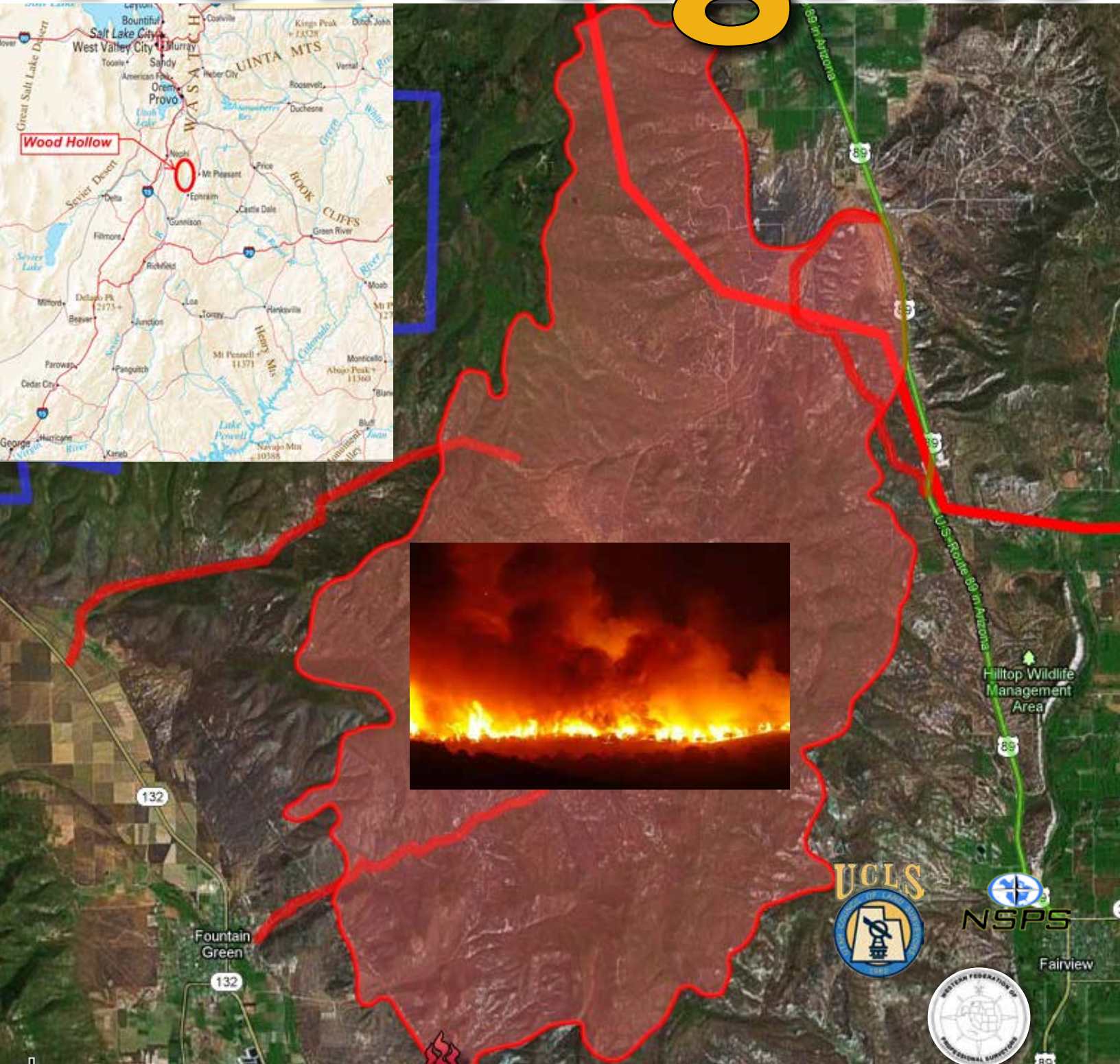


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OFFICIAL PUBLICATION OF THE UTAH COUNCIL OF LAND SURVEYORS

In conjunction with the National Society of Professional Surveyors, and The Western Federation of Professional Surveyors

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# inside

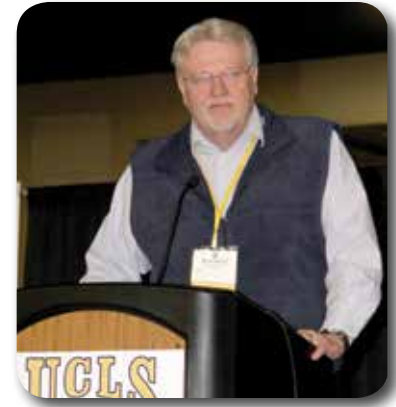
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# From the Editor

STEVE KEISEL



**W**elcome to the Utah Council of Land Surveyor's spring edition of the Foresight magazine. Thanks for taking the time to read and reflect on the activities of our association.

Nearly two years ago, Jerry Allred exercised his authority as the UCLS chair and asked me to serve as chair of the UCLS publication committee. This responsibility included being the editor of the Foresight magazine. "What does an editor do", I asked myself? Through research, I discovered the word "Editor" comes from the Latin words "Edi" meaning "to butcher" and "tor" meaning "it up." Therefore as editor of the Foresight magazine, I have really tried to not butcher it up.

I am intellectually challenged by the written English language and therefore meeting the expectations of my peers, regarding the quality of our publications, was very concerning. Truth be known - I have difficulty spelling my own name and could probably not diagram a sentence correctly. Distinguishing the difference between a verb and a proverb is beyond my abilities. Which is the correct word to use; whether or weather, than or then, affect or effect, which or that, who or whom? Fortunately for me, Microsoft Word and/or Corel Word Perfect developed amazing spell checking and grammar correcting software. Believe me, I am not a word processing expert; however I have become proficient enough to feel incredible editorial capabilities as I try to avoid embarrassing myself.

My next conundrum (that's a big word for problem) was finding useful and informative substance to publish. The magic of the internet provided me with a vast database of knowledge; however knowledge is of no value

Knowledge is a useful tool but it is of value only when it is used. The fundamental precept of all human relationships is that it is not sufficient to just be right, you must also persuade others.

unless it is put into practice. Therefore, one of my goals was to deliver a publication that the membership would find useful and also be able to interact with. Hopefully, the efforts of the publication committee are not made in vain for it is challenging to gather material and develop a topic for each publication.

Do you have an idea but feel inadequate to prepare an article for the magazine? We can help! We welcome ideas on most any subject and the publication committee will gladly assist you in preparing an article. Just a random thought - if computers become too powerful, perhaps we should organize them into committees - I'll bet that stops them from progressing!

Recently one of my students at Salt Lake Community College asked, "What one thing, above all others, does a land surveyor offer?" After a few moments to consider the question, I replied "knowledge." Many people can measure; but few have sufficient knowledge to know where and what to measure. Furthermore, if we try to do today's job with yesterday's knowledge, we will be out of business tomorrow. We must grow, not swell, our profession. With this knowledge, what can we do that will benefit the public and at the same time be of benefit to surveyors?

The concept that knowledge gained is a personal secret - not to be disclosed to anyone - is a

disastrous idea. Consider two similar, yet distinctively different mountain lakes. The first lake receives fresh mountain water and for every drop it receives, a corresponding drop flows out. Contrariwise, the second lake also receives fresh water in but hordes every drop it gets allowing no water to flow out. The first lake is fresh, full of trout, surrounded by green vegetation, and people enjoy recreating on it. The second lake is stagnant, has no fish or fowl, and is avoided by the traveler. What is the difference between the two lakes? The first lake is alive and vibrant as it receives and gives; the second lake also receives but gives nothing in return, and is stagnant and dying.

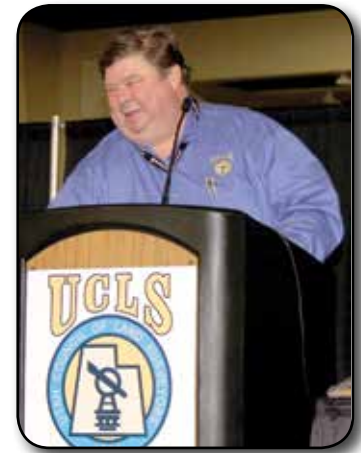
Knowledge is a useful tool but it is of value only when it is used. The fundamental precept of all human relationships is that it is not sufficient to just be right, you must also persuade others. An idea that must be acted upon by others is useless until such time as others can be persuaded to act upon it. A man may be a veritable Encyclopedia Britannica so far as his store of knowledge is concerned, but all of his mental efforts will be of no avail unless he can convey to others what he knows and thinks (From The Curt Brown Chronicles).

What is the future of land surveying? It is whatever we make it for we are the ones who are carrying the ball. For thousands of years surveying has depended upon its members, collectively and individually, to guide us



# Past Chair Message

BRAD MORTENSEN



Everybody keep up the good work that you are engaged in and we will be successful in improving our profession.

