Missionary Sailing School

Enjoy this short *video*:
http://www.youtube.com/watch?v=pmcsr0wt4wk&feature=related

Captain Ron is right – most anything can happen "out there" if you are not prepared, both in knowledge and in ship readiness. But do you remember what Captain Ron also said in the video we saw during Lesson 7? He said, "Ah, they'll get out of the way. I learned that driving the Saratoga." Well, his philosophy apparently didn't work for these guys!

***Video*:** http://www.youtube.com/watch?v=sZPWA_3YfIM&feature=related

And when it comes to paying attention, this family forgot to note that the tide was falling (not rising) when they anchored for a 'brief stopover':

***Video*:** http://www.youtube.com/watch?v=cOciHcMKFMo&feature=related

Sailors will tell you that it was a 'good day of sailing' if the sun was shining, the sky was clear, the wind was steady, but especially that they didn't hit anything (either above or below the surface!!)

Driving a car is a 'two-dimensional' experience (what's ahead, behind, and on either side.) But sailing involves the third dimension of depth ("How deep" is the water and "Is there anything down there that might hurt my boat or me"?) Fortunately, those questions can usually be answered by correctly using your tools [depth sounder and nautical charts] but they should always be on your mind, keeping you alert and attentive.

This lesson is going to cover those tools in an introductory way. You are greatly encouraged, however, to continue your study, obtaining all the useful knowledge you can. Navigating a vessel on the seas is both an art and a science for which you will never tire of learning.

Lesson 9: Coastal Navigation Part One

1. Who Goes First? (The 'Rules of the Road')

Driving a car has its own set of rules: road signs, right-of-ways, speed limits, and a very helpful yellow line down the middle of the road. And so does sailing [except for the yellow line!] Before we consider those rules, get a feel of sailing in 'traffic' with this ***Video*:** [use Full Screen]

http://www.youtube.com/watch?v=-VcdZ6_GcTU

As a general rule, when in a relatively narrow body of water boats pass one another in the same way cars do: while approaching head on they pass to the right of each other [“**port-to-port**” – your portside to his portside.] When overtaking [passing from behind] you move to his left [your **starboard** to his **port**]. As a courtesy the vessel being passed should slow down so the overtaking vessel can pass without creating too much ***wake*** [wave turbulence.]

When intersecting courses meet, the vessel on the right should have the ‘right-of-way.’ And always - a vessel that is unable to easily manuever because of size or activity [i.e. barges or fishing vessels] has the ‘right-of-way’ over other vessels. These rules are common sense and quick to be learned. But there are additional ones that deal with the many variables that may occur when traveling over the unlimited ‘lanes’ of open water.

Open this **webpage** and go over the material there according to my instructions (which follow):

http://www.sailingusa.info/sailing_safety.htm

- Read the paragraph that begins with “The captain of all boats…”
- Now look over the ‘**Definitions**’ of terms used in discussing right-of-way rules for vessels.
- Did you note that a vessel is considered “sailing” only when not being propelled by any kind of mechanical machinery (i.e. inboard or outboard motor). If your motor is on and in gear you are bound to the rules of a motorboat (even if your sails are also up!)
- The expression “***stand on***”is often used (especially in radio communication) to mean “I will continue at the speed and heading I am presently on.” Sometimes this is necessary to prevent confusion while the other vessel decides his course of action [but use wisdom & caution...you know what you’re doing, he may not!!]

Under the caption “**Rules Of The Road**” is this statement: “No watercraft has the ‘right-of-way’ for it is the responsibility of all watercrafts to avoid a possible collision. The term ‘right-of-way’ should not be used in the description of the responsibilities between two vessels.**”**

This amounts to: If you run into each other, both of you will be at fault (not to mention both in a ‘lot of hurt’!) So learn some of the situational examples given during the final part of this webpage. Read to the end of this section [stop at “Crew Overboard” - don’t forget: click the photos to enlarge]

This topic is very important and should be well learned because, when in close proximity to another vessel, you need to know exactly what action should be taken if necessary, because any changes of heading may require time to accomplish [remember, Boats don't have breaks!] Never assume the other guy is paying attention and, even if he is, the bigger the vessel the longer it takes to change its heading or decrease its speed!! [a freighter heading towards you needs several miles to come to a stop!]

As a courtesy as well as a caution, make radio contact when possible to inform the other vessel of your intentions [i.e. "Can you give me your starboard side" – or – "Let's do this port to port, Captain", etc.] There are uniform sound signals that can communicate your request using the ship's horn. Read about these on this same webpage [scroll down and read the section titled "Horn Signals".]

Finally, open this **webpage** and study these additional notes carefully [do not follow the link to 'navigational lights'. We will cover that next]:

http://www.schoolofsailing.net/avoidingcollisions.html

2. Navigational lights

As long as you can both see each other the 'Rules of the Road' are fairly easy to obey [provided that the other guy knows them, too - which is not always the case!] But what happens in the dark of the night? The 'powers-that-be' have devised a plan of placing colored lights on all vessels to indicate to other boats that vessel's type and direction of travel or activity. In some night conditions (and depending on distance) those lights will be the only thing you see that reminds you that you are not alone out there afterall.

