

# HISTORIC OVERVIEW OF LOGGING IN THE CROSS RIVER WATERSHED: 1895-1925

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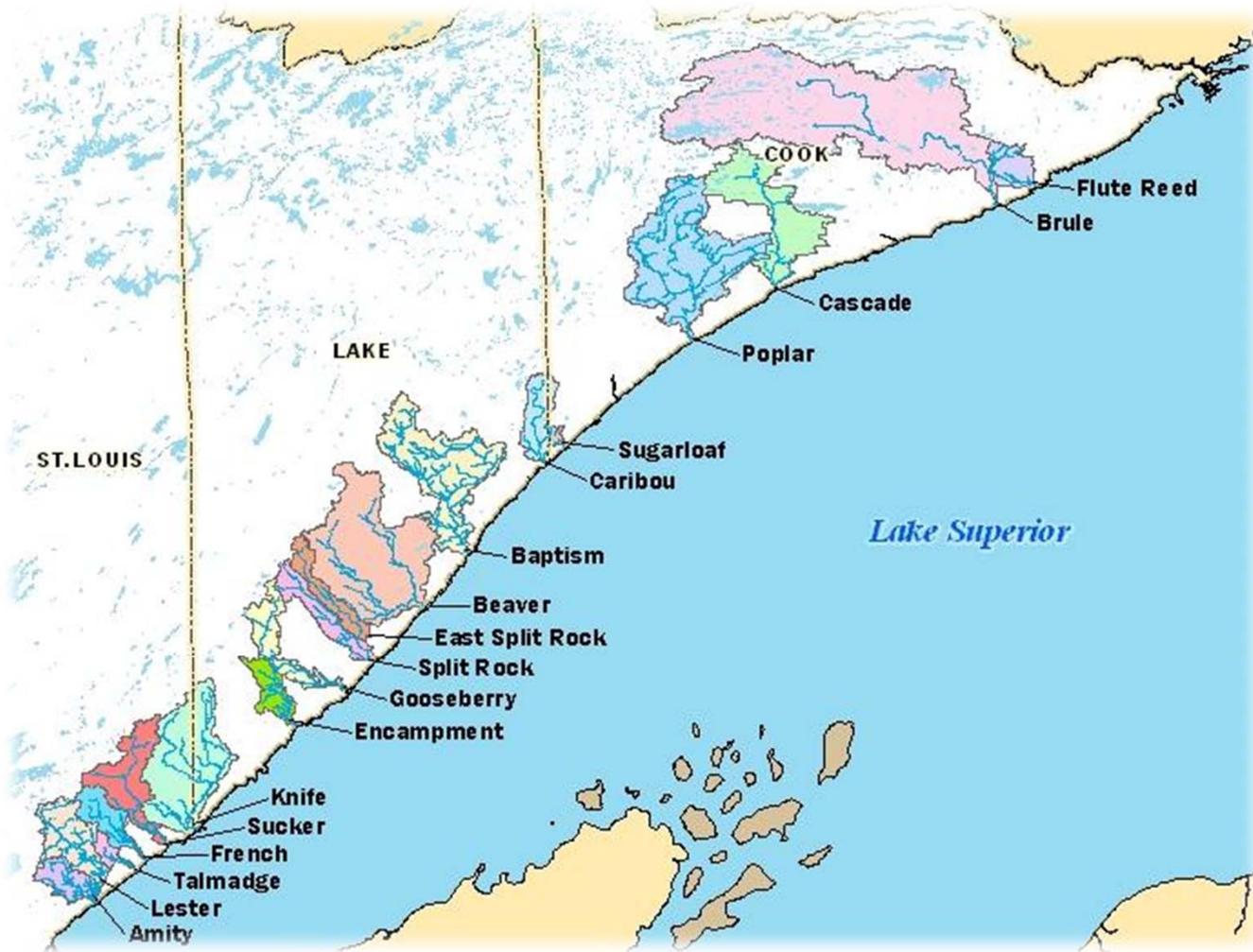


Rum River Log Drive, 1854. MHS Photo

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# Watersheds of Lake Superior: Minnesota



