



MISSOURI SURVEYOR



A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri

March 2026



What's in this issue...

FCC Updates	4
Celebrating the Future of Surveying	10
The Genesis of Missouri	12
Member Spotlight	20
Nelson Rector: Hard Luck and Trouble	25
Tick Prevention and Treatment	28
Surveying and Geomatics at Southern Illinois University, A Measurable Impact.....	30
National Surveyors Week, March 15-21, 2026.	34
Why NSPS is Essential for Missouri	35
Typing Unicode Symbols in Ordinary WORD Fonts	36
Math Problem.....	36

PUBLIC ENEMY #1

CALENDAR OF EVENTS

2025 & 2026

March 18, 2026

USPLSS Webinar via zoom (Tentative)

April 28 - May 1, 2026

NSPS Certified Floorplain Surveying
Training

April 29, 2026

Board Meeting
Lodge of Four Seasons, Lake Ozark, MO

April 30 - May 1, 2026

48th Annual Spring Workshop
Lodge of Four Seasons, Lake Ozark, MO

July 17, 2026

Zoom Call, Board Meeting
MSPS Office, Jefferson City, MO

August 17-19, 2026

Review Course (Tentative)
Location TBD

October 1-3, 2026

69th Annual Meeting and Convention
Oasis Hotel, Springfield, MO

December 11, 2026

Zoom Call, Board Meeting
MSPS Office, Jefferson City, MO

Front Cover: A deer tick AKA blacklegged tick (*I. scapularis*); carrier of numerous bacterial, viral and pathogenic illnesses. Center for Disease Control photo

Back Cover: The Freestyle Astro Max drone in its first flight in St. Peters, with 61mpx Sony camera payload. It was delivered to Civil & Environmental Consultants, St. Louis, by Seiler Instruments, Jan. 12th. Photo by Austin DeSain.

Chris Ferguson, Editor
Austin DeSain, Editor



Notes from Editor Ferguson's Desk

Chris Ferguson, President-Elect, Editor

Spring is forthcoming, and with it comes a debilitating hazard in a package the size of a sesame seed. I'm of course referring to ticks which I've personally seen in the Ozarks crawling as soon as Valentine's Day some years. In the old days, a party chief I worked for exclaimed "well, they have to eat too, so let 'em." Those times have passed, and it doesn't matter the size or type of tick, it's better to avoid them altogether. The

problem is in our line of work, that's nigh impossible. In these pages, you'll find information about the kinds of diseases ticks carry, along with a few suggestions on how to avoid getting bit in the first place.

On a lighter note, a new feature is the Member Spotlight. This month's selection is longtime member Larry Brickey, who was extraordinarily involved in the civic development and improvement of his hometown of Jefferson City. Earlier editions of the newsletter had periodic articles showcasing our members, and we would like to continue this on a regular basis. If you have any members that you think are worthy of recognition, please send along a writeup, preferably with photos (especially "action shots") and we'll try to include that nominee in a future issue.

Other noteworthy features are: 1) Steve Weible prepared an article about one of the Rector brothers (most were famous - or perhaps infamous - Missouri GLO surveyors) which, as always from Steve, is meticulously detailed and chock full of the dialogue of the time, and 2) the St. Louis Chapter's scholarship recipients (which just missed the December edition deadline). It's always a pleasure to announce awards benefitting our profession's future members whenever we can. Finally, I can't emphasize enough that whether it's traffic, construction sites, weather, unstable neighbors, rabid animals, or the dreaded tick, always be aware and stay safe out there!

Chris 

Chris



Notes from Editor DeSain's Desk

B. Austin DeSain, P.L.S., Director, Editor

Notes from Editor DeSain:

During the last quarter and half of the 2025 year, we saw major technological advances with AI pushing out integrated into literally every part of our lives. "Data center" is the hot-word as they push across our state

and country, legislation on this side of the state is quick to react. Technology demand is high today, but the land, power and water demands are high in these developments. The locations should be considered seriously; surveyors can assist in that decision-making through the results of our work.

(continued on page 4)

THE MISSOURI SURVEYOR

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President's Message

Mark W. Wiley, PLS



In the Winter of 1978, the band Journey released a song entitled "Wheel In The Sky". As I gathered my wits to sit down and write this message the song is playing in my head. A song about a band who've been on the road too long and just want to go home. We can all get to feeling that way from time to time, needing a break and wanting to return to a different way of doing things. If history has taught us anything, it is that you cannot go back - we are forever moving forward. The same is true in the surveying profession; we can long for a simpler time, but it will always elude us in the end.

With the holidays behind us, the office parties, and year-end celebrations all being a thing of the past, the new MSPS Board Members have assumed their place and will soon be a footnote in history. We are ready to settle down to deal with the New Year. I remember trying to think about things of any significance that would occur during my presidential year and for the life of me nothing came to mind.

Now that it is here, there are so many things that kind of hit me in the face like the revised American Land Title Association and National Society of Professional Surveyors (ALTA/NSPS) standards. That was an oops moment and at what point did I not remember to add five years to 2021?

Our Society put together a short, abbreviated version of the changes that were presented by Gary Kent so our Missouri Surveyors are not living in a 2021 dream when it is the 2026 standard we are supposed to be using. The Certified Floodplain Surveyor (CFS) certification is still something we have heard an interest in pursuing. The 48th Spring Workshop will be held at Lake Ozarks, April 30th through May 1st it will be on us sooner rather than later.

I'd forgotten about the legislative session which began with more prefiled bills this year than ever in the past. This year brought us House Bill 2422 with the opportunity to change the funding for the Land Survey Repository and deal with a bit of a winter storm just to keep it interesting. Thank You to Darrell Pratte, Ray Riggs, and everyone else who pulled together in an effort to show support for the program. The program helps not only the surveying profession but those who enlist the surveyors' services more than they will ever know.

We should not forget the nation turns 250 years old and having been able to set up and turn angles since we celebrated the 200th birthday (needed a magnifying glass then) it feels like I've been at this for a while. Kansas City was selected as the first stop (March 6 – 22, 2026) to view some unique documents relative to the founding of our nation. An engraved copy of the Declaration of Independence (1823), Articles of Association (1774), Oath of Allegiance (1778), Treaty of Paris (1783), Secret Printing of the Constitution in Draft Form (1787), Tally of Votes Approving the Constitution (1787) can be viewed at the World War One Museum, admission is free.

(continued on page 4)

Notes from Editor DeSain's Desk *(continued)*

Despite the integration of AI in all things, writing is something that I prefer to do from the top of my head to my fingertips, drawing from experience with sentence structures, compositions and real life. Occasionally, you'll have a reference book or internet-assisted synonym or piece of research, but that's it.

Like other surveyors I know, I often have too many things to communicate. Whether those things are of any interest or not is always the big question. I'm no fancy writer, but I often remind myself "never use a long word when a short one will do" - George Orwell. You'll reduce the audience size and understanding, besides, finding a short word for a difficult description is often a trickier communication task. This has helped with writing, especially in surveying. Express yourself in writing proposals, descriptions, solutions, with math and with your decision-making, but do it with the intention of others' understanding.

In this issue we talk about tick prevention, protection and growing problems as these pests have started to cause Alpha-Gal Syndrome, in which cases in the U.S. have been rocketing in the last decade. The next edition of the excerpts from the Genesis of Missouri jumps a few chapters ahead in Foley's book to start the Missouri history around the forming of a government. Also, I wanted to provide a piece to cover in detail the new FCC Covered List addition effectively banning the purchase of all foreign manufactured drones, except for those approved on the DoW Blue List.

Chris and I have rounded the one-year corner as Co-Editors of the newsletter and we've both really enjoyed it. You for the compliments, contributions and advice have been greatly appreciated. Another Missouri Surveyor newsletter is here, check your mailboxes!! 🇺🇸

Austin

President's Message *(continued)*

This is my third year working with the Future Cities Middle School competition. A STEM Program that engages young folks' imagination and helps them to think through and solve problems. Typically they look to imagine a new diverse city with sustainable infrastructure and how they can make that a reality. There is an essay, building a scaled model with a moving part. In my opinion anything that gets youth from grades 5 through 8 to do more than play games is a good thing.

I would like to thank all the individuals I've met and worked with so far this year. The Southwest Chapter invited the wife and I to a lovely dinner and even threw a parade; my wife is still impressed. My team attended the St. Louis Chapters Christmas fandango where Stan Emerick and Austin DeSain presented information on the Texas Vara and the French Arpent relative to working in the Metro St Louis Area. The Illinois Society of Professional Surveyors have invited me to their annual convention as is their practice. The handout this year says "Surveyors of Independence" I'm sure it will be interesting as it always is.

Thank you to everyone I've been involved with so far this year, and as I bring this to a close it is important to mention I know have "Be Good To Yourself, by Journey – 1986" playing in my head. I do hope it stops when I turn off the Greatest Hits of Journey Album! 🇺🇸

Peace to each of you.

Mark Wiley

FCC Updates Covered List to Include Uncrewed Aircraft Systems (UAS) and Critical Components Produced in a Foreign Country

by Austin DeSain

The discussion about foreign manufactured drones and the security risks they pose has been ongoing for years now. The FCC Covered List is for communications equipment and services that “that are deemed to pose an unacceptable risk to the national security of the United States or the security and safety of United States persons”. Huawei Technologies, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology and Dahua Technology Company were the first to land on it back in 2021, for video surveillance and telecommunications equipment. The main evaluation of the equipment, based on my following over the past few years, has been related to streaming content that can easily be intercepted or does not work without first uploading back to its home country servers for sync with the controllers or software that the user needs to complete the work or view the stream. It can go unnoticed to the user, appearing like any other live-stream.

The list was updated in 2022 with AO Kaspersky Lab, China Mobile, China Telecom, Pacific Networks/ComNet, and Kaspersky Lab again (2024). This time the update included telecommunications and security products (anti-virus software). Kaspersky’s 2024 ban includes a survey-familiar term, “or any of its successors and assigns”. The other companies on the list widely produced cell-phones in the mid-2000s and carriers were pushing them out for a fraction of the major brands.

“Pursuant to the Commission’s rules, the Public Safety and Homeland Security Bureau will maintain this list on the Commission’s website, and will monitor the status of any determinations in order to update the Covered List.” The FCC has always had the role of communications security and integrity in the U.S. Some of you remember the LightSquared situation in 2011 and 2012, when the FCC halted LightSquared’s terrestrial network plans due to GPS interference issues. The rule stood even after widespread outcry and lobbying from companies like Caterpillar, Deere & Company, LightSquared filed for bankruptcy shortly after. Trimble and surveyor’s associations argued that the LightSquared frequency would cause harmful interference to critical national infrastructure. In the end, everyone got through it. I used to have the letter from the Caterpillar CEO to the FCC in my office, because at that time the outcome was unknown for surveyors using GPS. I was really gearing up in machine-control modeling services to clients back then, and this actually opened a window for surveyors to again be the go-to for site control, even machine control surface prep. Since then, the excavators have had about a million software and hardware improvements that allow them to drive their own liability in that regard. Still, I would always recommend that work be set up and checked by a Professional Surveyor familiar with projections, coordinate systems and current GNSS practices, who is focused on accuracy and precision.

In surveying, we’ve also seen the FCC involved with GNSS antennas with the VHF/UHF mandate for public safety and business industrial land mobile radio systems, which required the 150-512 MHz bands to transition to the 12.5 kHz by 2013. Unlicensed 5 GHz use in the early 2000s was hard to get a handle on, and the FCC has worked with manufacturers since. If you operate a GNSS survey system that uses a UHF radio (450-470 MHz) for transmitting RTK corrections from a base station, a license is required in the US. Most of the time this comes as part of your purchase anymore. Note that base station setups alone, only when the radio is used to talk to the rover.

