WSRS2022: The Wisconsin Spatial Reference System Task Force

By Brenda Hemstead, State Cartographer’s Office

In 2022 the National Geodetic Survey (NGS) will replace NAD 83 and NAVD 88 with new horizontal and vertical reference systems:

- North American Terrestrial Reference Frame of 2022 (NATRF2022)
- North American-Pacific Geopotential Datum of 2022 (NAPGD2022)

These changes will have significant effects on surveying, mapping and GIS across Wisconsin. Accordingly, the Wisconsin Spatial Reference System 2022 Task Force (WSRS2022) has been organized under the Geospatial Committee of the Wisconsin Society of Land Surveyors (WSLS). Howard Veregin, Wisconsin State Cartographer, will chair the Task Force, and Richard Kleinmann, who chairs the WSLS Geospatial Committee, will be co-Chair. WSLS is providing financial support for the Task Force.

The Task Force represents a broad coalition of geospatial and surveying professionals in Wisconsin, including federal, state, regional, county and local governments, and agencies, corporations and associations involved in the production and utilization of spatial data.

The mission of WSRS2022 is to help ensure successful implementation of the new reference systems across the state.

WSRS2022 will address the technical, educational, communication, legislative and software aspects required to respond to NGS plans to better position Wisconsin to implement the new reference systems.

The WSRS2022 has coordinated five Focus Groups (Technical, Legislative, Education & Outreach, Software/Hardware, and Implementation & Adoption) with specific goals that tie into the larger Task Force mission. More information can be found here and questions can be directed to Richard Kleinmann, 262-522-4920 or Howard Veregin, 608-262-6852.

Events on the Horizon

PLSS Forum, “This Land is Your Land”—April 18, 2019, at the Lafayette County Multi Purpose Bldg, Darlington, WI

WCSA Board of Directors Meeting—May 3, 2019, at the Courthouse in Neillsville, WI

WCSA Board of Directors Meeting—August 2, 2019, at the Courthouse in Neillsville, WI
PLSS Forum: This Land Is Your Land
By Brenda Hemstead

The PLSS Work Group will be hosting a free one-day forum, *“This Land Is Your Land”* at the LaFayette County Multi Purpose Building in Darlington on April 18, 2019, from 9am to 3pm. The Forum is free, includes lunch, and is open to the public. Register Today!

This will be the 5th Annual PLSS Survey Forum. Last year’s forum attracted nearly 100 registrants with a variety of professional occupations and affiliations. Counties are one of the primary focus areas for outreach because responsibility and funding PLSS maintenance, parcel mapping, and legal record keeping occurs at the county level.

The overall goal of the forums is to facilitate dialog about how to align surveying and parcel mapping activities in Wisconsin to improve accuracy and reliability, and to bring the GIS and Surveying communities together to identify and discuss common interests.

Topics for this year’s forum will include: understanding the PLSS and impacts of land ownership, role of the county surveyor in maintaining PLSS, boundaries and easements, property surveys, legal descriptions and deeds.

This forum will also include a field trip to a nearby PLSS corner.

Please register today!

The PLSS Work Group

The PLSS Work Group was formed by individuals and organizations in Wisconsin to advocate and advance the purpose and importance of the Public Land Survey System. The goal of the Work Group is to educate and encourage state, county and municipal agencies in improving, advancing and maintaining the PLSS statewide. More information can be found here.!
WisDOT Submits Proposal to Legislature to Begin Collecting Fees for Using WISCORS

On January 31, 2019, the Wisconsin Department of Transportation (WisDOT) submitted a proposed rule to the Wisconsin Legislative Council Clearinghouse to begin collecting fees for using the WISCORS (Wisconsin Continuously Operating Reference Station) network.

The proposal has been in the works since 2016 when WisDOT reached out to its stakeholders to make them aware of a potential fee being implemented.

The proposal to the Legislature — Clearinghouse Rule CR 19-006 — and related documents can be found online.