Map courtesy of [lakesuperiorstreams.org](http://lakesuperiorstreams.org)

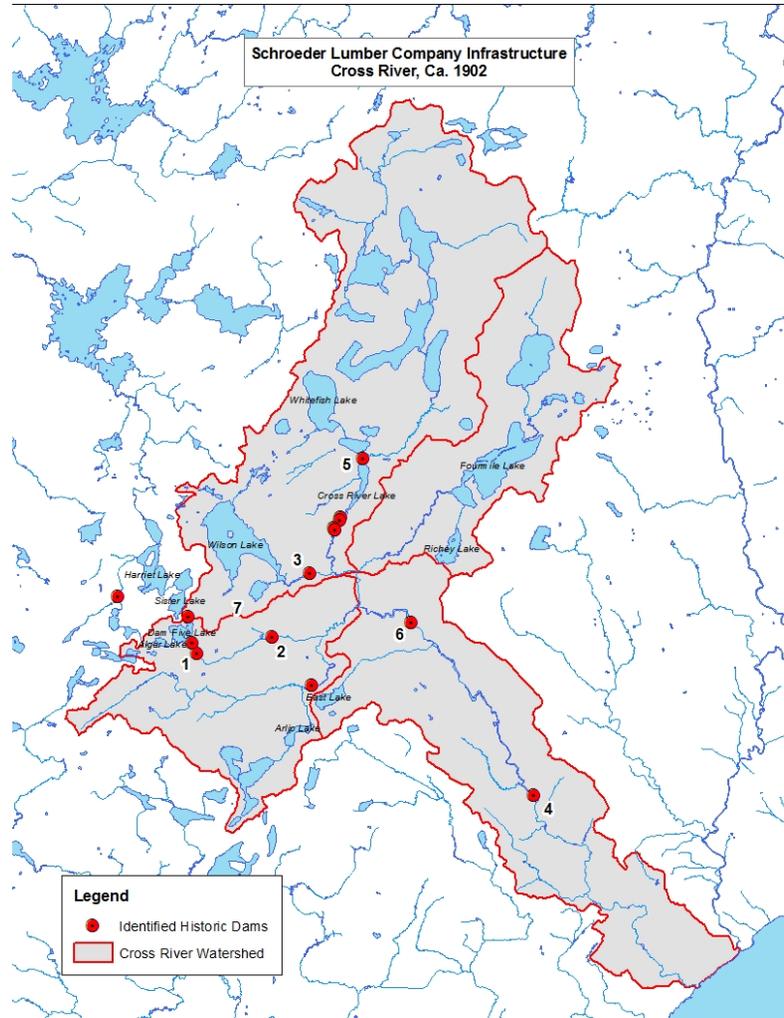


*Jim Brekke photo*



*Gowaterfalling.com*

# Study Area: Cross River Watershed



# Historic Logging Period Overview

- Small-scale logging for local consumption begins in 1830's.
- Commercial markets boomed on the central MN waterways in the 1850-1860's.
- Markets restricted to river settlements prior to railroads.
- Northern Pacific and Lake Superior and Mississippi Railroads expand commercial markets in 1870's.
- East to west industrial frontier.
- NE Minnesota pinelands came into focus in the 1880's



