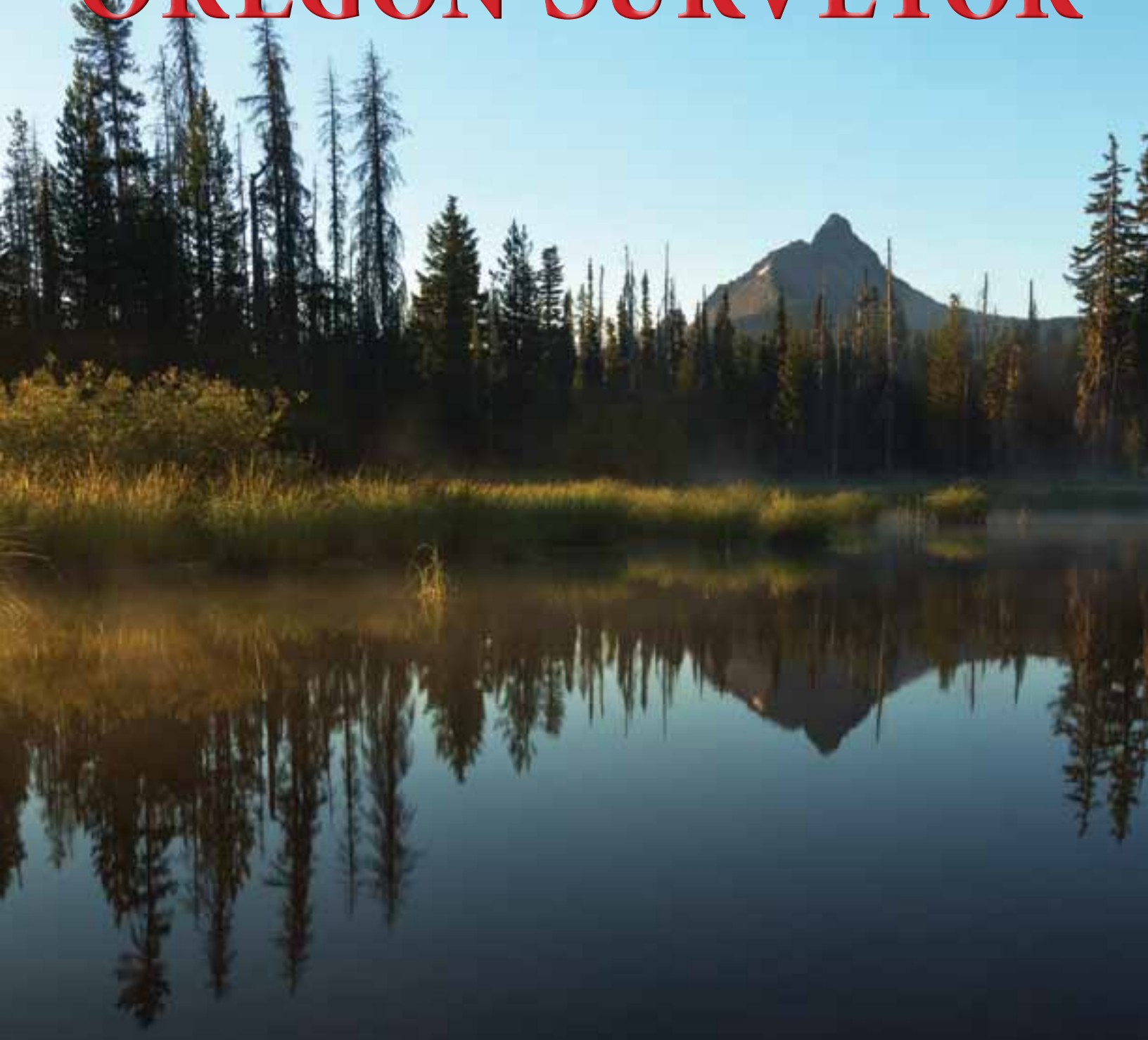


THE **OREGON SURVEYOR** *A publication of the Professional Land Surveyors of Oregon*



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The Lost Surveyor will be back next issue

Editor's Note *In order to meet the guidelines of the decreased 2012 PLSO budget, this issue and the Nov/Dec 2012 issue of The Oregon Surveyor are 16 pages. For chapter meeting minutes please visit the PLSO website at www.plso.org.*

Did you know?

