Offshore Cruising Preparation

Skills for open-water travel

TrawlerFest®
BOAT SHOW – EDUCATIONAL EXPERIENCE – RENDEZVOUS

PassageMaker Magazine 2021

Baltimore, MD - Wednesday September 29th

Presented by Jeff Merrill, CPYB

About this presentation…

*Get familiar with your boat before you leave the dock. Your best strategy and my strongest recommendation – learn it all!

*What to be aware of underway

*My sail and power background

HANDOUTS BINDER –
Let's take a look

This PowerPoint (PDF) and all handouts are available for your own private use. I will post on www.JMYS.com two weeks after class.

Sail vs. Power in class today?

How many have sailed?

How many are new to boating?

Own a cruising sailboat?

Own a cruising power boat?

(Power who had sail before?)

We are all cruisers.

You (the Owner) need training

- US Power Squadron/U.S. Boating classes
- Chapman's/Annapolis Seamanship School
- Weather
- Navigation
- Rules of the road

You (the Owner) need training

- Docking and anchoring
- Machinery familiarity
- Sail trim and handling
- Hiring a Captain to train with you
- Education…online, local colleges, professional schools – any suggestions from the class?
- Boaters University

Offshore Cruising: Preparing Craft & Crew

Preparation is key to successful cruising. Regardless of the size, make or model of your boat, understanding its critical systems and having a plan is crucial to keep your craft performing efficiently and safely. Join yacht broker, boatbuilder and TrawlerFest instructor Jeff Merrill in this exclusive online course designed to help you prepare yourself, your boat and your crew to get the most out of your offshore boating adventures.

Boaters University

YouTube videos

test

Your boat must be ready too!

- Learn RPM variations, speed and fuel burn (Develop a **Performance Card Handout* p. 2**)
- Understand operation of every system
- Acquire the right tools, spare parts, etc.
- Routine maintenance: filters, fluids, impellers, etc.

Tools

Keep the right tool near the service item

Spare Parts and Service Manuals

(When you get a spare replace the existing item and keep the item that was in service as a spare)

Organize your manuals

- Keep them in organized bins
- Go online to get electronic PDF versions
- Keep a list of vendors with contact information – phone and email
- Manuals can help you stock spare parts and learn service intervals

Learning more about your boat

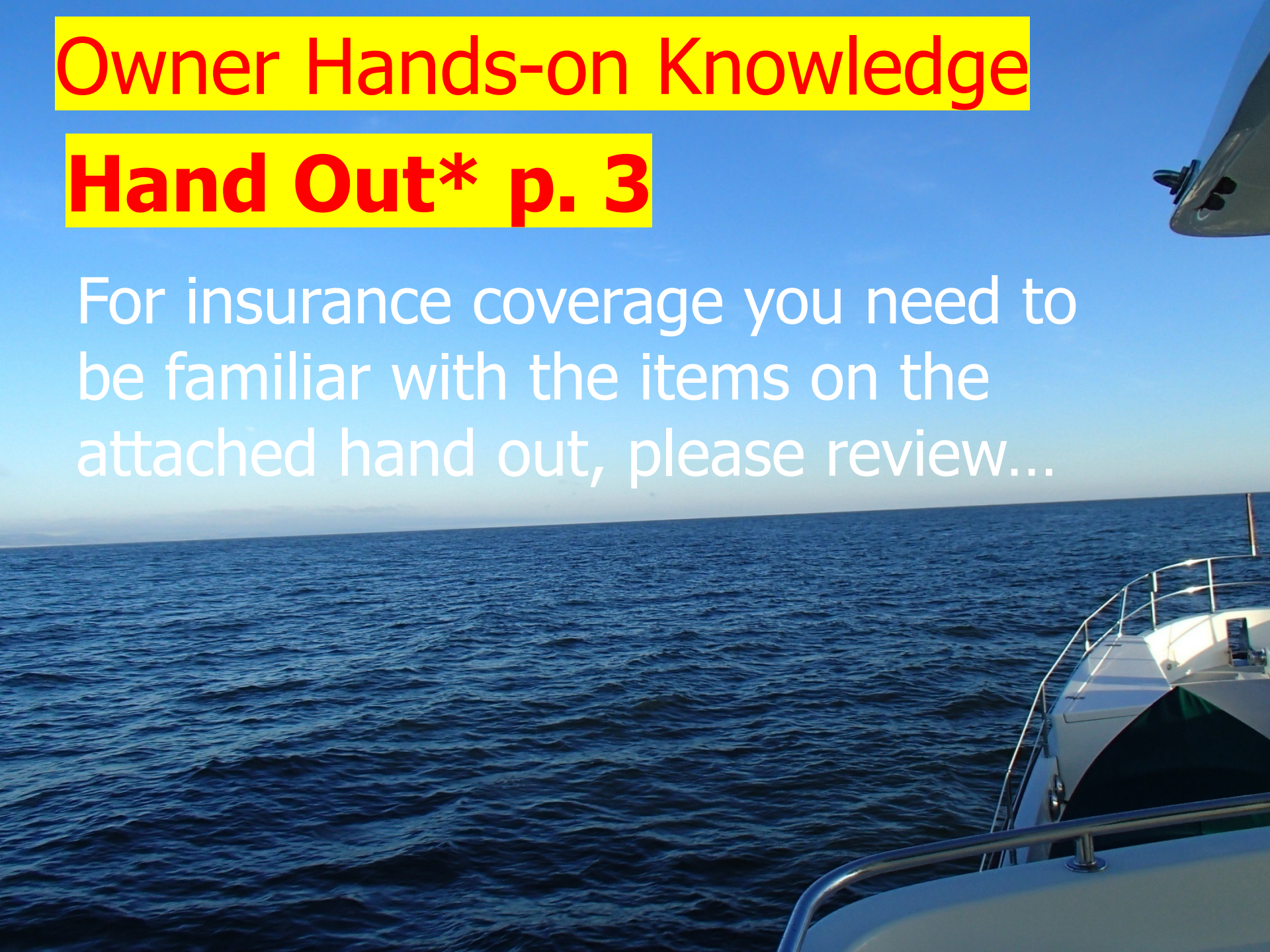
- USCG Auxiliary inspection?
- Through hulls and bilges
- Clean fuel. Fuel Valves, Tanks and Hoses
- How to "Stop" – anchor and windlass
- Make sure you AND your trawler are ready to go BEFORE you take off…

Electrical Panel – understand each breaker

Owner Hands-on Knowledge

Hand Out* p. 3

For insurance coverage you need to be familiar with the items on the attached hand out, please review…



Optimal sailing settings

- You should understand what your

"iron-genny" will do, but more importantly you need to understand what sail combinations work best in different winds and different points of sail – chart it

See Handout* p. 4 Sailing Tips

Know before you Go…

- Simulate a "Day in the Life"
- Spend time aboard at the dock (24 hours)
- Anchor out overnight (pick a local spot)
- Learn where everything is and how it works, sounds, and how to service it
- Hire a captain to gain their insights
- The best thing you can do is use your boat locally, before you take off on a big trip

USCG Requirements - example

- ***Handout p. 5** - USCG Nordhavn 50
  Good practice to identify all of the safety gear you have on board and note the location. This is a helpful quick reference document to have laminated and keep in the pilothouse.

Lifejackets – comfortable – wear them, don't forget kids and pets

SOSpenders - inflatable life vest, comfortable, attach with tether to jack lines for on deck moving about

Weather Factors before you depart... Go/No Go parameters

*Sea state - Swell – 6’ and smaller
*Period between Swells – 8 seconds or longer
*Winds – below Gale force (40 knots)
*Barometer – dropping usually signifies stormy weather

Weather Forecasts Underway:

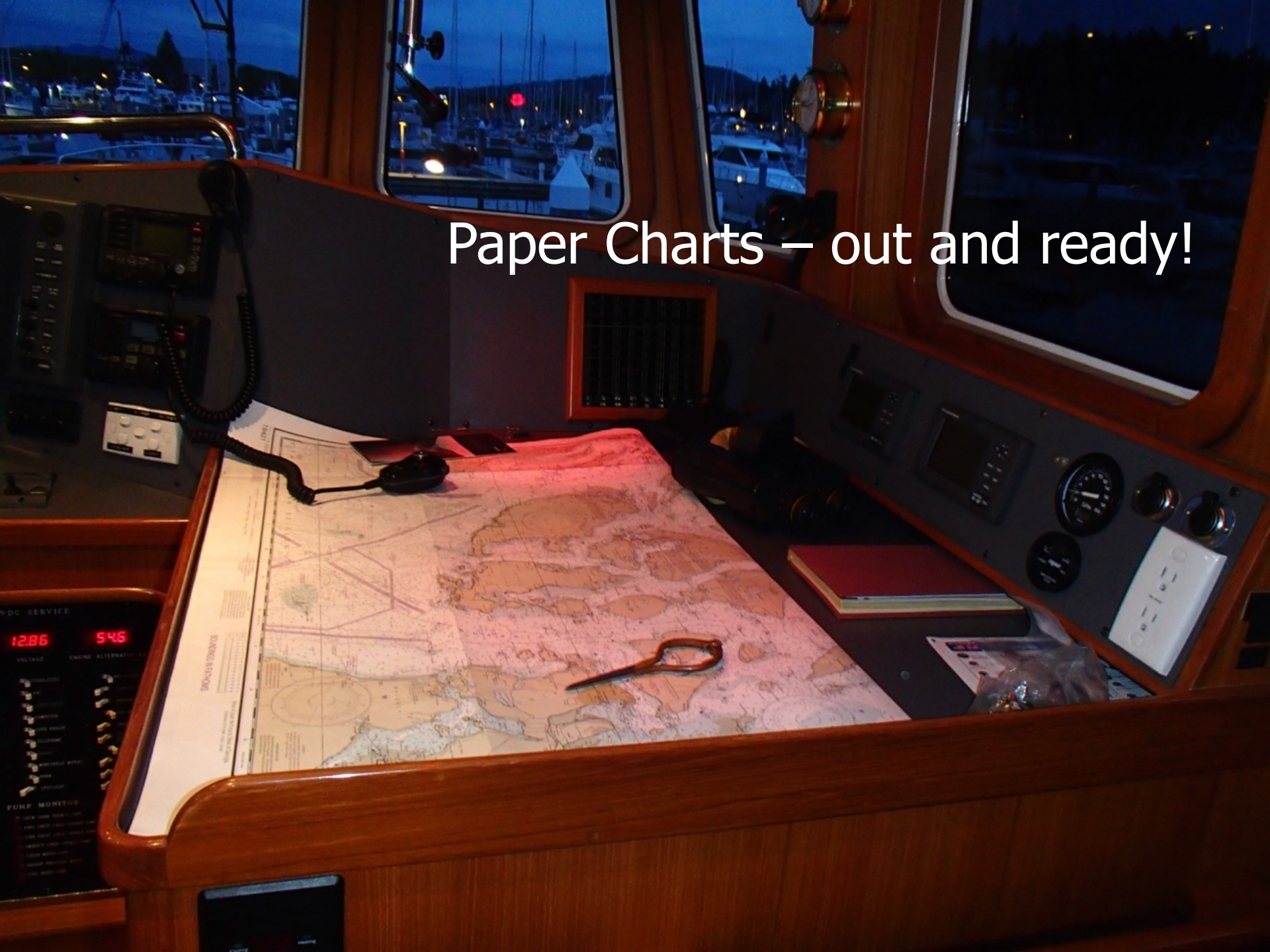
*Satellite Radio – XM/Sirius forecast service
*VHF – channel 3 and 4
*Professional Weather Routers – Chris Parker
*Internet, if you have it aboard

Rough Weather Suggestions

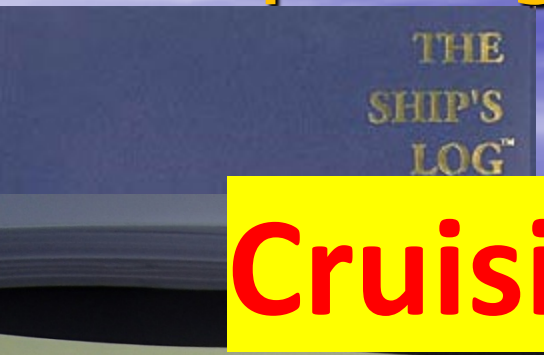
- Anticipate and prepare, sometimes you have to go through it…it won't last forever
- Make sandwiches in advance
- Secure all moving parts
- **Change course and/or reduce speed** to make it a more comfortable ride

