California Department of Fish and Wildlife Biogeographic Information and Observation System (BIOS 6) Public Land Survey System (PLSS):

History

The Public Land Survey System (PLSS) is used over much of the United Sates to subdivide land into predominantly uniform sized parcels. The system was proposed by Thomas Jefferson as a way to divide up the original public domain lands, including land ceded to the Federal Government by the thirteen original States, supplemented with acquisitions from native Indians and foreign powers. These lands were surveyed precedent to sale by the government to private citizens in an effort to raise money to pay off debts incurred during the Revolutionary War. Parcels were also given to many surviving Revolutionary War soldiers in appreciation for their service.

The Land Ordinance of 1785, which called for the survey of public domain lands, was followed by the Northwest Ordinance of 1787, which described the rectangular survey system intended to enable this systematic transfer of lands held by the Federal government to private citizens[5]. Several areas in the U.S. were omitted from the PLSS survey process, including all of the 13 original States, military lands, national parks and lands that were already privately held prior to the survey effort. The PLSS is not a single comprehensive survey of all public domain lands; rather it is a composite series of many separate surveys. Each survey begins at an initial point, and survey lines run north, south, east, and west away from that initial point. The north-south line that runs through the initial point is called the Principal Meridian and each one is uniquely named. Also running through each initial point perpendicular to the Principal Meridian is an east-west line called a base line.

It should be noted that while the original PLSS surveys were supposed to conform to official procedures, some errors, both accidental and intentional, were made during the actual surveying process. The existing surveys are still considered authoritative, however: and any new surveys performed must therefore tie to the existing corners and survey lines, even if they are known to be erroneous.

Methodology

Beginning at the initial point for each survey, where the Principal Meridian intersects the base line, the PLSS divides land into a grid of parcels, each 36 square miles in area, called townships. A township is identified by its location to the north or south of the baseline. The distance to the east or west of the Principal Meridian is also noted for these parcels and this designation is called its range. Each parcel then can be found based on the Township and Range designation and the Principal Meridian with which it is associated. For example, Mt Diablo, Township 2 North, Range 5 East, is in the 2nd row of townships to the north of a base line, and in the 5th column of townships to the east of the Mt. Diablo meridian.

Principle meridians and Baselines in CA. Source: Bureau of Land Management[1]

Each township is then subdivided into a grid of 36 one-mile sections and a permanent marker is placed at each section corner. Markers are often also placed at quarter-section corners and at other important points, such as the corners of government lots. The original PLSS surveys were often marked by wooden stakes, marked trees, or piles of rock, and other non-permanent markers but this led to obvious problems over time and only permanent markers are used today. The sections within a Township are numbered 1 through 36, beginning in the northeast corner and ending in the southeast corner of the township as shown below.

THEORETICAL
TOWNSHIP DIAGRAM
SHOWING
METHOD OF NUMBERING SECTIONS
WITH ADJOINING SECTIONS
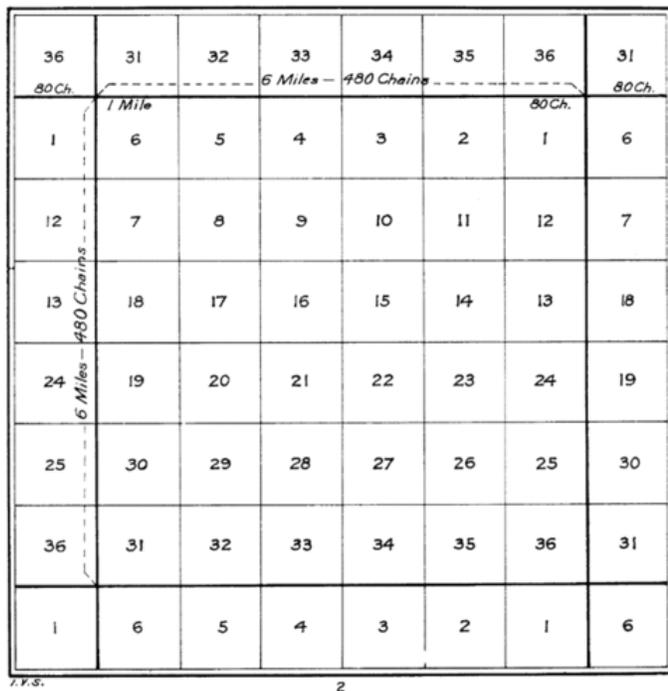
Source: Bureau of Land Management[2]

A complete description of a section includes the State in which it is found, the Principal Meridian upon which it is drawn, Township designation, Range designation, and the section number. For example: **California, Mt. Diablo Meridian T2S, R3W, section 14**.
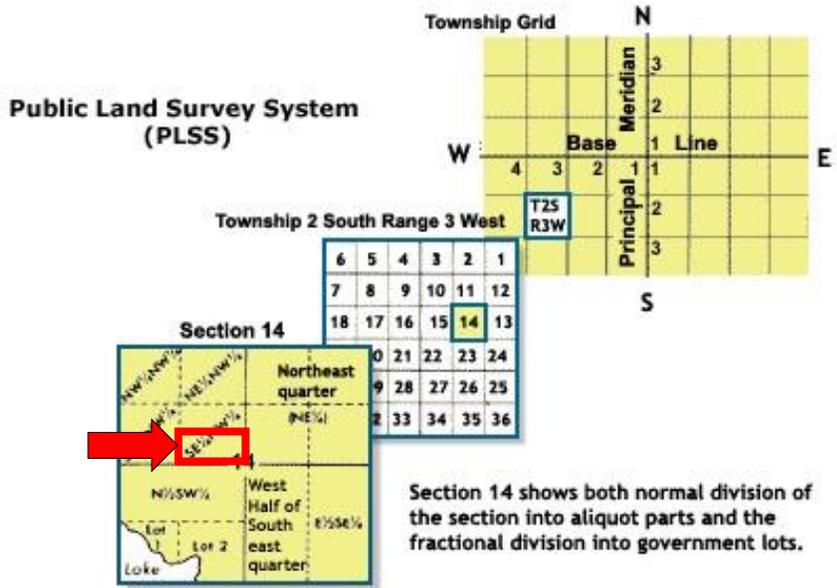
Source: United States Geological Survey[3]

The area in highlighted in red is noted as: **S 1/2 SE 1/4 NW 1/4, S14, T2S, R3W**. A parcel's complete PLSS description is read from left to right so the location above would be read as the south 1/2 of the southeast quarter of the northwest quarter of section 14,Township 2 south, Range 3 west.

The Bureau of Land Management is the agency in charge of the PLSS and as such maintains the Federal Government's official records for almost 1.5 billion acres that have been surveyed into townships and sections over the past 200 years[4]. The effort continues even today as BLM is still completing numerous new surveys each year.

References

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