

FIRST BOAT

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TUESDAY, FEBRUARY 14, 2012

When Your GPS Fails

Vin Pica wants to know - are you prepared to find your way to a safe port if your GPS bugs out?...

Guest blog by [Vincent Pica](#)



Photo courtesy of Lowrance for the Daily Boater

You rely on electronics to find your favorite fishing hole. Can you get home without their help?

We've written a number of times about the quiet wonder of the 20th century – your GPS. (see [Prevention of Collisions at Sea](#), and ["Hole in the GPS Sky"](#).) But what can happen to the private boater when it fails?

There is plenty to do to find where you are and get home safely.

This column is about that...

It Has Happened – to Me

Yes, I have had GPS fail on me as we were passing the ocean side of Long Island, NY. When the weather is really foul, the signal can get blocked, in so many words, by the ever-thickening skies between you and the satellites. Since this is when you need it the most, you need a back-up plan. When I teach seamanship classes, I constantly stress that the skipper needs to periodically (every 15 minutes? 30 minutes?) manually update a log – here is where I am, here is my heading and this is my speed-made-good. As you've read here many times, if you can give that information to the USCG, it increases your odds of being found many times over. (See ["Six Tips to Surviving a Storm at Sea"](#) and ["Getting Found at Sea"](#).)

So when the GPS went "out", what did I do? It was back to the future. I knew pretty much where I was

because I made a point of knowing it. I gave the helm to an experienced crewman and said, "Point the boat where I tell you. We're in heavy weather so I want you sounding the whistle no less than every 2 minutes for no less than 4 seconds each time - and any other time you think you need to." Then I took out my parallel rulers and a paper chart and started calculating course headings and distances to the closest port of call. We made it into harbor on the south shore of Long Island. Took the train home and came back the next day to continue our passage.

What "Tricks" Did I Use?

First, I verified what I thought was our position. There are just a handful of ways. First, if you can see land and can draw lines of position back from preferably 3 or more points on your paper charts, you have to be where they intersect. If you don't have a handheld compass which you can use to get bearings to the marks, look over the top of your "desk-mounted" compass and read the bearing. It isn't going to be as accurate but you'll be inside the little triangle, sometimes called a "cocked hat", where the lines intersect.

What if you can't see 3 or more landmarks? If you can see one, you can calculate a "running fix." Get a bearing from your handheld (or "desk-top") compass to the one point you can see. Draw the line of position from you to it - and write down the time. While maintaining course and speed, give yourself some time before taking another bearing to that landmark and draw the new line of position and mark the time. To make the example easy to follow, let's say we made way for 10 minutes at 6 knots on a heading of 270 degrees. As you no doubt know, if you were making 6 knots for 10 minutes, you have traveled 1 nautical mile from your first way-point. So, you are one NM west (270 degrees) of where you were before. Take your dividers, measure 1NM from your latitude marks (the ones that run up and down the edge of your chart - NOT along the top or bottom - *those are longitude marks*) and draw a line at 270 degrees from first way point - plus some extra room. Now take a bearing back to your landmark and draw that line of position back to your course line. You are where the second LOP intersects the course line.

Don't fail to use as many sources of confirmation as possible. If the paper chart says you are in 10' of water but the boat's fathometer says you are in 50' of water, you probably aren't where you think you are. Start again. Remember that no matter what you think your course over the water is, you will be affected by the tides and the wind (see "[Set & Drift](#)", [part II.](#)) Check your Eldridge or Coastal Pilot (don't have one? Get one.)

What if you can't see anything? If you are within radio range of the USCG, their Rescue-21 system can pinpoint you. Don't be bashful. (See "[Getting Rescued with Rescue-21](#)"). Start the "rescue starts now" clock asap.

BTW, if you are interested in being part of USCG Forces, email me at JoinUSCGAux@aol.com or go direct to the D1SR Human Resources department, who are in charge of new members matters, at [DSO-HR](#) and we will help you "get in this thing..."