

St. Pauli News in Detail



Greeting and Ushering

June 1	Ryan Haugen
June 8	Gary Iverson
June 15	Kari Iverson
June 22	Jim Kotz
June 29	Bruce Mathson
July 6	Staci Reay
July 13	Jim Rondorf
July 20	Jordan Rondorf
July 27	Arlo Rude
August 3	Mike Stickler
August 10	Jim Strandlie
August 17	Craig Torkelson
August 24	Darren Torkelson
August 31	Chad Torstveit

Altar Preparation:

June:	Val Torstveit
July:	Sue Kotz
August:	Sharon Bugge

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Milestones – Anniversaries

June 18	Arlo Rude and Deb Ernst
July 1	Bruce and Shelley Mathson
July 6	Ron and Virginia Anderson
August 1	Jim and Sue Kotz
August 3	Ken and Cindy Cedergren
August 27	Wade and Marisa Benson

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You Are Invited!

Saturday, July 12

1:00 – 7:00 pm

Marisa's gardens will be open to anyone who wishes to visit. She was asked by area garden clubs if they could tour and she said as long as she has a group coming, it might as well be a crowd! Faye will have the schoolhouse open, too.

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Progress on Memorial Pavilion

The cement slab is in place, all of the trees, shrubs and flowers have been planted, edging is in place, 4" of mulch has been spread on all, and the circular turnaround in front of the pavilion has been graveled. All that remains is to erect the structure itself and install the benches, etc. inside. Church members donated \$825 during a special offering on May 25th services. If you were unable to be at these services, you can still donate.

Gifting opportunities that remain are for: 1 display stand, 3 ornamental trees, and 4 peonies.

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Volunteers Needed

Chad Torstveit has volunteered, but we need three more persons to put together the Memorial Pavilion kit at the cemetery.

You need to be able to either be on your knees or on a ladder. Please let Faye know as soon as possible whether you are available and what days or times of the week.

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Milestones – Birthdays

June 11	Myles Alberg
June 17	Kathy Alberg
June 17	Sharon Bugge
June 27	Jan Strandlie
July 1	Val Torstveit
July 4	Kari Torkelson
July 7	Rylan Torstveit
July 9	Sharon McCollough
July 31	Ron Anderson
August 6	Chad Torstveit
August 11	Dennis McCollough
August 17	Faye Auchenpaugh

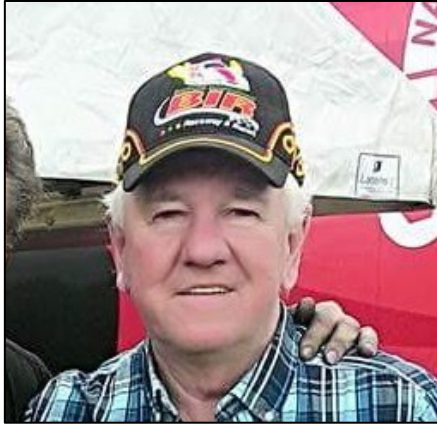
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In Memoriam

Gerald (Jerry) Nelson

July 5, 1943 – April 1, 2025

Jerry was Myles Alberg's first cousin.



Gerald Norman Nelson was born on July 5, 1943 to Norman and Gladys (Alberg) Nelson in Thief River Falls, MN. He was baptized on August 15, 1943 at St. Pauli Lutheran Church along with his cousin, Judith Louise Ranum, daughter of Harry and Lillian Ranum, and Gregory James, the son of Stanley and Ella Ranum. Jerry's sponsors were Nels and Hannah Nelson and Carl and Louise Alberg. In August 1953, he was also confirmed at St. Pauli.

He started school at the age of 4 at the one-room school, Washington District 221, just a half mile from their farm – and which we all think is rather cool!!

After the little school closed its doors in 1956, Jerry finished his education in Thief River Falls, graduating from Lincoln High School in 1960 at the age of 16 – turning 17 one month later.

After graduating, he worked for a neighboring farmer until he was called to duty and entered the U.S. Army in 1965. After basic training, he was sent to Korat, Thailand where he spent 18 months as a clerk typist, returning to the States in 1967. He received the National Defense Service Medal.

Jerry moved to Minneapolis in 1967 and was united in marriage to Marlys Halvorson in 1968. They were blessed with two daughters, Kari and Tara. They moved from North Minneapolis to East Bethel on beautiful Coon Lake Beach where they raised their girls. They separated in 1987 but continued to be close friends right until his death.

Jerry was united in marriage to Suzen Keller in 1991. With this marriage he gained a stepson, Toney Keller. Together they resided on Coon Lake Beach until he moved to Encore Memory Care in Hugo, MN because of Alzheimer's and Dementia.

Jerry worked at Dealers Manufacturing rebuilding carburetors from 1968 until the company moved to Wisconsin in 1984. Next, he worked for Cass Precision Machining in Brooklyn Center as a machinist until his retirement in 2008. Family was his life, and he loved watching them grow up!

Jerry passed away peacefully on April 1, 2025 at Encore Memory Care in Hugo, MN with his loving family by his side.

