

Light Signaling

Researched by Glen F. Green, P.E., USCA Safety Committee Chairman, ACA NJ State Competition Director

The Law : U.S. Department of Homeland Security, United States Coast Guard [some States may have stricter regulations]:

NAVIGATION RULES: These rules apply to all vessels upon the inland waters of the United States, and to vessels of the U.S. on the Canadian waters of the Great Lakes.

Part A - General: Rule 3. The word "vessel" includes every description of water craft, including non-displacement craft and seaplanes. "Inland Waters" mean the navigable waters of the U.S. shoreward of the high seas, and includes rivers, other inland waters of the U.S. and the waters of the Great Lakes on the U.S. side of the Int'l Boundary.

Part C—Lights and Shapes: Rule 20. Application. The rules concerning lights shall be complied with from sunset to sunrise. Rule 22. Visibility of Lights. The lights prescribed in these Rules shall have an intensity as specified in Annex I [i.e. 3 nautical miles = 12 candelas] so as to be visible at the following minimum ranges:

(d) In inconspicuous vessels: a white all-round (360°) light, 3 miles. Rule 25. (d)(ii) A vessel under oars may exhibit the lights prescribed in this Rule for sailing vessels, but if she does not, she shall have ready at hand an elect torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent collision. Rule 37. Distress Signals. When a vessel is in distress and requires assistance she shall use or exhibit the signals described in Annex IV.

Part D - Sounds and Light Signals: Rule 36. If necessary to attract the attention of another vessel, any vessel may make signals that cannot be mistaken for any signal authorized elsewhere in these Rules, or may direct a beam of light in the direction of the danger. Rule 37. When a vessel is in distress and requires assistance she shall use or exhibit the signals described in Annex IV to these Regulations [this applies to inland waters of the United States and to International waters].

ANNEX I to the USCG Navigation Rules: Positioning 33 CFR 84.17 (c) If it is impracticable to comply with paragraph (b) [all-round light shall not be obscured] of this section by exhibiting only one all-round light, two all-round lights shall be used suitably positioned or screened to appear, as far as practicable, as one light at a minimum distance of one nautical mile. [e.g. a white 180° light on stern, another 180° light on bow.]

ANNEX IV to the USCG Navigation Rules: Distress Signals - The following signals, used or exhibited either together or separately indicate distress and need of assistance: [from sunset to sunrise]: (c) rockets or shells, throwing red stars fired one at a time at short intervals; (i) a rocket parachute flare or a hand flare showing a red light; (p) [inland waters only] a high intensity white light flashing at regular intervals from 50 to 70 times per minute. The use or exhibition of any of the foregoing signals except for the purpose of indicating distress and need of assistance and the use of other signals which may be confused with any of the above signals is prohibited.

Code of Federal Regulations, Title 33, Part 2.36: Navigable waters of the United States mean: (1) Territorial seas of the United States; (2) Internal waters of the U.S that are subject to tidal influence; and (3) Internal waters of the United States not subject to tidal influence that: (i) Are or have been used, or are or have been susceptible for use, by themselves or in connection with other waters, as highways for substantial interstate or foreign commerce, notwithstanding natural or man-made obstructions that require portage; (ii)(b)...and all waters within the U.S. tributary thereto. Except where Congress has designated them not to be navigable waters of the United States.

USCG "A Boater's Guide to the Federal Requirements for Recreational Boats": 33 CFR 175.105. All vessels used on coastal waters, the Great Lakes, territorial seas, and those waters connected directly to them, up to a point where a body of water is less than two miles wide must be equipped with U.S.C.G. approved visual distress signals. Vessels owned in the United States operating on the high seas must be equipped with U.S.C.G. Approved visual distress signals. The following vessels are not required to carry day signals, but must carry night signals when operating from sunset to sunrise: (1) Recreational boats less than 16 feet in length. (2) Boats participating in organized events such as races, regattas, or marine parades. (3) Manually propelled.

Navigation Lights

NAVIGATION RULES do not address canoes or kayaks per se, except in regards to **vessels under oar** which can be treated as a sailing vessel that must (sunset to sunrise) exhibit a red light on the left (port) and a green light on the right (starboard) on the bow, plus a white light on the stern; or treated as a sailing vessel under 65.6 feet where the red/green/white lights may be combined into an all-round (360°) white light carried near the top of the mast. If a portion of the all-round light is obstructed, a white light on the bow, plus a white light on the stern, with a screen blocking beams from these lights from shining into the operator's eyes is an alternative. Sailing vessels under 23 feet may instead display an electric white torch.

RED/GREEN BOW LIGHTS

Bow
112.5° 112.5°
135°
Stern

ALL-ROUND WHITE LIGHTS

Navilight 360° or 135°
Navisafe™ LED dual steady-on or flashing

33 CFR 83.22

Need two, one for bow, one for stern -

Atwood™ portable red/green bow LED

Navlite red/green bow lights

ARCNAV System 4.0 red/green

Innovative™ portable LED red/green bow

C-Light white light

Perko Masthead & All-Round light

Kayalu Kayalite™ submersible kayak deck stern LED light with diffusion lens to protect paddler's night vision.

A headlamp will allow you to keep your hands on your paddle or oars, but it may appear as a flashing light to other vessels as you turn your head around.

Waterproof Floating Flashlight:
USCG regulations allow man-powered vessels to carry a flashlight showing a white light which can be exhibited in sufficient time to prevent collision, 33 CFR 83.25. However, stopping just before a collision, letting go of your paddle or oars to grab a flashlight and turn it on, aiming it at the other vessel, in rough water or windy conditions is not particularly feasible.

Dorcy floating flashlight

Nite-Row-Lites green light clipped onto an oar. Closeup of silicone light dispersion end. Also comes in a red light.

Seattle Sports® Hydrostar™ multi-LED

Visual Distress Signals

are required to be carried from sunset to sunrise on man-powered vessels on coastal waters, the Great Lakes, territorial seas, and those waters connected directly to them, up to a point where a body of water is less than two miles wide. **U.S.C.G. APPROVED SIGNALS (night signals in bold):** (a) gun fired at one minute intervals, (b) continuous sounding fog horn; (c) **rockets or shells throwing red stars**, (d) SOS signals, (f) International Code Signal, of distress, (g) square flag having a ball above or below, (h) flames on the vessel (as from burning oil barrel), (i) **a rocket parachute flare or a hand flare showing a red light**, (j) an orange-colored smoke signal, (k) slowly and repeatedly raising and lowering outstretched arms, (l) **radiotelegraph** alarm signal, (m) **radiotelephone** alarm signal, (n) signals transmitted by emergency position-indicating radio beacons, (n) signals transmitted by emergency position-indicating radio beacons, (o) signals transmitted by radio communication systems, (p) **a high intensity white light flashing at regular intervals from 50 to 70 times per minute.**

A minimum of 6 of any signals are required: 3 signals for day use, 3 signals for night use.

USCG COMPLIANT PYROTECHNICS

Red Parachute Signal Rocket SOLAS

Skyblazer II red aerial signals: Altitude 450 feet, burn time 7 seconds, brightness 16,000 candela

Pocket Rocket 4 aerial signal kit

Alerter Basic 4 12 gauge launcher & aerial flares

Multiple flashes meets the 3 signals for night use

USCG COMPLIANT FLASHING LIGHTS

FireFly® "Waterbug" water activated/manual LED rescue flashing light

Navilight 360° dual steady-on or flashing

SEE-ME™ "Select" water activated/manual LED rescue flashing

SEE-ME™ marine LED rescue flashing light

33 CFR 161.013