SLSA Corner Post

Summer 2011
Volume XXXII - Number 2

Quarterly Newsletter of the Saskatchewan Land Surveyors Association

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SLSA CORNER POST

Summer, 2011
Volume XXXII, Number 2

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Address all correspondence to:

Doug Bouck, SLS (Ret.) - Editor
408 Broad Street #230
Regina, Saskatchewan S4R 1X3
Phone: 306-352-8999
Fax: 306-352-8366
e-mail: slsa@sasktel.net
web site: www.slsa.sk.ca

In this Issue

In This Issue

Regular Features

Cover Story

When the 20 metre-high Rafferty Dam was completed in 1991, some questioned whether it would ever be filled to capacity. But those were dry years. The spring of 2011 has seen a dramatic shift. Record-breaking spring rain falls and the rising level of water above the dam dictated that unprecedented amounts of water had to be released to preserve the integrity of the dam itself. Downstream, the cities of Estevan and Minot North Dakota lay in the path of the rushing water and experienced massive flooding. Eventually the flow from the normally timid "Mouse" River would produce an echo in the pre-existing problems of flooding in southern Manitoba and Lake Winnipeg.

(Photo inset - left) On both sides of the Rafferty Dam, land already waterlogged from excessive snow-melt and early spring rains, saw fresh new flooding when a late June deluge had no where to go. Huge tracts of farm land and oil fields throughout the area were flooded. Scores of oil field pump jacks had to be shut in, depressurized and de-energized prior to being submerged in water.

(Photo inset - right) Hundreds of homes within the entire Souris River flood plain, including this one in the Weyburn area, were submerged by the flooding.

With most survey activity in Southeastern Saskatchewan at a standstill, we get this quote from Pat Maloney: "I've gained a whole new respect for 1:500 year flood elevations."

Main cover photo and right inset photo courtesy of Pat Maloney.
Left inset photo courtesy of Ryan Maloney.

President's Message

Wayne J. M. Adams
SLS, P. Surv.
President

Upcoming Events

Sep. 14 - 16 AMLS AGM

Sep. 16 - 17 OAGQ AGM
Orford, QC

Oct. 20 - 22 ANSLS AGM,
Dartmouth, NS

It's hard to believe that summer is finally here. With all the flooding across the province and the rain that we have experienced, it's nice to finally see the sun. It's hard to imagine that people in the Weyburn and Estevan areas are still battling high water. I've seen some recent aerial photography of the area and this flood is one for the record books. My thoughts and prayers go out to the people suffering from all the flooding.

On a more positive note, our AGM was another huge success with good attendance. We received many compliments from the visiting delegates. I would like to thank Past President Ron, his wife Leanne and the convention committee for a job well done. I would like to also thank Carl Shiels for the extreme amount of planning and attention to detail that we have depended on for so many years.

Welcome to our newest commission recipients. There are many things that come with your new commissions, but one of them is to serve where you can on various committees or on council. We are a small organization and very fortunate to have many energetic members engaged in our profession. Your active participation is not only welcomed, it is essential.

My thanks the outgoing members of council; Past-president Dave Gurnsey, and Councillors Justin Meyer and Jim Sweeney. Your commitment and contributions to council was greatly appreciated.

Thanks also to the new council members who put their names forward for election. I look forward to working with Vice President Bill Soroski and first year Councillors Chris Kuntz and Regan Rayner.

And finally I would like to thank the continuing members of council—Councillors Brian Burridge and Ryan Maloney, our Public Member Terry Alm, and our Executive Director Carl Shiels—for their contributions in the past year. I look forward to working with all of you in the year to come.

2012 AGM

Just a reminder that the 2012 AGM will be held in Regina, at the Hotel Saskatchewan Radisson Plaza on June 7th to 9th. It will a joint meeting held in conjunction with that of the Association of Canada Lands Surveyors. Details of that meeting will be developed in the months to come.

Professional Surveyors Canada (PSC)

There was a lot of discussion about PSC at our AGM, as there has been across the country. I've also had numerous conversations with other association Presidents about the value that a group like PSC can bring to an organization such as ours; speaking with one united voice for all Professional Surveyors across Canada can only be of benefit. I urge you to join today and give PSC the support it needs.

President's Travel

'General' Sharon and I attended the Annual Meeting of the Prince Edward Island Land Surveyors on June 18th and 19th in Dalvay, PEI to represent our association. This is a very beautiful and historic part of Canada's smallest province. "Dalvay-By-The-Sea", as it is known locally, is located on the northern shore about a half hour from Charlottetown. It is one of Canada's National Historic Sites and is an elegant Queen Anne Revival home built in 1895 by a Scottish-American oil tycoon. A summer resort hotel since the 1930's, Dalvay By-The-Sea is located at the east end of Prince Edward Island's National Park on scenic Dalvay Beach. It was also one of the stops, on July 4, 2011, on the Royal Tour visit.

The first day of the APEILS AGM started with a golf tournament followed by the Presidents' Form. Discussion at that forum included further talk of the ACLS intention to impose additional requirements for a hydrography course on labour mobility candidates. The SLSA remains clear on the issue; any such requirements would not be in accordance with the principles of the terms of the Labour Mobility agreement signed under Chapter 7 of the Agreement on Internal Trade.

The first day ended with an Ice Breaker in the evening.

The second day was dedicated to the business meeting which started with their Committee Reports and introduction of guests.

The APEILS have thirteen practising members, two non-practising, and three life members, so the list of guests was as long as that for members. The meeting was quite informal and very personal.

There was some discussion on fees—which are currently $900 per year in PEI—and how they compare with fees across the country.

The business meeting was followed by a presentation by Bob Daniels, NSLS on *Getting IT Right*. Bob works for Survey Review Inc. a company that provides practice review services. That was followed by a presentation by Norm Cote on Professional Surveyors Canada. The evening ended with a Steak and Lobster supper followed by the golf awards. The APEILS' new President is John Mantha.

Our next trip will be in September to attend the Manitoba Land Surveyors' convention in Winnipeg. ☼

"There is no Such Thing as a Lost Township Corner"

By Gerald Johnson, SLS, P. Surv.

Last year Rob (Hillier) was asked to provide a subdivision on the SW ¼ 6-6-21-3. He wasn't feeling too good at the time so he sent his client to us.

When we started work on the proposed subdivision, we quickly learned that all (or most) of the pins that would be needed, had been obliterated by road redevelopment along the township line.

Rob was aware that many of the pins were missing, but encouraged me to do a thorough dig for the NE 36-5-22. Rob was confident there should still be some evidence of the township post. He even offered to assist me in scraping if I went out there this summer. Since our discussion was taking place in the hospitality suite at the AGM, it was very easy to come to an agreement.

When we started our search on Thursday (June 23, 2011) I found a couple of pins to the south of NE 36 and calculated a couple of section corners to the west. Bringing them into intersection gave us a starting point to begin digging. After the first hour of digging, Rob assured me that he wouldn't be there helping if he didn't think we would find the rust hole.

After another hour we needed a break and took a drive. We went to the E¼ 1 (1/2 mile north) and found traces of the pits governing that quarter. Those pits fit my calculations for the township corner quite well.

Back to the hole now, which at this point was about 5 ft x 4 ft x 3 ft deep – "a great day for digging though". We decided to tidy up the edges and then take a lunch break.

As Rob was putting the finishing touches on cleaning up the sides and bottom of the hole, he noticed some discoloration in the soil. After a few scrapes with the shovel it was apparent that we had indeed found the rust hole of the pin from the original township corner.

The corner ended up being about 2.5 ft from where I calculated it to be to begin our scrape. This allowed the rest of the job to go smoothly and ensured another township corner would be preserved.

Lunch tasted pretty good after that! What a rewarding feeling.

I felt quite proud to be out there with an experienced surveyor such as Rob. It was a privilege to work along side him and soak up some of his knowledge, expertise and desire to find and preserve original monumentation.

In Rob's world, "there is no such thing as a lost township corner". ☼

Rob Hillier beams after proving his hunch correct. The evidence was there.

The unmistakable evidence of a rust hole left by the original township monument.

Council Highlights

Carl Shiels, M. Sc., P. Eng.
Executive Director

2010/11 Meeting #8 - April 19, 2011

SLSA Charitable Fund

- Preliminary discussions had been held with the Saskatoon Community Foundation regarding the establishment of an SLSA Charitable Fund.
- Further research was to be undertaken.
- A motion was to be developed for consideration at the next AGM.

SIAST Geomatics Engineering Program

- G.D. Craig and R.P. Maloney had participated in the course evaluation process.
- There appeared to be a good level of satisfaction with the efforts that had been made to help assure the long term viability of the program.

Labour Mobility

- The Labour Mobility Monitoring Group would be meeting to consider, among other matters, the ACLS intention to require completion of a course in hydrography over and above the half-day jurisdictional exam.

New Commission

- Ian Carl Isackson of Lloydminster was granted SLS Commission #314.

Resolutions for 2011 AGM

- It was agreed that a resolution would be presented which would gauge member support for increasing the SLSA award at SIAST from $600 to $1,250 in order to make it eligible for matching funds from the province.

Funding for Cadastral Chair, U of C

- Council was advised that new sources were being sought for funding of the Cadastral Chair at the U of C. The current funding commitment ends in 2014.

Public Relations

- Members of the PR Committee and others had been helping promote the SIAST G/T program at various high schools.
- Enterprise Saskatchewan had contributed funds to help in the promotional effort.

Government Relations

- Committee chairman M.L. Waschuk was encouraged to begin discussions with the crown utilities regarding location information for underground facilities.

2010/11 Meeting #9 - May 13, 2011

Labour Mobility Monitoring Group

- Discussions related to the ACLS position vis-a-vis hydrography continue.
- It was agreed that home jurisdictions would not be expected to provide information on pending complaints and investigations. Instead, the onus would be placed on the candidate to provide any such information to the host jurisdiction.

Resolutions for 2011 AGM

- Two resolutions were to be presented by council to the 2011 AGM; one dealing with the SIAST Award and the other for the establishment of an SLSA Charitable Fund

New P. Surv. Registration

- P. Surv. Registration #99 was issued to Ryan Brazeal of Moose Jaw. This was only the second such registration to someone other than an SLS.

New SLS Commission

- SLS Commissison #315 was issued to Sureshkumar (Suresh) Rajakumar.

Licence Reinstatement

- A license to practice was authorized to Akbar Karsan after having passed the SLSA Labour Mobility Exam. Akbar had been issued commission #237 but had not practised in the province for a number of years.

2010/11 Meeting #10 - June 1, 2011

New Commission

- SLS Commisson #316 was issued to D.L. (Dan) Codling of Saskatoon.

LightSquared

- Concern was expressed about the potential impact of a new 4th generation communication systems being planned by a US-based company called LightSquared. Because of its proximity to the L1 frequency used by GPS systems, the proposed new system could have a detrimental effect on GPS use. (See page 63 for update.)
- An expression of concern had been received from SARM regarding the availability of survey services to RMs. Further inquiries were to be made.

2011/12 Meeting #2 - July 13, 2011

New Commission

- Commission #317 was issued to Labour Mobility candidate Metin Timocin of Maple Creek.
- A meeting of association presidents has reached a consensus that the class on hydrography should be removed as an elective and made part of the core syllabus of CBEPS in order to satisfy ACLS demands. ☼

Editorial

As I ponder how best to help my successor get his or her head around all that happens here in the office, it occurs to me that a major transition is also under way within the land survey profession in this province.

First, I note that, following the bumper crop of new commissions handed out at the 2011 AGM, half of the members who are currently licensed obtained their commissions since I took over this office in the fall of 1995. This injection of new and enthusiastic talent into the land survey profession was not only necessary but very refreshing. Renewal is an essential part of any healthy and vibrant organization, profession or culture. However, there is also a downside to such a rapid transition.

Having been born in 1946, I am at the leading edge of the 'Baby Boom' generation. Many of the surveyors who obtained their commissions prior to 1995 are also part of that group. However, they were also the ones who learned their science, craft and profession under the tutelage of 'the masters'; surveyors who were intimately familiar with how the survey system was first established with all of its flaws, aberrations and mostly invisible beauty. It was that generation who inherited and carried on the passion for developing and maintaining 'the survey fabric' as if it were a sacred ancestral blanket.

As Baby-Boom surveyors head for the door—some slowly and reluctantly, others with little more than a second look back—one wonders what the future holds for the integrity of the survey system. Much of the professional knowledge in the heads of those who have retired and who will be retiring in the next few years has never been written down. In particular those who worked for several years in the offices of the chief surveyor and controller of surveys have a depth of understanding of the survey system like few others. Members of the 'old guard' both inside and outside government have had limited time and opportunity to transfer all of their hard-learned knowledge to those for whom theory and technology may have been their dominant influences.