Are you looking for something fun and exciting to do this weekend? PLSO has a new geocache waiting for someone to find it and all of its treasures. I've included a link (below) to the PLSO page at geocaching.com, where you can find a complete list of PLSO geocaches.
www.geocaching.com/seek/nearest.aspx?u=PLSO+Oregon+Surveyor&submit4=Go
Happy hunting!

Renew your PLSO membership at www.PLSO.org.

On the Cover Big Lake in the Central Cascades near Mt Washington.
—Photo by Tymun Abbott



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■ *Mason Marker, PLS; 2012 PLSO Chair*

Supporting the Middle



Two major themes in our strategic plan are bringing new persons into the profession of land surveying and increasing the membership of our organization. Over the years, we have spent a great deal of time and effort recruiting students to university geomatics programs and encouraging newly licensed individuals to join the PLSO. Unfortunately, it seems to me that we have missed an important segment of potential new surveyors, those who are working in the profession, but have not yet attained professional status by attaining their license to practice. How do we support these individuals and help them achieve licensure as a professional surveyor?

First, as professional surveyors, we all need to embrace our role as mentors to the technical staff that work for us. This is often difficult when tight deadlines are pressing and it is a challenge to simply keep the work moving out the door. Being aware that part of our professional responsibility is mentoring can help. During slow times, we can insure that technical staff are provided the opportunity to work on more challenging aspects of projects so that they can develop their skills. An individual that spends most of their time in the office might be sent out to the field for a few days to learn how to collect field data. A rod person might be given the opportunity to prepare a small legal description. What promoting these activities will cost in time will make up for in increased job skills and enhanced employee capabilities. These opportunities will also help to keep the job fresh and interesting and provide stimulation for further study.

Second, as a professional organization, we can make more effort to reach out to aspiring professional land surveyors. At the local level, we can make sure that we

invite technical staff to PLSO chapter meetings and encourage them to be a part of our social network. If individuals who are obviously interested in our profession by virtue of their current involvement are further encouraged by association and support of practicing professionals, this will increase the likelihood of them continuing in the profession. This involvement can be encouraged by having interesting and relevant presentations and by chapter members making a conscious effort to engage with new arrivals.

As an organization, we can better serve the middle by ensuring that we provide support for them through the organization. This can include

presentations specially geared towards technical staff at our annual conference, hosted get-togethers for technical staff, and providing the opportunity for individuals to take the Certified Survey Technician (CST) exams.

Investing the time and effort to reach out to the technical staff in our profession can pay huge dividends. These individuals are already involved in the profession and have a commitment to surveying. By helping them to attain professional licensure, we will move forward on our two strategic goals of increasing the number of individuals seeking professional licensure and, hopefully, increasing membership in the PLSO. ◉

An advertisement for SURV-KAP surveying products. The top half features the text "The MEASURE OF EXCELLENCE" in large, bold, blue letters, with "The" in a smaller, red, cursive font. Below the text is a collection of surveying tools including yellow, red, and purple surveying caps, a silver surveying rod, and a silver surveying level. The bottom half of the advertisement has a white background with the text "EASY ORDERING ONLINE!" in red, followed by "SURV-KAP.com" in large, bold, blue letters. Below that is "SURVEY MARKERS, CAPS AND ACCESSORIES • 800-445-5320" in smaller blue text. A gold seal with "100% GUARANTEE" is visible on the right side.

Editor's Note

■ Oran Abbott, PLS; oranabbott@gmail.com

The summer months have brought us losses of weight. It seems that the *Oregon Surveyor* is lighter than it used to be. Actually, it is because of budget restraints. LLM has gone the extra mile to cut cost without upsetting the contracts. They have done a great job, and if you see Linda, Lisa, or Heather, please say “THANKS.”

