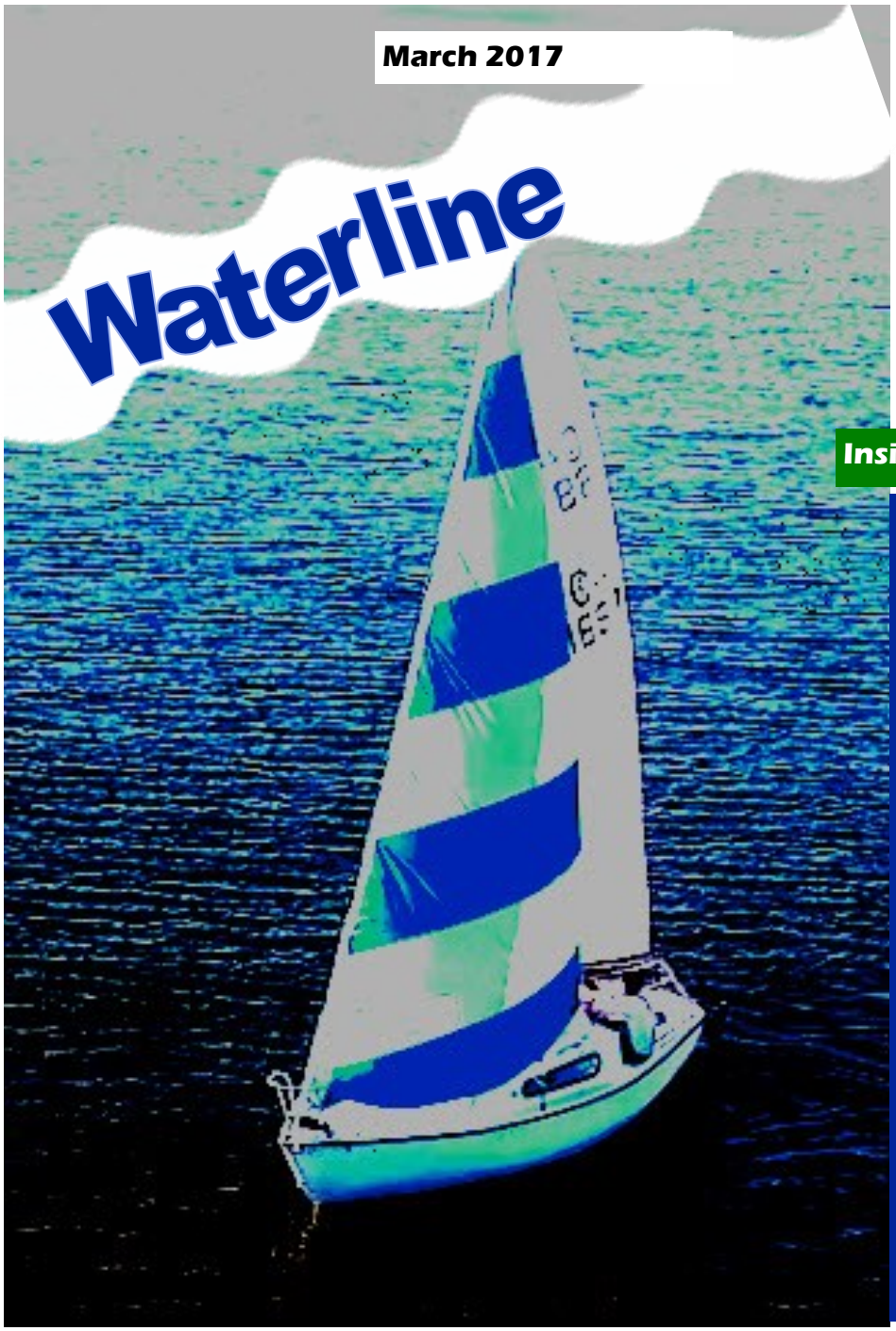

LAFAYETTE
Sailing Club

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Spring is just around the corner!

It's spring (almost)! And sailing season will soon be upon us .!

Lots of things in this newsletter. A message from the Commodore, the 2017 schedule of events, as well a travelogues, pictures, how to use a GPS, trivia questions and other items. So its time to get your boat (and yourself) in sailing shape as spring is right around the corner!

Lafayette Sailing Club
located on Lake Freeman, Indiana

Commodores Message

Donna Keller

Ahoy Fellow Sailors!

Spring is fast approaching and we will be enjoying longer days with the advent of daylight saving time .

Hope you got out your calendars and filled in the LSC events. Spring Harbor appreciation day is coming on April the 22nd and I hope to see you all there. The club will be providing hot dogs, chips and drinks.

David and I have been enjoying the warm weather and sunshine this winter in Florida. We have been sailing quite a bit in the bandit and will be racing it this summer. Racing is a great way to learn to become a better sailor. Plan on coming out and racing with us this summer.

May will bring our moonlight sails and Sailing school along with a mini cruise to Lake Monroe. David and I will be camping and bringing the bandit. We have reserved site 85. If you come plan on bringing something to share on Saturday night. We build a fire for grilling your favorite meat and share side dishes.

