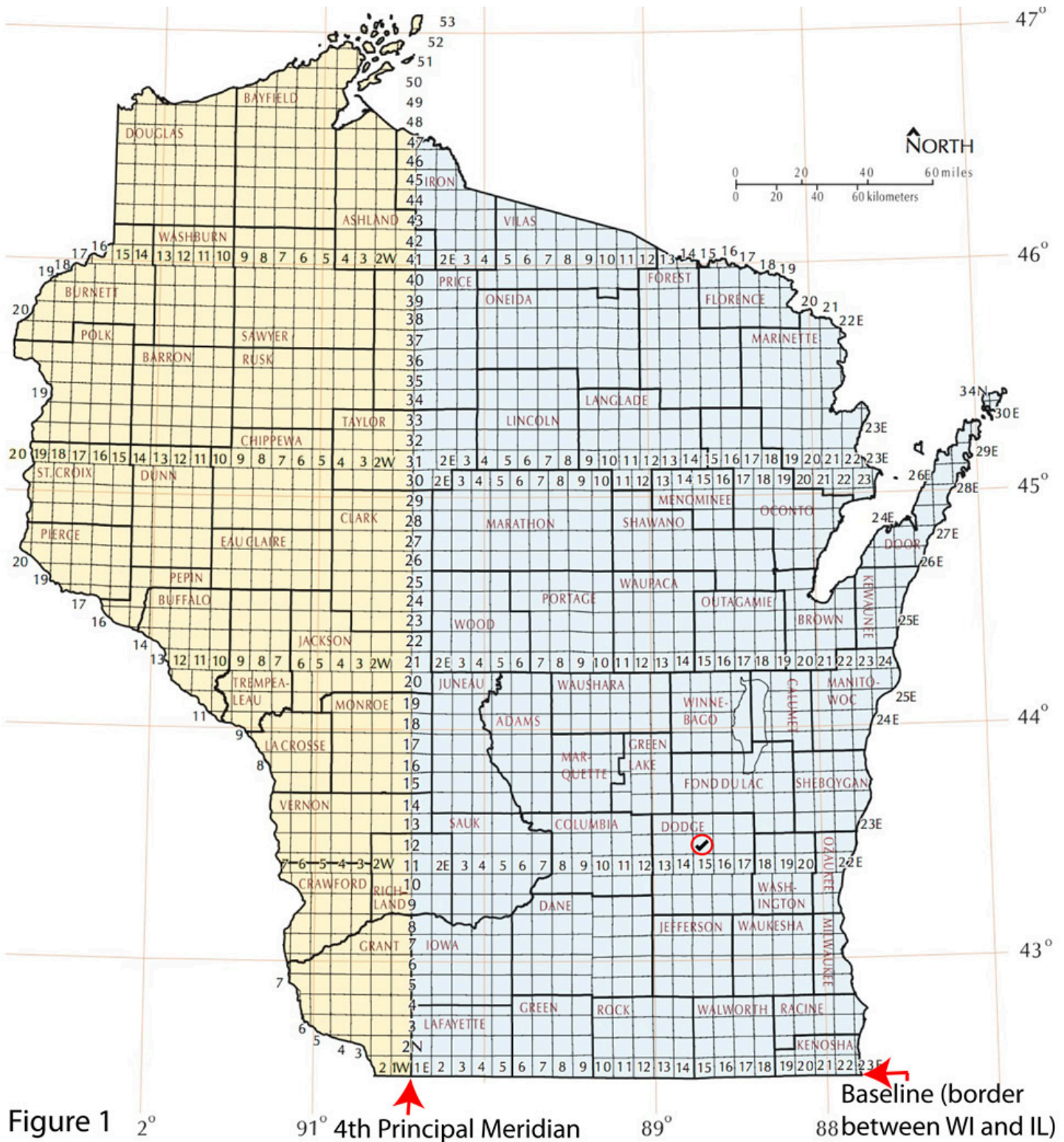


Background on the Public Land Survey System and How to Use the Survey Notes

Introduction

The US government surveyed land that is now within Wisconsin between 1832 and 1865 for the purpose of subdividing and selling the land to settlers, after Native Nations were forced to cede it through a series of treaties. Land surveys have been an integral part of colonialism in many parts of the world. These surveys did not start with empty, unknown lands, of course. The Indigenous people whose lands were being colonized were deeply familiar with the landscapes that were surveyed and public land surveyors for the US government often noted evidence of long time habitation and use of the land, such as trails, fields, and groves of useful trees. However, the land surveyors also marked out a grid that had little relationship to physical features of the landscape or its past use by people, which allowed efficient distribution of the land to private owners. They also characterized the land in terms of resources that could be extracted. Nevertheless, we can use notes collected in the public land surveys to understand what the landscape looked like before settler arrival in the 1800s, and especially what kind of vegetation covered it. The surveyors used a method of rectangular land subdivision, known as the public land survey system (PLSS), which involved establishing two surveyed lines: an east-west trending *baseline* and a north-south trending *principal meridian*. The baseline for Wisconsin is the northern boundary of the Illinois Territory and the 4th principal meridian (used to survey the Illinois Territory) was extended to Lake Superior and used in Wisconsin.



Next, township lines were surveyed parallel to the baseline at 6 mile increments; range lines were surveyed at 6 mile increments parallel to the principle meridian. This subdivision created square areas that are six miles on a side called *townships*. Townships are located using the number of townships north (or south) of the baseline and the number of townships east (or west) of the principle meridian. For example, the township highlighted in figure 1 is Township 12N, Range 15E.

