

Lesson 7: Who Owns It?

NUTSHELL

In this classroom lesson, students study a plat map and answer questions about who owns land and how much they own. Students then observe how the management goals of landowners impact forest ecosystems. Finally, they identify the roles different groups have in forest management decisions.

ENDURING UNDERSTANDINGS

- Wisconsin’s forests are under both private (e.g., industrial, non-industrial private forests), public (e.g., county, state, national forests), and tribal ownership; each may have different objectives.
- Forests are ecosystems that can cross over property lines.
- The scale of forest ownership can vary from hundreds of thousands of acres in a national forest to an individual tree in an urban forest.
- The public trust empowers governments to have a role in conserving, maintaining, and sustaining forest resources by enacting laws, creating policies, establishing agencies, creating public lands, and providing management incentives for forest landowners.
- A variety of agencies, companies, and individuals manage forests. Forest resource professionals in each of these areas have training and responsibilities to meet individual, societal, and environmental needs through forest management and/or education.
- Organizations, communities, and individuals play a part in forest management efforts by volunteering, raising and allocating funds, voting, participating in the planning process, and making consumer choices.

ESSENTIAL QUESTION

- Why does forest ownership impact forest ecosystems?

OBJECTIVES

Upon completion of this lesson, students will be able to:

- Indicate that forests can vary in size and are both publicly- and privately-owned.
- Explain how forest ecosystems are affected by having multiple owners.
- Define the roles of government agencies, private businesses, organizations, communities, and individuals in forest management.

SUBJECT AREAS

Language Arts, Mathematics, Social Studies

LESSON/ACTIVITY TIME

Total Lesson Time: 95 minutes

- Introduction10 minutes
- Activity 145 minutes
- Activity 220 minutes
- Conclusion20 minutes

STANDARDS CONNECTIONS

Standards for this lesson can be viewed online at the LEAF website (www.leafprogram.org).

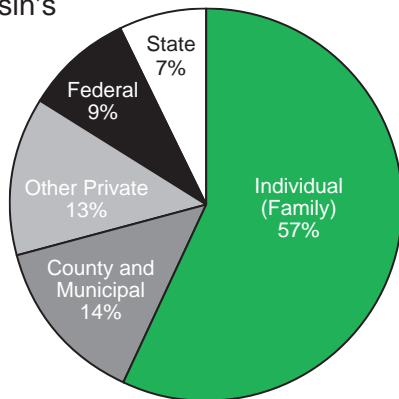
BACKGROUND INFORMATION

Who owns Wisconsin's forests? That question can't be answered very quickly because the forests of Wisconsin have many different owners.

According to the Wisconsin Department of Natural Resources, the following reflects who owns Wisconsin's forestlands.

- Individual, Private Owners ... 57%
- Counties and Municipalities ... 14%
- Other Private ... 13%
(Private Corporations 6%; Tribal Lands 2%; Forest Industry 2%; Other 3%)
- Federal Government ... 9%
- State of Wisconsin ... 7%

The demographics of Wisconsin forest landowners are changing. Along with the changing demographics come changing values and goals. Those new values and goals impact how the forests of the state are managed. As people buy small parcels of land to build second homes, less land is available for other uses and more people are involved in management decisions. For instance, if a 120-acre parcel is broken up and sold in 20-acre parcels to different individuals, there are six owners instead of one and it's not likely that they all will want to manage their 20 acres in the same way. What was being managed as one ecosystem is now being managed as six, yet the forest is still one ecosystem. Increased human presence increases our impact on forest communities.



A good place to begin to research forest ownership is with a **plat map**. These maps are created and published by each county. They can usually be purchased at your County Clerk's office, real estate offices, or borrowed from local libraries. Plat maps are based on survey data and ownership information. They show information like owner names, acreage owned, roads, type of owner (public, private), rivers, lakes, railroads, churches, schools, cemeteries, and municipal boundaries. An individual map in a plat book is one **township**. Each township is divided into 36 **sections**. Each section is 640 acres.

Forest management refers to practices that a landowner or forester does to meet specified goals and objectives. Effective management starts with establishing a forest management plan. Individual landowners generally consult with a forester to help them create a plan. Foresters inventory existing resources and set goals and objectives that take into consideration what the landowner hopes to get from the forest now and in the future. Sound management involves deciding on strategies to achieve goals, implementing those strategies, and periodically reviewing both the plan and its results to determine if any changes need to be made. Management plans include landowner objectives, a forest description, legal restrictions, and recommendations of actions to help achieve objectives and protect against fire, disease, and insects.

"The best friend on earth of man is the tree. When we use the tree respectfully and economically, we have one of the greatest resources on the earth."

★ Frank Lloyd Wright ★

VOCABULARY TERMS

Forest Management: The use of techniques (e.g., planting, harvesting) to promote, conserve, or alter forests to meet desired outcomes.

Plat Map: A map of a township that shows property boundaries.