Looking forward to a nice warm spring and summer with great winds for sailing. See you all soon.

Commodore Donna Keller

LAFAYETTE
Sailing Club

Membership Highlights

Membership in the Lafayette Sailing club is open to anyone. Membership applications can be downloaded from the club website at www.lafayettesailingclub.com.

New applicants must obtain the signatures of two active members as sponsors before submitting an application. One way to obtain the required signatures is to visit the LSC Harbor at Lake Freeman on a weekend during a scheduled activity, e.g. races, etc..

All memberships are family memberships. There are three levels of membership with different costs and privileges. There is also a new member price at each level for a families first year of membership. All memberships include the use of club sailboats, as well as attendance at all LSC activities.

Membership with voting rights, harbor launch privileges and (1) boat storage—$285/$225 (first year)

Membership with voting rights, but no harbor launch privileges or boat storage—$245/$185 (first year)

Membership with no voting rights, harbor launch privileges or boat storage—$75/$55 (first year)

Additional boat storage for any class of member is $85/year/boat.

BoatU.S.
Boat Owners Association of The United States

Cooperating Group Program

As a member of Lafayette Sailing Club, a Cooperating Group with BoatU.S., you are invited to **become a BoatU.S. Member at a special discounted rate:**

50% off BoatU.S. Membership
Regularly $30– Your Price: $15!

BoatU.S. Coop #: GA 84516 S

New BoatU.S. Members:
Sign up online (**www.boatus.com/join**) or call **800-395-2628.** Mention the BoatU.S. Coop# above.

Existing BoatU.S. Members:
If you are not currently receiving the discount, please email **membership@boatus.com** or call **800-395-2628.** Mention the code BoatU.S. Coop # above.

Board of Governors

Officers

Commodore-Donna Keller

Vice-Commodore—Sam Guffey

Recording Secretary—Carl Hagar

Treasury Secretary—David Klenosky

Directors

Membership —Rex Henthorn

Club Fleet —Jacob Bleier

Publicity —Kirk Gilbert

Race —Steve Titolo

Sailing School—Michael Nolan

Grounds—Ron Reehling

Website—Deac Karns

Ships Store—Barbara Nolan

Social—(currently open)

Cruising-Kirk Gilbert

Newsletter—Michael Nolan

Members at Large

Voting Member—Eric Mortensen

Voting Member—Brendan Morreale

Spring 2017 Schedule

Wednesday, April 5, 7pm 5, LSC Racing School, Oakdale Inn (come early for dinner!)
Thursday, April 20, 7pm, LSC Racing School, 9 Irish Brothers in Lafayette
Saturday, April 22 (raindate 4/23), 10am - Spring Harbor Appreciation Day
May 4-7 Spring Mini-Cruise (Lake Monroe, Bloomington,IN)
Friday, May 12, 7pm Moonlight Picnic & Sail
Saturday, May 13, Racing begins at noon!
Wednesday, May 17, 7pm Sailing School (Tipp Pub Library-Downtown, South St, Laf).
Invite your friends!
Saturday, May 20, noon, Series Races (3)
Wednesday, May 24 7pm Sailing School (Tipp Pub Library-Downtown, South St, Laf)
Saturday, June 3, 10am-12pm On-Water Sailing School. Open House 10am-4pm

Trivia Questions—Test your knowledge

Do you know:

1. The origin of the phrase "son of a gun"?
2. The origin of the term "mayday"?
3. Where on a sailboat are you most likely to find an angel?
4. You have been sailing south through day after day of heavy overcast and fog, and are thus unable to use your sextant to determine your latitude (and you have no GPS). How can you tell when you have crossed the equator?
5. Every mariner knows the difference between port and starboard. Hundreds of years ago, however, a different word was used to refer to the left side of the boat. What is it? Do you know the origin of these terms?
6. Is everything on your boat hunky dory? This phrase for feeling carefree does have a nautical origin, but it's not related to a small wood boat that is rowed. Where does the phrase originate?

(Answers are on page 16. No peeking! And the newsletter editor makes no claim to or takes any responsibility for the accuracy of the answers. Enjoy!)

