

Tutorial on the Public Land Survey System Descriptions

From the Wisconsin Department of Natural Resources

When the land was first surveyed in Wisconsin, it was divided into a grid as shown in Figure 1. Each grid cell represents approximately 36 square miles (the measurements were not always precise due to the instruments the surveyors were using, among other limitations). This grid system is known as the Public Land Survey System (PLSS). An example of a legal description using the PLSS is given below.

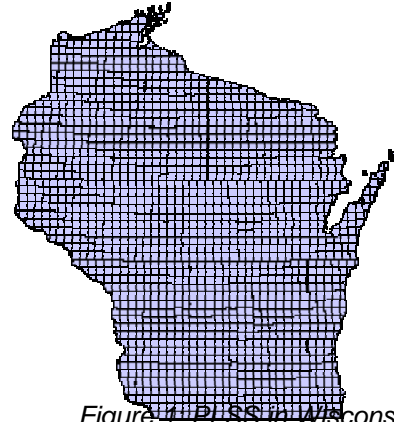


Figure 1: PLSS in Wisconsin

N 1/2 SE 1/4 SW 1/4, S24, T32N, R18E

The descriptions are generally read from front to back. For example, the description above would be read "The north 1/2 of the southeast quarter of the southwest quarter of section 24, township 32 north, range 18 east."

However, the easiest way to *interpret* descriptions is from **back to front** (or, right to left). To determine where the property is, we will break the description down into each of its elements, starting from the back and working our way to the front. We'll be starting with the most general labels and then move into the smallest, most specific labels.

Each cell in the grid is identified by a township and range number. The **range number** identifies how many cells the property is to the east or west of a starting point. Both eastern and western ranges are possible in Wisconsin, as shown in Figure 2. The range identified in our example legal description, R18E, is highlighted in Figure 3.

N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E

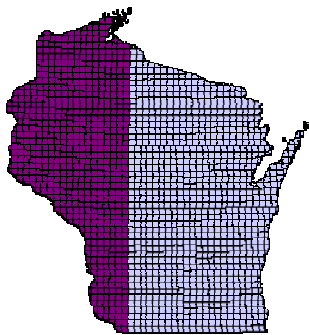


Figure 2: Eastern and Western Ranges in Wisconsin

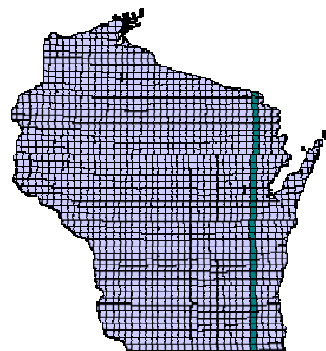


Figure 3: Range 18 East

The **township number** identifies how many cells the property is to north or south of a starting point. Only northern townships are possible in Wisconsin. The township identified in our example legal description, T32N, is highlighted in Figure 4.

N 1/2 SE 1/4, SW 1/4, S24, **T32N**, R18E

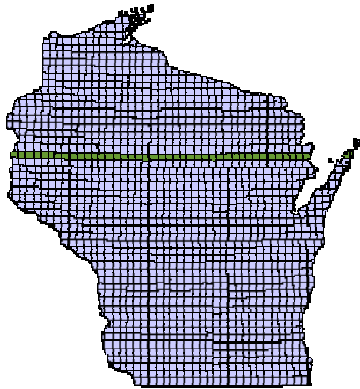


Figure 4: Township 32 North

Each 36-square-mile parcel identified by a township and range number is further divided into 36 **sections**, each section theoretically being 1 square mile, or 640 acres. The cells are numbered "boustrophedonically", or "as the cow plows", which means that the numbers wrap around in an "s" shape. Such a numbering system was easier for the surveyors to use when they were doing the original surveying. Our example refers to section 24, which is highlighted in red in Figure 5.