Basic Navigation – Paper Charts

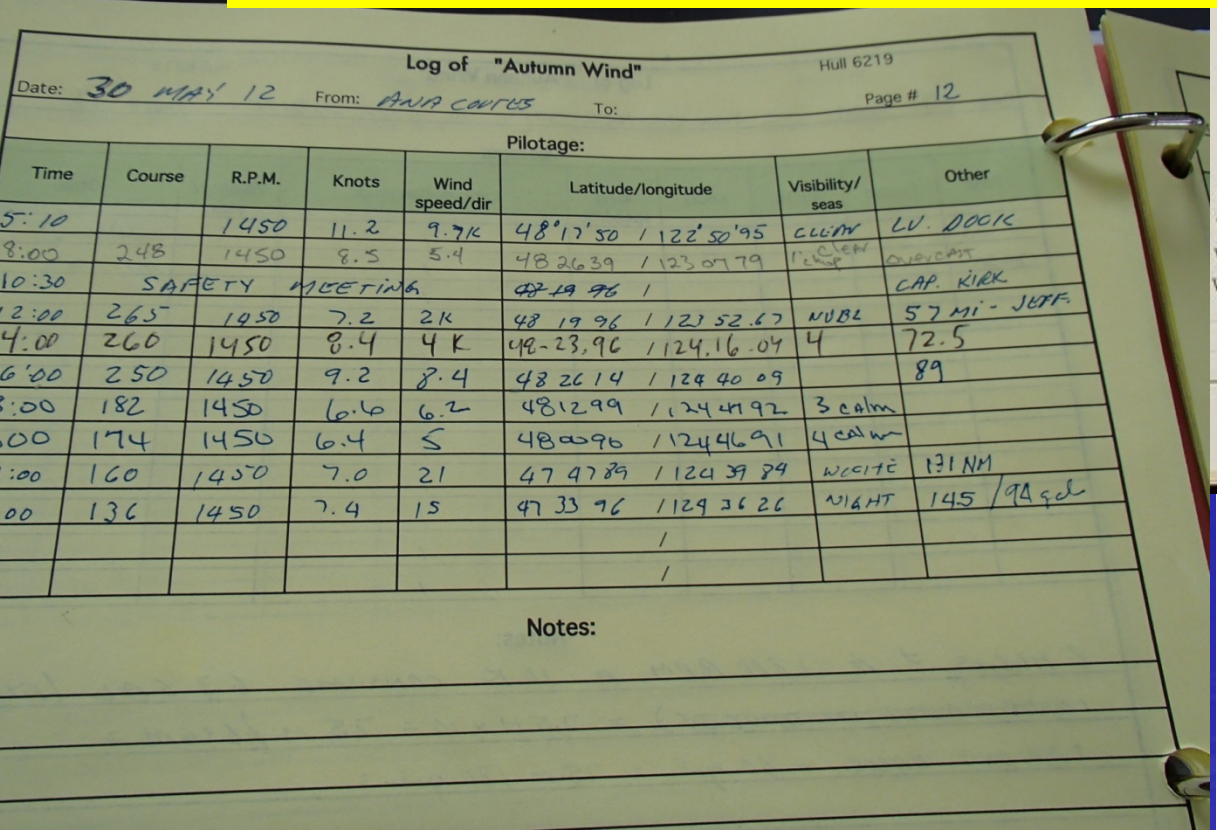
- Know how to read a paper chart
- Continually cross reference with electronic charts
- Tools – Dividers and Parallels
- Depth – safe waters, shoals, etc.
- Shipping Lanes
- Obstructions, wrecks
- Buoys and aids to navigation
- Organize charts in the order you will use them


Paper Charts – out and ready!

Ships Log – buy or make your own



Cruising Log Handout* P. 6



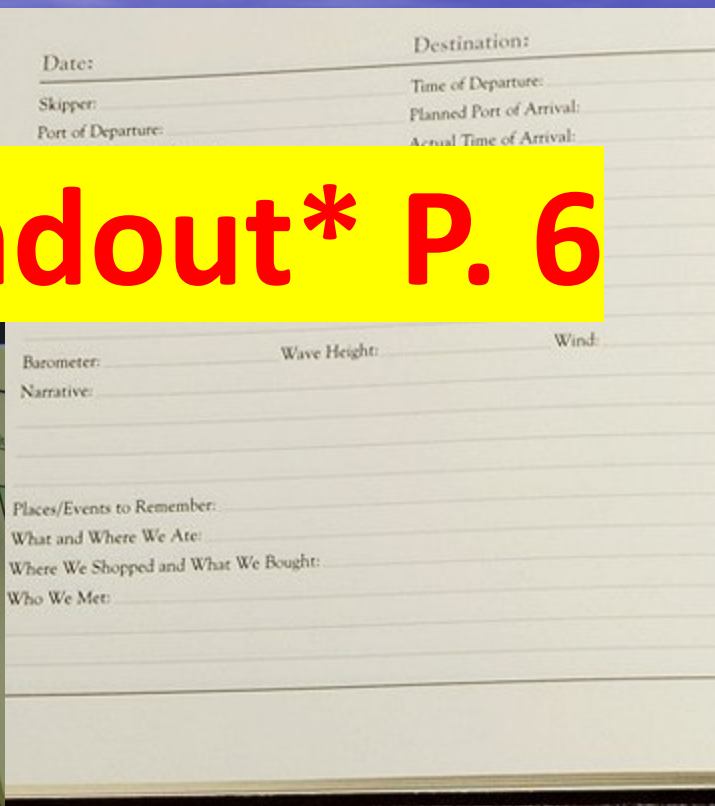
Log of "Autumn Wind" Hull 6219

Date: 30 MAY 12 From: ANA CORTES To: Page # 12

Pilotage:

Time	Course	R.P.M.	Knots	Wind speed/dir	Latitude/longitude	Visibility/ seas	Other
5:10		1450	11.2	9.7K	48°17'50 / 122°50'95	CLEAR	LV. DOCK
8:00	248	1450	8.5	5.4	48 26 39 / 123 04 79	CLEAR	OVERCAST
10:30	SAFETY MEETING				48 19 96 /		CAP. KIRK
12:00	265	1450	7.2	2K	48 19 96 / 123 52.67	NUBL	57 MI - JEFF.
4:00	260	1450	8.4	4 K	48-23,96 / 124,16.04	4	72.5
6'00	250	1450	9.2	8.4	48 26 14 / 124 40 09		89
:00	182	1450	6.6	6.2	4812 99 / 124 41 92	3 calm	
00	174	1450	6.4	5	48 00 96 / 124 46 91	4 calm	
:00	160	1450	7.0	21	47 47 89 / 124 39 84	NIGHT	171 NM
00	136	1450	7.4	15	47 33 96 / 129 26 26	NIGHT	145 / 99 gal
					/		
					/		

Notes:



Date: Destination:

Skipper: Time of Departure:

Port of Departure: Planned Port of Arrival:

Actual Time of Arrival:

Barometer: Wave Height: Wind:

Narrative:

Places/Events to Remember:

What and Where We Ate:

Where We Shopped and What We Bought:

Who We Met:

Ships Log

- Record your position, departure and arrival plus machinery hours of operation
- Hourly - on the hour - recordings
- Typical details – lat/long, speed, RPM, heading, miles offshore, distance to waypoint, wind and sea conditions

Crossing Situations – Part One

- Identify Targets in advance (Head On and Overtaking)
- Hail on VHF 16 to discuss passing
- Pass Port to Port [or] change via VHF

Crossing Situations – Part Two

- Make your intentions clear – **EXAGGERATE** your heading
- Understand the rules for **"Give Way"** (You alter) vs. **Stand On"** (Maintain course and speed)
- Slow or change course to avoid a collision. **Pass Behind!** Crossing in front is scary…

Try to keep one mile apart

Navigation Electronics Instruments to know

- **Autopilot** modes: Auto, Standby and Nav
- **Radar** – Targets, Rings, Distance, CPA
- **VHF** – 16, how to talk and switch channels
- **Chart Plotter** – Waypoints, Routes
- **GPS** – Latitude/Longitude
- **Depth** Sounder
- **AIS** – ship tracking

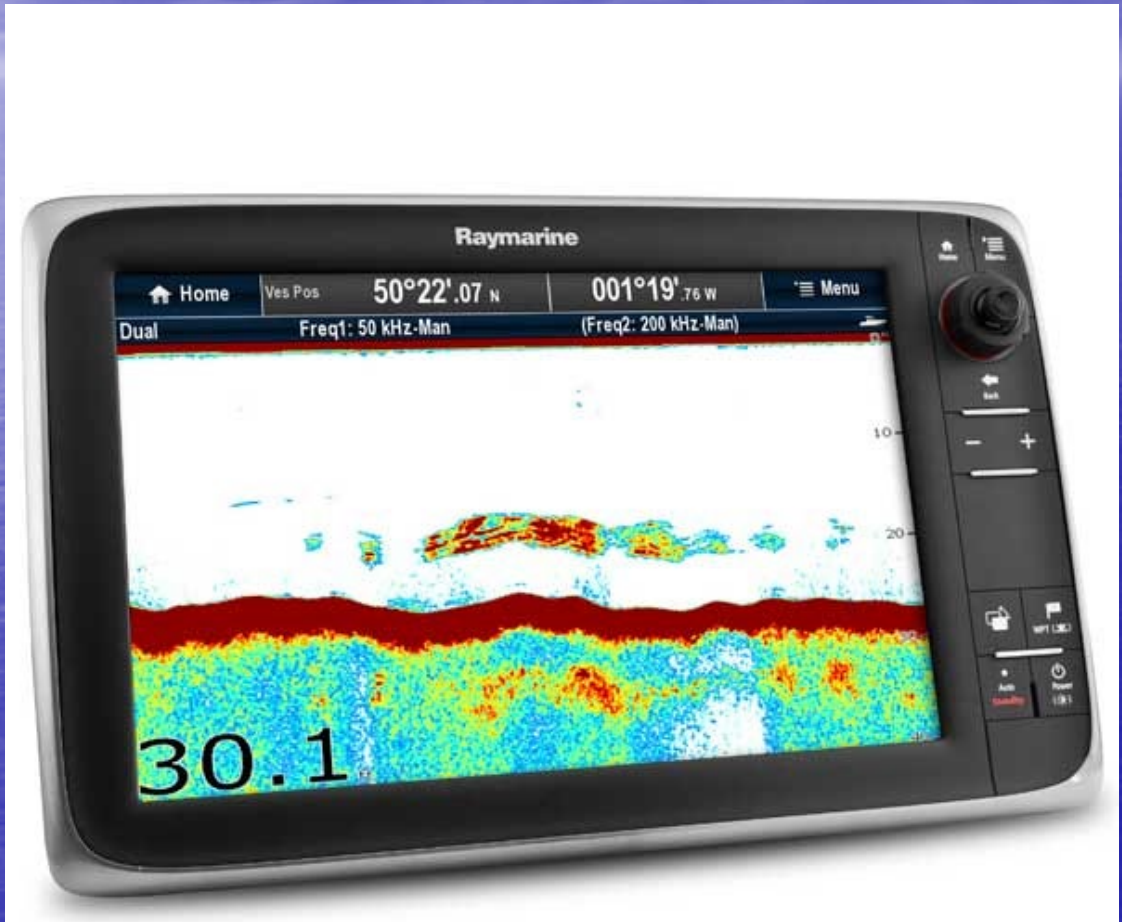
- Features:
- Chart and Radar overlay
- How to Dim
- How to Mute (Alarms)
- Waypoints / Route

VHF (Very High Frequency)

Primary source for ship to ship communications.