LAFAYETTE
Sailing Club

Sailing Club

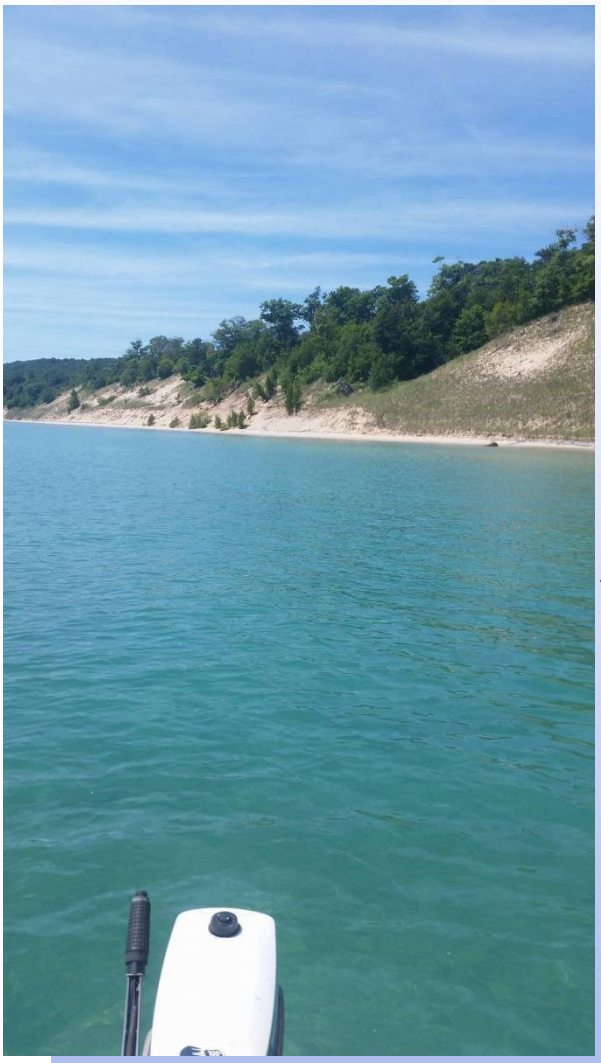
A Trip to the Manitou Islands and back!

(Did they make it?!?)

Sam and Patrick Guffey

In case you have never been to the Manitous before, you should know that it is mostly wilderness. However, it was not as rough country as I expected. There are vault toilets at every campground, and the ranger station has potable water, flush toilets, and even a warm air hand dryer. The visitor center has lots of information and some cool artifacts relating the history of the area. Even though the islands have been preserved as a national park, much of the purpose of the park is to preserve the history of human settlement of these islands. North Manitou has been designated wilderness, so every settlement outside the ranger station has been left to decay back into the earth. South Manitou, however, has a small number of buildings that are maintained for their historical value. These islands were settled in the 1840s, before the roadless mainland was ever tamed. At first, people made a living cutting timber for Chicago and cordwood to run the boilers of steamships. After the good timber was cut, farming became the leading industry. Farming on a remote island...with dry sandy soil...using 1800s technology? Why would anybody want to put themselves through that hardship? Well, it turns out that the Manitou Islands were a great place to grow crops for seed. Since the prevailing winds blow from the west across the great expanse of Lake Michigan, no pollen reaches this remote place. Therefore, the rye and beans planted on the island were guaranteed to be self-pollinated and true to the genetic line. These beans and grains were then shipped all across the USA as certified seed. Apparently, commercial farming continued here until 1948. After that, ships stopped docking there, and only subsistence farming continued until the islands became part of Sleeping Bear Dunes National Lakeshore in 1973.

After a little further study of the island map, Patrick and I set out with our gear on a hike to the Weather Station Campground. It was only 1.5 miles, so we didn't mind carrying our heavy non-backpacking tent and foods. The mosquitoes are pretty heavy, though, and they bite through thin clothing. Be advised. Bring DEET. The harbor had some biting flies, sometimes, too. After setting up our tent in a secluded wooded campsite, we brought our honeydew melon, jalapeno bratwurst, and s'mores fixings to the community fire ring. There, we met several fun people and some kids, and we all shared stories and food. One of the hikers said that the island had a population of "microbears", referring to the uncommonly bold island chipmunks. Supposedly, some people had chipmunks eat through both their tent and their backpack in order to get at some food that wasn't stored properly. Bring a rope out to suspend your food sack from a tree branch. We didn't have any problems, but it did freak me out enough that I just burned up the remaining marshmallows rather than risk a microbear attack in the night. About an hour after dark, we crawled into our tent and had a good sleep.



Saturday morning, we were surprised to find that Patrick's cell phone was getting good signal strength on the 4G network, allowing us to check the weather forecast without unpacking our VHF radio. It called for NE wind 5-10 knots, clear skies, and waves 2' or less. Later on, the wind should continue to veer to the east and then SE, with a chance of rain overnight. This pleasant forecast combined with Patrick's desire to visit North Manitou led us to break camp and head back to the boat for a sail to the north island.

Beating into 5 knot winds, we took almost an hour to clear the big harbor, but we got a nice tour. Next time, I have vowed to introduce myself to the other

cruisers nearby to visit and get to see their boats.

The leisurely start also allowed us to have a nice brunch of chicken à la king and green beans (from cans). After clearing the harbor, we finally got some clear wind and picked up speed on a nice close reach. The water off the point with the gull colony looked fairly shallow. We could see bottom, though we couldn't quite tell how deep it was. For this reason, we gave the point a wide berth. Patrick napped in the quarter berth, and Sam sailed and journaled until the sailing became too demanding to allow journaling. We made good time on a close reach, heading NE toward what appeared to be the closest part of North Manitou Island, exactly 4 miles from the tip of the South Manitou harbor. When we got to the lee of the island, the winds died to a finicky 2 knots, so the last ¾ mile was painfully slow. After motoring in the last ½ mile, we finally landed. This beach was a nice mix of cobbles and comfy sand, unlike the pure cobble beach of South Manitou harbor, so we had a nice time enjoying the beach for a while before beginning our day hike.

