

Chart Reading 101

(This is a very graphic-intensive page - it may take a while to load)

Many recreational boaters in small boats don't consider it important to have charts onboard. *Bad idea*, even if you are just operating on your local lake. Perhaps you are not yet a navigator, but a chart onboard allows you to compare what you are seeing with what you should be seeing and can help you keep your bearings.

I did an instructor's clinic a year or so ago on Lake Lanier in Georgia. This is a huge lake north of Atlanta. The school that hosted the clinic had to borrow a few boats from another location on the lake and several of the instructor candidates volunteered to move the boats. I happened to be on the lead boat with the school's owner who was familiar with the lake, however, the trailing boats all had skippers who had never been on Lake Lanier before and none of the boats had charts. Needless to say, as the other boats leisurely sailed around and got lost, we had more and more radio calls asking for directions.

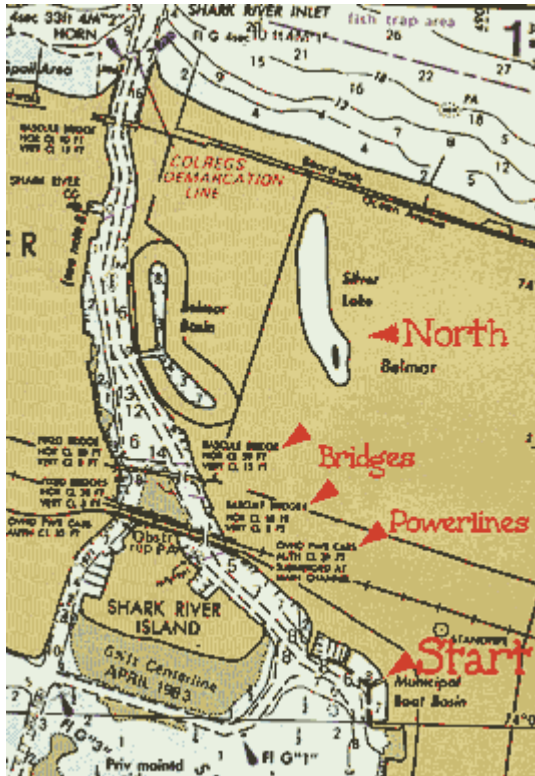
Nautical charts are different from maps in that they specifically depict water areas, while maps concentrate on land area, roads, landmarks, etc. Land areas and features on charts are sketchy and are noted only for their interest to the boater. Unlike maps, the nautical chart conveys much information specifically designed to assist in safely navigating the area that the chart covers.

Several of our visitors (that includes you Judy, in your brand new spiffy boat) have asked for a tip on reading nautical charts so we thought we would take a "non-navigators" trip from the Shark River out to the Atlantic, down the Jersey Shore, in the Manasquan Inlet and down the Intracoastal to Ortley Beach.

Important tips:

- Study your chart thoroughly.
- Look at the position from which you will start and visually follow along the course you wish to take.
- Look for "notes" - water depths, obstructions (especially under water), bridges, power lines or any other unusual items that may be a hazard to your progress.
- Make a note of each of these on a separate piece of paper.
- Make note of all buoys and markers you may pass in the order they will appear. This will give you a documented picture of your route and what you should expect to see without having to continually try to find a small marker on the chart.
- Look for visual objects featured on your chart that you should be able to observe and identify to confirm your position.
- Always check the weather before departing - in this case, also to make sure you will be safe in navigating the Shark River Inlet.

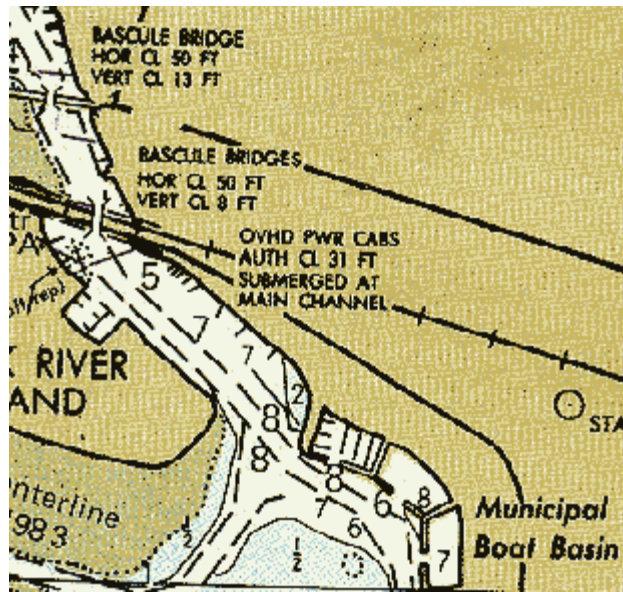
Disclaimer: This trip is for demonstration purposes only and is taken from charts which may not be up to date. Boaters should not rely on the information presented here for navigation in this area and should consult current local charts for specific details and directions.