Examples of this come up from time to time during informal discussions within the board of examiners when younger members have been heard to say, "Geez, I didn't know that!"

One of the oft quoted concerns about the new labour mobility provisions is, in spite of the best intentions and efforts of surveyors experienced in other jurisdictions, to whom can they turn for information that has many of the characteristics of traditional oral history?

At the 2011 annual meeting, representatives of ISC spoke about the need for changes in the plan registration process. For some this was a cause for alarm. Would these changes be in the best, long-term interest of the sacred fabric? Others cited the dramatic advancements that occurred during the LAND project and the transition to a digital world that provided the powerful tools that surveyors now have at their fingertips. Research and planning for survey projects has never been easier. Still others recognized that, whatever changes there may be, they are likely to affect the way they practice their profession for many years to come.

One of the cautions that came out of the discussion at the 2011 AGM was the need to be wary of the race for efficiency, economy and profit at the expense of the survey fabric and long term public interest. A counter-argument shows up in the article on page 46 by Chris Everett, Director of Practice Review for the ALSA. In the last paragraph he suggests:

> *"As the distance in time increases from the original sectional surveys, the complexity and extent of the historical searches required for re-establishments of original Part 2 monuments will correspondingly grow and the resulting costs to the public will be increasingly difficult to justify."*

In the midst of these transitional ideas and events comes the article on page 39 from Gerald Johnson. His story provides a clear indication that there is at least some level of recognition and appreciation for the continuing role of the new-age land surveyor in preserving and enhancing the 'sacred blanket' as the SLSA evolves feverishly into its second century.

Still, like my 97 year old aunt said during my second last visit with her on Vancouver Island, "I'm just interested to know how it all turns out!"

Carl Shiels, Executive Director

SLSA Members Endorse New Charitable Fund

by Carl Shiels, Executive Director

Members of the Saskatchewan Land Surveyors Association who attended the 2011 annual general meeting in Saskatoon gave strong support to a resolution presented by council proposing the establishment of a "***Saskatchewan Land Surveyors Charitable Fund.***"

The idea for some form of charitable fund to which members and companies could make tax deductible donation, has been around for several years. Other Canadian land survey association had already established such funds for a variety of purposes but, most commonly, to provide scholarships and bursaries to students in geomatics programs. It wasn't until the Centennial AGM, when Gord Webster and Wes Jamieson, tabled a resolution directing council to create such a fund. The resolution, which also proposed a target of $100,000 to be raised within the first ten years, received overwhelming support from the members.

Dave Gurnsey, in his somewhat less demanding role as vice-president, spearheaded the research into how best to establish such a fund. It soon became clear that the least onerous way would be through one of the existing community foundations already in place in Saskatchewan.

The advantage of working with an existing community foundation was that they already have expertise and administrative support in managing self-sustaining endowment funds. They are also intimately familiar with Canada Revenue Agency's requirements for tax deductible contributions.

Once it was determined that this would probably be the best approach to take, Dave contacted two community foundations; The South Saskatchewan Community Foundation Inc. based in Regina, and the Saskatoon Community Foundation (SCF) based in Saskatoon. Although either foundation would probably have been suitable, the Saskatoon foundation came highly recommended by Public Member Terry Alm and Saskatoon-based SLSA members. In particular, their track record in maintaining above-average returns on investment through recent market turbulence, was impressive.

Although the 2010 resolution gave council full authority to proceed with establishment of the fund, it was considered appropriate to provide members one final opportunity to comment on the plan before making the final and irreversible commitment. A resolution was placed before the membership at the 2011 annual general meeting asking for their support. Complete details of the plan were provided along with the resolution and SCF Executive Director Trevor Forrest personally agreed to explain their services to the members and answer any questions they might have.

Not surprisingly, the members present at the Saskatoon AGM endorsed the plan. They also supported council's proposal to 'kick start' the fund with an injection of $20,000 to be taken from the Survey Promotion and Education Fund. Money in that fund had been accumulating from the volunteer purchase of survey pins through the SLSA office.

What happens now? Will the fund reach its objective of $100,000 by 2021? Only time will tell. Although there are no restrictions on who can contribute to the fund, it seems likely that the major contributors will be land surveyors themselves and the companies for whom they work or in which they share some degree of ownership. It will be up to those people and entities who have a strong vested interest in seeing that funds will always be available to help attract students into the survey profession—a profession that has often been described as not suffering from a poor image but from almost no image at all. ☼

The

SLSA Charitable Fund

Where will the funds come from?

- **Personal Contributions**
- **Corporate Contributions**
- **Bequests**
- **"In Lieu Of" Donations**
- **Association Fund Raisers**

All will be tax deductible.

2011 AGM Highlights

Photo credit Halia Sushko

While flooding ravaged many parts of the west central plains of North America, SLSA members and invited guests enjoyed four days of golf, entertainment, dining, dancing and of course meeting, while a swollen South Saskatchewan River silently hurried off to help add its share to the flooding of Lake Winnipeg. Record high waters of the Missouri River in North Dakota prevented an anticipated visit from NDSPLS President Aaron Norby.

Photo credit Halia Sushko

The newly refurbished SLSA display became a popular backdrop for many photo sessions. In this one, ANSLS President Glen Myra strikes a more relaxed pose to the amusement of (left to right) ACLS President Bruce Hewlko, PSC Secretary-Treasurer Bob Wallace, SLSA President Ron Eichel, Leanne Eichel, SLSA President-elect Wayne Adams, Sharon Adams, Lorraine Mueller, Audry Myra and ABCLS President Peter Mueller.

2011 AGM Highlights

2011 was another bumper year for new commissions, licence restorations and registrations. A total of eleven presentation were made at the 2011 AGM. Eight of those were commissions obtained by candidates who had passed all of the requirements of land surveyors in training and all of the examinations. One, Nathan Sikkes, obtained his commission under labour mobility provisions and one, Akbar Karsan, had his license reinstated after a number of years during which he was not active in Saskatchewan, and after passing the labour mobility exam. Ryan Brazeal of Moose Jaw became the second person to be registered as a Professional Surveyor without first having been granted an SLS commission. Two commission recipients, one as an SLSIT (Steven Drew - commission #306) and one as a labour mobility candidate (Jeremy Park - commission #311) were not present to receive their certificates.

Presentations at the 2011 AGM

1. Calvin Bourrassa - Commission #305
2. Chad Johnson - Commission #307
3. Jamie Lehmkuhl - Commission #308
4. Scott Colvin - Commission #309
5. Prakhar Shrivastava - Commission #310
6. Nathan Sikkes - Commission #312
7. Troy Motz - Commission #313
8. Ian Isackson - Commission #314
9. Suresh Rajakumar - Commission #315
10. Dan Codling - Commission #316
11. Akbar Kasan - Commission #237
12. Ryan Brazeal - P. Surv. Reg. #099

(Photo credits Halia Sushko)

Governing Evidence ...
PART 3 - MATHEMATICAL POSITION CONFLICTS WITH A FOUND IRON POST

By Chris C. Everett, ALS (Ret.), BCLS, CLS, SLS (Ret.), ALSA
Director of Practice Review

Reprinted from ``ALS News``, March 2011 VOL. 40-1

The opinions expressed in this piece are solely those of the author and in no way necessarily reflect those of the Practice Review Board.

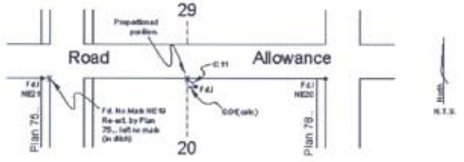
In part 1 of this series, we ascertained that the original monuments or their re-established positions govern boundary lines. In Part 2, we dealt with the evidence of fences and crop lines. Now, in part 3 we will review a situation that recently came to light where a Part 2 monument was re-established by two surveyors who arrived at slightly different solutions. *(Note a few things have been edited to protect the practitioners' identities.)*

In order to complete the survey of a parcel, it was necessary to run the north/south quarter line southerly from the monument at the N¼ of Section 20. No monument was immediately visible at this location. The 1882 field notes and the confirmed township plan indicated that a wooden post had originally been placed. After a visual search, a scan with the bar-finder and some spade work, no trace of the wooden post could be found. Admittedly; there were no fences or crop lines to go by, so it was difficult to know exactly where to dig. "The surveyor realized he would have to re-establish the corner using secondary evidence; the best evidence which, in this instance, would be by proportioning.

The surveyor established the position of the N¼ by proportioning from the NE corner of Section 20 and the NE corner of Section 19 in accordance with the measurements shown on the confirmed township plan. Measurements were made to an estimated accuracy of 3 cm using real-time kinematic GPS with appropriate redundancy checks. The surveyor placed a spike at the proportioned position. A further search was made and near the proportioned position an iron post (I), not found previously, was discovered. The found post was south of the proportioned GPS position by 0.11 metres on a bearing of 166 degrees.

The question now facing the surveyor was: **should the iron post he accepted as the quarter monument or should the newly proportioned position he accepted as marking the quarter line and the iron post be recorded as "out of position?**"

FIG.1
2009



The surveyor should be guided by the following principle. All land surveyors when re-establishing a lost boundary; must be aware of how the monuments governing the boundary were originally placed, be sure the boundary monument to be re-established is lost without any traces that may yet be uncovered by others, be aware of the effect of any re-establishment on existing quiet possession and occupation of the adjoining lands and, finally, be aware that his/her opinion may be challenged and may have to be defended in a court of law.

So, before we jump to conclusions, let's review the history of the monuments in this area. The first step was a diligent search in the area for any physical evidence the wooden post, or any other corroborative evidence that might shed light on the original position of the monument. In this case, none could be found. Next, a search of previous surveys in the area showed that the found iron post had been placed in the re-establishment of this quarter monument by proportioning from the NE of Section 19 and the NE of Section 20 in 1981. Let's check both ends of the proportioning.

The proportioning, using the original confirmed township plan and field notes, was properly shown on the plan and the calculations were correct. The quarter post seemed to be undisturbed. The next question that came up was whether the NE 19 and NE 20 that were used in the proportioning were the original Part 2 monuments or were they themselves re-establishments.

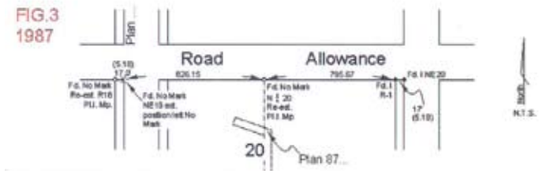
NE Section 19

The original Part 2 monument at the NE corner of Section 19 was found in 1974 during a road survey, but was later destroyed by widening activities. There are no recorded surveys between 1882 and 1974 that affected the NE 19 and the post found in 1974 appears to be the original Part 2 monument. R18 was placed referencing this corner and is as shown on Fig 2.

FIG.2
1974

The survey of an access road to a wellsite was made in 1987 and this required that the N¼ 20 be re-established. "This was accomplished by proportioning from the found iron post at the NE 20 and the re-established position of NE19; the position of NE 19 being established from R18 and the dimensions on the 1974 plan.

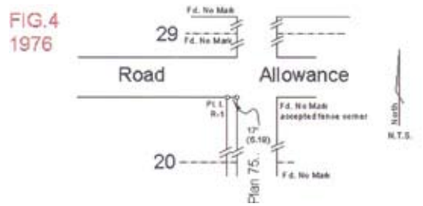
FIG.3
1987



NE Section 20

The found iron posts at NE 20 were placed in 1976 during the survey of road plan 78 at which time monuments to the north and south could not be found and the position was established by accepting the fence corner at NE 20. This was the best evidence at the time of the 1976 survey.

FIG.4
1976



From this research it seems reasonably sure that the found iron post at the N¼ of Section 20 is based on acceptable original evidence at both ends of the section line (NE 19 to NE 20). It seems both surveyors used the same evidence to complete their proportioning.

The question remains, which of the two positions marks the quarter line? There is no doubt that it was the original intention that the wooden post be on the straight line between section corners and that the township plan showed this as such but, it is also quite clear that the monument as placed, governs and not the straight line.

Surveys Act Section 37

Every parcel surveyed in accordance with section 29 or 32 shall consist of all the land included between the several monuments placed to determine the boundary line, and no more and no less, notwithstanding any quantity or measure expressed on the official plan, certificate of title, grant or other instrument.