I am very pleased with the conference we just finished the last week in February. I have heard nothing but good comments about the speakers and the subjects that were covered. The food was excellent and everything went off without a hitch. Many of the presenters on the last day were people from the Western Federation of Professional Surveyors. Let's thank them for their participation.

I also want to express my thanks to all those who worked on putting together such an endeavor; it takes a lot of planning and follow through to organize an event like this for over 300 participants. Great Job Convention Committee!

Additionally I want to thank all those who have served on committees and Chapter

presidencies over the past year; much has been accomplished to better the profession. One of these accomplishments was the upgrade of the web site with a new look. Some of the committees have added new content such as the history of surveying in Utah, by the historical committee. There is still more work to fill the content for the web site, so we will be asking more of the standing committees to complete their assignments. If there is anyone who has ideas for the web site content they can contact me, as I will continue to work with the public relations committee.

Trig-Star is happening now, so if you have not talked to the math teachers in your local high schools yet, there is still time to do so; in this foresight edition there will be more information and a sponsorship application to fill out when you're ready to run the contest. An application must

be submitted to me prior to receiving a copy of the test.

Another thing to look for in this edition is the article by Leon Day, from Fairview, who wrote about his experience with the Wood Hollow Fire re-seeding project this fall.

Lastly, I look forward to this coming year as an exciting time. We will be having a Fall Forum at SLCC in September and our Conference will be in St. George, February 19-21, 2014. So set the dates for these events. Everybody keep up the good work that you are engaged in and we will be successful in improving our profession. ◀

## EDITOR *continued from page 4*

along the path of professionalism. When an idea comes, where does it originate; from the crowd—never; from the individual—always? Wisdom, virtue and knowledge cannot be forced from a crowd. There is no such thing as general intelligence - only individual intelligence communicating ideas to other individual intelligences.

One thing is certain, if we are going to acquire a standing or position in society, we must earn it individually by our own efforts. No man can acquire honesty by merely saying, "I am honest." No man can acquire respect by saying, "I should be respected." No man can acquire an education by merely

saying, "I am educated." Our individual actions, effort, and behavior are the proof of what we are. The sum total of all our individual actions is proof of what we are as a composite group, and the composite group is no better than the individuals. I hope that each of you, as an individual becomes recognized as a professional man, and then all of us as a group will be acclaimed as a profession.

There are approximately 55,000 licensed professional land surveyors in the United States. Each state has a society representing the licensee members in that state. On average, each state society reports approximately 50% of the licensed professional land

surveyors in its state as members. On average, the attendance at the society's annual conferences is approximately 65% of the total membership for the state.

The societies consist of individual surveyors who have devoted time to "protect and serve" their peers. Each licensee has ethical responsibilities that come with the privilege of being licensed. Their responsibility to the public and to their clients is the portion of ethics most people focus on, forgetting one other important aspect: their responsibility to the profession. We must each do our part to ensure the stability of our livelihood and help it grow and prosper. ◀



# UCLS Chair Report

ERNEST ROWLEY



I'm honored to have been elected to serve you as the Chair of the Utah Council of Land Surveyors for 2013. Thank you for your support. Even though the convention ended in February the committees have been and are still working to provide the best possible service to each of us as members of the UCLS. We hope that you were informed and benefitted by your attendance at the convention. Thank you for your attendance.

The scholarship auction was another successful event. I am always impressed with the generosity of members of this profession to help provide educational opportunities to the youth of our profession. I have heard where some members have gone on the internet and purchased items to donate, others are giving their antique instruments and tools. Thank you for your generosity.

Legislative issues are still at the forefront while the Legislature is in session. There have been a few bills working their way through the legislature that may have an indirect effect on surveying. To mention a few...

- HB349 has been sent to Interim committee and deals with plat amendments and the process of vacating.
- HB51 is granting authority to DOPL to perform criminal background checks for license applicants, license renewals etc. including authority to levy fines for probation violations. It also makes clarification to the definition of unprofessional conduct.
- HB75 is requiring DOPL to conduct sunrise and sunset reviews of all licensed professions.



- HB73 establishes a process for abandonment of water easements.
- HB88 would prohibit planning dept. from approving zoning changes is enough protests are filed.
- HB130 is making our code clear that adjustments done either by boundary line agreements or an adjustment process are not subject to prior approval with the City or County Planning.
- HB139 creates the Science, Technology, Engineering, and Mathematics Action Center. To promote education in these areas.
- HB162 makes certain requirements for county or city approvals of conservation easements.
- HB236 places restrictions on planning dept. regarding site plans and landscaping requirements.

- SB90 enables a unit owner to modify common walls under certain circumstances in a condominium.

There are other changes the DOPL is voting on in March. They are considering raising the minimum PDH requirement from the current 24 to 30 hours bi-annually. They are also specifying the requirements of R156-22-502 Unprofessional Conduct. We will keep you informed on what they decide to do.

As you learned at the convention, the executive board made the decision last year to become a 100% member of NSPS. Which simply means that you are a member of that national surveying society and should look into their activities and products. The Memorandum Of Understanding with NSPS is annually renewed, so that should the council believe we are not being serviced properly we can choose to not renew the agreement. There will be more information on this subject so stay tuned. ◀

# Proposed **DOPL** Changes

## **R156-22-502. Unprofessional Conduct.** “UNPROFESSIONAL CONDUCT” INCLUDES:

- (1) submitting an incomplete final plan, specification, report or set of construction plans to:
  - (a) a client, when the licensee represents, or could reasonably expect the client to consider the plan, specification, report or set of construction plans to be complete and final; or
  - (b) to a building official for the purpose of obtaining a building permit;
- (2) failing as a principal to exercise responsible charge;
- (3) failing as a supervisor to exercise supervision of an employee, subordinate, associate or drafter;
- (4) failing, in the performance of services for clients, employers, and customers, to be cognizant that the first and foremost responsibility is to the public welfare;
- (5) failing to approve and seal only those design documents and surveys that conform to accepted engineering and surveying standards and to safeguard the life, health, property, and welfare of the public;
- (6) failing to notify an employer, client, or such other authority as may be appropriate, when the licensee’s professional judgment is overruled under circumstances where the life, health, property, or welfare of the public is endangered;
- (7) failing to be objective and truthful, or failing to include all relevant and pertinent information, in professional reports, statements, or testimony;
- (8) failing to express a professional opinion publicly only when it is founded upon an adequate knowledge of the facts and a competent evaluation of the subject matter;
- (9) issuing statements, criticisms, or arguments on technical matters, which are inspired or paid for by interested parties, unless they explicitly identify the interested parties on whose behalf they are speaking and reveal any interest they have in the matters;
- (10) permitting the use of the licensee’s name or the licensee’s firm’s name by, or associating in business ventures with, any person or firm which is engaging in fraudulent or dishonest business or professional practices;
- (11) if a licensee has knowledge of possible violations of any of these rules of professional conduct, failing to provide the Division with the information and assistance necessary to make the final determination of such violation;
- (12) failing to undertake assignments only when qualified by education or experience in the specific technical fields of engineering or surveying involved;
- (13) affixing a signature or seal to any plans or documents dealing with subject matter in which the licensee lacks competence, or to any such plan or document not prepared under the licensee’s responsible charge;
- (14) failing to ensure, when accepting assignments for coordination of an entire project, that each design segment is signed and sealed by the licensee responsible for preparation of that design segment;
- (15) revealing facts, data, or information obtained in a professional capacity, without the prior consent of the client or employer, except as authorized or required by law;
- (16) soliciting or accepting gratuities, directly or indirectly, from contractors, their agents, or other parties in connection with work for employers or clients;
- (17) failing to make full prior disclosures to employers or clients of potential conflicts of interest or other circumstances which could influence, or appear to influence, the licensee’s judgment or the quality of the licensee’s service;
- (18) accepting compensation, financial or otherwise, from more than one party for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties;
- (19) soliciting or accepting a professional contract from a governmental body on which a principal or officer of the licensee’s organization serves as a member;
- (20) if serving as a member, advisor, or employee of a governmental body or department, and if the principal or employee or a private concern, participating in decisions with respect to professional services offered or provided by said concern to the governmental body which the licensee serves;
- (21) falsifying or permitting misrepresentation or exaggeration of the academic or professional qualifications, the degree of responsibility in prior assignments, or the complexity of prior assignments, of the licensee or the licensee’s associates;
- (22) misrepresenting pertinent facts concerning employers, employees, associates, joint ventures, or past accomplishments, in presentations incident to the solicitation of employment or business;
- (23) offering, giving, soliciting, or receiving, either directly or indirectly, any commission, gift, or other valuable consideration, in order to secure work, or making any political contribution with the intent to influence the award of a contract by public authority;
- (24) attempting to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of other licensees, or indiscriminately criticizing other licensees’ work;
- (25) receiving gratuities from material, product, or services suppliers for specifying or endorsing their goods or services; and
- (26) failure to disclose to the employer and the client in writing prior to engaging in supplemental professional engineering, structural engineering, or land surveying services. ◀

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## UCLS 2012

# Surveyor of the Year

### Arthur O. LeBaron

“As a student at the College of Engineering at Utah State University, Arthur became fascinated with Land Surveying when he took the Field Techniques class taught by Dr. Thorpe as part of the engineering curriculum for freshmen students. Arthur immediately set out to find a job doing survey work at engineering companies in Cache Valley to learn more about this fascinating profession. Thanks to the mentoring of Reid Pope, Layne Smith, Randy Williford, and others, Arthur made it his goal to one day become a licensed surveyor, which goal he accomplished in 2007.

