The Rectangular Public Land Surveys in the United States:
From Space to Place

Rod Squires, University of Minnesota
A Little Humor?

Three umpires were standing around before a game started discussing their philosophy

• The lawyer said, "I call 'em as they are"

• The geographer said, "I call 'em as I see 'em"

• The surveyor said, "They ain't nothing til I call 'em"
The surveys transformed a wilderness “into a remarkable geometry of squares and rectangles”
For years I have performed a balancing act between

Detail necessary to describe and explain the public land surveying process to my primary audience – land surveyors of Minnesota

Available records

- how the surveys were carried out
- how each corner was established
- how each half mile segment of line was run
- how the surveys spread

In Minnesota 1847-1908
Déjà vu - Again

2007

MSPS. The Past as Prolog: Public Land Survey Records for Minnesota

Mn/DOT. A Partial Inventory of the General Land Office Surveying Records for Minnesota

2008

MSPS. The Public Land Survey Records in Minnesota

An Inventory of the Public Land Surveys Records for Minnesota: The Special Instructions
And

Generalizations to provide an overview of the surveying effort throughout the United States 1785-1925 to students and other professionals

• many of whom take the surveying efforts for granted
• interested in the outcomes of the surveys

Without losing the richness of the details
“The objective of all dedicated employees is to thoroughly analyze all situations, anticipate all problems prior to their occurrence, have answers for these problems, and move swiftly to solve these problems when called upon. However, when you are up to your ass in alligators, it is difficult to remember that your initial objective was to drain the swamp.”
Focus on detail with which the public land surveys were carried out in Minnesota – of interest to surveyors but of limited geographical applicability

Focus on generalities, the geographical characteristics of the surveys throughout the United States of interest to non-surveyors – of limited utility to surveyors
Intellectual Schizophrenia intensified

I have chosen to explain landscapes

Through the lens of landownership

- How space is organized
- How behavior is organized
- The visible effects of certain behaviors

The rectangular public land survey net is one of the most visible yet least understood cultural landscape feature in the United States

Need to make my work accessible to a wider audience
Purpose of Talk – start of self medication

To provide an overview of the public land surveys in the United States

Thus putting the surveys in Minnesota into a national *surveying* context
National Scale

The area covered by the surveys and conversely the areas not covered.
National Scale

Surveying characteristics

- The geometric figures that defined the boundaries of land parcels and form part of legal descriptions – mostly ubiquitous
- The principal meridians and baselines that form a part of legal description – mostly ubiquitous
- The correction lines, standard parallels, and guide meridians – not ubiquitous
National Scale

Continuing Relevance of the Points and Lines

Land Act of February 11, 1805 (2 Stat. 313)

All the corners marked in the surveys, returned by the surveyor-general . . . shall be established as the proper corners, of the sections, or subdivisions of sections, which they were intended to designate . . . .

The boundary lines, actually run and marked in the surveys returned by the surveyor-general . . . shall be established as the proper boundary lines of the sections, or subdivisions, for which they were intended . . . .
The Public Land Surveys in a National Setting – federal legislation

Land System

Native American Land Cessions

Public Land Surveys

Public Land Conveyances

Legal System

Landowners in Minnesota Territory

County

Landowners in Minnesota
Land System

The Land Ordinance, 1785

- Lands north and west of the River Ohio ceded by Native Americans would be subdivided in an orderly manner

- The United States would convey title to these lands to individuals – a section in each township would be reserved

Legal System

The Northwest Ordinance, 1787

- Jurisdiction over individuals and title to lands in the Northwest Territory would be vested in a national government

- Provided individuals who settled in the Territory with a government, hence some guarantee of their rights

- Established how the Northwest Territory would be divided - into sovereign states
The Northwest Territory
Survey 1858
Two characteristics allowed the surveys to be carried in widely separated localities

1. **An administrative system** comprising statutorily defined surveying districts and Presidentialy appointed surveyors general – established when necessary
   - Considerable independence from each other
   - Annual appropriations from Congress
   - Funds apportioned by the Commissioner of the General Land Office to each surveyor general, along with “annual instructions”

2. **A locational system** that was independent of the other details of the rectangular net – established when necessary – provided basic surveying control and locational control
## Atlantic Surveying Districts 1796–various dates

### Northern

<table>
<thead>
<tr>
<th>Region</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Ohio, Michigan, Indiana</td>
<td>1796-1857</td>
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<tr>
<td>Missouri &amp; Illinois</td>
<td>1803-1863</td>
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<tr>
<td>Arkansas</td>
<td>1832-1859</td>
</tr>
<tr>
<td>Wisconsin &amp; Iowa</td>
<td>1838-1866</td>
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<tr>
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### Southern

<table>
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<tr>
<td>Mississippi, Alabama, Louisiana, Florida</td>
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<td>1817-1849</td>
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<tr>
<td>Louisiana</td>
<td>1831-1909</td>
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<td>Florida</td>
<td>1824-1908</td>
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<tr>
<td>State</td>
<td>Year</td>
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<tr>
<td>-----------------------</td>
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</tr>
<tr>
<td>California</td>
<td>1851</td>
</tr>
<tr>
<td>Oregon</td>
<td>1851</td>
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<td>1854</td>
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<td>Kansas &amp; Nebraska</td>
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<tr>
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<td>Utah</td>
<td>1855</td>
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<td>1851-1925</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1854-1925</td>
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</table>

