

Welcome

Laguna Woods Yacht Club

Sailing Academy

Fundamentals of Sailing

18 February – 18 March 2019

To learn how and why a sail is
More than a boat ride.

And to learn how we can
participate in the experience more
deeply.

Sailing

“By its very nature sailing is slightly enigmatic and requires abstract thought. It takes effort. Which in turn necessitates a certain amount of involvement. And this involvement is what being a sailor is all about.”

Becoming a Sailor

Magic

—Sailor

- “Each time I drop the mooring there is magic . . . when I realize that through cunning and skill I have tricked the wind into moving my boat.”

Definition of a sailor.

“A sailor is one who can handle a vessel of almost any type quietly and competently. [And] can read the *water*, the *current*, the *waves*, the *clouds* and even the *smells*.” [italics mine]

Much like having one's thumb on the pulse of the universe.

“Sailing is not a science that can be practiced with precision. It is an art, or at the least a craft, with its own medium. As an artist uses and understands light, you must understand the wind. It is the sailor’s medium.”

1. Wind Sense

2. Apparent versus True
Wind

3. Points of Sail

Developing Wind sense

**IT'S ALL ABOUT THE
WIND**

A wind sense begins with knowing from whence the wind blows, its **direction**, and its intensity, its **strength**.

Wind Facts and Their Application

Only 2 relevant questions:

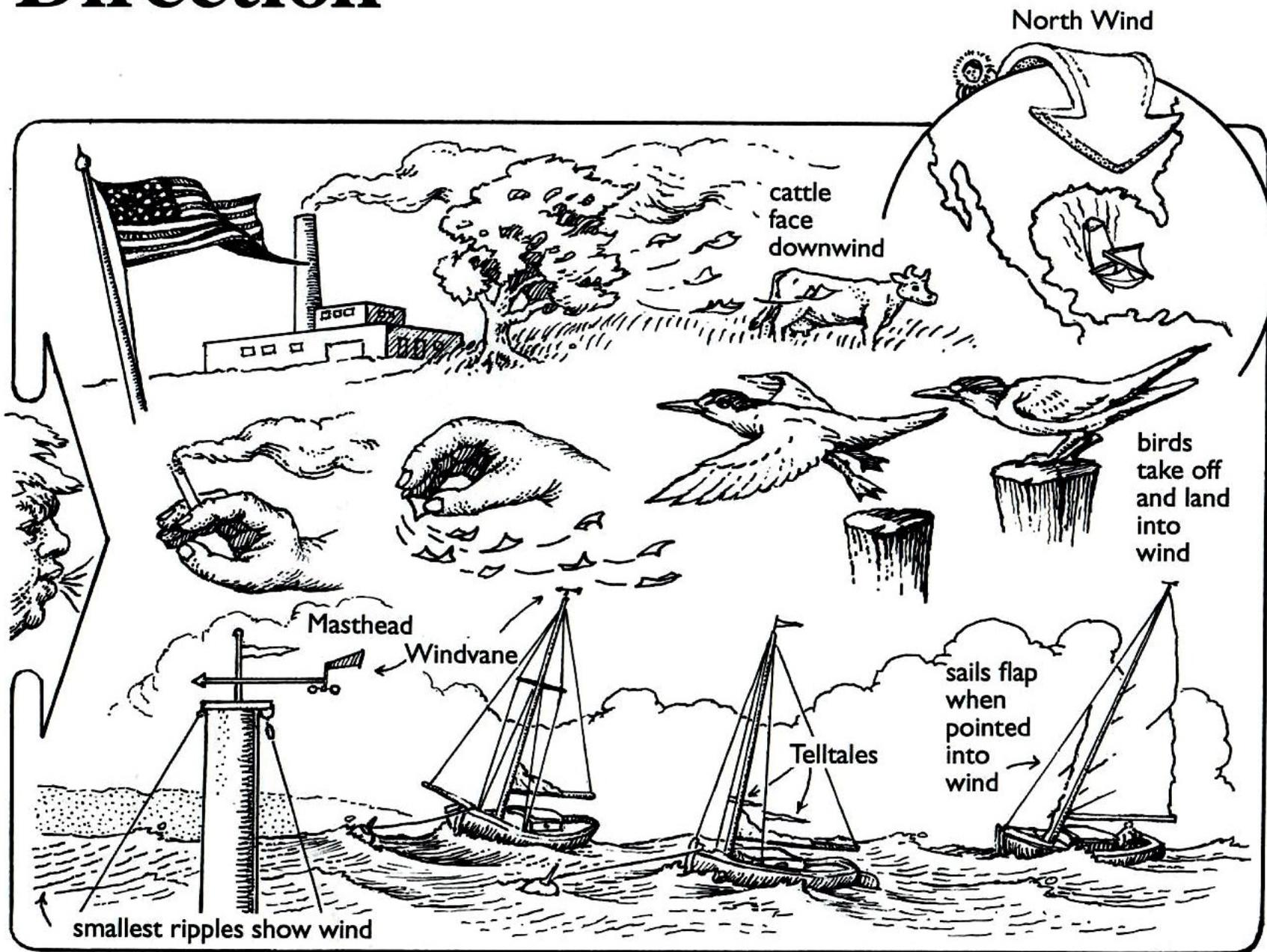
1) Direction, and

2) Velocity or Intensity.

Direction.

- The source, the direction, of the wind determines the primary reference relative to the boat and forms the reference to which all is related.
- [points of sailing]

Direction



Intensity.

Wind Strength

- Know the winds by their speed, but understand the pressures they bring to bear.

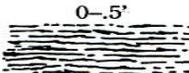
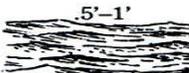
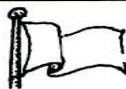
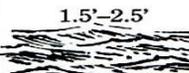
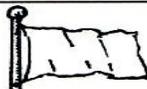
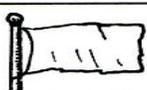
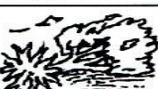
Wind Speed Tables