Section: An area of land that is one mile by one mile and consists of 640 acres.

Township: An area of land that is six miles by six miles and contains 36 sections.

PROCEDURE

Introduction - Property Owner Brainstorm

As a class, brainstorm a list of the types of property owners in your town or neighborhood. (*Private homeowners, businesses, city parks, schools, state, county, federal.*) Ask if they all own the same amount of property. (*No.*) Ask if it is used for the same thing. (*No.*) Just like local communities, Wisconsin's forests have different property owners.

NOTE: As an option, show a copy of a city map to illustrate your discussion.

Activity 1 - Plat Map Reading

1. Explain that plat books are collections of maps that are published for each county in Wisconsin. (Show the class an example if you have one.) They contain information about who owns land, as well as where roads, rivers, lakes, and towns are. Project Teacher Page 🗺️ 1, **Plat Map Organization**. Explain the way plat maps are organized. Each plat map is of a township. A township contains 36 sections. A section is 640 acres. (That's about 640 football fields!) Tell students that they are going to examine one of two plat maps. (They aren't of a real place, but they are based on real maps.)

MATERIALS LIST

For Each Student

- Copy of Student Page 🖋️ 1, **Plat Map 1**, OR Student Page 🖋️ 2, **Plat Map 2** (half of the students will get 1, half will get 2)
- Copy of Student Page 🖋️ 3, **Plat Map Questions**

For the class

- Copy of Student Page 🖋️ 4, **Management Roles Cards** cut apart
- Marker board
- City map (optional)
- Plat book (optional)



For the Teacher

- Teacher Page 🗺️ 1, **Plat Map Organization** to project
- Teacher Keys 🗺️ 2, **Plat Map 1 Key** and 🗺️ 3, **Plat Map 2 Key**
- Student Page 🖋️ 1, **Plat Map 1**, to project
- Teacher Page 🗺️ 4, **Where Are the Forests?** to project
- Teacher Key 🗺️ 5, **Management Role Cards Key**

"You can't have the fruits without the roots."

★ Stephen Covey ★

2. Hand out Student Page 🖋️ 1, **Plat Map 1**, and Student Page 🖋️ 2, **Plat Map 2**. Each student should get a map. (Half the class will get map 1, the other half will get map 2.) Draw the students' attention to the key on the map. Discuss the things that the maps show. (*Names of owners, roads, rivers, cities, etc.*)

3. Hand out Student Page , **Plat Map Questions**, to each student. Tell students to circle the number of the plat map that they have. Next, ask students to examine their plat maps and fill in the questions on the worksheet. Review the process for determining percentages if needed. While students are completing their worksheets, write the percentages of forestland ownership for Wisconsin on the board.
- Individual, Private Owners ... 57%
 - Counties and Municipalities ... 14%
 - Federal Government ... 9%
 - State of Wisconsin ... 7%
 - Private Corporations ... 6%
 - Forest Industry ... 2%
 - Tribal Lands ... 2%
 - Other Private ... 3%
4. When students are done filling in the worksheet, discuss what they found. Use Teacher Keys  **2, Plat Map 1 Key** and  **3, Plat Map 2 Key**, to check their answers. Compare the percentages of ownership that the students found for *Plat Map 1* and *Plat Map 2* to the numbers you've written on the board. Ask if they are the same, greater, or less. (*Answers will vary.*) Discuss why they might be different. (*The percentages represent the entire state. Percentages of ownership vary from one part of the state to the next. Areas with a higher population often have less publicly-owned land.*) Ask how *Plat Map 1* differs from *Plat Map 2*. (*Map 1 had smaller properties with more owners. More owners were individuals and not government or businesses.*)
5. Write on the board and discuss the steps in forest management: identify owner goals, plan, implement. (*Landowner goals are what the owner wants to do with or get from the land. Planning is putting on paper the things that will be done to reach the goals. Implementing is doing the things that will meet goals, like cutting, planting, or building trails.*) Ask students how different landowner goals might make management harder. (*Landowners with different goals may not want the same things to be implemented. If landowners are neighbors and have very different goals, they may be angry about what the other person is doing.*) Ask students if they think it would be easier to manage land when one person owns a large piece of land, or if many people own smaller pieces of land. (*One large piece of land can be managed most efficiently when there is only one set of landowner goals to consider.*) **NOTE:** If students participated in Lesson 6, tie the owners from the management story into the discussion.
6. Ask students what they put for an answer to the question about the biggest property on the whole map. (*480 acres on both maps. It is in section 19.*) Ask if this land would be easy or hard to manage forests on. (*Students will likely say easy because it is large, but proceed to the next step before telling them the answer.*)
7. Project Student Page , **Plat Map 1**. Explain to students that this is the same map that some of them saw; others saw one that was a bit different. This time, tell them that they won't be thinking about who owns the land and how much they own, but will be looking at whether that land is forestland.

