

Coastal and Offshore Sailing

MITNA
January 2014

Matthew Wall

Course Goals

- prepare for summer racing season on X-Dimension
- prepare for cruising on X-Dimension
- progress toward MIT bluewater crew and skipper ratings
- provide a place where you can ask all the stupid questions

This course is intended for those who would like to sail and race on X-dimension in the 2014 season. The course will cover topics such as racing tactics and strategies, yacht preparation, life aboard at sea, navigation, weather, communication, and safety.

Introductions

- Steve Bussolari
- Fran Charles
- Scott Dynes
- Matt Lindblad
- Gigi Lirot
- Matthew Wall
- Keith Winstein

Today

- Introductions
- Course Outline
- 2014 Season
- X-Dimension Overview

Course Outline

Introduction	7 Jan 2014 18:00-21:00 Pavilion	Matthew Wall
Yacht Preparation	9 Jan 2014 18:00-21:00 Pavilion	Matthew Wall, Scott Dynes
Life Aboard	14 Jan 2014 18:00-21:00 Pavilion	Gigi Lirot, Keith Winstein
Weather	16 Jan 2014 18:00-21:00 Pavilion	Steve Bussolari
Seamanship and Safety	21 Jan 2014 18:00-21:00 Pavilion	Keith Winstein, Scott Dynes
Racing	23 Jan 2014 18:00-21:00 Pavilion	Fran Charles, Matt Lindblad
Navigation	28 Jan 2014 18:00-21:00 Pavilion	Steve Bussolari

What do you do with this?

- Crew for really good skippers
- Deliveries
- Chartering and bareboats
- Race - skipper or crew

Certifications

- American Sailing Association (ASA)
- US Coast Guard
- NauticEd
- US Sailing

2014 Season

- Feb-Mar - boatworks
- Apr - splash!
- May-Jun - practice
- Jul-Oct - racing, cruising, day sailing
- Nov - haulout/storage

Wednesday Night Boston Harbor Races

Constitution Yacht Club

- Three Series of 6 round-the-buoy races each mid-May through mid-September
- 6 “Rogue” races end of September through the end of October
- spring (June) and fall (September) regatta of two races each

Overnight and Multi-Day Races

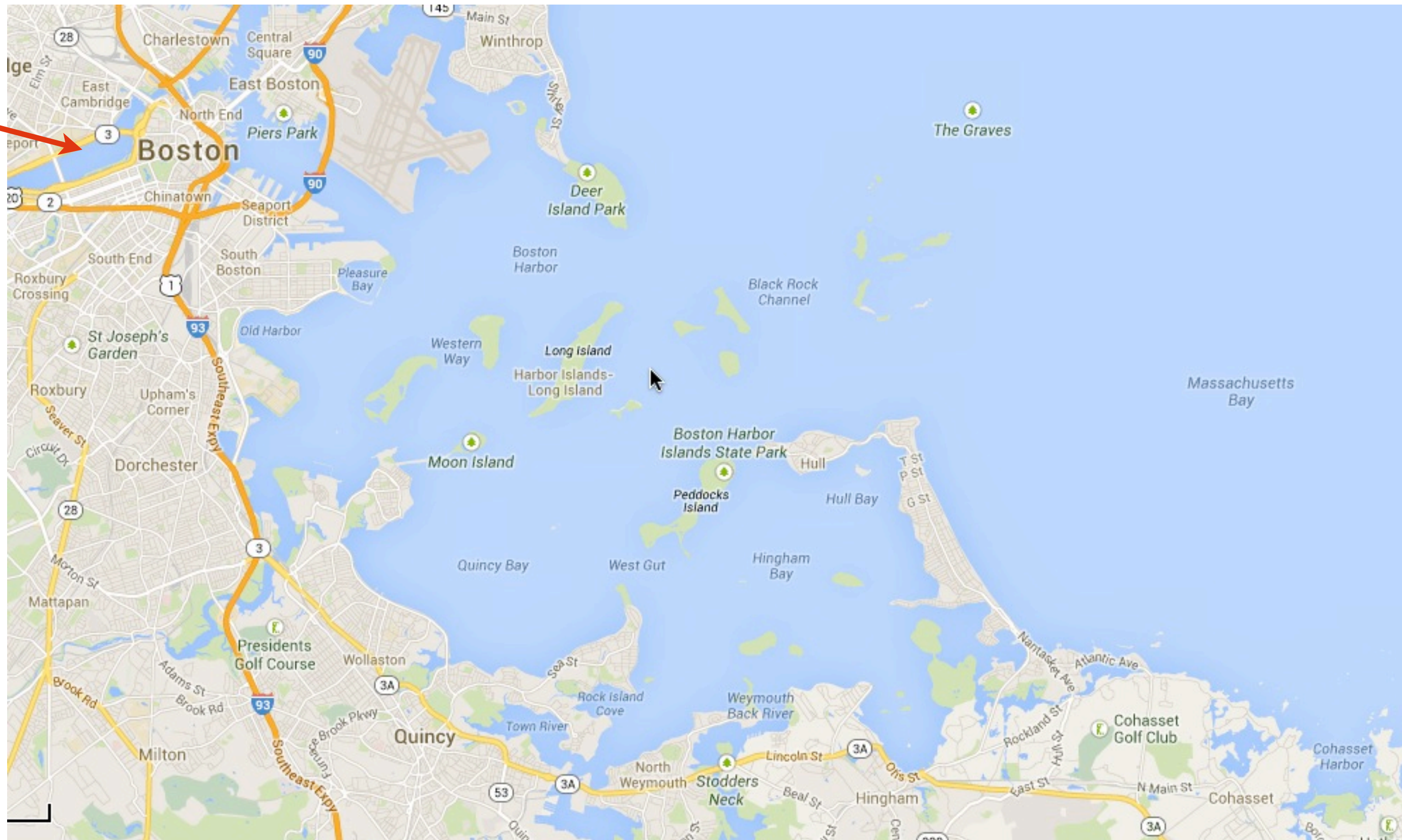
- Figawi - Pursuit race from Hyannis to Nantucket
end of May, 3 days
- Chapman Bowl - Around Massachusetts Bay from Scituate
end of June, overnight
- Beringer Bowl - Marblehead to Provincetown
late July, overnight
- Martha's Vineyard Round-the-Island Race
late July, one-day

Day Regattas

- Flip-Flop Regatta - Pursuit Race starting outside Boston Harbor
August
- Boston Harbor Regatta - Pursuit Race in Boston Harbor
September