Depth Sounder

Fish Finder shows bottom contours



Depth

- If you don't have water under the keel…
- What does your boat draw?
- Set transducer to measure from keel
- Someday you will run aground (Tow Boat US/ Vessel Assist). Back off, wait for tides

GPS – Global Positioning System

Latitude and Longitude

AIS (Automatic Identification System)

- Integrates a VHF transceiver with GPS coordinates and navigation sensors to "exchange" information between ships
- Details like ships name, length, speed, heading, destination – and time to closest possible approach
- Very helpful, don't forget Radar blips that are also targets without AIS

AIS target (Variable range, 6 - 12 miles average.)

AIS details


Name EVER ELITE
COG/SOG 290.0 °T/16.8 kt
CPA/TCPA 2.372 nm/-1m58s
Range/Bearing 2.400 nm/208.7 °T

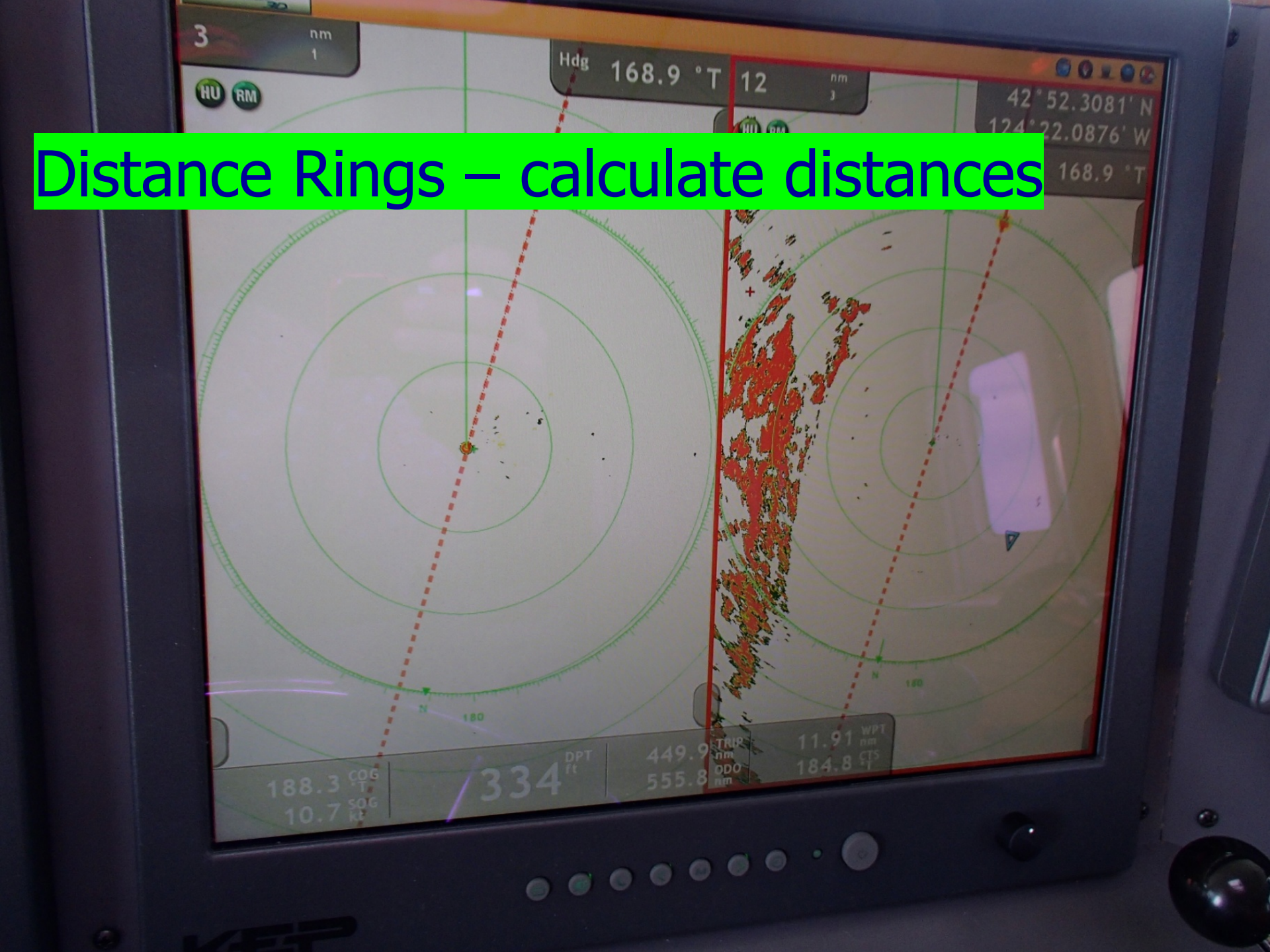

Hdg 266.1
Object Detail
Name EVER ELITE
MMSI 235554000
COG 290.0 °T
SOG 16.8 kt
ROT +0.0 °/m
CPA 2.383 nm
TCPA -1m41s
Range 2.403 nm
Bearing 209.3 °T
Destination KAOHSIUNG
Ais Status Normal
Call Sign VSJG7
Beam 42.0 m
Length 299 m
Position 48°19.9430' N; 124°05.9380' W
NavStatus Under way using engine

RADAR

- "Charts are legend, GPS is theory, Radar is TRUTH!" Author unknown

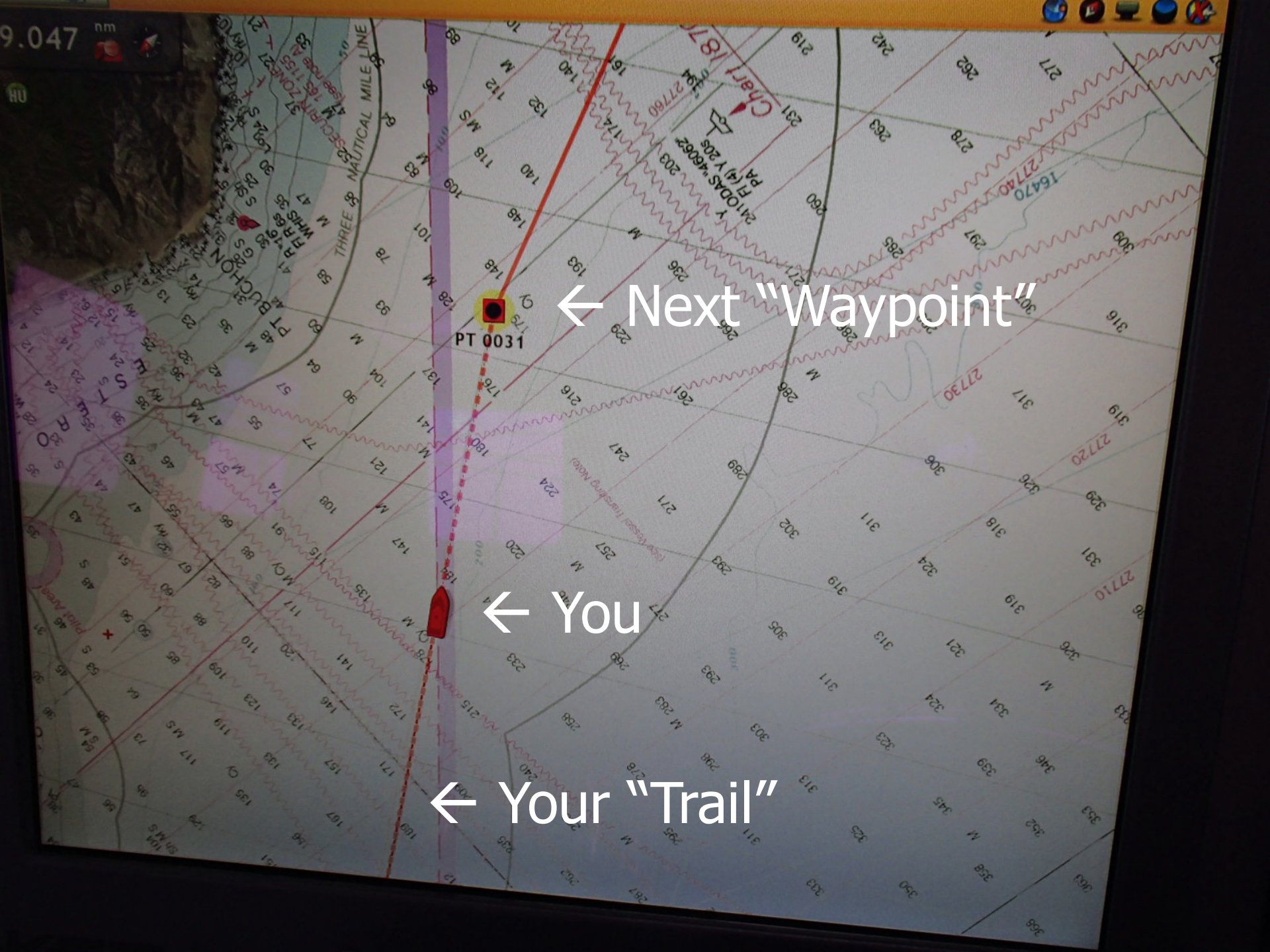
- Radar rings help with distance (Zoom in and Zoom out frequently)

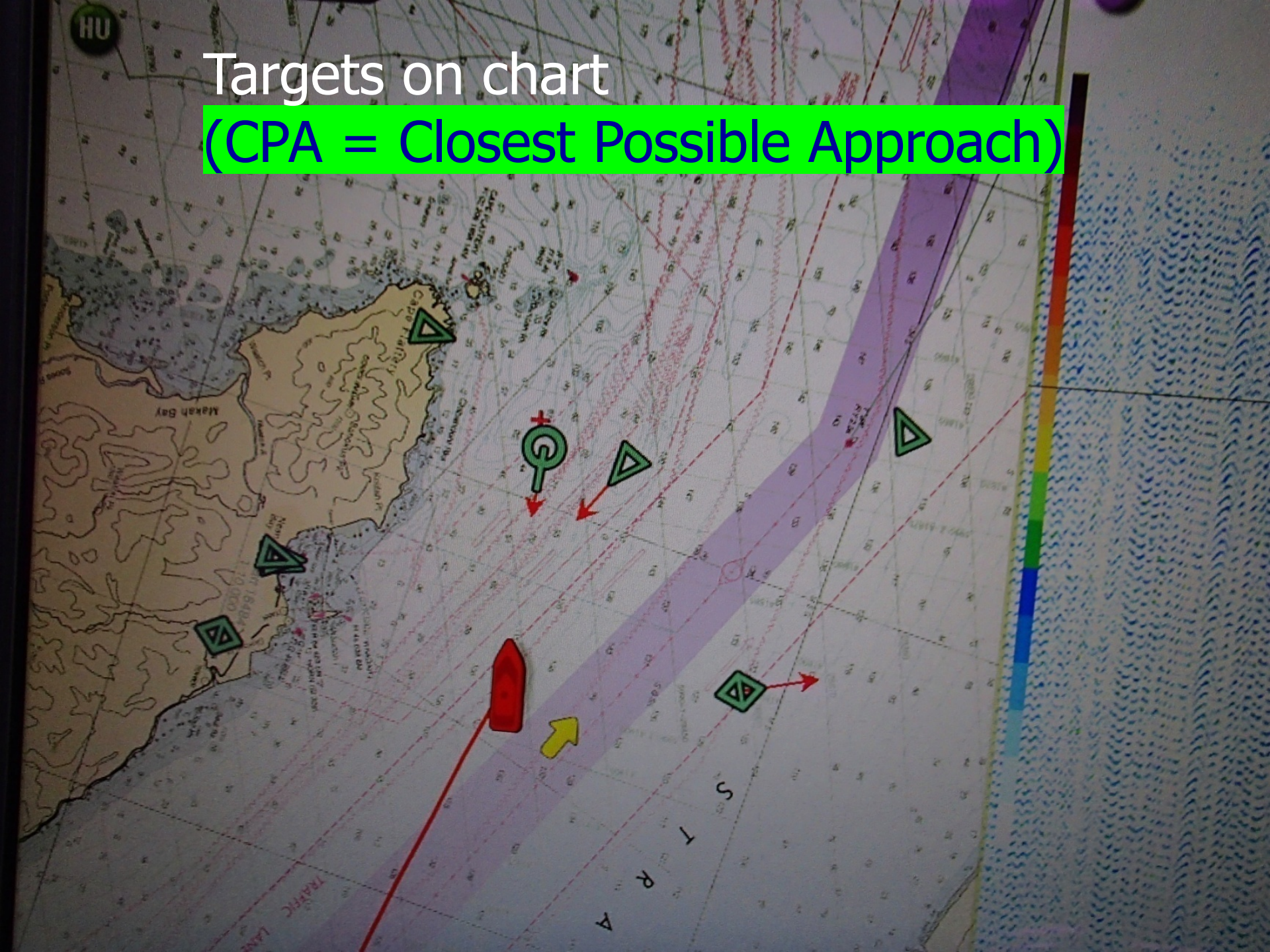
- Targets – ARPA – Auto Radar Plotting Aids