North Manitou is renowned as a wilderness hiking gem, with 30 miles of trails and a 20 mile shoreline. Since our start time was about 2:00 pm, we had four hours to hike before our intended departure time. After hiking along the shore for a mile or two, we found a nice kayaker whose favorite phrase seemed to be "Right on." He kindly informed us that we were not where we thought we were. In fact, we anchored about 3 miles west [along the shoreline] of where we had thought we were (see image).

Given this new information, our hiking plans changed. We headed straight up the bluff, through a campsite, and out onto the main trail. Along the trails are several old abandoned farmsteads. Usually there isn't even a foundation remaining, just a space cleared of trees that probably used to support a house and garden plot. The Johnson Place, Frederickson Place, Armstrong Place, Fat Annie's... The trails passed alternately through sandy grasslands and deep beech-maple woodlands, with the occasional stand of hickory, oak, birch, and a little dark pine.

The old cemetery contained graves from the mid-1800s up to the early 2000s. We surmised that the people who had grown up there were granted the right to be buried in the cemetery even after they vacated the island to form

the national park. The little property past the cemetery, called Bourniques (Bournique's?), still bears two or three buildings in pretty decent condition. That was a surprise. One was even wired for a very basic rustic electricity hookup. They are abandoned and not safe to enter (and naturally, locked), but it was fun to peer inside. Not far past Bourniques, we lost the trail. Despite multiple attempts to find the right way onward, we eventually had to turn back. It was getting late, so we decided to take the most direct path back to the boat, which was basically the reverse of the way we had already hiked. The trails were really good quality, with comfortable spongy soil in the woodlands and flat grassland trails free of trip hazards. We were surprised to find such good quality trails of easy difficulty out in this "wilderness" park. Anybody who can walk around normally should have no trouble traversing these trails. Even visitors who don't feel strong or prepared to hike can have a great time here; they just won't travel as far as the fitter folks. As long as someone in each group is willing and able to carry the gear, anybody could join in and have a great time. We would highly recommend it. Our original log entry states, "So amazing! I will go back again. What a great day!"

We finally made it back to the boat only two hours late for our planned 6:00 departure. That's one more reason to sail your own boat rather than take the ferry. Although we would like to take the ferry in the early or late season so that our minds could be free from worrying about leaving the boat unattended overnight. We set sail for the South Manitou harbor, since the wind was expected to go from E through SE to S, leaving no safe place to anchor overnight on the north island. The wind was light for part of the time, around 1 knot, so it took quite a while to get back south through a combination of motoring and sailing. We mixed up some fresh fuel and refilled using our spare tank just after sunset but before it got too dark. Shortly after the sky reached maximum darkness, we dropped the hook in a safe place near the 7 o'clock position in the harbor. Having hiked at least 13 miles that day, we slept hard that night, barely waking for several overnight and early morning rain showers.

On Sunday morning, I was surprised to wake up in my berth deep in prayer. It was Sunday, after all. We shared a breakfast of Bel Vita biscuits and bacon SPAM (sequentially, not combined), and then a second breakfast of vegetarian chili.

The forecast called for S winds 15-25 knots and waves building 4'. For us, this means we stay at anchor. Later that day, we saw several big sailboat running up the coast of the mainland. We probably would have been able to go that way, too, but we didn't want to go north.

Patrick was itching badly from mosquito bites, so he took a Benadryl and After all of this time without a bath, we decided it was time to break out the Adventure Soap. Multi-purpose and 99.9% biodegradable, it leaves no sudsy residue on the water but leaves the user with a fresh tingly feeling. Who could ask for anything more? To get clean, we wetted our hands and bodies on deck, then soaped up and dived in. It works so well and is quite refreshing.

Once ashore (using the dry bag method), we set out for a good long day of hiking. We first made it over to the wreck of the Francisco Morazan, a freighter from Liberia that ran aground in 1960. It was quite smelly on account of the cormorant guano covering all of its exposed surfaces. It has been said that it is possible to climb up on deck from the far quarter when the seas are calm. That sounds really dangerous, and I'm sure it smells horrendous. Given enough prodding, I might be convinced to try it sometime with a buddy.

Next, we visited the Valley of the Giants. The story says that the first sawyers

on the island were cutting all the good timber on the island, but when they got to this spot, the giant cedars had so much sand in their bark that the men didn't want to dull their saws, which had to be sharpened by hand. So they left the trees standing, and so we have the Valley of the Giants. Two of the trees exceed 5' in diameter. They were probably growing before Columbus visited the New World.

Next was the high dunes of the southwest corner and the highest point on South Manitou Island. In Sam's opinion, this is the best place in Sleeping Bear Dunes National Lakeshore. Panoramic vistas. Beautiful rolling terrain. A view of the coastline all around the island except for a small hillock with a patch of tall trees. We could have stayed there for a whole day and night or more. If you get anywhere near here, make the trek up the dune. You won't be disappointed.