Jerry is survived by his wife Suzen; daughters: Kari Nelson and Tara (Doug Alford) Nelson; stepson Toney (Michele) Keller; grandchildren: Kyja Nelson (Nick), Zachary Holland (Cassie), Cody (Amanda) Holland, Brandon and Caden Alford, Toney and Laura (Cole) Keller, and Kaylee Friday; great-grandchildren: Jacob, Jaden and Jordan Walter, Jaycee Steckelberg, Deion, Dayjah and Hailee Holland, Payton Holland and Payton, Joslyn, Justin and Cain Keller; brothers Roger (Ronda) Nelson and Neil (Barb) Nelson; former wife Marlys Oliverius; special friend Tommy Altenhofen, together with numerous relatives and friends.

He was preceded in death by his parents, Norman and Gladys (Alberg) Nelson; sister Carolyn Mack; and numerous aunts and uncles.



Confirmation 1953

Back row:

Loren Swanson (SH), Gerald Nelson,
Rev. Berg, Steven Budahl (SH),
Roger Kolden (SH)

Front row:

Joyce Lokken, Diane Moothart (SH),
Sharon Olson (SH), Shirley Suronen (SH),
Margie Haugen (SH)

Note: SH = Calvary in St. Hilaire

In Memoriam

Martha Hash Gootee

January 8, 1938 – April 26, 2025

Martha was Damita (Johnson) Underwood's mother-in-law.



Martha "Marty" Gootee, born Martha Marie Hash on January 8, 1938, in Dublin, Georgia, passed away peacefully on March 26, 2025, in Marietta, Georgia surrounded by members of her immediate and extended family. A beloved wife, mother, grandmother, great-grandmother, and friend to many, Martha's vibrant spirit and deep love for life left an indelible mark on all who knew her.

Martha is survived by her devoted husband, Steve Gootee; her children: Michael (Damita) Underwood of Moorhead, Minnesota; Rodney Underwood of Greenville, Pennsylvania; David Parrish Underwood of Smyrna, Georgia; Richard Farris Underwood of Greenville, Pennsylvania; and Cheryl Tillia of New Castle, Pennsylvania, as well as 10 grandchildren and 7 great-grandchildren, numerous cousins, nieces and nephews. She was preceded in death by her parents, Ella Louise Patrick Hash and Elbert Terry Hash; infant son Richard (Richie) Underwood and siblings William (Bill) Hash, Kenneth Hash, Curtis Hash, Frances Cannon Hembree, and Mary Ann Young.

Throughout her life, Martha found joy in the simple pleasures that nature offered. She was an avid gardener whose hands were rarely without soil during the springtime—a season she especially cherished. Her love for birdwatching brought her countless hours of peace and wonder as she observed the rhythms of the natural world. Whether tending to flowers or watching birds flit through the trees, Martha embraced each moment with awe and gratitude.

Her passion for the outdoors extended beyond her garden. Martha loved camping in the mountains of north Georgia with family and friends. These trips were filled with laughter around campfires and quiet mornings sitting by the creek, surrounded by the majestic beauty of the southern Appalachian Mountains—memories that will be treasured forever by those who shared them with her.

Perhaps one of Martha's most enduring legacies lies in the lives of children she nurtured over more than two decades as a nanny. With loving warmth, kindness, and patience, she cared for over 100 children throughout her career. Her gentle presence provided care, comfort and guidance to many young lives and lasting support to numerous families.

To honor Martha's life and memory, a Celebration of Life Picnic was held on Saturday, May 3, 2025, at Riverside Park Pavilion located at 513 Allatoona Dam Road in Cartersville, Georgia. All family and friends were warmly invited to bring a dish to share and join the family in remembering and celebrating her remarkable life. A graveside service followed on Sunday, May 4, 2025, at Mountain View Cemetery at 410 Whitlock Avenue in Marietta, Georgia.

Martha's legacy is one of love—for nature's beauty, for children's laughter, and for the family she held dear. She will be missed forever by those who knew and loved her. May her memory bring comfort and peace to all whose lives she touched.

May God bless the Memories of Jerry Nelson and Marty Gootee.



When someone you **love** becomes a memory...
That memory becomes a treasure.

Minutes of the Church Council

April meeting was canceled, so no minutes for the newsletter at this time

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St. Pauli WELCA Minutes

April 23, 2025

The St. Pauli Women of the ELCA met on April 23, 2025 at 3:00 pm with 5 members present. We first compiled baby care kits and then moved all of the Lutheran World Relief items upstairs to the sanctuary in preparation for blessing at this Sunday's services.

President Jan led us in devotions titled "The Light Through Any Storm" based on Psalm 29:11.

The secretary's report was approved as read.

Treasurer's report for February 12 to April 23: Expenses: \$227.48. Income: \$85.00. Checking account balance as of April 23rd: \$970.16. Savings balance as of March 31st: \$603.25. CD balance of \$6,681.64 was renewed at 4.8% interest. We have received \$338.85 in interest since January 25, 2024. Proceeds from the potluck will go to Nutrition Services Inc. instead of Lutheran Social Services.

Old Business: Arlo has fixed both vacuums.

Stewardship: This year we have made 17 layettes, 31 personal care kits, 26 quilts, and 2 baby quilts. One or 2 of the quilts will be reserved for fire quilts or VIP. Kathy used the remaining Thrivent funds to purchase spatulas, measuring cups and spoons, and a black set of sheets because so much of the latest quilt fabric has black in it. We can get three backs out of these sheets.

Council Report: The council accepted Kevin Reich as a member of St. Pauli. Generator proposals were discussed and a date set for a special congregational meeting.

