

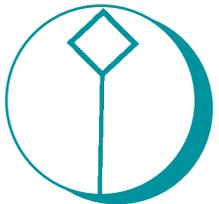
DO NOT APPROACH THESE MARKERS!

Many extensive shallow reef and seagrass areas are marked by lighthouses, reef light towers, shoal buoys or shoal markers.



Lighthouses are tall lighted structures. The shallow areas often extend for up to a mile around the structure.

Reef Light Towers are prominent metal A-frame structures with a number posted on them.



Shoal Markers and Buoys are installed with a diamond shaped DANGER sign attached.

Note - Regulations require operation of a vessel at a speed less than 4 knots or in a manner that does not create a wake within 100 yards of navigational aids indicating emergent or shallow reefs (international diamond warning symbol.) (15 CFR 922.163(5)(iii)(B))

ALSO LOOK FOR....

The following indicators of shallow areas:

- along the reef, a series of breaking waves.
- along the edge of seagrass flats, a ripple effect or surface water texture change.
- along sandbars, water will appear glassy.

MORE HELPFUL NAVIGATION HINTS...

1. **USE EXTRA CAUTION** when there is extensive cloud cover, a glassy calm sea state, extreme sun glare or murky water. These are conditions where colors may not be apparent.
2. **Polarized sunglasses** are very helpful in distinguishing water colors.
3. **Mooring buoys** are located in the Florida Keys National Marine Sanctuary to keep boaters from damaging coral with anchors. Some mooring buoys are located near extremely shallow reefs. **Do not attempt to motor across a reef to reach a mooring buoy.**
4. **NEVER** navigate without the appropriate **NOAA chart**. Charts and a complete chart guide to the Atlantic and Gulf Coasts are available at many marine supply stores throughout the Florida Keys or contact NOAA's Office of Coast Survey at <http://chartmaker.ncd.noaa.gov/>

Note - The operator of a vessel is responsible for any damage to the environment resulting from improper anchoring or boat grounding and legal fines may be imposed. Regulations can be found in the Code of Federal Regulations at 15 CFR 922 Subpart P.

For more information or a copy of the regulations:

<http://floridakeys.noaa.gov>

Upper Keys	Middle Keys	Lower Keys
305.852.7717	305.743.2437	305.292.0311



5/2004

KEEPING YOUR BOTTOM OFF THE BOTTOM

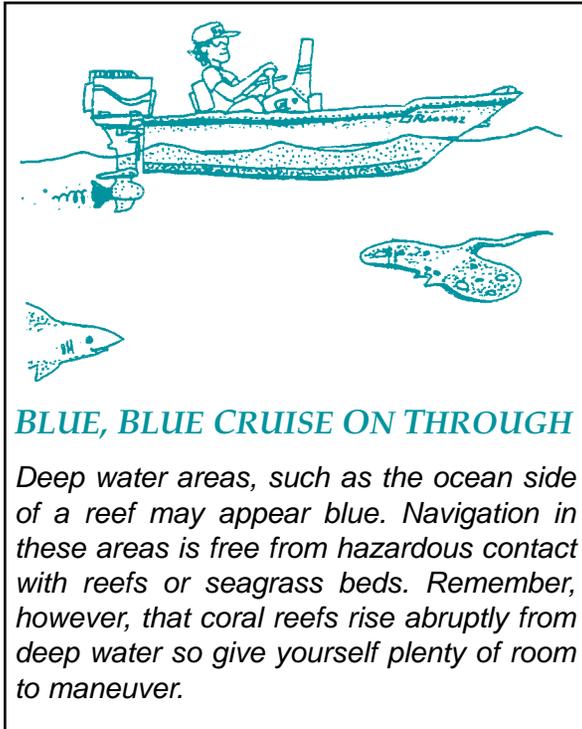
Warning

Navigation around coral reefs
and seagrass can be tricky!

WHY SHOULD YOU LEARN TO “READ” WATER COLOR?

Many boaters do not realize that coral reefs and seagrass beds in the Florida Keys can be growing within inches of the water’s surface whether they are located close to shore or several miles from shore.

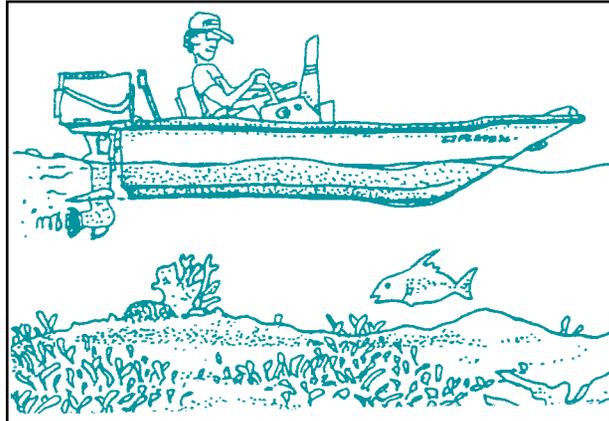
The following navigation tips are provided to make your boating experience easier, safer and to insure that others will be able to enjoy the same spectacular irreplaceable marine communities.



BLUE, BLUE CRUISE ON THROUGH

Deep water areas, such as the ocean side of a reef may appear blue. Navigation in these areas is free from hazardous contact with reefs or seagrass beds. Remember, however, that coral reefs rise abruptly from deep water so give yourself plenty of room to maneuver.

Coral Reefs are an essential marine habitat that fish and many other marine creatures need to live, eat and reproduce. Corals grow very slowly, some at a rate of two centimeters per year. Boat groundings can instantly pulverize coral, leaving areas open to infection by disease and devastating a thriving coral reef community.



GREEN, GREEN NICE & CLEAN

Green water usually indicates an area free of shallow reefs or seagrass beds. Navigation of small, shallow draft boats in these areas is generally safe. However, larger, deeper draft boats should exercise caution. All boaters should carry and consult the appropriate NOAA chart.

Damage to **seagrass beds** can be equally devastating. Seagrass beds act as a nursery and feeding grounds for numerous organisms. They also filter excess nutrients and trap sediments, thereby providing the clean, clear water essential for coral reefs. Running aground or even motoring in very shallow water can scar seagrass beds. The scar creates narrow sand channels that can grow wider and wider, decreasing the seagrass bed’s ability to protect the reef and provide a healthy community for marine creatures.



BROWN, BROWN RUN AGROUND

Reef formations that grow close to the water’s surface and shallow seagrass beds will make the water appear brown. These areas should be avoided to keep from damaging your boat and sensitive habitats, and from running aground.

WHITE, WHITE YOU MIGHT

Sand bars and shallow rubble areas appear white. These areas can be deceptively shallow. Navigate with caution around these areas.

IF YOU RUN AGROUND:

STOP! Turn off your engine immediately. Do not attempt to use your engine to power off the reef or grass flat which could damage your boat, as well as these important habitats. If possible, raise your lower unit or outdrive and allow your vessel to drift free from the shallow area. **If you cannot drift free**, radio Coast Guard or Sanctuary Patrol on VHF Channel 16 or *FWC on a cell phone to request assistance.