Distance Rings – calculate distances
3
nm
Hdg 168.9 °T
12
nm
42° 52.3081' N
168.9 °T
188.3 COG
10.7 SOG
334 DPT ft
449.9 TRIP nm
555.8 ODO nm
11.91 WPT nm
184.8 CTS °T

Plotting: (Paper and Electronic Charts)

- Hourly pencil Lat/Long on Paper Chart
- Paper Charts are a reliable back up if you lose electronic navigation plotting
- Electronic charts are not fool proof…


← Next "Waypoint"
PT 0031
← You
← Your "Trail"


Targets on chart
(CPA = Closest Possible Approach)

Autopilot


SIMRAD
Aw 329
340.7
Gyro1
02
SIMRAD AP50
STBY
AUTO
NAV SETUP
WORK
INFO
DODGE
TURN


N
GPS1
COG 274°
BPW 272 T
SOG 2.4kt
WP
SIMRAD
XTE
0.02NM
DST
32.2NM
0.02NM
340.7
Gyro1
SIMRAD AP50
STBY
AUTO
NAV SETUP
WORK
INFO
DODGE
TURN


PORT
STBD
40
RUDDER
40
20
20
0
SIMRAD


5 10 20 40
0
5 10 20 40
AUTO
NAV
WORK
FU
STBY
THRUST

Autopilot settings

- "Hands Free" much easier than steering
- "A" Autopilot –Digital compass course
- "N" Navigate – Waypoint on Route
- "S" Standby – Hand steer

What's Up? Electronic Navigation

- Radar and Chart can be Course Up, Heading Up or North Up
- If your boat is heading North, it's easy
- When heading South, it's confusing
- Know how to change the screen orientation so that it is logical to you


Plotter and Radar – Heading Up

Navigation Priorities

- There are 15 primary navigation items on this list.
- Rank them in your priority order 1 – 15

- Once you are done – hand in and we will review.

Summary points

- Weather – what about fog?
- Any tips for standing watch?
- Back up navigation equipment?
- Questions on nav/com electronics?
- How do you get time on the water? Charter, ride on someone else's boat
- Training Courses – others?

LET'S TAKE A BREAK

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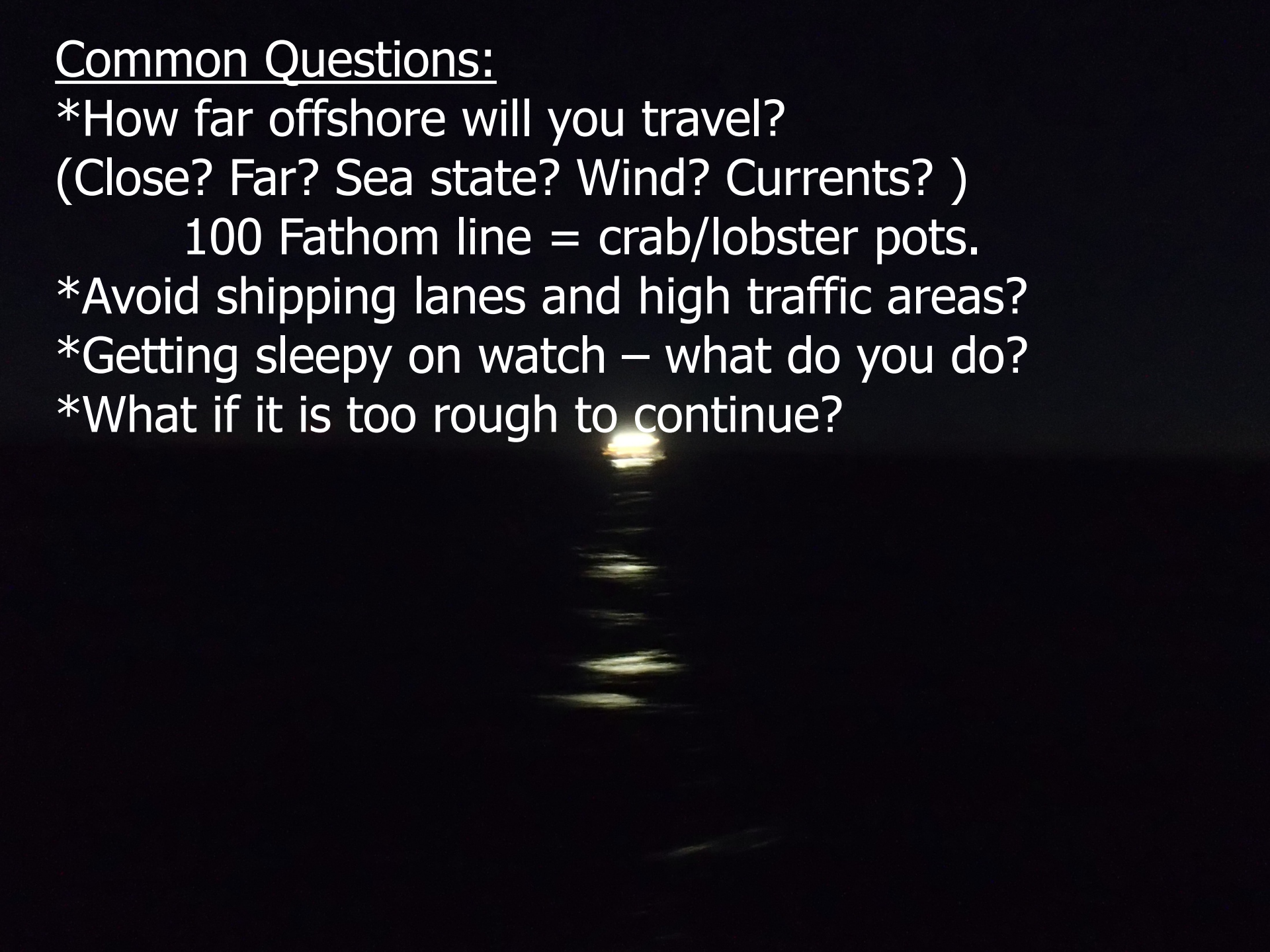
There's a saying in the cruising community:
!
"All cruising plans should be etched in the sand at low tide."

Pre-Departure Check List

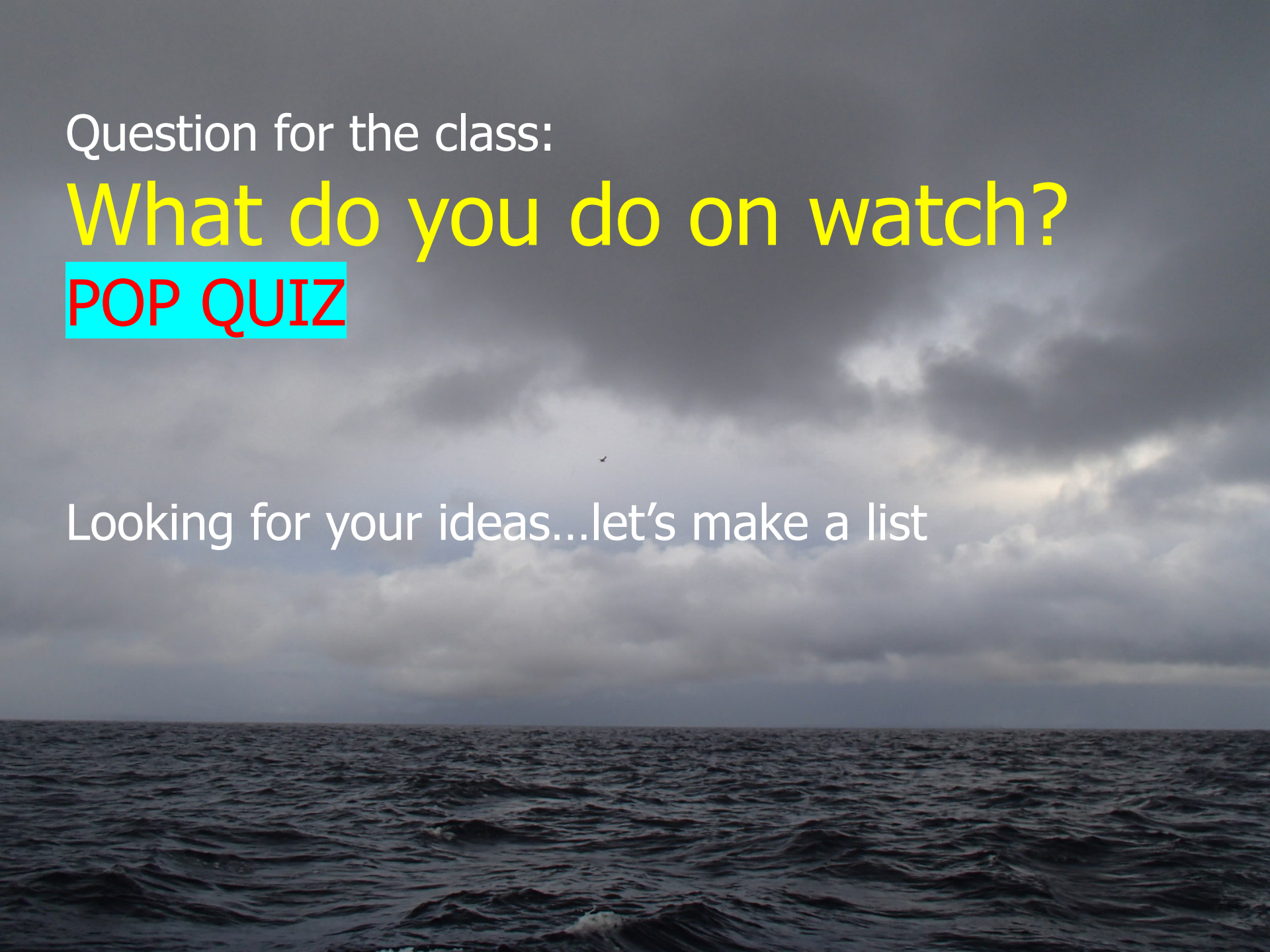
- **Handout*** - Start Up Pg. 7
- Rain-X on windows
- Fresh Impellers, Clean Filters
- Clean Fuel and confirm Valves correct
- Clean out intake Strainers
- Test run all equipment at the dock


Common Questions:
*How far offshore will you travel?
(Close? Far? Sea state? Wind? Currents?)
100 Fathom line = crab/lobster pots.
*Avoid shipping lanes and high traffic areas?
*Getting sleepy on watch – what do you do?
*What if it is too rough to continue?


Keep an eye out for obstacles…and
a camera nearby!

Watch Standing Essentials

- Keep water under the keel -don't hit anything!
- Compass Heading: correct direction
- Navigation: position and intended course
- Radar: Awareness of targets, boats and land



Question for the class:

What do you do on watch?

POP QUIZ

Looking for your ideas…let's make a list

The Captain is in charge!

Whether it is you as the Owner or someone you hire, only *ONE* person can be in command

The Captain makes the call on WEATHER, NAVIGATION and ROUTING

The Captain plans the route

Handout* Ready for Sea p. 8

*Departure time – Daylight, Tides
*Distance to travel, speed average (Arrival ETA?)
*Anticipated Sea and Weather conditions
*File a Float Plan let people know your itinerary
*Keep looking back, you may need to retreat…

What do you record in the log?

Underway Log Handout* p. 9

Heading, course – following the route?
Latitude and Longitude position
Trip Log – fill out details
Speed of your boat – RPM, Knots
Fuel burn/consumption
Weather – Wind: speed/direction,
Sea state: – wave height and period
Barometer
Traffic, obstacles on the water, concerns
Battery levels – voltage good?

15 minutes

Use an egg timer or other reminder to look outside of the boat.