**Regional Scale**

Atlantic Surveys

Pacific Surveys
Minnesota shows characteristics of both Pacific and Atlantic surveys
1847-1852
1852-1908
Formation of a Federal Republic

Acquiring jurisdiction

• From foreign governments
• From former colonies

Acquiring land titles from Native Americans

Adjudicating land claims of individuals
The Northwest Territory
Forming Jurisdictions

Jurisdictions included in the Atlantic surveying districts

Jurisdictions included in the Pacific surveying districts

- Division of the Northwest Territory
- Division of the southeast U.S.A.
- Division of Louisiana Purchase Area
- Division of other acquired areas
Chap. XXXVI.—An Act for the discontinuance of the office of Surveyor General in the several districts, so soon as the surveys therein can be completed, for abolishing land offices under certain circumstances and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be the duty of the Secretary of the Treasury to take all the necessary measures for the completion of the surveys, in the several districts for which surveyors general have been, or may be, appointed, at the earliest periods compatible with the purposes contemplated by law; and whenever the surveys and records of any such district or State shall be completed, the surveyor general thereof shall be required to deliver over to the Secretary of State of the respective States, including such surveys, or such other officer as may be authorized to receive them, all the field notes, maps, records, and other papers, appertaining to land titles, with-
Northern Surveying Districts

1796. To “survey the lands northwest of the Ohio River and above the mouth of the Kentucky River in which the Indian title has been extinguished”

1803 LOUISIANA PURCHASE

1804. Extended authority to all lands north of the Ohio and east of the Mississippi to which Indian title has been or will be extinguished

1806. Extended authority to Territory of Louisiana. Principal Deputy in St. Louis
1816. S.G. Missouri and Illinois

1832. S.G. Arkansas

1838. S.G. Wisconsin & Iowa

1857. S.G. Minnesota
Northern Atlantic Surveys related administratively through the Surveyor General of the Northwest established in 1796

- Ohio, Michigan, Indiana, Illinois, 1796-1857
- Missouri & Illinois, 1803-1863
- Arkansas, 1832-1859
- Wisconsin & Iowa, 1838-1866
- (Minnesota, 1847-1857)

Most of the surveys had been completed by 1851
Except in Minnesota
Surveyor General Authority – South

(1798 Mississippi Territory)
1803 “Surveyor South of Tennessee”
   (1804 Orleans Territory)
1805 Authority over Orleans Territory
   (1811 LOUISIANA)
1817 S.G. Alabama

1824 S.G. Florida

1831 S.G. Louisiana
Southern Atlantic Surveys related administratively through the Surveyor South of Tennessee established in 1803

<table>
<thead>
<tr>
<th>State</th>
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<tbody>
<tr>
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Except Florida SG established 1824
Most of the surveys had been completed by 1851
The Donation Land Claim Act, 1850

An Act to create the Office of Surveyor-General of the Public Lands in Oregon . . .

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That a surveyor-general shall be appointed for the Territory of Oregon, who shall have the same authority, perform the same duties respecting the public lands and private land claims in the Territory of Oregon, as are vested in and required of the surveyor of lands in the United States northwest of the Ohio, except as hereinafter provided.
Pacific Surveying Districts

1848 Oregon Territory
1850 CALIFORNIA
1853 Washington Territory
1854 Kansas, Nebraska Territories
1858 MINNESOTA
1859 OREGON
1861 KANSAS, Colorado, Dakota, Nevada, Arizona Territories
1863 Arizona, Idaho Territories
1864 Montana Territory, NEVADA
1867 NEBRASKA
1868 Wyoming Territory

Closely aligned with Jurisdictions
Pacific Surveys far more closely tied to jurisdictional units

Started after 1851
Standardized Instructions

In 1851 the Oregon Manual of Surveying Instructions was issued

Initially controlled the surveys carried out in the newly established surveying districts of Oregon Territory and California

Made applicable to the existing surveying districts of Wisconsin and Iowa – which included Minnesota – and perhaps Louisiana and Arkansas

Made applicable to the new surveying districts of Kansas and Nebraska, New Mexico, and Washington

1855 republication made applicable to all existing and all subsequent surveying districts

1862 Manual of 1855 made part of every contract
Instructions - Act May 3, 1862

A. The printed Manual of Instructions relating to the public surveys ... bearing date February twenty-second, eighteen hundred and fifty-five

B. The instructions of the Commissioner of the General Land Office

C. The special instructions of the surveyor general when not in conflict

• with the printed Manual or
• with the Commissioner’s instructions

shall be taken and deemed apart of every contract for surveying the public lands of the United States
Conclusion

The spread of the public land surveys throughout the United States during the nineteenth and twentieth centuries depended upon their administration.

A fundamental change occurred after 1851 when the Oregon Manual was issued.

Surveying districts became more closely tied to jurisdiction units throughout the century as the surveys matured and as surveying districts were closed.
Minnesota shows characteristics of both Pacific and Atlantic surveys
1847-1852
1852-1908
Medicating my Schizophrenia

I could not have mapped the spread of the surveys without understanding the details of the surveying process and their administration.

Details necessary to describe and explain the public land surveying process to my primary audience – land surveyors of Minnesota.

Details necessary to describe the spread of the public land surveys throughout the United States.