



Lesson 2 - Forestry Needs More Than Trees



In a Nutshell

Much more than just trees were needed for the early logging that took place in Wisconsin. The focus of this lesson will be on the need for transportation of logs, the people involved in the logging process, and company towns that sprung up in Wisconsin. Students will conduct experiments to help them understand the importance of wood characteristics, design a company town, and discover how difficult the language barrier could be for new immigrants.

Concepts

- Many resources are needed in order to harvest trees.
- Technological advances made transportation of logs easier.
- During the late 1800's and early 1900's, immigrants from Northern Europe provided the labor for the lumber industry in Wisconsin.
- Lumber company-owned company towns were very common around saw milling areas.

Objectives

After completing this lesson students will be able to:

- List ways in which railroad transportation made logging easier.
- Explain why Wisconsin's larger early towns in the north were all located along rivers.
- Design a company town with everything in it that its population would need.

State Standards

ELA	M	S	SS	EE
C.4.3	E.4.1	A.4.3	A.4.4	A.4.1
D.4.1		C.4.2	A.4.7	A.4.2
F.4.1		H.4.1		B.4.8

Total Estimated Time

1 hour and 45 minutes

Vocabulary

Company town – a town in which all of the businesses and buildings are owned and run by a single company

Ethnic – relating to a race or large group of people that share common features or customs

Experiment – to perform tests under controlled conditions to discover something

Hardwood – wood from a non-coniferous tree that is usually more dense and so sinks lower in the water than other wood

Immigrant – a person who comes from another country to live

Mill – a building or collection of buildings with machinery in them to make something such as flour or lumber

Softwood – wood from a coniferous (cone-bearing) tree that usually floats higher in the water than other wood

Transportation – a way to travel from one place to another such as by car, ship, etc.

Materials

Overhead projector

Wood pieces or household objects

Rope

Paper

Crayons, colored pencils



Sink or Swim Data Sheet (Insert 2.3)
Wisconsin Wood Products Map
Overhead (Insert 2.1)
Wisconsin Railroads Overhead (Insert
2.2)

Teacher Preparation

Get samples of different kinds of wood. Check out what is available at your local lumberyard or from the shop class at your local high school. Be sure to get several kinds of hardwoods (oak, maple, aspen, etc.) and several softwoods (pine, balsam, etc.). If it is not possible to obtain different wood samples, use common household items such as straws, screws, sponges, etc. Make overheads of the maps of Wisconsin's wood products (Insert 2.1) and railroads (Insert 2.2). Make copies of the Sink or Swim data sheet for your students.

Background Information

Before the 1870's, lumbering in Wisconsin depended heavily on waterways. Once trees were cut, they were actually floated down the rivers. This placed limits on where both logging could take place and where lumber mills were located. For this reason, many towns grew up along the waterways. Stevens Point, Mosinee, Wisconsin Rapids, Plover, Nekoosa, Chippewa Falls, Eau Claire, Oshkosh, Fond du Lac, Neenah, and Menasha are all examples of cities that grew up around lumber mills in the 1800's.

With the introduction of railroads, there was less reliance on Mother Nature. By the 1870's, lumber mills that were still relying on water were having trouble competing with those who shipped by rail. As early as 1890, all of the major

clusters of lumber mills were located along a railroad.

Company towns were owned entirely by lumber milling companies. They provided housing, stores, a church, a school, and pretty much anything else that was needed by their workers. Sometimes, traveling salesmen came to these towns to sell things as well. Once the cutting of the forests was completed in northern Wisconsin, many of the company towns became ghost towns. This will be discussed in Lesson 5.

The population of Wisconsin's lumber milling towns generally mirrored that of the rest of the state. Milling towns, however, did not often have the ethnic segregation that was common in other manufacturing towns. Towns did have a very high population of young, single males. While lumber company owners looked for married men, they still often had many single males staying in a large boardinghouse.

Introduction

Tell your students that you will be discussing how Wisconsin's forests were cut down in the 1800's. Right now we want to think about what would have been needed to do this. There were lots and lots of trees all over the state. Is this all that was needed to produce lumber? No. Of course not.