“To exist as a nation, to prosper as a state, to live as a people, we must have trees.”

★ Theodore Roosevelt ★

8. Project Teacher Page 🗺️ 4, **Where Are the Forests?** Tell students that the areas with tree symbols are forests. The areas with house symbols are towns. The areas with duck symbols are marshes, and the areas with tractor symbols are agricultural. Ask them to look at the largest property on the map. (*In section 19.*) Ask if that property is forestland. (*No, it is farmland.*) Again ask if this land would be easy or hard to manage for forests. (*They should now see that it would be hard because the land is being used for farmland.*) Explain that even though it may look like there are a number of large areas on the map that could be managed easily, they may not all have forests on them.
9. Ask them what the first step in forest management was. (*Identify owner goals.*) Using different areas of the map, lead a discussion about how different owners might decide to use their land. (*Individuals may want it for hunting or to live on, industry may want it to use the resources on it, federal lands may be used to protect habitat.*) Explain to students that all those different goals and the things that owners do to reach them impact forests. The ecosystem will be affected with each management decision.

EXTENSION: Have students examine a plat map from your own county and answer the questions from Student Page ✍️ 3, **Plat Map Questions**. Compare the results. Remember that the percentages listed are for forestland only.

“Trees indeed have hearts.”

★ Henry David Thoreau ★

Activity 2 - Management Roles

- Write “Government,” “Individuals,” “Organizations,” and “Businesses” as headings on the board. Discuss that all have different roles in forest management. For instance, governments make laws about management and private individuals decide what products to buy, which determines what forests are managed for.
 - Divide the class into four teams. Have each team stand as a group so they are able to read the headings on the board. Have teams take turns drawing a “role” from the Student Page ✍️ 4, **Management Roles Cards**.
 - As each team draws a card, have one team member put it under the proper heading on the board with the help of their teammates. For instance, “Voting” would go under the “Individuals” heading. Use Teacher Key 🗺️ 5, **Management Role Cards Key**, to help decide which roles fall under which heading. The catch is that the teams can’t speak or make noise; they can only use movements to instruct their team member where the card should go. If they answer correctly, they get one point. If they answer incorrectly, they lose one point and the next team gets to try to place that role and earn the point.
- NOTE:** Some roles may fall under more than one heading. If students can justify with an example why they placed a role as they did, consider giving them the point even if it does not match the answer key.
- At the end of the game, discuss the roles listed. Ask students what the roles mean. Ask students to think of other roles that individuals, government, organizations, and businesses play. Ask students if it would have been easier or harder to get the answers if they could have spoken to their teammates. (*Easier.*) Just like in the game, good communication with all of the different groups helps make management better.

Conclusion - Classroom Design Cooperation

Choose several components in the classroom that could be rearranged or somehow changed. (Desk or table arrangement, location of work spaces, location and set up of computers, wall decorations, etc.) Ask the class to count off by the number of components you chose. (For example, if you chose desk arrangement, computers, and wall decorations, they would count off by three.) Assign all of the ones to write about the desks, the twos to write about the decorations, etc. Each student should write a half-page description of what he or she would change about the part of the room assigned and why.

Discuss the results of the assignment. Sketch the layout of your room to project. Ask several students to read their plans to the class. When they read the plan, have them also draw it on your sketch. Each student should use a different color marker. Note and discuss conflicts both within the individuals writing for each component and between components. Discuss the need for everyone to cooperate with each other to succeed.

CAREERS

The career profile in this lesson is about Nancy Bozek, Executive Director, Wisconsin Woodland Owners Association, and is found on page 130. Use this profile to enhance the lesson and/or use it with the special careers lesson on page 148.

SUMMATIVE ASSESSMENT

Have students draw a map of their town or neighborhood, and estimate the percentages of ownership.

SOURCES

Finan, A. S. (2000). *Wisconsin Forests at the Millennium: An Assessment*. Madison, WI: Wisconsin Department of Natural Resources. PUB-FR-161 2000

Wisconsin Forest Resource Education Alliance. (2001). *How to Grow a School Forest – A Handbook for Wisconsin Educators*.

NOTES

Lined area for taking notes, featuring a faint map of Wisconsin in the background.

Career Profile

Nancy Bozek, Executive Director, WWOA

Meet Nancy Bozek. Nancy is the Executive Director of the Wisconsin Woodland Owners Association (WWOA). WWOA is made up of people who own woodlands in Wisconsin. WWOA members work to educate landowners and the public about the importance and ways of managing forests. Nancy's job is to help the members of the group get information on how to manage their land. She also works to connect WWOA to other forestry-related agencies.

Nancy has a bachelor's degree in Forestry. She has also had many experiences that have helped her with her job. She has worked with the National Park Service and the United States Forest Service. Nancy is a member of the Society of American Foresters. That group is made of professional foresters. Another big thing that helps Nancy do her job is that she owns woodlands herself. That helps her understand what WWOA members are concerned about.