Arthur also serves as the Scoutmaster of his local Troop, and thoroughly enjoys Scouting. In 2010 Arthur attended the Boy Scout National Jamboree at Fort A.P. Hill,

Virginia where he served as a merit badge counselor for the Surveying Merit Badge.

Arthur is a lifetime resident of Hurricane, Utah, where he has been employed as the City Engineer since 2007. Before his employment at Hurricane City, Arthur worked in St. George in private consulting doing mostly transportation work for UDOT and surrounding municipalities.

Arthur is registered in the State of Utah as a Professional Land Surveyor and a Professional Structural Engineer.”

Arthur has been very involved with the UCLS Trig Star program in southern Utah.

He has involved quite a few schools in the program. He even has access to the



program test questions on the Hurricane City website.

Arthur enjoys spending time with his wife of 18 years and his 6 children. They mostly enjoy performing arts, baseball, and the outdoors. Arthur is an avid worm-fisherman, hunter, and loves to collect and shoot firearms. ◀

## 2013 Fall Forum

The UCLS Convention Committee is pleased to announce the location and date for the UCLS Annual Fall Forum for 2013 which will be held at the Salt Lake Community College, 4600 South Redwood Road, ~~Campus, Salt Lake City, Utah~~ on Friday September 27, 2013. as we will be

Save the date now, as ↖ will be continuing our longstanding tradition for providing excellent speakers and topics to help our students, upcoming professionals, field crews and licensed professionals. So remember the date and look for more information in the weeks and months ahead.





# UCLS 2012

## *Lifetime Achievement Winner*

### Robert W. Knox

Bob was born in Fairfield, California but raised near Eugene Oregon.

He is a Licensed Land Surveyor in Oregon and Utah.

Bob served in the Navy during the Vietnam War as an optical man. He graduated with honors from the Navy optical school and became an expert in the repair of binoculars and submarine periscopes.

Bob graduated from Lane Community College in Eugene Oregon with a degree in forestry. However, the forestry degree included several surveying classes which sparked an interest in the profession. During and after college, Bob worked at Plants Engineering in Eugene, Oregon. It was here that he obtained his first land surveying license.

In 1984, a declining building industry prompted a move to Utah where Bob accepted a position as survey manager for Bingham Engineering. In 1992, he decided to seek fame and fortune by starting his own business (Knox and Associates, Inc.) and became a very successful businessman. In 2000, he accepted the challenge of directing the right of way division of the Salt Lake County Surveyor's Office. In 2007 he left Salt Lake County to fill the position of Senior Surveyor in the Weber County Surveyor's Office

Bob's positive attitude, vast technical experience, and willingness to mentor his peers greatly enhanced the offices of the Salt Lake and Weber County Surveyors. Former employees and co-workers credit him with their training, inspiration and motivation toward surveying. Past clients respected him for his professionalism and commitment to the job.

Business competitors respected him for his honesty and integrity. Throughout his surveying career - quality work has always been produced.

Bob was a driving force in the State Legislature and his influence was instrumental in passing several survey-licensing laws. Through the years, he has made numerous presentations before state legislature committees to improve the professionalism of surveying.

Bob has been instrumental in giving direction to the success of the Utah Council of Land Surveyors. He committed his time and talents and served in many leadership positions, including:

1. UCLS Salt Lake Chapter President, twice
2. UCLS State Chairperson twice
3. 1990 and 2000 UCLS Conventions Committee Chair
4. Two years on WFPS Board (Western Federation of Professional Surveyors)
5. Three years as a "consultant of committee" on the NCEES (National Council of Examiners for Engineering and Surveying) "Examinations for Professional Surveyors Committee"
6. Eight years as member of the Utah State Engineering and Land Surveyors Licensing Board.
7. Three years as chairman of the UCLS Standards and Ethics Committee.
8. 2002 UCLS Surveyor of the Year recipient



Robert Knox and his wife Twyla have been happily married for almost 47 years. They are the proud parents of six children and 15 grandchildren. Bob retired from surveying on October 31, 2011 and, due to health reasons, moved to Apache Junction, Arizona in May of 2012. Bob is very active in his church and in his spare time enjoys fly-fishing, shooting darts, and golfing. However, he misses the closeness of his family members.

Some of his best surveying memories are associating with the wonderful members of the UCLS and, hopefully, being a good mentor to those he has had the pleasure of working with. The most satisfying part of his professional endeavors has been helping and educating people who have been adversely affected by survey problems. ◀



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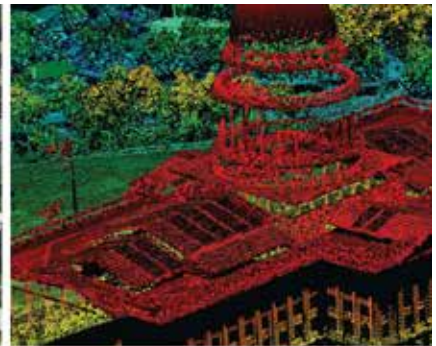
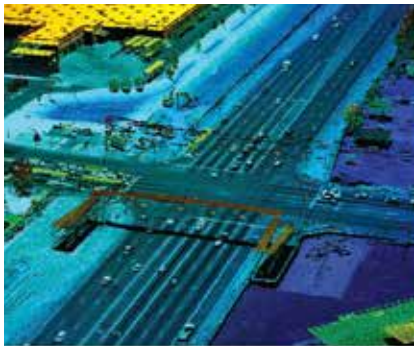
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# Surveying Olympics



## Event No. 1, Estimate the Angle, hosted by iGage Mapping Corporation

► The Angle was 70-29-38. The winning estimate was 70-28-08. (unfortunately, we failed to document the winner – our bad)

## Event No. 2, Pace the Distance, hosted by Monsen Engineering

► The Distance was 122.40'. The winning pace, by Dusty Bishop, was 122.47'.

## Event No. 3, Throw a Surveyor's Chain, hosted by Salt Lake Community College & Rocky Mountain Transit Instruments

► The new 5/16"x300' Highway Grade Chrome Clad Steel Chain was thrown by winner Dallas Buttars in 5 min 30 sec.

## Event No. 4, Guess How Many Mag Nails in a Jar, hosted by Rocky Mountain Transit Instruments

► The number of mag nails in the jar was 434. The winning estimate by Nick Wardell was 427 mag nails. ◀

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# San Juan County Survey Office Section Corner Record

GCDB I.D.: UT260400S0210E0\_640340  
SJC I.D.: 4021C24  
Township: 40S  
Range: 21E  
Section: 24  
SJC Index #: P23

Plane Coordinate System Data:  
State: Utah South  
Zone: 4303  
Datum: NAD83/NAVD88

Northing: 10077121.118sft.  
Easting: 2205357.128sft.  
Elevation: 4523.000sft.

All bearings to accessories are true bearings.  
No accessories were set during the course of this survey

## Field Observations/Surveyor Narrative:

At the corner location was found a survey cap set in stone boulder by Tim Keogh, Utah PLS #171004. A subsequent survey by the BLM found this to be a careful and faithful determination of the corner position and accepted the monument. There is a large mound of stone on the north side of the boulder marking the general location of the monument. Monument is located on a steep south facing talus slope, 30 feet south of the base of a vertical cliff.



