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## Surveyors: Loyalties and Points in Between

This entry is part 6 of 7 in the series [March 2019](#)

*Above image: Sarah Glaves (1980-2016) runs differential levels at Takatz Lake on Baranof Island, SE Alaska, to support lakebed mapping and water depth/volume calculations for a possible hydroelectric power plant. Credit: Karl D. Woods, RPLS, Terrasond – Alaska.*

*I faked the need for a bathroom break just to walk through the casino with my chaining gear and orange surveyor's vest on. The party chief and I were doing location work on the sidewalk in front of one of downtown Reno's oldest casinos.*

*I knew there was an audience inside among the flashing lights, bells, whistles, and familiar "clink, clink, clink" of coins dropping into the steel trays of slot machines. It felt like a moment to tell the world I was a land surveyor and was proud of the work I did.*

## The Qualities that Make Us Special

While developing the theme of this article, I made a list of all the surveyors I knew. The list had close to a hundred names. Looking over the list, a flood of memories came back. These weren't just bosses, co-workers, employees, fellow students, and teachers—they were my friends and some of the finest people I knew. Reading the names on the list helped me sort out the common denominators and characteristics that land surveyors share.

The qualities that make us special seemed worthy of further examination and discussion. After all, I had thirty years of research on the subject, having spent countless days in the field and office with land surveyors, and I felt qualified to say something about them.

*We set curb and gutter stakes using a 300' steel chain on my first day in the field. I didn't even know what a "tenth" was. The first pull sent me tumbling toward the instrument.*

I quickly realized there were four key characteristics or "loyalties" most land surveyors share. The first loyalty was obvious to a young chain person. I began to witness extraordinary dedication to get the job done. This I termed Loyal to the Mission.

Time and time again, the surveyors I worked with would sacrifice their comfort, budget, schedule, and even personal safety to get the job done and done right. By example, I learned what mattered most to these people, and that was the mission.

As I advanced upward through the profession, another key characteristic came into focus. Not only were surveyors hell-bent on getting the job done right, but they did so while maintaining the integrity of the profession. The profession's reputation mattered as much as getting the job done. This I have termed Loyal to the Profession.

Simply stated, it means there is something bigger than all of us which should be preserved and strengthened. The land surveying profession not only takes care of us but is also the steward responsible for historical records that will define land boundaries for generations. Everyone relies on the profession, not just land surveyors.

One of the most powerful items in a surveyor's toolkit is their observational skills. The ability to accurately read and interpret what we see in the world we are measuring and mapping gives value to our work. Staying Loyal to Our Observations means above all else trusting what we see and then reporting it regardless of the consequences. It also means allowing ourselves to be guided by instinct and our accumulated knowledge. If you can't trust what you observe and experience, how can you be a land surveyor?

I've already tossed around lots of adjectives describing land surveyors, but words don't mean much unless you like what you do. There needs to be a higher "calling" that inspires loyalty to the mission, profession, and observations. That's when we talk about Loyal to Our Hearts. Generally speaking, land surveyors love the work, and most followed their hearts into the profession or stayed here because of it, and that's reflected in dedication to professional principles.



*The late Sarah M. Glaves surveys in the Russian Mountains, Alaska. Credit: Karl D. Woods, RPLS, TerraSond – Alaska.*

## Loyal to the Mission

*Nothing scared me like setting up in the middle of busy intersections. We did so all the time in Denver where many of the streets and avenues are laid out on section lines. Naturally the intersections often had well monuments that made great control and traverse points.*

*I was an I-man at the time and didn't have much choice. We'd typically set up inches from travel lanes with only one large orange cone standing between me and heaven. There wasn't enough room to encircle the gun with cones.*

The coastal Redwood forests of northern California are choked with dense understory that complicates boundary and control work for surveyors. Tall, leafy foliage reduces line-of-sight, making field work laborious and slow. In old-growth forests, huge trees were routinely felled for timber, leaving behind stumps taller than the understory.

Committed to getting their work done, local surveyors used the flat-topped stumps as control point platforms by climbing up notches the original sawman left behind.

Today, GPS solves some of these issues, but where the canopy is thick, I'm sure a few surveyors still climb these stumps for a better view. Setting up on tree stumps exemplifies the "do whatever it takes" attitude I've seen from my surveying colleagues.

It's sacrifice that symbolizes a deeper loyalty to the mission that feels customary to us. We don't think twice about convenience or comfort and routinely make sacrifices to reach the highest levels of accountability.

Whether it means wading chest-deep in a swamp to get a topo shot or working alongside heavy equipment, our loyalty is always to the cause at hand: getting the job done right. It's not a cliché in surveying: loyalty to the mission means something and is practiced every day.

Sacrifice is not limited to field work. How many of us have competitively bid small parcel surveys only to discover complications after the research and field work have begun?

A friend of mine noted all the times she had discovered a parcel with clouded title and spent hours and sometimes days going through grantor/grantee indexes to solve unanswered questions. Who wants to ask a client to pay for extra time added to a fixed-fee contract? Not all county record systems are created equal, and many regions have an abundance of unrecorded private records, meaning extraordinary research efforts are sometimes necessary.