Communications: Thank you notes received from Inez Mathson saying "Dear St. Pauli ladies, thank you for the treat. I had it for supper that night and it was SO good. I look forward to seeing you in August. God bless you all. Love, Inez." Gary Iverson wrote "A very BIG thank you to the ladies who made the potpie lunch. Delish!" Sally and Craig Torkelson: "Thank you for the food delivered for Valentine's Day and such a generous serving!" Wally Rondorf: "I would like to thank the ladies of St. Pauli who made the delicious meal and delivered." Deb and Larry: "St. Pauli WELCA, a belated thank you for the wall hanging and the cake when we joined St. Pauli and for being so welcoming." Finally, "Thank you for your kindness, your generosity and your caring. You're a great example of everything that's right with the world. Thank you for honoring our mother and grandmother.

Enclosed is a check for \$500!" Barb Klopp, Ingrid Mills, Evan Klopp, Kirsten Berghof.

We also received thank you's from Hospice of RRV for the \$255 potluck donation, Women's Resiliency through Synod for our \$100 donation, and ELCA Good Gifts for our \$385 donation.

Spring Gathering: Cindy and Sue attended the gathering at Trinity Church on April 12th. The main speaker was filled in by Lori Thompson, activities director at the Care Center. It was all about general health and she was very good and knowledgeable. There weren't that many there, maybe 25-30.

Old Business: There was a bit of confusion about the time for today's meeting. We had voted at our November meeting to change the meeting time from November through April to 3:00pm. The newsletter had 3:00, as did the bulletin.

Thank you to everyone who helped at the March 3rd Heritage Center wall hanging reveal. We had nice coverage with a photo in the Times. \$500 was donated toward the project by Barbara Klopp. The kitchen stove burner is fixed and working, but we haven't received a bill yet. Jan will follow up. Thank you for making the Easter services beautiful and to Mary Group for the breakfast served.

New Business: We will have cake to welcome Kevin Reich as a new member. Sue will order and pick up.

NWMN Synodical Women's Organization annual convention is September 19-20 in Alexandria. Keynote speaker: Dr. Jennifer Hockenberry, Churchwide Executive Director, Women of the ELCA and editor of *Lutheran Ethics*. Silent auction baskets are needed; it is better to have more smaller ones than fewer large. Jan asked us to be thinking about basket possibilities.

M/S/C Kathy/Virginia to donate \$100 toward women attending seminaries called "Women Seminarians of NW MN Synod."

The Redeemer salad luncheon is Tuesday, May 6, 11:00 – 1:00. The SNOW newsletter looking for articles. One possibility is our making Valentine meals.

Lord's Prayer was prayed and prayer partners exchanged.

Faye Auchenpaugh, Secretary

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Congratulations to a former St. Pauli Sunday School Student

You all remember the Andrew and Michele Halvorson and their three girls who were St. Pauli members a few years ago. Here is Siri, the eldest daughter, who graduated from Little Falls High School in May.

We wish Siri the very best for her future!

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Strong Winds

We had strong, straight-line winds on May 15 that did damage to the homes and farms of several of our members: Myles and Kathy Alberg, Barb Nelson, Craig and Sally Torkelson, plus many neighbors and friends.

The winds also destroyed the top half of the evergreen tree at our cemetery and split the Tatarian Maple next to the front door of our church in three.

Fortunately, the evergreen top landed in between grave monuments and didn't do any damage. We are grateful to Brett, Danita, Darren and Eli Torkelson who brought chainsaws and strong bodies the next day and cleared it all up!



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Black Bear in Downtown TRF

There was a different kind of consumer in downtown Thief River Falls on Thursday, May 29, as a black bear engaged in some window shopping.

The bear was captured on video browsing outside Ingrams Candy Store on 3rd Street East, which was shared by the business, saying he probably "wanted some chocolate covered potato chips or maybe some Bridgeman's Ice Cream."

Eventually, the bear found its way to a tree outside a residence on Main Avenue, with police blocking off the street between 4th and 5th Street. The Times reported police were advising people stay away from the area and not scare the bear, as they tried to coax it down so they could remove it from the area.



In the end, they tranquilized the bear with darts, and it fell onto blankets placed on the ground. The bear still had some energy after the fall and got up to wander into a nearby yard before passing out. It was checked by vets and then loaded into the back of the DNR truck to be relocated. The scene was cleared around 2:30 P.M.

Officers with the DNR, Thief River Falls Public Works, Pennington County Sheriff's Office, Minnesota State Patrol, as well as local and area vets and businesses all assisted in getting the bear down.

Summer Day Trips

Big Bog, Lost 40, Lady Slipper Scenic Byway

Big Bog

Big Bog State Recreation Area has been called Minnesota's last true wilderness. This two-part recreation area includes a northern unit and a southern unit. The 500-square-mile peat bog, the largest in the lower 48 states, is located in the northern unit.

A mile-long boardwalk, completed in 2005, enables visitors to get a first-hand look at the unique plant and animal life of this rare resource. The bog, which has long been a source of medicinal plants for the Ojibwe Indians, represented a barrier to European settlers who tried in vain to drain it. Today, many of the native plants, including yellow-eyed grass, bog rush and two kinds of sundews, are on Minnesota's endangered or threatened species list.