N 1/2 SE 1/4, SW 1/4, **S24**, T32N, R18E

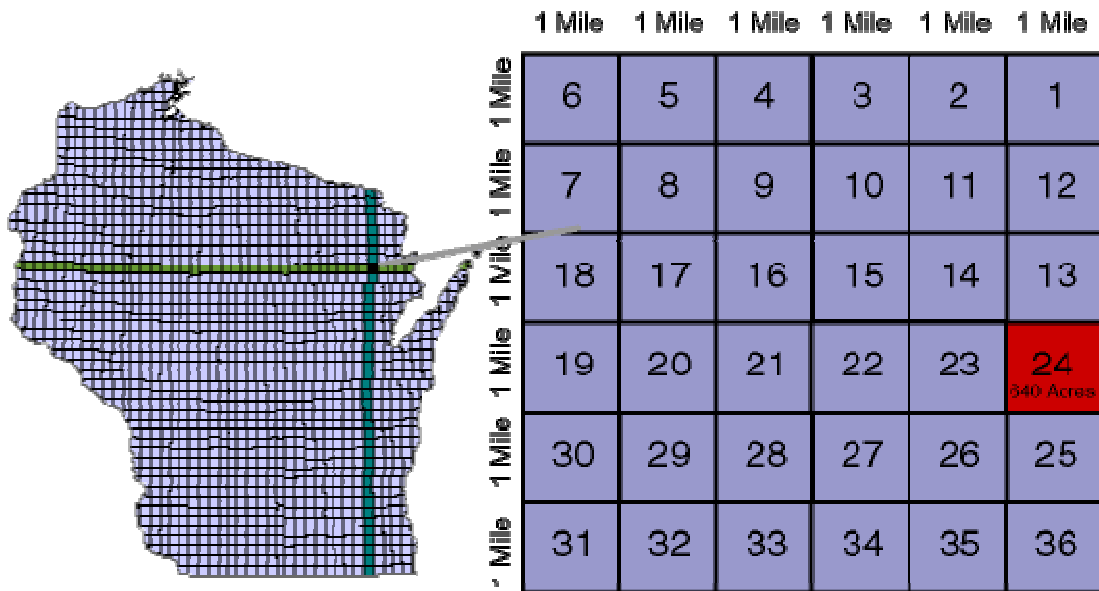


Figure 5: Section 24

Many parcels of land are smaller than an entire section. They sometimes are the size of a **quarter section**. Each section is divided into 4 quarters, each being 1/4 square miles, or 160 acres. Each of the quarter sections is labeled with a quadrant direction. In our example, the description is referring to the southwest quarter section of section 24, which is highlighted in yellow in Figure 6. Again, be sure to read the description from back to front so you know to which quarter section the description is referring.

N 1/2 SE 1/4, **SW 1/4**, S24, T32N, R18E

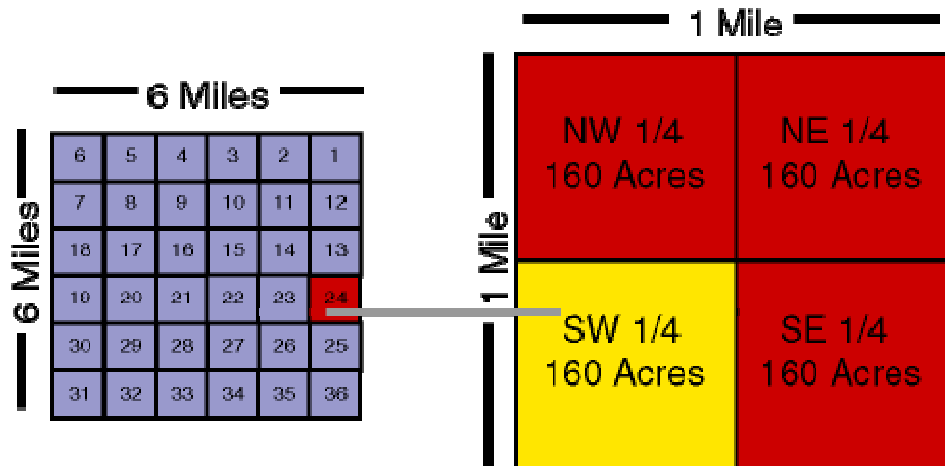


Figure 6: SW 1/4 Section of Section 24

Quarter sections can be further divided into 4 more parts (called the **quarter-quarter section**), each being 1320 feet in length (1/4 of a mile), which results in 1,742,400 square feet, or 40 acres. Our description tells us that we are looking for the SE quarter-quarter section. Because we already know from our [last step](#) that we are in the SW quarter section, we know to now locate the SE quarter-quarter section in the SW quarter, as shown in blue in Figure 7.