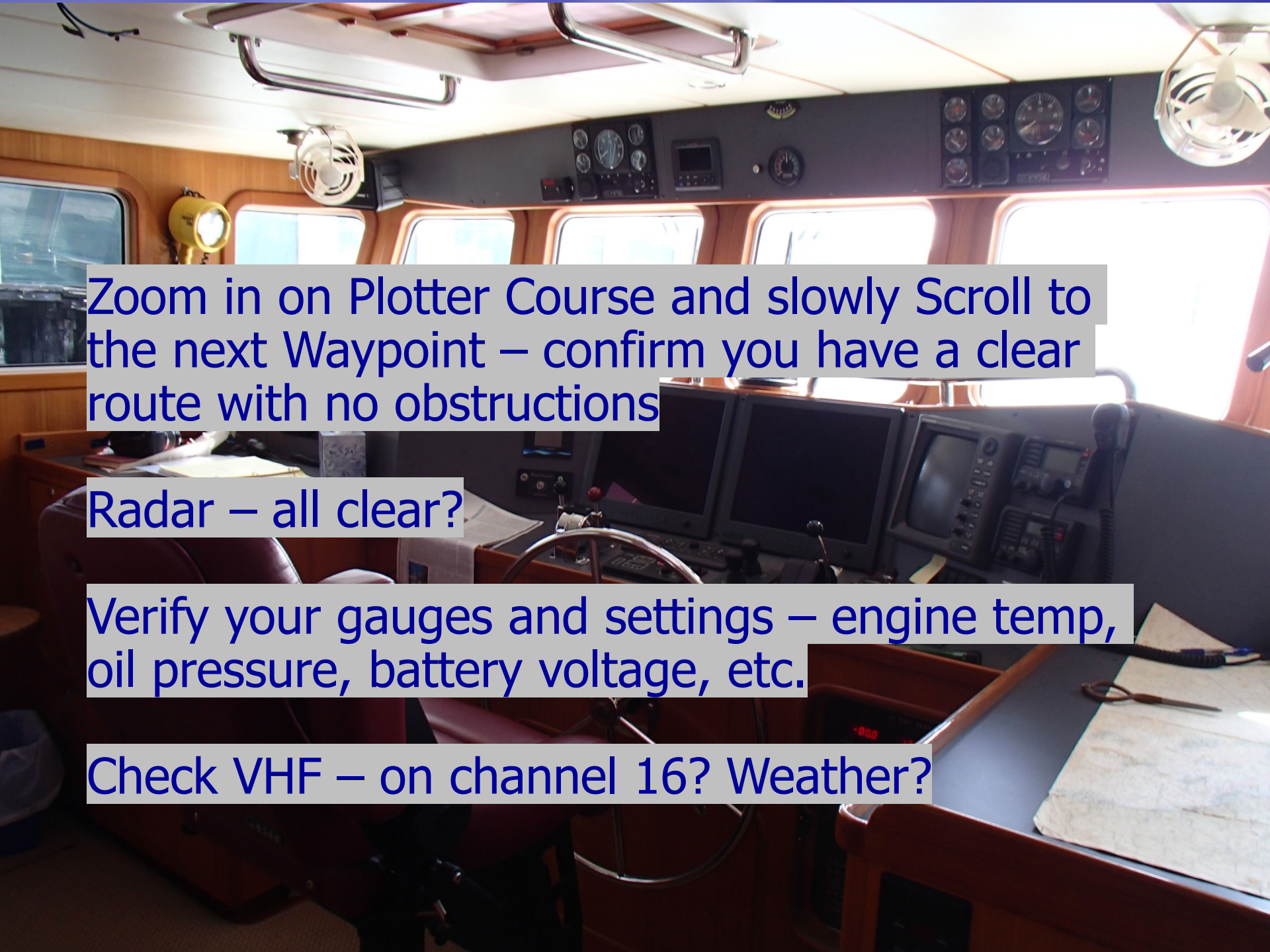
Visually, with naked eye and binoculars, look outside by dividing your surroundings in zones. Search for traffic and objects

15 minutes is the time a fast moving ship can appear out of no where…

Changing Watch

Watch Schedule* hand out page 11

- Identify all Ships Traffic (coming and going)
- Confirm Course, Route and next Waypoint
- Any observations? Record in the log
- Make sure new Skipper knows history and is ready before handing over the helm

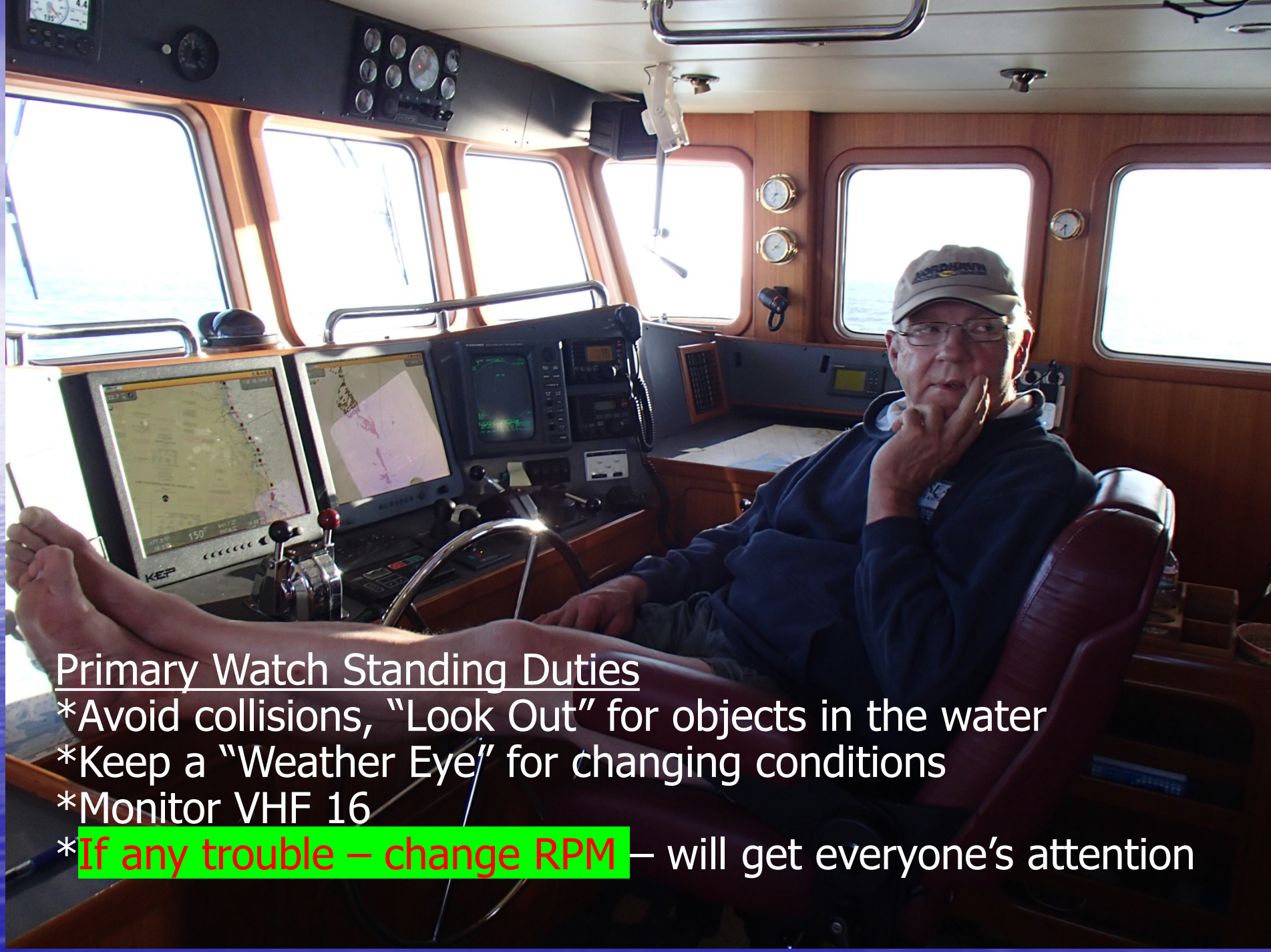


Zoom in on Plotter Course and slowly Scroll to the next Waypoint – confirm you have a clear route with no obstructions

Radar – all clear?

Verify your gauges and settings – engine temp, oil pressure, battery voltage, etc.

Check VHF – on channel 16? Weather?



Primary Watch Standing Duties

*Avoid collisions, "Look Out" for objects in the water

*Keep a "Weather Eye" for changing conditions

*Monitor VHF 16

*If any trouble – change RPM – will get everyone's attention

While On Watch:

Monitor engine gauges – engine oil pressure, coolant temp, etc.

Monitor all electrical – battery voltage, amperage consumption

Radar: Targets - speed and heading
CPA "Closest Possible Approach" (time to intersect?)

Plotter: Waypoint – Are you on course?

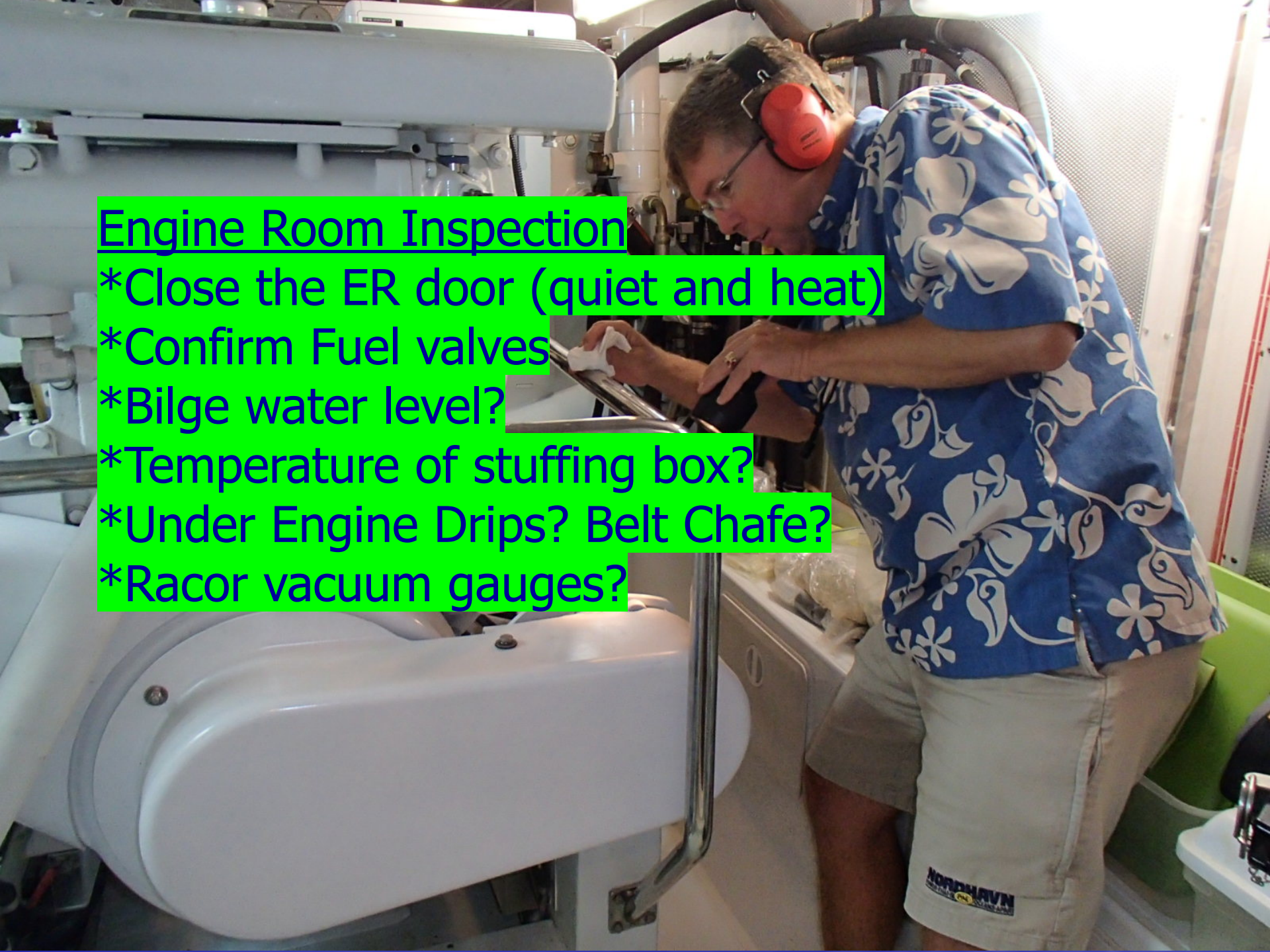
Heading – Hand steer or Auto/Nav?