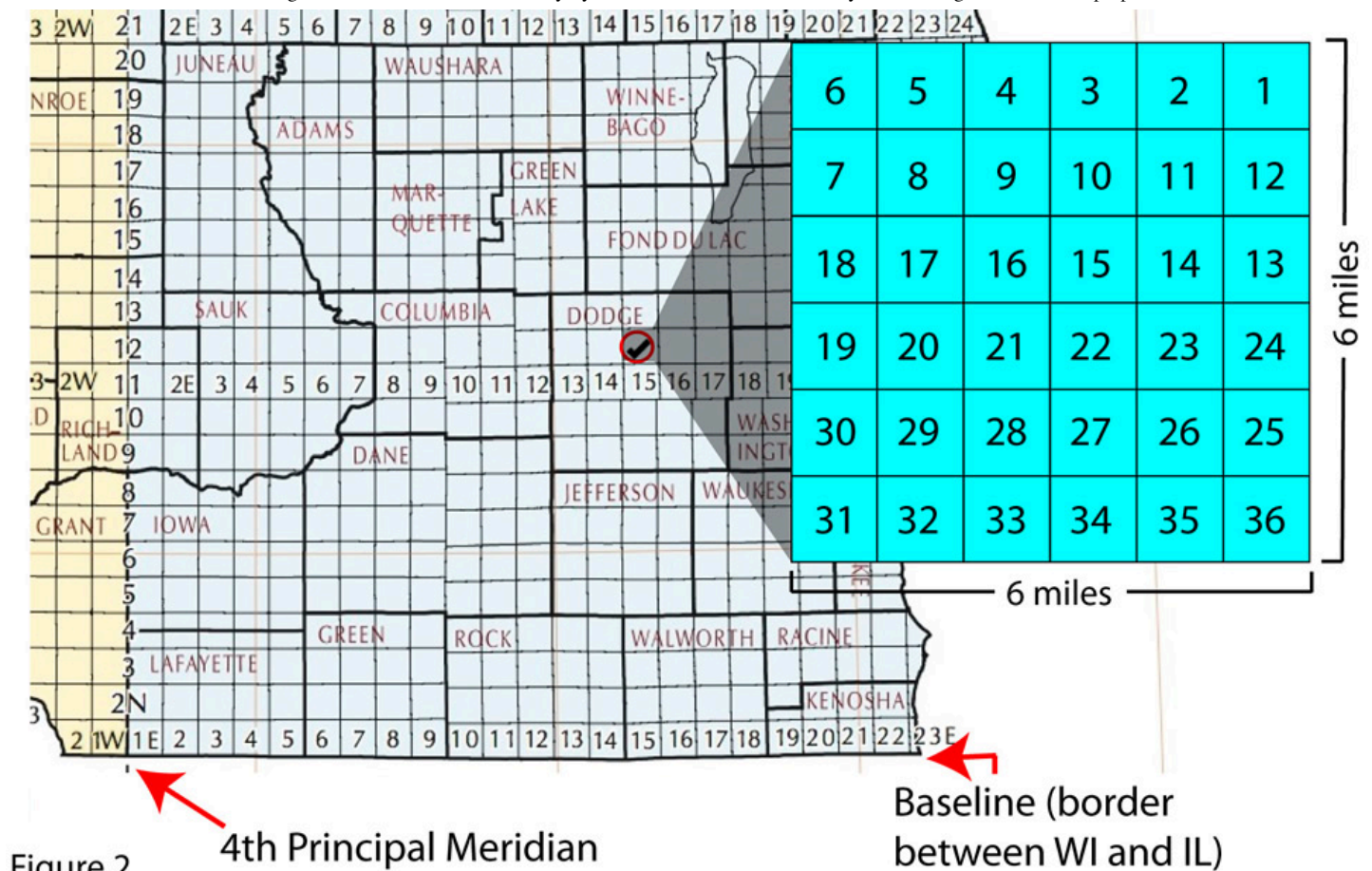


Figure 2 4th Principal Meridian

Baseline (border between WI and IL)

As you can see in figure 2, each township can be further subdivided into 36 one-mi² sections. The sections are numbered starting in the upper right-hand corner and ending in the lower right-hand section (see figure 2). Notice sections 31, 32, 33, 34, 35, and 36 are along the southern boundary of the township; this information will help you when you search for your place.

Distances are not reported in miles and inches, but in chains and links. Each chain was made of 100 links totaling 66 feet. Eighty chains (8000 links) were equal to a mile. Survey posts were set along the township and section lines every mile at locations designated as the section corners. At the midpoints between section corners (quarter section corners), additional survey posts were set. In addition to marking each section and quarter section corner, the surveyors also identified between 2 and 4 witness or bearing trees. The surveyors recorded the type, diameter, compass bearing, and distance of each witness tree from the corner. In marsh or prairie areas (without such trees, surveyors constructed earth or stone mounds to mark the location of the corners).

Sometimes the section line intersected a lake or river (or sometimes existing private land claims). In this case, the surveyor set a meander corner on the shore at the point of the intersection, surveyed around the water body (or claimed land), set another meander corner, and continued surveying. Meander corners also have posts set into the ground and witness tree information recorded in their notebooks.

At the end of every mile, the surveyor recorded the nature of the land surface (e.g., rolling, level, broken), the general soil quality (first, second, or third rate), dominant timber, and understory

vegetation seen along the mile. Often in addition to the field notes for a township, surveyors recorded a general description of the current physical characteristics, presence of settlements, and the economic potential for agriculture or timber production for each township.

Surveyors also noted other features they encountered as they walked section lines. Some of these features include:

- Line or station trees (they type and diameter of trees occurring near the section lines)
- Significant natural or cultural features (e.g., swamps, marshes, ridges, ravines, meadows, thickets, prairies, lakes, ponds, burned areas, windfalls, homesteads, fields, villages, roads, etc.)

Some caveats:

Some surveyors used only the genus names to identify certain trees (e.g., birch, pine, oak), but some identified trees to the species level (e.g., yellow birch, white pine, bur oak). The common name for vegetation was not always consistent or the same as current usage. For example, what is red pine today may have been called red, Norway, yellow, or sugar pine; jack pine was often called pitch pine. Some surveyors took very detailed notes, and others did the bare minimum.