The proposal has been submitted pursuant to Wisconsin Statute s. 85.63, which directs the DOT to administer a Surveying Reference Station System consisting of both passive and active components, the latter being defined as a system of reference stations statewide that continuously transmit global navigation satellite system (GNSS) data to a system server, and the server that receives and processes the data received from the reference stations. This statute also allows the DOT to charge a fee for providing access to the system, with amounts to be established by rule.

According to the fiscal analysis of the proposed rule, the DOT estimates that the cost to maintain the WISCORS Network annually is approximately $355,000. The proposed fee is intended to provide funding for WISCORS Network operation and to maintain and replace CORS equipment and software. Annual maintenance costs include GNSS receiver replacements and firmware updates ($173,500/year), disruption or destruction of WISCORS infrastructure ($40,000/year), WISCORS server and software upgrades ($59,000/year), replacement of CORS telecommunication equipment ($17,500/year) and repair of CORS equipment ($15,000/year).

The proposed fee is $300 per user per year (Individual Yearly Rate), or $300 per user per year for the first five users in the organization plus $150 per user per year thereafter (Organizational Yearly Rate). The DOT will not pro-rate these rates for a period of less than a year. Also proposed is a $50 per user per month Individual Monthly Rate. No Organizational Monthly Rate will be offered.

The following entities will be exempt from paying a user fee: Minnesota Department of Transportation, Iowa Department of Transportation and Michigan Department of Transportation (through Memorandum of Agreements); higher education institutions; WISCORS Cooperative Partners; and the DOT.

The WISCORS Network is accessible 365 days a year, 24 hours a day, with the exception of monthly planned routine maintenance and periodic unplanned and unscheduled system outages. The DOT will monitor the system during regular work hours of 8:00 a.m. to 4:30 p.m. Monday through Friday. The system will not be monitored during state holidays. There are currently over 80 stations in the WISCORS Network.

According to the fiscal estimate for the proposed rule, there are over 3,000 registered users of WISCORS which are categorized as follows: 22% agricultural-related businesses; 12% construction-related businesses; 1% education/research related entities; 53% engineering/surveying businesses; 7% that use the system for GIS mapping; and 5% other.

A public hearing is required and will be held at 9AM on Thursday, April 11, 2019.
They say to begin with the end in mind. When you are a surveyor, there really is no end, but beginnings to new points to be established. One of the best points in surveyor terms was when Terry Lueschow, RLS started his career with Seiler Instrument & Mfg. Company, Inc. in September of 1999. At that time he was the only Seiler/Trimble representative in Wisconsin and the UP. Also, at that time Seiler Instrument had a small office located in Sheboygan, WI inside the US Bank building. Terry helped grow the Seiler name and Trimble Product line in Wisconsin over the past twenty years and now we have ten Seiler employees working out of our own beautiful office facility, showroom and service center in Franklin, Wisconsin. At the start, Seiler only sold Survey and Mapping GPS equipment, but over the next two decades the product line grew to include robots, unmanned aerial drones, marine vehicles, scanners, along with forensics, survey & engineering software.

Previously, Terry’s experience working in surveying industry and with several surveying firms since 1967. This experience gave him an extra level of expertise and understanding when he came on board with Seiler to help sell Survey and Mapping GPS/GIS equipment. In the early days, as far as Terry was concerned, his job description was to take the car and the company credit card, drive around to see his friends, and play with toys. He quickly figured out this was one of the best jobs anyone could have! In order to see as many of his friends as possible, Terry decided that WSLS (Wisconsin Society Land Surveyors) Chapter meetings would be a great place to see most of his associates, all at one time. Terry made the commitment to join all of them! To the best of his knowledge, he believes he is the only PLS to ever belong to all nine chapters simultaneously, which is amazing dedication to his mantra – “having fun.”