Listen to VHF radio, Update the Ship's Log


Question for the class:
What do you for an Engine room check?
Looking for your ideas…
POP QUIZ * let's make a list!

Engine Room Checks

- ***Handout:** Hourly Temperature Watch List p 10
- Wear ear muffs
- Does everything look right?
- Does everything smell right?
- Do you see any evidenced of chafe or drips?


Engine Room Inspection
*Close the ER door (quiet and heat)
*Confirm Fuel valves
*Bilge water level?
*Temperature of stuffing box?
*Under Engine Drips? Belt Chafe?
*Racor vacuum gauges?

Diesel (Fuel Management)

- Fuel supply –monitor tank levels underway
- Diesel fuel is “returned” - supply and return valves must “follow the flow circle”
- Understand valves – “To” and “From”


Label “To” and “From” on your manifolds
Phason
Variable Temperature Control
TO
PORT TANK
TO
STBD TANK
TO
FWD TANK
TO
SUPPLY TANK
RETURN
PORT ENGINE
FROM
STBD ENGINE
FROM
FWD GEN.
FROM
AFT GEN.
FROM
TO
PORT TANK
TO
STBD TAN
TRANSFER PUMP
FROM
ALGAE SEP
FROM

Ear Muffs – noise canceling

Essential for the engine room – at least two pair

Infrared Temperature Gun

Equipment to observe? Hold gun close, shoot same spot

“Night Ops” running after dark

*Running lights – make sure they are all on
*Interior lights: courtesy red, overhead red
*Pilothouse command – dim and mute electronics
*Wake the Captain if there is a concern

*Stay awake, be extra vigilant – use VHF to communicate with other ships

Ready for night?

Don’t forget spare bulbs for your Navigation running lights! (Better to upgrade to LED)

Night Watch:

*Have a flashlight handy

*Preserve your night vision (pupils– 30 minutes)

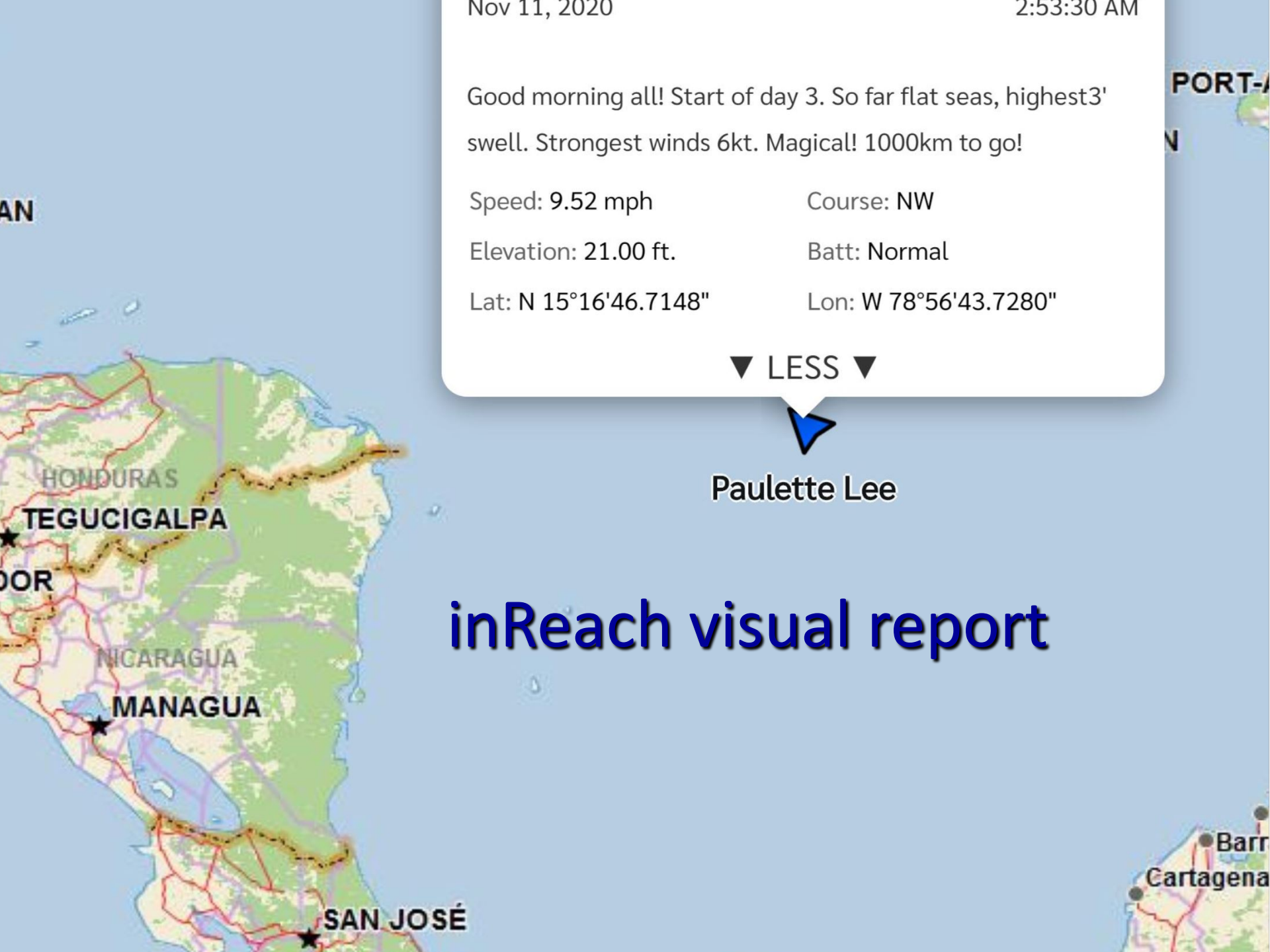
*FLIR (forward looking infrared)

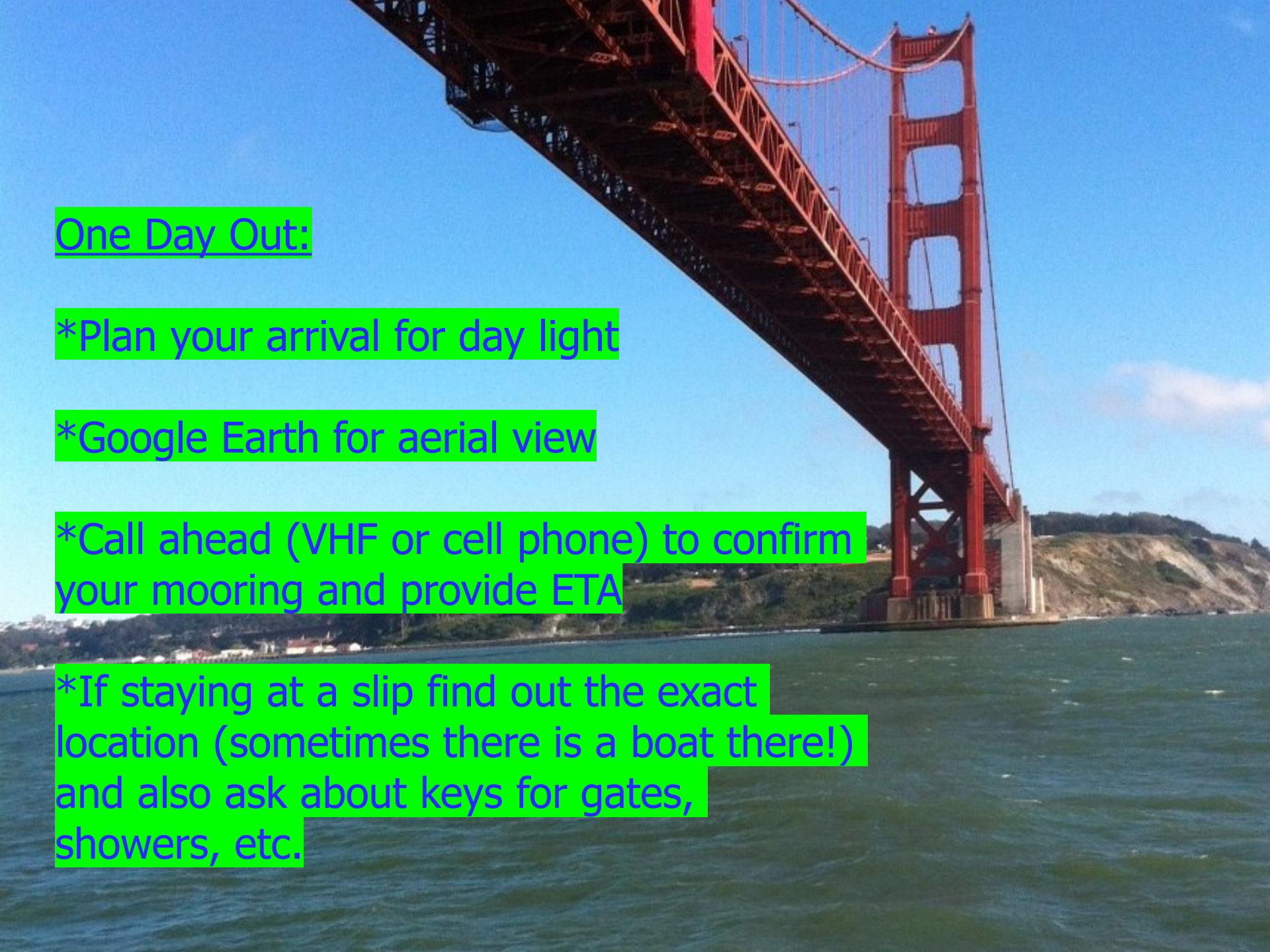
*Search light (built in and hand held)


Night mode – dimmed down, red film, blue tape…

Garmin inReach

*Two Way Texting
*Subscription you can turn on/off.


Nov 11, 2020
2:53:30 AM
Good morning all! Start of day 3. So far flat seas, highest3' swell. Strongest winds 6kt. Magical! 1000km to go!
Speed: 9.52 mph
Course: NW
Elevation: 21.00 ft.
Batt: Normal
Lat: N 15°16'46.7148"
Lon: W 78°56'43.7280"
▼ LESS ▼
Paulette Lee
inReach visual report
HONDURAS
TEGUCIGALPA
NICARAGUA
MANAGUA
SAN JOSÉ
Cartagena



