**U.S. Aids to Navigation**

**NAVIGATION AIDS**

**Lateral Aids**
Marking the sides of channels as seen when approaching from seaward:
- Odd numbers Port Side
- Even numbers Starboard Side
- Lighted buoy (green light only)

**Safe Water Aids**
- Marking midchannels and fairways
- Lighted buoy (red light only)

**Preferred Channel Aids**
- Not numbered.
- May be lettered.
- Preferred channel to starboard
- Preferred channel to port

**PREFERRED CHANNEL AIDS**

**REGULATORY MARKERS**
- Information placed inside or outside the rectangle, such as directions, distances, or locations.
- Speed Restriction placed inside or outside the circle.
- Explanation placed outside the crossed diamond, such as dam, rapids, or swim area.
- The nature of the danger placed inside or outside the diamond.

**The Sound Signals**
All vessels are required to exchange sound signals when their paths will lead them into close quarters. Depending upon the size of your vessel, a mouth, hand or power operated whistle or horn is required. The following four signals are the only signals that may be used by vessels, when within sight of each other, to signal their intentions:
- One short blast – I intend to leave you on my port side.
- Two short blasts – I intend to leave you on my starboard side.
- Three short blasts – Indicates the operation of astern propulsion.
- Five or more blasts – Indicates danger.

**Anchor Lights**
All vessels, when at anchor outside an officially marked anchorage, must exhibit, an all-around white light.

**High Speed Ferries**
High Speed Ferries (HSF) are capable of speeds of 60 knots (70 miles per hour) and above. When a HSF is approaching:
- Know and obey the USCG rules of the road.
- Make any changes in course or speed early and obvious to the HSF operator, and while still at least one mile from the ferry.

At night and in times of restricted visibility, display correct running lights and show a radar reflector. Monitor VHF Channel 13 for announcements from the ferry.

**Marker (Buoy or Beacon) Permits**
The placement of regulatory, navigational markers, slalom course buoys or jumps requires a permit from the DEEP. Regulatory markers denote swim areas, speed zones, danger areas or information. Navigational markers designate channels. Markers must meet DEEP specifications regarding size, color, banding, symbols and wording. On tidal waters, a permit is required from both the DEEP and USCG. Visit the DEEP website at [https://portal.ct.gov/DEEP/Boating/Boating-and-Paddling](https://portal.ct.gov/DEEP/Boating/Boating-and-Paddling) and click on Laws and Regulations

NOTE: Permits for mooring buoys on tidal waters are issued by the Town, local Harbor Master, or the DEEP’s Land and Water Resources Division and on inland waters by the Town or an applicable power generating company.

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Navigation Lights (Underway)

Recreational boats must display their required navigation lights at all times between sunset and sunrise, and during daylight periods of reduced visibility. Shown below are the lights required.

**POWER-DRIVEN VESSELS**

- **Sailing vessel**
- **Rowboat or canoe**
- **Sailboat under sail alone less than 23’**

**NON-POWERED VESSELS**

The lighting arrangements shown in the figures here have been taken from the U.S. Coast Guard Navigation Rules, International-Inland.

**TERMS TO KNOW:**

- **Stand-on vessel:** The vessel that should maintain its course and speed (unless collision is imminent.)
- **Give-way vessel:** The vessel that must take early and substantial action to avoid collision by stopping, slowing down, or changing course.

**Navigation Rules**

- **Passing Port to Port**
  - 1 short blast (1 sec.)

- **Passing Starboard to Starboard**
  - 2 short blasts (1 sec.)

- **Meeting head to head**
  - 1 short blast (1 sec.)

- **Both Give-way**
  - 2 short blasts (1 sec.)

**MEETING**

**CROSSING**

- **Give-way** (Burdened vessel) alters course
  - 1 short blast (1 sec.)

- **Danger Zone** 112.5°

**OVERTAKING**

- **Stand-on** (Privileged vessel) holds course and speed
  - 1 short blast (1 sec.)

- **Inland Rules**
  - “I want to pass you on your port side.”
  - 2 short (1 sec.) blasts
  - “Proceed”
  - 2 short (1 sec.) blasts

- **Give-way** (Burdened vessel) overtaking

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Movable Bridges

The raising and lowering of train and traffic bridges are regulated by the US Coast Guard. You need to understand some critical information to safely pass under these bridges:

Bridge clearance - is the distance between the water surface and the lowest portion of the bridge over the channel. This distance is measured in feet and can be found on the chart that the bridge is shown. Bridge clearances are referenced at mean high tide, with clearances changing throughout the tidal cycle. At low tide there will be more clearance than at an above average high tide.