The question remains which of the two possible positions is the *most likely* location of the original monument? Over the years, and as a result of evolving technology, the level of precision in the measurement of angles and distances has improved, with the result that the accuracy of the positioning of monuments has changed. When the sectional townships were first laid out, a positional accuracy of a few links (one link 0.201 m) was considered adequate; whereas today with GNSS, a positioning error ellipse exceeding 0.05 m would be considered suspect.

That different surveyors with different equipment will differ in the results of their measurements has always been acknowledged.

Section 241 DLS Manual

The same argument cannot be expected when the measurements made by different sets of chainmen even though the length of their chains be identical. There is a personal error which may amount to as much as two links per mile;

and

Section 241 DLS Manual

Should a surveyor be certain that the position of a quarter section corner located by his chairmen is not more than a few links out of place, he may dispense with the temporary mark and erect the permanent monument at once... ***Section 112 DLS Manual.***

Manual of Standard Practice — Part C Section 1

On matters of accuracy:

1.3 New Surveys: 1:7500 or 0.02 metres where the method of closure is used or, when statistical analysis is used: confidence region (95%) C = 0.02 +B(130)D metres where D=distance:

1.4 Prior Surveys: 1:5000 or 0.02 metres where the method of closure is used or, when statistical analysis is used: confidence region (5%) C = 0.02 +B(150)D metres where D=distance.

With respect to our example above, the difference between the two positions is 0.11 metres which translates to an accuracy of 1:7000 which is well within the accuracy expected when checking prior surveys.

Thus, I conclude that both positions have been surveyed in accordance with the specifications in force at the time or the various surveys and, therefore, both are "in the most likely position that the monument was originally placed" notwithstanding that they are in different locations. Yet, both positions cannot be recorded on the plan for such would introduce a boundary uncertainty.

Only one position can be shown as representing the quarter monument. The question is again—which one?

Others may disagree but my solution is that the iron post should be held "fixed" and represents the quarter corner. I say this for two reasons. First, as stated in previous articles in this series, part of the surveyor's duty is to maintain the quiet possession of land. Although the monument could not readily be seen, it has represented the corner since 1987 and to change it now would alter that possession. Second, the courts have indicated that the timing of a survey is important. In an action between *Shupe and De Sutter vs. Langenburg* in 1920, the Saskatchewan court ruled as follows: "When it is necessary to decide the position of a mound or monument whose location is in dispute, and one surveyor swears it is at one point and another that it is at another point, and both surveyors are equally honest, impartial and capable, if there is no other deciding factor then the one whose examination prior in time and nearer to the time the mound was erected, is the one whose evidence should be taken." *(Note that this ruling is in respect to a mound but I believe the same principles will apply so re-establishments.)* That's my opinion—what's yours?

As the distance in time increases from the original sectional surveys, the complexity and extent of the historical searches required for re-establishments of original Part 2 monuments will correspondingly grow and the resulting costs to the public will be increasingly difficult to justify. ☼

Four Generations of Customers: How to Boost Sales

By Giselle Kovary and Adwoa K. Buahene,
co-founders of n-gen People Performance Inc.

Reprinted from "Ontario Professional Surveyor" – Spring, 2011

The Association of Ontario Land Surveyors (AOLS) is a long standing institution, which was founded in 1892 to protect and serve the public interest. As with any organization or company that has deep roots and imbedded traditions, remaining relevant with changing economics, regulations and customer expectations is paramount to professional sustainability. However, the sustainability challenge is not only rooted in remaining internally relevant with employees; but also externally relevant with customers and other professional stakeholders. Given dynamic world influences, life-defining events and political and economic movements, younger customers may have different ideas on how your company can best serve them in fulfilling their needs. In this reality lies another challenge to your company - ensure that you are able to sell to and service effectively all four generations of customers.

You have four generations of customers – Traditionalists, Baby Boomers, Gen Xers and Gen Ys. In the spring of 2010, n-gen described in the Ontario Professional Surveyor magazine some of the life-defining events, values, behaviours that have shaped each generation of employee. Those life-defining events and values have also shaped the behaviours and expectations of customers. In this article, we want to highlight some considerations that will allow you to evaluate whether or not you are able to effectively engage all four generations of customers.

Four Generations of Customers

Given that there are four generations of customers, it's important to consider how each cohort wants to interact with you as a customer. The way a Traditionalist wants to be sold to is not the same as the way a Gen Y wishes to experience the sales

cycle. So it's important that sales and service people remember to provide service in the way in which the customer wants to receive it, rather than in the way in which the employee wants to provide it. It's the old sales adage of "ensure that you are selling the way the customer wants to buy, not the way you want to sell". For example, if a Baby Boomer is trying to sell to a Gen Xer and is constantly asking for face-to-face meetings in order to share information or build a relationship, this is less likely to be successful than if the Baby Boomer were to send the information in advance via email, and then request a meeting that focuses on clarifying information and action-planning. Gen X customers are going to evaluate you and your company on the results that you can offer that are professional, guaranteed and cost-effective. Conversely, younger sales people should recognize that for Traditionalists and Baby Boomers face-to-face meetings are Important to building relationships and credibility. Traditionalists need to feel like they can trust you, and that you have the required years and level of expertise. Baby Boomers will want to know that the company that they select is well-ranked in the industry and has a strong reputation.

It is somewhat natural for each generation of customer to have a greater affinity to a sales or service person who is from their own generation. So a Traditionalist may initially feel a quicker or greater rapport with another Traditionalist or older Baby Boomer, just as a Gen Y customer may feel a closer affinity to another Gen Y. So within your sales and service team, it may be prudent to have representatives from all four generations within the team, or to pair up a more experienced colleague with a younger colleague when meeting with a new customer. If that's not possible, then it is important for each salesperson to evaluate where in the sales process s/he might have the greatest challenge with a customer, and to plan to mitigate that challenge by engaging others. To increase customer engagement, you must layer on a generational perspective to the sales and customer service process to ensure that you are tapping into the values, expectations and motivations of all customer groups.

Customer Loyalty

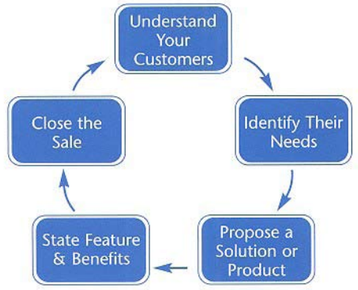
With respect to Traditionalist customers, often companies experience a type of 'unquestioned loyalty' after they have made their decisions to purchase your product or service. There is a high degree of repeat business, and to acquire business a second, third or multiple times takes less effort on the part of the salesperson. Traditionalists are inclined to continue to purchase from, and recommend, a company for decades, without evaluating whether or not there may be a better option.

Therefore, some companies may still have a culture that relies on this type of loyalty from their customers but also from employees who are selling or providing service. In today's market, many companies might be surprised by the extent to which they had to justify their services and work approach to younger customers. Given younger customers' viewpoints on what gives someone authority, they are not inclined to give a salesperson expert credence just because they have been in the business for 20+ years. They will expect your company to prove its expertise through testimonials, references or factual descriptions – any external validation that reaches beyond the words of the salesperson. Also, it's important to remember that your company should be prepared to offer evidence of your authority each time you deal with a customer, whether it be repeat business or a referral. The younger consumer is constantly doing research on the Internet and comparing services with their social network. They are vigilant in ensuring that they are receiving the best value proposition from a company, and will switch brands quickly. Regardless of age, all customers want a positive and collaborative working relationship with their surveyors. However, be aware that the grace period that Gen X or Gen Y customers give your company to get this relationship right, is much shorter than that of Baby Boomers or Traditionalists. Customer loyalty - what it means and how long it remains, differs across the generations.

In today's environment, you cannot be guaranteed unquestioning customer loyalty. However, there is a direct link to building customer loyalty through employee loyalty. In some companies, managers and owners might be surprised if younger employees ask or question the way service is being provided or the types of products you offer. In fact, for many Gen Y employees, unless they understand and believe in the value proposition of the company, they will have a very difficult time (or may even refuse) to sell that value proposition to customers. Since we all know that our best ambassadors in sales are our own people, it is imperative that we focus on engaging internally, while engaging externally as well.

The Sales Process

Within the sales process it is important that salespeople layer on a generational perspective. Above, we have highlighted factors that contribute to understanding your customers by understanding how each generation attributes authority and where they go to get their information (colleagues, friends, Facebook, Yellow Pages, etc.). Recognizing that, in particular for younger generations, customers are typically already well informed because they have done a lot of research on the Internet.



In identifying customer needs, active listening skills, strong analysis and communication skills are paramount. It is important to listen to the questions and to gauge your interaction appropriately – is the customer seeking advice, or are they already well informed and are looking for you to present choices? If they are new to the experience, how can you help educate them? How closely are their needs and expectations aligned with what you are able to offer? This is an important stage because this is where you are able to manage your customers' expectations and help guide the sales process.

In proposing a solution, you have to be careful to balance providing too much choice vs. not providing enough. If you offer too many options and choices, some Traditionalists may question your expertise, and may think "you're supposed to know what the best solution is in this situation". Conversely, if you try to persuade a Gen X or a Gen Y customer into a singular option, they may question why there are no options or will propose an option to you.

In stating the features and benefits of a solution, younger generations of customers will tend to trust you more if you are also able to highlight any drawbacks to one proposed solution versus another. They are more likely to build trust and confidence with a sales or service person who is transparent. Obviously, if there are more drawbacks than benefits, your company wouldn't offer the solution; however, if there are any limitations to offering the service to a particular client, in their particular situation, then it is best to highlight those upfront. These drawbacks could be about the service itself, the possible outcome, or even the time frame in which the service can be offered. In this day and age of viral marketing and younger customers who can post messages that reach hundreds or thousands of people in seconds, it is imperative that your company reduce the possibility of `buyers regret' up front, before the sale.

In closing the sale, remember that there are different vehicles by which you can follow-up with customers. Judge whether a face-to-face meeting, a phone call or an email might be appropriate, and also ask when your customer might want you to follow-up.

In selling to the four generations of customers, keep in mind who you are selling to and the best sales process to engage each customer. Whether you are a younger salesperson selling to more mature customers, or you are an experienced salesperson selling to a younger customer, the one-size fits all approach to sales no longer works. While the sales process doesn't change, by layering on a generational perspective, you are likely to have greater success in building relationships and ultimately in being able to close sales. ☼

Adwoa K. Buahene and Giselle Kovary are the authors of ***Loyalty Unplugged: How to Get, Keep & Grow All Four Generations*** *and co-founders of n-gen People Performance Inc (***www.ngenperformance.com***). n-gen is the training partner of choice for industry leaders, providing solutions for managing generational differences in the workplace.*

By focusing on the root causes of customer service, sales, leadership, teambuilding and HR practices, we deliver training programs that measurably improve performance within a multi-generational workforce.

Parol Testimony

by Knud E. Hermansen P.L.S., P.E., Ph.D., Esq.

Reprinted from www.umaine.edu/set/svt/Articles/ParolTestimony.pdf as seen in "*The Nova Scotian Surveyor*" - Spring 2011

Parol testimony or verbal testimony is an important source of information for retracing boundaries. Few surveyors would ignore a landowner who describes how to find the corner monument or the elderly resident who shows where the corner tree once stood. Yet, not all parol testimony should be considered. There are four hurdles to be considered before relying on parol testimony.

It is important for the surveyor to understand that the standard for acceptance is measured against what other reasonable surveyors would do, not what one particular surveyor would do. Put in other words, if most surveyors would readily use the testimony, it is acceptable to use. If only a few (minority) of surveyors would use the testimony, it is not acceptable to use under the rules of evidence.

Useful

The first hurdle is that the parol testimony be useful. The testimony should advance the surveyor's efforts.

Of course, there is often parol information that is not useful. All surveyors are familiar with landowners who want to talk but do not provide useful information. Most surveyors have experienced a landowner who tags along with the survey crew and maintains a constant flow of questions and gossip about the neighborhood. This later parol testimony is not useful and not helpful.

Acceptable

The second hurdle is that the parol testimony be acceptable. The parol testimony must be of a source and circumstance that the testimony would more likely than not be used by other competent surveyors in the same or similar situation. This hurdle is codified in the Federal and many state rules of evidence as the following sample illustrates:

> The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.
>
> (Underline mine) Federal Rules of Evidence, Rule 703.

Admissible

As the last part in the underline portion of the quote states, not all parol testimony the surveyor finds useful and acceptable to aid in retracing a boundary will be admissible in court (nor does it need to be). However, parol testimony that is not admissible yet forms the basis of the surveyor's opinion could place the surveyor in a difficult position – the surveyor has an opinion but can't disclose how the opinion was reached. The result is the surveyor can provide an opinion but the foundation of the opinion is deemed inadmissible and therefore the surveyor's opinion is suspect.