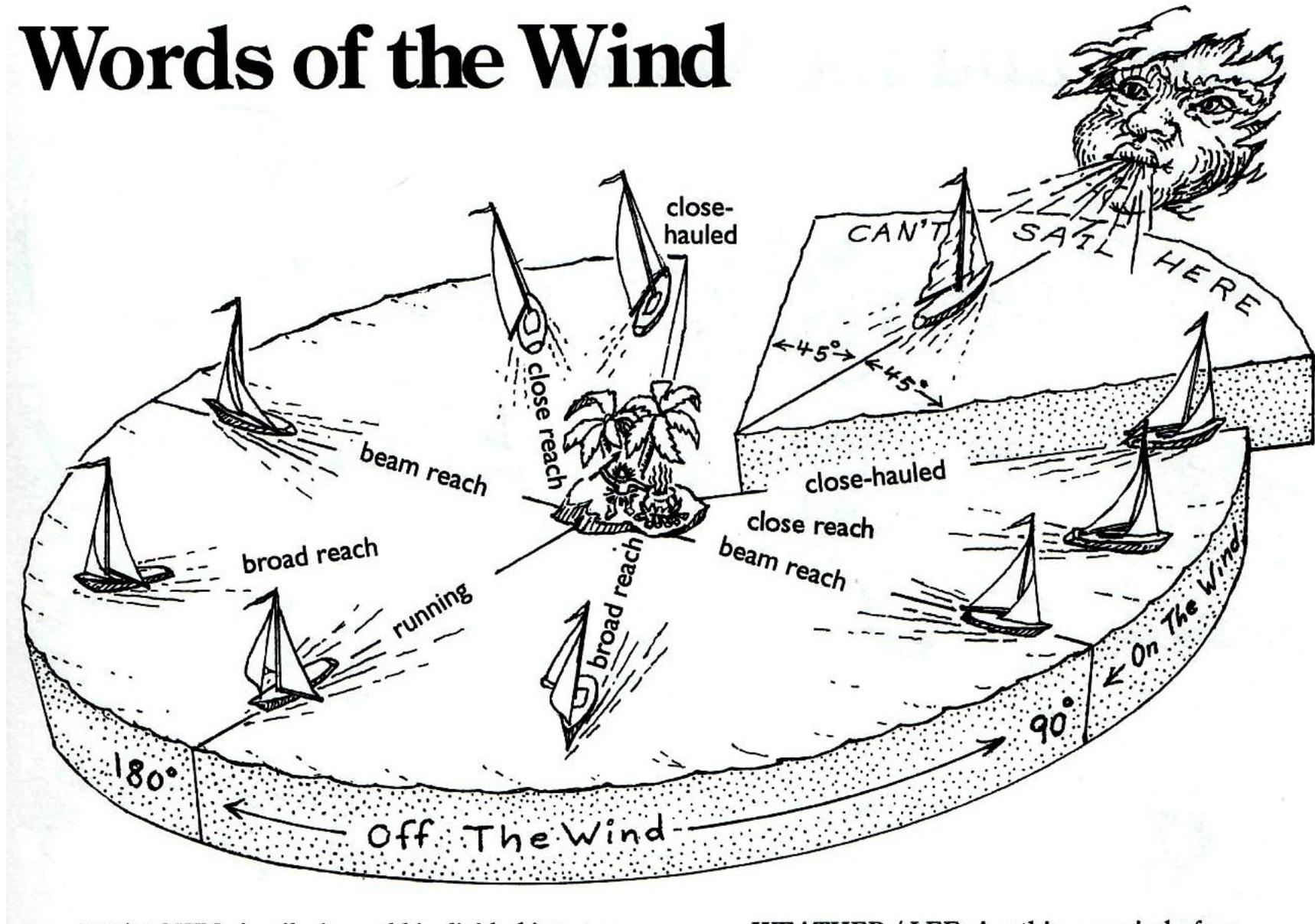
Before the 19th-century there was no uniform way of describing wind and sea conditions.