Then we took some trails and the old road past the schoolhouse, some abandoned decrepit farmsteads, and a few well-maintained historic farmhouses. Some of the old apple trees there still produce pretty good fruit after all this time without pruning. Unfortunately, they were still at least a few weeks away from being ripe. Farming here must have been tough, but what a beautiful place to enjoy life!

Soon we paid a quick visit to the cemetery, and headed back along trails through the empty Bay Campground back to the ranger station and out to the boat. We visited briefly with the park ranger, who reminded us to bring our park pass ashore with us when we visit. Good to know.

At this point we were exhausted. We guessed that we went about 16 miles that day. A very welcome supper consisted of tamales and tomato soup. We planned to whip up some butterscotch pudding in the morning using our boxed milk and then sail back to Glen Arbor. Before heading to bed, we checked the anchors once more. It seemed like Reggae was riding kind of funny with two bow anchors set 50° apart, so we weighed the grapnel. It turns out that it wasn't the problem; the boat just pivots side to side a lot when the centerboard is up. No problem. We headed to bed just as the light was beginning to fade. Once again, the log reads, "What a great day."

Monday morning, After a nice long sleep, we finally arose and were ready to head back to the mainland. The forecast called for W winds 10-15 knots and

waves 1-2'. In reality, the leftover northeast-bound swells from yesterday's winds were still carrying on around 3', with an occasional 4 footer. To accommodate the big swells, we took a more southern course than the straight shot that calm seas would have allowed. Once we reached Sleeping Bear Point and entered the broad Sleeping Bear Bay, the swells seemed to relax somewhat. However, by this point, we were starting to doubt whether we could safely dock and haul the boat out. We went in close to the ramp to scope it out. Indeed, it was pretty rough, so we headed back out away from shore to think it over. We set out all of our fenders in strategic places to protect the hull. We tried to furl the jib, but the furling line was jammed. Patrick pointed the helm into the oncoming seas while Sam went on the foredeck to drop the jib and bring it back to the cabin. After a few minutes of tough work, he succeeded and came back to the cockpit to rest.

Next we rigged up our usual bow dock line and starboard quarter dock line at the stern, plus our extra 50' dock line on the port quarter. We decided that it would only be possible to dock safely if we had the assistance of at least two people on the pier to help us. We called out to some charter fishermen, but they couldn't hear us. We circled around so that we didn't get too close to shore, and then we tried again. This time we succeeded in hailing a couple walking along the beach, who offered help not only with their hands, but with their advice as well. Lucky for us, the man really knew what he was doing. We will remember in the future to steer with the tiller alone and to leave the outboard in one position. With Sam at the helm, Patrick quick at work taking down the mainsail and heaving the dock lines ashore, and the help of the nice folks on the pier, we were able to successfully dock without injury or damage. Success!

After that, we hauled Reggae out on the trailer, took down the mast and stowed all of our gear, and prepared for the trip home. After one last stop at Cherry Republic, we were ready to head downstate once more. We met up with family for lunch, returned Patrick to college at the University of Michigan, and brought Reggae back to her home in Lafayette, Indiana, to await the next voyage, or at least the next weekend club race.

For more details, and a LOT more pictures, check out Sams blog at: https://salmonalley.wordpress.com/2016/09/18/sailing-to-the-manitou-islands/

LSC First Annual Racing School!

On Wednesday April 5th and Thursday April 20th, LSC is sponsoring our first racing school! This will be an informal get together where we will talk about basic and advanced racing concepts and techniques. Everyone, beginner, advanced or even non-racers are welcome!

Each night will formally start at 7pm, but come early (6pm) if you wish for dinner beforehand. We have a couple of experienced racers that will provide tips and expertise each night.

Wednesday, April 5, will be held at the Oakdale Inn

Thursday, April 20, we will meet at 9 Irish Brothers in Lafayette (on SR 38 near the mall)

You should have received a signup email. If you didn't sign up but would still like to attend, email Mike Nolan at mnolan@purdue.edu to insure that we have enough seats.

Club Boats

LSC has three club boats for use by members. We own a Sunfish, Laser and a Capri. The sails, rudders, and sign out book are located in the shed.

The boats are open for use by all club members. All we ask is that: you sign in/out the boat when you use it. That way we can track how much use the boats are getting.

If you have not sailed the boat you'd like to check out, work with a BOG or other club member to insure that you know how to rig, launch, right, and retrieve the boat.

This process will help keep the club boats in better shape for a long time. Many clubs don't have general use club boats, we are lucky to have three, so feel free to use them!

LSC has teamed Up with BoatU.S.!