As a general rule, parol testimony will not be admissible where parol testimony will contradict, vary or change the written terms of the contract, agreement, or deed (known as the parol evidence rule). Conversely, parol testimony is generally admissible to aid in the construction, clarification, or interpretation of an ambiguity in the deed or when a deed description is applied to the site. Parol testimony maybe used to explain that which is not clear or a latent ambiguity such as the meaning of words and site conditions at the time of conveyance.

For example, parol testimony is not admissible to prove the corner tree is a maple contrary to the deed description that cites an oak to be a monument to the corner. On the other hand, parol testimony is acceptable to show which of two oaks is the one intended by the deed to mark the corner.

Therefore, parol testimony is generally admissible to identify the monument cited in the deed, explain its disappearance, show its former location, and show a replacement is in the position of the original, to name a few applications of parol testimony. Also, parol testimony can be used to show elements of equitable claims or defenses such as acquiescence, practical location, and adverse possession.

Credible

The final hurdle is that the parol testimony be credible. Credibility does not prevent the information from being accepted as evidence. The credibility affects how the information is perceived by the judge, jury, arbiter, etc.

The lack of credibility, I believe, is the most common deficiency of parol testimony used by surveyors. Many surveyors claim not to be an advocate for their client, yet accept, rely, and adopt parol statements from the client or the client's witnesses that lack credibility. Therefore the surveyor becomes an extension of the advocacy of their client or client's attorney.

There are three elements involved in determining the credibility of parol statements:

1) The person making a statement would be unaffected by the outcome of the decision.
2) The person would or has some basis for the knowledge sufficient to "sear" the knowledge into memory.
3) When the memory of the witness was formed or the memory recounted there was no actual or an appearance of bias.

Unaffected: The first element of credibility requires that the person making a statement be unaffected by the outcome of the decision. This element would generally make any statements by the client or neighboring property owner suspect. Both the client and neighbor stand to gain if their statements were accepted and relied upon. Even prior owners are suspect if they gave a warranty deed and may be called upon to defend their warranty should the boundaries not reside where they claim the boundaries reside.

There is one exception to this element of credibility. The exception is when the statement of the witness is against the interest of the witness. For example, if the client were to agree with the neighbor's assertions regarding the former location of a boundary stone, the client's testimony regarding the stone's location would be judged credible since it is a statement against their interest.

Basis for Knowledge: The second element affecting the credibility of a parol statement requires the witness have some basis for their knowledge sufficient to "burn the knowledge" into their memory. The basis for the knowledge must be such that logic and experience would compel a reasonable person to believe the witness would remember the facts they testify about. Was there something unique or noteworthy that would cause the witness to remember or retain the knowledge in their memory? In the instance of a corner location, it is often insufficient for a witness to merely state they remember there was a corner pin at a certain location. The witness must be able to relate their memory gained in the past to an existing location on the ground in a manner that is logical, reasonable, and trustworthy.

> *"The pin was right at the top of the ditch and the ditch hasn't moved." "I watched my dad put a stone right on the old stump and after the stump decayed that stone is still there."*

Consider an 83 year old witness who insists that she remembers the location of a pin she saw in her cousin's yard when she was 12 years old. That statement without some other supporting information is not credible because

Affidavit of Leroy Cameron

My name is Leroy F. Cameron. I am 62 years old. I reside at 3049 Ames Lane in the town of Lincolnville.

From the age of 9 until I was 18 years old and went into the service, I lived at what is known as the Wooster farm. The Wooster farm was owned by my grandparents during the time I lived there.

At the southeast corner of the farm there was a large oak tree with three blazes. I spent hours sitting in a tree stand that I built in this tree to hunt deer. I spent countless hours in this tree and shot several deer that came to eat acorns at this tree. From this tree I could see down a woods lane in one direction and along a fence-row in another direction.

Recently, I returned to the location of the oak tree. From the alignment of the woods lane and remains of a fence-row, I was able to determine the former location of the oak tree. A month ago, I placed a pile of six to 12 inch diameter stones at the location of the oak and indicated this location to Sarah Kener, a surveyor.

While I have often met the person who owns the Wooster farm and the neighboring property, I am not related or know them outside this occasional meeting that occurs while hunting. I continue to hunt on this farm and the neighboring property.

Dated the 3rd day of August 2010.

Leroy Cameron

Leroy Cameron

logic and experience suggest that 12 year old children have trouble remembering to feed the dog that day, let alone the location of a corner pin the elderly witness saw 70 years earlier. However, it is believable that the 85 year old witness can remember the location of the corner pin if she recounts that the pin was under a tree branch she fell out of when playing in the tree at age 12 and the corner pin injured her very badly when she landed on it. The tree and severe injury is something that a reasonable person would believe someone could remember many decades later. Since the tree and the branch the witness climbed on still stands, the witness is able to accurately place where the pin stood 70 years previously.

Of course knowledge gained last week does not need the same intensity of experience (if any) in order to accurately recount the knowledge. While knowledge gained a decade ago would require some extraordinary experience to retain a credible memory.

Impartial: The disposition, temperament, or bias of the person when the memory was created or the statement is made also forms an element of credibility. Statements by close friends and family of the client or neighbor are suspect. Also, witnesses who were angry or emotional to the extent their judgment may be impartial or biased against or for a party may hurt the credibility of the witness.

Documenting parol testimony such as the preparation of an affidavit should also incorporate the criteria that was set forth previously.

This article has focused on parol testimony, yet many of the criteria would also apply to other forms of extrinsic evidence. The age, loss of information over time, and unreliability of the surviving information often do not allow the surveyor to be very discriminating as to the information the surveyor uses. Yet, where there is conflicting information, including parol testimony, the surveyor must be prepared to critically examine the parol testimony before relying on it or making it superior to other possibly more reliable evidence. ☼

Knud is a professor in the Surveying Engineering Technology program at the University of Maine and operates a consulting firm specializing in boundaries, real estate title, easements, alternate dispute resolution, professional liability, and land development.

Land Surveying on YouTube

Here are just a few of the videos that deal with careers in land surveying on You Tube:

- **Association of British Columbia Land Surveyors Present 'Survey a Career' (ABCLS)**
- **Land Surveying Careers (AOLS)**
- **Your Career as a Land Surveyor (Northern California Surveyors Joint Apprenticeship Committee)**
- **Surveying - A Life Without Limits (Surveying Taskforce - Australia)**
- **Surveying and Geometry (NASAconnect)**
- **A Career in Surveying Parts 1 - 4 (New Zealand Institute of Surveyors)**
- **Student comments about Surveying**

If you navigate to www.youtube.com and do a search on any of these titles (preferably enclosed in quotes), it should show up at the top of the list. The New Zealand videos are particularly well done.

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Legal Notes

Reprinted from "ALS News" March 2011 -Vol. 40.1

The Canadian Legal Information Institute database (www.canlii.org) contains a number of recent court decisions involving land surveyors and land surveying.

The cases below are excerpts from the judges' decisions. Readers should read the entire decision in order to learn the details of the circumstances of the case and the rationale for the decision.

Dyer Estate

2010 NLTD 201 (CanLII) — 2010-12-17 Supreme Court of Newfoundland and Labrador, Trial Division — Newfoundland and Labrador

land—meadow—northeast—subject property—corner

Summary: A certificate of title is hereby granted to the Estate of Patrick Joseph Dyer in relation to 28 acres of the total 32 acre subject property at Snow's Lane in the City of St. John's, Newfoundland and Labrador.

The Court does not have jurisdiction, however, to declare title to that parcel of the subject property probably belonging to the adverse claimant/counter-claimant. Such title is to be determined by way of a separate application for quieting.

[1] The matter before me concerns an application pursuant to the *Quieting of Titles Act*, R.S.N.L. 1990, c. Q-3, (the "Act"), and came about as a result of a dispute between two branches of the Dyer family over ownership of a 32 acre parcel of land along Snow's Lane in the City of St. John's.

[30] Mr. Duffett, at the request of Dolores Harvey, generated a report. Mr. Duffett testified that he understood from what he had been told by Dolores Harvey that the land in dispute belonged to the Patrick Joseph Dyer Estate. Mr. Duffett explained that his sole purpose was to survey a piece of land and that his work did not relate to any certification of title. He testified as well that he was not able to say who put the fencing there or for what purpose. His task was simply to survey the location of the boundaries and specific items inside those boundaries.

[219] I am satisfied on a preponderance of evidence that the original farm or homestead at Snow's Lane belonging to Patrick Dyer, Sr. encompassed the entire 32 acre parcel of land and that at some indefinite time a vegetable garden and meadow including a small woodlot was carved out of the northeast corner and given to John and Nora Dyer. The remainder of the subject property, which is also the majority, was retained in totality by Patrick Joseph Dyer and his estate and, following the principles set out in the Wickham case as followed by Roberts, J.A. in *Matchless Group Inc.*, I am satisfied on a preponderance of the evidence that the occupation and usage of the subject property by Patrick Joseph Dyer as now represented by his estate was open, notorious, exclusive, and continuous within the community. I accept that there were periods of inactivity by both parties with respect to the land, especially over the last two or three decades. However, this does not displace the Estate of Patrick Joseph Dyer as being the rightful owner of all but the four acres of land in the northeast corner of the subject property.

§ § § § § §

Vagnini v. Javorsky

2011 ONSC 689 (CanLII) — 2011-02-01 Superior Court of Justice — Ontario

property—access road—gate—blocked—crossed

[1] The plaintiff brings this motion for an interlocutory injunction prohibiting the defendants from blocking the access road to their cottage/camp property.

[2] The plaintiff asserts that he has long used the disputed road to access his camp property. Recently the defendants have installed a fence and gate blocking him from using this road. 'The plaintiff's position is that the road is an access road as defined by the *Road Access Act*, R.S.O. 1990, c. R.34, and that there is no alternate access to the property.

[6] The plaintiff relies on a letter from a surveyor which states: "In summary the only vehicular access to the Michael Vagnini property is across Crown land and across part of Part 1, 53R-5460 Javorsky property." Mr. Laframboise from the surveying firm attended the property and confirmed his conclusion that the plaintiff had no passenger vehicle access to his property save and except for the road that crossed the defendants' property. He stated that if motor vehicle access is cut off at this access point, the plaintiff no longer has passenger vehicle access to his property.

[19] I am satisfied that the plaintiff has met each branch of the RJR-MacDonald test for an injunction. There is a serious issue to be tried, the blockade of the road constitutes irreparable harm and the balance of convenience favours the plaintiff.

§ § § § § §

Petek v. Powell

2011 ONSC 443 (CanLII) — 2011-01-27 Superior Court of Justice — Ontario

marker—boundary line—base of the retaining wall—marked by the surveyor—straight line

[1] The applicant brought an application for a declaration that he and his predecessors in title had acquired a possessory title to a strip of land between his property situated at 121 Sherbrooke Street in the City of Ottawa and the respondent's property situated at 119 Sherbrooke Street.

[2] In the course of the proceeding, the parties came to an out of court settlement. They set out the terms of their agreement in Minutes of Settlement signed on May 10, 2010. By the terms of the Minutes, the respondent consented to an order vesting a strip of land between the two properties to the applicant. The new boundary line between the two properties was defined as follows in paragraph 1 of the Minutes:

The line as marked by the surveyor, Mr. Denis, starting at the base of the retaining wall at the back of the property, following along the retaining wall and going forward to the orange marker next to the front step (for more clarity meaning that the retaining wall is the property of 121 Sherbrooke Avenue), will be the new property line.

[3] When the surveyor, Mr. Denis, produced his first reference plan describing the parcel of land to be vested to the applicant, the respondent objected because the described boundary line followed the top of the existing concrete retaining wall and not the base of that wall. This created a small difference in the land being transferred to the applicant because the concrete wall was leaning towards the respondent's property. The applicant agreed that the boundary line follow the base of the wall.

[5] The apparent ambiguity in paragraph 1 of the Minutes of Settlement arises from the fact the line is described in relation to two potentially conflicting reference points:

1) "The line as marked by the surveyor," (that is at the front of the property);
2) "Starting at the base of the retaining wall at the back of the property."

[6] The question becomes should either take precedence and if so, which one? The problem for this is that the surveyor only physically marked the line for approximately the first front half of the line, namely from the front sidewalk to some 2.6 metres short of where the retaining wall starts. It is clear that in the first survey he was simply using the top of the beginning of the retaining wall as the next marker and then extending a straight line from that point (top of wall) to the base of the wall at the back. As a result the first part of that section of the line along the wall does not continuously run along the base of the wall. Only the part of the house near the back of the property does. This resulted in an additional triangular parcel of line being transferred to the applicant.