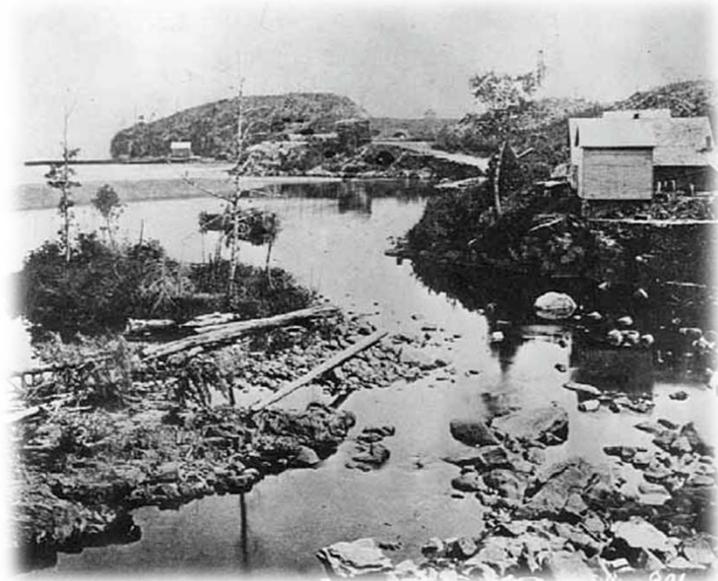
St. Croix River drive, 1890. MHS photo



Cutover lands near Hibbing, ca. 1899.  
SNF Photo

# Early Logging on the North Shore: 1854-1895

- Treaty of 1854
- Duluth, Beaver Bay, and Thunder Bay
- Local consumption
- Timber shipped to growing cities in Michigan copper fields by schooners
- Much of the activity at this time is focused on assessing and consolidating ownership of valuable pine lands.



Beaver Bay, ca. 1888. MHS Photo



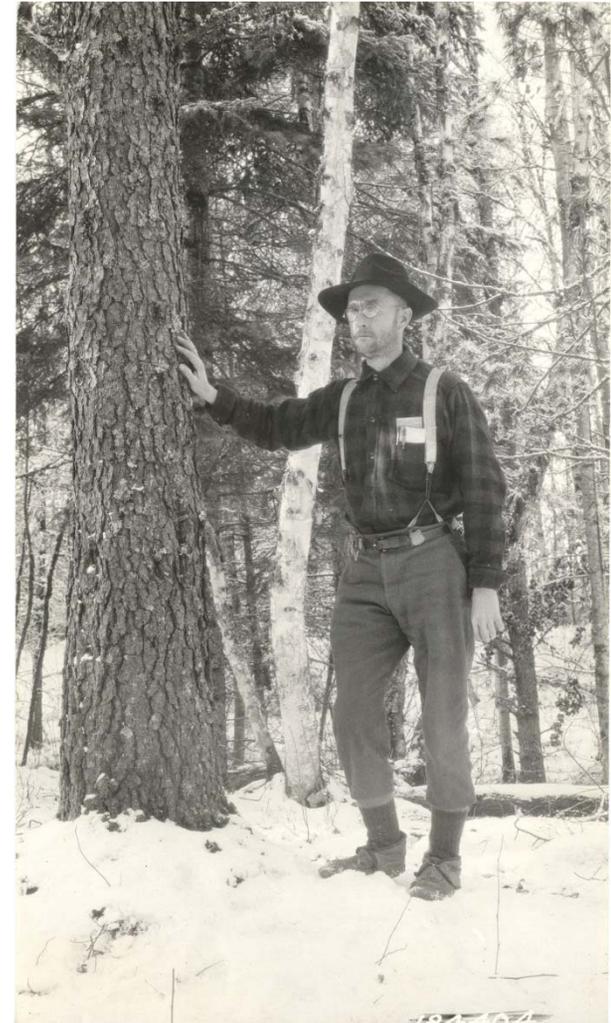
Schooner and tug in Duluth Harbor, 1874. MHS Photo

# Economics 101: Transportation to Market

- *“Transportation is the key problem of the lumberman. He must move a heavy, bulky, cheap raw material from a wilderness area to the centers of civilization.” (Rector 1953:1).*
- Bryant (1913) hypothesized that the *“transportation of forest products to mill or market represents 75% or more of the total delivered cost of raw material, exclusive of stumpage value.”*
- Activities associated with the procurement and processing of timber, in particular pine, can be divided into five interrelated phases: awareness, acquisition, forest operations, transportation, and milling (Karamanski 1989:66)