BoatU.S. provides a vast range of services, information and savings to recreational boaters, including:

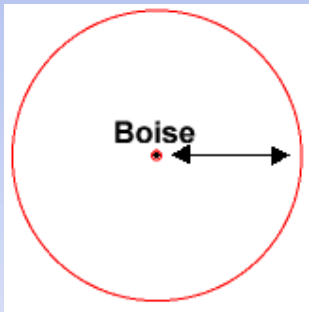
- Members-only discounts and Member Rewards with West Marine equipment purchases
- Discounts on fuel, overnight slips, and repairs at more than 900 marinas nationwide
- BoatU.S. will pay up to $50 per incident On-The-Water Towing with your basic membership
- Access to high-value, low-cost group-rate boat insurance
- Full year subscription to the award-winning BoatU.S. Magazine

Now you can get 50% off of annual Membership dues when you join the nation's largest association of recreational boat owners. You pay one-half of the regular BoatU.S. dues of $30 – that's just $15.00 a year! For more information, go to http://www.boatus.com/ and be sure to mention our Cooperating Group ID number GA84516S to get the specially reduced rate.

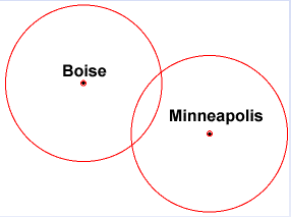
What is GPS and how does it work?

When people talk about "GPS," they usually mean a GPS receiver. The Global Positioning System (GPS) is actually a constellation of Earth-orbiting satellites operated by the U.S. military. There is also a compatible Russian navigation system (GLONASS) as well as components of European, Japanese and Indian systems as well. The entire system is more properly known as the Global Navigation Satellite System, or GNSS.

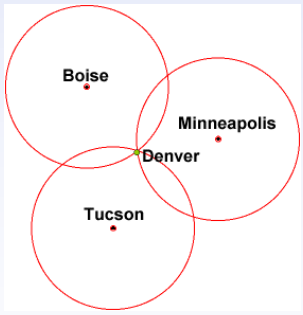
GPS satellites circles the globe at about 12,000 miles, making two complete rotations every day. The orbits are arranged so that at anytime, anywhere on Earth, there are at least four satellites "visible" to a receiver in the sky. A GPS receiver's job is to locate four or more of these satellites, figure out the distance to each, and use this information to deduce its own location. This operation is based on a simple mathematical principle called trilateration.



Trilateration in three-dimensional space can be a little tricky to explain though, so let's start with an explanation of simple two-dimensional trilateration. Imagine you are somewhere in the United States and you are TOTALLY lost – for whatever reason, you have absolutely no clue where you are. You find a friendly local and ask, "Where am I?" He says, "You are 625 miles from Boise, Idaho." This is a nice, hard fact, but it is not particularly useful by itself. You could be anywhere on a circle around Boise that has a radius of 625 miles.



You then ask somebody else where you are, and she says, "You are 690 miles from Minneapolis, Minnesota." If you combine this information with the Boise information, you have two circles that intersect. You now know that you must be at one of these two intersection points, if you are both 625 miles from Boise and 690 miles from Minneapolis.



If a third person then tells you that you are 615 miles from Tucson, Arizona, you can eliminate one of the possibilities, because the third circle will only intersect with one of these points. You now know exactly where you are – in this example.....Denver, Colorado!

This same concept works in three-dimensional space, as well, but you're dealing with spheres instead of circles. This is called three-dimensional trilateration. Three-dimensional trilateration isn't much different from two-dimensional trilateration, but it's a little trickier to visualize. Imagine the radii from the previous examples going off in all directions. So instead of a series of circles, you get a series of spheres. If for example, you know you are 10 miles from satellite A, you could be anywhere on the surface of a huge, imaginary sphere with a 10-mile radius. If you know you are also 15 miles from satellite B, you can overlap the first sphere with another, larger sphere. The

spheres intersect making a perfect circle. If you know the distance to a third satellite, you get a third sphere, which intersects with this circle at two points. The Earth itself acts as a fourth sphere – only one of the two possible points will actually be on the surface of the planet, so you can eliminate the one in space. And now you know your location!

In order to make this simple location calculation, the GPS receiver has to know two things:

The location of at least three satellites above you

The distance between you and each of those satellites

The GPS receiver figures both of these things out by analyzing high-frequency, low-power radio signals transmitted continuously from the GPS satellites. Cheaper GPSs have a single receiver while better units have multiple receivers so that they can pick up signals from several satellites simultaneously. There is also a computer chip in the receiver that performs all the needed calculations. As it turns out, this is a fairly elaborate process.

At any particular time (let's say midnight), each satellite begins transmitting a long, digital pattern called a pseudo-random code. Our receivers also begin running the same digital pattern also exactly at midnight. Due to the distance between the satellite and the receiver, when the satellite's signal reaches the receiver, its pattern will lag a bit behind the receiver's playing of the pattern. The length of the lag (delay) is equal to the signal's travel time. The receiver multiplies this time by the speed of light to determine how far the signal traveled. Assuming the signal traveled in a straight line, this is the distance from receiver to satellite.

In order for the distance information to be of any use, the receiver has to know where the satellites actually are. This isn't particularly difficult because the satellites travel in very high and predictable orbits. The GPS receiver simply stores an almanac that tells it where every satellite should be at any given time. The almanac is fairly large, but includes the forecast position of the satellites for the next couple of months. Without the almanac, the GPS receiver would be unable to determine distance to any satellite. This information is continuously downloaded to the receiver during the operation of the GPS.