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Bryan's Transfer Ltd. v. Trail (City) ***(Discussed in next article)***

2010 BCCA 531 (CanLII) — 2010-11-29

Court of Appeal—British Columbia natural boundary—common law doctrine of accretion—title—riparian—accreted land

[2] The primary focus of this appeal is whether ss. 94-96 of the *Land Title Act*, R.S.B.C. 1996, c. 250, constitute an exclusive code for the determination of claims of accretion by riparian land owners in British Columbia.

[4] The Surveyor General is appointed under s. 34(1) of the *Land Title and Survey Authority Act*, S.B.C. 2004, c. 66, to administer the Surveyor General Division of the Land Title and Survey Authority of British Columbia, which has a separate legal existence from the Provincial Crown. It is responsible for managing, operating, and maintaining the land title and survey systems in the province. The provincial land survey system is based on survey plans that delineate legal boundaries and show surveyed dimensions of parcels of land. As such, the Surveyor General is charged with overall responsibility for ensuring the integrity of the land survey system and the proper definition of boundaries.

[5] The respondent, Bryan's Transfer Ltd. ("Bryans"), has filed a notice of constitutional question pursuant to s. 8 of the *Constitutional Question Act*, R.S.B.C. 1996, c. 68, in the event that it is found that ss. 94-96 of the *Land Title Act* constitute a complete and comprehensive code. The respondent submits that pursuant to s. 96 of the *Constitution Act*, 1867, the Province is not competent to empower the Surveyor General with the exclusive jurisdiction to determine questions of accretion.

[74] Viewed in the context of the purpose of the *Land Title Act* and the role and expertise of the Surveyor General, it seems that ss. 94-96 are not properly directed at determining title or the transfer of title, but rather are provisions directed at the accurate depiction of boundaries upon the deposit of survey plans in the Land Title Office. The issue is a surveying one, and not one going to the general public interest in having specific "Crown lands" incorporated into title, as the Province suggests.

[75] Consequently, it cannot be inferred from the scheme of the *Land Title Act* and related statutes that it was the legislature's intention to displace or otherwise oust the jurisdiction of the courts for dealing with title disputes concerning accreted land. The provisions in ss. 94-96 contemplate the certification of boundaries on a plan. There is nothing in this provision to suggest that the section should constitute an exclusive code for determining title to accreted land. The section merely provides a process for a riparian landowner to update the boundaries depicted on their survey plan and to have those boundaries certified by the body responsible for surveying in the province. There is nothing in this provision to prevent a landowner from seeking a court declaration as to their ownership of an accreted parcel of land and then using such a declaration to support an application under ss. 94-96 to have the boundary on their plan updated accordingly.

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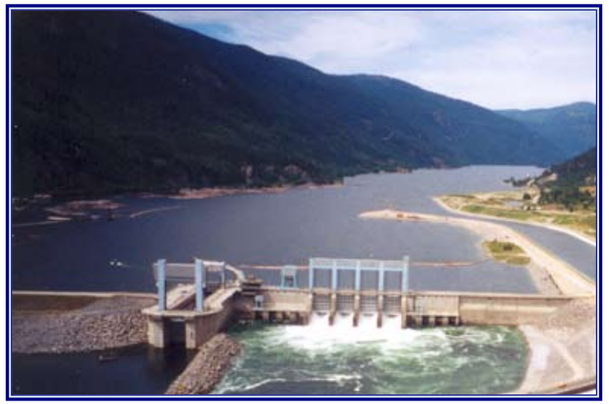
Accretion Downstream from Dams

By Don Duffy, BCLS

Reprinted from "The Link" - Volume 34, Number 1, April 2011

... the BC Legislature can also pass new legislation to abrogate the Common Law and place the final authority with the Surveyor General, as long it is made clear in the statute that it intends to do so.



The Keenleyside Dam on the Columbia River near Castlegar B.C.

There are a number of rivers in British Columbia, including the Columbia, Kootenay, Peace and Nechako, where power dams have been constructed over the years and where peak flows have been reduced and stabilized as a result. The Kenney dam on the Nechako, constructed in the early 1950s, not only stabilized the flow of the Nechako, to some extent, but also reduced its overall volume, as a significant part of its natural flow was permanently redirected from the headwaters directly into the Pacific Ocean through the Kemano power tunnel.

It is logical to think that these influences would have caused the apparent natural boundaries of these rivers. as defined by the absence, or change in the character, of vegetation, to shift inward, diminishing the bed of the river and adding to the abutting land. In the years that I practiced in Prince George, there never seemed to be a problem in applying the *Land Act* definition to the apparent boundary of the Nechako River and I never thought about any effect that the Kenney Dam may have had.

So far as I know, there has never been a legal decision on the matter, so I found *Bryan's Transfer Ltd. v. Trail (City)*, 2010 BCCA 531 extremely interesting. Most surveyors are familiar with this by now, of course, as a copy of the first BC Court of Appeal decision was attached to Circular Letter 450.

Bryan's Transfer Ltd. owns a parcel of land, with frontage on the Columbia River, in the City of Trail, a few miles below the Keenleyside Dam. The dam was completed in 1968, creating a large reservoir which includes the former Arrow Lakes and diminishing the high water flows of the river. As a result, the title boundary of the Bryan's Transfer parcel does not extend to the apparent natural boundary of the river.

About 1982, the City of Trail constructed a water main on the land lying between the Bryan's Transfer title boundary and the river. Bryan's Transfer now claims this land as a lawful accretion and says that the municipal works are in trespass.

In February of 2004, Bryan's Transfer made application to the Surveyor General under Section 94 of the *Land Title Act* to have the accreted land included in its title. This application received preliminary approval in May. After receiving objections for the City of Trail and after further research, this preliminary approval was rescinded. The Surveyor General later granted approval of a smaller area. but this preliminary approval was allowed to lapse and, in March of 2007. Bryan's Transfer initiated an action in BC Supreme Court.

In defending the action, the Province of BC contended that the authority of the Surveyor General in these matters is final by virtue of the *Land Title Act* and that the common law right to acquire lawful accretions has been abrogated by this statute.

Madam Justice R. B. Brown, of the BC Supreme Court, partially upheld this view, but restricted the authority of the Surveyor General to subdivisions only, thus denying him the authority to approve applications where no subdivision is involved. This created some headaches for the Surveyor General and induced him to intervene. In its decision of November 29th, 2010, the B.C. Court of Appeals made two important rulings: the first, that the jurisdiction of the Surveyor General is not limited to subdivisions and the second, that the common law right to accretions was not abrogated by Sections 94 - 96 of the *Land Title Act*.

Accordingly, the law related to accretions in British Columbia remains the same as it was before the case was filed. Sections 94 to 96 still apply and will doubtless be used by the vast majority of applicants, but the route through the courts remains for those who are not satisfied with the decision of the Surveyor General.

Although it appears that not much was accomplished in the case, Madam Justice Kirkpatrick's Reasons for Judgement provide important clarifications of the law as it currently stands. The most significant point, of course, is that the decision of the Surveyor General under Sections 94 to 96 is not final and the applicant always has the right to proceed through the courts if not satisfied. I don't know the views of the current Surveyor General on this point, but, when I had the job, I always found it comforting that this process was available, (although never used while I was in office). There are always a few politicians around who think it is part of their mandate to put pressure on senior civil servants on behalf of their supporters, and reference to the potential for an appeal to the courts is a good response to these pressures.

A major point in the argument on behalf of the Province was that the Act requires the Surveyor General to consider the "Public Interest" in making decisions under the Act. As consideration of the public interest is not required under the common law doctrine of accretion, the Province argued that the Legislature must have intended to abrogate the Common Law when it passed the statute.

In her Reasons for Judgement, Madam Justice Kirkpatrick quotes a number of authorities on the need for the legislature to be absolutely clear if it intends to abrogate the common law. She goes on to state, at Part 55:

> *In my opinion, ss. 94-96 is not sufficiently clear in its intention, if indeed it was the intention, to modify, alter, or abrogate the common law doctrine of accretion to preclude resort to the common law courts to determine the issue.*

Bryan's Transfer v. Trail has not provided us with an answer to the question of whether or not the physical evidence of accretion is to be treated differently, in the case of rivers which have been influenced by dams, from those rivers which have not been subject to this influence. Assuming that Bryan's transfer proceeds with its application, it will have the option of proceeding through the Courts, without the consent of the Surveyor General, but the Surveyor General can still, quite properly, introduce his own evidence in opposition, if he does not agree with that provided by Bryan's Transfer.

As Justice Kirkpatrick has also indicated, **the BC Legislature can also pass new legislation to abrogate the Common Law and place the final authority with the Surveyor General, as long it is made clear in the statute that it intends to do so.** (Emphasis added.) ☼

[76] It thus follows that the sections do not comprise an exclusive code and Bryans may seek a declaration in the Supreme Court that the disputed lands have accreted to its benefit. It also follows that it is unnecessary to consider the constitutional question posed by Bryans.

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Parker v. Okanagan Indian Band Council

2010 FC 1218 (CanLII) — 2010-12-02 Federal Court of Canada

allotment—land—survey instructions—lands—possession

[1] This is an application for judicial review of a decision made by the Respondent (the "Band Council"), wherein it refused to issue survey instructions for and/ or to approve a survey of an allotment of land originally granted to the Applicant ("Mr. Parker") in 1966. The decision was made at a Band Council meeting on October 6, 2009.

[2] Mr. Parker would like this Court to set aside the decision and remit it back to the Band Council for redetermination, with instructions to issue survey instructions and to approve an

[3] allotment so that he can perfect his interest in the land and obtain lawful possession of reserve land under the *Indian Act*, R.S.C. 1985, c. 1-5.

§ § § § § §

The following are other recent cases which may be of interest:

Simpson v. Ontario (Natural Resources)

2011 ONSC 1168 (Can LII)-2011 -02-18 Superior Court of Justice—Ontario

navigable—river—waterway—land—patent

Fundy Spray Motel Limited (Re)

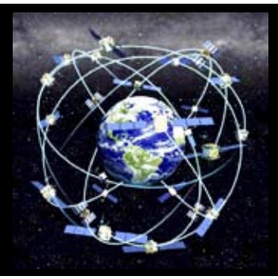
2011 NSUARB 21 (CanLII)-2011-01-28 Nova Scotia Utility and Review Board

private road—public street—subdivision—municipal development permit—six-unit apartment building

Cron v. Halifax (Regional Municipality)

2010 NSSC 460 (CanLII)— 2010-12-17 Supreme Court of Nova Scotia—Nova Scotia

private—property—easement—injurious affection—landowner



Keep GPS From Disappearing

By Joseph Paiva, PhD, PE/LS

Reprinted from "Empire State Surveyor" Vol. 47, No. 1 - 2011 March/April

The headline might sound sensationalistic, but the reality is that one of our federal regulatory agencies, in a fit of enthusiasm to extend broadband availability to more people, may be doing GPS in. Read on...

This is to inform you about the threat to GPS and to urge you to take action to prevent a possible reduction or disruption of GPS no matter what you use it for. LightSquared, a wholesale broadband provider to cell network companies has filed an application with the FCC that essentially repurposes a part of the radio spectrum. LightSquared is planning to build a network of transmitters, as much as 40,000, across this country to enable a much larger set of the population to have access to 4G class service. However those 40,000 towers don't cover all the rural areas of this country. So LightSquared is integrating these towers with an already authorized use that implements broadband in those areas using communications satellites. The satellite frequencies they will use will be right next to the block of the band in which GPS operates. So far, no problem as satellite communications frequencies are at power levels that are similar to those GPS uses.

The problem is when those ground based transmitters start working. Now, we will have the relatively weak signals from space for broadband access in rural areas in the same frequency band as the powerful transmitters on Earth for more densely populated areas. Some tests have shown that even though GPS and this broadband system will have distinctly different communications frequencies, that there is the likelihood of GPS signal reception on Earth being disrupted because of the ground-based towers. These tests show that on occasion, the ground based towers may have signal strengths that are one billion times the received strength of GPS signals.

This can create a signal-jamming problem similar to what we may experience when our radio picks up the much stronger signal of a different radio station than we arc tuned to. This occurs because the intruding station's signal, though on a different frequency, is so strong that it "bleeds" over into our favorite stations frequency.