Once again, I need to ask you to do some extra reading to properly cover this subject. Read this well illustrated **webpage** entirely:

http://www.schoolofsailing.net/navigationlights.html

This next **webpage** has practice activities for you. Open the page and follow these instructions:

http://www.boatus.org/onlinecourse/reviewpages/boatusf/project/info2c.htm

• You are welcome to read the notes along the top of this page but then study the second illustration, called "Light Shapes, Colors, and Positions #1." Press the button labeled "Click Here for Animation" Be patient and you'll see three colored dots moving across the screen [if your volume is up you'll hear a 'motor' sound as well] until it is revealed that these were the **running lights** of a small motor craft. ["Click Here for Description" returns you to the notes.]

• The next illustration [#2] will display the various light combinations that may appear on power vessels. Click on each red dot within the picture to 'turn on the lights.' [the bottom, hard to read one says 'Cabin lights']
• The third one ["All Around Lights"] would be for small sailboats, row boats, and small motored dinghies. Click the "Animation" button. Often small boat operators depend on a directional flashlight [here referred to as 'electric torch'] but don't forget to provide 360^{o} of visibility. In the dinghy I usually 'pan' my horizon intermittently, then leave the light steadied on my vessel's interior [or even on the wife or myself] for a moment to assist others in identifying my size and position. Especially direct the light towards an approaching vessel [even making circles to gain attention.] Just don't do as many cruisers do and race through the anchorage at night with no light at all!!
• Illustration #3 shows the positions of nav lights on sailboats. Click to "animate" and you will see lights similar to illustration #1 (except there is no masthead light.) Remember, if your motor is on and in gear (even with sails up) you would need to show the upper light [sometimes referred to as the 'steaming light'] since you would now be considered a 'motored boat.'
• Illustration #4 allows you to see the different lights in use on sailboats. Once again, click on the red dots to turn on the lights [as in illustration #2].
• A discussion on masthead lights follows then another illustration of an all-around light being used on a small boat. Study and animate this one and the others that follow on anchoring and barge traffic.

Neither webpage covered freighter or cruiseship lights because these lessons were mainly geared towards the recreational boater sailing in coastal waters. But for offshore mariners, these 'mammoths of the sea' can be our greatest concern [their size limits their ability to maneuver, not to mention they rarely notice us 'little guys']

Also, closer to the coast, fishing vessels (especially shrimp boats who work through the night) can be problematic. Then there are tugboats pulling dimly lit barges many hundreds of yards astern. One of the webpages above illustrated a tug that was either tied alongside or pushing from behind, but this is only done in calm conditions inshore. Offshore, a barge is pulled far behind the tug by a steel cable that can cut your boat in half should you venture between the two.

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Let me suggest that you never assume the heading or speed of a vessel at night unless you have, by several observations at intervals of five or more minutes, determined with certainty what you have 'going on.' Though your progress may seem slow through the water, things happen fast out there. Stay alert by maintaining a watch through the night so that nothing catches you by surprise.

One additional note about lights at night: sometimes you see a vessel on a heading towards you in which it seems their bow light keeps changing from red to green and back again (almost as though they can't make up their mind which way they want to go.) Remember, it is hard to maintain a straight course at sea, especially if there is some kind of 'sea running' [sailor talk for bigger waves] so either of you may be varying your heading. Though you do not see both red and green lights at the same time [which would be a boat directly facing you] it is likely his heading is towards you since both colors are being seen and action may be required to avoid collision. [I've had this sort of confusion with what turned out to be a fishing boat doing figure eights while trolling!!]

In any case, whether at sea or along the waterway, when you are concerned about collision use the radio! We will discuss the VHF [ship's radio] in another lesson, but for now try to learn well the navigational lights and (by all means) depend on a quality pair of binoculars or, if available, a night scope to improve the clairty of the lights you are trying to see [either of these tools will likely enable you to also see the shadowy silhouette of the vessel, even with only starlight available.]

[Now - for further practice - open this excellent **webpage**. You will see 'lights' moving across the lower screen. Try to identify what kind of vessel it would be [Click red dot "Read the rule" to see the official Coast Guard regulation. Click the red arrow "Next" to reveal the 'vessel'. Numbers at top toggle around the different 'boats'.]

http://www.sailnet.com/collections/learningtosail/rules/start.htm

3. Navigational Aids (Roadsigns on the water)

Before getting started let's just relax with this brief introduction to buoys and markers which help to keep boats out of trouble on the water [use Full screen]:
Video: http://www.youtube.com/watch?v=QzRfMTzHFmw&NR=1

Navigational aids are much like roadsigns when driving a car: some indicate the boundaries of safe water [where the shallows are], others regulate speed or types of activity

allowed. Many are equipped with lights to assist after dark. The following 6 min. **video** will give you an overview of the various types and their applications [we will cover each in detail shortly - Full screen suggested]:
http://www.youtube.com/watch?v=G1m09KD3GFw&NR=1

Now, open this **webpage** and we'll cover it together:
http://www.sailingusa.info/basic_navigation.htm

