

Soil Investigation on Au Gres River State Game Area

The area covered by the Au Gres River State Game Area was mapped in reconnaissance by C. E. Millar before the unit was dedicated. The Iosco County part was remapped by Michigan State College in 1942 also in reconnaissance.

It being generally accepted that none of the mappers were in the interior of a block of some twelve square miles largely mapped as Bergland loam and Rifle peat, a separate investigation was carried on during the week of May 6th to 10th. The purpose of this work was to check boundaries and classifications inside this block of land along the Arenac-Iosco Counties line in Range 6 and 7N, and obtain a general picture of the depth of the organic deposits.

Data has been placed on blue line Master plan maps of the two counties cemented together. Soil boundaries in solid black are based both on my own work and that of Millar and the College. Dashed boundaries in black are guessed from aerial photographs and in which I have but little confidence. The solid boundaries I consider to be correct in a reconnaissance detail. The routes I took in this area are shown in solid red lines on this map. The route of a proposed drain across the project is shown in green.

A rough descriptive legend follows:

- 30 - Lupton Muck. This is fairly well decomposed dark granular muck generally timbered with black ash, elm, and soft maple with either tree and shrub species more scattered. This symbol 30 has been shown on the maps as the numerator of a fraction and the denominator indicates the depth of the organic deposit over sand or clay or if over 4 feet (the length of sugar carried) indicated as $\frac{4}{4}$. Several places were found where the deposits were over 4 feet deep but due to the nature of the country and seeing ditch cuts through the deeper parts it is thought that the deepest deposits of muck are probably not over 6 or 7 feet. There are both sand islands and clay islands in this separation that cannot be separated without intensive work on each forty. The clay islands are potentially good agricultural soil while the sand areas range from agriculturally useless Wallace ridges to Newton spots that have poor agricultural possibilities.

There is at present about 2000 acres of this type State owned within the Game area boundary. This muck has as good potentialities as any muck in this part of the State. That now under cultivation in this vicinity of the State averages shallow or from 1 to 4 feet in depth.

- 84 - Bergland Loam. Bergland loam is a heavy textured dark colored developed from till and lake clay under poor drainage. It is highly fertile. Included as mapped in reconnaissance are sp Selkirk loam or silt loam, Ogemaw sandy loam and Munuscong s loam, and spots of muck usually 1 foot or less deep. Clear drained this soil association rates first class for general and dairying or livestock farming.

The State now owns about 800 acres of this type in the Game Area - largely in sections 2, 3, 4, 9, 10, and 11 of T 20N R 7E.

- 13- Selkirk loam to Silt loam. This soil is a minor type in the area investigated, however, it is an extensive type surrounding the Game area. It consists of a loam to silt loam surface developed from heavy to moderately heavy clay under conditions of fair to imperfect drainage. This type is probably the back bone of the agriculture of Arenac and Iosco Counties and in these counties is a first rate soil.
- 15- Ogemaw sandy loam consists of from 1 to 3 feet of sand to sandy loam material overlying clay. Drainage ranges from intermediate to imperfect and some artificial drainage is usually desirable for cultivated crops. It generally occurs in association with spots of Bergland and Munuscong soils. Locally Ogemaw-sandy loam is a third rate soil.
- 85- Munuscong sandy loam consists of 2 to 4 feet of poorly drained sand and sandy loam material over clay. The surface is high in organic matter and drained and cleared this soil is locally second rate to first rate land.
- 86- Newton sand. Newton sand consists of a thin layer of organic matter over gray sand. This soil has developed with water table near or over the surface much of the year. This soil is normally acid. It is generally considered too poor to clear and drain for general farm crops.

Included in areas as mapped are areas of Saugatuck sand, Wallace sand and Shallow muck. With the exception of the muck they are all of less value for farm crops than Newton, and the shallow muck areas are usually too small to be of much value.

- 36- Saugatuck sand. Saugatuck sand is smooth, but hummocky sand lying just above water table having a reddish brown cemented layer 10 to 18 inches below the surface. This layer is underlain by gray acid sand. The surface layer consists of a thin layer of organic matter that rapidly disappears under cultivation leaving grayish sand. The soil is strongly acid. General agriculture does not long endure on this soil.

Associated with Saugatuck and included with it in reconnaissance mapping are areas of Newton, Wallace sands and spots of shallow muck and peat.

- 89- Granby sandy loam. Granby normally consists of a dark colored sandy loam high in organic matter and neutral to alkaline in reaction from 6 to 10 inches thick over gray alkaline sand. This soil developed under high water table and requires artificial

drainage for agriculture. I have designated an extensive area mapped by the College on their Land Type Map as Newton and Granby sandy loam. This area occurs in sections 24, 25, 26, 27, 28 and 33 of T 21N R 6E and while not uniformly alkaline or neutral in reaction is uniformly a heavier textured soil than Newton sand. The surface or plow soil to a depth of 8 to 10 inch is a very dark mixture of mucky organic matter, sand and small amounts of clay. Thin layers of clayey material often occur directly beneath the plow soil. Thin layers of clay from 1" to 2" thick often occur at depths of from 2 to 3 feet. Apparently much of this area was shallow muck that has been partly burned and worked into underlying sand and clayey sand material. The soil resulting is about third rate for general agriculture and under careful management probably will continue in agriculture for many years. Indicated on the map as included types in with Granby are the following: 7. Maumee loam, not essentially a different soil than described as Granby, 30/15 on Lupton Muck about 1 foot deep over sand, 86 - Newton sand, 36. Saugatuck sand, and 66 - Wallace fine sand. The sand variations, namely Newton Saugatuck and Wallace probably do not constitute over 1/4 of the total area.

66. Wallace fine sand is the soil type of the old wind and water heaped up sand ridges that have developed a cemented hardpan at 12" to 24" below the surface. This soil has no agriculture value, and often proves to be poor building sites due to ease which the sand gets to blowing again.

At the time the Game Area was dedicated it was generally accepted that muck and most large areas of Bergland soils were non-agricultural or pasture soils at the best. Present development seems to indicate that these soils have a higher value in this particular locality. Land clearing and development in this area is not extensive in spite of plenty of talk. There is still plenty of clearing to do before State ownership stands in the way of development. The speculative value of state-owned muck and Bergland loam that various individuals hope will be for sale at a low price probably causes plenty of the talk.

However there seems no question in my mind but that if present trends continue it will be necessary to move the dedicated boundary northward to the line between sections 19, 20 and 29, 30 T 21N R 7E.

The question as to when this boundary shift should be made is rather difficult to answer. The State land worth clearing for agriculture is probably 80 to 90 percent covered with good stands of swamp hardwoods, black ash, elm and soft maple, ranging in diameter from 6 to 12 inches. This should increase in value rather rapidly. It is good deer cover and seems to have a good deer population. There are numerous small marsh spots where ducks and muskrats now stay.

Thus this land should probably be held in its present state for forest and game reasons until it is needed and will be cleared for agriculture.

Any drainage improvement in this area will undoubtedly increase tree growth and improve the area for deer and grouse while making it of less value for ducks and muskrats.

At the same time I doubt if game, timber or other interest would be seriously damaged by moving the dedicated boundary back at once and placing the State land south of the south line of sections 19 & 20 T 21N R 7E for sale to the highest bidder.

The loss of this state owned land from the present public hunting ground will subtract very little actual public hunting ground, as it is almost impossible to gain access to the state land south of the south line of section 19 and 20 T 21N R 7E without crossing private land.

CW:cb
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Cash Wanser