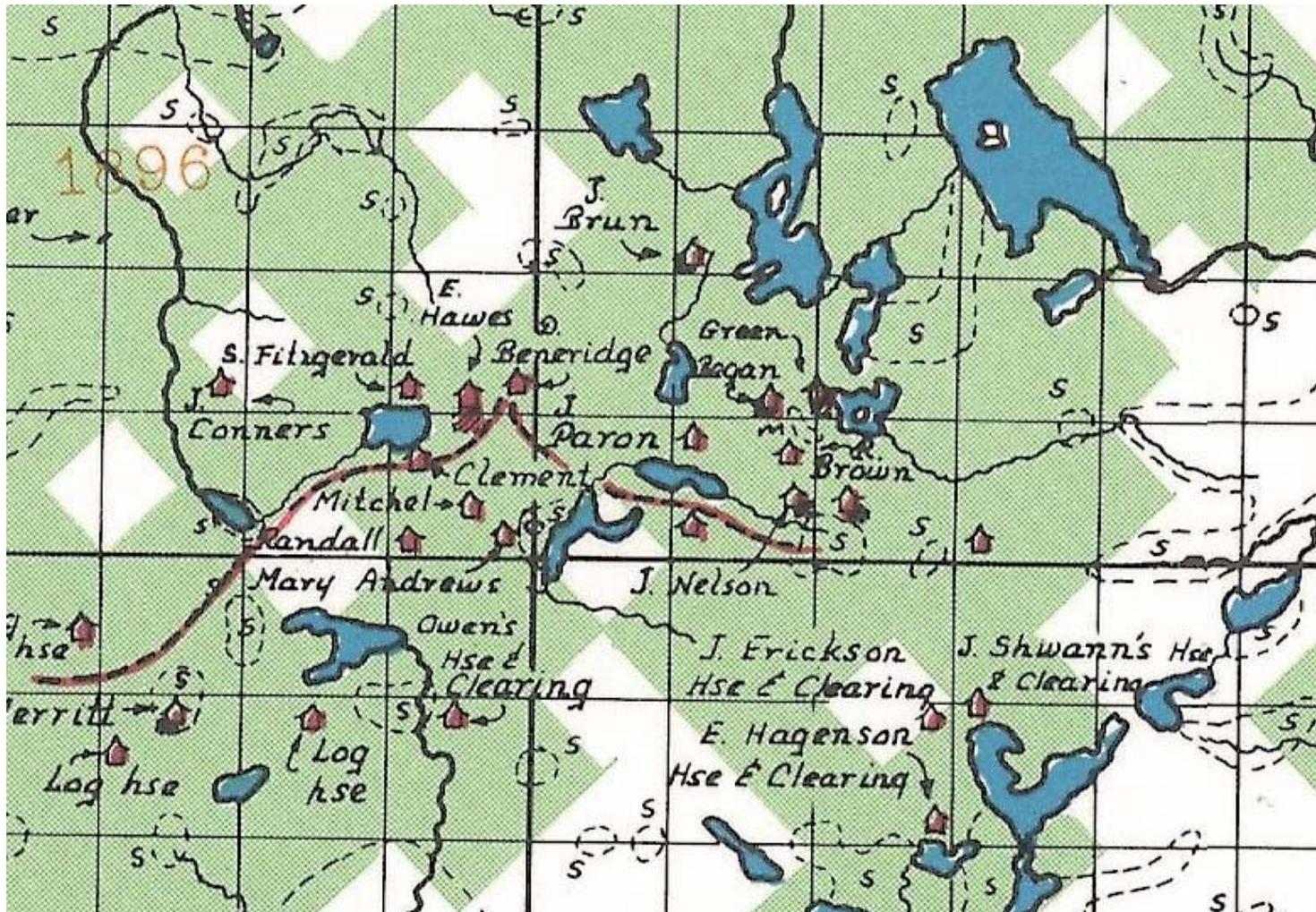
# Awareness

- Timber cruisers followed shortly after 1859 GLO survey of North Shore.
- 1882 GLO survey notes indicate significant stands of White Pine in Upper Cross River watershed.
- Schroeder began purchasing timber stumpage in 1887.
- Tote road from the mouth of the Cross in late 1890's.
- Lead cruisers assessed the capability of driving the Cross River and made note of spring flows and potential dam locations.