N 1/2 **SE 1/4**, SW 1/4, S24, T32N, R18E

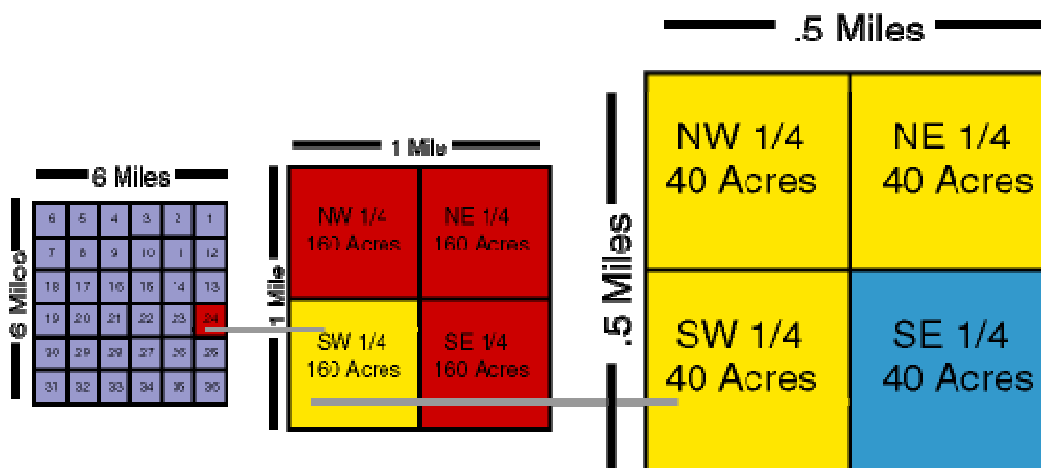


Figure 7: SE Quarter-Quarter Section

Finally, we also have a reference to a **half** of a quarter-quarter section in our example. Halves can be used instead of, or in addition to, quarters to describe property location. In the case of our example legal description, the half quarter-quarter section is 20 acres (though if the legal description had read N 1/2, S24, T32N, R18E, the area of the half would have been 320 acres). Halves can be north, south, east or west. The north half of the southeast quarter-quarter section is highlighted in orange in Figure 8.

N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E

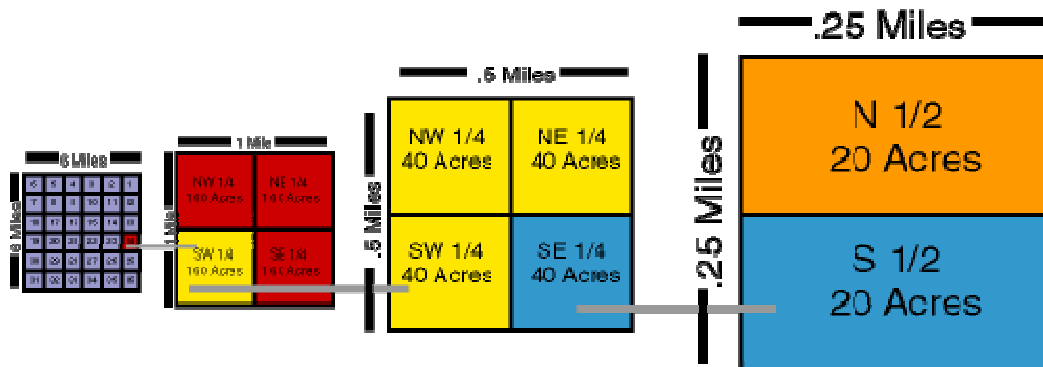


Figure 8: N 1/2 of the SE Quarter-Quarter Section

Figure 9 shows the location of the land we've been locating in context. You now know how to locate land using a PLSS description!

N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E

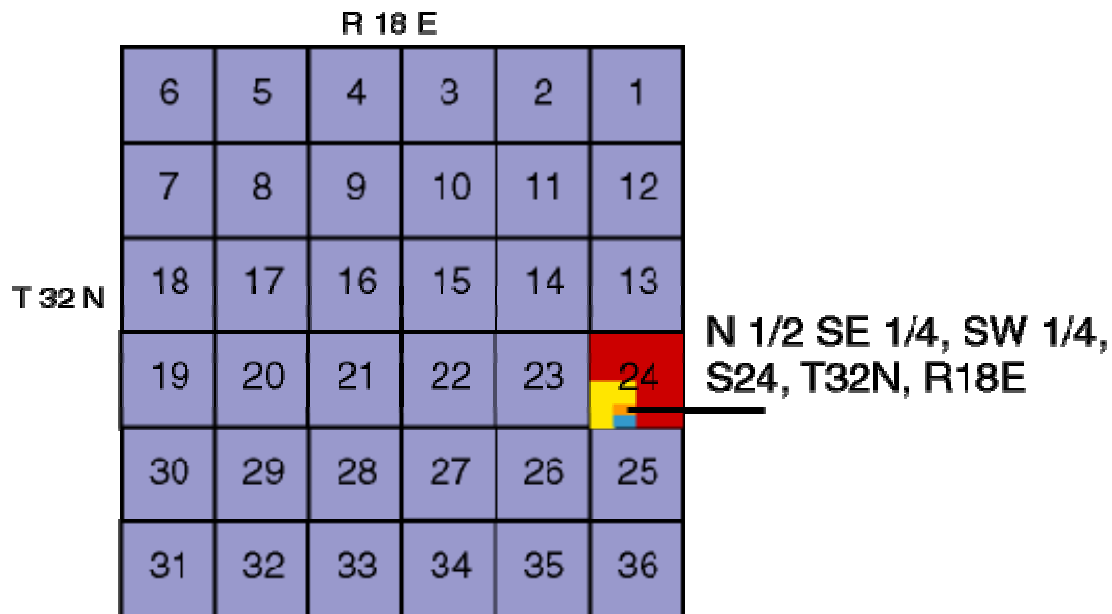


Figure 9: Location of N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E

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