(continued on next page)

Image from Positioning Solutions website, article “How To Get Your FCC License For Trimble RTK GPS Radios”, and the link to get your license is here: <https://www.fcclicense.org/gpsrtk/>



FCC Updates *(continued)*

Anyway, the point of this list of FCC survey memory-jog is to mention that related to drones, in my opinion, this was coming. Like any new technology, the biggest legislation question always has to do with how or will they be regulated to not interfere with our current infrastructure, industries and businesses. UAS and sUAS operations in the United States has been hard to regulate because of the mass production and widespread use. Regarding DJI, for instance, the most named drone manufacturer with an estimated 80% global civilian market share and more than half of the commercial market, the live-streaming controllers have been under fire for a long time. In the most recent years, a wave of blocks by US Customs and Border Protection have prevented import due to labor and production. As a company they've been under fire in Washington trying to prove the software and hardware stability for stateside use, with a long list of back and forth in recent years. Mostly though, the drones have been near impossible to purchase through an importer. DJI drones are workhorses, they fly fast, have easy user controls, and cost less than their American made counterparts. This is why they have taken off in popularity, that's not hard to see. In 9 years I've flown DJI's Phantom 3 Advanced, Phantom 4 Pro, Inspire 2, Mavic 4 Pro and Mini 3 Pro, and they're all super simple and intuitive. The data comes in easily, and processes just like any other, simple as that. I've also flown some great American made drones in recent years, and to be honest the DJI's do feel like toys by comparison. Now in charge of a survey division that incorporates drone use regularly as part of our workflow, these impacts and decisions around them carry magnitude. I thought this information would be important to share with the rest of you, don't shoot the messenger.



The FCC issued a Public Notice (DA 25-1086) on December 22nd, 2025th citing a National Security Determination from December 21, 2025, that states:

“UAS and UAS critical components must be produced in the United States. This will reduce the risk of direct UAS attacks and disruptions, unauthorized surveillance, sensitive data exfiltration, and other UAS threats to the homeland. Furthermore, it will ensure our domestic UAS and UAS critical component manufacturing is resilient and independent, a critical national security imperative. UAS are inherently dual-use: they are both commercial platforms and potentially military or paramilitary sensors and weapons. UAS and UAS critical components, including data transmission devices, communications systems, flight controllers, ground control stations, controllers, navigation systems, batteries, smart batteries, and motors produced in a foreign country could enable persistent surveillance, data exfiltration, and destructive operations over U.S. territory, including over World Cup and Olympic venues and other mass gathering events. U.S. cybersecurity and critical infrastructure guidance has repeatedly highlighted how foreign manufactured UAS can be used to harvest sensitive data, used to enable remote unauthorized access, or disabled at will via software updates.”

Based on these findings, the Executive Branch interagency body, including several appropriate national security agencies, concluded that all the following equipment and services should be added to the FCC's Covered List because they pose an unacceptable risk to the national security of the United States and to the safety and security of U.S. persons: UAS produced in a foreign country pose an unacceptable risk to the national security of the United States and to the safety and security of U.S. persons and should be included on the FCC's Covered List, unless the Department of War or the Department of Homeland Security makes a specific determination to the FCC that a given UAS or class of UAS does not pose such risks and UAS critical components...

(continued on page 8)

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FCC Updates *(continued)*

The FCC released a Fact Sheet with the announcement to the Updated Covered List on January 7th, 2026, that stated:

Last month, following an interagency determination of unacceptable national security risks, the FCC added all UAS and UAS critical components produced in a foreign country to the Covered List, preventing them getting approval for import or sale in the U.S. Now, DoW has made a further determination that (until Jan. 1, 2027), two types of UAS and UAS critical components do not pose such risks: those that are UAS and UAS critical components included on DoW's Blue UAS Cleared List as well as UAS and UAS critical components that qualify as "domestic end products" under the Buy American Standard. Therefore, the FCC updated the Covered List to now include the below italicized language:

"Uncrewed aircraft systems (UAS) and UAS critical components produced in a foreign country—except, until January 1, 2027, (a) UAS and UAS critical components included on the Defense Contract Management Agency's (DCMA's) Blue UAS Cleared List, and (b) UAS critical components that qualify as "domestic end products" under the Buy American Standard, 48 CFR 25.101(a)—and all communications and video surveillance equipment and services listed in Section 1709(a)(1) of the FY25 National Defense Authorization Act (Pub. L. 118- 159)."

The Fact Sheet goes on to state that the Covered List ("covered equipment") is prohibited from getting FCC equipment authorization. The authorization is typically required for the importation, marketing, or sale in the U.S. This prevents the device from entering the U.S. market. Additionally, the Cybersecurity and Infrastructure Security Agency encourages organizations to use the Covered List for risk management analysis in their regulatory compliance efforts. **New** models of devices on the Covered List are prohibited from receiving the authorization and are prohibited from import or sale in the U.S. The Covered List does not restrict the **continued use** of previously-purchased devices. Consumers can continue to use the devices they lawfully purchased.

The UAS Critical Components for the foreign manufactured drones, for the purpose of this determination, include:

- Data Transmission devices
- Communication systems
- Flight controllers
- Ground control stations and UAS controllers
- Navigation systems
- Sensors and Cameras
- Batteries and Battery Management Systems
- Motors

In summary, the purchase of any foreign manufactured drone, the components needed to operate it, and replacement parts or batteries are banned until January 1st, 2025. The ban comes as a joint effort by multiple federal agencies and is clearly the simplest way to stop the influx of questionable security technology.

The Blue UAS Cleared List, is the list of drones that are approved by the Department of War (DOD) for purchase and operation, and use for related government uses. This list was one that the average drone user might have looked at and previously decided that if you aren't flying government projects, it's not important. After the other day's change though, this is the only list that includes any foreign manufactured drones that can be legally purchased in the U.S. There are still American made drones that are not on the Blue List which are fine to purchase and use, if the components are all approved by the FCC, and I imagine that approval process won't happen overnight. One feature I've seen along these lines is that

if the American manufacturer offers NDAA (National Defense Authorization Act) options for sale as part of their drone, it means they meet security requirements. Ask your sales representative if you're considering purchasing a drone, and be informed of these lists, rulings and situations. Given, this could all change with the next administration or the one after, and in time, we'll all get through it.

Because I've been following the news around legislation, updates to state and federal discussions and policies around UAS & sUAS, I've been leaning towards an American manufactured drone for some time. I imagine that when the DJIs became impossible to find on shelves, or for import in late 2024/early 2025, most of you in the market for a new drone have thought similarly. When I started at CEC in August, within a week I was considering the purchase of a new drone for our ongoing and new projects. I opted for an American-made DoW Blue List model and Seiler has been instrumental in the decision-making process. I know that this was the more expensive route, and it was not easy to stomach as a company either, but we moved down this path. In hindsight, after the FCC announcement from 3 days ago (as I write this article), the decision now reflects a little bit of foresight, based on well informed advice and a ton of research. Sometimes you just get lucky too. Since the beginning of my drone flying almost a decade ago, I've tried to be well researched and informed about the current legislation, and grumblings of upcoming changes. I wouldn't recommend any less for another pilot, like the other regulations in our industry, it's the surveyor's responsibility to stay current.

A note from Matt Davis, Seiler Design Solutions:

There has been a lot of noise in the drone industry recently around which aircraft are permitted on different projects. At the end of the day, Chinese manufactured drones have been banned on specific federally funded or sensitive projects for years. The recent rule changes simply expand that restriction to any project that receives federal funding. For maximum flexibility across the widest range of projects, American made platforms offer the most versatility. That said, for many standard survey and topo workflows, a wide variety of enterprise drones can still meet the technical requirements.

Here is the link to the FCC 12-22-25 Public Notice: <https://docs.fcc.gov/public/attachments/DA-25-1086A1.pdf>

Here is the link to the 1-7-26 FCC Fact Sheet: <https://docs.fcc.gov/public/attachments/DOC-417528A1.pdf>

Here is the link to the FCC Covered List: <https://www.fcc.gov/supplychain/coveredlist>

Here is the link to the DoW Blue Cleared List: <https://bluelist.appsplatformportals.us/Cleared-List/> 

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Celebrating the Future of Surveying: Local Students Awarded MSPS-STL 2025-2026 Scholarships

by Kevin DeSain, PLS

The Missouri Society of Professional Surveyors – St. Louis Chapter is thrilled to announce the recipients of its **2025–2026 scholarship awards**. These annual scholarships recognize students who are not only excelling in their academic pursuits but are also dedicated to a future in the important field of land surveying.

This year, three impressive students were awarded:

- **Leah Guss**, from Truxton, Missouri, now entering her second year at Southern Illinois University–Edwardsville.
- **David Marij**, from Downer’s Grove, Illinois, currently attending Southern Illinois University–Edwardsville.
- **Nicholas Zintel**, from St. Louis, currently studying at the Midwest Geospatial Academy.

These scholarships are awarded to students enrolled in approved surveying programs and pursuing professional licensure in land surveying. Applications are still being accepted until the end of March for the Fall 2026-Spring 2027 school year. The MSPS-STL Chapter is proud to invest in their futures and in the future of the land surveying profession. 🇺🇸

*Support our scholarship fund or mentor a future surveyor!
Visit www.stlsurveyor.org to get involved.*



2025-2026 Missouri Society of Professional Surveyors Scholarship Awardees

From left to right: Josh Saunders, PLS, Scholarship Committee Chairman, David Marij -SIUE, Nicholas Zintel-MGA, Leah Guss-SIUE, and Scholarship Committee Members: Steve Borgmann PLS, Robert Boyer PLS, and Kevin DeSain PLS

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Introduction and Selection for Missouri Surveyor

by *B. Austin DeSain, P.L.S.*

La Charette is a place I've been meaning to visit. There's a historical marker and a small house constructed by the men of the Marthasville Lewis and Clark Bicentennial Committee to commemorate the stops of the Lewis and Clark Expedition at Charrette village in 1804 and 1806. It was a tiny French settlement fifty miles upriver from St. Charles, first settled in 1797. The site of La Charette was washed away by the Missouri River in flooding around 1842-1843, with a handful of significant floods through the region since.

Foley finishes out the "Villages and Farmsteads, Common Fields and Clearings" chapter by mentioning the La Charette, Portage Des Sioux and other growing villages in the surrounding St. Charles region, and the settling of the Boone, Bryan and Callaway families along the banks of the Missouri near Femme Osage. A growing wave of Americans abandoned their Kentucky and Virginia homes for the unsettled spaces of Spanish Illinois in the years after the war. The settlements stretched further west along the Missouri River, like Boone's Lick (Howard County, 1805), Loutre Island (Montgomery County, 1798) and Côte Sans Dessein (Callaway County, 1800) which were some of the westernmost settlements by families at the time.

In Chapter 6, "Galleries, Gumbo, and La Guignolée", Foley talks about the wide style of porch covering the front of houses that became a gathering space to escape the heat and confines of the cluttered living space inside. The gumbo or one-pot meal often made from whatever could be caught, whether it be fish or rodent, and cooked with mixed vegetables. The La Guignolée, or "spirit of celebration" which set the frame of mind for the settlements throughout the Missouri villages along the southern and Creole areas. Singers go door to door to celebrate and dance on New Year's Eve, originally a French-Canadian tradition, but still surviving in Sainte Genevieve, Missouri and parts of Canada. The Creole laziness perception of groups gathering in a large gallery with gumbo and singing, was usually after a hard day working along the shores or in the fields. The well-educated French Creoles in upper Louisiana carried with them libraries housing the latest English works of literature, New Madrid had private schools operating in 1793, with the earliest English-language school opening in 1799 in Cape Girardeau. The thought of sending a child away to a distant place for a good education was changing.