Your GPS receiver calculates its position based on the information it receives from four located satellites. Things like the pull of the moon and the sun change the satellites' orbits very slightly, but the Department of Defense constantly monitors their exact positions and transmits any adjustments to all GPS receivers as part of the satellites' signals. This addition to the almanac is called an ephemeris, and must be downloaded from each satellite to the receiver EVERY time the receiver starts up. The total time it takes to download a complete almanac and ephemeris can be as long as 30 minutes, which explains why some GPSs seem to take forever to "boot up" if they have been turned off for any period of time.

The GPS system is theoretically accurate to about plus or minus 10 yards, but inaccuracies do pop up. For one thing, radio signals make their way through the atmosphere at a consistent speed (the speed of light). In fact, the Earth's atmosphere slows the electromagnetic energy down somewhat, particularly as it goes through the ionosphere and troposphere. The delay varies depending on where you are on

Earth, which means it's difficult to accurately factor this into the distance calculations. Problems can also occur when radio signals bounce off large objects, such as skyscrapers, giving a receiver the impression that a satellite is farther away than it actually is. On top of all that, satellites sometimes just send out bad almanac data, misreporting their own position.

Differential GPS (DGPS) helps correct these errors. The basic idea behind DGPS is to use a stationary GPS receiver on the ground, with a known location, to measure any GPS inaccuracies. Since the DGPS hardware at the station already knows its own position, it can easily calculate its receiver's inaccuracy. The station then broadcasts its own radio signal to all DGPS-equipped receivers in the area, providing signal correction information for that area. In general, access to this correction information makes DGPS receivers much more accurate than ordinary receivers, but also more expensive. There are two types of DGPS: The Wide Area Augmentation System (WAAS) and the marine Differential GPS System (dGPS).

WAAS is primarily an aviation system, which makes it available nationwide. Lots of inexpensive GPS receives (and smart phones) are WAAS enabled. WASS transmits a general correction signal up to a satellite in synchronous orbit above the US, which then retransmits the correction signal to all receiver within "sight". A WAAS enabled GPS is usually accurate to about plus or minus 10 feet.

dGPS is a marine augmentation system operated by the US and Canadian Coast Guard, primarily along the coasts and the Great Lakes. dGPS operates in a similar manner but transmits a localized correction signal from commercial radio towers. dGPS is usually a more expensive add on to a basic GPS system but can provide accuracies within plus or minus 1 foot!

Regardless of whether your receiver is plain GPS or augmented, once it has locked into at least 4 satellites, the receiver can tell you the latitude, longitude and altitude (or some similar measurement) of its current position. To make the navigation more user-friendly, most receivers can then plug this raw data into map files stored in memory. If you use maps stored in the receiver's memory, connect the receiver to a computer that can hold more detailed maps, or have w airless telephone connection your position can then be plotted and displayed on an appropriate map. Simple computer calculations can then perform functions such as:

- How far you've traveled (odometer)
- How long you've been traveling
- Your current speed (speedometer)
- Your average speed
- Record a "bread crumb" trail showing you exactly where you have traveled on the map
- The estimated time of arrival at your destination if you maintain your current speed

Wireless-Assisted GPS

Some GPS smart phones use wireless-assisted GPS to determine the user's location. In wireless-assisted systems, the phone uses the orbiting GPS satellites in conjunction with information about the cell phone's signal. Sometimes called enhanced GPS, wireless-assisted GPS can often get a fix on the user's location faster than a GPS-only receiver. Some wireless-assisted systems can work inside buildings, under dense foliage and in city areas where traditional receivers cannot receive satellite signals. Assisted GPS (A-GPS) is another cellphone product that often significantly improves startup performance—i.e., time-to-first -fix (TTFF), of a GPS satellite-based positioning system. A plain GPS can take 10 -30 minutes from a cold start to download the almanac and determine its location. Most GPS enabled phones can download the almanac digitally over the phone is less than 30 seconds and use the cell towers as pseudo DGPS stations. This feature permits cell phone GPSs to "boot up" and become operational in less than a minute. This capability does not exist if you are in an area of poor cell phone coverage, or of you have a slow data connection. Your cell phone will still act as a GPS but might take MUCH longer to establish your initial position.

Interfacing with other equipment

Some GPS receivers have an NMEA 2000 interface. This lets you connect the GPS to external equipment such as chart plotters, autopilots, engine controls, etc.....probably more capability than most of us need. GPS receivers teamed up with marine communications radios have a similar interface that can be used to automatically transmit your location during a distress call. This function, called Digital Selective Calling (or DSC) will be discussed in the next newsletter. Hopefully all this information will help you better understand and use your various GPS receivers and/or in the purchase of a new receiver. Happy (and safe) sailing!