Trips

You Are Here



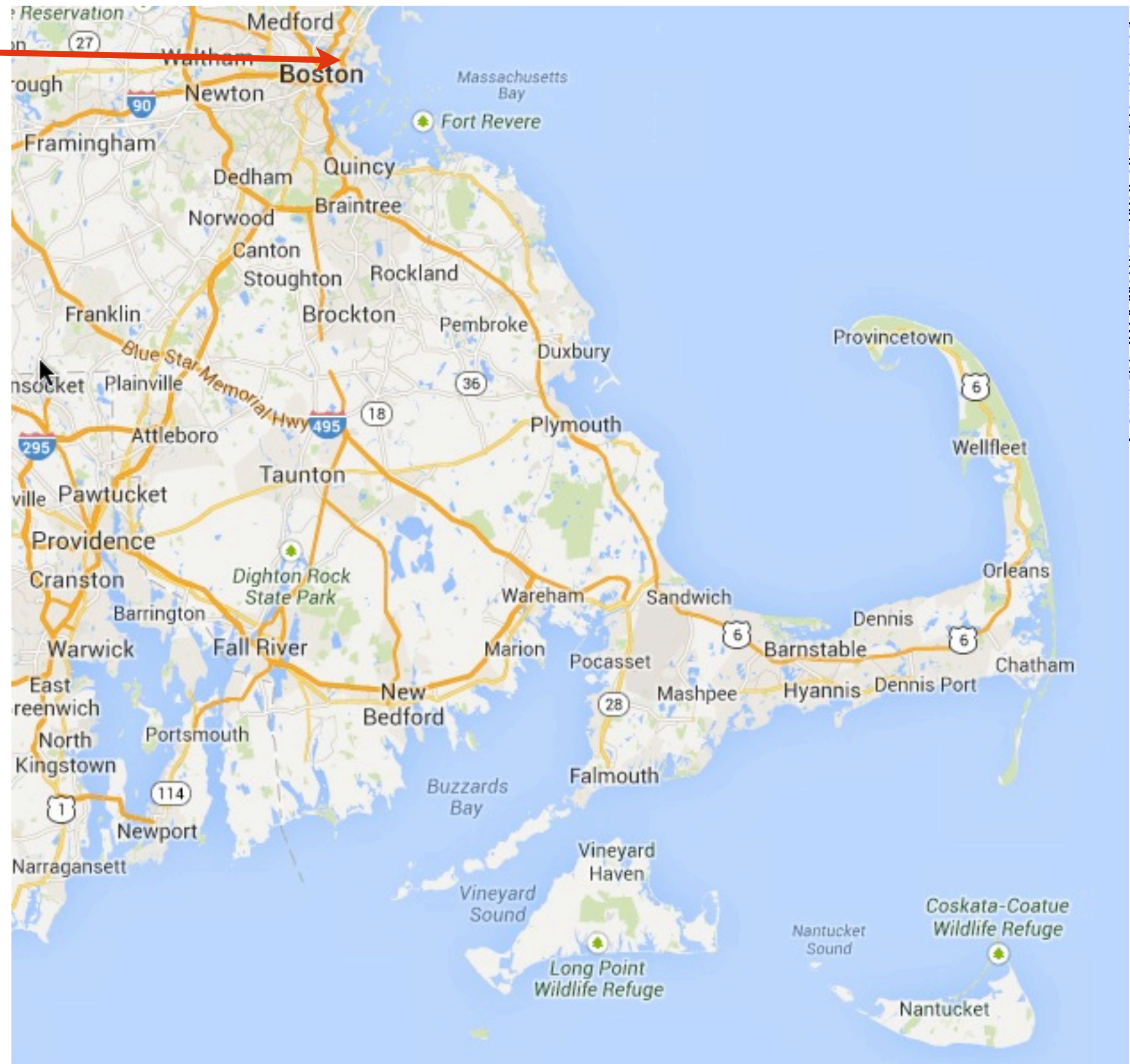
Boston Harbor

Trips

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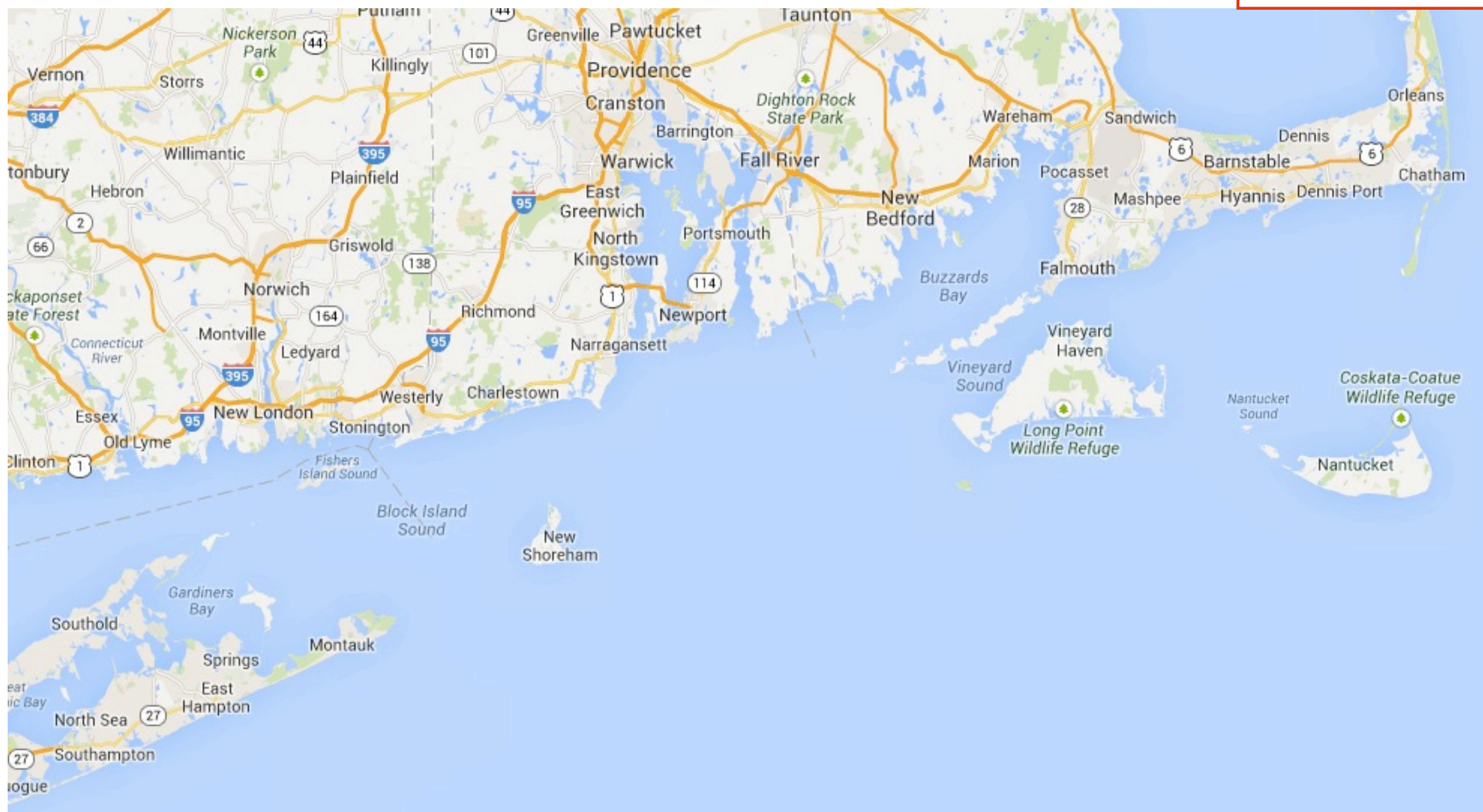
- Provincetown
- Martha's Vineyard
- Nantucket
- Buzzard's Bay
- Newport



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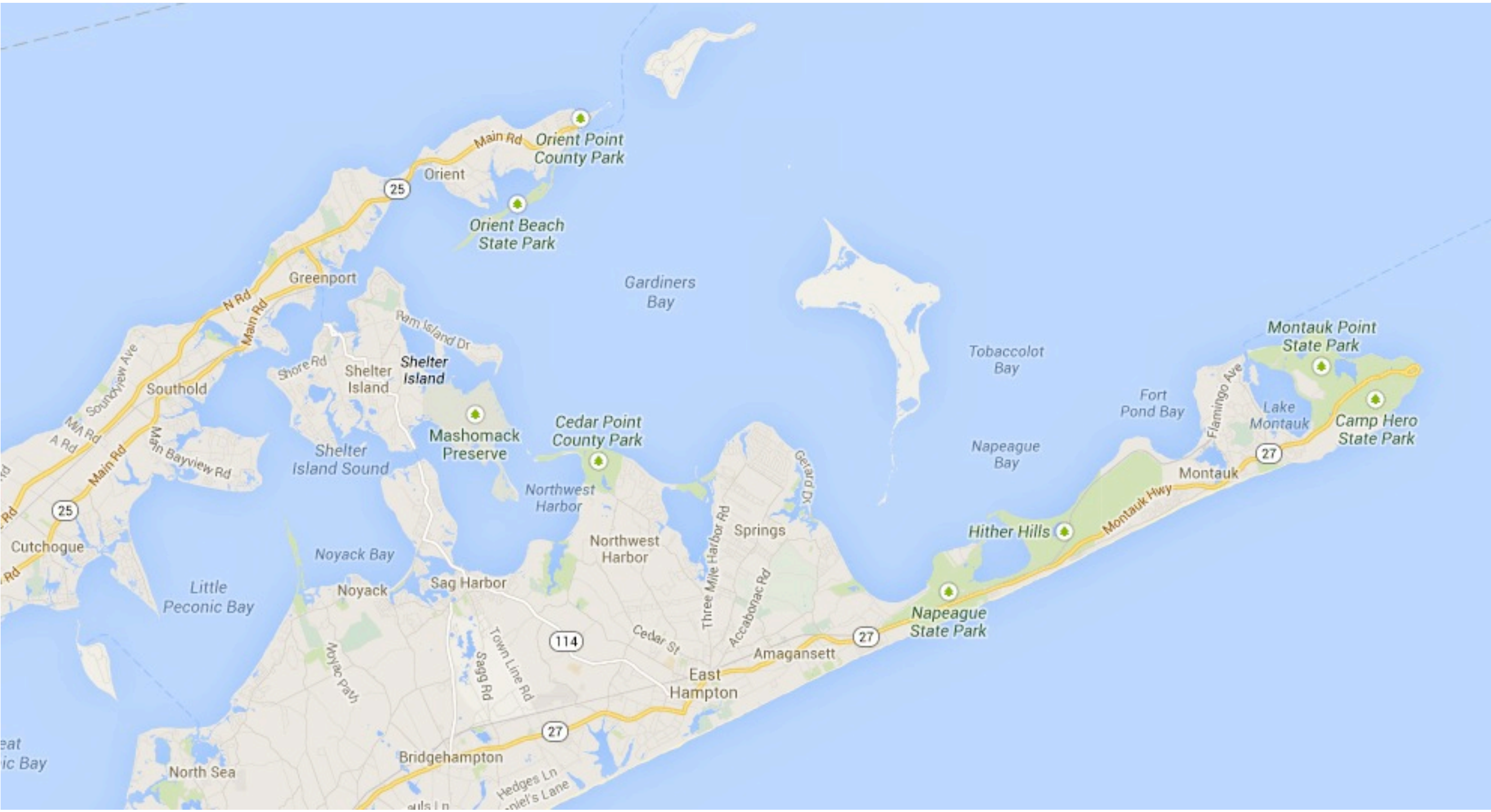
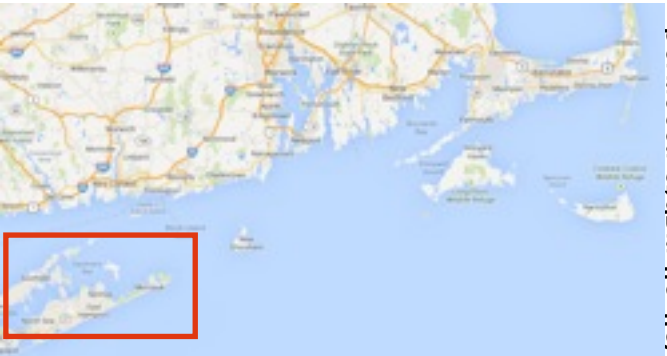
Trips

Buzzard's Bay
Newport
Block Island
Shelter Island



Trips

Shelter Island

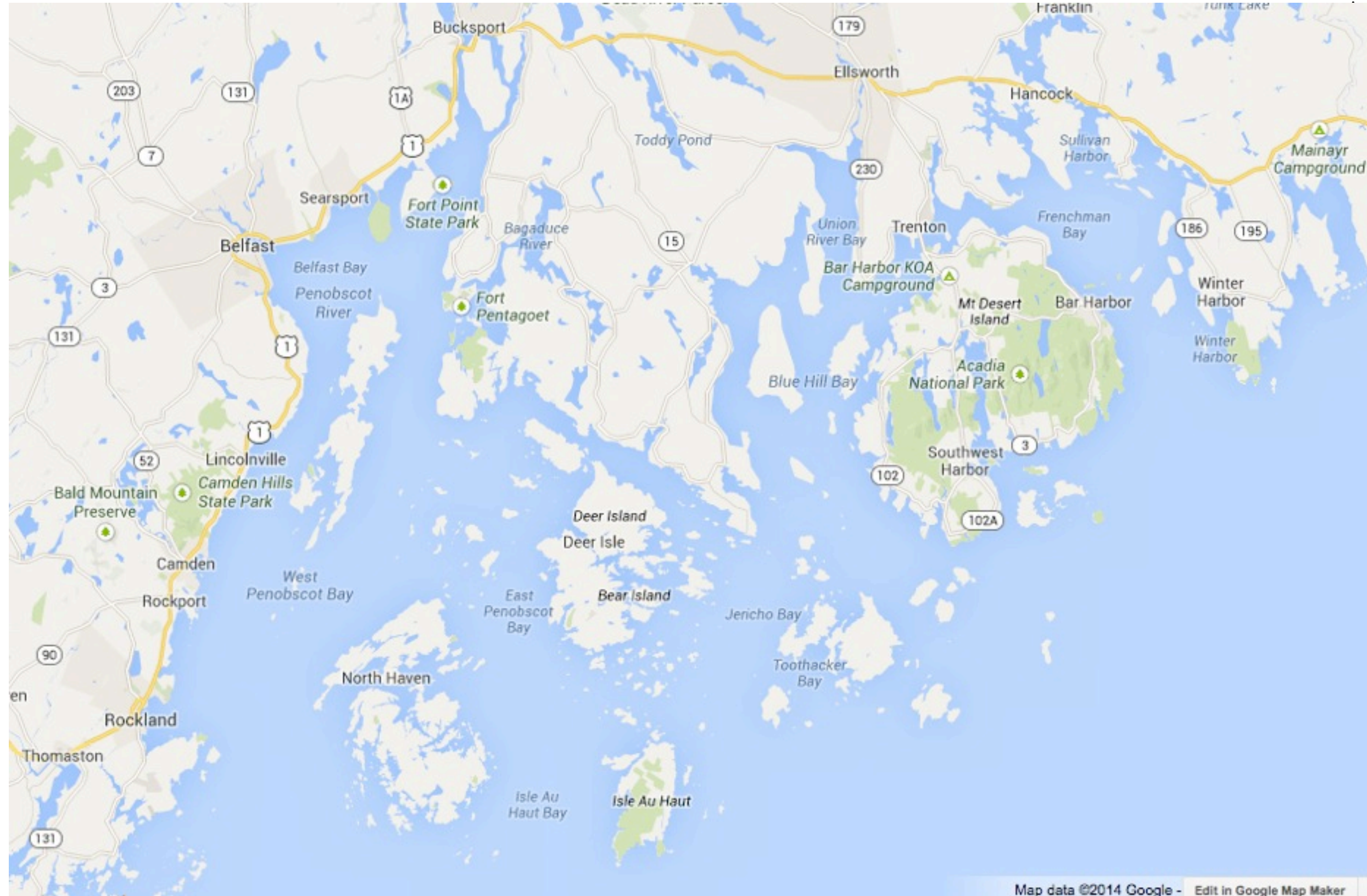
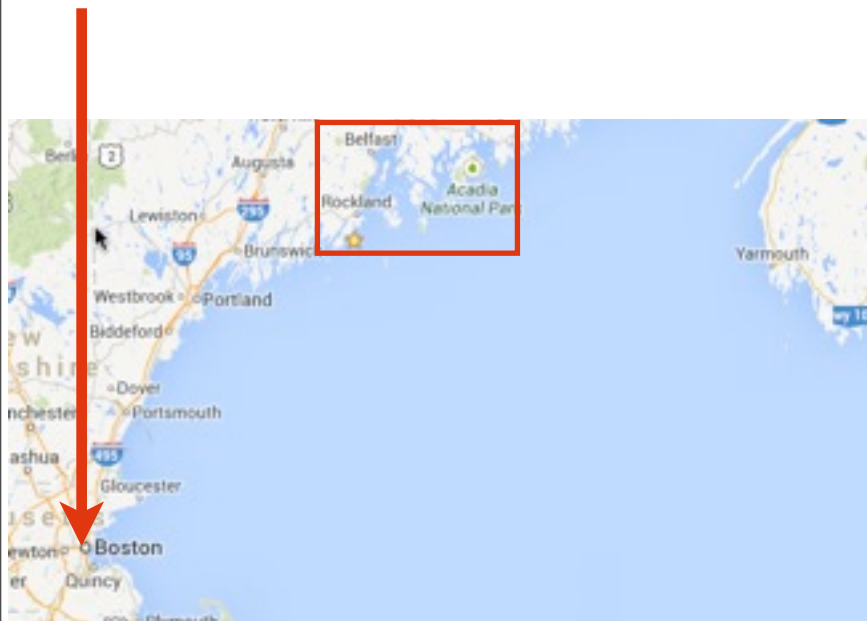


