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Boating Tip #5: Marine Navigation

Marine navigation is the art and science of determining position of a ship and its movement from one location to another. The purpose of navigation is to keep track of where you are and where you are heading. To do this, various methods are used.

Dead reckoning
: Also known as deduced reckoning. Position is determined from a fix or last known position, and the vessel's direction and speed through water.

Piloting
: Position is determined near shore using landmarks, soundings, and navigational aids.

Electronic navigation
: Electronic devices are used to collect information on position.

Celestial navigation
: Position is determined by observing celestial objects such as the sun, moon, stars and planets, and using celestial computations.

"If you don't care where you are, then you aren't lost". But, most boaters want to know where they are when they are on the water. Navigation helps you find the answers to questions:

- Where am I starting from?
- Where do I want to go?
- How do I get from here to there
- Am I where I'm supposed to be? If not, how do I get back on course?
- Are there any hazards along the way that I should avoid?
- How far away is my destination?
- How long will the trip take?
- Will anything slow my progress or take me out of the way?
- When will I get there?
- How fast do I need to travel in order to get there by a certain time?
- What tools, "road signs" & "maps" are available to help me find the way?

The duties of the coastal navigator include collecting and recording data when:

getting underway, leaving port, before losing sight of land, upon sighting land, when entering port, and after anchoring, docking or mooring. The navigator should identify all aids to navigation, and witness all course changes from on deck because of the close proximity of danger in near coastal areas. The navigator is also responsible for keeping a log.

Common Marine Navigational Errors

- Incorrectly identifying aids to navigation
- Not using charts, tables, lists, coast pilots and other reference publications
- Using out-of-date or uncorrected charts
- Failing to apply variation or deviation
- Not keeping a DR plot
- Ignoring or incorrectly evaluating available information
- Depending on only one source of information
- Forgetting to note depths and hazards
- Using impaired or poor judgment