The engraving by James Otto Lewis of a portrait of Daniel Boone by Chester Harding is the only known representation of Boone done from life. Courtesy of Missouri Historical Society.

"Jesuit priests sacrificed their lives to bring the Christian gospel to the Indians, but they also introduced slavery in the Illinois Country", and a host of laws around treatment of slaves. Both French and Spanish authorities enacted the French Code Noir or Black Code which established the basic legal framework for the treatment governing the institution. According to the 1772 Spanish census of Upper Louisiana, nearly 38 percent of the region's inhabitants were of African ancestry, the proportion declined to 18 percent by 1800. The Spanish governor Alejandro O'Reilly continued the French code when he took possession of Louisiana for the Spaniards in 1796, later modified to conform with Spanish law. The Spanish statutes permitted slaves to own property, to appear as a party in a lawsuit, to purchase their own freedom, and prevented Indian enslavement. Although, Indian slaves were held despite repeated Spanish efforts to eliminate the practice. The Valle family in Ste. Genevieve allowed

their slaves to carry firearms even though the law did not allow that. Jeanette Fourchet, a free black woman, owned a house on Second Street in St. Louis, a piece of land on the Grand Prairie Commons, with a variety of livestock, numerous household and other possessions in 1773 when she married Valentin, a free black gunsmith and trapper. The law was difficult to enforce, and the treatment of slaves varied, but slavery by its very nature was brutal and inhumane.

Chapter 7, “We Are All Now Americans”, begins with the closure of the port of New Orleans to all foreigners by the Spanish authorities in 1802, as a dramatic measure due to Napoleon’s heavy losses in the Caribbean. The closure violated the Treaty of San Lorenzo by refusing the United States a site to unload goods. Fortunately, Napoleon believed that the American’s friendship was important to France’s national interest. President Thomas Jefferson sent Livingston and Morgan to France, who acted quickly to work out an agreement with the French minister of finance a treaty of cession. The Treaty of Cession was signed in Paris on May 2nd 1803 by officials from both the United States and France, for the purchase of the entire province for fifteen million dollars. Congress quickly passed the bill authorizing the president to take possession of Louisiana, although not everyone was excited about it. The eastern boundary of the Louisiana Purchase was the Mississippi River, from its source, to the 31st parallel. The boundaries below the 31st parallel weren’t as clear. At the last minute, Spain attempted to derail the transfer from France to the United States by stating that despite the Treaty of San Ildefonso, they never officially transferred Louisiana to France. Spain and French officials held another ceremony in New Orleans on November 30th, 1803 to retrocede Louisiana to France. Officially, the Territory had been transferred to Province to Purchase.

Article III of the Treaty of Cession stated that “the inhabitants of the ceded territory shall be incorporated in the Union of the United States, and admitted as soon as possible, according to the principles of the Federal constitution, to the enjoyment of all the rights, advantages, and immunities of the citizens of the United States; and in the mean time they shall be maintained and protected in the free enjoyment of their liberty, property, and religion which they profess.” Then began the literal interpretations, many of the inhabitants argued that the article did not make statehood mandatory, while others petitioned congress for increased rights. The dealings were tricky, and the task to establish a temporary government for the region was given to William C. C. Claiborne (Mississippi’s governor) and James A. Wilkinson. The activities in the region of St. Louis were separately to be overseen by Capt. Amos Stoddard temporarily, and did not take place until March 9th & 10th, 1804. The French Creoles along the southern Mississippi settlements and settlers in the Missouri River region from St. Louis to the west were immediately in disbelief that they would now be ruled by the rowdy Americans, bunch of no-good Yanks. Most may have preferred to stay under the Spanish system, with immunity from taxes. However, when Valle learned that the Americans retained him as commandant in Ste. Genevieve, he proclaimed “We are all now Americans.”

Meriwether Louis and William Clark even took time away from preparations to celebrate in the St. Louis festivities, assembling equipment since December, 1803 in the city. This was an exploratory project that Jefferson was committed to, with planning in stages from even two years earlier. The Chouteaus, James Mackay, Jean Baptiste Truteau, and other traders had been providing invaluable insight about the Missouri River and potential upcoming trials and tribulations to the west.

Land speculators in the region were certain that a new wave of immigrants would drive land values up, so they began to accumulate as many private claims as possible, even before the United States had taken formal control of the region. Private claims in Upper Louisiana were extensive, between New Madrid and the mouth of the Missouri, and stretching inland between 60 and 120 miles. Since the land was dense with private claims, concessions or permits to settle were sold before someone was able to take up residence. The competition for the land grab rapidly appreciated the value in Upper Louisiana, also encouraging fraud. Stoddard reported to congress that he suspected widespread attempts to defraud the United States of its extensive tracts of land. As he became more familiar with the problem, and as one of his first acts, he ordered the inhabitants to surrender all public records, especially those related to land claims, to the American authorities for safekeeping.

Now with this quarter’s excerpt from Chapter 8, “The Beginnings of the Republican Government”, we learn that even Jefferson himself had concerns about incorporating Louisiana into the United States. Rumors spread about Jefferson’s plans to close the region for further settlement, and to create a vast sanctuary for Indian relocation. The Upper Louisiana inhabitants were alarmed, as were the populations in the East. The matter at hand, regardless of the plans for the territory, had to do

(continued on page 14)

Genesis of Missouri *(continued)*

with how the new territory would be managed by the current government. Jefferson went as far as drawing a line across it with the Indiana Territory administration in control of one side, and the reservation/sanctuary on the other (Section 8, of the Breckenridge Bill). The legislation passed on the condition that the line be removed (Section 8), so the current Indiana Territory administration would oversee the Upper Louisiana Territory as a whole. Legislatively, Indiana was to treat both as separate territories with separate laws.

However, the news of the last minute change removing Jefferson's division line traveled slow. The inhabitants of Upper Louisiana had already organized a large and strong opposition in which they held meetings with officials, and organized committees, and even ran printed circulars to oppose the act of creating a government for the overall territory in the way it was done. They divided the territory themselves, to create their own separate government (north and south Louisiana), and prepared their own written legislation that sought provisions to protect all Spanish land titles, including those issued after October 1st, 1800. The largest convention in St. Louis at the time, elected Chouteau and Fromentin as delegates to visit congress and insist they repeal the division of the territory. The inhabitants had taken up so many argumentative points that they were ready to oppose any new authority, even with Section 8 removed. Meanwhile, Indiana's governor, William Henry Harrison, was advised to proceed with caution as he began to take charge of the affairs of Upper Louisiana. Jefferson sent military commandants to the region to take the place of civil authorities, Samuel Hammond (St. Louis), Return J. Meigs Jr. (St. Charles), Richard Kennon (Cape Girardeau, and Seth Hunt (Ste. Genevieve). Governor Harrison inaugurated the new Upper Louisiana government "without fanfare" on October 1st, 1804. He retained the districts of St. Charles, St. Louis, Ste. Genevieve, Cape Girardeau, and New Madrid. He eliminated New Bourbon. The American laws and judicial system were vastly more complex than the Spanish law previously in place. In time though, Harrison and Chouteau became friends and his attention to unsettled frontier affairs became welcomed.



Map of North America, Feb 12, 1804. R. Wilkinson, N^o58, Cornhill, London

(continued on page 16)



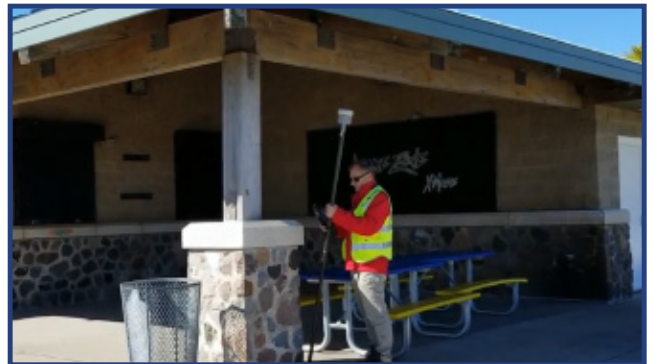
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Genesis of Missouri *(continued)*

Chapter 8. The Beginnings of Republican Government, pages 156 to 158.

With the matter of the Cuivre murders conveniently out of the way, Harrison turned to the business at hand: an agreement ceding Sac and Fox lands to the United States. Prior to their discussions, Harrison had arranged with the Chouteau brothers to distribute more than \$2,000 worth of goods among the visiting Indian delegates. The presents, along with liberal samplings of whiskey, put the Indian negotiators in a receptive mood for considering the governor's proposals. Harrison adroitly held out promises of American protection against the Osages, a tribe most of his hearers considered to be protégés of the United States. 37

The negotiations proceeded smoothly, and the Sac and Fox representatives assented to an agreement promising them U.S. protection, \$1,000 in yearly annuities, and the establishment of government trading factories for their use, in return for their agreement to relinquish fifteen million acres of land in present-day Wisconsin, Illinois, and Missouri. Under the terms of the treaty the Indians could live and hunt on the ceded lands until the United States government disposed of them. The agreement also called for a cessation of all hostilities between the Sacs and Foxes and the Osages. At the insistence of the Chouteaus, who helped with the deliberations, the treaty included a proviso stipulating that the cessions would not invalidate Spanish land grants in the region. 38

Although members of the Indian delegation who negotiated the treaty had been authorized to make payments as compensation for the Cuivre River murders, they had not been empowered to grant the vast concessions embodied in the final agreement they signed. Once they learned of the terms embodied in the 1804 treaty, Sac and Fox leaders vigorously protested what they considered to have been a bad bargain, and the resulting ill will poisoned U.S. relations with the two tribes for nearly thirty years. Harrison's attempts to resolve the Indian problem also provoked a serious rift between civil and military authorities in Upper Louisiana. The obstreperous Major Bruff continued to express his unhappiness over the leniency shown by Harrison in dealing with the Indians. His rigid views frequently put him at odds with other officials in St. Louis and contributed to a seemingly unending chain of local jurisdictional disputes. Bruff especially objected to Harrison's claim to have supreme control over the military in Louisiana, and on this issue Secretary of War Dearborn agreed with Bruff that the governor had overextended his authority. 39

Louisiana's new government had barely taken effect when the second session of the Eighth Congress convened in the fall of 1804, but word of the widespread territorial dissatisfaction with the provisions of the Louisiana measures had already reached Washington. Jefferson did not mention the mounting criticism in the annual message he submitted to Congress in November, but he did include a report about Louisiana's lead mines in which Moses Austin recommended that Congress should institute an immediate inquiry into the occupation and titles of all lead mines in the territory. Austin's report created a considerable stir according to Simeon Baldwin of Connecticut, who caustically observed that "the attention of the Democrats gazing at the wonders of Louisiana is turned from the splendour of the mountain of salt to streams of Lead pouring from Austin's mines." 40

Despite the president's failure to call for any changes in Upper Louisiana's government, members of Congress found it impossible to ignore the barrage of strongly worded protests regarding the controversial measures they had enacted during the preceding session. Eligius Fromentin had presented the petition drafted by the inhabitants of the District of Louisiana in St. Louis the preceding September to Jefferson's son-in-law, Virginia congressman John W. Eppes. The St. Louis convention had designated both Fromentin and Auguste Chouteau to deliver the petition and to represent the territory in the national capital, but a case of the gout forced Chouteau to return to St. Louis after traveling only a short distance. 41

The efforts by Upper Louisianans to secure changes in the provisions governing their territory received an added boost from Governor Harrison's endorsement of their actions. In a letter written to accompany the St. Louis petition, Harrison stressed their strong attachment to the United States, and he attributed the harsh language contained in their document to an understandable resentment produced by the insulting misrepresentations that had been made about them. Harrison informed Auguste Chouteau of his exertions in their behalf, relating that he had sought to discredit the erroneous notion that the French were disdainful toward the American government. 42

Members of Congress listened courteously to Fromentin, but they proceeded cautiously after receiving letters from the territory disparaging the recent proceedings in St. Louis. Rufus Easton's letter to the president charging that the entire affair was nothing more than a carefully disguised ploy by a small group of persons seeking confirmation of their specious land titles proved especially damaging. 43 Many of the legislators also had been put off by the allegations in the petition charging that the congressional law had violated the provisions of the Treaty of Cession. They suggested that the Louisianans would have made a much stronger case for their requests had they based their petition upon an appeal to the rights guaranteed by the general principles underlying the American system of government, rather than on the provisions of the treaty with France.44 Despite those misgivings, Congress eventually did approve two important new pieces of legislation for Upper Louisiana.