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Trips

Penobscot Bay

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About X-Dimension

- 43' 1973 C&C, one of 14 boats built
- Donated to MIT August 2011 by David Collins
- Major work 2011-2012
- Currently in Winthrop for the winter
- Summer home is Boston Waterboat Marina at Long Wharf
- 2011: 9 trips Aug-Nov
2012: 40 trips Jul-Nov
2013: ~100 trips May-Nov, many races



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X-Dimension - Specifications

Length Over All	43.4 ft
Waterline Length	35.9 ft
Maximum Beam	13 ft
Draft	7.75 ft
Displacement	22,000 lbs
PHRF/NE Rating	72 base, 87 racing, 90 cruising
Powerplant	Perkins 4-108 50hp 1989
Mast and Rig	64' Sparcraft tapered 2-spreader / rod
Fuel Capacity	40 gal
Water Capacity	80 gal



X-Dimension - Hull and Keel



X-Dimension - Rudder



X-Dimension - Sails

Mainsails

New Mainsail

Storm trysail

Jibs and Genoas

New Genoa #1

Genoa #3

Storm Jib

Asymmetric Spinnaker

Working Asymmetric Spinnaker

Symmetric Spinnakers

0.5 oz Tri Radial Symmetric Spinnaker

0.75 oz Symmetric Spinnaker

0.75 oz Symmetric Spinnaker

1.5 oz Star Cut Symmetric Spinnaker

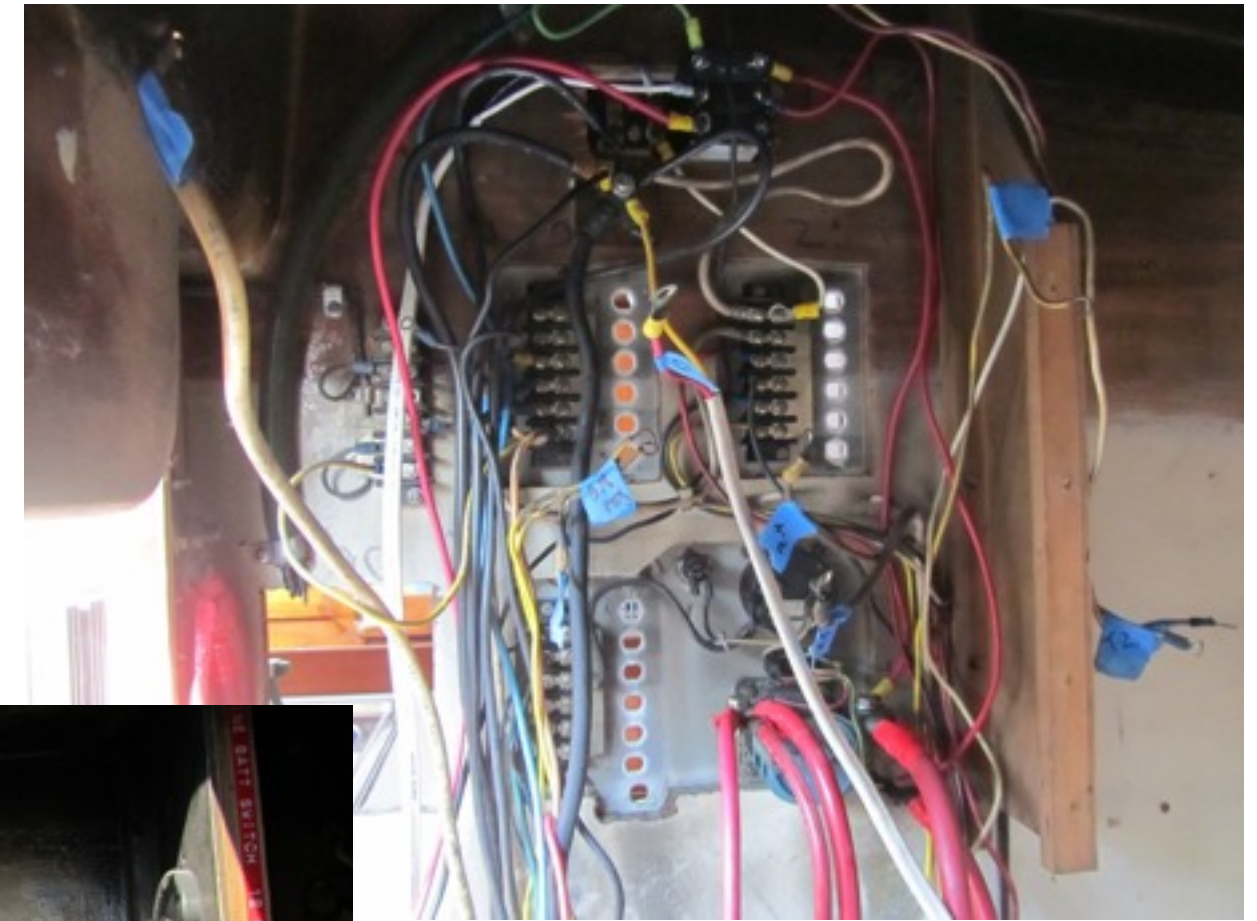
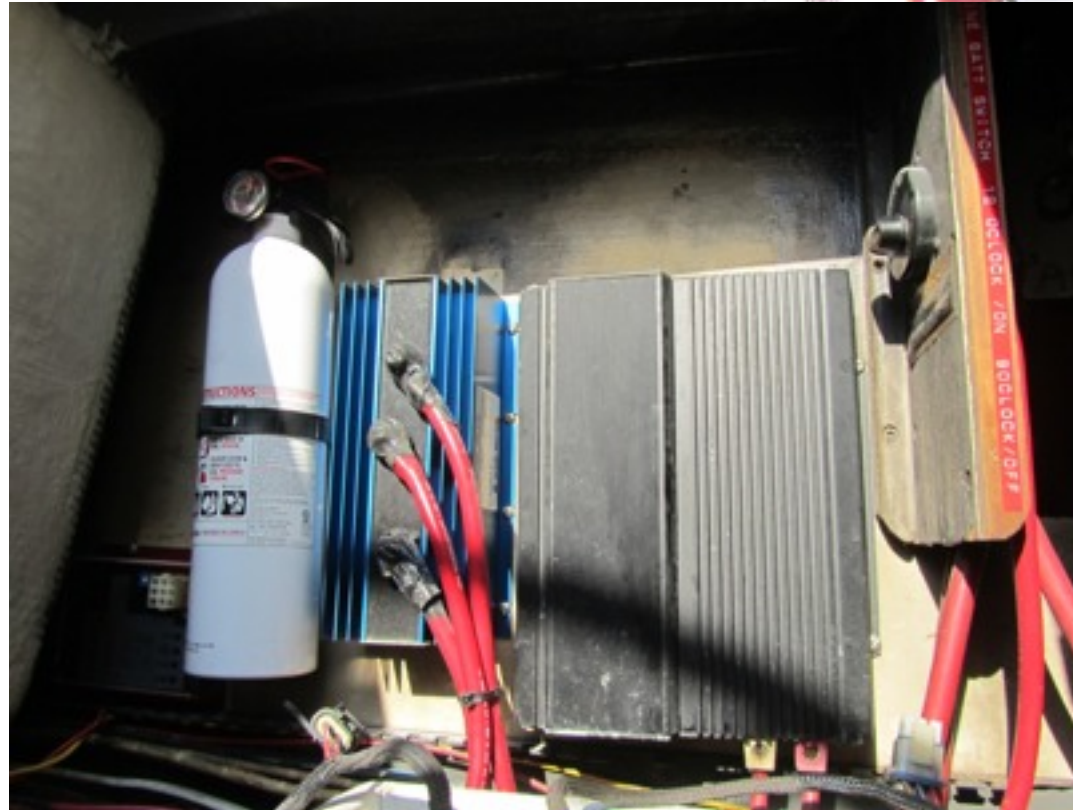
1.5 oz Tri Radial Symmetric Spinnaker