Let's brainstorm what would have been needed in the 1800's to cut wood from the forest. Make a list on the board of everything that the students come up with. Ideas may include: people, tools, money, transportation, places for people to live, people to buy the lumber, etc.





Discuss why you would need all of these things. Some of them may be harder to come up with than others. Direct your students' answers with questions. For example, if they have already come up with people, ask them about what these people would have needed. Could you cut forests if the people doing the cutting didn't have a place to live?

Activity 2.1 - Of Rivers and Railroads (45 min)

Today we are going to focus on three of these needs for logging – transportation (or how the logs were moved after they were cut), people, and company towns (where many of the lumbermen lived).

First, let's think about what needed to be done with the wood once it was cut. Why were people cutting the trees in the first place? Have your students think about this and give ideas. People needed wood to build things like homes and furniture. How do you think this wood got from the forest to the people who needed to use it? Some of these people lived far away from the forests. Have your students brainstorm how the wood could have been transported.

If your students come up with water, mention the white pine and that it was so popular because it could be floated down the river. If your students don't come up with water transportation, use the white pine as a clue. There is something very special about the white pine trees that were found all over northern Wisconsin. They were big and straight and a lot of wood could be obtained from one tree. There is something else very special about white pine...it floats! How would this help a lumberman? Again, give your students time to think about it and let them know that the men who cut the

trees down floated them down the rivers in Wisconsin to get them to the lumber mills.

Take a look at this map of Wisconsin (see Insert 2.1). It shows where wood product industries were located in Wisconsin from the 1860's to the 1910's. It also shows major rivers in the state. What do you notice about where the mills are located? Give your students some time to think about this. They are mostly next to rivers. Why? The logs had to float down rivers to the mills so most mills were very close to water.

Ask your students if all wood is the same. No, it's not. Can you name some different kinds of wood? Give them a moment to brainstorm some different kinds of wood. Explain that every kind of wood is either a softwood or a hardwood. Softwoods are less dense, or lighter than hardwoods. They will usually float higher in the water than hardwoods.

Have your students conduct an experiment with the different pieces of wood or the different household items you have obtained. Have them record their observations as to how well they stay above water on the "Sink or Swim" data sheet (Insert 2.3). Once your students have completed their experiment, ask them which kinds of wood would have been able to be floated down a river to the mill.

Do you think people only wanted softwoods to make things from? No. You probably have things in your home made of oak, etc. There was an invention in the 1800's that made it possible to move the huge hardwood logs. Can anybody think of what it



could have been? Railroads! By the 1870's there were many railroads in Wisconsin. How do you think this changed the cutting of trees?

Using the overhead projector, overlap the map of Wisconsin's wood products and rivers and Wisconsin's early railroads (Insert 2.2). What do you notice? Give your students time to make observations. The railroads go to a lot of places that the rivers could not. Most of the rivers run north/south while most of the railroads run east/west. Explain that railroads made moving logs to the mills much easier. They could build the railroads into the forests instead of having to move the logs to the rivers!

Activity 2.2 - Who Were These People? (30 min)

Besides trees to cut and rivers or railroads to transport the logs, it was also necessary to have people to cut the trees. Who were these people? They actually came from all over the world. The first people to cut the forests of Wisconsin had come from the Eastern United States. The forests in these areas had already been logged, and so the lumbermen moved west to find more forests and more work. Later, immigrants came from Northern Europe. Many were German, Irish, or Scandinavian. Often times people who had immigrated to the United States five to ten years earlier did not associate with newer immigrants. In logging towns, however, there was not much segregation. All of the different nationalities lived and worked together.

Since loggers were coming from all over the world, they often spoke different languages. This often presented

difficulties when these people were trying to work together. Have your students take part in one of the team activities below in which they are unable to talk to each other.

Option 1

Divide the class into two groups. Meet with one of the groups and tell them that you have different names for the letters in the alphabet than the other group. What the other group calls a "W", you call a "kazaam." Bring the class together again, and have everyone stand in a circle holding onto a rope. Explain to the group you did not meet with that you and the other half of the class speak a different language. You have different names for the letters of the alphabet than they do. The challenge for the whole class is to make the letter that you call out WITHOUT TALKING! Explain that half of them won't know what the letter is, so they will need to take direction from the other half of the class, but remember, no talking. Yell out "kazaam!" You may want to do this activity twice, the second time meeting with the other half of the class and choosing a different letter.