Many fixed and all moveable bridges will have a clearance gauge on each side of the bridge. This gauge will indicate the bridge clearance at the specific time you are passing under the bridge. Each gauge is installed on the end of the right channel pier or pier protection structure facing approaching vessels and extends to a reasonable height above high water so as to be meaningful to the viewer. Other or additional locations may be used under particular conditions or circumstances.

Air draft of a vessel - or vertical clearance is amount of vertical space that the boat needs to pass safely under an object. This distance is measured from the boat’s waterline to the top of the highest structural object on the boat. By federal regulation, movable antennas that are not essential to navigation and fishing poles cannot count in the measurement. They must be lowered. If after lowering all of the non-structural and nonessential navigation components of your vessel, you still cannot pass under the bridge, you will need to contact the bridge tender.

Signaling the Bridge:

Moveable bridges must open promptly and fully for the passage of vessels when a request or signal to open is given. However, there are bridges that have set opening and closing schedules to facilitate the smooth flow of traffic so you may have to wait.

There are several acceptable methods to contact the bridge tender to discuss scheduled openings and to request an opening. The best method is by VHF marine radio via channel 13 using low power (one watt). The vessel and the bridge tender shall monitor the frequency used until the vessel has cleared the draw.

Using the radio, identify the name of the bridge (repeated three times) you need opened and the name and description of your vessel (eg. sailboat, 30 foot powerboat). Let the bridge tender know the direction you are headed and when you request the opening. When radio or telephone contact cannot be initiated or maintained, sound or visual signals shall be used.

Sound signals shall be made by whistle, horn, mega-phone, hailer, or other device capable of producing the described signals loud enough to be heard by the draw-tender. The sound signal to request the opening of a draw is one prolonged blast followed by one short blast sounded not more than three seconds after the prolonged blast.

If the tender can open the bridge immediately, the reply sound signal is one prolonged blast followed by one short blast sounded within 30 seconds of the requesting signal. When the draw cannot be opened immediately, the tender shall reply with five short blasts sounded in rapid succession within 30 seconds of the vessel’s opening signal. The signal shall be repeated until acknowledged in some manner by the requesting vessel.

The visual signal to request the opening of a draw is a white flag raised and lowered vertically or a white, amber, or green light raised and lowered vertically. The tender shall reply in kind if the bridge can be opened or raise a red flag or swing a red light back and forth horizontally in full sight of the vessel within 30 seconds of the vessel’s opening signal or show a fixed or flashing red light(s) within 30 seconds of the vessel’s opening signal and repeat until acknowledged in some manner by the requesting vessel.

Five Short Blasts: If you hear this sound from the bridge
and the bridge is open, it means the bridge is being closed. DO NOT TRY TO PASS through if you require an opening. The bridges are extremely heavy and are not easily stopped once the process has begun. The bridge tender may not be able to see you; WAIT for the next opening!

In areas where there is more than one moveable bridge, like New Haven Harbor, to eliminate confusion signals can vary. Checking the federal regulation cited above will provide those signals.

It is important to note that, the bridge tender shall take all reasonable measures to have the draw opened, regardless of the operating schedule of the bridge, for passage of emergency vehicles, vessels or other emergency situations, provided this opening does not conflict with local emergency management procedures which have been approved by the cognizant Coast Guard Captain of the Port.

**Schedules for Bridges** - Each movable bridge has its own opening schedule that is determined by federal regulation. Between May 15 and October 15, the five Amtrak movable bridges will reopen immediately after trains pass and will close in sufficient time for approaching trains to pass safely. Knowing the schedule will help you to plan your trip, but you will still need to make your intentions known to the bridge tender.

You should be familiar with the schedule for the bridges that you will use. Their schedules are published in the USCG Local Notice to Mariners (http://www.navcen.uscg.gov), cruising guides and other boating related publications.

**QUICK GUIDE TO TRANSITING MOVABLE BRIDGES**

- Know the vertical clearance of your vessel (air draft).
- Check the vertical clearance of the bridge.
- Lower any moveable nonstructural objects or gear (radio antennas, outriggers etc...) if necessary to pass without forcing a bridge opening. IT IS ILLEGAL TO REQUEST AN OPENING without first lowering non-structural gear.
- If an opening is required check for scheduled openings
- Signal or contact the drawtender to request an opening
- When the bridge opens, pass through the draw as soon as possible in order to prevent unnecessary delays in the closure of the draw.

Do your part . . . know your vertical clearance. Don’t request unneeded openings.