

"Stan's Corners" is the first in a series of stories that speak to the "Heartbeat of the Forest." The series will highlight the 'less-heard-of' people and happenings that constitute the management, health, and sustainability of woodlands. Writings will include the details, nuances, and people who don't always make it into the 'big picture' but are oftentimes the lifeblood of the state, national, and global scenes, particularly as those 'scenes' relate to local, state, and Midwest forests.

Stan Ringold thought about corners.

Yes – corners. Even at time of the season such as this - at the start of a new year when many of us dwell on the path ahead, and not on the curves and crooks that may potentially lie on the trail in front of us, Stan thought 'corners.'

Stan Ringold worked for the Forest Service in northern California, returning to his native Minnesota in 1951 where he worked for the then M&O Paper Company. After time with Diamond Match in Cloquet, Stan became forester for the Rajala Timber Company in Deer River. That's where I met him.

He wasn't just any forester. Stan thought about markers, monuments, and bearing trees, and how many chains to the next intersection in a half, or a quarter, or an eighth section of land. He looked for the signs that help a person understand if they have gone too far, if they have taken too many steps - maybe even trespassed.

I want to tell you about Stan because he was one of the most obscure individuals to walk Minnesota's forests. And yet, his footprints are all over the woodlands that lie north in Itasca County -and in the land that spills over across Itasca's borders into Koochiching.

In so many ways, Stan was like many other foresters of his era – soft-spoken, taking his paces one at a time and in a measured walk. He was never certain about what was over the next rise, or around the bend. But he was always thinking - about corners.

Here at Dovetail Partners, we explore many aspects of our forests and related natural resources. Much of our research is built upon the foundational work of people like Stan, and the fact that there are junctions, intersections, and turning points to our work.



An original wood post monument found by Koochiching County below Hwy #1 east of Northome. Photo by Neal Adams. Courtesy Beltrami County GIS/Mapping



Colleagues, foresters, friends – Sam Dickinson (left/back) and Stan Ringold; front, Sid Rommel.



"Stan's footprints are all over the woodlands of northern Minnesota, including Itasca and Koochiching Counties."

Stan didn't author the concept of corners. The idea of 'ordering' the land actually was initiated even before the Constitution was written and signed. It began with the Land Ordinance of 1785 that established a rectangular survey system for surveying the lands of the Midwest. Created in anticipation of the influx of settlers, the ordinance established that public domain lands northwest of the Ohio River were to be surveyed into 36-square mile townships, and sold at no less than \$1 per acre, in tracts no smaller than 640 acres – a section.

Now known as the public land survey system, this system divided the western lands into grid-shaped townships and sections six miles square. Each township was comprised of 36 sections; each section had an area of one square mile (640 acres).

The Office of U.S. Surveyor General was created in 1796 to survey lands as the nation expanded westward. This is where Stan Ringold's predecessors stepped in.

If you haven't watched the documentary "Minnesota: A History of the Land," produced by the Bell Museum, do so! It brings to life the epic story of the people and landscapes of Minnesota. It begins with the retreat of the last ice sheets to the growth of today's suburbs and features an original soundtrack by composer Peter Ostroushko. You can purchase the 4-part documentary by contacting the Bell Museum at bellinfo@umn.edu or call them at 612-626-9660. For a 'taste,' go to: https://www.youtube.com/watch?v=Xec_3DOPY6Q

Surveyors, commissioned and outfitted with the simple tools of a compass and measuring chain, began surveying lands west of the Appalachians. It took a half-century to survey Minnesota; surveyors began in the 1840s and continued through the remainder of the 19th Century. If you fly over the state today, the legacy of this historic land survey is still apparent. A network of survey lines divides the state into townships, ranges, sections, quarter sections, quarter-quarter sections, and government lots. And has laid the groundwork for contemporary land ownership patterns.



(Top) Magnetic compass. Courtesy Beltrami County GIS/Mapping
(Bottom) Surveyor's chain. 66 feet in length with 66 1-foot links. Courtesy Beltrami County GIS/Mapping

The field notes of those early century surveyors are replete with evidence of the challenges of surveying an uncharted territory. A July field note from Lake County states: 'I have been stung by mosquitoes while knee deep in snow!'

Surveyors would note particular geographical features like trees along their grid lines, and the quality of the soils. A St. Louis County surveyor noted 'gently rolling hills,' 'water clear and speckled with trout,' and 'swamps suitable for cultivation.'

This brief historical review would not be complete, however, without mentioning how this system of land surveying and land sale conflicted with indigenous cultures and people already living in Minnesota. From 1837 until the dawn of the 20th Century, the Dakota and Ojibwa living in the state found their way of life dramatically changing by the government's 'ordering' of the land base. Not only were the indigenous people forced to cede their land to the U.S Government, but the settlers also brought a view of the land that profoundly changed that land. Historian Rhoda Gilman asked in "Minnesota: A History of the Land:" How could you pay for a way of life?" The grid pattern that began to dominate the landscape sliced through, and divided lands that, ecologically, had been whole. Rivers and streams, valleys and hillsides – entire landscapes became 'ordered' and divided.