X-Dimension - Bilge



X-Dimension - Electrical



X-Dimension - Electrical



X-Dimension - Freshwater



X-Dimension - Septic System



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X-Dimension - Engine

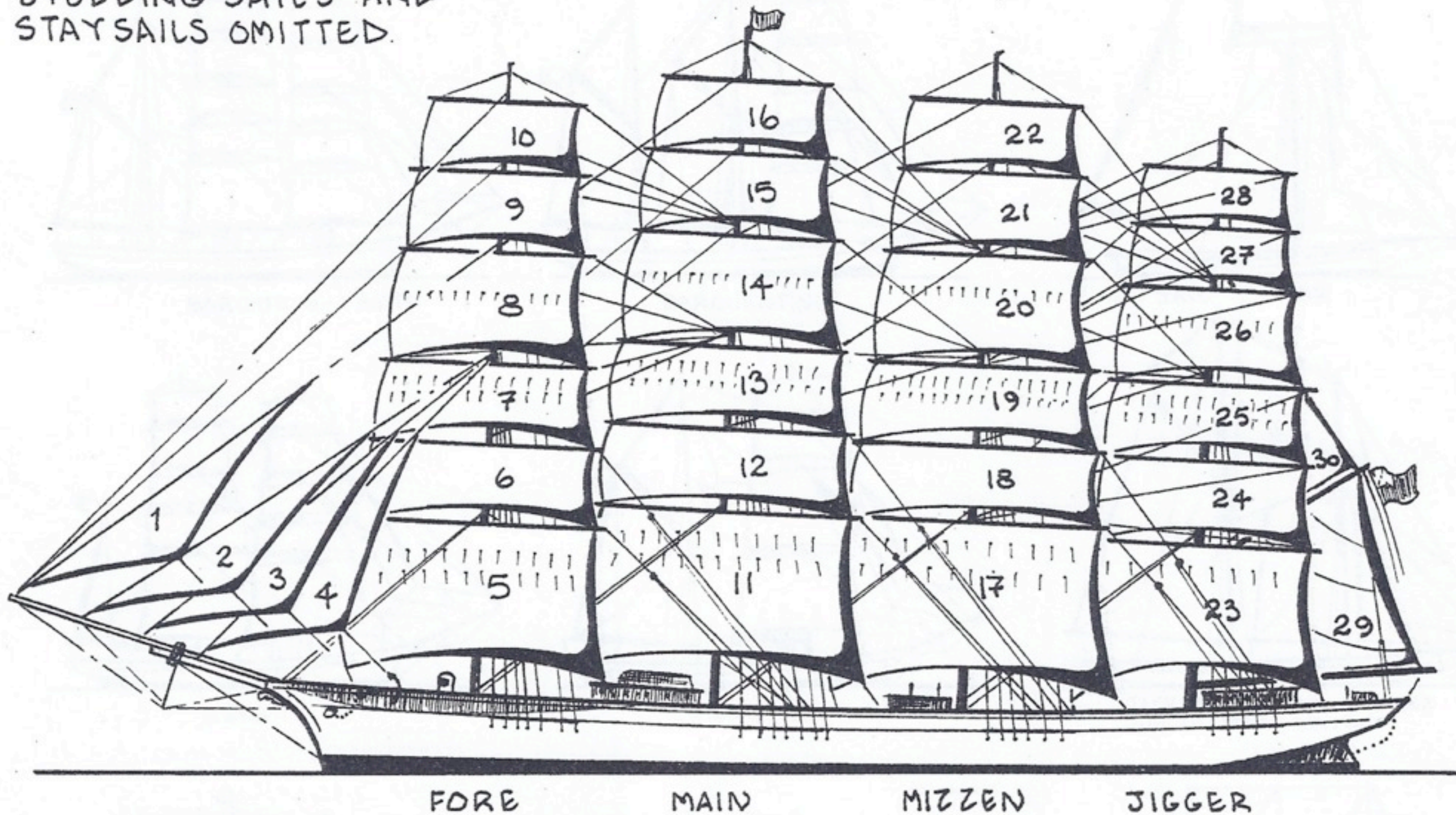


X-Dimension - Drive Train



Sails and Rigging

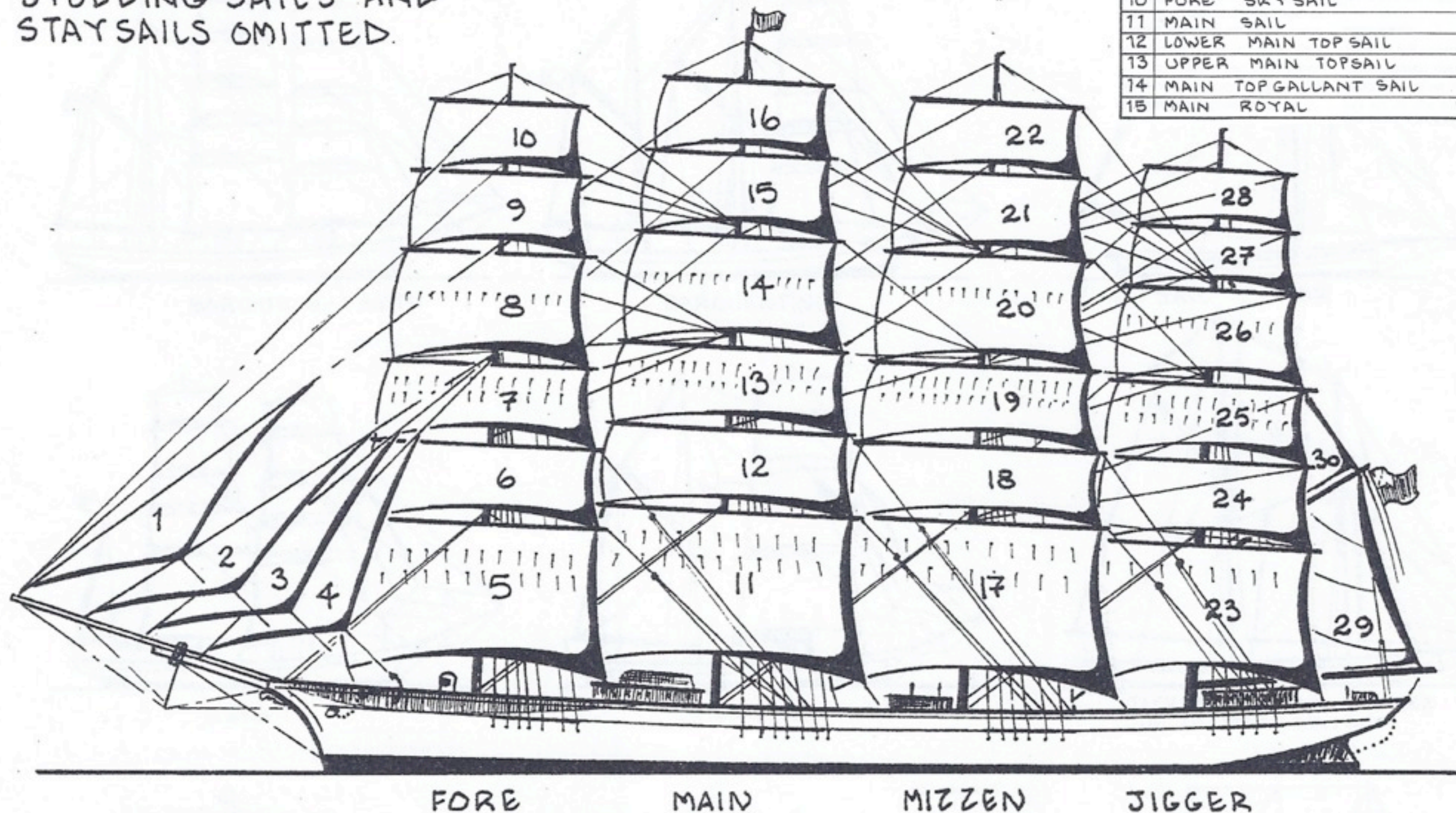
ALL PLAIN SAIL SHOWN
STUDDING SAILS AND
STAY SAILS OMITTED.



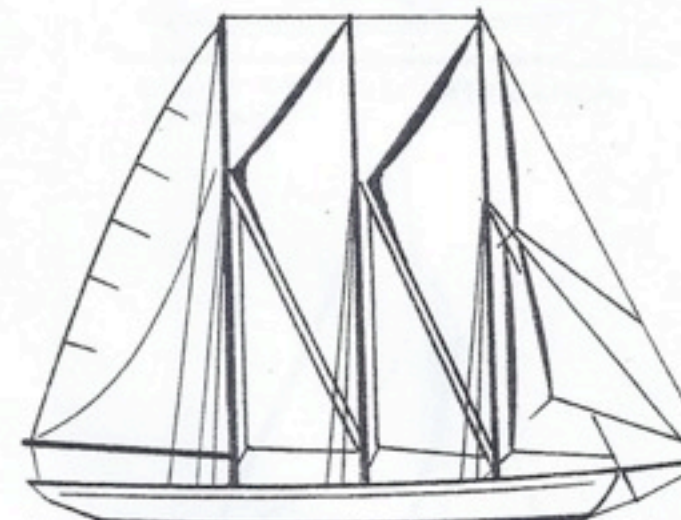
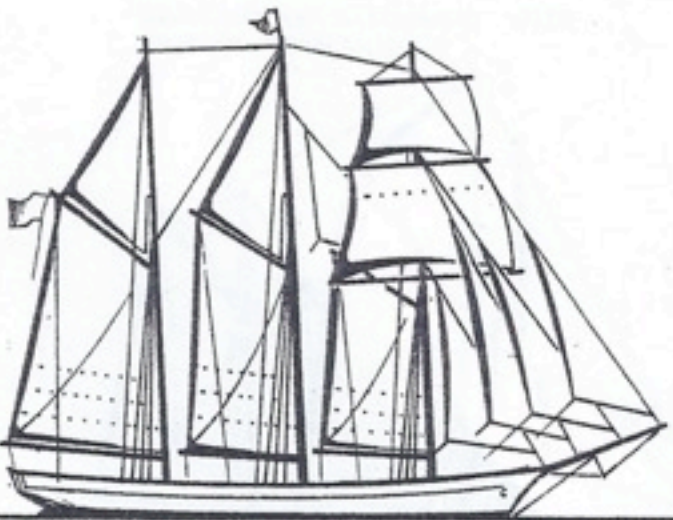
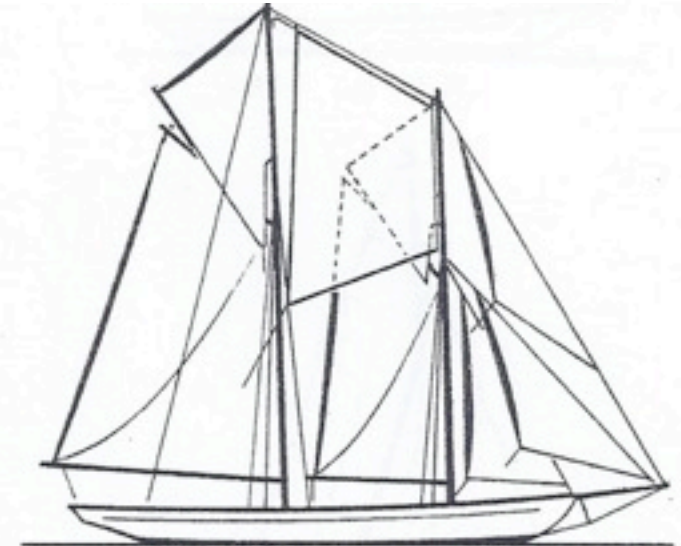
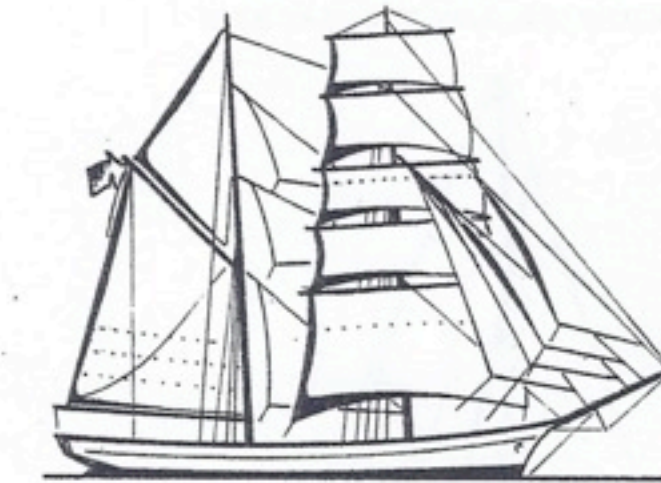
Sails and Rigging

ALL PLAIN SAIL SHOWN
STUDDING SAILS AND
STAYSAILS OMITTED.