From orchids to carnivorous plants to rare birds, visitors will see a mixture of fascinating and rare resources. The southern unit includes a campground with 31 campsites (26 electric sites) winterized camper cabins, a sandy beach, picnic grounds, and great fishing.

Big Bog State Recreation Area was established in 2000. It was the result of a grassroots effort to create a sustainable tourist attraction in Waskish, whose economy was devastated when the Red Lake walleye population crashed in the 1990s.

adjoining federally owned land in the Chippewa National Forest.

White pine – red pine forest is ranked as S-2 (imperiled) in the state's conservation ranking of native plant communities, and designated old-growth represents less than 1/4 of 1% of all of Minnesota's forests.



A 2009 study found the oldest individual trees within the SNA to be red pines 230-240 years old. The stand on adjoining land within Chippewa National Forest reportedly originated as early as 1745, and includes the "co-champion red pine" of Minnesota's Native Big Tree Registry, measured at 115" in circumference and 120' high.

Also of interest is the glacial landform that underlies the old forests at Lost 40: an elevated, steep-sided peninsula variously described as an esker or esker-like ridge. Carrie Jennings helped prepare a 2005 Minnesota Geological Survey map of surficial geology of Northwest Itasca County that includes this area. "This is ice-contact material," she notes, "which means it was deposited in contact with glacial ice, generally during the slow wasting of a glacier. It's typically coarser, sorted sediment. The topography of the ridge suggests an esker, which would have been deposited by a meltwater stream flowing through a tunnel in the ice or even on top of a glacier in an ice-walled channel." It would have formed between about 13,000 to 14,000 years before the present, says Jennings, in association with the Koochiching lobe, considered a branch of the Red River lobe, during the latest stage of the last glaciation in Minnesota.

Unlike most SNAs, this site features a marked trail that loops through the "Lost 40 Site" which includes the SNA and the adjacent national forest land. Along this upland route, visitors encounter the old-growth pine forest as well as spruce-fir forest, with views to surrounding lowlands occupied by alder swamp and black spruce bog. Moose Brook, a tributary of the Big Fork River, meanders across the northwest corner.

Lady Slipper Scenic Byway

The Lady Slipper Scenic Byway goes "over the river and through the woods," just like the song says. The river is the



Lost 40 Scenic and Natural Area (SNA)

The Lost 40 SNA owes its old-growth pine forest to a surveying error that occurred during the Public Land Survey in 1882. As the story goes, the pines were missed by loggers because surveyors mistakenly mapped the area as Coddington Lake. (The lake is actually located a half mile to the southeast. Oops.). The site was re-surveyed, and the error corrected in 1960. Shortly after, it was incorporated into Big Fork State Forest and its old trees have since endured.

The literal crowning feature of this SNA is its nearly 32 acres of designated old-growth white pine – red pine forest. This old-growth forest is found in two stands, both of which extend beyond the borders of the SNA. The largest of these is 30 acres in size and extends an additional 18.94 acres on

Mississippi River, where it passes out of Cass Lake as a wilderness stream, close to the beginning of its long journey. The woods are the pines, aspen and birches of the Chippewa National Forest, which covers a wide expanse of north central Minnesota. This rustic route is one of the 22 Minnesota Scenic Byways.



The byway itself is a 28-mile drive that follows County Road 39 between the small, Northwoods town of Blackduck and Highway 2 east of the town of Cass Lake.

Along with scenic views of the forest, the Lady Slipper Scenic Byway brings you to campgrounds, beaches, trails and an interesting piece of our country's history: Civilian Conservation Corps (CCC) Camp Rabideau, located 7 miles south of Blackduck, is the most intact CCC camp in the United States and is now a National Historic Landmark.

This byway was recently renamed in honor of the state flower, the showy lady's slipper. These lovely orchids, with pink pouches and white petals, grow in abundance along the byway's roadsides in late June, especially just north of Pennington. All summer, watch for eagles, ducks, herons and pelicans near the rivers and lakes the byway passes. Take the time to stop and listen for the haunting call of loons, which will be found on most of the area lakes.



Grandpa, some ninety plus years, sat feebly on the patio bench. He didn't move, just sat with his head down staring at his hands. When I sat down beside him, he didn't acknowledge my presence and the longer I sat, I wondered if he was OK.

Finally, not really wanting to disturb him but wanting to check on him at the same time, I asked him if he was OK.

He raised his head and looked at me and smiled. "Yes, I'm fine. Thank you for asking," he said in a clear strong voice.

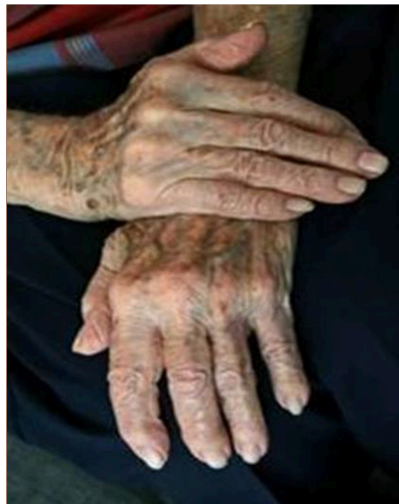
"I didn't mean to disturb you, Grandpa, but you were just sitting here staring at your hands and I wanted to make sure you were OK," I explained to him.

"Have you ever looked at your hands," he asked. "I mean really looked at your hands?"