## 2013 - Survey Plat Competition



- Subdivision Plat
  - o Kurt Falkenthal, Meridian Engineering
  - 1. Utah Cultural Celebration Center Subdivision
- Record of Survey
  - o Todd Whitaker & Brian Yeager, Stantec
  - 1. NCRS GRP Flat Top
- Topographic Survey
  - o Doug Kinsman, Ensign Engineering
  - 1. Burmester Road Survey
- ALTA/ACSM Survey
  - o Shane Johanson, Johanson Engineering
  - 1. Bryce Baker of Security National SW ¼ Section 7 T3S R1E
- Corner Record Report
  - o Sam Cantrell, San Juan County
  - 1. Center Section 24, Township 40 South Range 21 East



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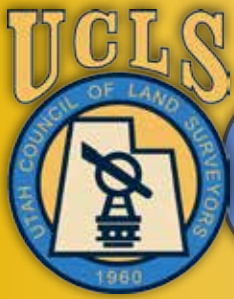


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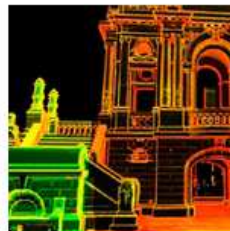


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BY LEON DAY

I'm a solo land surveyor in rural Sanpete County, Utah. 2012 was a big wildfire year. South Central Utah was the location of the Wood Hollow Fire that started in June just southeast of Fountain Green and burnt about 50,000 acres northward passing Indianola into southern Utah County, southeast towards Mt. Pleasant and east almost to Fairview. For days, I watched helicopters dip water out of our irrigation ponds, never realizing the impact the fire would have. We were even evacuated from my town, Fairview, one night as the fire threatened the town from the west.

After the fire finally burned out and was under control, things sort of returned to normal until the rains came and the county was flooded with black mud due to high runoff from the burn scar. Unfortunately, there has never been adequate funding to preserve the PLSS in rural Utah, but I was anxious to get up in the hills and hunt for the Public Land Survey System (PLSS) corners while the vegetation was burned to the ground. It would be prime hunting season!

In the spring, sheep ranchers often use low flying airplanes to hunt coyotes so I wondered why so many planes were flying in late September. Then I read in the paper that the Utah Division of Wildlife Resources (DWR) was dropping seed onto the burn scar and they are going to chain it with bulldozers for wildlife habitat restoration. I'm immediately alarmed—knowing that PLSS corners will also be destroyed! Any surveyor that has searched for PLSS corners in a chained area knows what the problem is. Two D8 dozers are bearing down on the corners pulling a large sized 130 foot long chain between them, munching up everything in their path. I get sick even thinking about it.

I immediately make phone calls to find out what was being done to protect the corners. As it turns out, plans had been made to protect the PLSS corners but the needs were different from my perspective and experience. The plan was for landowners to work with the DWR field biologists to flag the corners. As it turns out some of the landowners had surveys previously and knew where their corners were, however most of the landowners did not. Therefore the DWR planned

to locate the corners with hand held GPS, using the Bureau of Land Management's (BLM) Geographic Coordinate Data Base (GCDB) as provided by the Utah Automated Geographic Reference Center's (AGRC) PLSS website. Funding had not been budgeted to protect the corners or even a plan to have land surveyors involved. The GIS was going to save the day, but as far as I'm concerned, the protection plan was totally inadequate!

I started calling everyone and firing emails to anyone that I thought might have some influence. The response from surveyors across Utah was tremendous. Finally the county found a way to fund, on a limited basis, the hiring of a land surveyor to hunt for and flag the corners. After an abbreviated and quick bid process, I buy the job. It's a sort of dream come true, not for the money but for the hunt and preservation of the PLSS.

After some coordination, I met with the DWR habitat restoration biologists at the beginning point of the third and final chaining contract. They point north, then looping east and back south over an expanse of about 50 square miles of which 7,500 acres is going to be chained, scattered out where the fire burned, it's not too steep to chain, and the landowners had signed cooperative agreements. "It's all yours" they tell me and it's obvious they are glad to have me on board for they no longer have the responsibility of finding and flagging the corners. I also picked up the remaining 1,000 acres to the south and west of the first two chaining contracts (another 5,000 acres) that's not yet complete. Unfortunately, my contract with the county is hourly, not to exceed the budget, and they want it done ASAP. I will admit I was a little intimidated when I realized the scope of what I was about to take on.

The project is located in five townships of Sanpete County, in 13 and 14 South - 3 East and 12, 13 and 14 South - 4 East, Salt Lake Meridian. During the past 15 years, grant money from the Utah AGRC has provided a resource to locate some monuments - so we had a start. Luckily, I had previously located the township corners and a couple

**FIRE** continued on page 20

## **FIRE** *continued from page 19*

corners along the range line right in the center of the burn area. Corner records had been filed and accurate positions established using the National Geodetic Survey's (NGS) Online Positioning User Service (OPUS). Based upon this previous experience, I had every reason to believe the remaining corners along the range line in this remote area, could be found. I plugged in these solid coordinates, compared them to the BLM's latest GCDB coordinates and calculated the remaining search positions from the original GLO plats and field notes.

The easiest township appeared to be T13S, R3E, SLM due to the monuments set by Deputies Henry & Nicholas Fitzhugh. Although the chaining (measurement) done by the ancestors of some of the current large landowners was a bit inconsistent, the lines were fairly straight and the mounds and corner stones were found to be excellent. Fitzhugh's began their 1895 retracement of Deputy Ferron's 1872 range line survey and recorded their actual measured distances between corners and rebuilt the mounds. Corners were found fairly quickly, if calculated corners were within 50 feet of the actual corners; particularly in areas that had been burnt off. Thank you deputies Fitzhugh - I'm honored to follow your well-marked footsteps! In one afternoon, I located two quarter corners, two section corners and two closing corners along the range line.

Having located a large segment of the range line, I proceeded to work inside the township. One successful technique was to find corners near opposite township lines and calculate an average chain length. I had already found corners near the south township line so I went hunting to the north. Using GCDB coordinates; I was able to get within about 30 feet and locate mounds in the last half mile. Now I had a line and an average chain length of 66.7 feet per chain. The geodetic bearing is about N 0 44' W, explaining why an earlier quick search "north" of a found corner was frustrating. With this information and updated search coordinates I was able to locate almost all the corners in the danger zone along the west side of the first tier of sections of the township. Challenges became things like a quarter corners where there were multiple mounds along cleared land and an old fence line. At one corner, I found a fence corner

and what appeared to be the scattered mound but couldn't find an actual marked stone. However, during a second visit I found the top of the stone with some, but not all, of the notches. I suspect the base part of the stone is still firmly buried in the ground. At one quarter corner there is a substantial fence corner but because I had the line, I was able to find the mound and a very well-marked stone about 20 feet distant buried by the buildup that occurs under juniper trees. Landowners don't always find or use monuments to locate their fence corners. The next corner was found in a fence line, but the stone had been pulled up to put in a post and a rebar. Next I found a mound on a burnt off sagebrush ridge and a nice quarter stone was found lying flat and slightly down slope. So I'm feeling good and having success. Further north, a mound with the marked stone laying flat under the fence and rebar was found. Next a quarter stone on a burned off oak covered ridge, no fences, quite rocky, wild turkeys roaming about, and the stone markings were not real clear - perhaps the fire damaged some stones. At the township line I find a stone clearly marking the closing corner but it is only about half the described size and quite a ways off the closing line.

The quarter corners on the east/west lines were a bit more challenging. A correction line was run and lots created during the original survey along the east boundary of the township. Having located the section corners on the west and the closing corners along the east range line I expected it to be simple - but it wasn't. After a couple of unsuccessful searches I finally determined the key was the quarter corners were south and a bit short of the proportioned record distances. Makes me wonder if the corners were stubbed out, but I cannot explain the closing corners I found. At this time I experienced my first major disappointment; I was not able to get back for a second look before the dozers rolled through. The corner might have survived for there was an old fence that was not dozed and my updated search indicates the corner was most likely in the fence line buried in the sediment of a flat part of the wash.



So at this point I feel pretty successful in retracing the Fitzhugh's survey. I had been working weekends, while the dozer operators took time off and was getting far enough ahead to feel less stressed.

After locating some BLM dependent resurvey markers that was relatively easy because the GCDB coordinates were right on, it was time to move into Range 4 East but from previous experiences, I suspected my luck was going to change. Townships 12 and 13 South were subdivided in about 1872 by Deputy Surveyor A. D. Ferron and my experience tells me Ferron did what he said he did. However, my experience also tells me that Ferron did not build large mounds but usually marked the stones pretty well. The big problem is an approximate 5 chain bust along both the north and south boundaries of T13S, R4E, SLM. In this area the GCDB and the quad maps are mostly based upon record information and therefore data from the GCDB is limited or is of no practical use. The bust along the south boundary of this township is in the westerly 120 chains and the record indicates there are about 5 chains more than there actually is. I think the bust is in the last 1-1/2 mile but haven't yet been able to find the corners to pinpoint it. The bust in the northerly township line is in the mile between sections 33 and 4. This line is about 5 chains shorter than the record, causing the last half mile to be about the record 47.25 chains. Although the record indicates the township is about 5 to 7 chains extra wide it's actually about normal because of these busts. Expect poor results when poor data is put through a least squares adjustment. The whole township is warped which can only be corrected by seeding some good hard data points throughout the blunder area. Thus far, only a few hard points

(geodetic corner records) in the township have made it into the GCDB. I have checked a few points and found the corners in the west side of the township to be about 250 feet off from the GCDB coordinates.