Do you ever wonder about how fast life is going by? A few short years ago, I did a new elevation measurement of Mt. Hood. Eleven of us climbed to the summit and eight people manned stations below. Now, we have numerous resources to obtain elevations and locations and no one has to physically be there to acquire it. We can use the information provided by such technologies as GIS, Aerials, and Drones. What is the difference between surveying and GIS? Surveyors are much more accurate; however, the line continues to move closer every year.

We retained most of the articles in the magazine for this issue, so read them all. There is good information in each one of them.

The front cover of this issue has a great photo from a surveyor who is very good with a camera. Cameras, computers, cell phones, the internet, GIS, Drones, etc., have all crept into surveying. That means more education to put under your hat to keep up with the times.

There are things around us that are more important than surveying, such as *life* in general, but this is a magazine about surveying—enjoy reading it. Then, enrich your life by attending PLSO chapter meetings, invite colleagues to join PLSO and contribute to discussions on surveyorconnect.com and the PLSO website. Thank you. ◦



Registry of Stolen Surveying Instruments

Need help finding stolen survey equipment?

List your information on the NSPS website and your equipment may be found!

Email the following information to: trisha.milburn@acsm.net

- Description of instrument including serial number
- Location where equipment was stolen; include nearest town and state
- Date stolen
- Contact person; include phone and/or email

The Oregon Surveyor is a publication of the Professional Land Surveyors of Oregon (PLSO). It is provided as a medium for the expression of individual opinions concerning topics relating to the Land Surveying profession.

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The Oregon Surveyor welcomes your articles, comments and photos for publication. PLSO assumes no responsibility for statements expressed in this publication. Send materials to Lisa Switalla, lisa@llm.com.

For an editorial calendar, please contact Lisa Switalla at lisa@llm.com.

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■ Mary Louise VanNatta, CAE; PLSO Executive Secretary



Changes require new ways of thinking

“Getting over a painful experience is much like crossing monkey bars. You have to let go at some point in order to move forward.”

—C.S. Lewis

Living across from an elementary school can provide you with some creative insight. You see young kids on the playground, swinging on swings, playing tag, or making the challenging trek across the monkey bars. Change can be as difficult as the daunting task of overcoming the monkey bars. It is the fear that one might not make it from one bar to the next without slipping and falling that can prevent someone from moving ahead at all. They cannot stay where they are, for they will eventually tire out and not have any strength left to hold themselves up. Neither can they go back for that would not improve the situation they are currently in; it would only make it worse. They must let go of the bar they are currently holding onto, so that they can move forward toward their ultimate goal: to reach the other side without falling.

PLSO has been facing some big changes over the last year. The economy has affected all aspects of the organization and the leadership has had to start thinking about the future in a whole new way. Changes at the national level (with NSPS) will soon cause us to pause and consider our priorities in the years to come. Just as you collect data for a survey, PLSO members will need to collect data on the cost/benefit of each of its service areas and programs. With

proper prioritization, PLSO will enter the coming years stronger.

At a recent membership committee meeting (yes, we have those monthly!), one member commented: Is PLSO going to continue to focus on people who will be out of the business in less than a decade or look to the future and protect and nurture those who will be entering our profession in the next ten years?

I would say this is a tough crossroads for PLSO. The organization has been taking steps to become more attractive to the “surveyor of the future.” A sleek web presence with forums, professional communications, relationships with national partners, strategic plans and informative conferences have kept our membership on the forefront of technology and political threats.

It is evident, however, that with the economic downturn and industry changes, we have to get serious about our future finances and program offerings. With fewer members, fewer conference attendees, etc., all associations are facing similar situations and must prioritize their activities. Member services and communication tools that were standard and expected 15 years ago may just not be fiscally sustainable today and also may not be as important to “the surveyor of the future.” The cost-benefit analysis must occur. The cost analysis is

easy; it is the benefit that must be determined. As PLSO makes tough choices for the future, there are some areas that must be considered regarding current services and programs. Does PLSO’s investment of time and funds in this service or program:

- Help PLSO members and their businesses thrive?
- Help inform the public and encourage the citizens to hire professional surveyors and choose PLSO members to conduct their surveys?
- Help make surveying more attractive as a college major or career?
- Help protect surveyors from political threats that could change the career as we know it or compromise its professionalism (e.g. Lightsquared)?
- Help PLSO members become educated on future trends, technologies, etc.?
- Help the organization run smoothly, legally, professionally and fiscally responsibly so members and the public can get information they need to function?