I slowly opened my hands and stared down at them. I turned them over, palms up and then palms down. No, I guess I had never really looked at my hands as I tried to figure out the point he was making. Grandpa smiled and related this story:

"Stop and think for a moment about the hands you have, how they have served you well throughout your years. These hands, though wrinkled, shriveled, and weak have been the tools I have used all my life to reach out and grab and embrace life. They put food in my mouth and clothes on my back.

As a child my mother taught me to fold them in prayer. They tied my shoes and pulled on my boots.



They have been dirty, scraped and raw, swollen and bent. They were uneasy and clumsy when I tried to hold my newborn son.

Decorated with my wedding band they showed the world that I was married and loved someone special.

They trembled and shook when I buried my parents and spouse and walked my daughter down the aisle.

They have covered my face, combed my hair, and washed and cleansed the rest of my body.

They have been sticky and wet, bent and broken, dried and raw.

And to this day, when not much of anything else of me works really well, these hands hold me up, lay me down, and again continue to fold in prayer.

These hands are the mark of where I've been and the ruggedness of my life.

But more importantly it will be these hands that God will reach out and take when he leads me home. And with my hands He will lift me to His side and there I will use these hands to touch the face of Christ."

I will never look at my hands the same again. But I remember God reached out and took my grandpa's hands and led him home.

When my hands are hurt or sore, I think of Grandpa. I know he has been stroked and caressed and held by the hands of God. I, too, want to touch the face of God and feel His hands upon my face.

Things you probably never knew about the “Great Lakes”

1. Lake Superior is actually not a lake at all, but an inland sea.
2. All of the four other Great Lakes, plus three more the size of Lake Erie, would fit inside of Lake Superior.
3. Isle Royale is a massive island surrounded by Lake Superior. Within this island are several smaller lakes. Yes, that's a lake on a lake.
4. Despite its massive size, Lake Superior is an extremely young formation by Earth's standards (only 10,000 years old).
5. There is enough water in Lake Superior to submerge all of North and South America in 1 foot of water.
6. Lake Superior contains 3 quadrillion gallons of water (3,000,000,000,000,000). All five of the Great Lakes combined contain 6 quadrillion gallons.
7. Contained within Lake Superior is a whopping 10% of the world's fresh surface water.
8. It's estimated there are about 100 million lake trout in Lake Superior. That's nearly one-fifth of the human population of North America!
9. There are small outlets through which water leaves Lake Superior. It takes two centuries for all the water in the lake to replace itself.
10. Lake Erie is the fourth-largest Great Lake in surface area, but the smallest in depth. It's the 11th largest lake on the planet.
11. Water in Lake Erie replaces itself in only 2.6 years, which is notable considering the water in Lake Superior takes two centuries.
12. The original publication of Dr. Seuss's *The Lorax* contained the line, “I hear things are just as bad up in Lake Erie.” Fourteen years later, the Ohio Sea Grant Program wrote to Seuss to make the case that conditions had improved. He removed the line.
13. Not only is Lake Erie the smallest Great Lake when it comes to volume, but it's surrounded by the most industry. Seventeen metropolitan areas, each with populations of more than 50,000, border the Lake Erie basin.
14. During the War of 1812, the U.S. beat the British in a naval battle called the Battle of Lake Erie, forcing them to abandon Detroit.
15. The shoreline of all the Great Lakes combined equals nearly 44% of the circumference of the planet.
16. If not for the Straits of Mackinac, Lake Michigan and Lake Huron might be considered one lake. Hydrologically speaking, they have the same mean water level and are considered one lake.
17. The Keystone State was one of the largest and most luxurious wooden steamships running during the Civil War. In 1861, it disappeared. In 2013, it was found 30 miles northeast of Harrisville under 175 feet of water.
18. Goderich Mine is the largest salt mine in the world. Part of it runs underneath Lake Huron, more than 500 meters underground.
19. Below Lake Huron, there are 9,000-year-old animal-herding structures used by prehistoric people from when the water levels were significantly lower.
20. There are massive sinkholes in Lake Huron that have high amounts of sulfur and low amounts of oxygen, almost

replicating the conditions of Earth's ancient oceans 3 million years ago. Unique ecosystems are contained within them.

21. Lake Huron is the second largest among the Great Lakes, and the fifth largest in the world.
22. In size, Lake Michigan ranks third among the Great Lakes, and sixth among all freshwater lakes in the world.
23. Lake Michigan is the only Great Lake that is entirely within the borders of the United States.
24. The largest freshwater sand dunes in the world line the shores of Lake Michigan.
25. Because water enters and exits Lake Michigan through the same path, it takes 77 years longer for the water to replace itself than in Huron, despite their similarity in size and depth. (Lake Michigan: 99 years, Lake Huron: 22 years)
26. When the temperature of Lake Michigan is below freezing, this happens. Ice pancakes!



