### SCHEDULE OF INQUIRIES ON FOREST CONDITIONS OF WISCONSIN; LINCOLN COUNTY.

[Filibert Roth, 1897.]


#### I. OWNERSHIP.

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total area</td>
<td>576,000</td>
</tr>
<tr>
<td>Total area (Forestry Division)</td>
<td>576,000</td>
</tr>
<tr>
<td>Land surface (Forestry Division)</td>
<td>572,000</td>
</tr>
<tr>
<td>Land surface (U. S. Land Office Rept.)</td>
<td>581,000</td>
</tr>
<tr>
<td>Land surface (chief geographer, U. S. Geol. Survey in Census Bul., 1890)</td>
<td>448,000</td>
</tr>
<tr>
<td>1. Actual settlers, farmers, etc.</td>
<td>49,000</td>
</tr>
<tr>
<td>2. Private owners not occupying land</td>
<td>447,000</td>
</tr>
<tr>
<td>3. Of this is owned by lumbermen 60 per cent.</td>
<td></td>
</tr>
<tr>
<td>4. Railway companies (Wisconsin Central Railway)</td>
<td>41,800</td>
</tr>
<tr>
<td>5. Township</td>
<td></td>
</tr>
<tr>
<td>6. County</td>
<td>4,000</td>
</tr>
<tr>
<td>7. State</td>
<td>19,440</td>
</tr>
<tr>
<td>8. Of this in bodies over 160 acres 66 per cent.</td>
<td></td>
</tr>
<tr>
<td>9. United States lands</td>
<td>11,200</td>
</tr>
</tbody>
</table>

#### II. GENERAL SURFACE CONDITIONS.

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
<th>Per cent. of total.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cultivated land</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>2. Forest and waste lands</td>
<td>553,000</td>
<td>97</td>
</tr>
<tr>
<td>3. Virgin forests</td>
<td>345,000</td>
<td>60</td>
</tr>
<tr>
<td>4. Virgin forests in tracts of over 160 acres</td>
<td>345,000</td>
<td>60</td>
</tr>
<tr>
<td>5. Cut-over lands</td>
<td>158,000</td>
<td>28</td>
</tr>
<tr>
<td>6. Swamp</td>
<td>50,000</td>
<td>9</td>
</tr>
<tr>
<td>7. Lakes</td>
<td>10,000</td>
<td>2</td>
</tr>
<tr>
<td>8. Land best to be left as forest</td>
<td>145,000</td>
<td></td>
</tr>
</tbody>
</table>

*The U. S. Census, 1890, gives 63,481; the above is figure of state census, 1895.

†U. S. Census of 1890 gives this at 10,500; the above is State census.
III. CONFIGURATION AND WATER COURSES.

1. Of total area, 20 per cent. long slopes; 10 per cent. hilly land; 55 per cent. rolling; 15 per cent. low flats.

Note.—No hills over 300 feet high; most large hills have long slopes; considerable “pot hole” land exists both in loam and sand land area. The entire county is drained by the Wisconsin and its tributaries, the Prairie, Pine, Spirit, Somo, Tomahawk, New Wood, and Copper rivers, all of which furnish good driving facilities.

IV. SOIL AND DRAINAGE.

1. Strong clay, 20 per cent. of area; depth, great; color, gray; grain, fine, mixed with gravel and large stones. Loam, 60 per cent. of area; depth, great; color, gray; grain, fine, mixed with gravel and large stones. Loamy sand, 20 per cent. of area; depth, great; color, reddish gray; grain, medium, with little fine gravel.

2. Good farm land, 30 per cent. of area; drainage, good. Medium farm land, 45 per cent. of area; drainage, good. Forest soils proper, 25 per cent. of area; drainage good.

Note.—Many of the marshes make fine farm land.

1. Railways (names), Chicago, Milwaukee and St. Paul; Chicago and Northwestern; “Soo,” Wisconsin and Chippewa. Miles, complete, 82.

V. FACILITIES FOR TRANSPORTATION.

2. Roads in good and bad condition, about 300 miles; roads not yet opened, about 1,500 miles.

3. Streams large enough to float timber, over 200 miles; useable, six months per year.

VI. WOOD INDUSTRIES.

1. Pine mills cut in 1897, 120,000,000 feet; saw little hemlock or hard woods.

2. Tan bark, 30,000 cords hemlock.

3. Other woodworking establishments:
   - Merrill was the head of raft navigation, and lumbering began as early as the fifties.

   In 1895 the product of the wood industries of Lincoln were valued at $2,350,000.

   (To be amplified by census statistics.)
VII. MARKET. (g=unlimited; l=limited; n=none at all.)

White Pine stumpage, g; logs, g; lumber, g; firewood, l-n; mill refuse is used.
Norway stumpage, g; logs, g; lumber, g; firewood, l-n; mill refuse is used.
Hemlock stumpage, l; logs, l; lumber, l.
White Cedar stumpage, l; logs, g.
Tamarack stumpage, n; logs, l-n.
Oak stumpage, l; logs, l; lumber, g; firewood, l.
Elm stumpage, l; logs, l; lumber, g; firewood, l.
Basswood stumpage, l; logs, l; lumber, g; firewood, l.
Birch stumpage, l; logs, l; lumber, g; firewood, l.
Ash stumpage, l; logs, l; lumber, g; firewood, l.
Maple stumpage, l; logs, l; lumber, g; firewood, l.
Poplar stumpage, l; logs, l; lumber, g; firewood, l.
Chiefly Birch and Maple is sold for fuel.
Hemlock bark, good; Oak bark, none to be had.