Option 2

Have your students pair up with each other. Tell them that each pair needs to come up with and write the name of a tree on the board. The challenge is, they cannot speak to each other because they do not speak the same language. Also, they must take turns writing one letter at a time of the name of their tree.

When you have completed the challenge, ask your students how that felt. Was it hard not being able to understand each other? Was it frustrating? What if you



were doing something dangerous like cutting down a huge tree?

In some lumbering towns there were very large populations of a single ethnic group. Oshkosh, Wisconsin is a good example. In 1899, a community of Germans from the Volga Region began forming on Oshkosh's West Side. Four of these Volga Germans were hired by the Paine Lumber Company and the company gave them housing. The Paine Lumber Company encouraged these Germans to invite more people from their home country region to come to Oshkosh to work. Hundreds of them came! In fact, in 1910, 81% of the Volga Germans in the area were working for the Paine Lumber Company!

Activity 2.3 - Company Towns (30 min)

All right, so we have the trees to cut and we have a way to move them to the lumber mills and we have people to cut the trees and work in the lumber mills, but what about the items these people needed to live? Many of the lumber mills were not near other towns. The men working at the mills needed a place to call home.

Sometimes the lumber companies had to build an entire town for their workers. These were known as "company towns." In company towns, a single lumber company owned everything in the town.

Every company town had a company store. It usually also served as a gathering place for people who lived in the town. Some company towns had boot and shoe shops, meat markets, drugstores, barbershops, and banks. A few even had opera houses, movie halls, and hospitals. Almost every company

town had a church and a school. These towns usually had rows of identical houses for all of the married men.

Single men lived in a hotel, boardinghouse, or in cabins.

Have your students make up a lumber company and design their company town. Make sure they have everything in the town that people who lived there would need. Have them promote why their town is the best. Have them create an advertisement for families to move there.

Extensions

- Set up a company town in your classroom. Have different groups of students take on different roles within the town. Have them create their buildings, houses, etc on big pieces of paper.
- Some company towns had their own money issued by the lumber company itself. Have the students design their own company town currency. Your class can vote on which one to use, and then you can copy it and hand it out. Think of creative ways to use it in the classroom!
- Pretend that you are a lumberjack in Wisconsin in the early 1900's. Write a letter to the rest of your family in whatever country your ancestors are from. Research lumber milling company towns as well as the history of the country where your ancestors are from. Use your new knowledge to try and convince them to come work for your lumber company. Why is Wisconsin a better place to live?

Evaluation

- The following questions can be used to guide an evaluative discussion with your students:



- What were some important resources for logging in Wisconsin?
- Why were rivers so important?
- How did railroads change things?
- Why was white pine so useful?
- What is a “company town?”
- What could be found in company towns?
- Describe the people who were working for the lumber companies.
- Evaluate the data taken from the wood/object floating experiments.
- Evaluate company town designs.

Resources

- Wisconsin Cartographer’s Guild and Malone, Bobbi. Mapping Wisconsin History – Teachers Guide and Student Materials. Madison, Wisconsin: State Historical Society of Wisconsin; 2000.