Watch and participate while your PLSO leadership makes these decisions. Be ready to think about the benefits you receive in a new way. They may look different, but that doesn’t mean they will be less powerful or effective. Chair Mason Marker welcomes your comments or you can send them to the office at office@plso.org.

PLSO has many ways it can make progress and reach the next bar. Change needs to begin right now in order to get stronger for the future. PLSO needs to move forward toward change in order to continue offering its members valuable services in a sustainable manner. ☉

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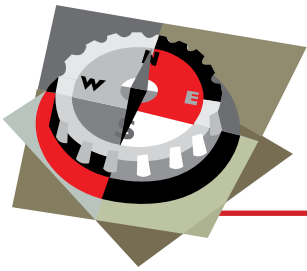
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A change in direction for NSPS

■ *Bob Neathamer, Oregon NSPS Governor*

At the May 2012 Spring Business Meeting in Charlotte, N.C., the National Society of Professional Surveyors (NSPS) Board of Directors completed the merger with ACSM. This was an important and monumental meeting. The merger period was an uncertain time for the NSPS membership, but the new and improved NSPS will better serve and represent all of the various disciplines working within the surveying related fields.

At this meeting, the NSPS Board of Governors forwarded a motion to the NSPS Board of Directors to approve 100% membership. After much urging by the Governors, and with one amendment, the Board approved the motion.

NSPS has developed a strategy to bring individual state memberships together, no longer just one individual member at a time. NSPS is offering state organizations, which come on board with 100% of the voting membership, to become members at significant savings and present a unified national voice. This concept reduces the cost of a single membership to NSPS from \$225 to \$40, a savings of 82%. In addition, land surveyors across the nation need a unified national voice to protect and fight legislation that could cause irreparable damage to our livelihoods.

One example of what NSPS has done not only for the surveying profession, but for nearly all users of GPS positioning technology, is the recent issue with the FCC license to Light-Squared. If NSPS had not been there to cover our backs to evaluate how this product was going to be employed and the consequences of that deployment, we would all be throwing out our existing GPS receivers and waiting for someone else to develop something that would work around the LightSquared network. And we all know that work would be even more expensive than what we already have.

If NSPS did not start the fight and provide the professional proof throughout that battle against LightSquared, chances are very high we would not have the tool called GPS. The license was issued by the FCC, with conditions, to LightSquared for their proposal to

deploy this telecommunications network that would have basically wiped out GPS from our tool box. To highlight just how low the GPS users were in the minds of the LightSquared system, a lawyer for LightSquared stood up at the

Continues ►

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A change in direction for NSPS, continued

National Surveyors Conference in San Diego in July 2011 and told our organization that surveyors were just collateral damage and what we thought made no difference to them. NSPS lobbied from the grass roots all the way to Capitol Hill and voiced our collateral response that we will not take this sitting down! With the leadership of NSPS, the overwhelming effort to collectively write to the FCC, and the campaign against the continued efforts of the LightSquared project, the FCC reluctantly withdrew that license. NSPS is continuing a proactive approach to this fight to keep any other company from picking up where LightSquared left off or start the fight again from another angle. After all, they thought we were just collateral damage with no voice.