So I turned to the Quad maps, knowing that there were a few corners indicated as found on the Quad map. With coordinates picked off the Quad map I went hunting. This process actually worked pretty well and I found a few corners, shot them with GPS and used the values to further refine my searching. This information, along with a few geodetic corner records filed by other surveyors in T12S and the northwest portion of T13S, enabled me to locate and flag most of the corners in this portion of the chaining area. However, there were a few locations that just wouldn't give up the corners. My favorite find was an old fence corner where long ago farmers had left lots of rocks from land clearing, which I had previously searched for. It was shown as found on the Quad map and another surveyor had left a bar with tag and filed a geodetic corner record. The fire had burnt the fence corner post into the ground. I dusted and dug into the sides of the hole and found a nice marked stone lying right next to the post hole, the top of which would have been below ground before the fire. That made my day!

Continuing south along the west side of T13S, my luck all but ran out. I just couldn't find evidence of the north/south line for the east side of the west tier of sections. However, using the Quad map search method I did find the corner common to sections 7-8/18-17. Having found the range line corner previously, I measured a distance of 5268 feet and compared it to the record distance of 87.20 chains. The north side of Section 6 record distance is 87.25 chains. If 7.25 chains is subtracted from 87.20 chains and divided into 5268 feet, the average chain length is about 65.9 feet. Maybe the deputy had figured out there was an issue and was adjusting the record to make it work out?

On my third search attempt, the quarter corner common to sections 19/30 was found by walking back and forth at different offsets to the predicted line. The stone was a nicely marked orange quartz stone with a mound of two other rocks in a sagebrush flat that hadn't burned; but the stone's location was

about 250 feet from the GCDB point and as shown on the Quad map. Same situation as before - the record is 5-6 chains longer than the measured distance to the range line.

Even with the additional data, I was unable to locate a couple of needed corners on the line. However, a tall mound of stone on the very top of a very remote ridge was found a couple of chains north of my predicted location for the corner to Sections 30-29/31-32. I suspect this was used to set a sighting flag while the line was being run. Two separate days and considerable time was spent searching for this corner, which was literally located in a sea of all blackened rocks. Unfortunately, I was unable to find this corner and finally just flagged out an island and hope the corner is in it.

I'm now nearing the end of the chaining project in the northwest portion of T14S, R4E, SLM, subdivided by Deputy Surveyor John Breckon in 1891. My experiences in this area, along with a few geodetic corner records that have been filed, suggest that good stones with mounds should be found. An interesting feature of the Breckon survey is he retraced the north boundary of T14S, reported a couple corners missing, which he replaced, and then reported the exact same distances as Deputy Ferron had twenty years prior. Maybe he found the blunder and didn't want to change the record but Breckon's subdivision of the township doesn't show the extra 5 chain lengths running into the range line along the westerly tier of sections. There are some fairly large fallings and hard angles run back from the northern township line, so I believe Breckon discovered the blunder but didn't report it in the notes. In this area, I was able to locate most of the stones and mounds needing protection, along with a few others that I used as an aid in the hunt. The position of one particular corner, that I failed to find was located in a pristine location of burnt off hilly juniper/oak with no fences, roads, or past cultivation that would have disturbed it. After three attempts and looking at probably a hundred different suspects, I was unable to locate the actual corner.

This was a very interesting project and because of it, I believe many corners were saved and their positions perpetuated. A map was prepared and filed with the county

surveyor showing the locations of the corners located.

The following statistics is a summary of the project:

- Corners searched for: 67.
- Corners located - Original stones: 31;
- BLM Markers: 6;
- Sanpete County Caps: 8;
- Other rebar, possible fence corners: 10;
- USGS benchmarks and triangulation stations: 3;
- Corners not located, hopefully still existing or obliterated and not lost: 12.
  
- Field sessions: 16 days, 83 hours (travel time not included).
- Office time: 36 hours, many more were not billed.

All in all – I love doing this kind of work and wish I could spend most of my surveying days doing it. Another dream of mine is to be able to go back, remonument these corners with county caps, and file official geodetic corner records. It may be a dream, but who knows, maybe funding will materialize out of deep space.

My recommendation for future fire reclamation and chaining projects would be to develop a plan, early in the process, to protect and preserve these corners. Additionally, the plan should include using the services and expertise of a land surveyor and allow the surveyor time to complete the whole job before the dozers are running. Better yet, let's get the rural areas retraced and their corner positions documented into a modern geodetic record ASAP. The corners are out THERE! Let's save them before another fire, or the slow burn that's been going on for the last 150 years gradually smolders them away. ◀

Leon Day is a home-grown Sanpete County farm boy, receiving a B.S degree (1985) from Utah State University in Irrigation Engineering. He obtained his PE license in 1993 and his PS license in 2005. Other than 5 years in Kansas with the USDA and SCS, he has been mostly self-employed as an engineer/construction surveyor. His introduction to surveying started in 1987 as a grade checker on the Great Salt Lake Pumping Project in the west desert.

Leon has been married for 40 years to (Lorele) who is a master teacher with 34 years teaching experience in public schools. He has two daughters and three grandsons. After moving around the US and Utah for about 30 years, Leon moved back to Sanpete County to stay.

He is a veteran of the US Army, a bandsman, who plays sax and guitar. Leon lives in Fairview, Utah and his little one horse outfit goes by the name of Highterra, LLC.

# Western Federation of Professional Surveyors Report

## WFPS REPRESENTATIVE: MICHAEL NADEAU, PLS/CFEDS

I would like to start this report by acknowledging the resources, time, and effort Ron Whitehead has put into the Western Federation of Professional Surveyors (WFPS) as the UCLS Representative.

Mr. Whitehead has served the UCLS members diligently and without wane since 1999....something until February of this year. His excitement and enthusiasm for the UCLS and WFPS has played a significant and important role for the members of the UCLS as well as the partnership between the UCLS and WFPS. Many times, Ron and his endeavors for the UCLS were never in the spot light, nor did he take credit for his time spent with UCLS/WFPS. I want to personally take this time to thank Mr. Whitehead for all his diligent work over the last...18, 19, 20 or so years as the WFPS Representative. With Ron stepping back from the normal duties that we are all used to him performing in the UCLS, it certainly leaves a big void to be filled. I only hope I can fill this void half as well as Ron did. Thank you Ron for your service to the UCLS and WFPS (although I'm sure we can get you to "volunteer" for more work in the future).

As the UCLS's newest WFPS delegate, I want to give a brief overview of the Western Federation of Professional Surveyors. WFPS is a regional non-profit organization composed of Land Surveyor associations representing the 13 western states (including Alaska and Hawaii). WFPS, formed in 1979, is dedicated to education, fostering common goals within the western states and providing a regional voice at the national level. WFPS acts as a clearinghouse for interstate communication and sponsors a biennial conference for surveyors (much like our 2013 UCLS/WFPS Convention in Sandy, Utah this year). The organization is also very education oriented, and since 1992, WFPS has distributed 53 scholarship totaling \$72,500 to students enrolled in accredited Geomatics programs throughout the western United States. WFPS is also very active in their support of the "Teaching with Spatial Technology (TwIST) Program". In fact, NCEES is working with WFPS to match the funds (up to \$25,000) to send 8th to 12th grade educators to Vancouver, Washington in order to learn how to use GIS and GPS in the classroom to create meaningful and challenging lesson plans for their students. How many of us can say we even knew what a surveyor did when we were in high school? Unless you grew up with a parent who surveyed, like Von Hill or Russ Flint, chances are slim to none that you even heard about surveyors or the surveying profession in high school. This is a great program that will help push the profession forward, and at the same time, marketing the profession to the next generation. If you know an educator that would like to do this, more information about TwIST can be found out <http://www.wfps.org/files/TWIST.html>.

The September meeting was held in Boise, Idaho. The UCLS was represented by Ron Whitehead as the first delegate and me as the second delegate and immediate past state chairman. One unique thing that came out of this meeting was the setting up of sub-committees to discuss issues each state may be having, or issues that other states can help out with...or "common issues and information sharing" between the states. WFPS has always had common issues and information sharing between the states, but this takes that information sharing to a new level. At this last meeting it was discussed that all the delegates fly or drive into each board meeting the day before the meeting, so it only makes sense to take advantage of that extra

night while everyone is in town together. What was decided on was more of a formal meeting, rather than the informal

survey talk about regional survey issues that gets discussed the night before the board meeting, anyway. As informative and useful as the informal survey talk is, having formal sub-committees set up will really accelerate the transfer of knowledge and information sharing that will help each of the 13 states. The first set of sub-committees will take place at the UCLS Convention at the end of February, with the following sub-committees:

Definition of Surveying (ID) – Glenn Bennett (Chair), Earl Morriss, Linda Smith, Aaron Smith.