The federal legislature responded favorably to the District of Louisiana's request for a separate government, and the original Senate bill granted them an elected territorial assembly. Lingering doubts concerning their readiness for republican government caused members of the upper chamber to delete that provision in favor of the pattern outlined in the Northwest Ordinance for the first grade of territorial government. It was virtually identical to the one in the Indiana Territory. The new statute, signed into law on 3 March 1805, also changed the name from the District of Louisiana to the Territory of Louisiana. 45

While willing to grant Upper Louisiana's inhabitants a separate territorial government, most members of Congress remained committed to checking speculation and fraud in land titles. An act for ascertaining and adjusting land titles, approved on 2 March 1805, sought to establish regular procedures for the confirmation of land claims in Louisiana. Although it repealed the unpopular law of 26 March 1804, the new law retained extremely rigid guidelines for approving titles and created a board of land commissioners authorized to validate land titles in Upper Louisiana. The presidentially appointed board, consisting of a recorder of land titles and two additional commissioners, was empowered to consider and rule upon grants presented for confirmation, in accordance with the provisions spelled out in this act and subject to the approval of Congress. 46

In outlining the conditions for confirmation, Congress sought to ensure the approval of all legitimate claims made by bona fide settlers on small tracts of land. The act, however, did not provide for the wholesale confirmation of all land grants sought by local residents. Consequently, these measures failed to eliminate discord in Upper Louisiana. The claimants of large tracts redoubled their efforts to secure approval for their grants, and under the leadership of the new governor, James Wilkinson, the territory entered a period of factionalism and bitterness seldom seen even in unstable frontier communities.

The attempts to extend republican government beyond the Mississippi had raised serious problems for Jefferson and his supporters. In the end they chose to employ the basic governmental framework outlined in the Northwest Ordinance of 1787, but they omitted its strictures against extending slavery. The decision to perpetuate slavery in the region made early Missouri a favorite choice among emigrants from the Old South and thereby gave a decidedly southern flavor to its emerging social and cultural patterns. Beyond that, these initial decisions affecting slavery in the trans-Mississippi territory raised broader national issues that future generations of Americans would have to resolve.

Chapter 9. Pettifoggers, Renegadoes, and Impatient Natives, pages 159 to 163.

James Wilkinson's journey to St. Louis in the early summer of 1805 to assume his duties as governor of the Louisiana Territory was a trying experience. While the incoming official struggled to cope with the unpleasant effects of summer heat and swarming mosquitoes, he found himself bombarded by feuding constituents seeking his support. During a brief stopover at Kaskaskia, Maj. Seth Hunt, the loquacious military commandant of Ste. Genevieve, filled Wilkinson's ear with tales of intriguing French Creoles eager to plunder the American public domain, and a short time later Pierre Chouteau boarded his boat to present the case for the other side.¹ Chouteau, the new U.S. Indian agent, had joined the governor's party below St. Louis on the pretext of conferring about urgent Indian business, but his main object was to make a favorable impression on the new American official before he heard from the anti-French faction in the territorial capital.² By the time the weary governor reached St. Louis on 1 July, it was obvious to him that personal animosities were raging almost everywhere in the frontier territory, exacerbated in his judgment by small cliques of "pettifoggers, renegadoes, and impatient natives."³

(continued on page 18)

Genesis of Missouri *(continued)*

The volatile conditions that greeted Wilkinson had been building since the Louisiana Purchase, fueled by ill-defined U.S. policies and a steady stream of ambitious newcomers eager to capitalize on the American acquisition. The merchants, lawyers, and land speculators who entered the territory after 1804 were a different breed from the pioneer farmers who had crossed into Spanish Louisiana in the late eighteenth century. A commitment to republican principles and an eagerness to assume active roles in shaping the territory's political destinies distinguished the new American settlers from their apolitical backwoods antecedents who, in Wilkinson's words, "wore their political morality as loosely as they do their cloaths."⁴ The rapidly changing territorial demographics threatened French power and influence and understandably alarmed the outnumbered Creoles, who were already disturbed by the American government's hesitancy to confirm their land titles. The stakes were high as the contesting factions maneuvered to win the new governor's confidence.

Wilkinson, an intriguer and opportunist who had served simultaneously as a Spanish secret agent and the commanding general of the U.S. army, was a curious choice to undertake the difficult task of bringing stability to the strife-torn territory. His quest for personal advancement frequently led him down strange and contradictory paths. The enigmatic Wilkinson was a Federalist-turned-Republican with influential friends: Vice-President Aaron Burr, Secretary of the Navy Robert Smith, and Senators Samuel Smith, Joseph Anderson, and James Jackson, to name a few.⁵ In choosing to place the controversial general in the territory's top post, the president ignored the rumors of his alleged double-dealing already whispered in the halls of the Capitol. Jefferson justified Wilkinson's nomination on the grounds that his military background would equip him to handle the distinctive problems of the frontier outpost, whose location at the center of western operations affecting the Spaniards, English, and Indians was too important to be "placed in nerveless hands."⁶ Jefferson may, of course, also have been mindful that the appointment would set well with Burr, who was slated to preside over the upcoming impeachment trial of Supreme Court justice Samuel Chase, a judicial arch-enemy targeted by the Republicans for removal. Importantly, Jefferson had no inkling that during the preceding year the duplicitous general had suggested that the Spaniards cut off and arrest Lewis and Clark.⁷

Wilkinson, disappointed in his earlier efforts to secure a territorial governorship, welcomed the new assignment and the \$2,000 annual salary that went with it. The added stipend promised to augment his \$225-a-month salary as brigadier general and help alleviate his chronic financial difficulties. Territorial officials frequently complained about the high cost of living on the frontier. For instance, John B. C. Lucas, one of Louisiana's new territorial superior court justices, estimated that his expenses in St. Louis were double what he had incurred in Pittsburgh.⁸

Other appointees besides Wilkinson also enjoyed Burr's backing. The vice-president's brother-in-law, Joseph Browne, had been given the post of territorial secretary, and the shadowy connections that linked these three men and their conspiratorial plans would in time further aggravate the territory's turbulent political situation.⁹ Jefferson's nominees for the superior court proved more predictable, but no less inclined to controversy. Lucas, a native of France who had immigrated to the United States in 1784 carrying a letter of introduction from Benjamin Franklin, quickly ascended the political ladder and won a seat in Congress representing western Pennsylvania. Albert Gallatin, Lucas's close friend and his predecessor in the House of Representatives, had recommended him for the Louisiana post. Judge Lucas ironically proved to be no friend of Upper Louisiana's French-speaking Creoles. Possessing unquestioned intellect and charm, he was also prone to passionate outbursts and disposed to carry grudges. As a condition for accepting the territorial judgeship, Lucas demanded and won a concurrent appointment as a member of Upper Louisiana's board of land commissioners.¹⁰

Rufus Easton, a New York lawyer who had come west to make his fortune through land speculation, was no less well connected thanks to the support of Burr, New York senator DeWitt Clinton, and Postmaster General Gideon Granger. Governor Harrison had appointed Easton to be territorial attorney general, but the American newcomer relinquished that position in order to accept his seat on the territorial superior court and to serve as St. Louis's first postmaster.¹¹ Easton seemed destined to occupy an influential place in Upper Louisiana's government until his outspoken criticism of the French Creoles placed him at odds with Governor Wilkinson.

The third superior court judge, Return J. Meigs, Jr., brought valuable experience to his new duties. In addition to his brief stint as commandant in the St. Charles district, he had also served as a territorial judge in the Northwest Territory and as chief justice of the Ohio Supreme Court. Unlike Lucas and Easton, however, Meigs remained only briefly in Upper Louisiana. 12

Local leaders in St. Louis spared no effort in welcoming General Wilkinson to his new post. On his first day in the city, he dined with many of the community's leading citizens at the Auguste Chouteau residence. The general's acceptance of Chouteau's invitation to dinner before conferring with local U.S. officials miffed Maj. James Bruff, the territory's ranking military officer, who felt he had been snubbed. Wilkinson's decision to delay meeting with Bruff until the conclusion of the festivities honoring his arrival was not an inadvertent slip. Governor Harrison had cautioned the incoming governor that any appearance of taking the unpopular Bruff into his confidence would frighten some St. Louis residents out of their senses. 13

Major Bruff's battered ego appears to have been the primary casualty of Wilkinson's otherwise highly successful entry into Upper Louisiana. The new governor's French Creole hosts delivered a laudatory address extolling his virtues as a public servant of "known principles and worth." They clearly were not bothered about the legitimacy of his republican credentials. To the contrary, they took comfort in the appointment of a high-ranking military officer to head their government, and in private conversations they found the general's views to be entirely compatible with their own. Wilkinson warmed to their lavish praises and responded with comparable rhetorical flourish by calling upon his new constituents "to expel the gall of Party spirit" and embrace "an accord in sentiment, a concert in policy, and a cheerful support of the Government."¹⁴ For the St. Louis Creole leaders, who capped off the new administration's inauguration with a gala Fourth of July celebration featuring a dinner and grand ball, it held out every promise of being a happy marriage.

Credit for this selection of pages from *The Genesis of Missouri From Wilderness Outpost to Statehood* is thanks to The University of Missouri Press, Columbia, Missouri

Author's Notes Cited from this selection:

Chapter 8. The Beginnings of Republican Government

37. American State Papers, Indian Affairs, 1:693–94.

38. Ibid.; Harrison to Auguste Chouteau, 4 January 1806, Lucas Collection, Missouri Historical Society; Hagan, "The Sauk and Fox Treaty," 1-7; and Jackson, Jefferson and the Stony Mountains, 208-17.

39. Hagan, "The Sauk and Fox Treaty"; Jackson, Jefferson and the Stony Mountains, 208-17; James Bruff to James Wilkinson, 5 November 1804, in Territorial Papers, 13:77; and Dearborn to Jefferson, 8 January 1805, in Esarey, ed., Messages and Letters of Harrison, 115–16.

40. Annals, 8 Cong., 2 sess., 13 (8 November 1804); Moses Austin, "Report on Land Mines in Upper Louisiana," in American State Papers, Public Lands, 1:191; and Simeon Baldwin to David Daggett, 19 November 1804, in Simeon E. Baldwin, Life and Letters of Simeon Baldwin, 342.

41. Eligius Fromentin to Auguste Chouteau, 12 January 1805, Chouteau Collections; Harrison to Chouteau, 21 December 1804, in Esarey, ed., Messages and Letters of Harrison, 113–14.