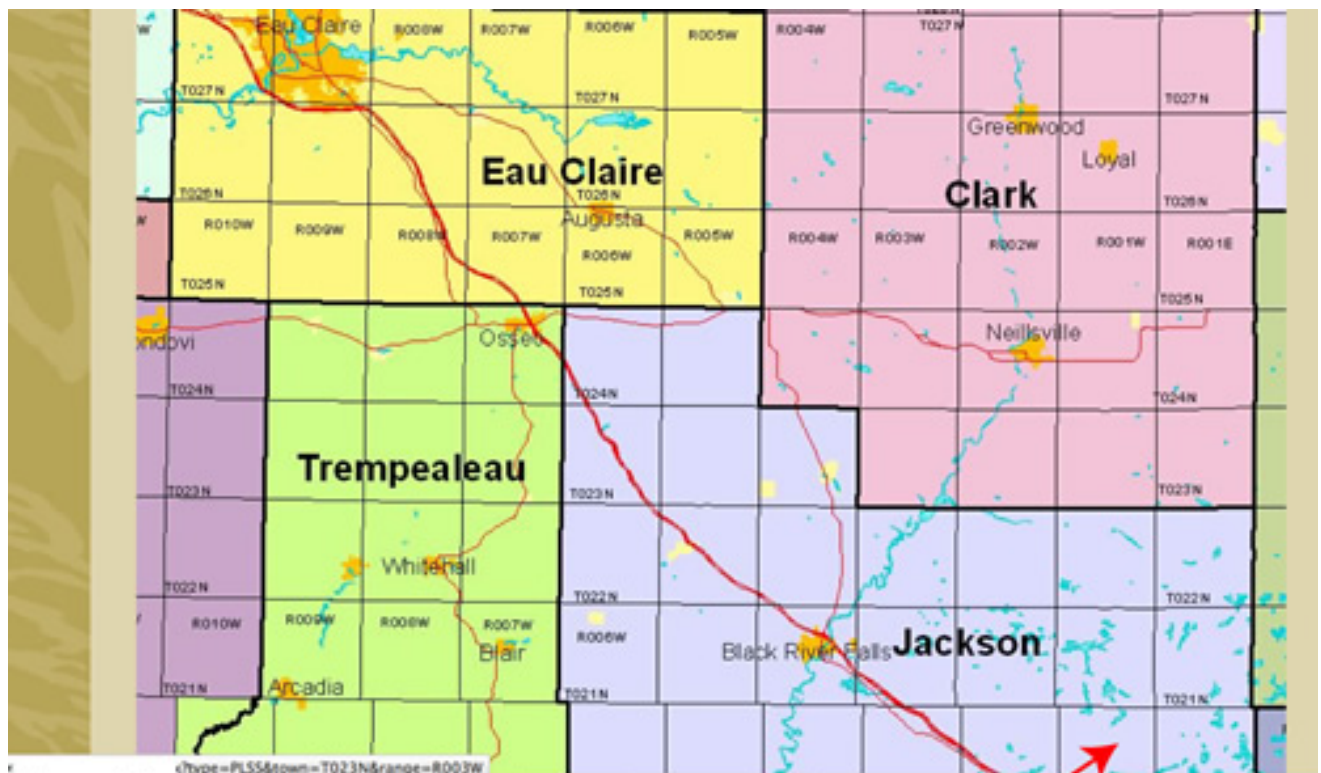


Figure 3

Click on the township that interests you

ed:

Now go to the [Wisconsin public land survey records](https://digicoll.library.wisc.edu/SurveyNotes/SurveyNotesHome.html)

(<https://digicoll.library.wisc.edu/SurveyNotes/SurveyNotesHome.html>) online in the UW Madison Digital Collections. Click "Search" on the left side of that page. You can enter the township and range (and section) that you're looking for above the map of WI on the search page. However, it's often much

easier to just click on the region of the map near your place. If you click on your place, for example, just southeast of Black River Falls in Jackson County, you'll see a close-up of the region you selected (See figure 3).

From here, you can choose the township for your place by either clicking on one of the townships, or again, selecting the township, range, and section.

After you select the township you are interested in, you'll notice a screen with many hyperlinks (see fig. 4a). You will find exterior notes for your township documenting the southern boundary (southern boundary of sections 31-36) and eastern boundary (eastern boundary of sections 36, 25, 24, 13, 12, and 1) for your township. If you scroll down, you will likely find interior field notes, if any.

Click on one of the section line hyperlinks, and you will see a scanned image of the original field notes. Some of the surveyors' writing is difficult to read. You can increase the display size by selecting a larger white rectangle from the left menu panel (see figure 4b).

85 Field note matches.
1 Map match.

T20N

Home
Search
Land Survey Information
Site Use Information
Links
Credits
Copyright
Township Reference Diagram

Exterior Field Notes (1845)
Freeman, J. E.
EXT11501

Section Line
Township 20 North, Range 2 West
Section 34, South boundary (West)
Display image for printing

Click on anyone of these section boundaries

Section Line : T20N R2W; Section 36, South boundary (West)
Section Line : T20N R2W; Section 35, South boundary (West)
Section Line : T20N R2W; Section 34, South boundary (West)
Section Line : T20N R2W; Section 33, South boundary (West)
Section Line : T20N R2W; Section 32, South boundary (West)
Section Line : T20N R2W; Section 31, South boundary (West)