Nancy's favorite part of her job is planning and attending the three-day meeting the

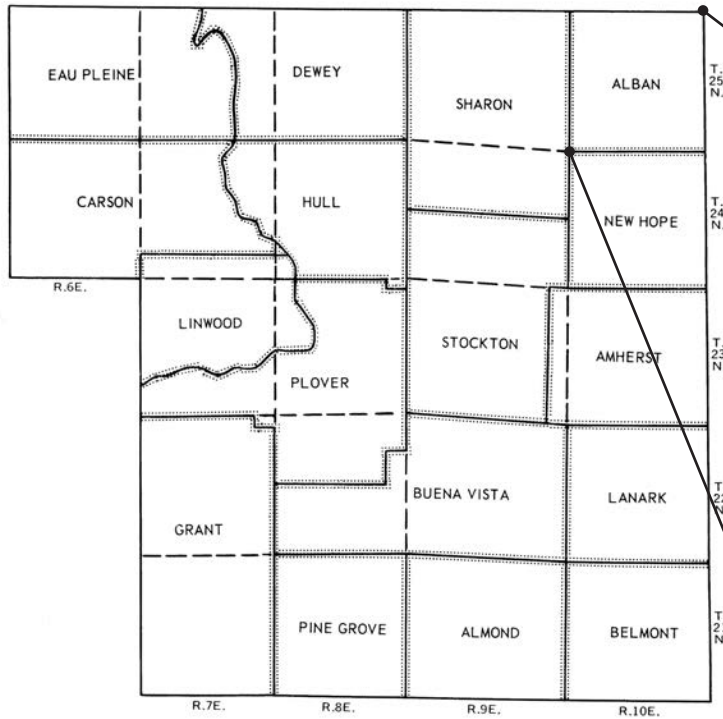
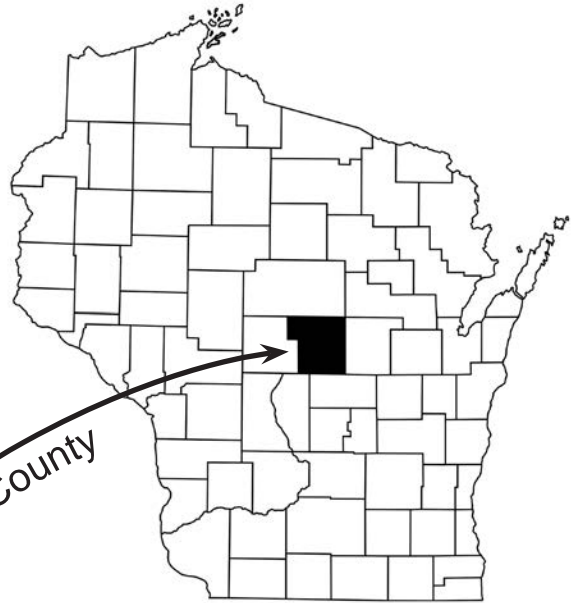
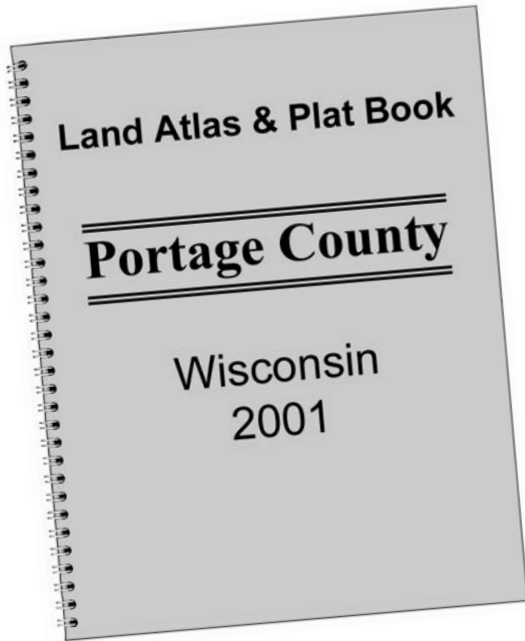
group has every year. She likes to have the chance to meet WWOA members from all over Wisconsin.

If you would like to have a job like Nancy's, she has some advice. She suggests that you become active in organizations like the Girl Scouts and Boy Scouts. She also says, "Many natural resource-related organizations rely on volunteers, so by helping them you will also help yourself to learn new skills."



Nancy (in circle) helps forest landowners to find out information.

PLAT MAP ORGANIZATION



1 Section = 640 Acres

TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

PLAT MAP 1 KEY

Look at **Sections 25 and 2** on your map and answer the following questions for each.
If there is no name listed, count the property as "individuals."