Trivia Answers

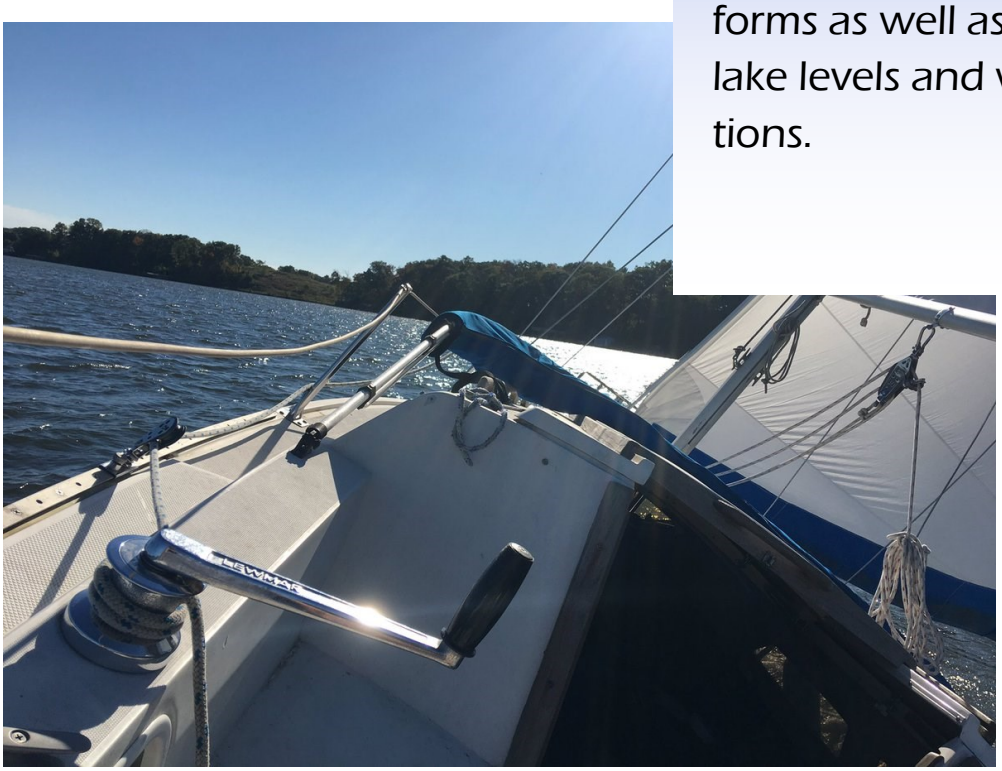
1. On historic sailing ships, women were occasionally smuggled aboard - and many naturally became pregnant in due course. Childbirth at sea traditionally happened between cannons on the gun deck, and the child was recorded in the ship's log as a son of a gun.
2. "Mayday" is said to have originated from the French phrase "M'aidez" - meaning "Help me."
3. An "angel" is another term for an anchor kellet or sentinel. This is a weight that is suspended from the anchor rode some distance down from the bow to lower the angle between the lower part of the rode and the sea bottom, thus increasing its holding power while also providing slack to absorb the strain caused by gusts and waves, especially when there is not room to let out sufficient scope.
4. Water going down a drain swirls counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere. So just put some water in the galley sink and watch after you pull the plug. This is called the Coriolis effect, which also influences ocean and wind currents.
5. The term originally used for the left side of the boat was larboard. Given its similarity in sound to "starboard," you can see how the term "port" became preferable over time. "Starboard" derived from Old English terms for steering board (on the right side of historic ships). Larboard possibly came from the words for loading and board - and ships were traditionally docked on their left side for loading. "Port" is thought to have the same meaning: the side put to the wharf when in port.
6. Sailors in port in Yokohama liked to visit Hunki-Dori street when they felt carefree - in the center of the city's red light district where sailors were wont to go after a long time at sea.

LAFAYETTE
Sailing Club

What's on the website!

Check out the LSC website at https://lafayettesailingclub.com/

You can find all sorts of useful information and pictures there including membership registration forms as well as Lake Freeman lake levels and weather conditions.



2017 Cruising Schedule

LSC cruises are designed to accommodate, benefit and contribute to the social function of LSC and as such are restricted to members in good standing. Coordinators of each cruise will communicate directly with members planning on attending each cruise. Interested members should contact the cruise coordinator for detailed date, harbor and marina information.

March 16-19	Winter Mini-Cruise, Lake Carlyle Illinois	Randy Carie, coordinator
May 4-7	Spring Mini-Cruise, Lake Monroe, Bloomington, Indiana	Sam Guffey coordinator
July 15-22	Summer Cruise, Grand Traverse Bay, Michigan	Kirk Gilbert, coordinator
October 20-22	Fall Mini-Cruise, Holland, Michigan	Dave Keller, coordinator

LAFAYETTE
Sailing Club

The Lafayette Sailing Club is an organization composed of individuals and families interested in sail boating and sail boarding. The club was originally formed in 1969 by a small group of Purdue University and Lafayette area individuals interested in sailboat racing.

Membership is open to anyone interested in sailing. The club maintains it's own harbor on Lake Freeman. Members may park their boats at the harbor. The club also owns three sailboats available to any member.

Membership information can be obtained at http://www.lafayettesailingclub.com