Licensing Boards (NM & UT) – Amanda Allred (Chair), Mike Nadeau, Ray Mathe, Nancy Almanzan

TwIST (All States) – Dick Smith (Chair), Carla Merritt, John Thatcher, Mike Bouchard

These meetings have been encouraged by the board to have very specific agendas sent in advance to keep the sub-committees on task. Without an agenda, there is a great potential for subcommittees to turn into war story sessions...I think I'm preaching to the choir when I say, this is so true for surveyors. Who among us doesn't love a good surveying war story? Once the subcommittees complete their work, they can present the findings to the WFPS board of directors for potential adoption of an official WFPS position (regional voice) and a new committee will be selected to work on the next issue of concern in the western states. If you feel there is a Utah issue that the other states can help us on, please let me know and we can have our issues brought to these committees for lengthy discussions with the states that have "been there, done that". For example, just as we can help one state with continuing education requirements, another state could help us with our criminal trespass issue. These new sub-committees will be a great addition to the already great transfer of knowledge relation already being used in WFPS.

As your new WFPS representative, I want the membership to know I'm here to represent you. If you have comments or concerns in Utah that should be brought to a regional level, please let me or any other current UCLS executive board member know what your concern is. I want our relationship (the relationship between me as your representative and you as the membership of the UCLS) to be open, honest and communicative. As the ancient Greek philosopher Democritus once stated, "It is greed to do all the talking but not to want to listen at all". Please know that I'm here as a tool for the membership and I am listening. Please don't hesitate to contact me with any regional topic you have at [MikeNadeau.UCLS@gmail.com](mailto:MikeNadeau.UCLS@gmail.com).

As always, I like closing my reports with a quote. With that said, I leave you with the late Vincent Lombardi, "The difference between a successful person and others is not a lack of strength, not a lack of knowledge, but rather a lack in will." ◀



# CHAPTER REPORTS

## Color County Chapter

BY SCOTT WOOLSEY

**T**he Color County Chapter had a great Winter Social in January at Rusty's Steak House in Cedar City and had great participation from the members. We look forward to an eventful 2013 and have events planned in Cedar City and St. George for our Chapter luncheons. Thank you to those that have participated and enjoyed the past luncheons and we look forward to more of you to be involved this year. We are excited for the new officers who will be serving the next two years.



Scott Woolsey, Color County Chapter

## Salt Lake Chapter Report

BY DAVID MORTENSEN

**O**n January 24th we had our last meeting of the year with Troy Langston from Monsen Engineering in which we were able to hear a little more in depth on "GPS Radio's and the Ins and Outs of the new FCC Requirements." We had a very good turnout even though there was a good amount of snow on the road that day. We are looking forward to another year of meetings and association. In March we will be hearing from Randy Smith and Jason Henley with UDOT on surveying in and around Region 2. We would appreciate any ideas for topics and locations for future topics.



David Mortensen, Salt Lake Chapter



Dallas Butters, Golden Spike Chapter



Kevin Bishop, Timp Chapter



Jerry Allred, Book Cliffs Chapter

# COMMITTEE REPORTS

## Workshop & Convention Committee Report

BY JAMES OLSCHESKI



James Oleschki



Scott Bishop

The Annual UCLS Convention was held this past February 26th, 27th and 28th at the South Towne Expo Center in Sandy, Utah. The theme for this year's conference was "Are We Surveying Right or Rite?"

The conference started off with the state of the UCLS by the State Chair, Brad Mortensen, who informed all the members as to the current affairs and dealings currently underway by the UCLS. This was followed by an address by the WFPS Chairman, Harold Baldwin, and how the UCLS and WFPS work together for the mutual benefit all members. The keynote speech was given by Wayne Larsen, the Professional Development Chair for Chapter 38, the International Transportation Committee (ITC) representative and Vice-Chair for Region 9. The rest of the afternoon was divided into two seminars, AutoDesk "Field To Finish" by Shawn Herring and a GIS Hands on for Surveyors by Sowmya Selvarajan, PhD.

Wednesday began the day with the seminar by Charlie Tucker entitled Railroad Surveying 101. At the same time the UCLS was proud to host the annual NSPS Student Competition wherein five colleges from across the nation came to compete. This competition was conducted Rich Vannozi, PLS, the Assistant Professor for Civil Technology/Surveying and Mapping at the Thompson School of Applied Science University of New Hampshire and Andy Sturgeon. He challenged all the students through a day long competition of various surveying history, math skills and techniques.

The Awards banquet was very well attended and started with the awarding of the NSPS Student Competition winners. Honorable Mentions went to New Mexico State University and the University of Arkansas Monticello. Third place went to first time competitor Utah Valley University, second place to Southern Polytechnic State University Georgia and this year's first place winner, California State University Fresno. The UCLS was honored to present Arthur LeBaron as the Surveyor of the Year and Robert Knox was awarded the UCLS lifetime achievement award.

Thursday started with the installation of Ernest Rowley as the new State Chair and Ken Hamblin as the State Chair-Elect.

Scott Bishop and I, James Olschewski, co-chairs of the Workshop and Convention Committee, would like to thank all those who made this year's conference a huge success.

The rest of the day was divided into four different tracts with three different classes each focusing on different surveying rights and techniques. Charles Stormont returned for an encore presentation of The Surveyor & Court Room, Discovery & Reports and Brent Bateman from the Ombudsman's Office lead an inspiring discussion on Property Rights and You. Aaron R. Smith, PLS (WFPS) taught two different seminars; Legal Descriptions and Marketing as a Land Surveyor and Water Rights was presented by Earl Morriss, Esq. PLS (WFPS). We were favored by Linda Smith, PLS, (WSPS) who offered "In Search of the Baptiste Mineral Surveys" while Jeff Hirst and Lincoln Harris helped us understand various contracts and how surveyors need to be aware of different language in them. The end of the day wrapped up with Shawn Herring providing an additional course on AutoDesk "Machine Grading" and Arthur LeBaron & Trent Williams providing a discussion on TrigStar and Bill Stone providing a NOAA update.

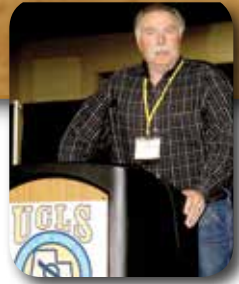
The Survey Olympics were once again held this year to the delight of all those who participated and we have Walt Cunningham to thank for getting them running again this year and for the support of the vendors who provided time, judging and most importantly, the awards.

The Scholarship Silent Auction was hosted by the Education Committee under the direction of Dan Parry. The auction provided a range of items and opportunities to help increase the fund for students in a survey related program. The raffle was very successful in raising over \$3,159.50 this year.

Scott Bishop and I, James Olschewski, co-chairs of the Workshop and Convention Committee, would like to thank all those who made this year's conference a huge success. ◀



# COMMITTEE REPORTS



Greg Hansen

## The Historical Committee report

BY GREG HANSEN

**T**he Historical Committee was basically comprised of three UCLS members for 2012. Dan Perry, Jerry Fletcher and myself. We met three times at Richard Millers office in Salt Lake City during the year and did the remainder of our meetings via the internet. We are asking for any volunteers for the upcoming year. We plan to do all of our meetings this via the web giving those members at the south end of the state the opportunity to participate. Our next meeting is scheduled for March 20, 2013. If you would like to participate, please contact me at 801-399-4905.

For 2012, we were given three assignments:

The first was to create a report on the "History of Surveying in Utah". We put together an article that is now on the UCLS's web site. The web site article still lacks the pictures that were submitted with it. We are working on getting those pictures, which are a very important part of the story uploaded. It is an interesting article that we encourage all members to read and contribute to.

Our second assignment was to put together the UCLS 2013 Calendar. The Calendar is a look back at the history of surveying in Utah along with a brief article on the instruments used during the era of each particular photo. The 2013 calendar will be placed in UCLS Histori-

cal Digital Repository which is stored in the Mountain West Digital Library <http://www.mwdl.org/>.

Our third and next assignment is to create the History of the UCLS. We are asking all UCLS members help and participation in putting together the History of the UCLS by submitting their biographies and photos. More importantly however, we need to track down biographies, obituaries, photos, documents and other information pertaining to our mentors, employers, and past surveyors throughout the state.