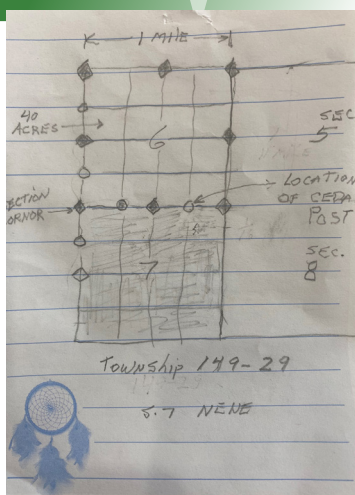
Stan stepped into the picture in the mid 20th century. He wasn't a part of the original survey work. Stan was a contemporary forester who became renown in the north woods for finding those original corners. Stan, along with his colleagues – folks by the names of Sid Rommel and Sam Dickinson, followed on the heels of a generation of foresters and surveyors who had left their mark – and their land descriptions - in the pages of their field notes.



Jack (Black) pine bearing tree scribed in 1874. Ten inch diameter at that time. At the Northeast corner of section 17 in Turtle River (T147-R32) Twp in the southwest corner at the intersection of Sumac Rd NE & Pincherry Rd NE. Still standing today. Photo by Neal Adams

Corner Location Tag (CLT) nailed to a bearing tree used by forestry in 1930's. At Northeast corner of section 1 in Birch (T148-R30) twp. Also Itasca County line. Photo by Neal Adams





(Left) Corner Location Tags (CLT's) nailed to a bearing tree. Top silver one used by surveyors and foresters 1970-1985+-. Top one used 1985-Present+-. Photo by Neal Adams
(Right) Original field note

These field notes serve as the fundamental legal records for real estate in Minnesota; all property titles and descriptions stem from them. Stan and his colleagues were hired by public land management agencies, timber companies and private individuals to find those corners and reestablish and/or ensure the lines of the grid ran true, particularly when boundary lines were disputed or could not be found.

They had quite the vernacular, which is still commonly used today. Corners are points where a boundary line changes direction; they are often marked with items call 'monuments.' A monument is a tangible landmark on the landscape that indicates the boundary of a piece of land. A monument might be an existing feature such as a stone, stake, stump, tree, hill, lake, even a fork in a stream. And, of course, monuments can be lost in time.

As Stan and his colleagues went to the woods to search for corners, they did not necessarily expect to find the modern day metal posts with brass caps. Rather, those corners were often, as referred to in the original surveyors' field notes, "ten chains from the swamp where we came to an upland cedar type." A corner might be inscribed with an identifying mark on a long-lived tree such as a white pine, tamarack, or cedar. Often there were only faint traces of the evidence identified in the original surveyors' field notes. It was a treasure hunt, of sorts.



Red Pine bearing tree with blaze and scribing visible with a Corner Location Tag (CLT). Unknown origin and location. Photo by Neal Adams

Stan would also look for 'witness trees.' Witness trees bore marks that pointed to a corner Surveyors used hack or chop marks to make an imprint; when the tree healed, a scar remained. This scar can remain visible for decades as evident to the location of a boundary line. A common custom for a corner witness mark was three parallel lines about equal distance apart that faced the corner on the ground. The witness tree was usually just a short distance from the actual corner, typically less than five feet away.

Dave Roerick, who retired after 35 years as a forester with the U.S Forest Service, still lives and breathes the life of those early surveyors, having followed in the footsteps of some of those 'greats', like Stan and Sid Rommel.

Dave describes how those surveyors had their lingo: a 'chain' is 66 feet long; it has 100 links. A 'link' is 7.92 inches. There are 20 chains in a quarter mile. A head chainman runs with a compass to lead the way outlined by the original surveyor's notes. When he starts, he drops a pin' into the ground or the snow.

The tail chainman stays there while the head chainman takes a compass reading, unraveling his chain as he walks. When the end of the chain is reached the trail chainman yells "stop." The tail chainman walks to that pin, and pulls it up while the head chainman moves ahead another chain, thus leapfrogging their way through a forest until the tail chainman has 20 pins in hand.

Dave notes that some foresters used a more informal method of measuring distances to corners: that of a 'pace.' A pace is every other step. Naturally, individuals had differing paces according to their personal stride (and size of their feet!) Dave explains that one had to establish their own pace if using it to measure distance (Dave's pace was 12.1 paces to cover the distance of a chain.)

When no pins were available, Dave used to break off a piece of stick or grab a pinecone and put it in his pocket so that he could keep track of the "pins" he had with him as he followed the surveyor in front of him.

Minnesota's original Public Land Survey plats are housed at the Minnesota Historical Society. They were created during the first government land survey of the state. They are handwritten notes, scribed between 1847 and 1911. There is a collection of 1,417 paper volumes totaling 304,370 pages.

These notes serve as written pictures of the physical geography prior to European settlement and as testimony to the many years of hard work by the surveying community, often under very challenging conditions.

Stan is gone. So are his colleagues Sid Rommel and Sam Dickinson and others. But as we search for 'corners' in our 21st Century woodland endeavors, remember the steps taken by woodsmen like Stan - foresters who believed they were only a heartbeat - and maybe just a few paces - away from the next corner.