<i>Map Questions</i>	Section 25	Section 2
1. How many acres is the largest property?	100 acres	200 acres
2. Who owns the largest property?	Pam Porter	Kent Newman
3. How many acres is the smallest property?	10 acres	20 acres
4. Who owns the smallest property?	several unnamed individuals	several unnamed individuals
5. How many different owners are there in the section?	21	9
6. How many acres are there of land owned by:		
a. Individuals (Private Landowners)?	560	480
b. Counties and Municipalities (Towns/Cities/Villages)?	80	0
c. Federal Government (U.S.)?	0	0
d. Forest Industry?	0	100
e. State of Wisconsin?	0	60
f. Private Corporations NOT in forest products industry?	0	0
g. Native American Tribes?	0	0
7. There are 640 acres in each section. What percent of the section do these types of owners own?		
a. Individuals (Private Landowners)?	87%	75%
b. Counties and Municipalities (Towns/Cities/Villages)?	13%	0
c. Federal Government (U.S.)?	0	0
d. Forest Industry?	0	16%
e. State of Wisconsin?	0	9%
f. Private Corporations NOT in forest products industry?	0	0
g. Native American Tribes?	0	0
8. What is the percent ownership for BOTH SECTIONS combined?		
a. Individuals (Private Landowners)?	81%	
b. Counties and Municipalities (Towns/Cities/Villages)?	6%	
c. Federal Government (U.S.)?	0	
d. Forest Industry?	8%	
e. State of Wisconsin?	5%	
f. Private Corporations NOT in forest products industry?	0	
g. Native American Tribes?	0	
9. How many acres is the biggest property on the whole map ?	480 acres	
10. Is there a school forest on the whole map ? If so, how many acres?	Yes, 120 acres	

Teacher Key 

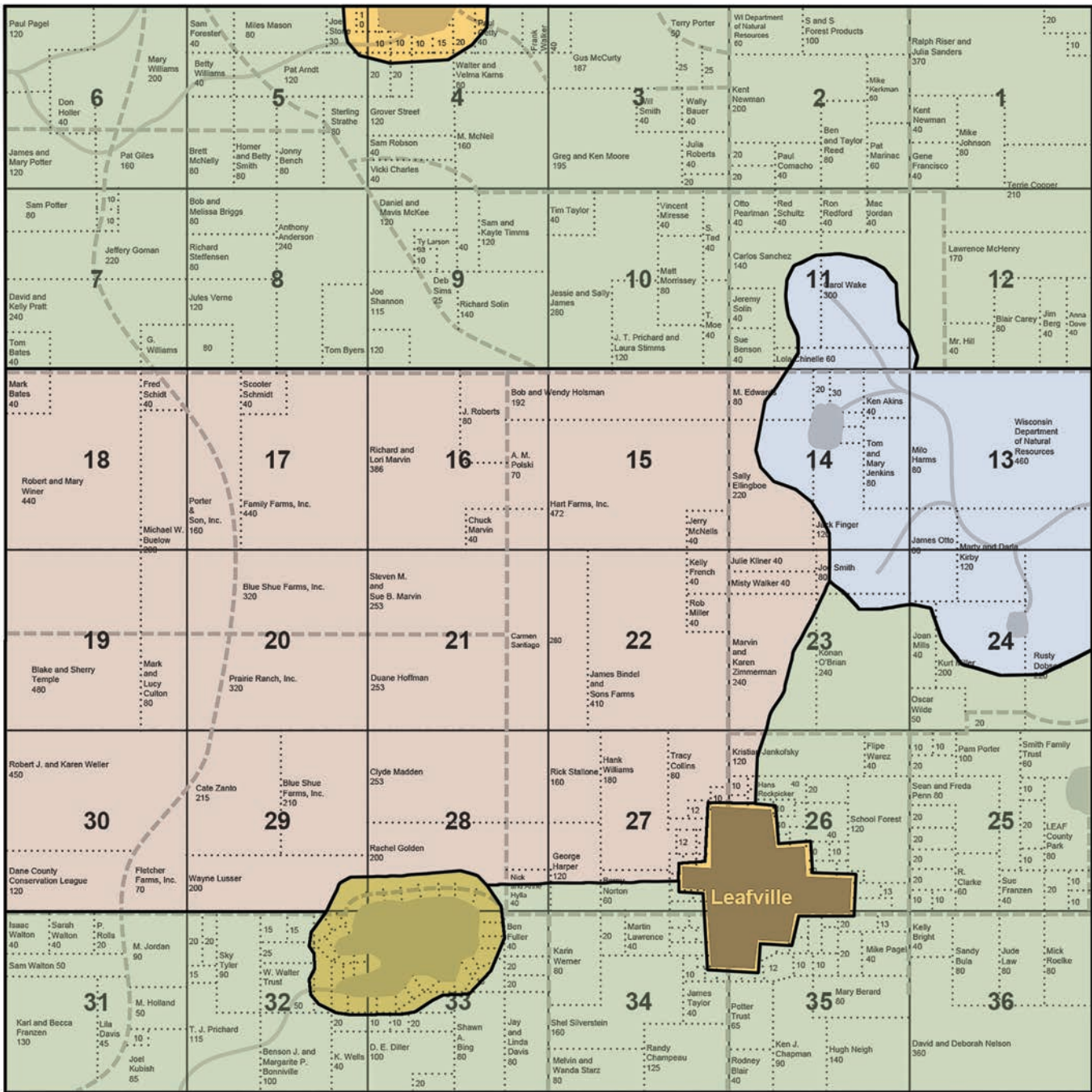
PLAT MAP 2 KEY

*Look at **Sections 25 and 2** on your map and answer the following questions for each.
If there is no name listed, count the property as "individuals."*