42. Harrison indicated that the inhabitants were especially disturbed by the remarks made in Congress by Matthew Lyon. Harrison to Jefferson, 6 November 1804, Jefferson Papers; Harrison to Auguste Chouteau, 21 December 1804, in Esarey, ed., Messages and Letters of Harrison, 113–14.

43. Eligius Fromentin to Auguste Chouteau, 12 January and 14 February 1805, Chouteau Collections; Rufus Easton to Jefferson, 17 January 1805, Jefferson Papers.

44. Harrison to Chouteau, 19 March 1805, in Esarey, ed., Messages and Letters of Harrison, 116-17.

45. For an example of the reasons for this concern about the readiness of the French Creoles for republican government, see Jefferson to John Breckinridge, 22 November 1803, in Breckinridge Family Papers, Library of Congress. 2 U.S. Statutes at Large (1850), 331–32.

46. 2 U.S. Statutes at Large (1850), 324-29.

(continued on page 27)

Member Spotlight

by Larry V. Brickey, PLS #1188

Many of you may know Larry Brickey or know his company - Central Missouri Professional Services (CMPS). Located in Jefferson City, Missouri, CMPS is a multi-discipline firm operating in a wide range of cities and towns between Columbia and Rolla with a broad east-west reach also.

But this is more about Larry, who is among the very few Professional Land Surveyors of his era that still maintains their licensure and membership in MSPS.

A local product, Larry graduated from Jefferson City High School in 1956 and later graduated from Lincoln University in 1965 with a major in Education. Coincidentally, that was also the year he became a Registered Land Surveyor (“RLS” as it was known at the time).

A few short years later, while employed as Chief Surveyor by the City Public Works Department, he was approached by a client and colleague who asked if he was willing to start his own business. So, in June of 1969 with a staff of three employees he boldly began the entrepreneurial journey.

Having done excellent work and made many friends and professional contacts while on the public payroll, Larry was soon able to secure work with Missouri Power and Light (now Union Electric), and he’s proudly maintained that work order for over 55 years. Meanwhile, CMPS has designed, engineered, and surveyed the overwhelming majority of development in the area, including subdivisions, commercial properties, industrial parks, power lines and substations, along with numerous surveys for MDC.

Having joined the local Chamber of Commerce in 1970 (later becoming the Chairman in 1985), Larry was instrumental in attracting business to “Jeff City” when it was largely considered a sleepy river town mostly known only for being the seat of state government. Noteworthy additions to the cityscape included Maytag, Hoover, Missouri American Water Co., and the expanding real estate needs for state office space. Especially with the latter, Larry’s persistence kept numerous state government departments from being lured away to Columbia or even Ashland with its flatter and less rocky terrain.



1985 Chamber of Commerce President
(photo by Larry Brickey)

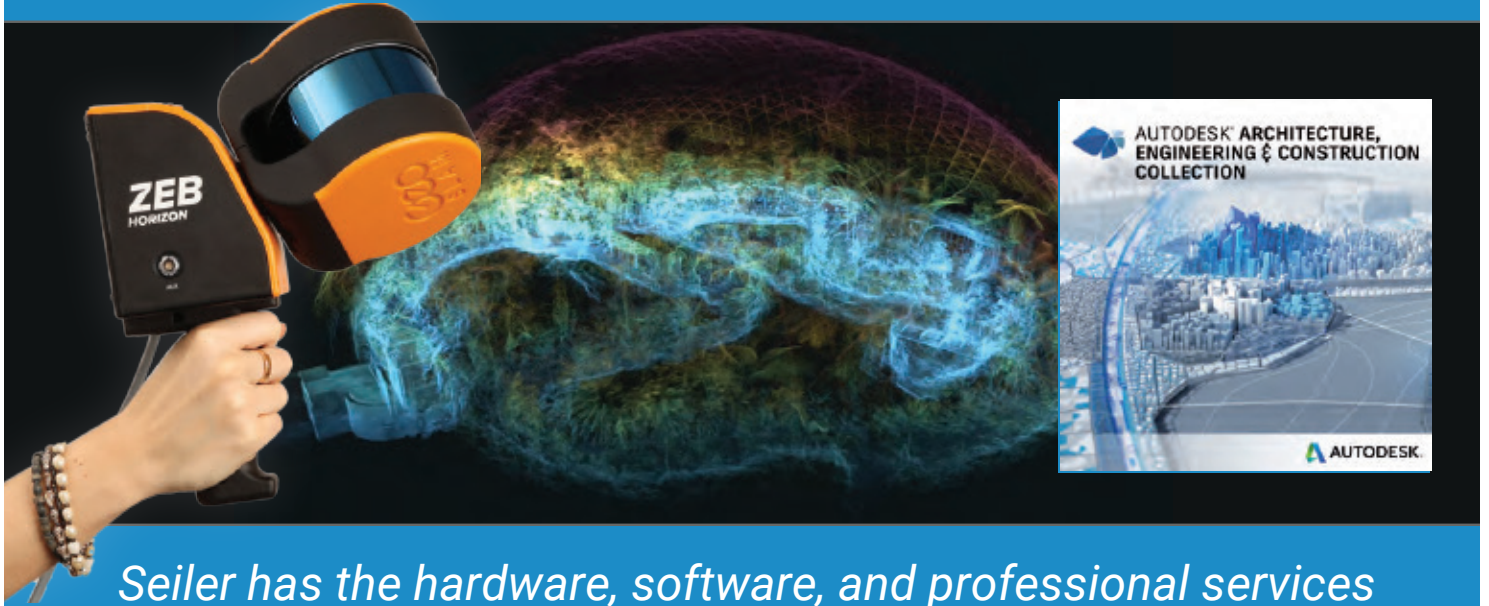
Through Larry’s negotiations, he also kept several businesses such as Scholastic (the book publisher) in town, often by persuading local government to make the infrastructure investment and sometimes by using properties that were originally intended for other businesses who later “backed out” of the deal. He was also particularly adroit at securing TIF funding and annexation to further entice commercial development.

Simultaneously juggling residential development demands, Larry joined the Jeff City Home Builders Association in 1970. It was originally a small and struggling club with little participation, and a branch affiliate of the larger Columbia chapter. However, Larry took desperate measures to ensure the local chapter’s survival including lowering membership dues, holding charity raffles, and gaining the JC Chapter’s independence as its own charter. Larry was the 1984 president becoming the first officer that was not a developer/contractor/tradesman by vocation. As evidenced by a drive through the area, single-family subdivision, condominium, and apartment construction is still strong to this day, powered by a robust HBA.

(continued on page 22)



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Member Spotlight *(continued)*

One of Larry's proudest achievements was improving the quality of education for a growing community. He was on the school board for nine years and served as president in 1992-1993. While in that capacity, he helped pass the largest bond issue in local history, the result of which was two new middle schools, a new elementary school and a new high school (Capital City High), all of which removed students from overcrowded and antiquated conditions encountered in the old downtown campuses. Not resting on his accomplishments, Larry and CMPS also designed new and updated local sports facilities. Included among those are: Helias High School (Ray Hentges Stadium), Jefferson City High School (Pete Adkins Stadium), and Wardsville Missouri Schools (Blair Oaks Facility).

Were that not enough, Larry was also the East Side Betterment President for 1974-1975, a member of the Missouri Mappers Association, the National Home Builders Association (holding the Spike Club Membership), and the Lion's Club. In 1986, Larry was nominated for the Outstanding State Community Economic Development Leadership Award. Larry is happily married with three grown children. His son Keith has followed him to CMPS. In addition, he is also a regular member of the First Presbyterian Church of Jefferson City. Before going to press, Larry informed the author he's an avid golfer and has shot **three** holes-in-one! Notwithstanding all the above, Larry was a little regretful he did not have much "extra" time to be more involved with MARLS/MSPS. Likely that could be excused considering all he accomplished making his hometown a thriving community that continues to grow today! 🇺🇸



Staking out Wal-Mart (c.1984) Jefferson City News-Tribune photo provided by Larry Brickey

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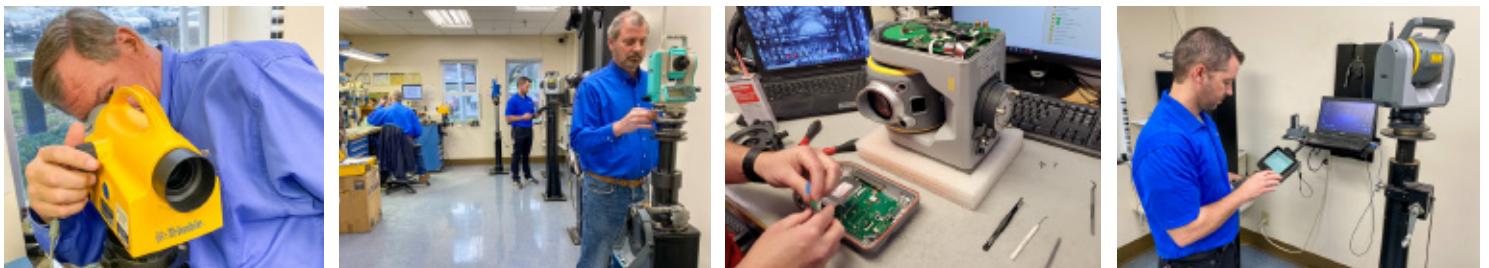
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Nelson Rector: Hard Luck and Trouble

by Steven E. Weible, June 18, 2025

In January 1807, we find Nelson Rector helping his brothers, William and Elias, who were engaged in surveying the public lands in the Indiana Territory (*Territorial Papers*, Vol. 7, pgs. 413-414 and Vol. 7, pgs. 419-424). Nelson was often sent as a runner to deliver field notes and messages and to bring back money with which to continue the work, but he was also gaining surveying field experience. In a letter to Jared Mansfield, Surveyor General of the United States, Elias Rector requested permission to allow Nelson to assist him in surveying, saying, “*he has been some time in the woods with me & appears to Understand Surveying Sufficinely [sic] to execute the business with Correctness.*”

In February 1810, William Rector, writing from Kaskaskia in the Illinois Territory, noted in a letter to Jared Mansfield, Surveyor General of the United States, that he had put Nelson Rector to work subdividing townships in the Illinois Territory (*Territorial Papers*, Vol. 16, pgs. 76-80).

In July 1813, Nelson Rector was assigned work under his own contract as a deputy surveyor to survey and subdivide fifteen (15) townships in the Illinois Territory (*Territorial Papers*, Vol. 16, pg. 351 and Vol. 16, pgs. 355-356). He wrote to Josiah Meigs, Surveyor General of the United States, on November 1, 1813 from Township 5 South, Range 6 East of the Third Principal Meridian, indicating that “*I left Shawnee Town on the 28th day of Oct[ober] for the Woods, and have been engaged in Surveying the U. S. lands since that time, and shall continue with all possible, energy untill [sic] I complete my District.*” After making some observations about the area, he concluded his letter with a postscript, saying, “*I should be glad to get a letter from you. Be so good as to drop me a line & direct to Shawnee Town and I shall get it. Excuse this scrawl as it is late at night & by the light of the fire*” (*Territorial Papers*, Vol. 16, pg. 374).

Trouble was lurking for Nelson Rector, however, as we learn from letters sent to Josiah Meigs by Judge Stanley Griswold, writing from Shawnee Town, Illinois Territory, on March 10, 1814 (*Territorial Papers*, Vol. 16, pgs. 401-402), and William Rector, Principal Deputy Surveyor in the Missouri Territory, writing from the United

States Saline in the Illinois Territory on March 16, 1814 (*Territorial Papers*, Vol. 16, pgs. 397-399).

William Rector reported to Josiah Meigs that his brother Nelson had been severely wounded by Indians on March 1, 1814.