For some reason we don't understand, the Federal Communications Commission (FCC) has fast-tracked the LightSquared application and granted them a temporary waiver to begin implementing their plan. Due to protests from the private sector, notably the U.S. GPS Industry Council (USGIC), the FCC backtracked a bit and asked LightSquared to conduct a study to show that their use of the frequency band adjacent to GPS will not harm GPS users. This was like letting the fox guard the chicken house. More howls ensued. The USGIC (and perhaps others) are now part of the research study team with LightSquared.

Unfortunately, until recently, U.S. government agencies have been quiet about this application. Considering that the U.S. government designed, implemented and operates GPS, this is rather odd. However recently, assistant secretaries from the Departments of Transportation and Defense (the latter being the GPS operator) have filed statements of concern with the FCC (another federal agency). But private industry is not taking this lying down. They have formed a coalition to persuade the FCC that their conditional approval of LightSquared's application should not become permanent.

What can you do? Write the FCC and tell them how ridiculous their action is. Tell them that at least more unbiased research must be done. Tell them how and why GPS is important to you and your economic well-being. If you feel like it tell them how important GPS is to the economy. You can also sign up as an individual or as a corporation or association (or all three) as members of the coalition. To find out more about the coalition, sign up, get information on how to write the FCC, and to get the latest news on this issue, go to www.saveourgps.org. Please take action. The economic life you save may be your own!

Here are more links to other articles on the topic. What can you do about it?

1. Go to www.saveourgps.org and sign up your organization as a member of the coalition to persuade the FCC to not make the temporary waiver they have already granted permanent.
2. Write your own letter to the FCC (see the website or use the information below on where to write).

To write the FCC, send an email: fccinfo@fcc.gov In the subject line, include:

Coalition to Save Our GPS, and
FCC File No. SAT-MOD-20101118-00239

For more information, check out articles on the subject at these links:
http://www.gpsworld.com/gnss-system/news/lightsquaredgps-interference-saga-wheels-grinding-11472

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The Forgotten Profession

By Dean D. Exline PLS

Reprinted from "Professional Surveyor Magazine" January 2010 - Volume 30 ... Number 1

As seen in "The Link" Volume 33, Number 1, April 2010

We, the surveying community and individual surveyors, are in an elite group. While other disciplines are billing themselves as professional the surveying community teeters ever closer to losing our professional status and forever becoming a trade in the eyes of the public. This is due in large part to our unwillingness or inability to deal with what is involved in maintaining surveying as a profession.

You do not need to look far to see a profession that has placed itself upon a pedestal while convincing the public that without their assistance, you are doomed to a tough process. That profession is the multi-billion dollar real estate industry. While the current economic downturn has put a dent in their incomes, commissions have increased lock-step with the ever-increasing value of real property.

At the same time, surveying fees have gone backwards in real dollars. There are still surveyors who will do a lot survey on a $1 million property for $350 to $500 while the real estate agent grosses somewhere in the $60,000 range for selling the same property. To add insult to injury, if the property sells again next month for $1.2 million, the commission could potentially be another $72,000, and the agent drives his or her luxury car to the bank to deposit the check and never looks back or feels guilty about making that fee. More power to them; that is the way it should work.

At the same time, we (surveying professionals) will get a call from that same agent asking us for another copy of the $350 survey and beating us down on the fee because we were "just there last month and nothing has changed." The real kicker is this: Some of us will just give it to them. Why do we do this? By virtue of providing a copy of the survey, the surveyor accepts liability to a third party for which he gets paid little or nothing. The real estate agent has nearly zero liability to either the seller or the buyer once the closing takes place, while the surveyor's liability continues for years.

Again, I have to ask why?

In order to answer that question, we need to look at how we got to where we are. Throughout the history of surveying, the profession has been basically a technical one. However, times have changed faster than we have. By virtue of our silence, we have allowed GIS and its associated GPS work to slip from our grasp. Machine control has replaced construction staking in areas while we were asleep at the switch. Three-dimensional scanning is the newest tool available to the surveying community, but it too is about to slip away if we don't embrace the technology that is changing the way surveying is done right before our eyes.

The technologies mentioned above are high tech, high touch, and expensive. Those charged with grabbing onto them are in most cases highly educated business people first and technical people second. Unfortunately, a majority of registered surveyors today don't even want to talk about new technologies, let alone embrace them. We seem to be saying to the world that the *status quo* is the way to go. If we are going to expand the profession, we need to rethink the way we do business and embrace new ideas, technologies, and processes. Quite honestly, we need to think more along the lines of the real estate profession as described earlier.

Our professional societies, at all levels, are pushing for more and more surveyors to replace those that spin out of the profession through retirement, death, or just because they simply cannot make a decent living. At various venues around the country, I have heard multiple times that we need to "get more people registered" to keep the profession alive. Because the number of active surveyors is dwindling in virtually every state, various solutions have been proposed to increase the numbers. Some boards have elected to relax requirements such as the four-year degree requirement. Others have proposed other changes to "increase the numbers."

The bottom line is this: We do not need more technical surveyors with few business skills coming into the profession; we need more professional surveyors with more business savvy and professional attitude who are able to think outside the box.

The bottom line is this: We do not need more technical surveyors with few business skills coming into the profession; we need more professional surveyors with more business savvy and professional attitude who are able to think outside the box. If you are able to pass the exam in its current configuration, you likely are going to be a good technical surveyor. Realistically though, the exam does not test business skills in any shape or form. Moreover, the current licensing structure in some states discourages or outright disallows business-building classes to be used for meeting the annual Continuing Professional Development requirements.

Please do not get me wrong on this: The technical portion of the surveying profession requires you to be a good surveyor and fulfill your duty to protect the public. However, if you are unable to relate to your clients and other professionals in a business-like manner, you are destined to be perceived as less than a professional in the eyes of the public.

One option to think about is adding more business questions to the Principals and Practices exam. This could be accomplished by integrating them into the current exam structure or requiring an additional exam in business practices for someone to receive a COA to operate a surveying business. The current exam configuration tests only for minimum competence in basic boundary law, theory, and the technical aspects of surveying. This exam could be made more difficult and comprehensive.

Also, instead of discouraging or outright disallowing business and other non-technical classes from counting toward our annual CPD requirements, encourage part of the hours to be met with accounting, basic business, listening skills, or conflict management classes. A class that builds knowledge in job costing would provide the practising surveyor with tools to understand why he may not be making any money. Management classes could provide training in dealing with the everyday interaction with employees and clients. The list is virtually endless, and we have barely scratched the surface on the business side of the equation. Business savvy is one area where we are failing both in and outside of the profession.

Whether you realize it or not, nothing in our developed environment has been, can be, or will be designed or constructed without the assistance of a surveyor.

Can we encourage people to come into the profession? Absolutely, but let's not do it just because the numbers are shrinking and we need more surveyors. Do it because our profession is the noble one of Thomas Jefferson and Rufus Putnam. Whether you realize it or not, nothing in our developed environment has been, can be, or will be designed or constructed without the assistance of a surveyor. We are usually the first in, last out, and needed throughout. Let's make sure that the surveyor is a "professional surveyor" by rethinking the manner in which we do business. It is a long-term proposition to make this happen.

If we don't do something quickly, we are destined to becoming a non-profession in the not-too-distant future as technological advances and processes continue to pass us by. ☼

Dean D. Exline, PLS is president, founder, and owner of GeoInnovation, PC, a full-service land surveying firm providing surveying services throughout the southeastern U.S. He is also vice president and co-founder of The HydEx Group, LLC, a professional training company. Mr. Exline is registered as a professional land surveyor in NC, SC, VA, WV KY, OH, ID, AL, and the U.S. Virgin Islands.

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http://www.gpsworld.com/gnss-system/gps-modernization/news/coalition-save-gps-launched-wake-lightsquared-decision-11209
http://www.gpsworld.com/gnss-system/news/gps-community-urged-contact-congress-regarding-fcc-proposal-10962
http://view.bnpmedia-email.com/j=fe5f16767567037a7214&m=fef41579726307&ls=fe261577766d077c701779&l=fed010707765027f&s=fdf71576746107747157372&jb%20=ffcf148du=felf16797c6c057b7d1%20071 ☼

Joseph Paiva is a geomatics consultant, seminar presenter and author. He is currently working on a book that will be a practitioner's guide to the acquisition, care, maintenance and use of modern total stations. He may be reached at jvrpaiva@swbell.net.

Update on Lightsquared Issue:

Since this article was originally published back in April, The Lightsquared issue has received a great deal of attention and the US government seems to be listening. A news article posted by GPS World (www.gpsworld.com) dated June 27, 2011 states:

> *"The House Appropriations Committee today approved the fiscal year 2012 Financial Services and General Government Appropriations bill.* ***One amendment to the bill prohibits funding for the Federal Communications Commission (FCC) to remove conditions on or permit certain commercial broadband operations until the FCC has resolved concerns of harmful interference by these operations on GPS devices.*** *The amendment was adopted on a voice vote."*

On the other hand, it appears that investors are betting heavily on a positive outcome for Lightsquared. An article posted on NEWSFACTOR.COM dated July 5, 2011 indicates that Lightsquared had secured an additional $265 million in financing. That brings the total amount raised by Lightsquared for the project, to more than $2.3 billion.

The article attributes investor confidence to Lightsquared's perceived ability to solve two of the FCC's major wireless industry concerns: fostering greater marketplace competition and achieving full national broadband coverage. As a result, they are anticipating eventual FCC approval of the modified spectrum plan that Lightsquared has proposed as a way to resolve possible interference issues.

To follow this rapidly evolving issue, search for "lightsquared" on these websites:

gpsworld.com

Newsfactor.com

CSI: *Rules for Investigations*

By Donald A. Wilson, LLS, PLS, RPF

Reprinted from "Empire State Surveyor" - Vol. 47, No. 2 - 2011, March/April

Searching for boundary evidence is an investigation. It is an investigation into a scene, not a crime scene, but a scene nonetheless where the investigator is searching for evidence, and for clues when evidence is absent, or not readily visible. Crime scene investigators are highly trained for their tasks, and sophisticated scientific techniques are usually employed. Other investigations, if taken to the same level, and applying appropriate techniques, can also he very successful in locating valuable evidence.

Many of the same techniques can be employed to both types of investigation, even if the evidence sought and the tools employed might be quite different. One thing doesn't change, — the thought process and the scientific process of reasoning. Sherlock Holmes made a habit of explaining his reasoning throughout his stories. Today's sleuths have attained higher levels, and reference materials demonstrating and analyzing methods of reasoning are readily available. Learning this part of the investigative process is like learning the multiplication tables for the first time. There did not seem to be any immediate practical value to the fact that 2 times 2 is equal to 4, but it did make sense that it might be useful at some time in the future. Such it is with the science of reasoning, especially when translated into practical rules, and more so when illustrated with examples.

Each site, perfectly preserved or irrevocably compromised, has unique elements that modify the questions and define the playing rules for that particular site.

Good investigators know that lists of questions from officially issued procedure manuals have limited use. Reading the signs and asking questions at a site does not involve completing a form or responding to circumstances by following pre-established rules. Each site, perfectly preserved or irrevocably compromised, has unique elements that modify the questions and define the playing rules for that particular site. Asking the right questions, of oneself or of others, depends on identifying the rules of each new challenge.

Reasoning backward analytically at a scene involves discovering the rules while playing the game. Sherlock spoke of that in *A Study in Scarlet*:

> *"In solving a problem of this sort, the grand thing is to be able to reason backwards. That is a very useful accomplishment, and a very easy one, but people do not practise (sic) it much. In the everyday affairs of life it is more useful to reason forward, and so the other comes to be neglected. There are fifty who can reason synthetically for one who can reason analytically."*

There is no place for guesswork in an investigation; it is much too serious for that. Thinking logically does not involve guessing. Guessing is blind and riddled with doubt. Guessing is merely desperate, and is not necessary where there are ordinary facts, as facts raise no doubts. Gil Grissom, the team leader of C.S.I., is quoted as saying, "concentrate on what doesn't lie: the evidence."

Guessing is merely desperate, and is not necessary where there are ordinary facts, as facts raise no doubts.

Yesterday, Sherlock Holmes, and today, scientific reasoners, employ the art of Abductive Reasoning. Abduction is the process of finding a best explanation for a set of observations and it leads to subtle implications for evidence evaluation. It is about certainty and the logico-computational foundations of knowledge. Abduction can he described as "inference to the best explanation," which includes the generation, criticism, and possible acceptance of explanatory hypotheses. What makes one explanatory hypothesis better than another are such considerations as explanatory power, plausibility, parsimony, and internal consistency. In general, a hypothesis should he accepted only if it surpasses other explanations for the same data by a distinct margin and only if a thorough search was conducted for other plausible explanations.