• Read the section about "Buoys". By clicking on the left photo of each colored pair you can see that its light is maintained by a solar panel positioned on top. As was mentioned in the previous video, buoys are often used where water depth makes placing a stationary fixture impractical (such as the deep waters of shipping channels or areas offshore) but they are also placed for other reasons, such as these that follow:
- As temporary replacements for missing permanent ones (probably run over by an unattentive boater!)
- In areas where the channel keeps shifting due to changes in the current (such as small inlets and junctions where one river or creek may empty into another)
- Sometimes to mark a new underwater hazzard (such as a sunken boat or other obstruction)

In every case you must give these buoys a ***wide berth*** [sailorspeak for "Don't get too close"] Consider, also, that these bouys are held in place by a cable or chain attached to an anchor. Storms or ship collisions may have moved them out of place. Also, at high tide they will be directly above their assigned position, but at low tide [especially in places where the tide drops many feet] the slack in their cables can easily 'swing' them over shallows or dangers. Passing too close can be big trouble! Anywhere you find a buoy that was not previously ***charted*** [meaning indicated on your nautical chart – more on these soon] needs to be approached and passed with caution.

• Next, read about "Daymarks" [stop at "Sailors Tip"]

Click on the photo of the red **daymark**. This is a 'lighted mark' (having a flashing red light on top) We also refer to one like this as a ***dolphin*** because instead of one piling ['pilings' are pretty much short telephone poles] it is made with a cluster of several pilings. Note that the number ***board*** is a triangle shape, red in color. This is so that you may distinquish which marker you are looking at from a distance just by its shape or color [they are relective at night though the green ones are brighter when illuminated by spotlight or flashlight]. Also, notice that the two boards appear to be at a right angle to each other rather than on opposite sides. This daymark is clearly at a 'bend' in the

channel. The board will usually face 'squarely' towards the oncoming 'traffic' [therefore, if the one out in front of you appears to be angled away from you, likely you are too far to one side of the channel and better 'correct' before going aground]

Now click on the green daymark. Notice that it is positioned, not in the water, but on a rocky embankment! If a boat were to sail from 'marker to marker' [as is the custom of some boaters] they could suffer serious damage, especially after dark or during heavy fog. The best method for following a channel that is lined with markers, especially ones that may be fairly far apart, is to begin heading towards the next one but then, when about halfway to it, begin to ***point*** [change your heading] to the appropriate side of it so it may be safely passed.

Let's take a quick review of what we have learned so far. Watch this instructional **video:**

http://www.youtube.com/watch?v=iecnBRAO8wo

Since moving from one body of water to another may involve switching to another set of **markers,** it is possible that your direction 'from sea' has changed (meaning instead of Red Right Returning you now need to have the 'reds' on your 'left'.) As a precaution, always note the numbers on the markers. Coming 'from sea' the numbers should increase in ascending order (beginning low and going high). If they are decreasing then you are headed 'back to sea' (as far as the markers are concerned) and red should now be on your left. Remember, however, that in our first video a comment was made that once in a while the numbering will be 'restarted' [to prevent them from getting too large – usually not above 99] Refering to a ***chart*** can avoid most confusion here [renumbering occurs mostly in the ICW at state lines]

Watch this **video** now:
http://www.youtube.com/watch?v=UiOHHfgPhlc&feature=related

- The ICW [Intracoastal Waterway, also 'affectionately' called *The Ditch* by those who would rather be sailing the oceans] is a very important, relatively safe network of rivers, dredged canals, and routes across bays that provides passage from the Chesapeake in Virginia, around the peninsula of Florida, and on to Texas. It is regularly travelled by commercial craft (such as tugs towing barges and fishing vessels) as well as recreational boaters and a 'fleet' of retirees and other cruisers on their seasonal 'migrations.' Because of this the ICW can be a facinating as well as

challenging stretch of water, often requiring its own special rules of attention.

Most important of these is the fact that the ICW shares at times the same waters other natural 'channels' [such as rivers], even attaching its 'directional signs' to those in use for that particular body of water. This can be confusing unless you make a discipline of watching for the yellow triangle or square. As stated in the video, it doesn't matter if a yellow triangle is on a green board – yellow triangle means "treat this **mark** as an ICW red". Far more difficult is travel at night when these smaller yellow symbols are harder to spot. Again, your chart will be invaluable for keeping you where you need to be!

Now, one more **video** about other kinds of markers:
http://www.youtube.com/watch?v=mkkL54W-HfU&feature=related

Review: There is a lot of information in this lesson. Be assured much of it will become 'second nature' as you get out there and use it daily. But for now I suggest you review often, especially the exercises on identifying navigational lights. Pay special attention to some of the personal suggestions I have made from my twenty years of daily experience on the water. In the next lesson we will be discussing nautical charts which will help to reinforce what has been covered here.

Meanwhile, treat yourself to this pleasant 8 minute **video** of sailing vessels in a New Zealand harbor, shot from a small Wharram catamaran, as a reminder of what all this hard studying is about. Watch in Full Screen, observing the variety of boats, asking yourself, "In this busy harbor, who's got the right-of-way?":

http://www.youtube.com/watch?v=132lOftvm6k&feature=fvw