Judge Griswold recounted that “*Mr. Nelson Rector left his hands at work on his Survey, and set out alone to come in to the Saline about 25 or 30 Miles with his Field-Notes, with a view to Plat &c – At about half way, while riding carelessly along upon the Goshen Road, near the Bank of the North Fork of the Saline Creek, wholly unsuspecting of Indians, he was saluted with a discharge, from beneath the bank, of several pieces, within a very short distance: One ball entered his left breast, and passing thro’ a small portion of the cavity of his body and the left shoulder blade, lodged next to the skin behind – another ball struck his left arm, and shattered the bone between his elbow and shoulder – a third ball passed thro’ the body of his horse near the forelegs, beneath the back bone, and above the vitals. The horse sprang to a great distance, but providentially Mr. Rector kept his seat, and the Indians continuing their fire, another ball grazed one of his temples, and knocked off his hat. – On turning his eye, he perceived their number to be from six to ten, but could not tell exactly, as his deplorable situation permitted but a slight glance, nor did he look at them again – They, however pursued him a good distance, and it seems a miracle that he escaped. From the glance he had of them they appeared to be Kickapoos, and all young men: his horse held out beyond expectation, and brought him to a Fortification three miles from the Saline, but, on the way, Mr. Rector was obliged to use every method to save himself – one arm dangling by his side, with the hand of the other he was obliged to grasp the saddle to save himself from falling thro’ extreme faintness, and other affections produced by his wound. In this situation, taking the bridle in his teeth, he lost some of them by the stumbling of his horse – he thinks that if he had not been on a Spanish Saddle he must inevitably have fallen and lost his life.*”

(continued on next page)

Nelson Rector: Hard Luck and Trouble (continued)

William Rector added that *“in this miserable plight he rode twelve miles to a Fort three miles from this place [the United States Saline], when he got there, he was so much exhausted [sic] with the loss of blood that he could scarcely stick on his horse. The same evening he was brought by men on a litter to this place, since which he has suffered very much with his wounds & part of the time very high fevers. But I am happy to add that for the two last days he has been nearly free from fever & pain, that a supperation [sic] has taken place in both his wounds, discharge freely and his surgeons say look very favorable. I think he is entirely out of danger, tho it will be several weeks before he gets entirely well – Such is the opinion of his Surgeons.”*

Judge Griswold went on to note that *“the men who went out in pursuit of the foe discovered many traces of Indians, but thought it most prudent to hunt up Mr. Rector’s Surveyors, whom they found pursuing their business, without any suspicion of danger, and brought them in, with one or two of the most exposed families.”*

William Rector went on to note that *“Nelson desires me to present his respects to you, and inform you that before he received his wounds he had surveyed the exterior boundaries of all the Townships in his district, and had subdivided into sections &c one Township & part of another. He wishes me also to say to you that he is determined to complete the Surveying you assigned to him as soon as possible that notwithstanding his ill luck he hopes to get the whole done before the expiration of the time mentioned in his contract with you.”*

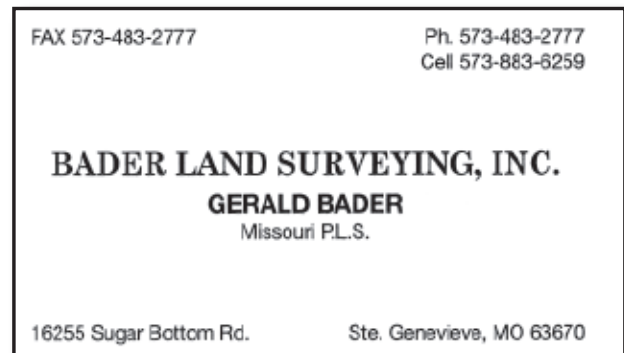
On March 4, 1815, Nelson Rector, writing from Saint Louis in the Missouri Territory (*Territorial Papers*, Vol.

17, pg. 143), reported to Edward Tiffin, Surveyor General of the United States, that *“I am (& have been for some months past) useing [sic] every exertion in my power to comply with the contracts I entered into with Josiah Meigs Esqr late S. Genl of the U. S. & shall comply fully if not driven from the Woods by the hostile bands of Indians that are continually lurking on our Frontier & who have given me greate [sic] trouble pain & expence [sic] in executeing [sic] my business; as they wounded me so miserably last March & have latterly driven in my assistants.”*

He went on to note that *“I have now procured a Guard of Rangers from the comanding [sic] officer of this District & am in a fair way of completeing [sic] my contract, if the guard is continued I shall finish by the 1st of April next; as soon as I get my contract completed I shall set out for your office with a return of my surveys.”*

On June 25, 1815, writing from Cincinnati, Ohio (*Territorial Papers*, Vol. 17, pgs. 192-194), Nelson Rector notified Edward Tiffin that he had *“been waiting very impatiently several weeks, for my Brother William Rector, as soon as he arives [sic] I shall set out for your office in order to make the residue of the returns of the Surveying done pursuant to my contracts with Josiah Meigs Esqr late Surveyor General of the United States.”*

Continuing in his letter, he felt the need to defend himself against slanderous accusations he believed to have been made by John Messenger, another deputy surveyor in the Illinois Territory. Concluding his exposition on the matter, he asked, *“did I not finish my contract last winter under the most trying circumstances ... I surveyed Sir without a guard (which is well known in the Country where I live)*




under the very muzzles in a manner of the most ferocious & inhumane enemies, to the Human Family I mean the Savages. I have been shot to peaces [sic] (comparitively [sic] speakeing [sic]) by the Indians & I have completed two very important contracts of Surveying for my Government since the Indian War & in a Woods they frequented & murdered seven or Eight People at the time I was performing my duty.”

On July 21, 1815, Edward Tiffin reported to Josiah Meigs, Commissioner of the General Land Office, that “*the three Mr Rectors are all here [in Chillicothe, Ohio], but two of them are ill with fevers*” (*Territorial Papers*, Vol. 15, pg. 71).

A few days later on July 26, 1815, Edward Tiffin sent to Josiah Meigs a copy of instructions for review that he had prepared for William Rector, pertaining to establishing the principal meridian and base line for the Missouri Territory and then beginning the surveys for the military bounty lands (*Territorial Papers*, Vol. 15, pg. 72 and Vol. 17, pg. 203).


As part of these surveys, Nelson Rector, in partnership with William L. May, contracted on October 25, 1815 to lay off and subdivide townships south of the Base Line of the Fifth Principal Meridian in Ranges 1 and 2 East (*Territorial Papers*, Vol. 15, pg. 91).

William Rector, as Principal Deputy Surveyor of the Missouri Territory, reported to Edward Tiffin, Surveyor General of the United States, on January 15, 1816 that Nelson Rector had died at the mouth of the St. Francis River on November 17, 1815 (*Territorial Papers*, Vol. 15, pgs. 103-104). John Messinger, in a correspondence with Tiffin, dated January 12, 1816, noted that Nelson Rector had died by suicide (*Territorial Papers*, Vol. 17, pgs. 283-284). Thomas Sloo, Register of the Land Office at Shawneetown in the Illinois Territory, writing on January 8, 1816 to Josiah Meigs, Commissioner of the General Land Office, reported that, “*We have just Recd News of the Death of Nelson Rector. Report says [he] went on to the Arcansaw [sic] to Survey and their [sic] Blew out his own Brains*” (*Territorial Papers*, Vol. 17, pgs. 276, 278).

Source: *The Territorial Papers of the United States*, compiled by Clarence Edwin Carter, 1948, U. S. Government Printing Office 

Genesis of Missouri (continued)

Chapter 9. Pettifoggers, Renegadoes, and Impatient Natives

1. James A. Wilkinson to Henry Dearborn, 27 June, 27 July, and 8 September 1805, in *Territorial Papers*, 13:144-45, 164-65, 204-5.
2. William E. Foley and C. David Rice, *The First Chouteaus*, 116.
3. Wilkinson to Dearborn, 27 July 1805, in *Territorial Papers*, 13:164-65.
4. Wilkinson to James Madison, 28 July 1805, in *ibid.*, 173.
5. James Jackson to Thomas Jefferson, 9 January 1803, and Joseph Anderson to Jefferson, 10 January 1803, *Letters of Application and Recommendation during the Administration of Thomas Jefferson, 1801-1809*, National Archives; Clarence E. Carter, “The Burr-Wilkinson Intrigue in St. Louis,” 448.
6. Jefferson to Joseph Anderson, 28 December 1805, *Jefferson Papers*.
7. Carter, “Burr-Wilkinson Intrigue,” 448; Donald Jackson, *Jefferson and the Stony Mountains*, 244, 257.
8. John B. C. Lucas to Albert Gallatin, 12 November 1805, in *Territorial Papers*, 13:269. Amos Stoddard had also found it costly to live in St. Louis. Stoddard to Phoebe Reade Benham, 16 June 1804, *Stoddard Papers*.
9. Gideon Granger to Rufus Easton, 16 March 1805, *Rufus Easton Papers*, Missouri Historical Society.
10. Hugh C. Cleland, “John B. C. Lucas, Physiocrat on the Frontier,” part 3, 163.
11. De Witt Clinton to Easton, 1 September 1803, Aaron Burr to Abraham R. Ellery, 11 March 1804, and Gideon Granger to Easton, 7 July 1804, *Easton Papers*. 

Tick Prevention and Treatment

Tips & Tricks

by Chris Ferguson

I must preface this article by saying that I am by no means a recognized expert on the subject matter, nor is this an exclusive endorsement of the products mentioned or shown by brand name.

On the other hand, what follows is the sum of a few decades of experience in the woodlands and fields of Missouri, and it's worked for me so far.

PREVENTION: Avoidance is not an option. No one has found a way to bring the fieldwork to us yet, so we'll have to continue to travel to the site and encounter whatever surprises await wherever that is. Recognition is key. Deer ticks thrive in the woods where their namesake dwells. Pastures house and feed cattle, and most varieties of ticks live there also. All ticks are potentially dangerous. Even urban areas harbor some risk, especially in high weeds, brush piles, and leaf litter. So, the threat exists from any job from ALTA's to creek topography.

The most effective deterrent is clothing treatment. I generously apply a permethrin product (see fig. 1) on field wear, especially pants, well before going out, often the night before. Most sprays claim to be effective for 6 weeks or 6 washings, but I usually cut that number in half.

The second method of prevention is treating yourself. Deep Woods Off with DEET is effective for exposed skin. Long-term health effects are perhaps yet unknown, but the benefit outweighs the risk so far. 100% DEET is more than a little concerning, though – I melted a watch off my wrist back in the 90's using a "military grade" formula. A 30% or so concentration seems effective. I get far too hot in the summer to wear long sleeves and sweat plenty, so on most days I'll reapply at least once more during the day, usually at lunchtime.

Another trick to prevent access is blocking a preferred avenue – straight up the inside of your pants leg. Tucking your jeans in your socks looks absurd, and duct taping pants to boots is messy and can ruin both. I found two things that have worked well for me. First is the "tick gaiters" (fig. 2) which secures your hem snugly to your boot. The other is to spray a pair of stake leggings (especially useful when copperheads are around too!) I spray both sides and plenty of times have found several expired bloodsuckers inside the leggings after quitting time.

Obviously, all this preparation takes time and money, and I hope your employer provides both. I was lucky enough to work the last nearly 20 years with the USDA-Forest Service who took employee health seriously. If your company seems resistant, it may become your task to educate them about the return on investment a little prevention would make as opposed to lost time from the field and potential workers' compensation.

REMOVAL: So, your defenses have been breached...now what? Personally, I itch in the woods all day (allergies, poison ivy, chiggers, itchweed, etc.), so the first order of business is getting home and showering up. Bonus if you have a significant other that is willing to help visually check for any attached arachnids.