Figure 4a

Figure 4b

Let's interpret one together

In Figure 5 below, you'll see an image of the surveyor's field notes for Township 20N, Range 2W. Notice you find this information along the top header, along with the page numbers of the notebook. On page 49, the surveyor started off indicating that he was headed west along the southern boundary (S.B.) of section 36. At a distance of 40 chains, they set the post of the quarter (qr.) section corner. The witness trees recorded are both pine. At a distance of 67 chains and 97 links, they came across a pine tree with a diameter of 18" on the section line. They encountered a swamp at 78 chains. At 80 chains (1 mile) they set the section corner post and recorded the witness trees (again both pine) and the bearings and distances to these trees from the corner post. Next they describe the general characteristics they encountered during the last mile. The topography is mostly rolling to level with some wet parts (swamps). The vegetation was mostly pine and white and black oak.

On page 50, the surveyors continued west along the southern boundary of section 35. They start off by noting the western edge of the swamp at 10 chains. (Remember, they're entered a swamp back at 78 chains in section 36, so they were still in it). At 24 chains, they encountered the base of a hill with a summit at 30 chains. At 35.5 chains, they left the hill and were back on the lower topography. The quarter corner section post was placed at 40 chains. They recorded a white oak and pine witness trees. Along the section line, they encountered a swamp at 50 chains, pine tree 12" in diameter at 55.53 chains, a rise 10 links to the north at 58.55 chains, a wagon trail northeast at 63 chains. At the end of the 80 chains, they set the section post and noted witness trees (a pine and a 'double' pine. They also noted that the land characteristics were the same for section 35 as they were for section 36.

47. TOWNSHIP No. <u>20</u> NORTH	48 RANGE No. <u>2 West</u> , 4TH MERIDIAN S. 13. H. RIDGEWAY COMPANY, MFG. STATIONERS, MILWAUKEE 170671
c. l. Var. $8^{\circ} 45'$ West along S. B. of Sec. 36 40.00 Set post qn. Sec. Cor. Pine 16 π 31 E 71 " 20 π 15 W 1 67.97 Pine 18 in. diam. 78.00 Enter swamp π & S. 80.00 Set post Cor. of Secs. 35 & 36 Pine 12 π 41 $\frac{1}{2}$ E 32 " 10 π 38 W 48 Land rolling & level - part wet - Pines, some W. & B. Oak	c. l. Var. $8^{\circ} 45'$ West along S. B. of Sec. 35 10.00 Leave swamp 24.00 Base of mound 30.00 Summit of same 35.50 Descend to low level land 40.00 Set post qn. Sec. Cor. W. Oak 11 π 49 E 23 Pine 24 π 13 W 39 50.00 Enter swamp π & S. 55.53 Pine 12 in. diam. 58.55 Run 10 l. North 63.00 Wagon trail π E. 80.00 Set post Cor. of Secs. 34 & 35 Pine 20 π 21 W 45 Double Pine 48 π 33 E 35 Land same

One more example:

This one documents Township 7N, Range 11E, along the southern boundary of section 36 headed west. After setting the section corner post, they set the quarter section post at 40 chains in a prairie. Because they're in a prairie, they had to make a mound out of dirt and sod for the post to be visible. At 80 chains, they set the post (mound) marking the corners of sections 36 and 35 and described the land they had just traversed as rolling prairie with second rate soils. They continued on the next page to describe the southern boundary of section 35. At 7 chains, they encountered an army trail that extended to the SSE. At 40 chains, they built another mound to mark the quarter section post. At 72 chains, they entered a marsh. At 75 chains, they noted a stream 3 chains to the north. At 80 chains,

they marked the section corner post and noted a bur oak witness tree. The summarized the land of section 35 as rolling prairie with second rate soil (with the exception of the marsh).

34 South boundary of Township No. 7 North.	Range No. 11 E., 4th Meridian ³⁵ M.T.
Var 8' 05" West On South side of Section 36 40.00 Set quarter section post in Prairie and Made a mound of earth and sods 80.00 Set post corner sections 35 & 36 in Prairie and Made a mound of earth and sods Land rolling Prairie second rate	West On South side of Section 35 7.00 Army Trail Course S.E. 40.00 Set quarter section post in Mound in Prairie 72.00 Leave Prairie & Enter Marsh 75.00 Stream 3 C N 80.00 Set post corner sections 34 & 35 Bur Oak 10 ft 70 ft 1.18 Land rolling Prairie second rate (Except Marsh)