27. Within Lake Michigan there is a “triangle” with a similar reputation to the Bermuda Triangle, where a large amount of “strange disappearances” have occurred. There have also been alleged UFO sightings.
28. Singapore, Mich. is a ghost town on the shores of Lake Michigan that was buried under sand in 1871. Because of severe weather conditions and a lack of resources due to the need to rebuild after the great Chicago fire, the town was lost completely.
29. In the mid-19th century, Lake Michigan had a pirate problem. Their booty: timber. In fact, the demise of Singapore is due in large part to the rapidly deforested area surrounding the town.
30. Jim Dreyer swam across Lake Michigan in 1998 (65 miles), and then in 2003, he swam the length of Lake Michigan (422 miles).
31. Lake Michigan was the location of the first recorded “Big Great Lakes disaster,” in which a steamer carrying 600 people collided with a schooner delivering timber to Chicago. Four hundred and fifty people died.
32. Lake Ontario is the smallest of the Great Lakes in surface area, and second smallest in depth. It's the 14th largest lake on the planet.
33. The province Ontario was named after the lake, and not vice versa.
34. In 1804, a Canadian warship, His Majesty's Ship *Speedy*, sank in Lake Ontario. In 1990, wreck hunter Ed Burt managed to find it, but he isn't allowed to recover any artifacts until a government-approved site to exhibit them is found. He's still waiting.
35. Babe Ruth hit his first major league home run at Hanlan's Point Stadium in Toronto. It landed in Lake Ontario and is believed to still be there.

Systems of Weights and Measurements

The earliest recorded systems of weights and measures originate in the 3rd or 4th millennium BC. Even the very earliest civilizations needed measurement for purposes of agriculture, construction and trade.

Early standard units might only have applied to a single community or small region, with every area developing its own standards for lengths, areas, volumes and masses.

Often such systems were closely tied to one field of use, so that volume measures used, for example, for dry grains were unrelated to those for liquids, with neither bearing any particular relationship to units of length used for measuring cloth or land. With the development of manufacturing technologies, and the growing importance of trade between communities and ultimately across the Earth, standardized weights and measures became critical.

Starting in the 18th century, modernized, simplified and uniform systems of weights and measures were developed, with the fundamental units defined by ever more precise methods in the science of metrology. The discovery and application of electricity was one factor motivating the development of standardized internationally applicable units.

The earliest known uniform systems of weights and measures seem all to have been created at some time in the 4th and 3rd millennia BC among the ancient peoples of Egypt, Mesopotamia and the Indus Valley, and perhaps also Elam in Iran as well.

Early Babylonian and Egyptian records and the Hebrew Bible (our Old Testament) indicate that length was first measured with the forearm, hand, or finger and that time was measured by the periods of the sun, moon, and other heavenly bodies.

When it was necessary to compare the capacities of containers such as gourds or clay or metal vessels, they were filled with plant seeds which were then counted to measure the volumes. When means for weighing were invented, seeds and stones served as standards. For instance, the carat, still used as a unit for gems, was derived from the carob seed.

The Egyptian cubit, the Indus Valley units of length referred to above, and the Mesopotamian cubit were used in the 3rd millennium BC and are the earliest known units used by ancient peoples to measure length.

The common cubit was the length of the forearm from the elbow to the tip of the middle finger. It was divided into the span of the hand or the length between the tip of little finger to the tip of the thumb (one-half cubit), the palm or width of the hand (one sixth), and the digit or width of the middle finger (one twenty-fourth).

The Royal Cubit, which was a standard cubit enhanced by an extra palm—thus 7 palms or 28 digits long—was used in constructing buildings and monuments and in surveying in ancient Egypt. The inch, foot, and yard evolved from these units through a complicated transformation not yet fully understood. Some believe they evolved from cubic measures; others believe they were simple proportions or multiples of the cubit. In whichever case, the Greeks and Romans inherited the foot from the Egyptians. The Roman foot was divided into

both 12 *unciae* (inches) and 16 digits. The Romans also introduced the *mille passus* (1000 paces) or double steps, the pace being equal to five Roman feet. The Roman mile of 5000 feet was introduced into England during the occupation by the Romans. Queen Elizabeth I, who reigned from 1558 to 1603, changed by statute the mile to 5280 feet, to tie in with agricultural practice.

The introduction of the yard as a unit of length came later, but its origin is not definitely known. Some believe the origin was the double cubit, others believe that it originated from cubic measure. Whatever its origin, the early yard was divided by the binary method into 2, 4, 8, and 16 parts called the half-yard, span, finger, and nail.

The association of the yard with the "gird" or circumference of a person's waist or with the distance from the tip of the nose to the end of the thumb of King Henry I, who reigned from 1100–1135, were probably standardizing actions, since several yards were in use in Britain at the time.

There were also the rod, pole, perch and thumb for measurements of length. The following table lists the equivalents.

Components	Unit
12 lines	1 inch
12 inches	1 foot
3 feet	1 yard
1760 yards	1 mile
36 inches	1 yard
440 yards	quarter-mile
880 yards	half-mile
100 links	1 chain
10 chains	1 furlong
8 furlongs	1 mile
4 inches	1 hand
22 yards	1 chain
5.5 yards	1 rod, pole or perch
4 poles	1 chain
40 poles	1 furlong

Units of mass

The grain was the earliest unit of mass and is the smallest unit in the apothecary, avoirdupois, Tower, and troy systems. The early unit was a grain of wheat or barleycorn used to weigh the precious metals of silver and gold. Larger units preserved in stone standards were developed that were used as both units of mass and of monetary currency.

The pound was derived from the *mina* unit used by ancient civilizations. A smaller unit was the *shekel*, and a larger unit was the *talent*. The magnitude of these units varied from place to place. The Babylonians and Sumerians had a system in which there were 60 shekels in a mina and 60 minas in a talent. The Roman talent consisted of 100 libra (pounds) which were smaller in magnitude than the mina. The troy pound used in England and the United States for monetary purposes, like the Roman pound, was divided into 12 ounces, but the Roman *uncia* (ounce) was smaller. The carat is a unit for measuring gemstones that had its origin in the carob seed, which was standardized at 1/144 ounce and then 0.2 gram.