References

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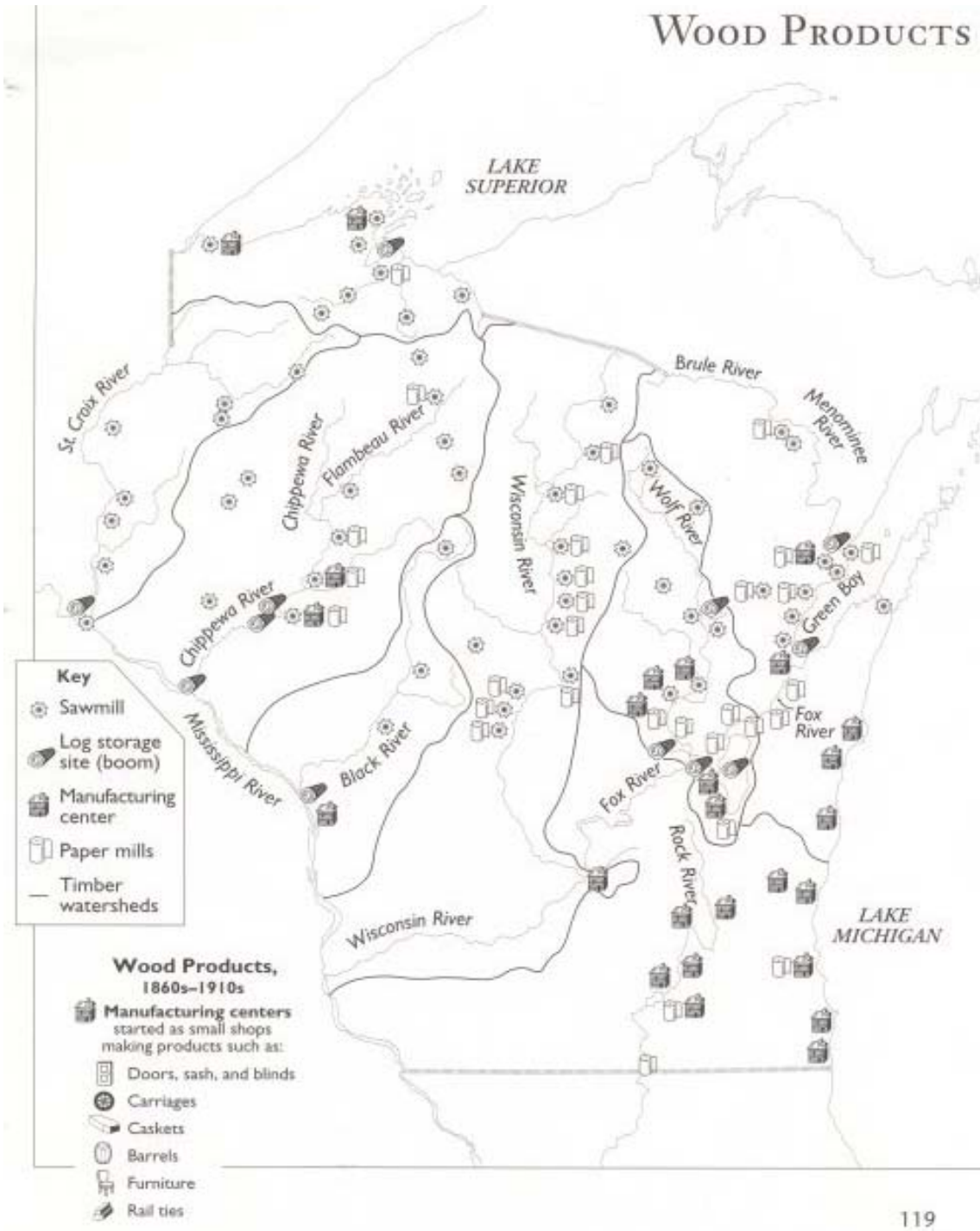
Rector, William G. The History of Log Transportation. Proceedings of the Eighth Annual Meeting of Forest History Association of Wisconsin, Inc. Appleton, Wisconsin; 1983.

Rector, William Gerald. Log Transportation In the Lake States Lumber Industry: 1840-1918. Glendale, California: The Arthur H. Clark Company; 1953.

Wisconsin Cartographer’s Guild and Malone, Bobbi. Mapping Wisconsin History – Teachers Guide and Student Materials. Madison, Wisconsin: State Historical Society of Wisconsin; 2000.