1	FLYING JIB	16	MAIN SKY SAIL
2	OUTER JIB	17	CROSS JACK (CRO' JACK)
3	INNER JIB	18	LOWER MIZZEN TOPSAIL
4	FORE TOPMAST STAYSAIL	19	UPPER MIZZEN TOPSAIL
5	FORE SAIL	20	MIZZEN TOP GALLANT SAIL
6	LOWER FORE TOPSAIL	21	MIZZEN ROYAL
7	UPPER FORE TOPSAIL	22	MIZZEN SKYSAIL
8	FORE TOPGALLANT SAIL	23	JIGGER
9	FORE ROYAL	24	LOWER JIGGER TOPSAIL
10	FORE SKY SAIL	25	UPPER JIGGER TOPSAIL
11	MAIN SAIL	26	JIGGER TOPGALLANT SAIL
12	LOWER MAIN TOPSAIL	27	JIGGER ROYAL
13	UPPER MAIN TOPSAIL	28	JIGGER SKY SAIL
14	MAIN TOPGALLANT SAIL	29	SPANKER
15	MAIN ROYAL	30	GAFF TOPSAIL



Sails and Rigging

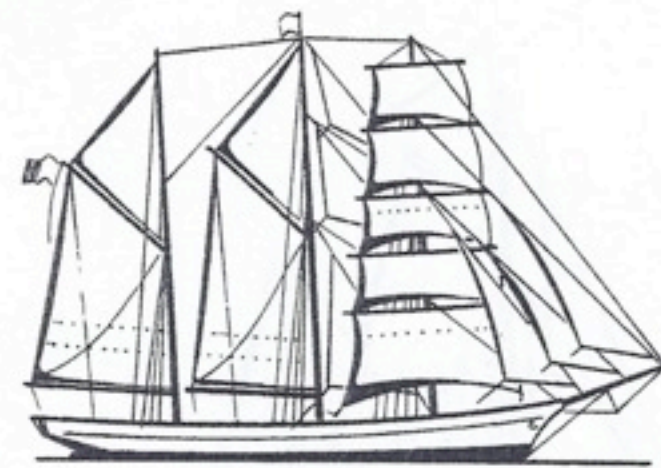


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Sails and Rigging



BARQUE. 3-5 MASTS



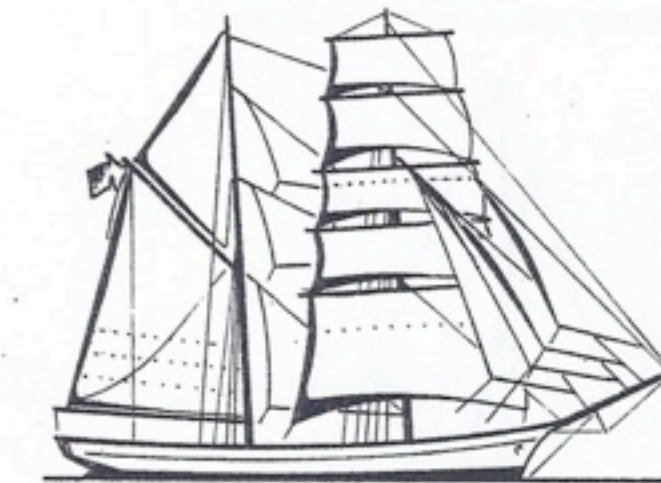
BARQUENTINE



TOPSAIL CUTTER



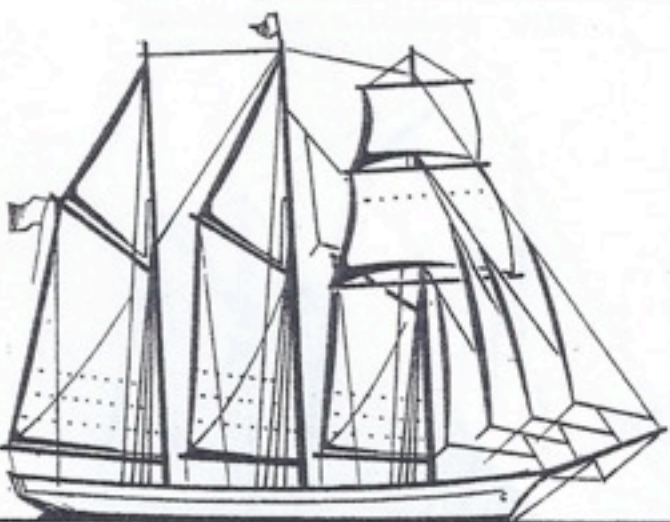
BRIG



BRIGANTINE



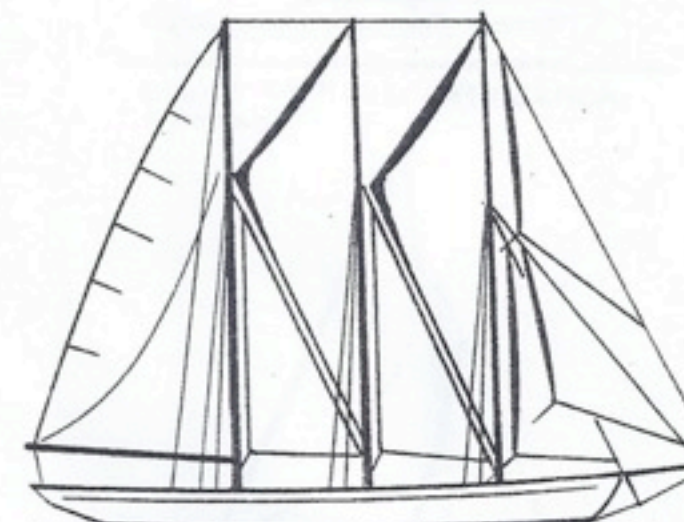
JACK YARD TOPSAIL SCHOONER
WITH FISHERMAN STAYSAIL



3 MASTED TOPSAIL SCHOONER
UPPER SQ. SL. IS TOPGALLANT



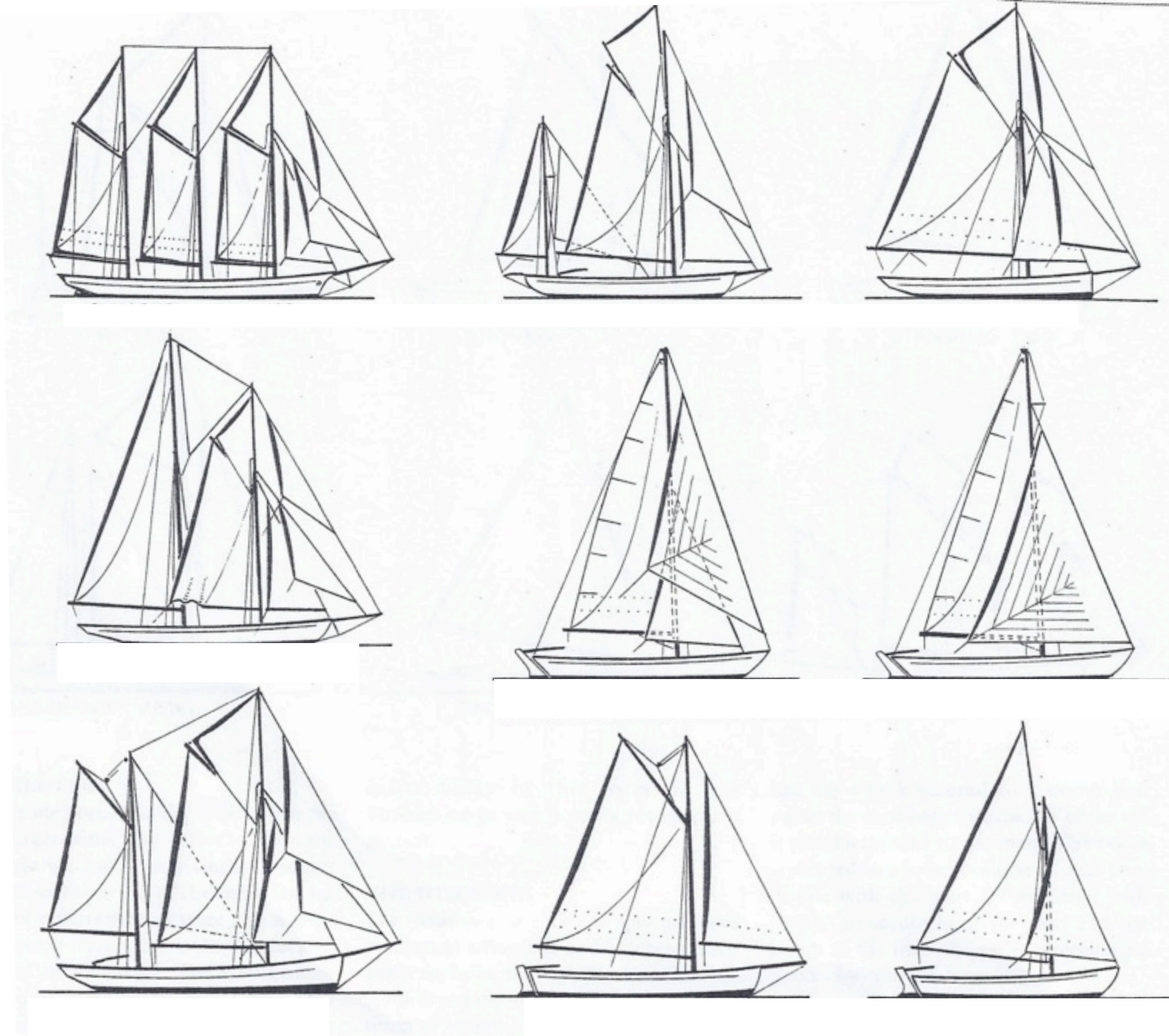
TOPSAIL SCHOONER



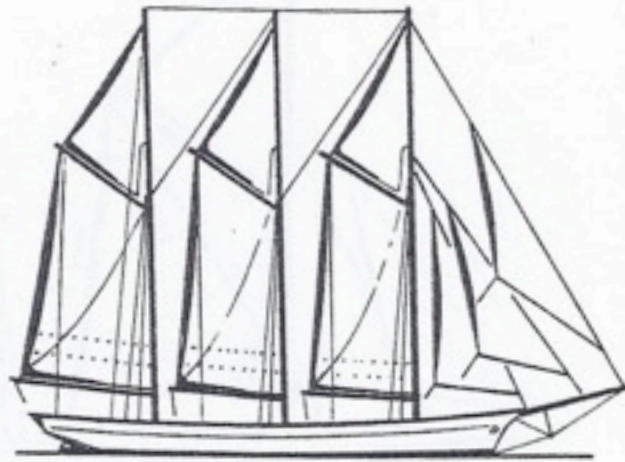
STAYSAIL SCHOONER

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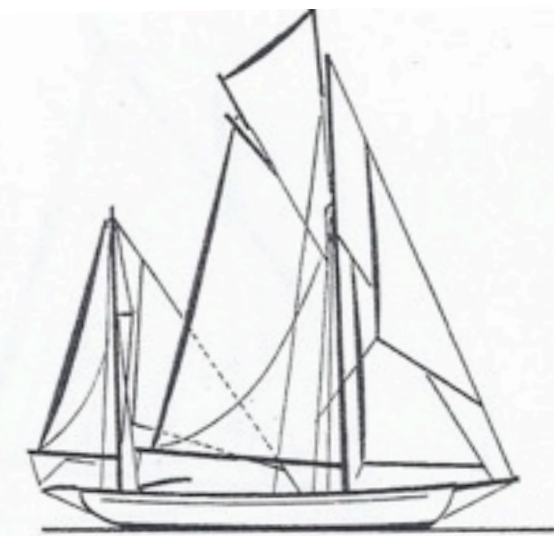
Sails and Rigging