Goods of commerce were originally traded by number or volume. When weighing of goods began, units of mass based on a volume of grain or water were developed. The diverse magnitudes of units having the same name, which still appear today in our dry and liquid measures, could have arisen from the various commodities traded. The larger avoirdupois pound for goods of commerce might have been based on volume of water which has a higher bulk density than grain.

The stone, quarter, hundredweight, and ton were larger units of mass used in Britain. Today only the stone continues in customary use for measuring personal body weight. The present stone is 14 pounds, but an earlier unit appears to have been 16 pounds. The other units were multiples of 2, 8, and 160 times the stone, or 28, 112, and 2240 pounds, respectively. The hundredweight was approximately equal to two talents. The "long ton" is equal to 2240 pounds, the "short ton" is equal to 2000 pounds, and the tonne (or metric ton) is equal to 1000 kg.

Units of time and angle

The division of the circle into 360 degrees and the day into hours, minutes, and seconds can be traced to the Babylonians who had a sexagesimal system of numbers. The 360 degrees may have been related to a year of 360 days. Many other systems of measurement divided the day differently counting hours, decimal time, etc. Other calendars divided the year differently.

Forerunners of the metric system

Decimal numbers are an essential part of the metric system, with only one base unit and multiples created on the decimal base, the figures remain the same. This simplifies calculations. Although the Indians used decimal numbers for mathematical computations, it was Simon Stevin who in 1585 first advocated the use of decimal numbers for everyday purposes in his booklet *De Thiende* (old Dutch for 'the tenth'). He also declared that it would only be a matter of time before decimal numbers were used for currencies and measurements. His notation for decimal fractions was clumsy, but this was overcome with the introduction of the decimal point, generally attributed to Bartholomaeus Pitiscus who used this notation in his trigonometrical tables in 1595.

In 1790, Thomas Jefferson submitted a report to the United States Congress in which he proposed the adoption of a decimal system of coinage and of weights and measures. He proposed calling his base unit of length a "foot" which he suggested should be either $\frac{3}{10}$ or $\frac{1}{3}$ of the length of a pendulum that had a period of one second. This would have equated to 11.755 English inches or 13.06 English inches. The names that he proposed for multiples and subunits of his base units of measure were the names of units of measure that were in use at the time.

The great interest in geodesy (the science of measuring and representing the geometry, gravity, and spatial orientation of the Earth) during this era, and the measurement system ideas that developed, influenced how the continental US was surveyed and parceled. Jefferson's full vision for the new measurement system came close to displacing the Gunter chain and the traditional acre but ended up not doing so.

In 1620, the polymath Edmund Gunter developed a method of accurately surveying land using a surveyor's chain 66 feet

long with 100 links. The 66-foot unit, which was four perches or rods, took on the name the chain. By 1675 it was accepted, the chain and the link became standard surveyors' units of length and crossed to the colonies.

The thirteen states of America were expanding westward, and the public land had to be surveyed for a *cadastral*, a comprehensive recording of the real estate of a country. Often it is represented graphically in a *cadastral map*. In 1784 Thomas Jefferson wrote a report for the Continental Congress proposing the rectangular survey system; it was adopted with some changes as the Land Ordinance of 1785 on May 20th the following year. In the report, the use of the chain as a unit of measurement was mandated, and the chain was defined.

Metric conversion

The metric system was first described in 1668 and officially adopted by France in 1799. Over the 19th and 20th centuries, it became the dominant system worldwide, although several countries, including the United States, China, and the United Kingdom continue to use their customary units. Among the numerous customary systems, many have been adapted to become an integer multiple of a related metric unit.

Gunny Sack

The name came from "goni," an Indian word from the Mangalore district in India. It simply meant fiber. The English morphed it into "gunny," a word they gave jute bags used to transport grain. A gunny sack can typically hold 100–110 pounds of potatoes.

Gunny sacks are used to store potatoes because they block light while allowing air to flow through. Although gunny sacks are no longer used to carry them, the common measurement unit of potatoes is still the "sack" among farmers in Idaho. Up until the latter part of the twentieth century, when they became less common, the *sacks* were one of the primary tools for fighting grass fires in rural areas, used while soaked with water when available. Gunny sacks are also popular in the traditional children's game of sack racing.

Bushel and Peck

"Bushel" and "peck" are both units of dry measurement that originated in medieval England, with the word "bushel" coming from the Old French *boissiel* meaning "little box." A bushel is equal to four pecks, and both were primarily used to measure grain and other dry goods stored in baskets, with the "peck" representing a one-quarter portion of a bushel.

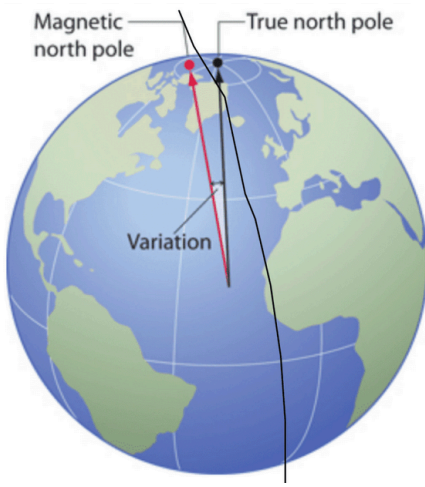
While still used in agriculture to measure grain quantities, the phrase "a bushel and a peck" is more commonly used figuratively to express a large amount of love or affection.