<i>Map Questions</i>	Section 25	Section 2
1. How many acres is the largest property?	540 acres	160 acres
2. Who owns the largest property?	U.S. Forest Service	Craig & Cathy Cook
3. How many acres is the smallest property?	100 acres	20 acres
4. Who owns the smallest property?	Leafville Town Forest	several unnamed individuals
5. How many different owners are there in the section?	2	10
6. How many acres are there of land owned by:		
a. Individuals (Private Landowners)?	0	360
b. Counties and Municipalities (Towns/Cities/Villages)?	100	120
c. Federal Government (U.S.)?	540	0
d. Forest Industry?	0	80
e. State of Wisconsin?	0	0
f. Private Corporations NOT in forest products industry?	0	40
g. Native American Tribes?	0	40
7. There are 640 acres in each section. What percent of the section do these types of owners own?		
a. Individuals (Private Landowners)?	0	56%
b. Counties and Municipalities (Towns/Cities/Villages)?	16%	19%
c. Federal Government (U.S.)?	84%	0
d. Forest Industry?	0	13%
e. State of Wisconsin?	0	0
f. Private Corporations NOT in forest products industry?	0	6%
g. Native American Tribes?	0	6%
8. What is the percent ownership for BOTH SECTIONS combined?		
a. Individuals (Private Landowners)?	28%	
b. Counties and Municipalities (Towns/Cities/Villages)?	17%	
c. Federal Government (U.S.)?	42%	
d. Forest Industry?	6%	
e. State of Wisconsin?	0	
f. Private Corporations NOT in forest products industry?	3%	
g. Native American Tribes?	3%	
9. How many acres is the biggest property on the whole map ?	540 acres	
10. Is there a school forest on the whole map ? If so, how many acres?	Yes, 120 acres	

Teacher Key  3

WHERE ARE THE FORESTS?