## Loyal to the Profession

*A surveyor in Colorado surveys his own property. He ties a controlling government monument he later discovers is off 33' to his disadvantage. His remedy was to contact the adjoining landowner to make them aware of the discrepancy. He then instructed the adjoiner to hire the surveyor of their choice to complete a survey of both parcels, which he would pay for. Whatever the result of the survey was, he agreed to abide by it.*

That's a true story shared by a friend that demonstrates that land surveyors are loyal to their profession—almost to a fault. We value the integrity of our work above external influences such as money, a client's preferred outcome, or how long it takes to get a job done right.

Our priority is truth, and for that we maintain strict independence from anything that might adversely affect it. Its history, its guiding principles, its rules—unspoken and otherwise—are land surveying's foundation that we seek to protect.



*Credit: George Bell*

Most of us formed ethical foundations early in our careers. Long truck rides with an admired party chief, an inspirational speaker, or maybe the culture at a well-respected company set the tone by teaching us the value of the profession.

For me it was Bill, a party chief I worked with early in my career who later became a professional colleague. When retracing other people's work, he was always quick to praise or explain deficiencies he discovered. He never looked the other way, always demonstrating a willingness to hold other surveyors accountable when they cut corners or failed to apply common standards.

I learned that by protecting the public, we were also protecting the profession and that policing it largely fell on us. He'd start every job by asking the same question of himself: "What if I had to defend this survey in a court of law?" When a property line was in dispute, he'd act as a referee between two adjoining landowners—not as an advocate for his client.

The profession and its integrity always come first. We must be willing to accept and communicate unfavorable outcomes and can't always give our clients what they want or need.

A friend told me the story of a driveway his company was asked to certify for slope compliance. Local code required radiant heat be installed when the slope threshold was exceeded, but in this case the driveway concrete had already been poured without it.

Trying to be "helpful," the client told the survey crew where to take shots on the driveway. But the client's shot locations didn't accurately represent the slope, so they ignored him and determined the best locations on their own. The slope exceeded the limit and the concrete had to be torn out and radiant heat installed.

Professional loyalty doesn't just serve our interests now. By maintaining standards and ethics today, we are serving and protecting the public and our colleagues in the future. There is a record created of almost everything we do. Whether we realize it or not, when considering the records we produce, land surveying is in fact a form of public service.

## Loyal to Our Observations

*He had the biggest heart of any surveyor I ever worked with. A decent and kind man with unusual sensitivity and a sad story I knew little about. His hand trembled when he dialed angles into the gun—the result of a long struggle with alcohol. He always saw things that I would miss, like a tiny speck of flagging in a visual sea of trees and shrubs that signaled a monument nearby. It was early in my career, but I was in awe of his observational skills and quickly learned what powerful tools they were for surveyors.*

Land surveyors aren't paid to make things up. A surveyor's observations are like sworn testimony—part of the record. Our standing and value depend upon converting abstract observations and measurements into meaningful information. That breeds loyalty and trust in the observations we make. It's not just our visual observations that are important but the instinctual ones as well—those subtle nudges that guide us to monuments or keep us out of danger.

The world was built on the maps we made. Observations are the foundation of survey maps. The observations we make and trust are converted to a graphic language anybody can understand. We don't judge what we observe—just report it.

Civil engineers and land owners know this and therefore are willing to trust and rely upon our observations. When we're searching for record monuments, coordinates might get us close, but the rest is up to us and not unlike evaluating a crime scene, with tiny bits of evidence only a surveyor can see.

We observe decades-old clues left by surveyors whose footsteps we follow in. Maybe the ground is disturbed or a rock out of place. We process our observations and often know a monument's location before the beeper comes out of its case. The pipe finder pinpoints a place to dig. After a few shovelfuls, a speck of flagging or rust-colored dirt appears. Euphoria. Our observations were correct again.



Observations aren't always visual—sometimes they're instinctual. Instincts are the subtle feelings that guide us through the day, like the instinct that tells you not to trespass unannounced, even though you have the right to do so. You know the Right of Entry statute printed on the back of the business card in your vest pocket means nothing with a bullet hole through it. Instinctual observations tell us where to search, where to place control points, and what to locate.

## Loyal to Our Hearts

*Surveying the Presidio in San Francisco was like working inside a history book running traverse, shooting topo, and drawing sketches of army barracks that thousands of soldiers had cycled through before going to war. At lunch, we'd sit under the Golden Gate Bridge and watch surfers ride the break at Fort Point.*

I've heard it said that as a profession, you don't choose land surveying, it chooses you. Many of us stumbled onto this work, and the love came later. But that doesn't mean we're not loyal to what we want deep down inside; it just means fate had a hand in the decision.

The surveyors I know love what they do and rarely complain about the work, even in the most miserable conditions. We do this because we want to, not because we have to. That's rare in today's world.

Anyone who leaves the profession realizes how good they had it. It's hard work that's fun. We occupy our days with stuff like looking through a telescope, swinging a machete, operating a drone, using two-way radios, spray-painting streets and sidewalks, drawing maps on a computer, communicating with satellites, walking in the woods, working around heavy equipment. That's stuff we dreamed about doing when we were kids.