Insert 2.1



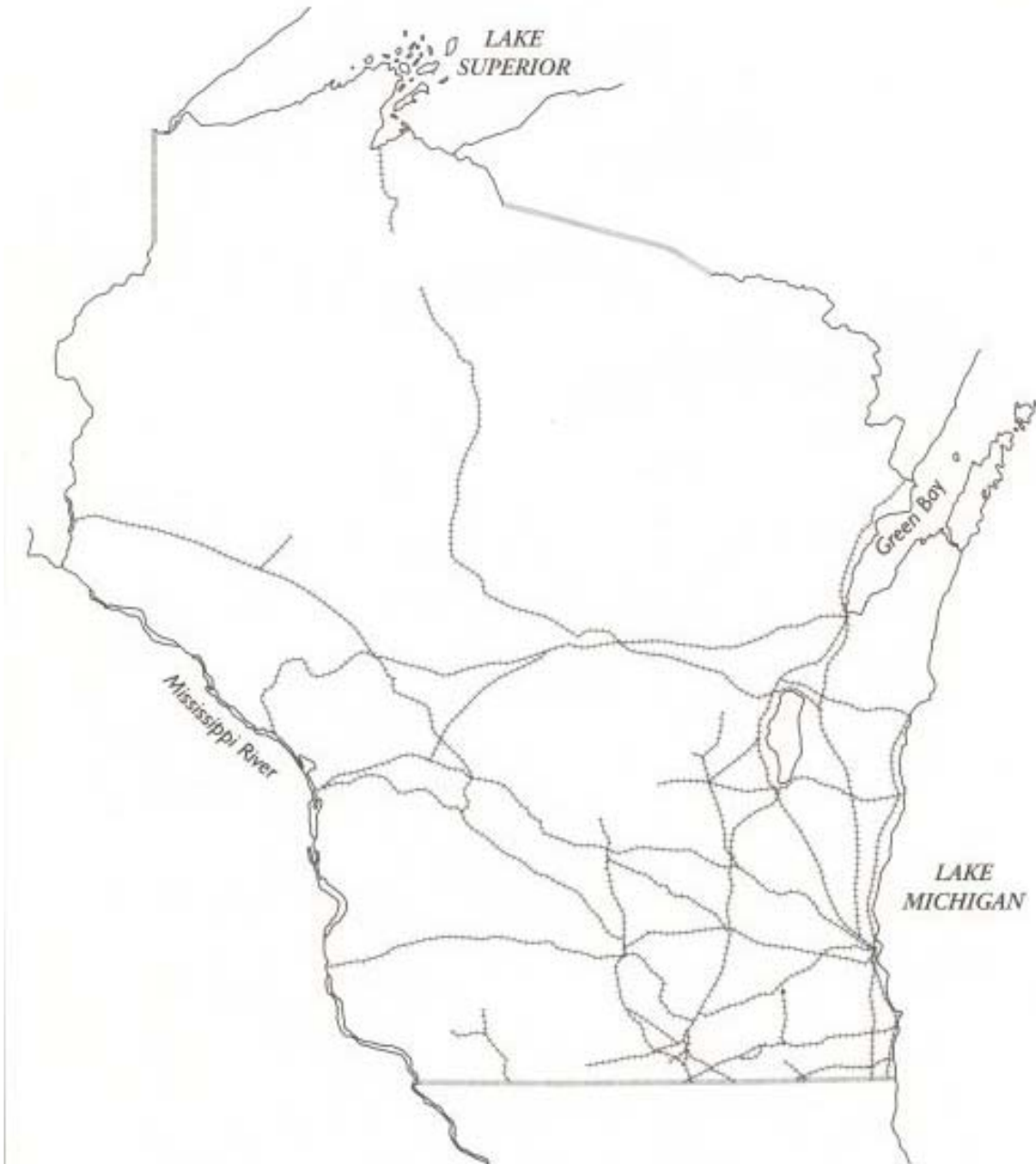
Wisconsin Cartographer's Guild and Malone, Bobbi. Mapping Wisconsin History – Teachers Guide and Student Materials. Madison, Wisconsin: State Historical Society of Wisconsin; 2000.





Insert 2.2

EARLY MAJOR RAILROADS, 1873



Wisconsin Cartographer's Guild and Malone, Bobbi. Mapping Wisconsin History – Teachers Guide and Student Materials. Madison, Wisconsin: State Historical Society of Wisconsin; 2000.



Insert 2.3

Sink or Swim Data Collection Sheet

You will be conducting an experiment to see how well different kinds of wood or different objects float in water. Be sure to record anything you observe during this experiment. Time your object for two minutes when determining how long it will float. Have fun!

Object	Does it float?	For how long?	Hardwood (H) or softwood (S)	Would you want to float this wood on rivers before the 1870's?	Scientist's notes