Every year Terry and other Seiler personnel take two days in the early fall to visit Michigan Tech in Houghton, Wisconsin to train students and faculty on surveying equipment used in their Surveying Engineering and Civil Engineering curriculums. He is also a member of the Michigan Technological University Surveying Engineering Industrial Advisory Board. This board meets twice a year to discuss the status and direction of the program. Terry was selected as a member of the Lambda Sigma Honor Society for surveying engineering, John Matonich Chapter at Michigan Tech in 2012.

Terry, working with the Seiler Family took the lead in helping to supply surveying equipment for several of the Technical Colleges that have Civil Engineering Technology programs. Seiler Instrument (Terry and other staff) delivers equipment and trains students and instructors at Northeast Wisconsin Technical College, Mid-State Technical College, and Madison Area Technical College. Seiler staff are also involved with technical support and training at Milwaukee Area Technical College, Fox Valley Technical College, Gateway Technical College, and UW Stout. Terry is a member of the Mid-State Technical College Civil Engineering Advisory Board.
Terry is also a sustaining member of the Wisconsin County Surveyors Association (WCSA). When he first became aware of the WCSA, the only meeting he ever knew about was the general meeting at the WSLS Institute. That first meeting was very difficult for him to attend due to all the other sessions going on at the Institute, so Terry asked about other meeting opportunities and found out there were Board Meetings four time a year for Association business. This was good news to Terry, so he asked if he could also attend those meetings and the committee said – no problem! Terry was hooked after the very first meeting and really enjoyed participating and seeing his friends and associates in these meetings. Per Terry, “The WCSA Board meetings are just terrific. There are always many interesting topic (especially the education segment) and of course it is another opportunity to see my friends.”

Terry’s career highlight has been the Seiler Instrument Scholarships to Surveying students. After a conversation with Terry Van Hout, RLS in 2005, Terry was able to secure a commitment from the Seiler Instrument Family to provide a major scholarship awarded at the WSLS Institute every year. To date, Seiler has donated nearly $30,000 toward these student scholarships.

The success of the Annual WSLS Seiler Scholarship worked out so well that in 2016, Terry thought it would be a good idea if each and every technical college with a surveying program could be awarded at least one scholarship. This dream of supporting land surveying programs and student scholarships eventually turned into the Seiler/WSLS Foundation Scholarships. The scholarships are $1,000 each ($500 from Seiler and $500 from the WSLS Foundation) awarded late winter and early spring each year at each WSLS chapter meeting and to date, approximately $27,000 has been awarded. Terry truly felt this accomplishment was successful in many ways for both the students and the WSLS in supporting continuing education and he is extremely happy and proud of his personal commitment and involvement along with Seiler Instrument’s.

As of January 25, Terry has retired from sales and support functions at Seiler, but will still be involved as the Seiler “Ambassador” to the WSLS, WSLS Chapters, schools, school advisory boards, and of course all of his surveying friends.

Terry and his wife Pat hope to travel a great deal. Terry’s goal is to set foot on each continent, so beginning some new points to be established which include Antarctica (Pat’s not wild about that one). They also plan to spend more time at their cabin in Langlade County. It’s a great place to get together with their children and grandchildren.
A Love for the Game

By Ryan Duckart, Brown County Surveyor

I started following hockey when I was about 10 years old. The first games that I recall watching were of the Wisconsin Badgers Men’s Hockey Team on Wisconsin Public Television, tape delayed at 10 pm on a 13” black and white TV in my bedroom. Growing up on a dairy farm in rural Denmark, Wisconsin about 20 minutes southeast of Green Bay, we did not have cable TV, so it was pretty hard to find hockey on local TV. I had never learned how to play hockey or even how to ice skate, but any chance that I had to watch hockey I took advantage of it. I have always been fascinated by this fast paced game that always keeps me on the edge of my seat.