Ask any forensic investigator to name the biggest problem that they encounter on the job and you will consistently hear the same response—crime scene contamination by others. Surveyors encounter that on almost every scene, and the older the scene, the more likely the contamination, or compromise. Developers won't even hire a surveyor until the soil testing is completed. Backhoes have an uncanny way of seeking out the corner evidence and running over it. Rule Number 1: Protect the scene. Once evidence is lost, opportunities are lost. And the investigator may never know what was lost when a scene is not controlled. State guides for police practice on crime scenes state, "once the scene has changed, you cannot change it back."

Rule Number 1: Protect the scene. Once evidence is lost, opportunities are lost. And the investigator may never know what was lost when a scene is not controlled.

Most investigators will not visit a scene alone. It is always a good idea to take someone on an investigation with you. Another person, or preferably more than one, will most likely see something that you may not. It is always good to have independent corroboration of a scene.

A good investigator will keep his or her perceptions clear. If on the scene for awhile, bring something to eat and drink. Avoid anything that could impair the senses like alcohol.

Most investigators will do their research first, trying to find out as much about the site as possible. Without research, you cannot know what you should be looking for, nor can you know what you have when you do find something.

Some investigators make it a practice to arrive at the scene with skepticism. While one should always maintain an open mind, remember that there just may not be anything out there. By doing the homework first, one gets an idea as to what to expect.

Beware of false readings. Measurements, mathematical closures, magnetic attraction, errors in reported information can all lead to false conclusions or provide false leads. Make sure that equipment is working properly, that the operator knows what he or she is doing, and that you are on the right parcel of land, not the neighbor's land or some place totally irrelevant.

Most investigators will take lots of photographs, digital or otherwise. Make certain you have plenty of film and you know how to take good pictures, with or without a flash. If you are not a good photographer, bring along someone who is. The next time you visit the site the conditions may have changed—dramatically, or the evidence may have been totally obliterated.

Sometimes it is easy to find and locate the evidence, but explaining procedures or a lack of success to a judge or jury may be entirely another matter.

The above rules, at the very least, should be second nature to any successful investigator. Sometimes it is easy to find and locate the evidence, but explaining procedures or a lack of success to a judge or jury may be entirely another matter. People watch television, and they watch shows like C.S.I., and have come to expect from the practitioner what they see and hear on television. The well advised will make certain that good and careful work, successful or otherwise, is not compromised or discounted by those who have a different expectation. ☼

Donald A. Wilson, LLS, PLS, RPF is a professional land surveyor and consultant in Maine and New Hampshire, as well as a registered professional forester in Maine.

Geomatics — What is it? Where does land surveying fit in? Whose profession is it anyway?

By John M. Ward, O.L.S., O.L.I.P., P.M.P.

Reprinted from "*Ontario Professional Surveyor*" - Spring 2011 - Volume 54, No. 2

Geomatics Professionals help ensure that every location-based system works. From the GPS 'smart' maps that guide our cars, to the satellite 'apps' that feed our phones or route our school buses, to the guidance systems that drop missiles down the bad guy's chimney – there are geomatics specialists 'inside'!

Geomatics is an unusual name for a profession and some even argue that we should change it.

Geomatics is an unusual name for a profession and some even argue that we should change it. After all, other more conventional nomenclatures do exist like 'Land Surveying' and 'Geospatial Engineering'. These names are fine but none of them encompasses everything that Geomatics Professionals do. These new professionals need a big name for a business that is basically the science of mapping, measuring and analysing the world and everything in it. This is a big job and it calls for a big name – a name with a shelf life – a name that encompasses all the known disciplines plus all of the emerging activities that we might need to name later.

Apparently, B. Dubuisson[1] thought about that in 1969 when he combined the terms geodesy and geoinformatics and came up with 'Geomatics'. The University of New Brunswick (UNB) has also thought about it. Their web site states that, "Geomatics is a term that has been adopted by governments and private industry across Canada and which is becoming accepted worldwide." Since 1969 the term Geomatics has been adopted by the International Organization for Standardization, the Royal Institution of Chartered Surveyors, and many other international authorities. One exception is the United States - so far they prefer 'geospatial technology'.

No matter what we call it the fact remains that if Geomatics Professionals are to help us meet the global challenges that we all share, then at some point all of the world's information needs to be referenced and organized. In achieving this, Geomatics has a major role to play. To relate information we need both common and unique attributes. 'Location' has the potential to provide both. Everything is somewhere, and if that 'somewhere' is precise enough, it can be unique. If we think about the implications of that, we begin to see why Geomatics is a big job that calls for both the support of a strong professional organization and an appropriately big name.

Where does land surveying fit in?

The UNB 'site' explains that because the term "surveying" no longer accurately expresses all of the work they do and the knowledge they teach, they have updated their name to Geodesy and Geomatics Engineering.

In other words, professional land surveying, that business that the American Congress on Surveying and Mapping (ACSM) defines as, "... the science and art of making all essential measurements to determine the relative position of points and/or physical and cultural details above, on, or beneath the surface of the Earth, and to depict them in a usable form, or to establish the position of points and/or details.", remains a valid professional practice area; it just no longer accurately covers the whole range of knowledge areas and activities that a Geomatics Professional (or for that matter a Boundary (Cadastral) Professional) needs to deal with.

Boundary Professionals should be comfortable with this observation since they have always had knowledge areas, such as planning, municipal and boundary law, that fall outside the purview of the geospatial or 'land surveying' practice areas.

The Surveyors Act, R.S.O. 1990, Chapter S.29, seems to reflect the same perspective, defining the "practice of professional surveying" as "the determination or analysis of spatial attributes of natural and artificial features on, above or below the surface of the earth, whether or not the surface of the earth is situated below water, and the storage and representation of such features on a chart, map, plan or graphic representation. and includes the practice of cadastral surveying."

1 ***SLSA Executive Director's Note**: Although several on-line references, including Wikipedia, credit "B. Dubuisson" for coining the expression "Geomatics," none of them provide any indication of who he is or was. An OAGQ web page entitled "**Did You Know**" is slightly more helpful by indicating that his full name is/was Bernard Dubuisson and he is/was a well known French mathematician and photogrammetrist. Unfortunately no further biographical information could be located although he appears to have authored a number of books on photogrammetry.*

It then goes on to define separately, the "practice of cadastral surveying" as activities that include "advising on, reporting on, conducting or supervising the conducting of surveys to establish, locate, define or describe lines, boundaries or corners of parcels of land or land covered with water."

In fact this 'land surveying + plus' view of our rapidly evolving profession can be helpful as we grapple to understand this new broader profession that we call Geomatics. From a global perspective, land surveying is not really a profession but a set of core competencies that are shared by many practitioners including the cadastral and the geomatics professionals. The key question then is not what is professional land surveying but what additional competencies need to be added to land surveying knowledge areas, like the transformation of datums for example, in order for the practice area to be considered professional.

From a global perspective, land surveying is not really a profession but a set of core competencies that are shared by many practitioners including the cadastral and the geomatics professionals.

For the Geomatics Professionals most of these additional competencies are currently listed, or at least implied, in the syllabuses of the leading geomatics engineering programs. For cadastral surveyors they reside within their legislation, certification boards and the professional admission requirements of the various professional surveying organizations.

In Ontario this leads to the conclusion that although any qualified person can practice generic land surveying, only registered or licensed AOLS members can hold themselves out as 'professional' surveyors and only licensed professional surveyors can provide cadastral (boundary) services.

Some members of the AOLS are registered as Geographic Information Managers (GIM) and there are also Geomatics Engineers registered with Professional Engineers Ontario (PEO) but so far, neither organization has designated any specific geomatics activities or practice areas that are restricted to professional surveyors or engineers. The Association of Professional Geoscientists of Ontario (APGO), however, has listed a significant number of restricted geospatial activities. Their act exempts all members of either PEO or the AOLS from those restrictions.

Land surveying remains a viable 'stand alone' professional practice area and a critical competency for both Cadastral and Geomatics Professionals. However, it represents only a portion of the dozen or so key disciplines that comprise a fully developed contemporary professional Geomatics practice. A practice that at this time remains largely unregulated and from the public's perspective, uncontrolled.

Geomatics — Whose Profession is it Anyway?

Just a few decades ago, Geomatics was largely viewed as an emerging area of practice within land surveying. Today these new geospatial services have not only created new market opportunities but have also led to the emergence of a number of new professional specialties. These in turn have led to the development of a new expanded profession; a profession now known globally as Geomatics. According to the Schulich School of Engineering; "Geomatics is one of the fastest growing information sciences in Canada and throughout the World." It seems that the profession is underway and its scope for the future is only limited by the vision, energy and creativity of its practitioners.

Over the past few decades, the growth of this new industry has caught the attention of professional bodies and fostered international societies, but so far, none has been prepared to step up and offer the geomatics practitioners or their public, a full 'menu' of professional support services. Some organizations help members network. Others may offer professional development and even make significant contributions towards global standards. But so far, no organization has provided all of the five essential services of member services (including outreach), professional development, standards, professional certification and peer review.

The lack of these services may be putting the public at some risk but they don't seem to be a short term priority for the young Geomatics Professionals. Demand for their services high; and even though they lack a globally recognised credential that fully reflects and promotes their capabilities, and professional association that is prepared to stand behind them—the future looks bright. This is good news for the young professionals because if professional support was critical for then success, history wouldn't hold out much promise.

In the past, despite risks to the public, new professional activities have often been left unattended and unregulated for decades. For example the Association of Ontario Land Surveyors (AOLS) refused, in the 1920's, to accommodate the Professional Engineers within their ranks. They concluded at that time that professional engineering did not belong within their mandate. Urban planning members received a similar response a few years later. Today PEO has one hundred times the membership of the AOLS and the planners have formed their own professional institute.

For the younger less patient Geomatics Professionals that insist on a more immediate global solution this latter 'legislation free' approach may be the option they are looking for. It

worked for the international Project Management Institute (PMI). They responded to the question; “Whose Profession is this Anyway?” with the formation and promotion of their own organization. Their goal was not only to ensure that best practices were articulated, documented and followed but also that their credentials were valued and respected around the world. Members wanted both the project management community and their client organizations to not only recognise PMI credentials but also to attribute their success to them. In fact, over time, a version of that objective became more or less the PMI vision.

A few decades later, PMI is a successful global organization with hundreds of thousands of members. The organization issues numerous professional and paraprofessional credentials including the internationally acknowledged, Project Management Professional (PMP). In many sectors, industry and governments have begun to voluntarily endorse PMP credentials by calling for them whenever they issue projects or advertise for staff.

It remains to be seen what type of professional organization will emerge but it is clear that like Professional Project Managers in the 1980s, engineers in the 1920s and surveyors in the 1890s, these new Geomatics Professionals are ready.

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What are the certification options now for new Geomatics Professionals?

In Ontario, there is currently no organization that offers a comprehensive certification process dedicated to the geomatics professionals. For graduates of recognised engineering schools PEO offers a Professional Engineering credential and does recognise Geomatics as a valid engineering area of practice. These graduates can apply for licensing or registration with the AOLS and/or PEO. Qualified Geomatics Professionals with more than 10 years of specialized experience working for a Professional Engineer may also apply for a limited PEO license. The scope of a limited licence does not include membership. To date the requirements for PEO membership do not accommodate graduates of geomatics science programs that are ‘unrecognised’ without a lot of extra study and effort. Similar issues arise with other organizations and boards like the Canadian Board of Examiners for Professional Surveyors (CBEPS).

Geomatics Professionals who join PEO or AOLS could benefit from some practice restrictions. The AOLS, for example, allows candidates to apply for a licensed or registered membership. As noted earlier, both types of memberships are ‘professional’ but only the licensed members, who practice boundary surveying, have exclusivity. The Professional Engineers Act states that only those who are granted the “professional engineer” license have the right to practice professional engineering in Ontario. It is also worth noting that Geomatics Engineering is a designated area of practice and that the Act defines professional engineering activities very loosely and broadly. It is conceivable that PEO at some point could argue that certain types of mapping or data management present a public risk and therefore should only be delivered by Geomatics Engineers.

In Ontario, the Geoscientists have taken a more focused and flexible approach. They define their practice area and then list activities within it that are restricted. These include a significant number of geomatics practices. However, explicit in their act is an exemption for all professional AOLS and PEO members. This illustrates one of the advantages of membership; even without exclusivity, wherein AOLS or PEO members may be protected from any new restrictions that might emerge from third parties such as other professional organizations, public agencies or government.