Figure 1: Aerosol and pump spray



Figure 2: A well-worn set of tick gaiters with boots

Removal isn't just simply pulling them off like you might do for your hound dog. That method is prone to leave the head behind, or at least the capitulum (mouth parts). Regular tweezers tend to squeeze the tick and may cause it to regurgitate (yes – vomit) its pathogens straight up its proboscis to you. An effective tool is a set of “tick tweezers” (fig. 3) gripping the offender as closely to the skin as possible and pulling straight up and away. If it's still crawling you probably did it right and can blast it with a lighter so it's not free to fight another day from your house.

I don't advocate any other methods such as trying to smother the bug out with petroleum jelly. Time is critical, and the longer it's attached, the more solid it is set in (their saliva has a combination of anesthetic and cement that both temporarily numb the area and anchor it in place).









TREATMENT: Try as you might, you may be awakened in the wee hours of the morning scratching a heretofore undiscovered itch. Remove ASAP of course, but then what? It's advised to keep the offender in case it is necessary to be analyzed as infected. Few things thrilled my wife more than finding my collection of tiny vampires in a Ziploc bag next to the Blue Bunny ice cream in the freezer.

Meanwhile, watch yourself intently for any adverse reaction. It seems any tick bite itches more these days (maybe just me...?), but more serious symptoms are the tell-tale bullseye rash indicating Lyme Disease onset. Dotted rash on your wrist and ankles followed by fever and achy feeling may likely be Rocky Mountain Spotted Fever. Don't hesitate getting prompt medical attention. I've had a couple of tick panel tests ran before (when insurance allowed) checking for the above along with Alpha Gal, Ehrlichiosis, Babesiosis, STARI, Powassan and others when bitten but asymptomatic. Mostly negative results at least gave peace of mind.

As a more expedient trick I learned while in the Forest Service was to go to an urgent care location explaining my concern. The PA/RN/FNP on duty usually prescribed a Z-Pack. I believe it worked and was usually recommended in early spring and late fall. I'd caution about becoming immune to the treatment eventually, however.



Figure 3: Tick tweezers (note the sharp points) along with a more “gimmicky” removal tool. The After Bite provides relief from tick bites after extraction, bee stings, spider bites, etc., all of which stay in my lunchbox.

Identify TICKS			Lyme disease	Babesiosis	Tick Borne Relapsing Fever (TRRF)	Rickettsiosis	Ehrlichiosis	Anaplasmosis	Tularemia	Powassan	STARI	Heartland Virus	Colorado Tick Fever
American Dog Tick	<i>Dermacentor variabilis</i>					✓			✓				
Brown Dog Tick	<i>Rhipicephalus sanguineus</i>			✓		✓	✓						
Eastern Blacklegged Tick	<i>Ixodes scapularis</i>		✓	✓	✓	✓	✓	✓		✓			
Gulf Coast Tick	<i>Amblyomma maculatum</i>			✓									
Lone Star Tick	<i>Amblyomma americanum</i>				✓		✓		✓		✓	✓	
Western Blacklegged Tick	<i>Ixodes pacificus</i>		✓	✓	✓	✓	✓	✓		✓			
Rocky Mountain Wood Tick	<i>Dermacentor andersoni</i>					✓			✓				✓
Soft Ticks	<i>Ornithodoros</i>				✓								

Obviously, this isn't medical advice, but it worked for me on the Mark Twain Forest where the sheer volume of ticks in stages from seed to adults could overwhelm even the best defenses.

I'm at least as cautious about tick bites as I was about bears in the Ozarks. That's not where I ply my trade anymore, but anytime I'm south of I-70 or around any ranch operation (actually any livestock – even pigs and chickens), my awareness is heightened. And of course, deer are virtually everywhere, so nowhere save maybe downtown is totally tick free.

(continued on next page)

Tick Prevention and Treatment (continued)

Honestly, I can only claim to be blessed to have been fortunate for so long in the field avoiding any serious aftereffects. But I feel the caution hasn't hurt. I've witnessed or heard of countless tickborne illnesses in Missouri – some even fatal – which underscores how serious this has become since I began surveying.

Here's hoping some of these tips help you out there. YMMV, and if you have any ideas that work for you, please share with the editors and we'll do a follow up piece in the future. As always, be careful and stay safe!

Alpha-Gal Syndrome (AGS)

LONE STAR TICKS - AMBLYOMMA AMERICANUM

In the U.S., most AGS cases are caused by lone star tick bites. Lone star ticks are most common in late spring through early fall, but they can be active year-round any time temperatures are above freezing.

Unlike some other tick species, lone star ticks don't always sit and wait. They hunt you. If you are stationary (e.g. standing, sitting, gardening, picnicking), they will detect your odor and rapidly crawl several yards to find you. Note that ticks cannot jump or fly.

All stages of lone star ticks can cause AGS. Lone star tick larvae are very tiny and are often confused with chiggers. In summer through early fall, you may encounter swarms of hundreds of larvae.

Source: Centers for Disease Control

Visit the website <https://nsps.us.com/page/Tick> to download an important guide: **Avoiding Tick Bites - A guide for people with alpha-gal syndrome (AGS)**. Thank you to the Alpha-gal Alliance Action Fund (AGAAF). A 501(c)(4) nonprofit which advocates for policy solutions that improve the lives of people affected by alpha-gal syndrome (AGS). Sharon Forsyth is also the founder of the Alpha-gal Alliance (AGA), a 501(c)(3) which focuses on education, capacity building, and catalyzing research. 🇺🇸

Lone Star Tick (*Amblyomma americanum*)





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Surveying and Geomatics at Southern Illinois University, A Measurable Impact

by David J. Sherrill, PLS, Surveying and Geomatics Program Director, SIUE

In the year of our Lord, 2026—what a ride it has been. Nearly fifty years have passed since I received my first Land Surveyor’s license in Illinois. For most of that time, I practiced surveying throughout the Midwest, holding licenses in six surrounding states. From the very beginning of my career, I carried a singular passion: to see Land Surveyors achieve parity with other licensed design professionals through equivalent education and training requirements.

In Illinois, engineers were required to hold a bachelor’s degree for licensure as early as 1950. Surveyors, however, were left behind—viewed largely as technicians and treated accordingly. The personal story that follows in this article chronicles a decades-long effort to change that reality. Through persistence and collaboration, those efforts have helped elevate the status of Land Surveyors in Illinois to stand alongside other licensed design professionals. More importantly, they have helped chart a path toward greater equity and opportunity for the next generation of surveyors.


Today, I serve as Program Director of Surveying and Geomatics at Southern Illinois University Edwardsville, located just east of St. Louis, Missouri. I have taught at SIUE for 20 years while continuing my private surveying practice. In 2006, the surveying program enrolled approximately 40 students across multiple courses, offering more than 30 credit hours in surveying. Coursework included Fundamentals of Surveying, Legal Principles, Boundary Surveying, Survey Computations, Advanced Surveying Systems, Internship, Land Development, GIS/LIS Mapping, Remote Sensing, Drones, Survey Contracts, and more.

For the first 16 years of my tenure at SIUE, surveying was offered as a specialization embedded within the Construction Management B.S. degree. We also provided a 24-credit-hour surveying curriculum within other majors, allowing students to qualify to sit for the Fundamentals of Surveying (FS) examination in Illinois.

In 2022, following approval from both the university and the Illinois Department of Higher Education, SIUE launched a standalone Bachelor of Science degree in Surveying and Geomatics. The primary driver was clear: an urgent and growing demand for licensed surveyors nationwide. Today, more than 100 students are in the pipeline. Over 30 are enrolled directly in the Surveying and Geomatics program, with an additional 70 pursuing the minor or completing the 24-hour requirement through Construction, Engineering, Geography, or Integrated Studies pathways.

These efforts have had a measurable impact. SIUE graduates now achieve a Surveyor Intern (SI) licensure pass rate exceeding 90 percent, contributing directly to the growth of licensed professionals in Illinois.

I firmly believe that if states across the country adopt similar educational models, the surveying profession will not only grow to meet national demand, but also offer diverse and rewarding career pathways across both public and private sectors. A bachelor’s degree in Surveying and Geomatics is not merely an academic credential—it is a foundation for professional parity, leadership, and the future of our profession.

The following provides information on the B.S. Degree for Surveying and Geomatics from Southern Illinois University, Edwardsville. 

CURRICULUM FOR THE BACHELOR OF SCIENCE IN SURVEYING AND GEOMATICS

YEAR ONE

FALL SEMESTER TOTAL CREDITS 17

- ENG 101:** English Composition (3 CREDITS)
FST 101: First Semester Transition (1 CREDIT)
CNST 120: Introduction to Construction (3 CREDITS)
 or **GEOG 111:** Introduction to Geography (3 CREDITS)
CHEM 120A: General, Organic, and Biological Chemistry (3 CREDITS)
CHEM 124A: General, Organic, and Biological Chemistry Lab (EL) (1 CREDIT)
MATH 125: Pre-Calc/Trigonometry (BPS) (3 CREDITS)
CE 204: Engineering Graphics (3 CREDITS)

SPRING SEMESTER TOTAL CREDITS 15

- ENG 102:** English Composition II (3 CREDITS)
ACS 103: Interpersonal Communication (EUSC) (3 CREDITS)
MATH 150: Calculus I (QR, BPS, DNSM, INSM) (5 CREDITS)
SURV 264: Fundamentals of Surveying (2 CREDITS)

YEAR TWO

FALL SEMESTER TOTAL CREDITS 16

- ECON 111:** Macroeconomics (855) (3 CREDITS)
GEOG 202: Natural Resource Management and Sustainability (BLS, ONSM) (3 CREDITS)
CNST 211: Civil Construction Materials and Methods (3 CREDITS)
STAT 244: Statistics (MCS) (4 CREDITS)
SURV 310: Legal Aspects of Surveying (3 CREDITS)

SPRING SEMESTER TOTAL CREDITS 17

- ECON 112:** Microeconomics (853) (3 CREDITS)
PHYS 131: College Physics (BPS) (4 CREDITS)
PHYS 131L: College Physics I Laboratory (BLS, EL, INSM, LNSM) (1 CREDIT)
GEOG 210: Physical Geography (BPS, DNSM, EL) (3 CREDITS)
PHIL 323: Engineering Ethics and Professionalism (FRA, BHUM) (3 CREDITS)
SURV 364: Boundary Surveying (3 CREDITS)

YEAR THREE

FALL SEMESTER TOTAL CREDITS 15

- ACCT 300:** Fundamentals of Financial Accounting (3 CREDITS)
CNST 231: Plans and Specifications (3 CREDITS)
GEOG 300: Cartography (3 CREDITS)
MGMT 330: Understanding the Business Environment (3 CREDITS)
 Breadth Fine and Performing Arts (BFPA) (3 CREDITS)

SPRING SEMESTER TOTAL CREDITS 15

- ACCT 210:** Managerial Accounting (3 CREDITS)
GEOG 321: Quantitative Techniques (BICS, EL) (3 CREDITS)
GEOG 322: Air Photo Interpretation (3 CREDITS)
MGMT 331: Managing Group Projects (3 CREDITS)
SURV 470: Internship (3 CREDITS)

YEAR FOUR

FALL SEMESTER TOTAL CREDITS 15

- FIN 320:** Financial Management and Decision Making (3 CREDITS)
GEOG 410: Geographic Information Systems (3 CREDITS)
GEOG 422: Remote Sensing (3 CREDITS)
SURV 484: Survey Computations and Applications (3 CREDITS)
ELECTIVE (Choose from Approved Electives) (3 CREDITS)