NSPS benefits to the surveying profession

- **ALTA/ACSM Standards:** NSPS collaborated with the American Land title association for many years to develop and continually update and improve the specifications for ALTA/ACSM Land Title Surveys.
- **Insurance Program:** Members are entitled to reduced rates for group health insurance, life insurance and professional liability insurance.
- **Joint Government Affairs Committee:** The committee continually monitors Capitol Hill and the U.S. Congress for issues related to surveying and mapping and host an annual Lobby Day to encourage members to meet with their legislators and keep them apprised of our presence and interests.
- **Agency Coordination:** Maintain contact and coordination with federal agencies like BLM, CFedS, FEMA, NGS and NOAA working on surveying and mapping issues. NSPS is also active in FIG the international surveying mapping organization.
- **Certified Survey Technician Program:** Developed a four-step certification to assist survey technicians with their professional development, and to attest to increasing levels of competence for evaluation by employers. The CST certification requirements have been used by some college programs to evaluate their students.
- **NSPS Certified Floodplain Surveyor:** FEMA and ACSM have partnered to create a certification for licensed surveyors that will allow for an expedited review of applications for letters of map amendment (LOMA) to Flood Insurance Rate Maps (FIRM). A pilot program has been conducted in North Carolina in conjunction with the North Carolina Society of Surveyors and the North Carolina Division of Emergency Management.
- **NSPS/THOSA Hydrographic Certification Program:** Collaborated with The Hydrographic Society of America to develop a certification program and to encourage hydrographers and hydrographic surveyors to become certified.
- **ABET Accreditation:** Collaboration with the Accreditation Board for Engineering and Technology to develop a Body of Surveying Knowledge. NSPS is a decisive voice in the accreditation of worthy college and university instructional programs of surveying study, evaluating Surveying/Geomatics programs.
- **NSPS Trig-Star Program:** The Trig-Star Program Contest is an annual high school mathematics competition sponsored by the NSPS based on the practical application of Trigonometry. The program recognizes the best students from high schools throughout the nation.
- **NCEES:** Collaborate with NCEES on examination issues, including the professional scientific knowledge studies for examinations. NSPS supports surveying education by providing numerous scholarships each year for two and four year programs.
- **NSPS Student Competition:** NSPS encourages participation and competition between college and university survey programs typically hosting the student competition at state society conferences. PLSO hosted the competition at our last conference.
- **NSPS Forum:** The forum provides a sounding board for all 50 State Affiliates.

Benefits of NSPS membership

- Website with many resources to help your business and education
- Weekly radio show on America's Web Radio hosted by Curt Sumner (For archived radio shows, visit www.radiosandysprings.com/showpages/ACSM.php)
- NSPS (ACSM) Bulletin, SaLIS Journal, News & Views
- 2009 Manual of Surveying Instructions
- Involvement in rules and regulations in the states
- National Surveyors Week
- Boy Scouts of America Surveying Merit Badge

The only way we can enhance our collective voice and keep our national influence at the forefront of those seeking—or those looking to destroy—our services is to present a strong, united, and educated society of professional surveyors not willing to step aside for any reason. Large national membership organizations like the realtors, home builders, the American Bar Association and the AMA (American Medical Assn.), are guided by strong leadership that represents its members with a collective voice.

NSPS is an asset to all surveyors, in the state of Oregon and nationally; I encourage the PLSO, as a group, to embrace and support the 100% membership of NSPS. NSPS needs all of our support to accomplish the needs of the land surveying profession throughout the country. ◉

Kerry Bradshaw

January 1, 1950–August 15, 2012



A few words about Kerry Bradshaw

■ *Herb Farber*

Kerry and I knew each other from the days when we were both field personnel. A little later, Kerry moved to the public sector and I started my own business. Over the years, we were frequently in contact with each other; Kerry reviewed work I submitted to the City of Medford and later to the County Surveyor's office. As can be expected, at times we had a difference of opinion on the product submitted for review, but we always sorted these out based on our shared respect for each other.

When Roger Roberts retired from the Jackson County Surveyor's Office in 2008, I encouraged Kerry to run for the office. Kerry was elected in 2008 and served until his passing. I entered the race for the 2013–2016 term of the County Surveyor which was voted on in the May primary. I was soundly defeated by Kerry. The race was professional and true to Kerry's ability to be respectful to all of the people he had contact with both professionally and personally.

Kerry's contributions to our community's youth will be lasting—as evidenced by his service on the School District No. 6 School Board and many youth activities. One of the activities Kerry participated in was taking students on a field trip to show them what surveyors do and how the land was and is measured today.