Despite these advantages, it is worth noting that none of the organizations is global and none has fully developed member services that include outreach, professional development, standards, professional certification and quality assurance through peer review. By those standards, none of the professional organizations fully measure up. Barring the emergence of a geomatics organization like PMI, the best a new Geomatics Professional can hope for is membership in an organization with potential for improvement.

What are the options for the professional organizations? In general, legislated provincial professional organizations have two broad options; they can find ways to ‘license’ Geomatics Professionals or they can ‘register’ them and look for future opportunities to regulate specific activities and practice areas.

Even without exclusivity, registration can have value to members, if it offers them the same services, benefits, obligations and stature that licensed members enjoy. Examples of obvious benefits include networking and career opportunities, professional development, competency certification, peer review and advocacy. They may also be able to emulate the approach of the Geoscientists and work towards identifying and restricting specific geomatics activities to professional members.

Professional organizations that are ‘unregulated’ can consider emulating the PMI model and offer professional and paraprofessional certification, without the benefit of legislated exclusivity. To be successful, this type of credential must be promoted effectively to both the professional and the client community. The goal of this promotion would be to evoke a ‘client activated exclusivity’ based on the client organizations’ new found appreciation of the value of the credential to their businesses’ bottom line. This approach is aggressive, risky and openly competitive but as PMI has demonstrated when it works - it can go ‘global’ quickly and be very effective.

A few other advantages of this unregulated approach are that they can offer most of the same benefits as regulated organizations without the encumbrances of legislation. They can also move quickly to issue new certificates of competency for emerging practice areas.

Disadvantages include the fact that without legislation they have no mandate to enforce exclusivity and that members also run a higher risk of being overlooked for ‘exceptions’ when governments or other ‘regulated’ organizations, like the Geoscientists for example, expand the number of activities or practice areas that they control.

What are some of the Risks and Benefits of Regulated vs. Unregulated Professional Associations?

Benefits and Risks to the Public

It is true that credentials don’t guarantee good business practice but they do offer the public and client organizations an easy way to ensure that at least a basic level of knowledge and competency is adhered to. It may be unrealistic to hope that a project can be protected by ensuring that all certified professionals are equally competent, but we can at least hedge our risks by ensuring that all retained professionals are equally certified. For complex or high risk activities, the fact that some professional organizations can monitor licensed practices and restrict practice to certified individuals can be a significant benefit to the general welfare and safety of the public. The peer review and quality assurance services, if they are rigorous, also provide real value and protection to the public. They can also represent a savings to the client organizations.

On the other hand those same traditional professional organizations that protect the public can also harm it by being too slow to adapt and develop new products. As a result they can inadvertently leave the public with ‘stale dated’ practices that are overpriced and under serviced. Their ‘regional’ practice restrictions can also lead to extra costs and delays for global projects that are trying to accommodate numerous jurisdictions simultaneously.

Benefits and Risks to the Members

Members of established regulated professional organizations are more likely to receive the benefits of legislation changes if any new activities are licensed and restricted. They are also more likely to be protected from changes in the mandates of other organizations.

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On the other hand, members of new unregulated organizations are unencumbered by a legislated mandate. They are not only free to act but may act sooner because they have no sense of entitlement, no historical baggage and are focused on change and improvement. They are also able to network and partner with global organizations, develop new training for emerging professional activities and issue new certificates of competency at will. Since they have no statutory obligations to make protection of the public their primary objective, they can openly advocate for their members and more effectively respond to the changing business needs and interests of their members. On the other hand, as alluded to earlier, they have no monopoly or right to exclusivity and this makes them more vulnerable to vagaries in the marketplace, shifts in client perceptions and government intervention.

Summary

It is a given, that in the near future some professional organization is going to certify and promote the Geomatics Profession. To achieve this, they will need to ensure that their members have proficiency in a number of related geospatial disciplines and these will probably continue to include land surveying. Whether Geomatics Professionals also need to be licensed boundary specialists or engineers is still an open question. Regardless of how many disciplines are required or which organizations prevail, it is a fair comment to state that in today’s market the credential of Certified Geomatic Professional (CGP) is virtually ‘up for grabs’. ☼

John Ward is an Ontario Land Surveyor and a professional project manager certified as a Project Management Professional (PMP) with the Project Management Institute. He is currently managing the Eastern Region Geomatics Section for the Ministry of Transportation of Ontario. He has been delivering change management initiatives since the 1980s. He also provided loss control and change management consulting and training throughout the 1990s as owner of ‘Growth Management Technologies’. John can be reached by email at john.ward@ontario.ca.

Free Your Computer from Electronic Clutter

By Sherry Borsheim

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Tired of not being able to find the documents you need on your computer?

Do you know which file is the final version? Do you share your computer files with others and wish you had a standard way to name your files? How much time and money do you think you are losing due to disorganization and lack of systems?

Organizing your computer files today will save you time and money tomorrow!

It's that simple. You may say, "I'm too busy to take time to organize my computer files today, I'll do it later." As we all know, later never comes, and what we don't deal with today piles up for tomorrow.

Organizing your computer files may seem like a low ROI on your To Do List, but is it really? Stop for a moment and think about all the time you spend at your computer searching for documents. Your time is valuable. If you could save yourself a few minutes a day getting your high ROI tasks done quicker, that would leave you with more time to do more of the high ROI tasks. See where we are going with this?

What action step will you take today to begin the process of organizing your computer files for peace of mind, less stress, and increased productivity?

Help is on the way and you are not alone.

Paper and electronic disorganization are common organizing challenges in many companies today. If specific information-management policies and processes have not been instigated, the result is duplication, wasted time, bulging filing cabinets, overflowing storage rooms, bigger hard drives, and loss of revenue. Sound all too familiar?

Just imagine if the flow of information coming through your office was easier to manage because of standardized processes for managing computer files. What could you do with the extra time saved? Setting up your computer filing system so it works for you is easy when you follow the 5 steps below.

Step 1: Define Your Why

The reason for a standardized computer filing system is different for everyone. Here are some common reasons companies and individuals invest the time in streamlining their computer files.

- Reduce duplication.
- Increase productivity.
- Spend less time looking for files.
- Retrieve files quickly.
- Share files easily.
- Save money.
- Respond quicker to requests.
- Leave work earlier.
- Spend more time with family and friends.
- Have time to exercise or go for a walk.
- Enjoy time for hobbies or being outdoors.

Take a few minutes right now to jot down your WHYs . . . the real reasons you want to get your computer files organized. That will be your motivation to make a lasting change, break old habits, and persevere to the end of this project.

Step 2: Determine Who Needs Access

Here are some questions to consider when implementing a new file structure on your computer and/or on shared drive(s).

1. Do documents on your personal drive need to be shared with other staff members?
2. Which files do staff, departments, committees, councils, and/or Board members need? Do files need to be shared on a Website?
3. What files do staff, departments, committees, councils, and/or Board members not need but that may shared with them in future?
4. Does each family member have his or her own file folder for saving files? Are those files saved in the "Document" folder?
5. Which staff or family member needs access to what folders?

Step 3: Stop Random Filing

Keeping your computer files organized can be equally challenging; it demands that you be highly consistent with your approach. On busy days, it's not all that easy to pay attention to details. You save files with names you think you can remember later on. Or you save everything to the desktop, then that screen becomes cluttered with too many icons. Before you know it, you have a bunch of randomly named files, filed wherever ... an unmanageable mess.

Retrieving such files when you we need them can take a very long time. You may tend to rely too much on the Search feature of the computer, which produces a long list of files that you must check manually, one by one. You may not realize how much time you are wasting when you search for files.

Step 4: Create Your Plan of Attack

On a piece of paper, first plan your file structure. Your computer file structure is made up of broad categories and subfolders. The broad categories are the main areas of your business or the areas of responsibility in your position within a company. Once you plan the file structure on paper, create the folders on the computer. Over time, move the old files into the new file structure. At the same time, eliminate any old files that are not needed.

Using the @ symbol in front of the broad category folder named Active changes the sort order and moves those popular folders to the top of the list. Otherwise they would be sorted alphabetically in MY DOCUMENTS, and mixed in with all the other programs folders that never need to be accessed.

For example, when you are in WORD or EXCEL and you select FILE, then OPEN, the folders @Active and @Personal will appear at the top of the list for quick retrieval of documents. That's a huge time-saving tip right there! Also, the @ symbol is search-friendly with most operating software.

Always test a process before you implement it. You will be happy to know the @ symbol has been tested in many different uses, including the use of hyperlinks inside an email, Calendar appointment, or Task. Please note that the # symbol is not recommended for this purpose.

Step 5: Be Consistent in Your File-Naming

Save valuable time and reduce duplication by using a consistent file-naming structure, no matter how small or big your company is. This is the key to quick retrieval of information and reducing multiple copies of the same document, especially in a shared environment!

Remember, the few extra seconds it takes to properly name computer files in the beginning will pay off each time a file is retrieved later on. Developing consistent habits for naming documents and filing in the correct folder will save you time overall!

Your new file-naming policy will apply to each new document you create from this day forward.

You need not rename all your old files. If and when you retrieve an old file, simply rename it according to your new file-naming policy.

Step 6: Schedule Time in Your Calendar

All you need to do now is schedule an hour in your calendar to begin this process. Remember, one action step at a time, one day at a time.

The combination of several action steps will get you to the desired result—your WHY—your real reason for organizing your computer files today. Enjoy the process and the new-found freedom it will bring to your day! ☼

Sherry Borsheim is a recognized expert in the field of Business Organizing Systems. Trainer, speaker, author, and founder of Simply Productive, she is passionate about helping people simplify and streamline their paper, email, space, and time-management issues for peace of mind. For over 18 years, she has helped create customized systems for mining and construction companies, realtors, accountants, retail, designers, non-profits, doctors, and lawyers across North America.

Voice: 604 233-7076
info@simplyproductive.com www.simplyproductive.com

Acronyms - Don't you just love 'em?

In the forgoing article, the acronym "ROI" is used in the fourth paragraph. Now, its probably because I work in a very isolated world but I wasn't sure what the acronym stood for. A Google search produced the following list:

ROI	Return On Investment
ROI	Republic Of Ireland
ROI	Region of Interest
ROI	Return of Investment
ROI	Rate of Interest
ROI	Release of Information (hospitals/patients)
ROI	Report Of Investigation
ROI	RDMA (Remote Direct Memory Access) Over Internet
ROI	Royal Institute of Oil Painters (UK)
ROI	Registration of Interest
ROI	Reactive Oxygen Intermediate
ROI	Risk of Incarceration
ROI	Radius Of Influence
ROI	Record of Invention
ROI	RAM Optical Instrumentation
ROI	Rules of Interaction (gaming)
ROI	Rock of Israel
ROI	Return on Integrity (finance)
ROI	Realm of Insanity (gaming clan)
ROI	Read Only Information
ROI	Remote Operator Interface
ROI	Report On Investigation
ROI	Replacement of Obsolete Items
ROI	Rovaniemi, Finland - Rovaniemi (Airport Code)
ROI	Radiological Operating Instructions
ROI	Range Operating Instruction
ROI	Route of Ingress
ROI	Rhythm Optimized Integration
ROI	Residue of Ignition

In the end, I concluded that 'Return on Investment' is probably what the author had in mind but 'Risk of Incarceration' would certainly create an interesting new spin. Some great ideas in the article though.

2011 Annual SLSA Golf Tournament

Notables:

Men's Low Gross	Carlo Monette
Women's Low Gross	Heather Kuntz
Callaway	Nathan Sikkes
Men's Longest Drive	Carlo Monette
Women's Longest Drive	Donna Jamieson
Longest Putt	Jim Condon


Jim Condon, Tatum Johnson-Luey, Peter Mueller, Gord Webster


Elaine Seis, Bob Wallace, Barry Clark, Travis Wolfe


Fred Cheverie, Bruce Hewlko, Allan Brown, Pat Maloney


Terry Alm, David Thomson, Conrad Swenson, Regan Rayner


Jeff Richmond, Donna Jamieson, Gerald Johnson, Brian Burridge


Gene Seis, Heather Kuntz, Scott Colvin, Wes Jamieson


Ryan Maloney, Jan Webster, Mike Waschuk, Nathan Sikkes


Brett Findlater, Jim Sweeney, Jack Webb, Chris Kuntz


Malcolm Vanstone, Lorraine Mueller, Robert King


Dave Gurnsey, Brad Luey, Chad Johnson


Adam Hammet, Brad Pollard, Suresh Rajakumar, Carlo Monette


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