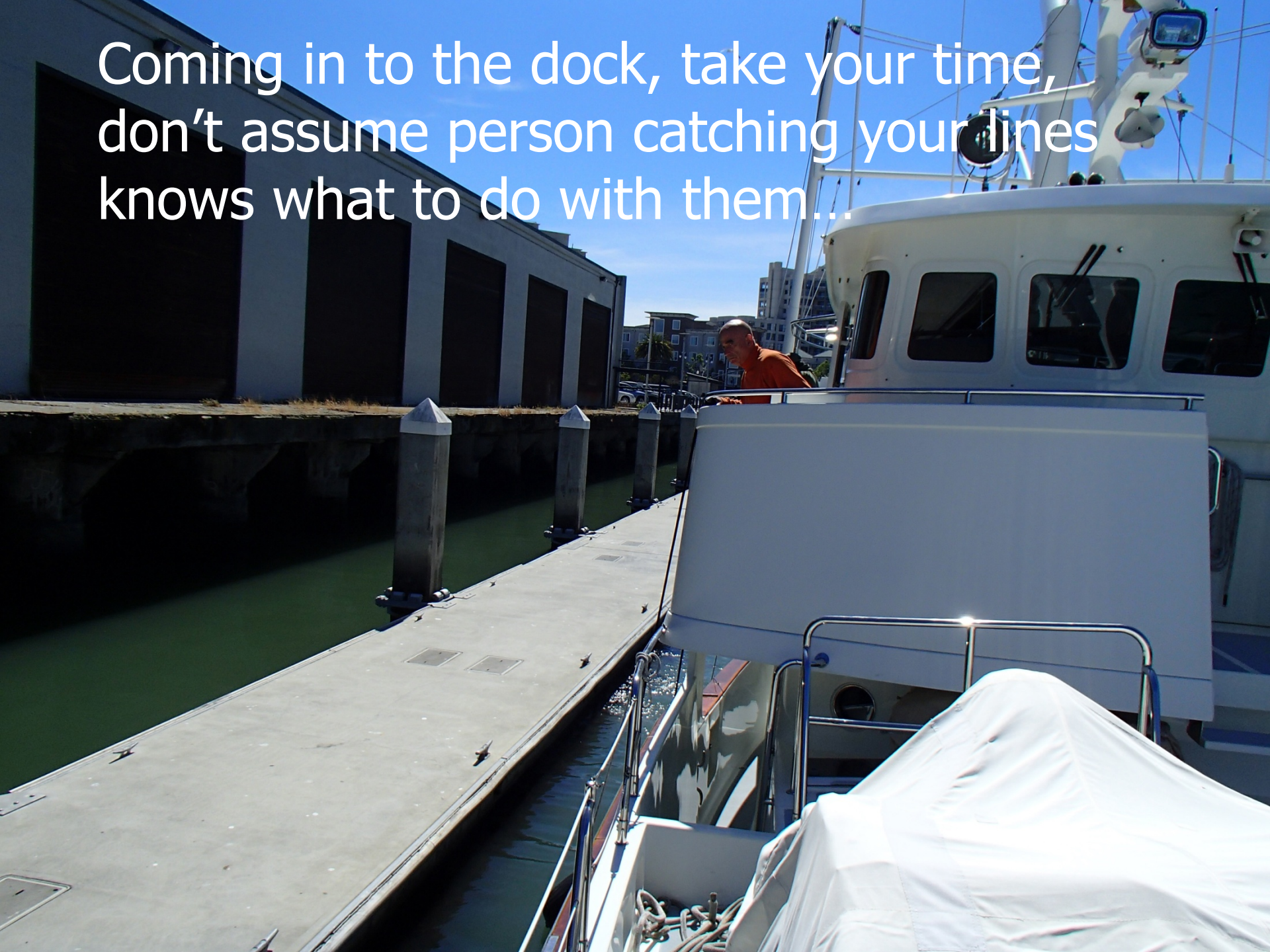
One Day Out:

*Plan your arrival for day light

*Google Earth for aerial view

*Call ahead (VHF or cell phone) to confirm your mooring and provide ETA

*If staying at a slip find out the exact location (sometimes there is a boat there!) and also ask about keys for gates, showers, etc.


Coming in to the dock, take your time, don’t assume person catching your lines knows what to do with them…

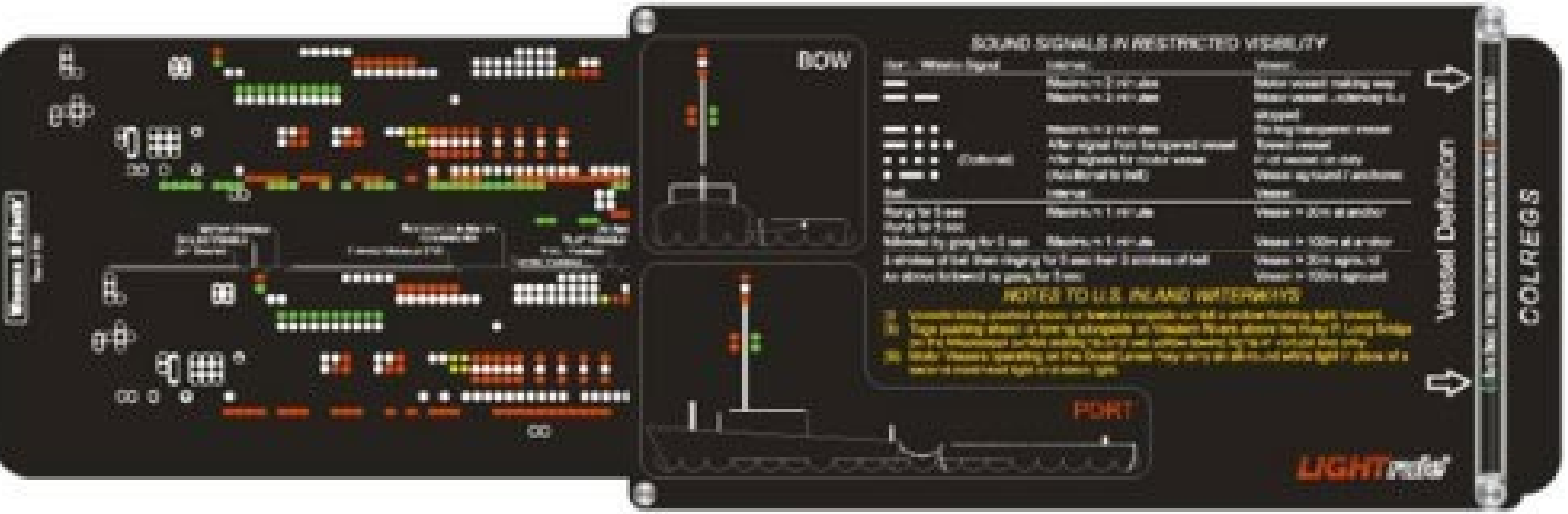

Questions & Answers:
Any tips or suggestions?
Open discussion…
Island Greeter

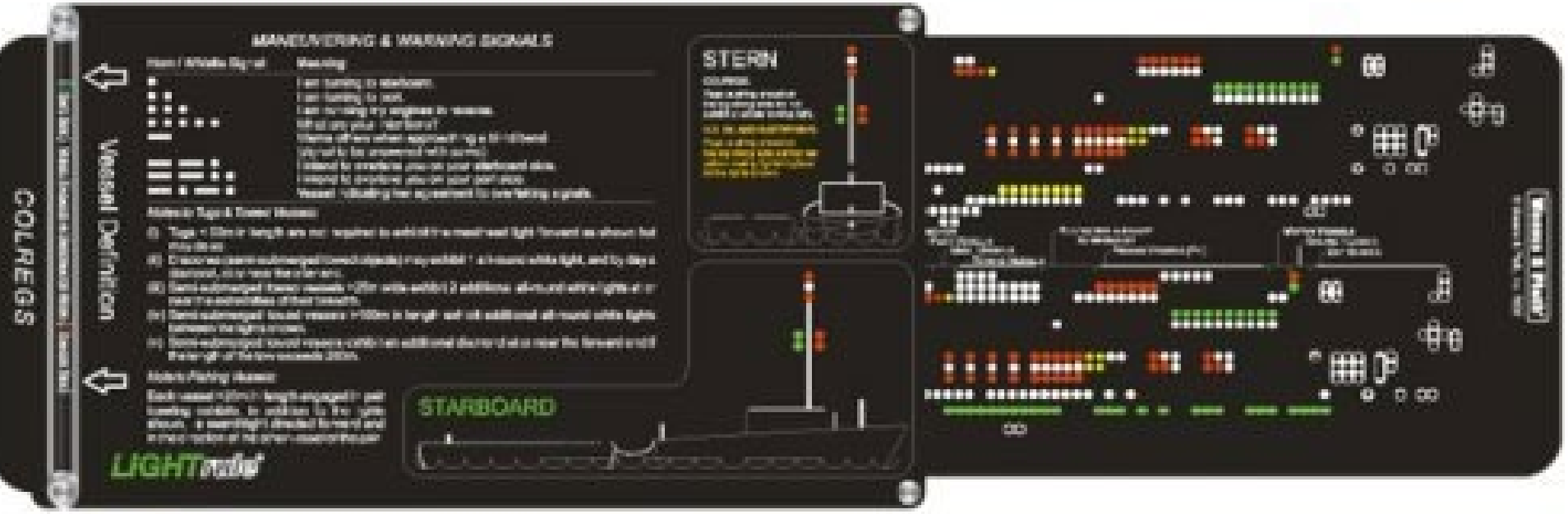

Thank you!
Stay tuned, there are behind the scenes
discussions about a possible in-person TrawlerFest
to be held in Stuart, Florida March 2-6, 2021.

Good Stuff to have aboard

Product review follows…

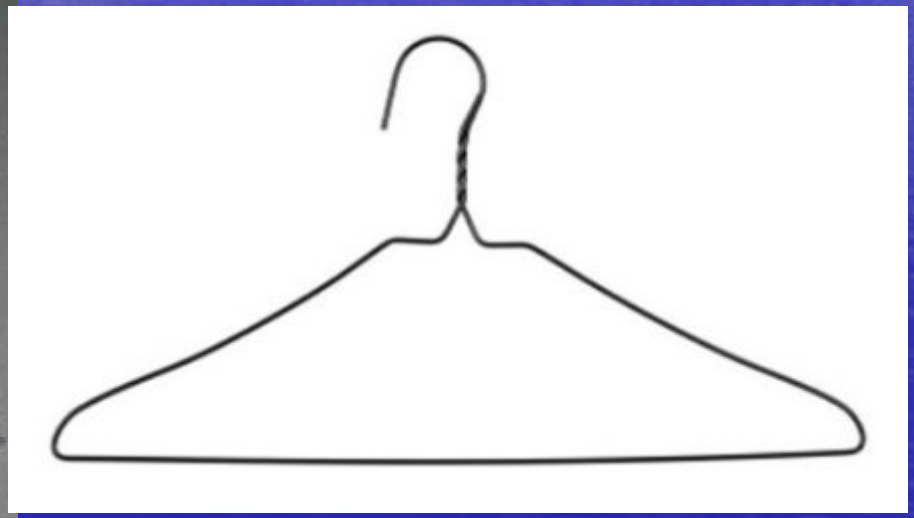
At night - Weems and Plath LIGHT RULE





Light Wedge – magnifier for night mode

Other "tools" Turkey Baster, Wire coat hanger…
(Stuff you have at home, need at sea – also a toilet plunger might come in handy!)



Head sets (aka "marriage savers")

No more yelling, one ear free. SENA and EARTEC

Multi-meter – Electrical tester

Stabilized Binoculars

Very nice to have on a bumpy sea

Engine Room Bilge Tips

Plug leaks, absorb oil

Carbon Monoxide, Smoke Detector/Fire Alarms

Damage Repair

Rapid Ditch Bag GPS, VHF, EPIRB, water maker, survival blankets, flares, strobe, first aid, sat phone and more.