Kerry also served the Rogue River Chapter of PLSO through the slate of officers.

I will always remember Kerry with his saying, "What's the big deal?"—one of his favorite sayings that reflected how he processed things and kept his sense of humor. At his celebration of life, his posthumous instructions were, "Be no crying or sadness after I'm gone."

Another statement at his celebration was a Buddhist saying used to bestow honor to another person: "Wishing the other person a good death." Kerry had a good death. ◊

■ *Reprinted from the Medford Mail Tribune*

On Sunday, July 15, 2012, the community and our family lost an outstanding soul. Our father, Kerry Bradshaw, lost his life in a motor-vehicle accident. Although the loss is great, the outreach from the community has been enormous and he will live on through his two daughters, Kelsey Bradshaw and Teddy Bradshaw, and his granddaughter, Vivian Lynch.

On January 1, 1950, Kerry was the first baby of the decade born in Klamath Falls, Ore., to Archer Lynn and Ruby Bell Arnett Bradshaw. He is survived by three brothers, Gerry, Larry, and Randy Bradshaw; and one sister, Sandra Price. Kerry was blessed to stay close to his siblings and their families his entire life. His siblings say that as a child Kerry was energetic and involved, always coming up with new ideas. Qualities which stayed with him his entire life.

Kerry was a friend to all he met and had an uncanny, Pied Piper ability with children. He was a kindred soul to all kids, no matter how young or old, keeping him young at heart. He shared his love for people by serving on the District 6 School Board, Central Point Rotary Club, and the Central Point Parks and Recreation Committee. Kerry was also a proud friend of Bill's for over 26 years.

The memory of our dad will not fade easily. He truly was a phenomenal parent that helped create a beautiful life for us. Kerry was a wonderful dancer, exceptional prankster, and an ace adventurer. ◊

Tom Hoshall, long-time Stuntzner surveyor, retires

Tom Hoshall recently retired from Stuntzner Engineering & Forestry, LLC. During his 39 years at Stuntzner, Hoshall was a Partner, Surveyor and Certified Water Right Examiner. He served as head of the survey department and lead professional surveyor in the Coos Bay office for many years, and also managed the Brookings branch of the company for several years.

Tom spent his entire surveying career at Stuntzner, starting in 1974 upon graduating from College of the Redwoods after serving in the US Navy. Hoshall's professional career has spanned an era of great change in surveying techniques, from the staff compass, or transit and chain, to the current robotic total station and GPS systems. He has had experience in all types of surveying. It would be interesting to know how many miles of boundaries were marked by this surveyor!

Recognizing the importance and increasingly restricted use of water to private landholders and large corporations alike, Hoshall became a Certified Water Right Examiner and has helped clients get and retain a right to use available water.

Tom and his wife, Sue, raised a son and two daughters in Coos Bay where Sue also spent many years in the Stuntzner administration department. Their son, John, now works for Stuntzner in the Forest Grove office as lead survey technician. Tom was always a great team player and his optimism and humor will be missed around the office and field. We wish him the best in retirement! ◊

For what it's worth!

■ Timothy A. Kent, PLS, NSPS Area 10 Director, Washington

This year's Esri/ACSM Survey Summit was informationally excellent and well worth the trip. The Survey Summit is a yearly meeting held the weekend prior to the yearly Esri international user's conference at the San Diego Convention Center. However,

there were less than 250 land surveyors in attendance at the Survey Summit and around 15,000 attendees at the Esri User's Conference. As the Buffalo Springfield song "For What It's Worth" says, "There's something happening here. What it is it ain't exactly clear," encapsulating the

feeling that GIS needs to be taken seriously by the land surveying community.

GIS and other new technologies are undergoing a tsunami change, with cloud computing data sharing as the driving engine which connects everything from desktop and laptop computers, iPhones, iPads, Smartphones, data collectors, etc. Also 3-D computing and design will eventually become the norm. Land Surveying as we know it will have to either get on the GIS bus or be left behind in the next few years. As Stephen Blaskey wrote in the current issue of *American Surveyor* magazine, "GIS is a powerful tool that is currently being underutilized by land surveyors." The change is happening as we speak; it is no



longer something happening in the future. Already, Esri plans to release a free topological map of the US (in the next few weeks) good to 30 centimeters (one foot) and soon a world imagery map will be released with one meter resolution.