Sails and Rigging



3 MASTED SCHOONER



JACK YARD GAFF YAWL WITH MIZZEN STAY



GAFF CUTTER



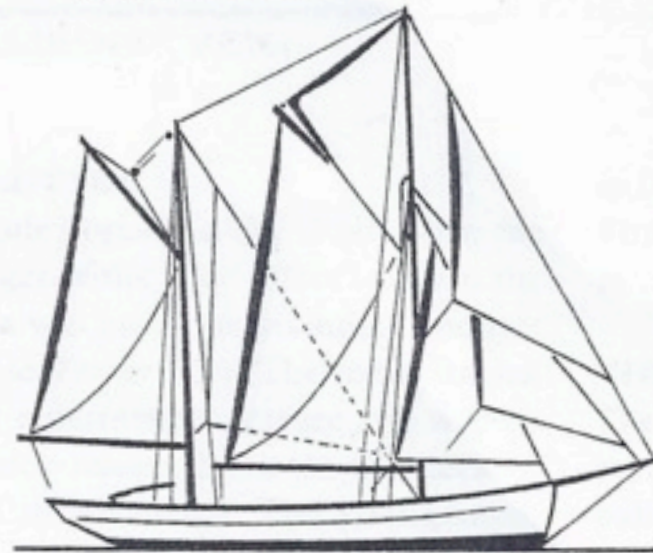
BERMUDIAN SCHOONER WITH TRIANGULAR STAYSAIL