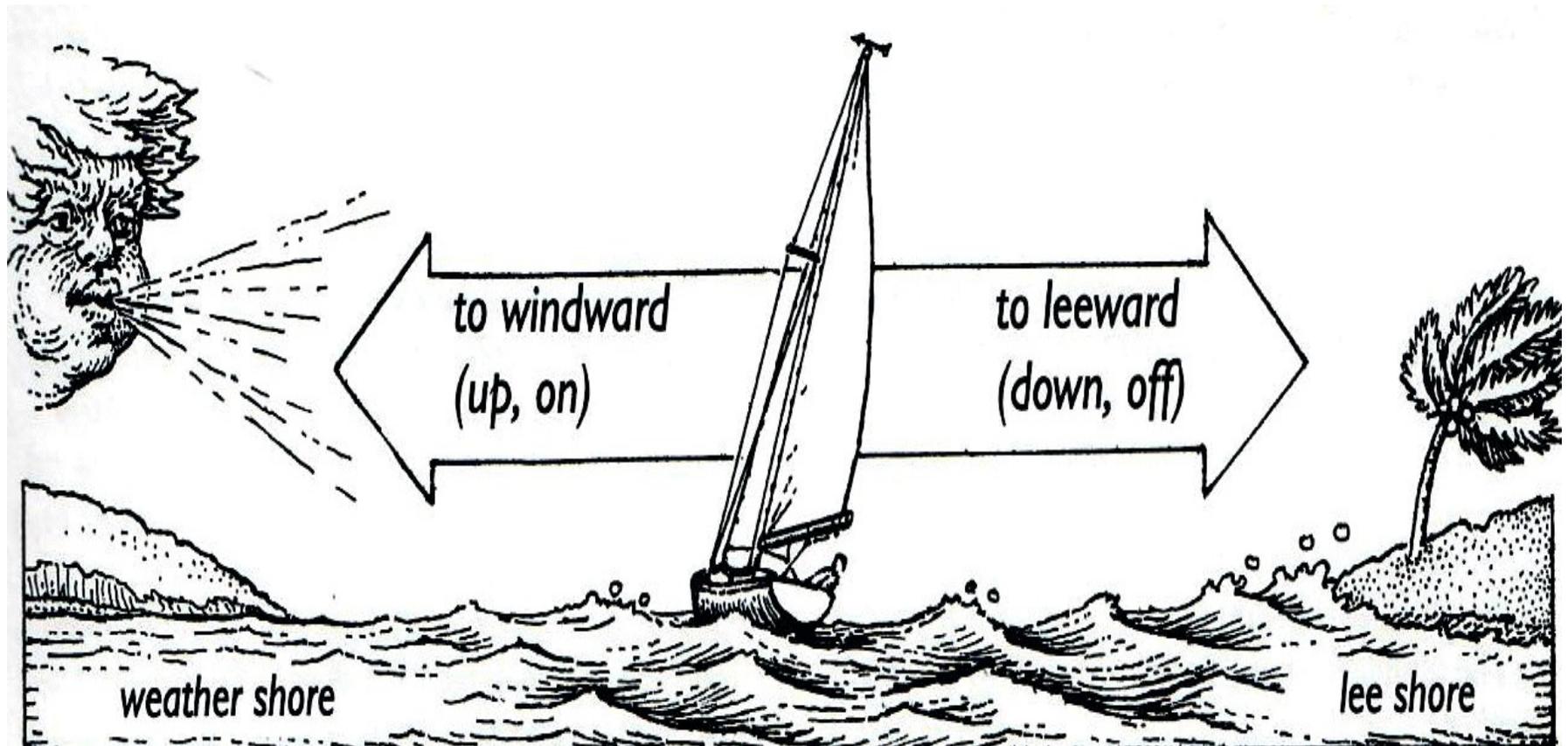
One sailor's fresh breeze was another's howling gale. In 1806 Admiral Sir Francis Beaufort devised a table that classified winds into groups called Forces. The system worked, and is still in use today.

The trouble is that his tables were devised for ships of the line, and meant more to those on board the *CONSTITUTION* during the War of 1812 than the crew of a modern Catalina 22 trailer/sailer. So the tables below have been adapted to make them more relevant to a small coastal cruiser.

FORCE	MPH (KNOTS) *	PRESSURE LBS./ SQ. FT.	DESC.	WAVE PATTERN	WAVE HEIGHTS	EFFECTS ON LAND	SMALL CRUISER 
Force 1	1-3 (1-3)	.004-.036	Light airs	Glassy calm, some ripples	Flat 	Flag hangs limp, windvanes do not respond. 	Use motor. Steerageway possible; full main and large drifter. 
Force 2	4-7 (4-6)	.064-.196	Light breeze	Overall ripple pattern	0-5' 	Flag stirs, leaves rustle, wind felt on face, wind vanes move. 	Boat begins to heel, full main and drifter or #1 genoa. 
Force 3	8-12 (7-10)	.256-.576	Gentle breeze	Small glassy waves	5'-1' 	Flag occasionally extends, leaves and twigs in constant motion. 	Comfortable sailing. Noticeable heeling; full main and #1 genoa. 
Force 4	13-18 (11-16)	.676-1.29	Moderate breeze	Longer waves	1'-1.5' 	Flag flaps, small branches move, dust and paper raised. 	Great sailing. Boat making speed. Full main and #1 genoa. 
Force 5	19-24 (17-21)	1.44-2.30	Fresh breeze	Some whitecaps	1.5'-2.5' 	Flag ripples, small leafy trees begin to sway. 	Leeward rail near water. Single reef in main and #2 genoa. 
Force 6	25-31 (22-27)	2.5-3.84	Strong breeze	Whitecaps, some spray	2.5'-4' 	Flag snaps, large branches in motion, whistling in wires. 	Sailing becomes strenuous. Second reef in main and working jib. 
Force 7	32-38 (28-33)	4.09-5.77	Moderate gale	Swells form with whitecaps	4'-5.5' 	Flag extended, whole trees in motion. 	Progress to wind- ward impossible. Three reefs in main and working jib. 
Force 8	39-46 (34-40)	6.08-8.46	Fresh gale	Foam blown off wave tops in well marked streaks	5.5'-7.5' 	Twigs and small branches broken, difficult to walk. 	Limit of boat's sailing ability. Use motor or seek shelter. 
Force 9	47-54 (41-47)	8.83-11.6	Strong gale	Waves begin to heighten and roll	7.5'-10' 	Slight structural damage occurs. 	Run under bare poles, lie ahull, or sit to sea anchor. 
Force 10	55-63 (48-55)	12.1-15.8	Whole gale	Very high rolling waves with long over- hanging crests	10'-13' 	Trees broken or uprooted, considerable damage. 	Swear oaths you will not keep once back on land. 