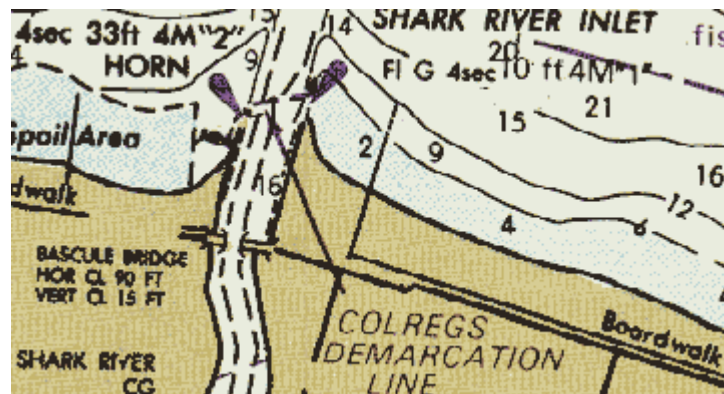
Using the Shark River detailed inset, let's assume that we are departing the Municipal Boat Basin on the south side of Shark River Island. We can see from the chart note that we have a controlling width of 50 feet and 7.5' depth from the Boat Basin to the jetty channel. The channel then widens to 100 feet with a depth of 18 feet. [Click to see enlarged chart.](#) *Note: This information may not be currently valid.

As we proceed toward the Atlantic, our first concern will be the power lines and two bridges that we will encounter.

The power lines have a clearance of 31 feet so we are okay in our small cuddy cabin cruiser. The first bridge has a horizontal clearance of 50 feet and a vertical clearance of 8 feet. The second bridge has a horizontal clearance of 50 feet and a vertical clearance of 13 feet. Since the highest point on our boat is the VHF antenna and that is only 6 feet above the water we're okay for the bridges.



Once we have cleared these first two bridges we will be passing the Belmar Basin on the right and the Shark River CG on the left. We then will traverse another bridge with a horizontal clearance of 90 feet and a vertical clearance of 15 feet. Once again, we are okay as we pass under the bridge.



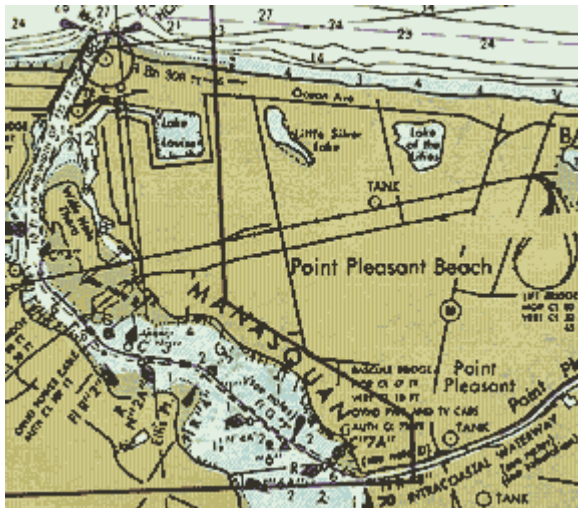
We are now approaching a FL R 4sec 33ft 4M "2" HORN marker and a FL G 4sec 10ft 4M "1". What do these series of letters and numbers mean? Simply put, we will be passing, on our port side, a flashing (FL) red (R) lighted buoy that flashes (at night) every four seconds (4sec), which is 33 feet tall (33ft), can be seen for 4 miles (4M), is marked with the number 2 ("2"), and is equipped with a horn (which blasts once every 15 seconds during reduced visibility, according to the Light List, Vol. 1, Atlantic Coast). We also will be passing, on our starboard side, a flashing green lighted buoy that flashes every four seconds (at night), is 10 feet tall, can be seen for 4 miles and carries the number 1. There is an imaginary line between these two markers that represents the COLREGS demarcation line. Remember what this is? This is where the Inland rules end

and International rules begin when leaving and vice-versa when returning.



