



GPS IN FORESTRY

How much land do I own? Where exactly is it located? These are age-old questions.

Until recently, the answers could only be determined using surveying techniques. It was necessary for surveyors to traverse between points, precisely measuring angles and distances along the way, which required the ability to see from one point to another. For many applications, Global Positioning System (GPS) technology has eliminated the need for this costly procedure because collecting GPS data does not require a line of sight.

Global Positioning System technology enables us to precisely find a position on the face of the earth. It is a satellite-based positioning system. The Department of Defense maintains 27 operational satellites that orbit the planet every 12 hours. The orbits are arranged so that there is a theoretical minimum of six satellites visible at all times. These satellites send out coded radio signals. The GPS unit simultaneously receives the signals with an antenna similar to that of a radio. It then processes the information to determine location by using the simple geometry called triangulation. Originally designed to aid in military navigation, GPS technology has become widely available to the public.

Although their technology is the same, GPS receivers differ widely in accuracy. Consumer units are accurate to 10 to 30 feet. The high-end, survey-grade units can be accurate to a few inches. For most forestry applications, accuracy to ± 25 feet is sufficient. For comparison, a pencil line on a USGS topographic map represents a width of about 25 feet.

What's the bottom line? Cost savings can be substantial. In one field day plus some office time, it is possible to collect boundary line data plus the location of other features on a property as large as 500 acres. This once took the expertise and cost of a surveyor. Today, with GPS technology, Fountains Forestry can identify, in a cost-effective way, how much land you own and where it is.

Note: Certified surveys, boundary line establishment and a few other functions can only be done by a licensed surveyor in most states. If you need these services, Fountains will be glad to help arrange them for you.