There is a UCLS questionnaire form that can be downloaded off of the UCLS website and was also included in the November Foresight publication. Members can also send any information to anyone of the following:

Greg Hansen (Hansen and Assoc. – Brigham City 435-723-3491 [greg@haies.net](mailto:greg@haies.net))

Dan Perry (UVU Associate Professor – Provo 801-863-8525 [perrydl@uvu.edu](mailto:perrydl@uvu.edu))

Jerry Fletcher (Salt Lake City [jf\\_caddman@yahoo.com](mailto:jf_caddman@yahoo.com)) ◀



Daryl Fenn

## Testing Committee

**U**tah State contracts a testing consultant to administer and monitor the states portion of the PLS examination. In an effort to keep the state exam current and relevant with technology, procedures and law; the State's testing consultant is to annually review the exam. This review is conducted jointly with the UCLS through the testing committee.

Last year (2012), no review was requested or conducted. As such, the state exam remained the same. This year, the UCLS testing committee will request a review be conducted. The review may happen anytime throughout the year with any modifications applied to later testing cycles.

Until a test review is requested, this committee remains a "committee of one". After a request is made, I will contact 3-5 representative

licensed surveyors from around the state to assist in the review, evaluation and editing of the existing state exam. These representative surveyors will be interviewed by DOPL and honor sworn to confidentiality with their names kept secret to avoid any discord or influence during the review.

Should a recommendation to the exam be made, the committee will summarize in writing the change and reason for the change in a report. The report will be issued to the DOPL, the State's consultant and the UCLS Executive Board.

At this time, no date has been set for the exam review. ◀

## MEMORANDUM

To: UCLS Executive Board  
From: Steven V. Keisel, PLS  
Subject: NSPS Report  
Date: February 25, 2013

The NSPS has scheduled their spring business meeting for April 12-14, 2013, in Gaithersburg Maryland. An official agenda has not been prepared however; the primary news from NSPS has been the phenomenal support of the 100% state participation. The UCLS Board has approved UCLS participation and is in the process of reviewing the contract to finalize the partnership.

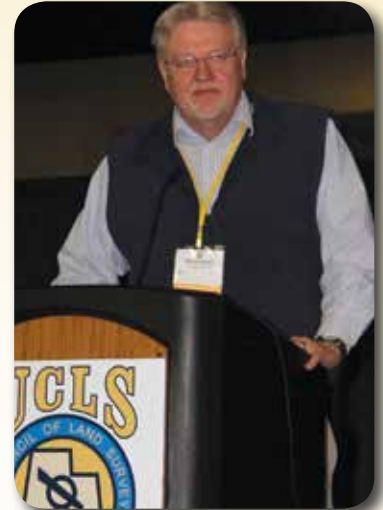
## Memorandum

To: UCLS Executive Board  
From: Steven V. Keisel, PLS  
Subject: Publication Committee Report  
Date: February 25, 2013

The monthly digital newsletter is gaining support and feedback has been positive. The “who, where, or what” am I section of the newsletter has been popular. Additionally, advertisements for job openings and surplus survey equipment have been requested. Furthermore, the membership has started using the messages from members to share their thoughts and views.

Unfortunately, the general membership of UCLS has been reluctant to contribute or submit content for the newsletter and therefore chapter, committee, and executive officer submissions are appreciated and welcome.

Work has begun on the March Foresight publication. Currently, an article has been submitted by Leon Day regarding monument perpetuation in Sanpete County, an update on BLM resurveys, and review of the annual conference. ◀



*Steve Keisel, Publication*



*Matt Clark, Standards*



*Chris Moore, Construction*



*Dan Perry, Education*



*Dale Robinson, Legislative*



*Dan Knowlden Jr., Membership*



*James Couts, Public Relations*

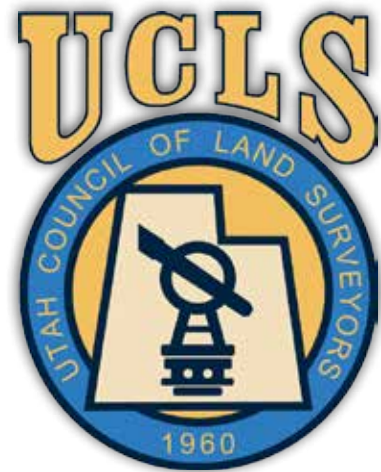
United States Department of the Interior

**BUREAU OF LAND MANAGEMENT**

Utah State Office  
 440 West 200 South, Suite 500  
 Salt Lake City, UT 84101  
<http://www.blm.gov/ut/st/en.html>

IN REPLY REFER TO:  
 9630(UT-925)P  
 January 25, 2013

Mr. Brad Mortensen  
 Chair, Utah Council of Land Surveyors  
 Attention: Mr. Steve Keisel, UCLS Publication Committee Chair



This letter is to inform you of official cadastral surveys in Utah that have been accepted in 2012 and are available from the Public Room, Bureau of Land Management, Utah State Office, 440 W 200 S, Suite 500, Salt Lake City, Utah, 84101. These records are also made available at the BLM internet web site:  
<http://www.blm.gov/ut/st/en/prog/more/cadastral.html>

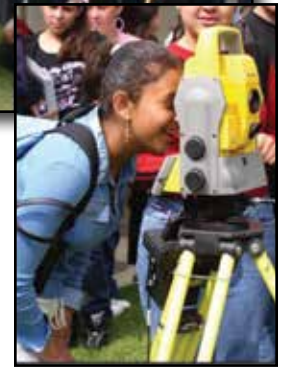
	Group No.	T. & R.	Meridian	Approved	Plat No.
1	S304*	T1S R10W	SLM	1/10/2012	392-A
2	S280*	T41S R19E	SLM	1/10/2012	1762-A
3	1149	T17S R19W	SLM	1/20/2012	997-B
4	1154A	T15S R21E	SLM	1/25/2012	1869-B
5	1154B	T15S R22E	SLM	1/25/2012	2101-B
6	1035A	T37S R12W	SLM	1/31/2012	1652-D
7	1035B	T38S R12W	SLM	1/31/2012	1684-D
8	1035C	T38S R13W	SLM	1/31/2012	1685-C
9	1156	T13S R23E	SLM	2/1/2012	2141-B
10	1155	T14S R21E	SLM	2/2/2012	1866-A
11	1123	T29S R24E	SLM	2/7/2012	1442-D
12	1094	T26S R21E	SLM	2/7/2012	1322-D
13	1099	T10N R16W	SLM	2/13/2012	139-B
14	1157	T19S R14W	SLM	2/14/2012	1070-A
15	1152	T42S R23E	SLM	2/24/2012	1771
16	1102	T5S R5W	SLM	2/29/2012	536-C
17	1145A	T23S R1W	SLM	3/9/2012	1227-E
18	1145B	T23S R2W	SLM	3/9/2012	1226-F
19	1158A	T36S R12W	SLM	3/27/2012	1635-C
20	1158B	T37S R12W	SLM	3/27/2012	1652-E
21	1147	T39S R6W	SLM	3/30/2012	1703-E
22	1141	T23S R19E	SLM	3/30/2012	1240-B
23	S308*	T3S R19E	SLM	4/10/2012	489-B
24	S297*	T28S R11W	SLM	4/10/2012	1402-B
25	1126	T11S R9E	SLM	4/11/2012	800-C
26	1092	T4S R4W	SLM	5/8/2012	531-I, J
27	S300*	T1S R7W	SLM	5/30/2012	395-D
28	S301*	T12S R19W	SLM	5/30/2012	853-D
29	S302*	T9S R12W	SLM	5/30/2012	688-C
30	S307*	T39S R19E	SLM	5/30/2012	1708-A
31	S309*	T37S R17E	SLM	5/30/2012	1664-F

32	S317*	T35S R5W	SLM	5/30/2012	1603-B
33	987C	T43S R1W	SLM	6/29/2012	1809-C
34	987B	T44S R1E	SLM	6/29/2012	2084-B
35	987E	T43S R2W	SLM	6/29/2012	1990-A
36	987F	T44S R2W	SLM	6/29/2012	2082-A
37	984B*	T2S R4E	SLM	6/29/2012	442-AY
38	1093	T17S R2W	SLM	6/29/2012	1011-B
39	1087	T23S R1W	SLM	7/5/2012	1227-F
40	1165	T35S R12W	SLM	8/3/2012	1596-Q
41	1162A	T36S R9E	SLM	8/3/2012	2447-A
42	1162B	T37S R9E	SLM	8/3/2012	2231-B
43	1162C	T37S R10E	SLM	8/3/2012	2237-A
44	868	T10N R1E	SLM	9/21/2012	153 C-H
45	1166	T11S R20E	SLM	9/26/2012	815-A
46	1167	T12S R20E	SLM	9/26/2012	821-B
47	1168	T12S R21E	SLM	9/26/2012	1859-C
48	1173A	T43S R16E	SLM	9/26/2012	2249-B
49	1173B	T43S R17E	SLM	9/26/2012	2250-B
50	1170	T42S R24E	SLM	9/27/2012	2517
51	1169	T30S R2W	SLM	11/9/2012	1458-B
52	885C	T8S R20E	SLM	11/21/2012	639-D
53	1135	T1S R9W	SLM	11/21/2012	393-A
54	1190A	T6N R1W	SLM	11/21/2012	247 E-L
55	1190B	T7N R1W	SLM	11/21/2012	219 E-N
56	1028	T20S R25E	SLM	11/30/2012	1103-D
57	1146	T20S R2E	SLM	12/7/2012	1114-E
58	1171A	T25S R1E	SLM	12/10/2012	1299-E
59	1171B	T26S R1E	SLM	12/10/2012	1332-C
60	1171C	T26S R1W	SLM	12/10/2012	1333-D
61	1160	T26S R18E	SLM	12/13/2012	2406-A
62	1174	T32S R23E	SLM	12/21/2012	1506-G

Note: The use of an asterisk [\*] denotes "Plat Only" townships. There will not be a set of field notes for these townships.