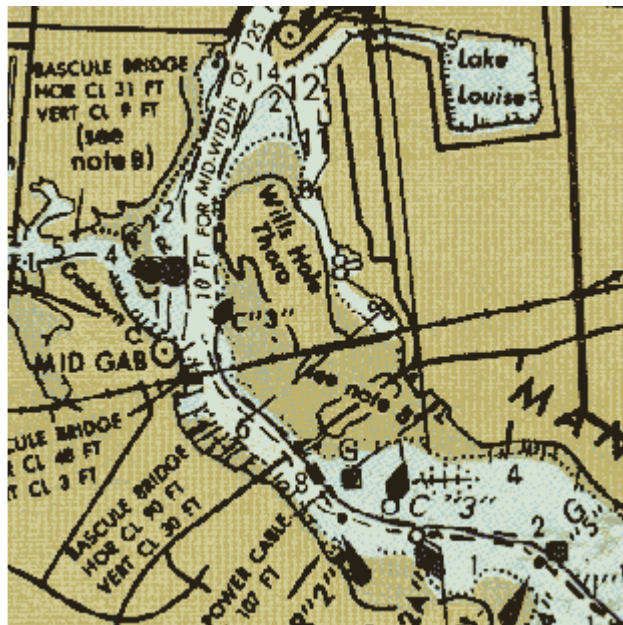
Once we have cleared the markers and the Shark River Inlet we have in site the RW "SI" Mo(A) WHIS. This is the red and white vertically striped safe water mark. We won't go out this far. We will note our depths on the chart and our depth finder and turn south when we have reached the 30 foot contour line. This is the solid line running parallel to the beach. This should be far enough out to keep us out of any breaking waves and far enough to keep away from some of the wrecks that we see noted closer to shore to the south. Make a note of the time. Let's assume that we are just going to go on a leisurely cruise down to the Manasquan River Inlet at 10 nautical miles per hour. A little quick math and you figure this to be 1 nautical mile every 6 minutes.

As we proceed south following the 30 foot contour line and watching our depth finder can enjoy the view of the beach. We make note of the distance legend on the chart and find that one nautical mile equals approximately one and one-half inches on the chart. After traveling south for approximately six minutes you should be able to see the radio tower just off your starboard beam. Another eight minutes or so and you should be able to see the hotel dome to starboard. Another seven minutes and you should see to starboard a yellow (Y) privately maintained spar marker labeled with the letter "A". Six more minutes and you will be approaching another yellow privately maintained spar this time labeled with the letter "D".

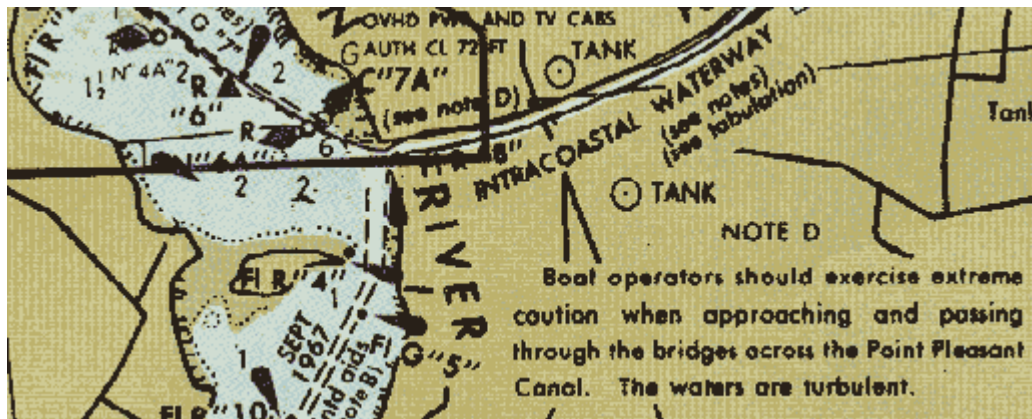


From this point, you now have the Manasquan Inlet entrance markers in site. ([Click to see enlarged chart](#)) You will turn west to enter the Inlet between the FL R 4sec 30ft 5M "4" and the FL 6sec 35ft 15M HORN. Be sure to steer clear of the jetty, as marked "Rks" on the chart. "Remember Red Right Returning" Coming in the Inlet you are again passing a COLREGS demarcation line and once you have cleared the markers you are again obeying Inland rules.