KEY

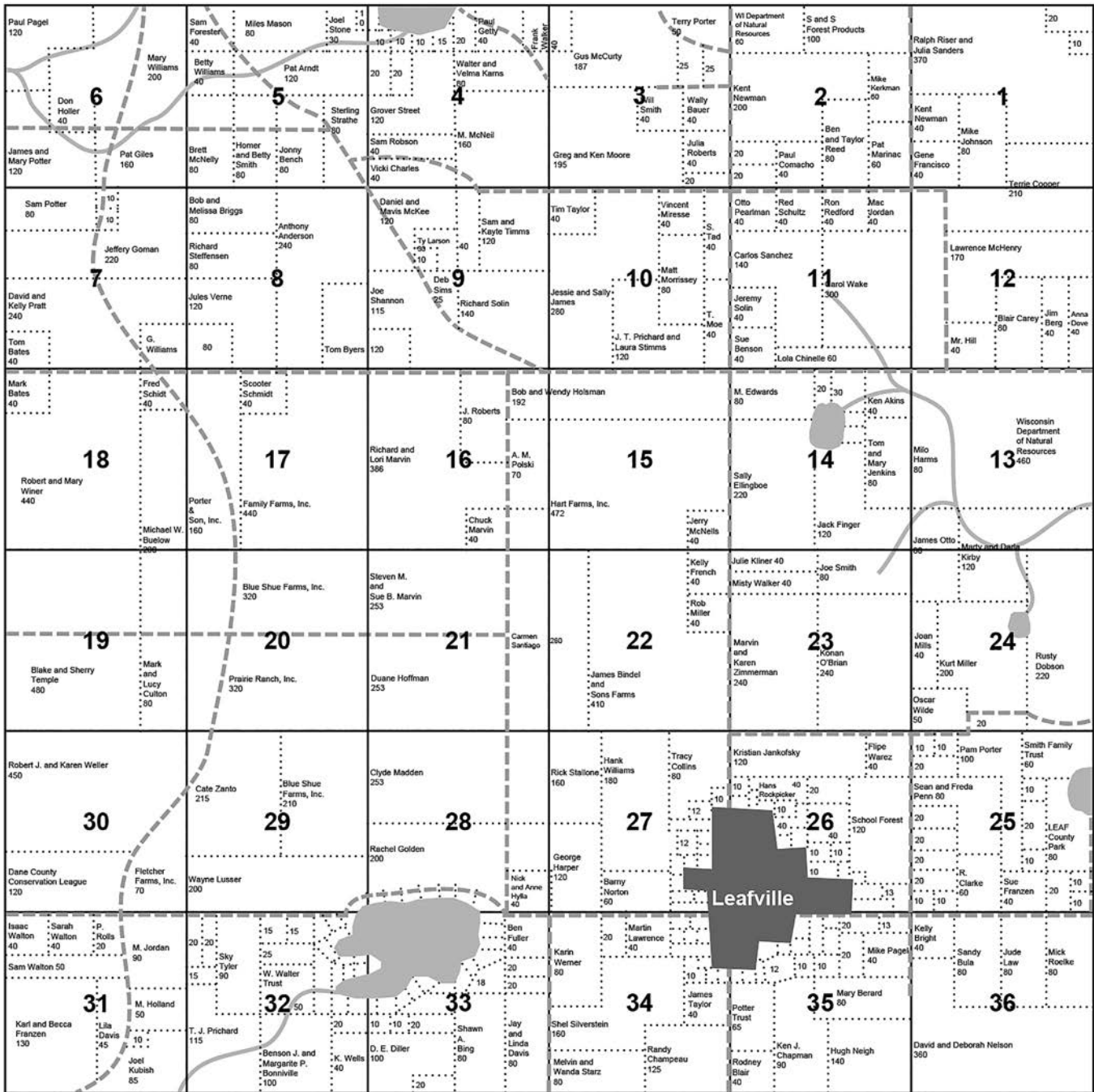
- Wetland
- Farming
- Forest
- City

MANAGEMENT ROLES CARDS KEY

<p style="text-align: center;">Raise money to buy land that will be donated to the state.</p> <p>Organizations: Organizations use their money to purchase lands they later donate to Wisconsin under the stipulation that they are protected.</p>	<p style="text-align: center;">Enacting laws</p> <p>Government: All levels of government enact laws that impact forests and their management.</p>
<p style="text-align: center;">Volunteering</p> <p>Individuals: People can volunteer for a number of groups or alone to do things that help forests.</p>	<p style="text-align: center;">Voting</p> <p>Individuals: People can vote for lawmakers that will support their views about forests.</p>
<p style="text-align: center;">Conduct a meeting to hear citizens' concerns.</p> <p>Government or Businesses: Public input is often sought about forest issues by government and business.</p>	<p style="text-align: center;">Create a management plan for a state forest.</p> <p>Government: All state forest lands have management plans prepared for them.</p>
<p style="text-align: center;">Join an organization.</p> <p>Individuals: Individuals often join with others who share their interests.</p>	<p style="text-align: center;">Attend a public hearing.</p> <p>Individuals: People who want to learn more or voice their opinions can attend public meetings.</p>
<p style="text-align: center;">Educate about forests.</p> <p>All: Everyone can educate others about forests and forest management.</p>	<p style="text-align: center;">Buy products with less packaging.</p> <p>Individuals: The things we buy impact how forests are managed. If there is less packaging, fewer forest products were used.</p>
<p style="text-align: center;">Invest in new equipment to make harvesting more efficient and profitable.</p> <p>Businesses: Businesses can increase their profit and reduce the impact they make on forests by improving their equipment.</p>	<p style="text-align: center;">Allow public hunting, hiking, etc., on land you own to reduce the taxes you owe.</p> <p>Individuals, Businesses: State law allows a tax reduction to those who allow public recreation on their managed forest land.</p>