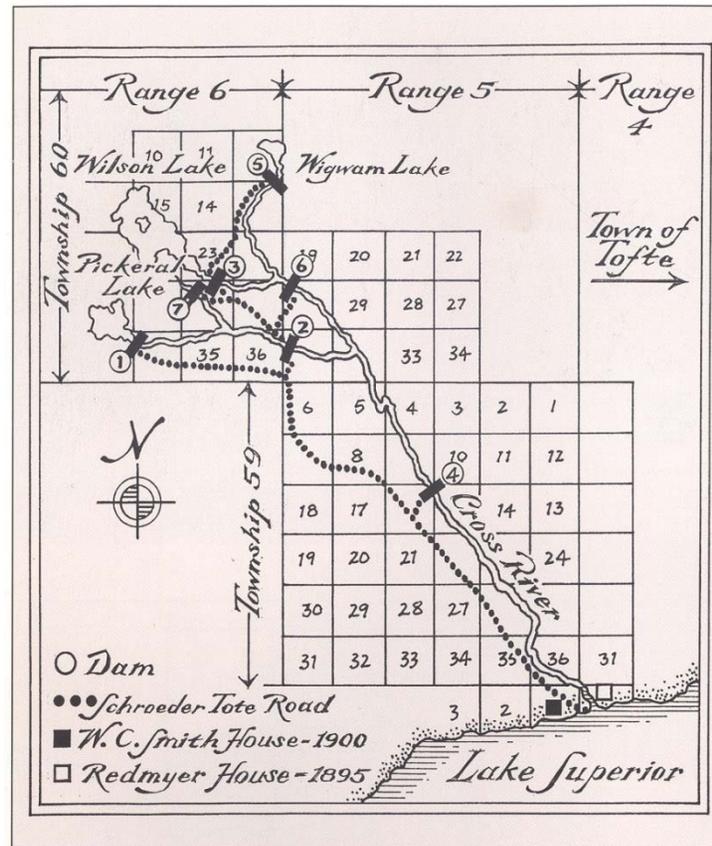
W.L. Barker, Chief of Party, Sand River Timber Survey Project. 1924. SNF Photo

# Acquisition and Forest Operations: Schroeder Lumber Company



Trygg composite map of GLO Survey. 1966. Sheet 18.

# Map of Schroeder Co. Developments ca. 1902



Original drawing: Bob Silver

*The Schroeder Tote Road.*

*Bob Silver's mother and father walked this trail to get to their homestead in 1900.*

Map Courtesy Mary Bell 1999 "Cutting Across Time"

# Harnessing the Cross River: 1895-

- Improvements included seven dams, a tote road, river blasting, channel straightening, and various 'sheers', which were used to protect the logs from bank damage. Total cost of \$150,000.
- The largest dam, Dam 4, was located 6.5 miles upstream from Lake Superior. Snowmelt water backed up for over a mile behind this 100ft long, 14ft high structure.
- Dams were opened in succession, driving the logs to the lake on the 'head' of water. Dams were closed, and the process could be repeated once a sufficient head of water built up behind the dams.

# Forest Operations



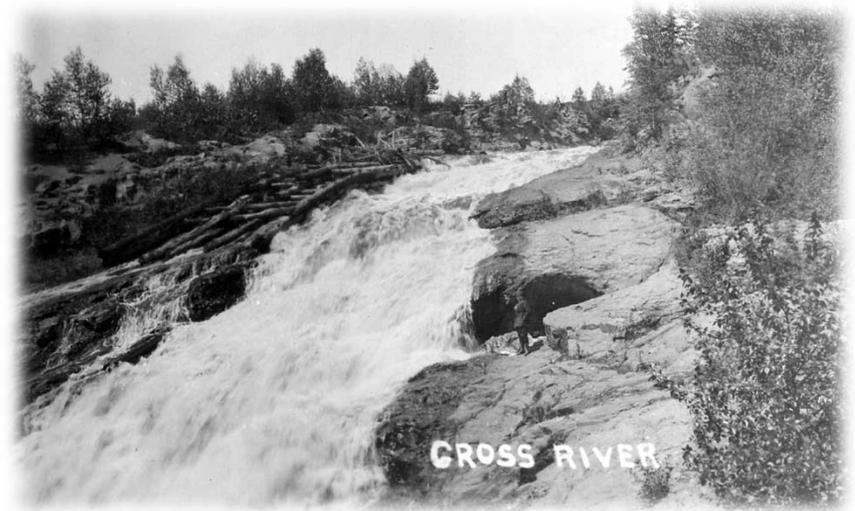
Decked logs on the Upper Mississippi. 1870.  
MHS Photo