SPRING SEMESTER TOTAL CREDITS 15

- GBA 282:** Business and Society (IS, EGC) (3 CREDITS)
CNST 411: Construction Contracts (3 CREDITS)
CNST 415: Land Development (3 CREDITS)
SURV 482: Advanced Survey Systems and Senior Assignment (3 CREDITS)
ELECTIVE (Choose from Approved Electives) (3 CREDITS)

APPROVED ELECTIVES

GIS MINOR SURVEYING ELECTIVES

- GEOG 423:** Computer Mapping
GEOG XXX: One Additional Approved Course for Minor

CONSTRUCTION MANAGEMENT ELECTIVES FOR SURVEYING

- CNST 271:** Building Information Modeling
CNST 303: Planning and Scheduling
CNST 425: Heavy Civil
CNST 432: Design Build Process

SURVEYING TECHNICAL ELECTIVES

- SURV 481:** Computer Mapping and Application
SURV 485: Geospatial Techniques
SURV 486: Drone Mapping and Application
SURV 487: Route Geometrics and Design
SURV 495: Hydrographic Surveying and Applications

Faculty Members

The program is supported by experienced faculty members:

David Sherrill, BT, PLS
Morrison Institute of Technology

John Cabage, PhD, PE
University of Tennessee

Anne Werner, PhD, PE
University of Illinois at Urbana-Champaign

Chenxi Yuan, PhD
Purdue University

Shannon McCarragher, PhD
Northern Illinois University

Adriana Martinez, PhD
University of Georgia

Shunfu Hu, PhD
University of Georgia

Alan Black, PhD
University of Georgia

Randall Pearson, PhD
Indiana State University

Tianyu Li, PhD
Mississippi State University



Bachelor of Science in

SURVEYING AND GEOMATICS

Program Requirements

Students must meet all university requirements for graduation and the following program-specific requirements:

- ▶ Maintain a cumulative GPA above 2.0 (on a 4.0 scale).
- ▶ Earn a minimum grade of C in all construction courses.
- ▶ Complete the construction management senior assignment.

Contact Information

DEPARTMENT OF CONSTRUCTION
SURVEYING AND GEOMATICS

Program: School of Engineering
Phone: 618-650-2088

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DISCOVERY.**

About Surveying and Geomatics at SIUE

At SIUE, our Surveying and Geomatics program offers an exciting blend of technology, exploration, and hands-on experience, providing a truly engaging and comprehensive learning journey. Here, you're encouraged to learn by doing rather than just watching. Students get to fly drones, operate GPS equipment, and work with GIS and 3D scanning tools, gaining practical skills that directly prepare them for in-demand careers. Our curriculum is carefully designed to align with industry needs, helping students become licensed in Illinois, Missouri, and most other states. This sets them up to make an immediate impact in careers like construction, transportation, environmental management, and more.

Career Opportunities

A degree in Surveying and Geomatics opens up a world of exciting and meaningful career opportunities. Graduates often find themselves in roles such as Professional Land Surveyor, Drone Pilot, GIS Analyst, Urban Planner, and Construction Surveyor. But surveying is more than just maps and measurements; it's a hands-on, dynamic profession that helps shape how our communities grow and function. Surveying experts assist in mapping boundaries, supporting major infrastructure projects, and using cutting-edge tools like drones and satellite systems to collect accurate and valuable data. Whether you love the outdoors, are passionate about technology, or want to design smarter, more sustainable communities, this field offers you the tools and the chance to make a real difference.

National Surveyors Week, March 15-21, 2026

Celebrate Our Roots, Secure Our Future: National Surveyors Week

As Missouri surveyors, we take pride in the tangible—the corners we find, the plats we seal, and the infrastructure we help build. But once a year, we have a unique opportunity to step out from behind the computer and total station to show the public the “why” behind the “what.”

The History

National Surveyors Week was established by President Ronald Reagan in 1984, but its spirit dates back to the founding of our nation. We follow in the footsteps of three “Surveyors-in-Chief”—George Washington, Thomas Jefferson, and Abraham Lincoln—who used the science of measurement to define a young America. This week was born from a grassroots effort by the NSPS to ensure that our profession isn’t just seen as a technical necessity, but as a pillar of property rights and economic stability.

Why It Matters in Missouri

In the “Show Me State,” we don’t just want to hear about the importance of our work; we want to see it in action. National Surveyors Week (the third week of March) serves three critical purposes for us:

1. **Advocacy:** It provides a platform to remind our state and federal legislators that surveying is a high-stakes profession that requires rigorous licensure and oversight.
2. **Public Education:** Most citizens only think of surveyors when there is a boundary dispute. This week allows us to showcase our role in modern mapping, GIS, and the NATRF2022 datum updates that will soon impact every project in Missouri.
3. **Workforce Development:** Our profession is aging. Use this week to visit a local high school or community college. Let’s show the next generation that surveying is a high-tech, outdoor-friendly career with a bright future.



NSPS

National Surveyors Week

The Value of the Surveyor: Beyond the Measure

For most citizens, owning property is their single largest investment. Its security rests on the professional land survey—a fundamental requirement for economic and social stability. However, surveying is far more than just measuring; it is a complex blend of science, history, and law. We don’t just look at the landscape; we analyze puzzles of conflicting title elements using years of experience in researching archaic records and physical evidence buried by time.

Surveyors are the only professionals trained to apply common law principles to determine which evidence—monuments, distances, or areas—controls a boundary. This expertise allows us to bridge the gap between technical measurements and property law.

Our most vital role is as neutral, third-party analysts. Bound by strict codes of conduct and regularly instructed in ethics, we act as objective experts rather than advocates. Whether serving as expert witnesses in court or facilitating out-of-court settlements through mediation, we provide the facts that save neighbors thousands in legal fees. Ultimately, surveyors are the guardians of property rights and the factual voice of the law. (Cue: *Glory, Glory Hallelujah!*) 🇺🇸

Why NSPS is Essential for Missouri

by Mike Zahner, PLS, Missouri NSPS Director

As residents of the “**Show Me State**,” we often look for tangible proof before committing to an organization. As your Director, I believe both **MSPS** and **NSPS** are invaluable. NSPS isn’t just a distant national body; it is an active partner working to advance our profession on every front.

Our community is supported by tireless advocates, including **Executive Director Tim Burch** and his staff, the **Executive Committee**, and four **Regional Councils**. These leaders, alongside the **NSPS Foundation**, the **Young Surveyors Network**, and committees for **Government Affairs** and **Military** issues, work hard to ensure the surveying profession remains robust and respected.

Direct Benefits for Your Practice:

- **The 2026 ALTA/NSPS Standards:** We are currently in a pivotal year for the profession. The newly adopted **2026 ALTA/NSPS Land Title Survey Standards** (<https://nsps.us.com/page/ALTANSPPStandards>) go into effect on **February 23, 2026**. NSPS ensures these standards are practical for surveyors by meticulously reviewing every public comment during the update cycle.
- **Top-Tier Advocacy:** Our legislative interests are championed by **JB Byrd**, who was recognized by the **National Institute for Lobbying & Ethics** as a **2025 Top Lobbyist**. From the annual **Day on the Hill** to monitoring threats like GPS signal disruption by Ligado, NSPS protects your right to practice.

- **Education & Media:** Stay informed through the NSPS YouTube Channel, featuring “From the Director’s Desk” and technical interviews. For those on the go, the “**Surveyor Says**” podcast has surpassed 219 episodes, featuring experts like **Gary Kent** discussing the 2026 ALTA standards and **David Doyle** on **NATRF2022**, our future national datum.
- **Workforce Development:** Membership provides access to critical professional certifications, including the **Certified Survey Technician (CST)**, **Certified Federal Surveyor (CFedS)**, and **Certified Floodplain Surveyor (CFS)** programs.

Whether it’s defending our licensure or providing the tools to excel, NSPS delivers the “proof” we need that our profession is in good hands. 🇺🇸



Surveyors Review Course

August 10-12, 2026

**at Missouri S & T
in Rolla, MO**

Typing Unicode Symbols in Ordinary WORD Fonts

Changing Fonts Less Likely to Eliminate Symbol Display in Digital Articles or Lesson Plans.

More are possible. Open Windows Accessory “Character Map”. Hoover over interesting symbol. Write down four-character alpha numeric portion only of code shown as “U+03C0:” for Pi. Type “03c0” then Alt+X for π .

Play with changing fonts to see effect.

- π = Type as “03c0 Alt+X” = Greek Small Pi
- Δ = Type as “0394 Alt+X” = Greek Capital Delta
- δ = Type as “03b4 Alt+X” = Greek small Delta
- Θ = Type as “0398 Alt+X” = Greek Capital Theta
- θ = Type as “03b8 Alt+X” = Greek Small Theta
- Θ = Type as “019f Alt+X” = Latin Capital O +Middle Tilde
- Φ = Type as “03a6 Alt+X” = Greek Capital Phi
- ϕ = Type as “03c6 Alt+X” = Greek Small Phi
- Ψ = Type as “03a8 Alt+X” = Greek Capital Psi
- ψ = Type as “03c8 Alt+X” = Greek Small Psi
- Λ = Type as “039b Alt+X” = Greek Capital Lamda

- λ = Type as “03bb Alt+X” = Greek Small Lamda
- Ω = Type as “03a9 Alt+X” = Greek Capital Omega
- ω = Type as “03c9 Alt+X” = Greek Small Omega
- α = Type as “03b1 Alt+X” = Greek Small Alpha
- β = Type as “03b2 Alt+X” = Greek Small Beta
- Σ = Type as “03a3 Alt+X” = Greek Capital Sigma
- σ = Type as “03c3 Alt+X” = Greek Small Sigma
- Γ = Type as “0393 Alt+X” = Greek Capital Gamma
- γ = Type as “03b3 Alt+X” = Greek Small Gamma
- γ = Type as “0263 Alt+X” = Latin Small Gamma

Office tips by Don Clinkenbeard, PLS

I’ll add, one that I often use multiple times Alt+167 = °

If you can’t find them with Windows Accessory, just search the internet for Alt keyboard codes. You’ll find a whole host of additional keyboard symbols, checkmarks, spades, music notes and happy faces.

This is what emojis were like long before the happy faces and pizza slices were included in today’s phone keyboards. Austin DeSain 🇺🇸

Math Problem

This edition’s Math Problem is one that we all typically encounter, calculating House Ties. Watch out for the MSPS Newsflash Email later in the quarter with the solution!

Thanks to Don Clinkenbeard, PLS 🇺🇸

USE TRIGONOMETRY TO CALCULATE HOUSE TIES:

Set on Cross 1 Backsight 2
2 - 000°00'00" 352.74'
3 - 215°50'02" 78.51'
4 - 230°24'33" 61.50'
5 - 286°27'12" 61.21'

Calc side ties from 3 and 5.
Calc front ties at 3, 4, and 5.
 ALL ties to be perpendicular or radial to property line.

As a check against a bad backsight at 1, the crew taped a distance from 3 to 6. Calculate the theoretical distance 3 to 6.

TRIG NERD (50' W) RD

The solution will be provided in a future NEWSFLASH Email.

Submitted by: Don Clinkenbeard, PLS



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Articles and Photos Welcome

MSPS offers you an opportunity to showcase your and/or your company's work in the Missouri Surveyor reaching nearly 1000 readers!

You are invited to share photos and/or stories much like what is in this issue with the rest of our professional community. All that's asked is to take high-quality pictures (thumbnail photos do not scale up very well) and submit the articles in Microsoft Word. Send those with a brief description to either of the magazine's editors listed on the front page and look for your chance to be in the next edition! 🇺🇸





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