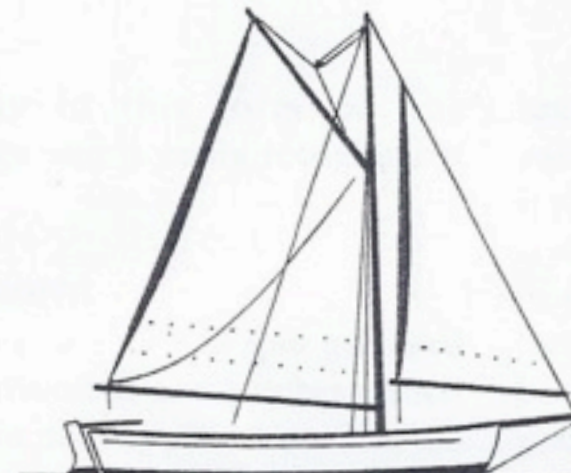
SLUTTER WITH YANKEE JIB AND NON PERMANENT INNER STAY



SLOOP 7/8TH RIG WITH GENOA STAYSAIL



GAFF KETCH

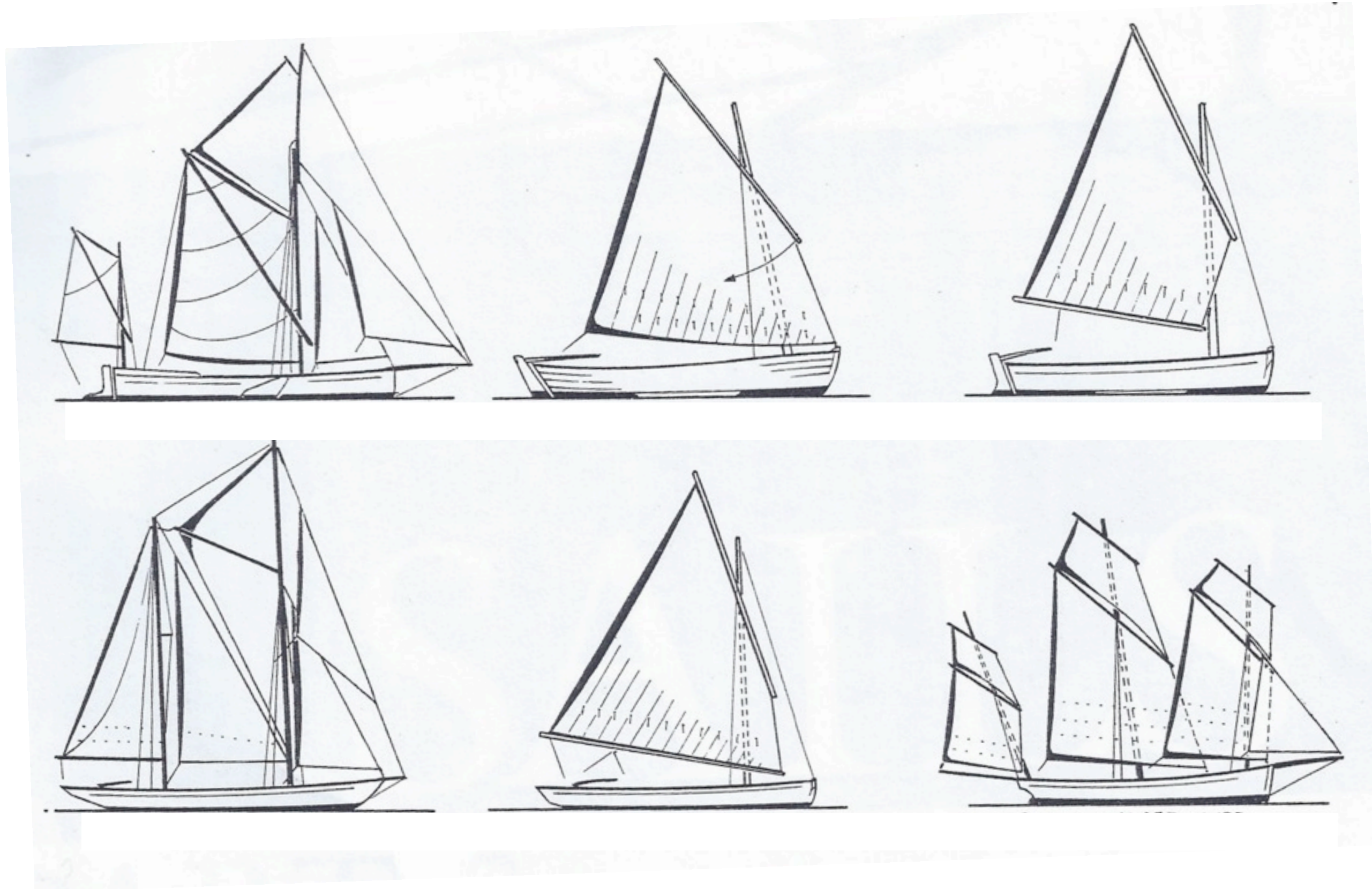


GAFF SLOOP

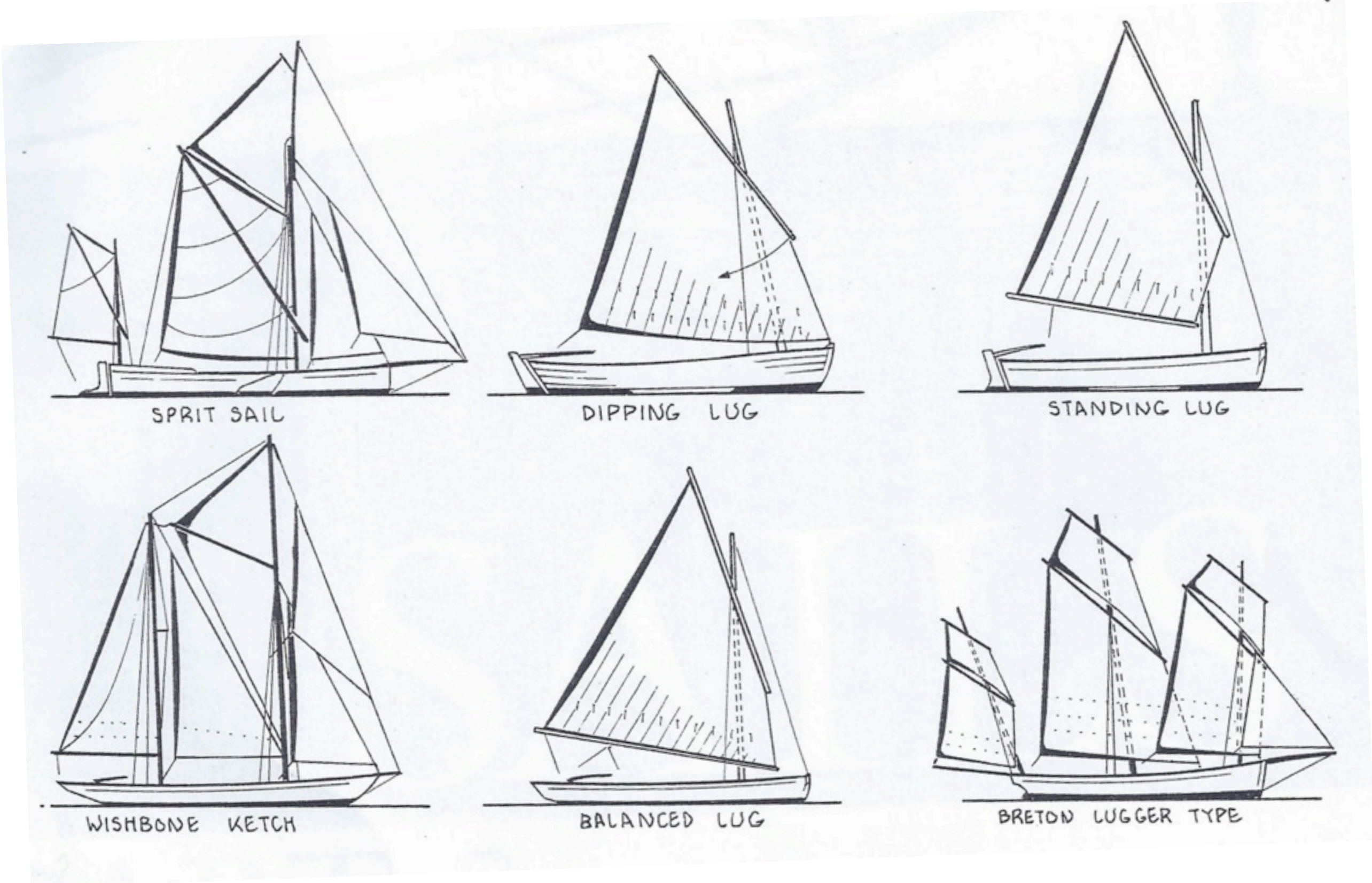


GUNTER SLOOP

Sails and Rigging



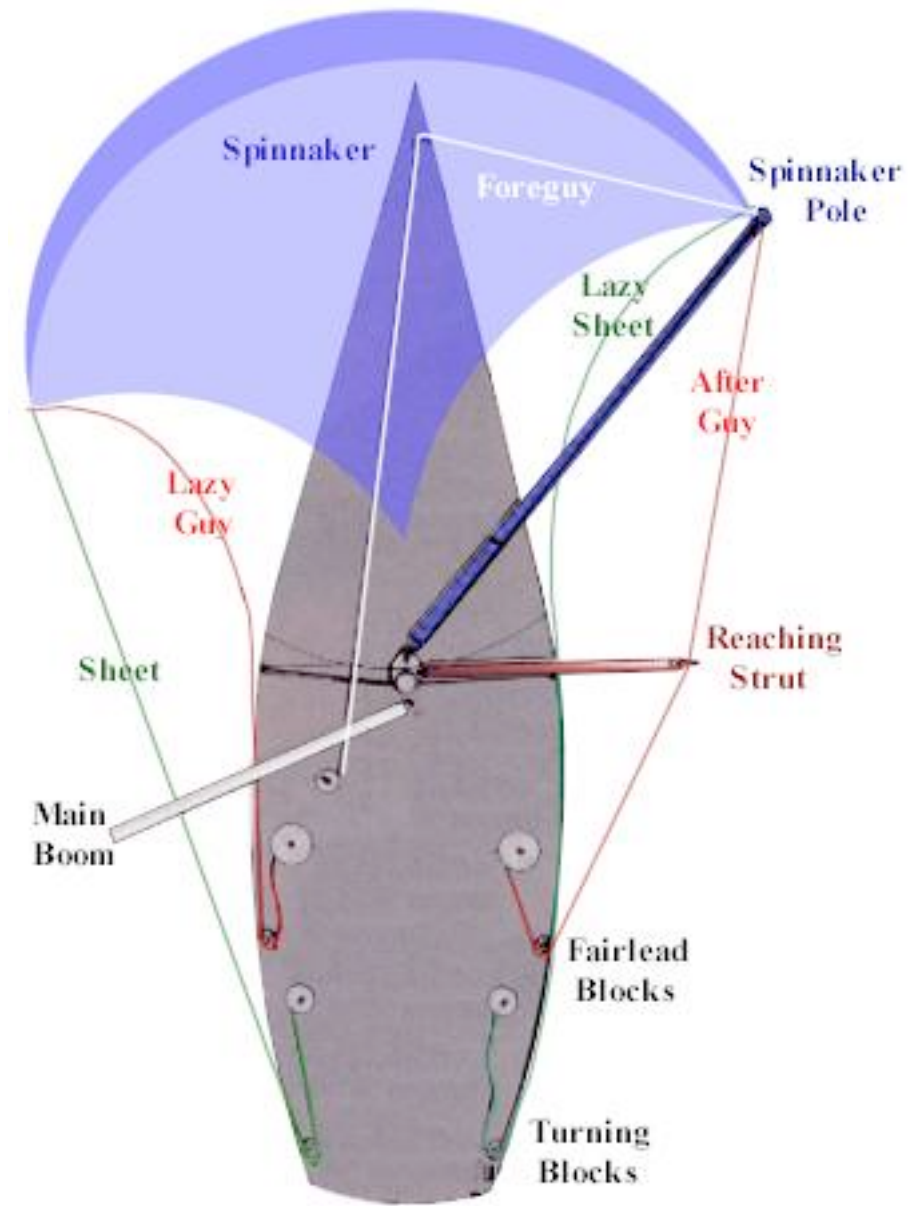
Sails and Rigging



Sails and Rigging

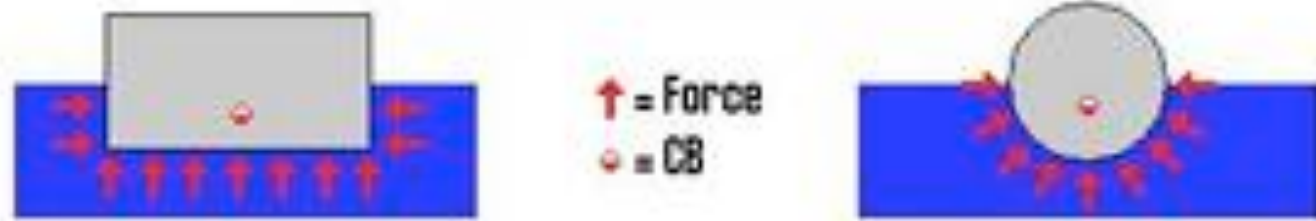


Sails and Rigging



Hulls

Buoyancy and form stability



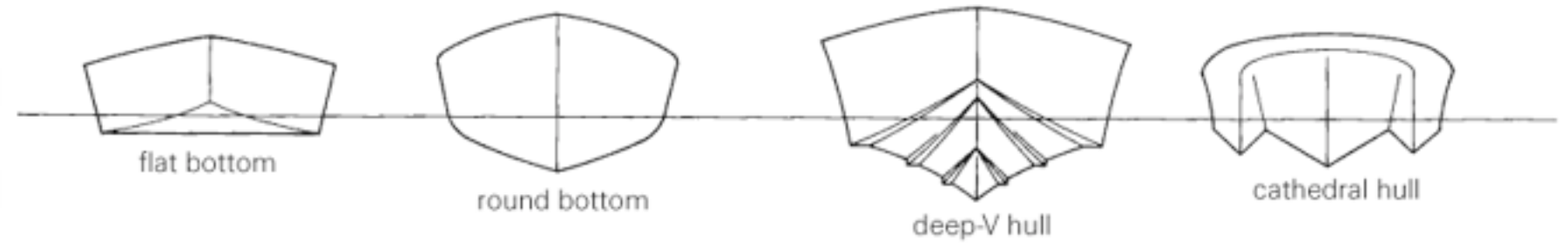
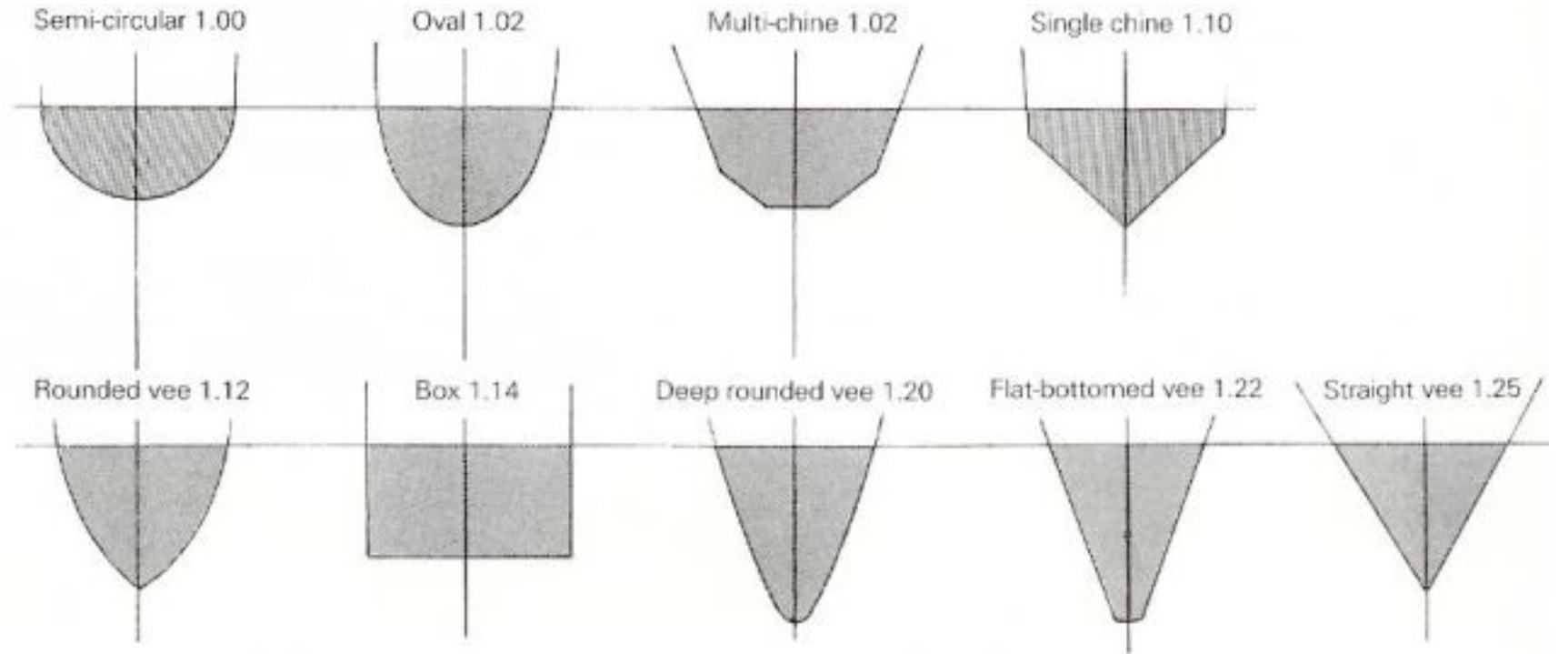
Center of Buoyancy in equilibrium