St. Croix Tote Team. 1912. SNF Photo

# Transportation: Anatomy of a Log Drive

- Dams served two functions: transportation of banked logs behind dams and storage of melt water for driving.
- Lumbermen and engineers recognized that log driving was an unsustainable endeavor.
- Continual 'artificial freshets from the dams gradually widened the river bed, making the cross section wider and of less depth' (Krey 1896 in Rector 1953: 103)



# Splash Dam



Schroeder Dam #3 on the Cross River, June 1905

# “Ponding” behind Splash Dams



Shot of log drive on the Nemadji River 1910. MHS Photo.



1903 behind splash dam at outlet of Itasca Lake  
MHS #10700983

# Plug Dam

- Schroeder attempted to manipulate waters from the Hudson Bay Drainage by building plug dams and digging canals across the Laurentian Divide to harness additional water power and flowage for the Lake Superior Basin.
- Canals constructed at Alger and Fulton Lake.
- Plug dams at Dam Five Lake and Fulton.



Fulton Lake Plug Dam. 2011. SNF Photo.

# Transportation: From Woods to Market:

- Logs from the Cross River watershed were banked on Lake Superior and transportation via tugs to mills in Ashland.
- Three-day trip
- Additional loss occurred during boom transport.
- Milling in Ashland and shipment by rail to Milwaukee



Banked logs at Split Rock River, 1920. MHS Photo

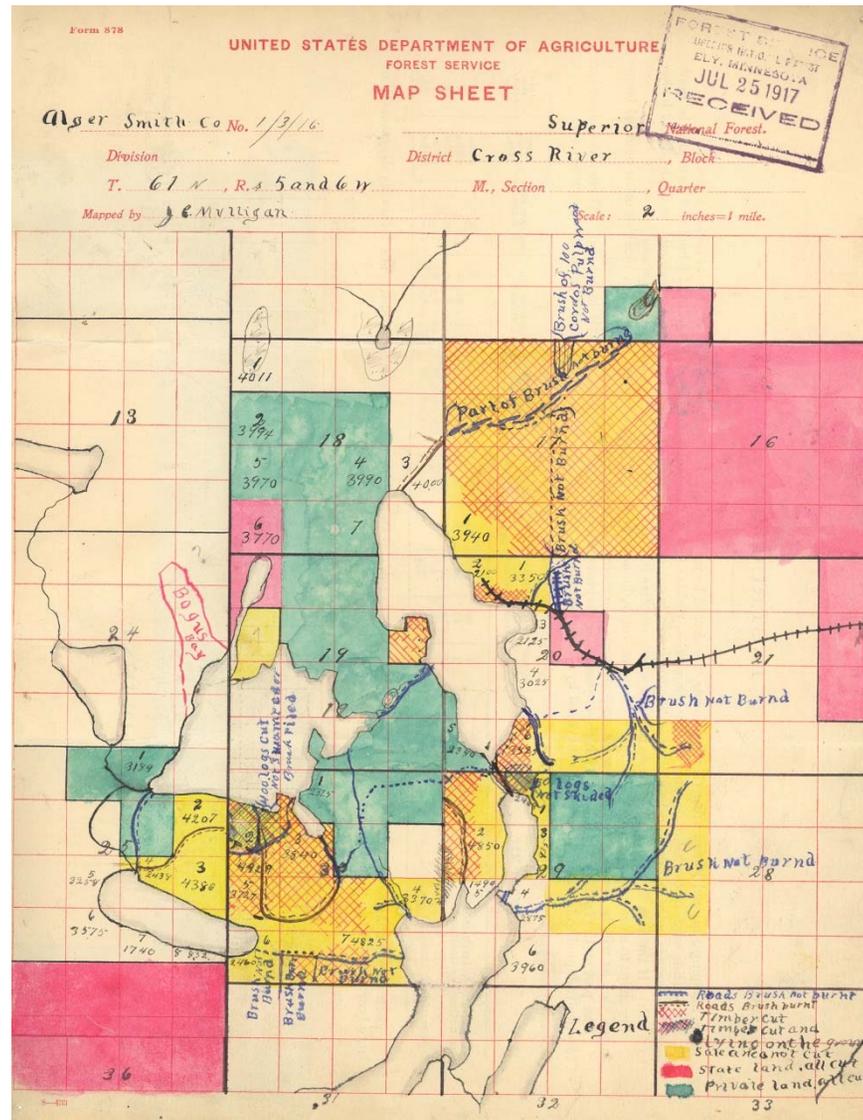
# Difficulties in Driving the North Shore