Just after starting my first full time job as a land surveyor, I bought a pair of roller blades, some roller hockey gear and a couple nets. After we were done with our farm chores my brother and I would play one on one out in the road that we lived on. We would put a milk can in front of the goal so that we didn’t just have a wide open net to shoot at. We would listen for cars and as soon as we heard one coming we would quickly throw our sticks onto the lawn and grab a milk can with one hand and a goal with the other and scurry off to the side.

I didn’t try ice skating until my late 20’s and I bought my first pair of hockey skates when I was 30. It was just after my wife Theresa and I started dating. We went ice skating on one of our first dates and we had a lot of fun. A few years later I was talking with her cousin, who also is a big hockey fan, and he had mentioned a pond hockey tournament that was starting up in Door County and were looking for teams for their tournament in two weeks. I didn’t even think twice about it. I told him I had a pair of skates already and that I could get some gear. We managed to piece together a team at the last minute and ended up being one of 5 teams for the inaugural year of the tournament.

The Door County Pond Hockey Tournament was an addition to the many different events that are already run by the Peninsula Pacers, a group that helps support the local community. Each year the event is held on Kangaroo Lake near Bailey’s Harbor, Wisconsin. Teams play 4 on 4 with a 7 person maximum roster. The goals are made of wood that are 6 inches high by 6 feet wide with a solid front that has a 1 foot opening on both ends for scoring. The first year of the tournament the teams were grouped together into one group and each team played each of the other teams once in a round robin format. The team with the best record won the “Stanley Thermos”. Now the tournament has 9 divisions including a Women’s Open division with players ranging from 16 years old to over 60 years old.

The talent level is pretty good as most of the players have played some sort of organized hockey. The competition gets pretty intense in the upper divisions. A few years ago we had to play some of the guys from the St. Norbert College Junior Varsity team. I’m not sure how they ended up in our division that year. They were nowhere near the same talent level that we were.
Our team mainly consists of 3 of my wife’s cousins, my brother and me, and whomever we can get to fill out the 7 person roster. We have always played in the rookie division since most of us have never played any organized hockey and we hope to one day win a game.

I have played in this tournament for each of the 6 years of its existence. Over the years I have gotten to know one of the organizers and I asked about the process they go through for laying out the rinks. He said that they get a few guys and some tapes and somewhere between 4 and 6 hours they have everything staked out. I told him that I am a land surveyor and that I believe I could make their lives a little easier. I went on the Door County website and found a section breakdown of the area that had coordinates for the section corners. I scaled some Google Maps photos to come up with a design in Auto CAD and created the points for the stakeout. Then, the Saturday before the tournament, Brian Frisque (photo in the orange jacket) from Brian Frisque Surveys, LLC (a local surveyor in Door County) and I staked out a total of 16 rinks using GPS, a cordless drill and some lath in about 2 hours’ time.

It was pretty special to play a bigger part in this year’s tournament. To be able to be there from the very beginning and help get things kicked off was a great experience. The organizers were very thankful and said that having us stake out the rinks really helped them out. I am sure that we will continue to help them out for years to come. It’s amazing to see that in the first year of the tournament they only had 3 rinks with 5 teams participating and this year (their sixth) there were 16 rinks with a total of 55 teams that played in the tournament. A great time was had by all! ☺

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BETA GEOID18 Model Released for Public Comment

By John Ellingson, NGS Regional Geodetic Advisor

NGS will replace GEOID12B with GEOID18 in mid-2019. Currently, the BETA GEOID18 model is available for users to view and test. GEOID18 will be the last hybrid geoid model that NGS will create before NAVD 88 is replaced by the North American-Pacific Geopotential Datum of 2022 (NAPGD2022).

Feel welcome to share this with the people you work with.

Also, if you encounter any problems accessing it or if you have any concerns/comments, please contact John at 202/306-6904. ☺
Many individuals, organizations and local governments regularly make significant contributions to support the land surveying profession and land surveying activities in Wisconsin – especially the office of the County Surveyor.