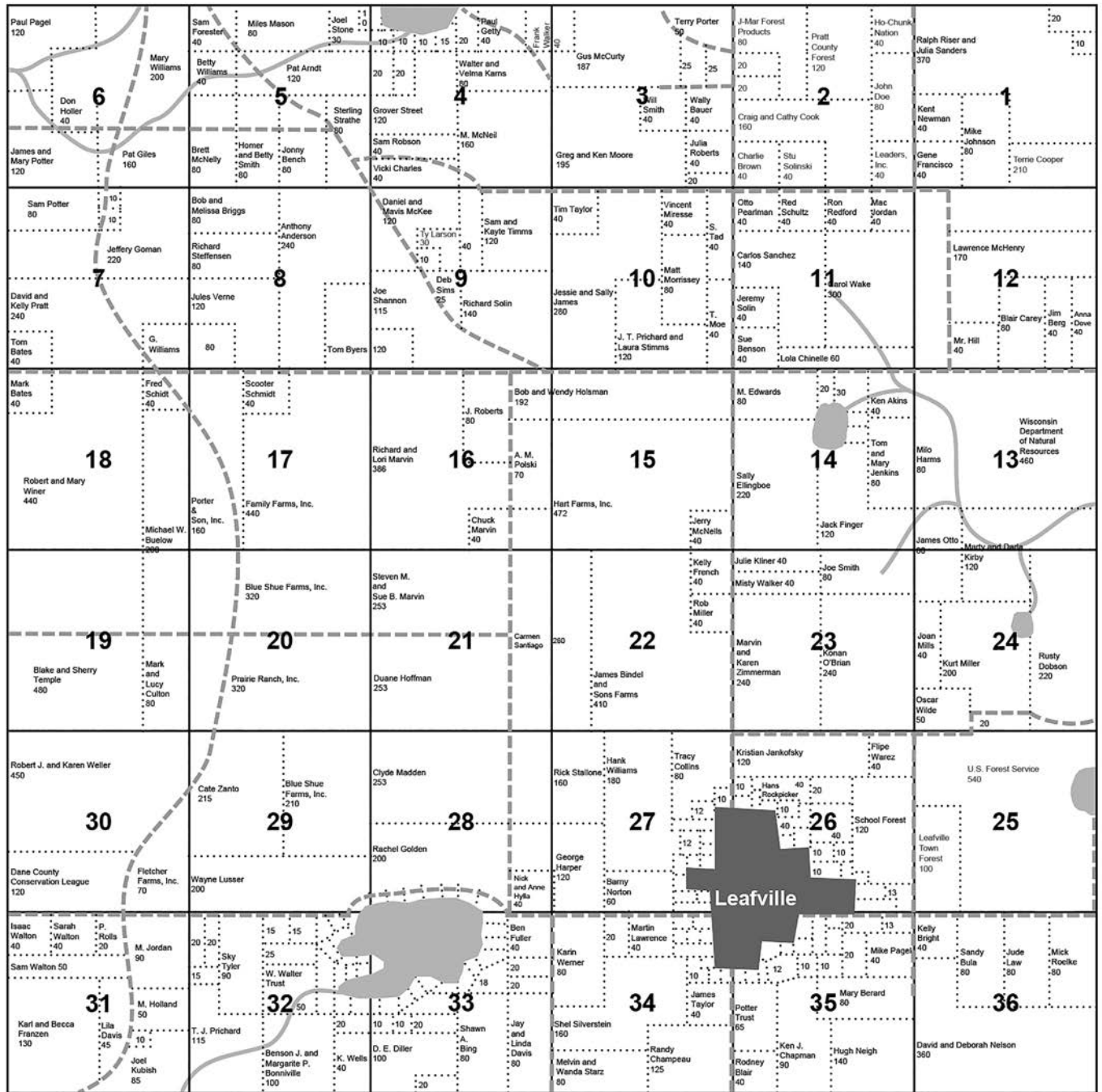
Teacher Key 

PLAT MAP 1



KEY	Road	Stream	Lake	Town

PLAT MAP 2



KEY	--- Road	~ Stream	● Lake	■ Town
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PLAT MAP QUESTIONS

Look at **Sections 25 and 2** on your map and answer the following questions for each. If there is no name listed, count the property as "individuals."

(Check one option)

I Have Plat Map:

1 or 2

<i>Map Questions</i>	<i>Section 25</i>	<i>Section 2</i>
1. How many acres is the largest property?		
2. Who owns the largest property?		
3. How many acres is the smallest property?		
4. Who owns the smallest property?		
5. How many different owners are there in the section?		
6. How many acres are there of land owned by:		
a. Individuals (Private Landowners)?		
b. Counties and Municipalities (Towns/Cities/Villages)?		
c. Federal Government (U.S.)?		
d. Forest Industry?		
e. State of Wisconsin?		
f. Private Corporations NOT in forest products industry?		
g. Native American Tribes?		
7. There are 640 acres in each section. What percent of the section do these types of owners own?		
a. Individuals (Private Landowners)?		
b. Counties and Municipalities (Towns/Cities/Villages)?		
c. Federal Government (U.S.)?		
d. Forest Industry?		
e. State of Wisconsin?		
f. Private Corporations NOT in forest products industry?		
g. Native American Tribes?		
8. What is the percent ownership for BOTH SECTIONS combined?		
a. Individuals (Private Landowners)?		
b. Counties and Municipalities (Towns/Cities/Villages)?		
c. Federal Government (U.S.)?		
d. Forest Industry?		
e. State of Wisconsin?		
f. Private Corporations NOT in forest products industry?		
g. Native American Tribes?		
9. How many acres is the biggest property on the whole map ?		
10. Is there a school forest on the whole map ? If so, how many acres?		

MANAGEMENT ROLES CARDS

<p>Raise money to buy land that will be donated to the state.</p>	<p>Enacting Laws</p>
<p>Volunteering</p>	<p>Voting</p>
<p>Conduct a meeting to hear citizens' concerns.</p>	<p>Create a management plan for a state forest.</p>
<p>Join an organization.</p>	<p>Attend a public hearing.</p>
<p>Educate about forests.</p>	<p>Buy products with less packaging.</p>
<p>Invest in new equipment to make harvesting more efficient and profitable.</p>	<p>Allow public hunting, hiking, etc., on land you own to reduce the taxes you owe.</p>