GIS continues to go to the next level at an alarming rate. High definition imagery will have a serious impact on basic land surveying field work applications. Australia and New Zealand are already using miniature UAV Drones (small, unmanned planes) with cameras attached for small photogrammetric jobs with excellent results. The FAA has not given approval to date for some applications in the US.

All this information underscores the importance of bringing the national land surveying community into the NSPS membership to stay connected and monitor the changing geospatial profession in order to stay competitive. I encourage you to look closely at what membership in the national society can do for you and the profession. ◉



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Scanning the masses

daVinci Days Geomatics demonstration



■ *John Raugust and Hamid Mahmoudabadi*

This year, Oregon State University and the PLSO collaborated at the daVinci Days festival in Corvallis to educate the public regarding geomatics. Graduate students John Raugust, Hamid Mahmoudabadi, and Mahyar Sharifi-Mood joined PLSO at their booth to demonstrate LiDAR concepts to a wide variety of festival attendees.

Viewers had the opportunity to see the scanner in action and navigate the point clouds. Showing subjects their respective point clouds shaded by color or reflectance were very well-received. This was due, in large part, to the ability to discern minute details such as facial expressions, writing and symbols on clothing, and the contrasting colors of surrounding objects. The Geomatics students explained that the final point cloud coordinates include accurately georeferenced X, Y, and Z locations as well as providing red, green, and blue values and intensity for the modest 120,000 points per second gathered!

Onlookers were fascinated by the visualization of the 3D point cloud images, especially the density of points obtained on surrounding objects such as vegetation, vendor tents, fences, and their own bodies. The most typical questions posed were related to prevalent LiDAR applications, associated costs (hardware, software, and maintenance), accuracy levels attainable, and the integration of total station and GPS data into the point clouds. There were several professionals from different scientific fields who posed technical questions regarding methods of alignment, filtering, and merging of LiDAR point clouds.

Questions from professionals

Helicopter pilot

“What do you do if you want to see an area in top view?” We explained the navigability of point clouds and the

visualization ability in a variety of view types (e.g., top, front, perspectives, sections) as well as the line-of-sight limitations of LiDAR. This conversation then went further

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Scanning the Masses, continued

into discussing some current applications of airborne laser scanning and its associated equipment. He suggested using a combination of helicopter and terrestrial laser scanning to more completely cover the target area.

Skeptical surveyor

An experienced surveyor voiced his skeptical opinion about this emerging technology. He told some of his stories about the mismatching of theodolite and GPS measurements in the 90s. He stressed the need for using quality control validations along with LiDAR technology. The point he brings up is a valid one that the industry is currently grappling with. Having publicly documented QA/QC checks along with the development of standards and guidelines will be a key driver to the success of this emerging technology.

High school teacher

A high school teacher asked about the wavelength of our laser scanning unit, leading to a detailed conversation about the physical characteristics of laser beams. We were impressed by her in-depth knowledge of physics, specifically wave properties. She brought up a good point:

to be a good physics teacher you must continually grow your field of study.

Mechanical engineer

The following question was posed by a mechanical engineer: "As a mechanical engineer who designs gears and car parts, it is important to create a prototype before designing the final details. Is it possible to do it with your device?" To support this need, we spoke of smaller, fine-scale laser scanners, capable of scanning small objects at micron level resolution. We set an appointment to show him a demonstration.


In conclusion, bringing these emerging technologies to these types of public forums is very beneficial, both to the presenters and the crowd. These brief stories show how developers can showcase these new technologies and potential consumers can help tailor them to their needs.

OSU was proud to represent the LiDAR community and looks forward to continued collaboration with organizations in the future to bring awareness to the potentials of LiDAR to the general community.

Thank you daVinci Days! ◊

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