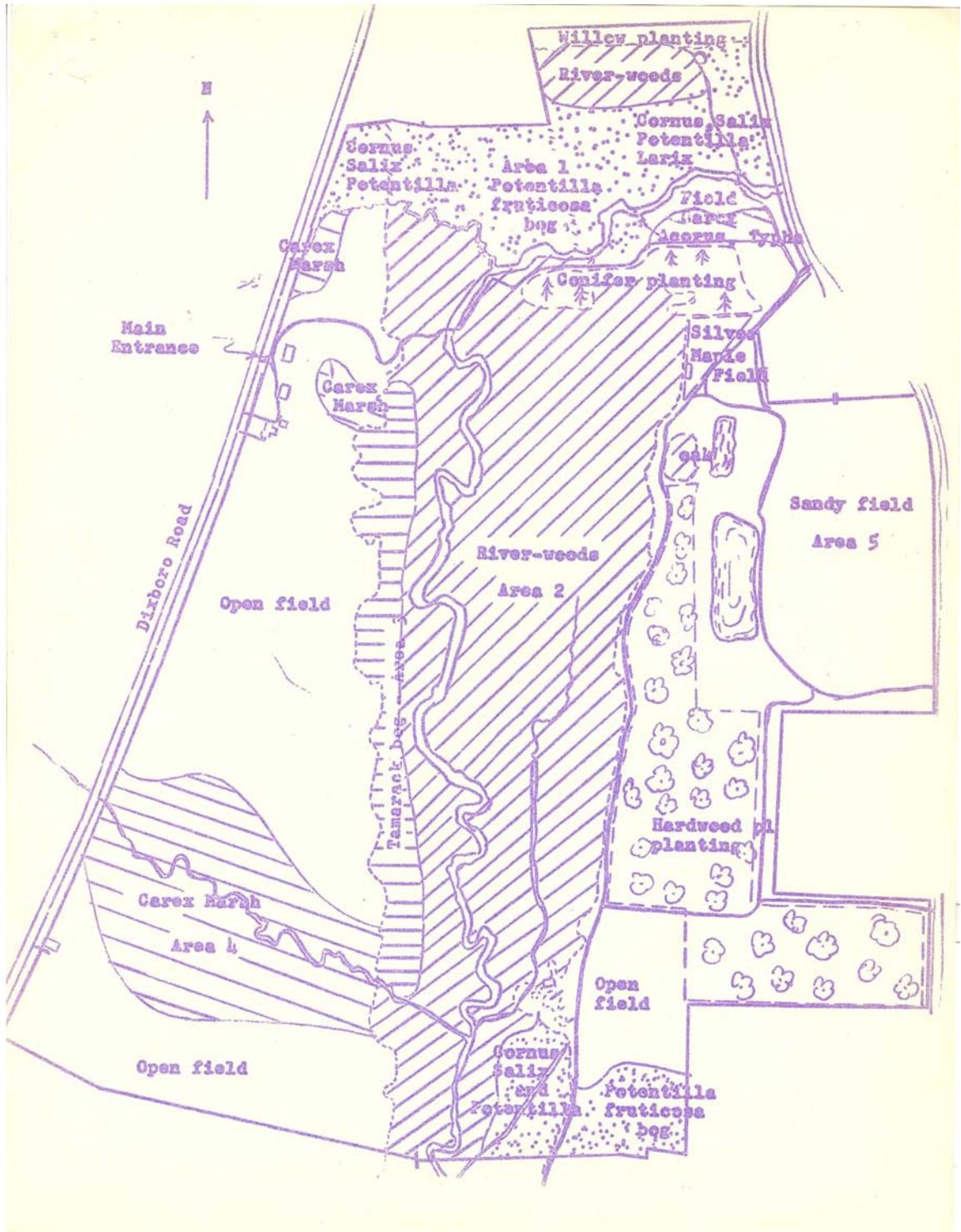
There were two objectives to the survey. One was to attempt to determine what natural ecological habitat areas the property contains. The second was to identify to species (or at least to genus) and to prepare a check-list of all the vascular plants which were found to occur upon the site. No attempt was made to collect voucher specimens to document the check-list.

## Ecological Habitats

Initial scouting resulted in the division of the area into several ecological habitats (see map, page 2). The first two weeks were spent recording the dominants in the different ecological area. Five typical, natural, ecological habitats were then chosen and studied at two or three week intervals, to allow for a change of vegetation and the appearance of new species.

The five areas chosen for study were: the *Potentilla fruticosa* bog, Area 1; the river-wood habitat, Area 2; the tamarack bog, Area 3, the *Carex* marsh habitat, Area 4; and the sandy field habitat, Area 5. The open field habitat, the willow plantings, the conifer plantings, and the hardwood plantings were not studied extensively. These habitats are either artificial or are being continually changed by man.