- Because of the rocky nature of the Cross River, logs were cut into 18ft lengths to compensate for damage to the log ends.
- 2ft longer log lengths caused more jams and loss. Roughly 10% loss of logs during the drive, coupled with 11% loss of stumpage at the mill created 21% net loss for Schroeder's venture on the Cross River.
- Many logging companies in Northern Mn depended partially on waterways for lumber transportation, but few depending entirely on waterway transportation, as did the Schroeder Company's efforts on the Cross River.
- Several other logging companies that attempted to drive on the North Shore rivers experienced similar difficulties.
- The last log drive conducted by the John Schroeder Lumber Company took place in 1904

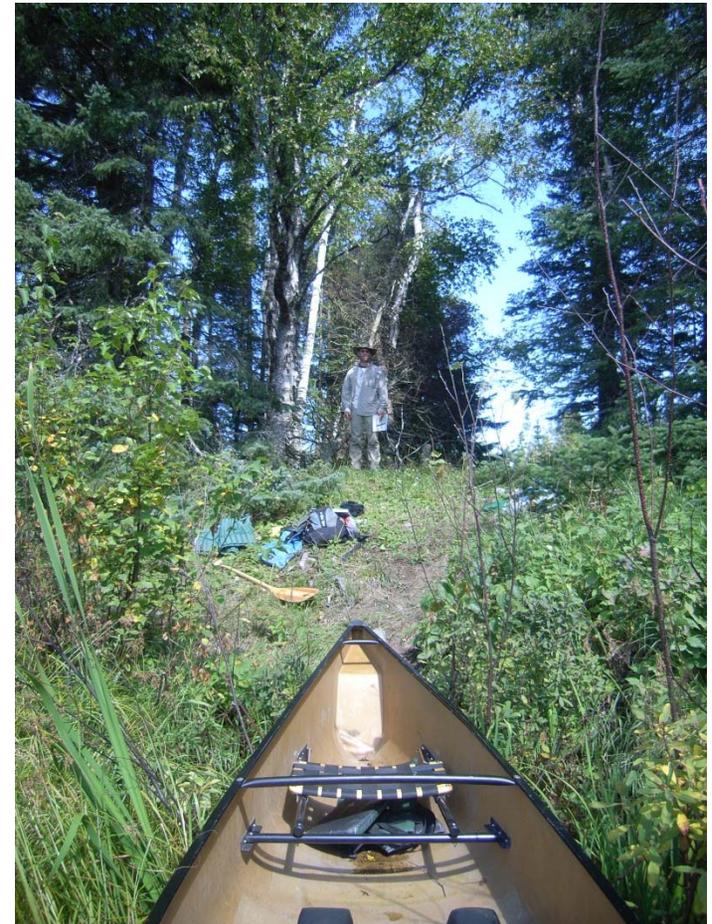
# Alger Smith Logging Company 1905

- In 1905, the firm bought the pine holdings of the Schroeder Lumber Company in Lake and Cook counties, Minnesota, estimated to have 125,000,000 feet of stumpage, and an extension of the Duluth & Northern Minnesota Railroad was projected to reach Cross River, a distance of forty miles.
- In 1910, Alger, Smith and Company expanded their railroad beyond the Manitou River area into Cook County. It is presumed that they began actively logging the Cross River area around this time. From 1916 on, the major logging operations took place in Cook County out of Cascade. Their last year of logging was 1919, and the company closed in 1920.

# Alger Smith Operations-Timber Frear Area, 1916



# 2010-2011 Field Identification: Great Lakes Restoration Initiative



# Questions?