In the United States the bushel is used only for dry measure. The U.S. level bushel (or struck bushel) is equal to 2,150.42 cubic inches and is considered the equivalent of the Winchester bushel, a measure used in England from the 15th century until 1824. A U.S. level bushel is made up of 4 pecks, or 32 dry quarts. Two bushels make up a unit called a strike.

In 1912 the U.S. Court of Customs defined a "heaped bushel" for measuring quantities of apples as 2,747.715 cubic inches. In the British Isles, various cubic capacities and weights for the bushel have existed since the 13th century depending on the product to be sold or transported.

True North vs. Magnetic North

A map illustrating true and magnetic north in the vicinity of Thief River Falls would show a difference between the two. True north is the direction of the geographic North Pole, while magnetic north is the direction a compass needle points, influenced by Earth's magnetic field.



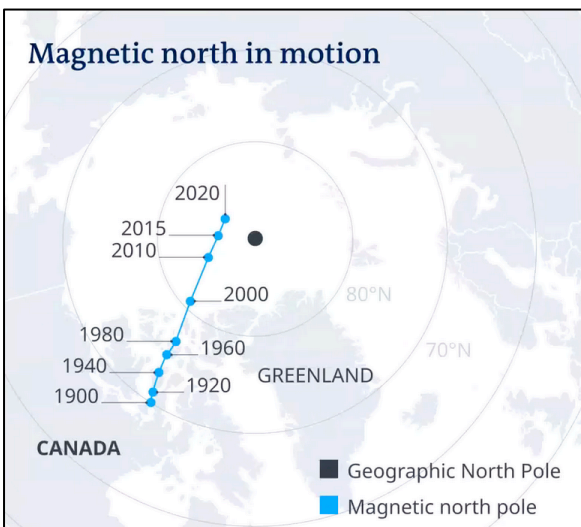
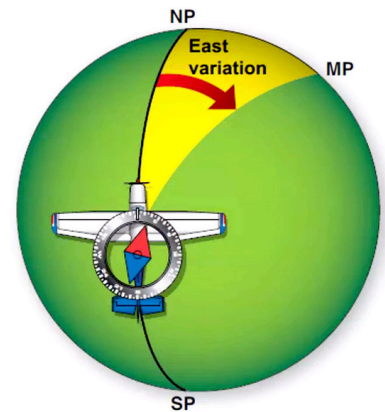
True North: Also known as geographic or map north, it is the direction of the North Pole where all lines of longitude converge. Maps are oriented with true north at the top.

Magnetic North: This is the direction a compass needle points, determined by Earth's magnetic field. The magnetic poles are not fixed and move over time, causing the compass needle to shift.

Declination: This is the direction and amount of variation between true north and magnetic north at a specific location. In Thief River Falls, the magnetic declination is approximately 14 degrees east, meaning magnetic north is east of true north. This means a compass needle would point 14 degrees east of the map's true north line. Many GPS devices and smartphones can calculate the declination for your current location.

The current magnetic declination in Thief River Falls is approximately 14 degrees east, meaning magnetic north is east of true north.

To further complicate matters, Magnetic North is constantly changing. What is interesting is that the magnetic North Pole shifts and changes over time in response to molten iron movements in the Earth's magnetic core. It is not a fixed point. So, if a magnetic compass was used to site the buildings on your farm, they are likely not oriented to the Geographic North Pole.



For navigators at sea, one of the most important things is to find their direction. In the open ocean, there are no landmarks or signposts to help navigate, so you have to know which way you are heading.

For thousands of years, navigators have found their way using the sun and the stars. In the northern hemisphere, seafarers would use Polaris – the North Star – to work out which direction was north in order to help them navigate across the seas. If they could see Polaris, they knew which way they were heading.

But what do you do if it's cloudy, or if there's a storm and you can't see the stars or the sun? How do you know where you are?

We don't know exactly where or when the first compass was invented. What we do know is they were being used in Europe as early as the 12th century, and even earlier in China. By the 16th century, compasses and

charts were standard for ships sailing at sea. But even then, navigators and sailors knew there was something a little strange going on with their compasses. They could see Polaris, but they could see that their compasses didn't always align with it. Compasses didn't always point north. Scientists began to question what could be causing this variation, or "magnetic declination."

In the 1830s, British scientists initiated what became known as the Magnetic Crusade. This was an opportunity for Victorian scientists to travel around the world and measure magnetic deviation. The survey was to be used to aid ships and navigation, but it was also designed to better understand why the Earth's magnetic field changes over time and place. Edmund Halley made a significant contribution in 1700 by creating the first declination chart of the Atlantic Ocean. He was also the first to use contour lines to represent declination values on a map, which has become the standard method. Since Halley's work, declination charts have been produced on a regular basis to keep up to date with the constantly changing Magnetic North. Sailing with an old chart can be risky business. Fortunately, GPS devices now calculate true north using satellite data and the geographic coordinate system. They provide true north direction relative to the user's position without relying on the Earth's magnetic field.

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