# UTAH TRIG – STAR CONTEST

Prepared by the Utah Council of Land Surveyors (UCLS) 2012-2013



“It has been a pleasure working with you on behalf of our students. I look forward to work with you next year. I hope to increase the number of students that get involved with TRIGSTAR.”

“Thank you again,”

Jamie Bateman Mathematics Dept. Chair Syracuse High School

Contact the State UCLS Coordinator Brad Mortensen At [btmort@earthlink.net](mailto:btmort@earthlink.net)

## Introduction:

Trig Star is an annual competition that recognizes the best students of trigonometry from high schools throughout Utah. The goals of Trig Star are:

- ⇒ To promote excellence in the mastery of trigonometry in high school.
- ⇒ To honor high school students who have demonstrated their superior skill among classmates at the local and statewide level.
- ⇒ To acquaint high school students with the use and practical applications of trigonometry in the surveying profession.
- ⇒ To build an awareness of surveying as a profession among mathematically skilled high school students, career guidance counselors, and high school math teachers.

Trig Star is an extra-curricular activity held each year in high schools across the state of Utah. The competition is a timed exercise in solving trigonometry problems that incorporate the use of right triangle formulas, the laws of sines and cosines. Contestants have up to one hour to complete the exam, and the student who achieves the highest score in the shortest amount of time wins. The first, second, and third place winners receive cash prizes of \$200, \$100, and \$50 respectively along with award certificates.

From the winners at each high school, state level winners are determined. The first, second, and third place winners in Utah receive cash prizes of \$300, \$200, and \$100 respectively along with award certificates. The Utah winner will compete against other states' winners by taking the national exam. The teacher sponsoring the state winner will receive a cash prize of \$300, also.

Trig Star is co-sponsored by the National Society of Professional Surveyors (NSPS) and the Utah Council of Land Surveyors (UCLS).



“Thank you so much for all of your help with this competition. The kids were really excited about their prize money and to also be recognized was a cool thing for them. I look forward to working with you again.”

“Thanks so much!”

Ashley Martin Math Department CHS ROCKS!!!!

## Suggested Schedule / Checklist:

(Timing will vary depending on each school’s schedule)

- November** Contact the High School Math Department regarding the Trig Star Program.  
Arrange for a meeting with the teachers to review the details of the program.  
Encourage them to start a Trig Star Program at their school.
- December** If possible, find an additional sponsor to cover expenses and prize money.  
(Local prizes and the prize amounts are optional)  
Send in the sponsorship application (page 5) form to NSPS and send a copy to The State Coordinator.  
Maintain contact with the school to answer questions and keep their interest.
- January** Make arrangements with the math department for the classroom presentation.  
Send a flyer to the school announcing the Trig Star Program, location and date.  
Gather materials and ideas for the presentation.  
Compile, organize and rehearse your presentation.
- Feb-Mar** Give the classroom presentation to all interested students.  
Tell them about the upcoming Trig Star exam.  
Make arrangements with the math department for the date and time of the exam.  
Contact the local newspaper.
- Mar-Apr** Administer the Trig Star Exam  
Announce the winner(s).  
Schedule a time to return to the school to formally present the plaque and award money.  
  
Arrange for a representative from the local newspaper to be there to take pictures.  
  
Give the newspaper a written explanation of the program.  
  
Give the teacher a copy of the Teacher Evaluation Form.
- April** Submit copies of the first, second and third place winners’ exams along with copies of each student’s test cover sheet, the contest report (page 13) and teacher evaluation form (page 14) to the UCLS Trig Star Coordinator, before the first day of May.

# ★ TRIG-STAR ★

## A High School Trigonometry Skill Awards Program

Administered by the NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS  
A member organization of the American Congress on Surveying and Mapping

### ★★ SPONSORSHIP APPLICATION ★★

A local sponsor is needed for each participating High School. Only one TRIG-STAR will be allowed per high school per year. The local sponsor must apply to NSPS on this application form and list the name of the High School where the contest will be held. A contest packet containing contest instructions, a test packet, an award plaque (if ordered), and a sample news release will be forwarded by NSPS to the local sponsor. The local sponsor will be responsible for making all the local arrangements. The winner will be eligible to compete in the NSPS National Trig-Star Contest and contest information will be supplied with the contest packet.

High School Name (REQUIRED) \_\_\_\_\_

City and State (REQUIRED) \_\_\_\_\_

Local Sponsor \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone Number ( ) \_\_\_\_\_

Fax Number ( ) \_\_\_\_\_

Plaques can be purchased for \$15.00 each  
Makes checks payable to NSPS TRIG-STAR

Quantity \_\_\_\_\_ Enclosed is \$ \_\_\_\_\_ or pay by

Visa /MC # \_\_\_\_\_ Expiration Date \_\_\_\_/\_\_\_\_

Name on Card \_\_\_\_\_ Signature \_\_\_\_\_

Send To: TRIG-STAR, 6 Montgomery Village Avenue, Suite #403, Gaithersburg, MD 20879  
Phone: 240-632-9716 ext. 103 or 105 Fax: 240-632-1321 E-mail: [tmilburn@acsm.net](mailto:tmilburn@acsm.net)  
[www.acsm.net](http://www.acsm.net)

★★★ SPONSOR TRIG-STAR IN YOUR HIGH SCHOOL ★★★

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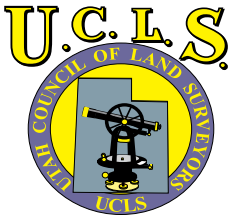
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Press Release from the National Society of Professional Surveyors

# National Surveyors Week

## March 17-23, 2013



**N**ational Surveyors Week will be celebrated nationwide March 17-23, according to the National Society of Professional Surveyors (NSPS).

Hundreds of surveyors nationwide are planning activities, such as talks to school groups, contacts with their local news media about the importance of the nation's surveying profession, booths at popular community locations to describe the importance of the work and role of surveyors and their contributions to society.

These activities will enable citizens to look back at the historic contributions of surveying and look ahead to the exciting new technologies that constantly modernizing this honored and learned profession.

The always popular GPS Day is being held in conjunction with National Surveyors Week, and will be held on March 16 as a lead-in to our week.

The message to be spread, according to NSPS, which serves as the voice of surveyors will remain of vital importance in the development of the United States.

"As long as property ownership remains one of the pillars of life in America, the role of surveyors will remain vital," said Curt Sumner, executive director of NSPS. "To this day, owning land, America's greatest asset, remains the American dream. Without the knowledge, abilities and guidance of a professional surveyor to determine boundaries this dream largely disappears."

NSPS has petitioned The White House to proclaim this week National Surveyors Week. In addition, a number of state surveying societies have petitioned their state legislatures to do the same at the state level.

In his request to the White House to declare this week National Surveyors Week, Sumner outlined how "since the colonial days of this nation, surveyors have been leaders in the community, statesmen, influential citizens, and shapers of cultural standards. Former surveyors include Presidents George Washington, Thomas Jefferson, and Abraham Lincoln."

"Today," Sumner noted, "there are over 45,000 professional surveyors in the United States. The value of their work remains vital to the future economic growth of our nation. "For example:

- Hydrographic surveys are important to the use of all our bodies of water;
- Engineering surveys are utilized in the study and selection of engineering construction;
- Geodetic surveys determine precise global positioning for such activities as aircraft and missile navigation;
- Cartographic surveys are used for mapping and charting, as well photogrammetry, the science of using aerial photographs for measurements and map production.

The establishment of the week of March following the third Sunday as National Surveyors Week is designed to be a tribute to all surveyors.

For more information about National Surveyors Week log onto [www.nspss.us.com](http://www.nspss.us.com)

For more information about GPS Day log onto [www.gpsday.com](http://www.gpsday.com) ◀