The largest and floristically most luxuriant of the habitats is the river-woods, Area 2. The dominants, which cover this area, are the large deciduous trees and shrubs. The American elm (*Ulmus americana*) is the dominant and most abundant tree in the area. Other trees of importance are the white and black oaks (*Quercus velutina* and *Q. rubra*), the white and black ashes (*Fraxinus americana* and *F. nigra*), basswood (*Tilia americana*), and box elder (*Acer negundo*) (almost entirely along the stream). There are a few young black maples (*Acer nigrum*) which may indicate that this habitat, now a mature elm woods, may be in the beginning stage of the climatic (*sic*) maple woods. Beneath the canopy formed by these trees are dogwoods (*Cornus obliqua*, *C. racemosa*, and *C. stolonifera*), Viburnum (*Viburnum lentago* and *V. trilobum*), and elderberry (*Sambucus canadensis*). Common constituents of the herbaceous layer are nettles (*Urtica* and *Laportea*), bedstraws (*Galium*), grasses, and jewel weeds (*Impatiens*). Two vines, poison ivy (*Rhus radicans*) and wild cucumber (*Echinocystis lobata*), are abundant in this area. An unusual plant found here is the green dragon (*Arisaema dracontium*). It is a close relative of the Jack-in-the-pulpit (*A. atrorubens*) which also occurs in these woods. Along the east edge of Flemming (*sic*) Creek, near the wooden foot bridge, is a large patch of cowparsnip (*Heracleum lanatum*). Common along the creek during mid-summer are many genera of woodland Labiatae and Scrophulariaceae such as *Scrophularia*,



*Teucrium*, *Prunella*, and *Mentha*. The vascular flora of Flemming (*sic*) Creek is rather limited. The eight species which were identified from there are *Elodea canadensis*, *Ceratophyllum demersum*, *Heteranthera dubia*, an undetermined *Sparganium*, *Potamogeton pectinatus*, *Ludwigia palustris*, *Sagittaria latifolia*, and *Vallisneria*. A notable character of the woods habitat is the abundance of a scale insect. This insect covers essentially all of the vegetation and is undoubtedly causing severe injury to much of it. It is believed that the spraying which has been done to control the Dutch elm disease has killed the predator of the scale insect. If this habitat is to be preserved, something must soon be done to control this insect.

The tamarack habitat, Area 3, quite interesting in itself, is limited in the number of species present. Tamarack (*Larix laricina*) is the dominant tree of the area, and dogwoods, buckthorn (*Rhamnus alnifolia*), and poison sumac (*Rhus vernix*) are the dominant shrubs. This is the only area in the garden where poison sumac is found. Many grasses and sedges cover the ground, and pockets of Sphagnum occur occasionally throughout this area.

The sandy field habitat, Area 5, by the small ponds, shows a fine example of xeric succession. This area nicely illustrates what is called a weedy habitat. It would be beneficial to ecologists and taxonomists if part of this area were bulldozed (*sic*) each year so that at any one time this area would exhibit all stages of xeric succession. Mowing of the area should be discontinued if this suggestion is followed.

The *Carex* marsh habitat, Area 4, is characterized by *Carex stricta*, which is by far the most abundant and dominant plant of the area. Other sedges, and later in the summer, many different composites – asters (*Aster*), goldenrods (*Solidago*), Joe-pye-weeds (*Eupatorium*), thistles (*Cirsium*), etc. are also found here. There are very few trees or shrubs in the area, only an occasional dogwood, elderberry, or hawthorn (*Crataegus*). In the spring the marsh is covered with sedges, but as the summer progresses more composites are evident.

The *Potentilla fruticosa* bog, Area 1, which is at the north side of the property, is interesting and contains many unusual plants. Bog cinquefoil (*Potentilla fruticosa*) is the dominant woody plant in this habitat, and carices are a prominent ground cover. Two orchids, *Pogonia ophioglossoides* and *Calopogon pulchellus*, are found in this area. At the limits of the bog is a ring of *Cornus*, which is probably the ecotone plant between the bog and woods. The *Potentilla fruticosa* bog changes near its west boundary at an old fence-row, and becomes a second association of *Cornus*, *Salix*, *Potentilla*, and *Larix*, but more dense than the similar section at the western end of the area.

The cattail-sweetflag (*Typha-Acorus*) marsh association is the only one of its kind on the property. However, other species are essentially the same here as in the other marsh areas.

The willow planting is floristically uninteresting and little attention was paid to it.

The hardwood planting was not studied intensively as its flora is artificial in origin. The plantings include *Aesculus glabra*, *Ulmus americana*, *Quercus macrocarpa*, *Gleditsia tricanthos*, and *Acer saccharinum*. Scotch pine (*Pinus sylvestris*) is also planted on the property.

The open fields were not studied as they were continually being mowed. Common vegetation, however, is composed of grasses, several species of *Potentilla*, and other field plants able to live in an acid soil. If the open field, east of Flemming (*sic*) Creek, at the south end of the property is to be allowed to pass through an old field succession it should not be mowed.