Note.—Stumpage of hemlock and hardwoods has no ready market; it is sold for the labor of clearing, etc.; hemlock stumpage is being sold for bark purposes to a limited degree.

Two principal areas must be distinguished:

(1) The level and rolling clay and loam lands occupying about 80 per cent. of the county, and stocked with a mixed forest of hard woods, hemlock, and pine. The soil is generally a gray loam on a deep gray clay and loam; subsoil more or less mixed with gravel, and some stone of larger size. In places, as on nearing the rivers and also along the sandy area in the northern part, the soil becomes a sandy loam, usually with much gravel, and in other places, particularly the southwestern and western part, it is a heavy loam and clay. These differences in soil are reflected in the forest cover, almost pure hard woods occupying the heaviest clays and most fertile loams, a hemlock forest stocking the lighter gravelly loams and the pine predominating on the sandy stretches.

The pine is cut from nearly all parts of this area, but its removal has left the woods generally an undisturbed, dense, unculled, mixed forest of hard wood and hemlock, in which the former existence of pine is hardly noticed, since the humidity maintained, prevented both the starting and running of fires.

Narrow belts of sandy gravel and sand, along the Wisconsin and some of its tributaries, formerly stocked with heavy pine forests, now all cut and the slashings burned and largely waste. On some of these old slashings pine groves of young white pine may be seen.
2. A level sandy pinery area, occupying the northern part of the county east of R. 5 E., forming a broad V-shaped body, rapidly widening from its apex, below junction of Wisconsin and Tomahawk rivers, and extending into Oneida.

The soil and subsoil here is a light loamy sand of great depth, medium grain, and generally a reddish gray color, more or less mixed, locally, with a fine gravel. This area was densely covered by a forest of white pine, with about 20 per cent. Norway, and, locally, some jack pine. This is now practically all cut, and repeated fire have cleared the greater part of all forest cover, leaving the ground covered by brake, sweet fern, and bushy scrub oak and poplar, neither of which seems capable to form a tree under these conditions. A number of fire-damaged groves of sapling and small pine interrupt these tracts of barren lands.

VIII. FOREST GROWTH.

A. Timber lands, i.e., from which little or no timber has been taken.

(a) Originally: Mixed forest, 75 per cent. of area, in which Pine, 40 per cent.; hard woods, 30 per cent.; Hemlock, 30 per cent. Pine woods, 14 per cent. of area; swamps, 9 per cent. of area; lakes and rivers, 2 per cent. of area.

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(b) At present:
1. Hardwoods:

Of these, proportion in mixed forest—

Oak, 3 per cent., nearly all Red Oak; Elm, 20 per cent., nearly half Rock Elm; Ash, 5 per cent., nearly all Black Ash; Maple, 15 per cent.; Basswood, 25 per cent.; Birch, 30 per cent.; White Birch and Poplar, 2 per cent.

Size and quality vary with the soil. Maple is very abundant, but much is defective. Hickory, Blue Beech, Hop Hornbeam, and Butternut occur.

The standing pine suitable for ordinary logging is placed at about 75,000,000 feet. To this must be added large quantities of scattered material which is being logged, chiefly by farmers, in a small way, and which will swell the total cut easily to 250,000,000 feet B. M.

2. Mixed conifers, with or without hard woods, 345,000 acres; yield, 6,000 feet per acre; Hemlock, 50 per cent.; quality, good; diameter, 18 inches; height, 55 feet; hard woods, 50 per cent.; quality, common; diameter, 18 inches; height, 70 feet; Hemlock is good, cuts 2½-3 logs per tree, 10 logs per 1,000 feet; hard woods, short-bodied, 2 logs per tree, 6-8 logs per 1,000 feet; White and Norway Pine mostly cut.
SCHEDULE OF INQUIRIES.

Undergrowth and soil cover: Humus, not deep; moss, bare. The undergrowth is formed of young trees, Bush Maple, Hazel, Dogwood, also small Blue Beech, Hornbeam, and Balsam.

3. Swamp forests, 30,000 acres; yield, 3 M. feet, or 6 cords; Tamarack, 50 per cent.; height, 80 feet; diameter, 12 inches; White Cedar, 40 per cent.; height, 50 feet; diameter, 16 inches; Spruce, 10 per cent.; height, 50 feet; diameter, 12 inches. The swamps are generally stocked, many have suffered from fire, and many have trees of "all one size," and all too small to use, so that the yield, when large areas are considered, is not very great.

B. Cut-over lands, i. e., where most or all valuable timber has been removed.

1. Total, 158,000 acres.
2. Tracts owned in quantities of over 160 acres.
3. Land not burned over, but no merchantable timber left, 100,000 acres.
4. Land burned over recently and waste, 58,000 acres.
5. Land stocked with young growth of Pine, 10,000 acres.

Of this—

White Pine, 80 per cent., with Poplar; Norway, 20 per cent., with Poplar; Birch and Poplar found on all slashings, but of no promise.

White Pine is 1 to 20 feet high, grows thriftily. Norway Pine is 1 to 20 feet high, grows thriftily. Some very promising little groves occur about Merrill.

6. On these lands there is generally much fallen timber of all sizes; the humus is burned off. The soil is covered with débris, popular brush, and on sandy land by sweet fern and cherry. The chance of seeding is poor, often wanting over large districts. Danger of fire very great during every dry season. Help to fight fires is inadequate where most needed.