The WCSA’s “Friend of Wisconsin Land Surveying Award” is given to an individual who is not a professional land surveyor or organization not necessarily always associated with land surveying who has contributed to the success or advancement of land surveying in Wisconsin – especially the office of County Surveyor.

This year the Wisconsin Land Information Program (WLIP) was presented this award. The WLIP had seen the diverse status of PLSS progress in all 72 counties and provided grants to advance PLSS remonumentation efforts in counties where they were needed most. Remonumentation work across the state has grown by leaps and bounds in recent years and WLIP has been a key factor in that growth. Landowners across the state are benefiting greatly through PLSS remonumentation grants from the WLIP. A more fully remonumented Wisconsin protects landowner rights. When Wisconsin taxpayers win, we all win.”

Also at the January 2019 General Membership Meeting, we said “thank you” to outgoing Board of Director, Jason Towne, Burnett County Surveyor for his outstanding and dedicated years of service to the Wisconsin County Surveyors Association. Jason was unable to attend the membership meeting last year to received his award.

Jason, pictured at left, accepting his award from WCSA President, Bryan Mayer.
Blast from the Past – WCSA Formed in 1977

Editor's Note: the first actual WCSA meeting was held on Saturday, July 30, 1977

February 25, 1977

TO ALL WISCONSIN COUNTY SURVEYORS:

A meeting of all Wisconsin County Surveyors will be held at the Holiday Inn in Stevens Point, Saturday, April 30, at 3:00 p.m., immediately after the Wisconsin Society of Land Surveyors Spring meeting.

The purpose of this meeting is as follows:

1. Form a Wisconsin County Surveyors Association.
2. Appoint a temporary Chairman.
3. Appoint a nominating committee.
4. Appoint a constitution and by-laws committee.
5. Establish dues.
6. Discuss association goals.

ALL COUNTY SURVEYORS ATTENDING THIS MEETING WILL BE CONSIDERED CHARTER MEMBERS OF THE NEW ASSOCIATION.

Following are a list of goals and purposes of the proposed association.

1. Promote public awareness of County Surveyor's Office.
2. Promote a County Surveyor in every county, elected or appointed.
3. Provide minimum qualifications for County Surveyors.
4. To provide standards for the important and difficult task of the remonetization of the public land system, in order to provide protection to the property rights of the public.
5. Provide counties a source of advice on surveying and mapping.
6. Promote public awareness of the public land system.
7. Keep County Surveyors abreast of pending legislation affecting surveyors and to propose legislation if necessary.
8. To cooperate with the Wisconsin Society of Land Surveyors in promoting professionalism in land surveying.
9. To promote a medium for the exchange of information between County Surveyors.
10. To promote efficiency in operations of the County Surveyor's Office.
11. To keep abreast of developments in the field of the cadastre system.
12. Any other.

Anthony B. Kiedrowski and William C. Robide
Co-Chairman of County Surveyor Committee of Wisconsin Society of Land Surveyors

cc: Harold Charlier
    Herman Hoveland

SS 59.63(5) provides for up to a $1,000 fine for removing, destroying or making inaccessible any landmark or survey monument of record.
Recovering Original General Land Office Survey Bearing Trees
By Brenda Hemstead, State Cartographer’s Office

Help us discover and document Wisconsin’s remaining bearing trees!

This online map shows the locations of a few known bearing trees along with photos and other relevant information.

If you are aware of other remaining bearing trees in the state, please send us a photo and location so we can add it to the map.

Between 1832 and 1866, the GLO surveyed the area that would become Wisconsin. Surveyors divided the landscape into a grid of townships and sections, and documenting information about vegetation, soils, wetlands, and cultural features. At each section and quarter section corner, surveyors set a wooden survey post and identified up to four bearing trees. Each tree was “blazed” (marked) and its species and diameter was recorded in the surveyor’s notebook, along with the direction and distance to the tree from the corner post.