Words of the Wind





TRUE wind versus APPARENT

Wind

“The wind you feel when moving is apparent wind, a combination of the true wind and the wind you create for yourself by moving through the air.”



Can't sail in this quadrant
Must zig-zag yellow to reach any point within it

On the Wind

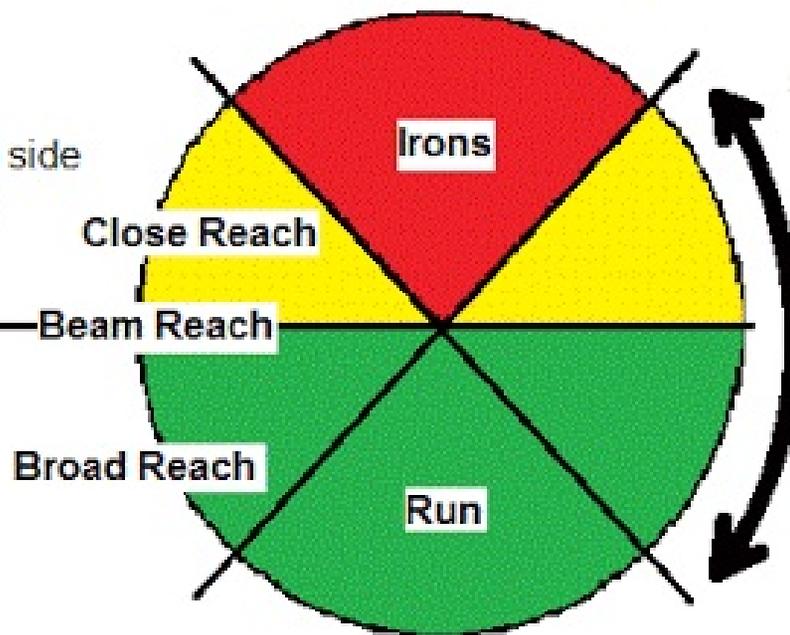
Sails brought in
Leeway
Course limited windward side
More challenging sailing

Sails hauled in,
toward the centerline

Trim sails in this quadrant by
easing until forward edge
starts to flutter, then haul
back slightly.

May also adjust course for
similar effect.

Sails eased out,
toward 90deg to centerline



Off the Wind

Sails brought in
Little to no leeway
Many course options
Easy sailing

Boat at Center

Able to 'spin' to any course relative to WIND

- 1). Describe the best indicator of wind direction. How is this determined, and why is it best?
- 2). Define the “no-sail zone”. How is this determined and why is this so?
- 3). What are the three main points of sailing. How are they determined?
- 4). What is the origin of the “force” determinant of wind intensity?