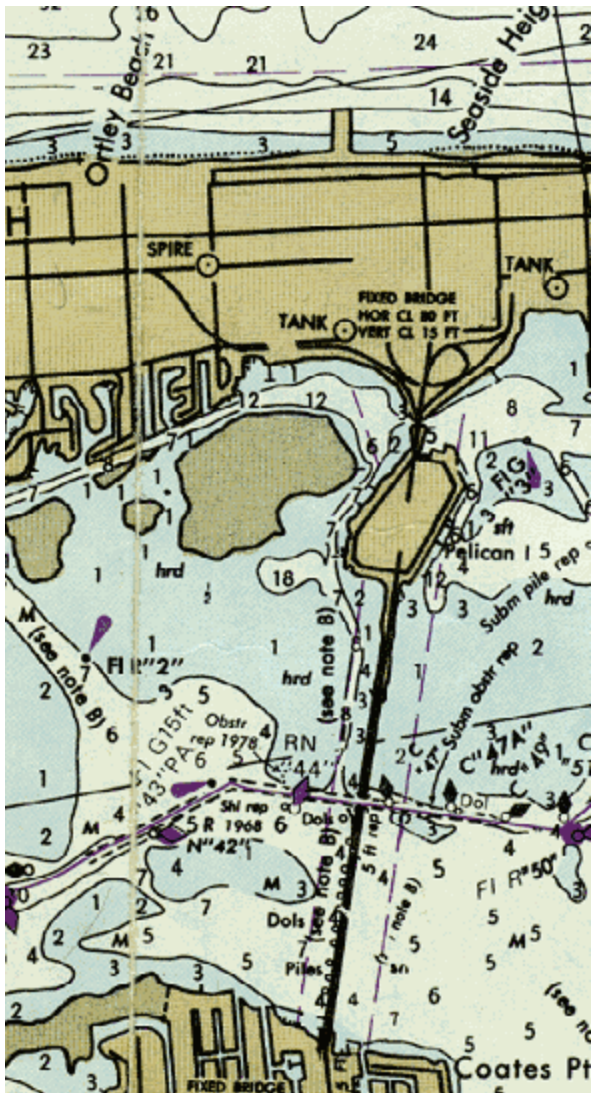
Once inside the inlet we will just follow the channel with a depth of 8.5 feet until we reach R"2" FL R 4sec marker. This is where the channel begins to narrow until we are filtered into the very narrow channel at marker C"3" just before the first bridge we see returning from sea. This has only a 3 feet vertical clearance but since it is a railroad bridge, it is usually open to navigation except when there is a train coming. Continuing to follow the channel, the next obstructions are another bridge with a 30 foot vertical clearance and power lines crossing the channel with a clearance of 107 feet. No problem here.



Even though the channel now starts to enter a physically wider area of the Manasquan River, you note that the channel is marked more frequently. This is because the water is very shallow (1- 1.5 feet in some areas) outside the channel. We pass the G"1" marker to port and FL R"2" to starboard. We continue inland keeping the red, even-numbered markers to starboard and the green, odd-numbered markers to port.



Just after we have passed R N"6A" and C "7A" we turn south into the Point Pleasant Canal, which begins the ICW, keeping FL R"8" to starboard. This marker should have a yellow triangle indicating that it is also a marker in the ICW. Once inside the ICW going generally south, we will keep the red markers to starboard and green markers to port. We notice that as we approach the first bridge with 10 foot of vertical clearance, there is a special note on the chart (Note: D) which advises that we should use extreme caution because of turbulent waters around bridges over the Point Pleasant Canal.



From here we are cautious and continually check our chart for markers and objects from which we can visually note our position - keeping red markers to starboard and green to port. You will notice on the chart that there are areas of very shallow water depth (the bluer areas). In approximately 10 - 12 miles we see the Spire and Tank to port as we approach the causeway which runs from the mainland to the beach. This should be recognized as the area between Ortley Beach and Seaside Heights. In order to get into the beach area it will be necessary to follow the privately maintained channel which runs north of, and parallel to, the causeway. (The chart indicates "see note B". Note B reads: Channel is marked by privately maintained seasonal aids.) From here, we would want either local knowledge or a more detailed chart than we have been able to consult on this adventure.

Many chart symbols are shown on the back of the chart. Chart #1 is a collection of all the symbols found on nautical charts. Some common chart symbols are depicted [here](#).

oater-friendly trip covering only about 20 miles, hopefully you get the idea autical chart can be in making your trips safer. Would you have thought rlines, bridges and their heights, looking for specific markers to use as "road where to turn, using depth contour lines as a roadway in the Atlantic, sighting p track of where you are? If not, perhaps you should. Just make sure you