The GLO survey of Wisconsin — including field notes and maps — is available online (http://digicoll.library.wisc.edu/SurveyNotes/). In addition, the survey data has been digitized by researchers at UW-Madison and used to reconstruct historical vegetation patterns (http://dnr.wi.gov/wnrmag/2009/08/insert.pdf).

Bearing trees from GLO survey:
1. Norway, 10 in. diam., 1.8 links, bearing N59E
2. Norway, 14 in. diam., 3.07 links, bearing S51E
3. Norway, 16 in. diam., 4.38 links, bearing N53W
4. White Pine, 18 in. diam., 6.03 links, bearing N80W

GLO plat map
GLO field notes
Surveyor: Joseph P. Houghton, 1855

Bearing tree photos and documentation:
Photo by Steve Waak, 2012
Document 1
Photo is of Norway Pine (Tree #1) from the original GLO survey (10 in. diam., 1.8 links, bearing N59E). This bearing tree was reported found by Rodney W. Ripley in 2000.
21 ways to flog a dead horse:

1. Buy a stronger whip.
2. Try changing riders.
3. Say things like, "This is the way we have always ridden this horse."
4. Appoint a committee to study the horse.
5. Arrange to visit other sites to see how they ride dead horses.
6. Increase the standards to ride dead horses.
7. Appoint a tiger team to revive the dead horse.
8. Create a training session to increase our riding ability.
9. Compare the state of dead horses in today's environment.
10. Change the requirements declaring that "This horse is not dead."
11. Hire contractors to ride the dead horse.
12. Harness several dead horses together for increased speed.
13. Declare that "No horse is too dead to beat."
14. Provide additional funding to increase the horse's performance.
15. Do a Cost Analysis study to see if contractors can ride it cheaper.
16. Purchase a product to make dead horses run faster.
17. Declare the horse is "better, faster and cheaper" dead.
18. Form a quality circle to find uses for dead horses.
19. Revisit the performance requirements for horses.
20. Say this horse was procured with cost as an independent variable.
21. Promote the dead horse to a supervisory position
Have You Paid Your WCSA 2019 Membership Dues?

2019 WCSA Membership Dues Status

Paid 2019 Dues
Unpaid 2019 Dues

Sustaining Members
JET Enterprises

Affiliate Members
Glen Schaefer, Retired
Jeff Austin, Private
Bob Lannon, Retired
Chet Nowaczyk, Retired
Corey Hughes, La Crosse County

as of March 15, 2019
Wisconsin County Surveyors Association, Inc.

2019 Membership Dues

County Surveyor  $100  Sustaining Member  $150  Affiliate Member  $50

Your canceled check and the top portion of this form are your receipts unless you request otherwise

A PROMPT RESPONSE IS APPRECIATED!
Retain the top half of this form for your records

Wisconsin County Surveyors Association, Inc.

2019 Membership Dues

County Surveyor  $100  Sustaining Member  $150  Affiliate Member  $50

County Surveyors check all items that apply:  ☐ Appointed  ☐ Elected  ☐ Full-time  ☐ Part-time

Make check payable to: Wisconsin County Surveyors Association, Inc.

Mail to: Steve Geiger, WCSA Treasurer/Polk County Surveyor, 100 Polk Plaza, Ste 130, Balsam Lake, WI 54810

Name: __________________________________  County: _________________________
(please print)

County Surveyor Mailing Address: ________________________________

City: _____________________________  State: ____________  Zip: ____________

Office Phone: ________________________  Cell Phone: ________________________

Home Phone: ________________________  Email: _____________________________

Web site address: ___________________
We’re on the Web!
www.wsls.org
Under Resources Tab

January 2019 WCSA Annual Membership Meeting at the Kalahari Resort in Wisconsin Dells

PRESERVING OUR PUBLIC LAND SURVEY SYSTEM

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Vice President—Dean Roth
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Past President—vacant

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Director—Rob Merry
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Treasurer—Steve Geiger
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surveyor@co.polk.wi.us

Secretary—Brenda Hemstead
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