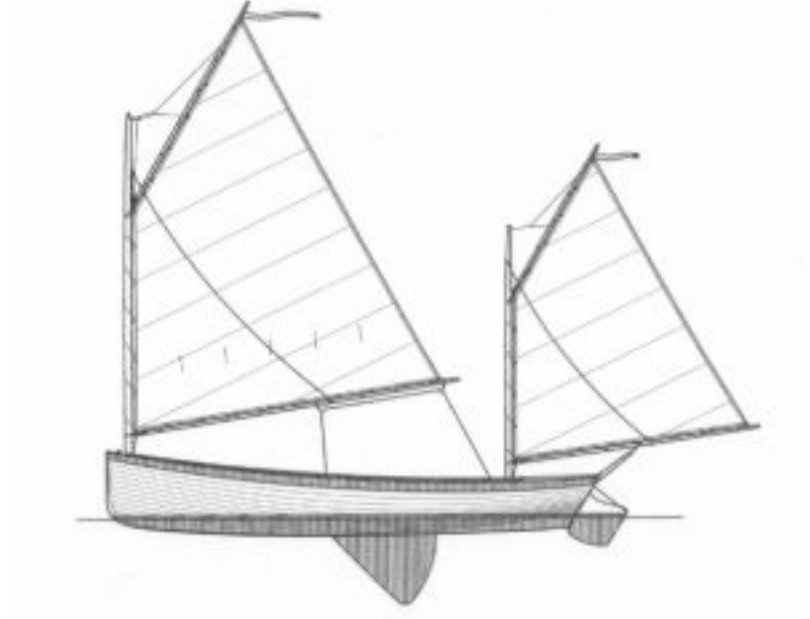
Righting moments at 15°



Inverted Stability



Keels



Keels



Keels



Keels



Props



Props - Folding



Props - Folding



Props - Feathering



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Rudders

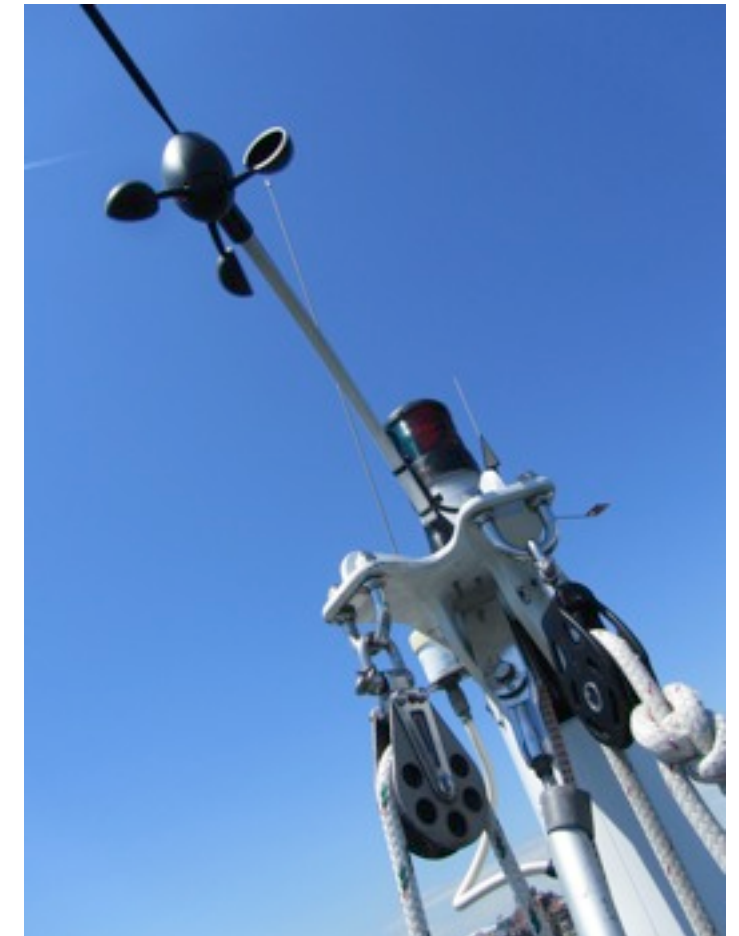


Rudders



Instruments

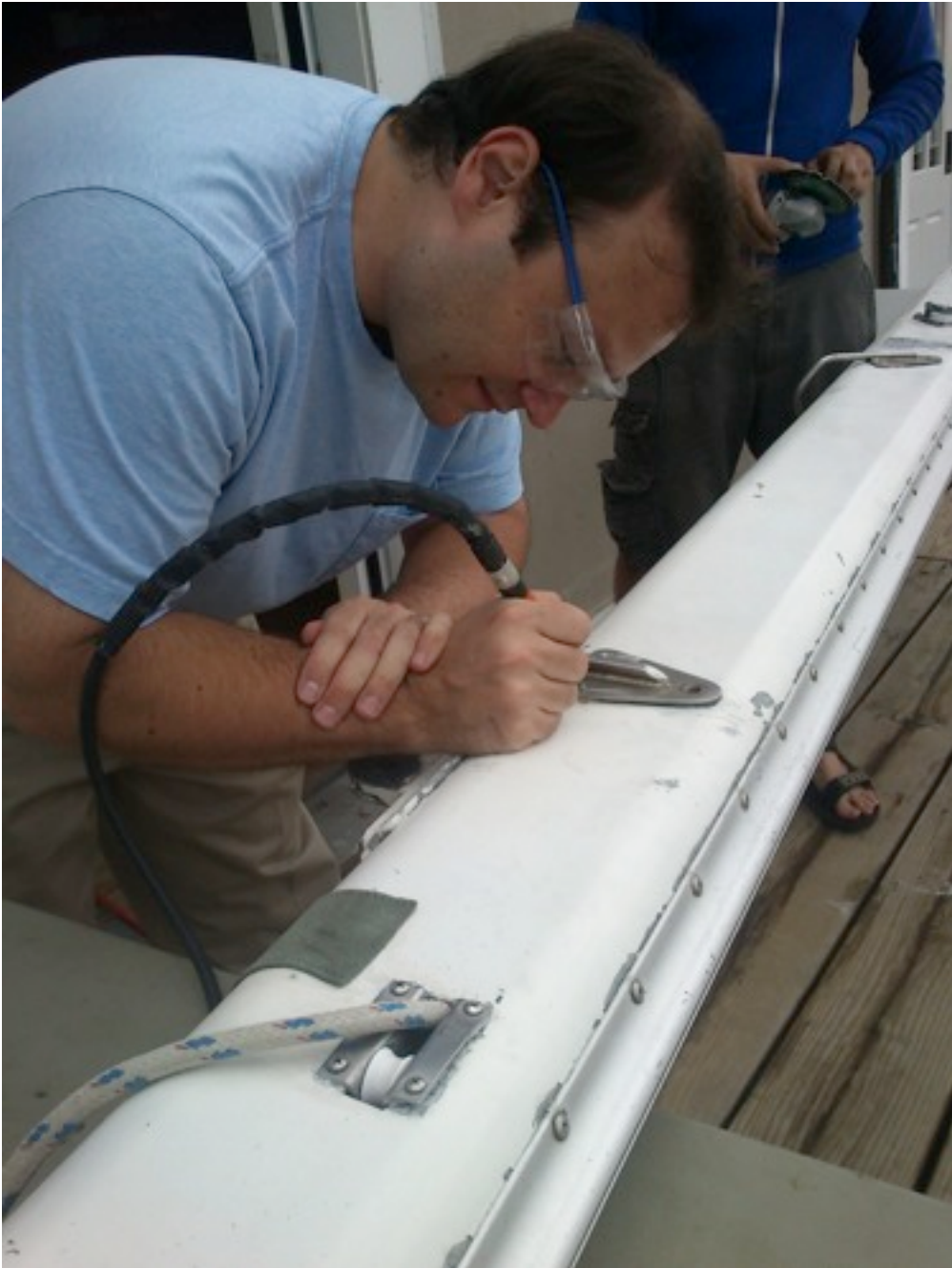
- wind speed, wind direction
- compass
- gps
- sextant
- water speed, speed over ground
- radar
- depth sensor/soundings



Boat = Work



Boat = Work



Boat = Work

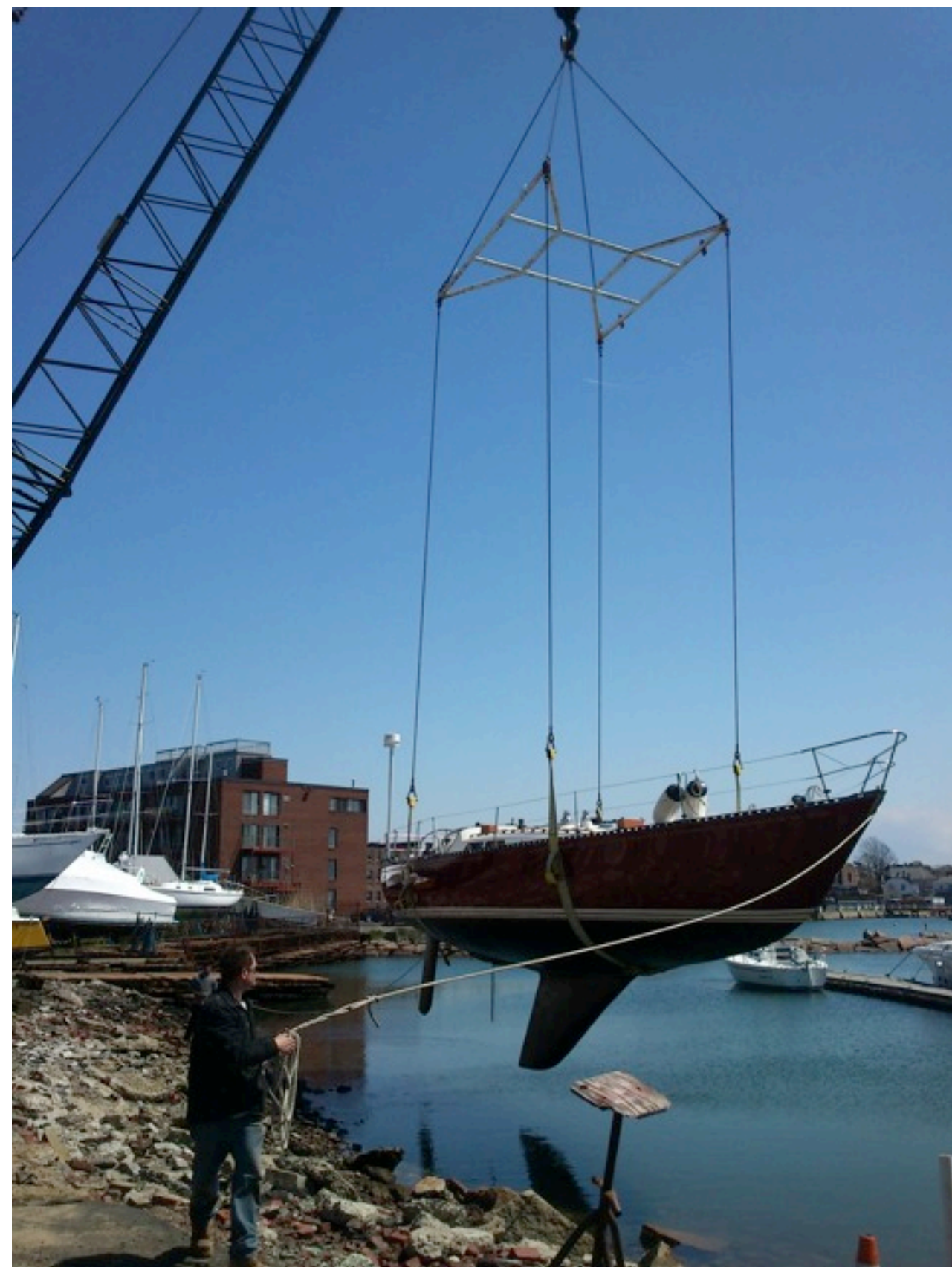


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Boat = Work



Splash



Day Trips versus Cruising versus Racing

	Day Trip	Cruising	Racing
preparation			
skills			

Whatever kind of sailing you do...

- manage expectations
- be flexible
- have fun!