Life rafts


ENTER HERE


MD-3
Offshore Life Raft
6-person international racing raft.
Learn more

EPIRB, Life Raft, Survival Suits

EPIRB

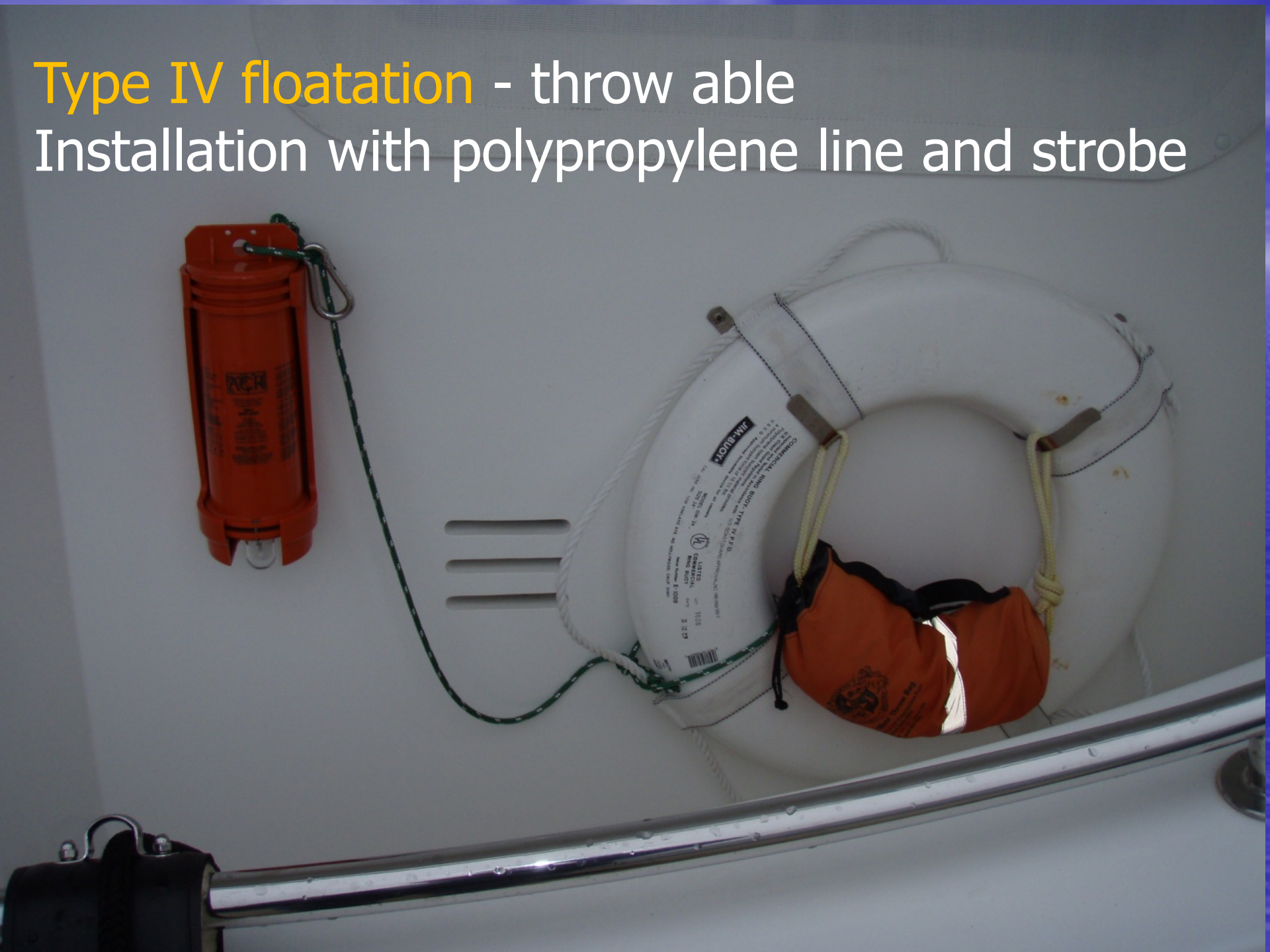
emergency position indicating radio beacon

Personal Locator Beacons

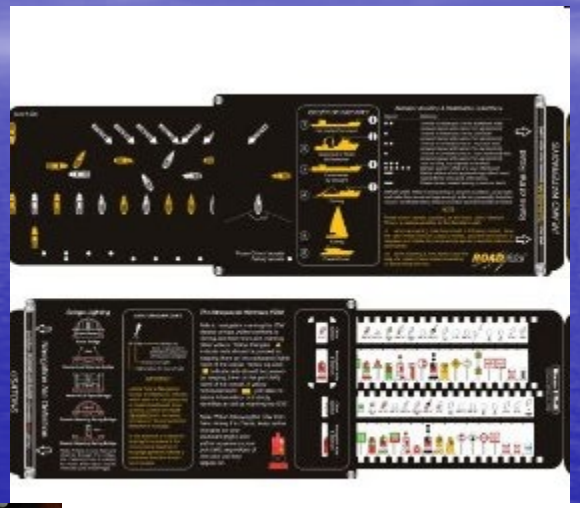
Lifesling

You need to install a system to attach a lifting line to retrieve an overboard crew and should practice this!

Type IV floatation - throw able
Installation with polypropylene line and strobe



Navigation Tools



Multi-tool – Gerber or Leatherman

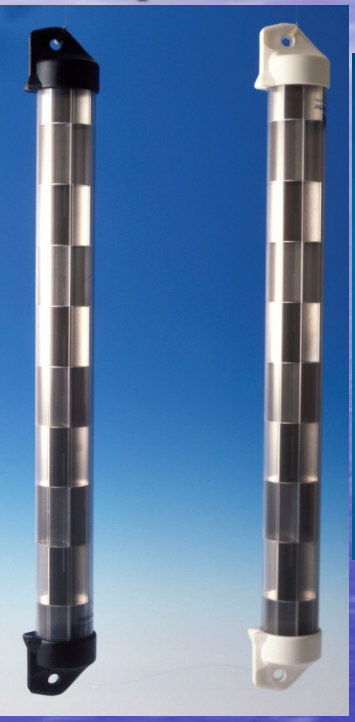
Hands free head lamp

Three point harness, better than just a headband

Handheld Thermal Imaging

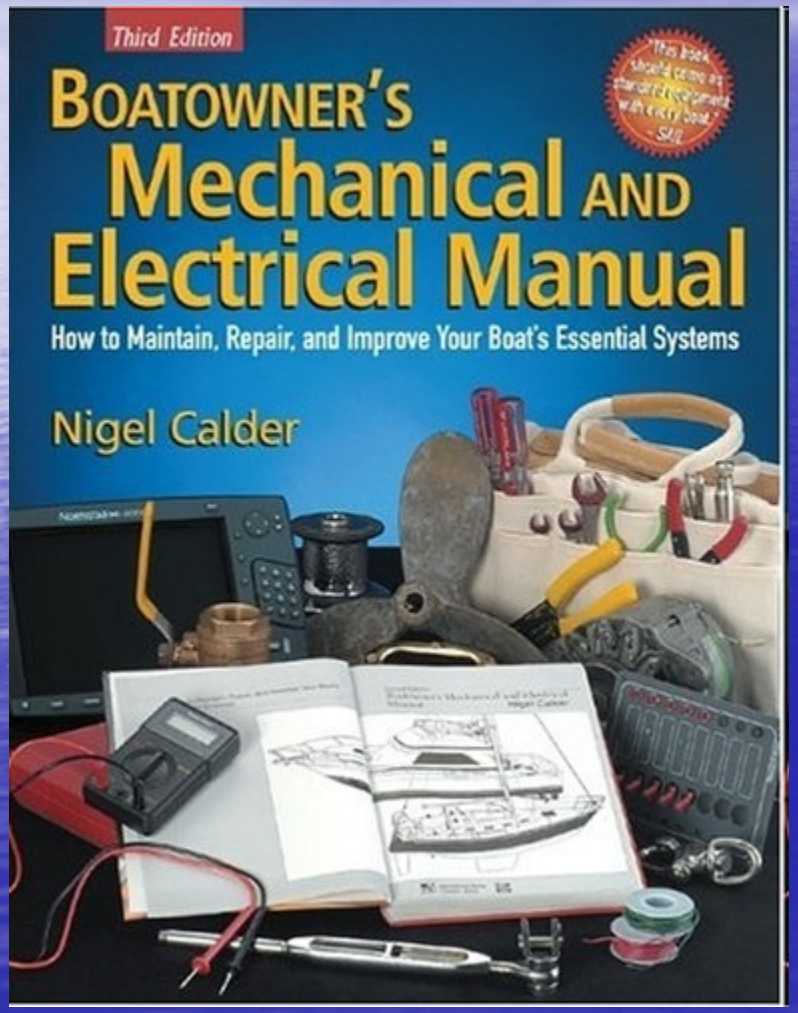
Radar Reflectors – "signature"

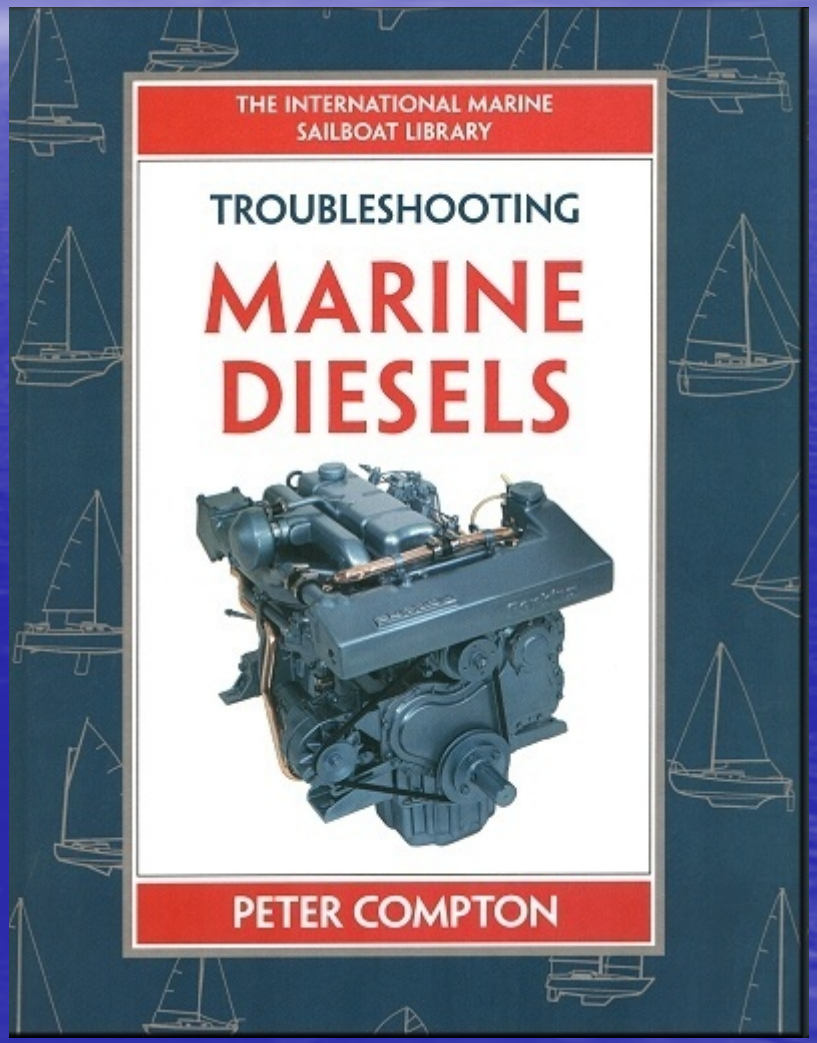
(Firdell Blipper, Davis Instruments)



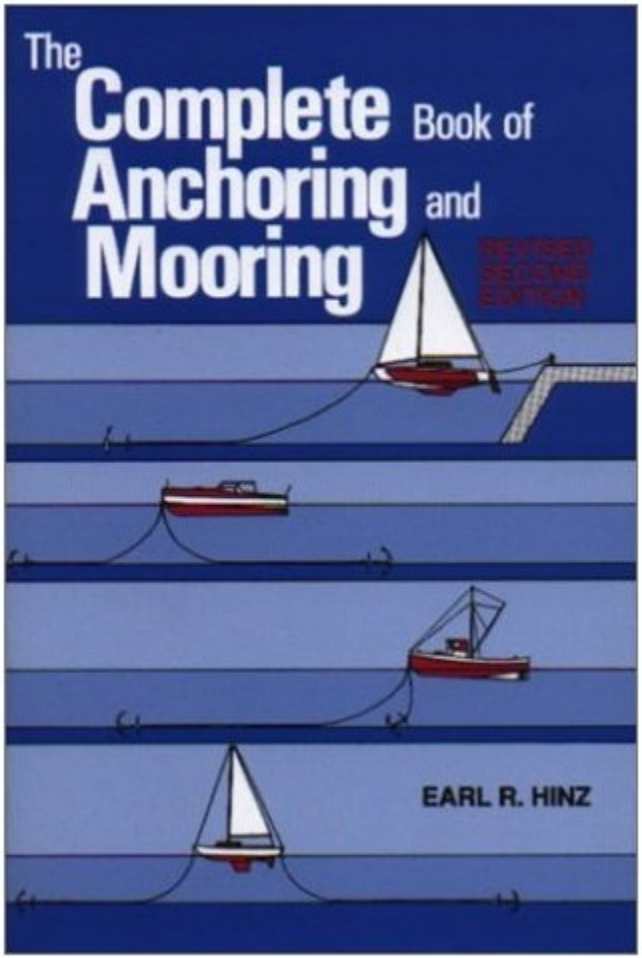
Mask, Fins and Snorkels

Review systems reference and fix-it books

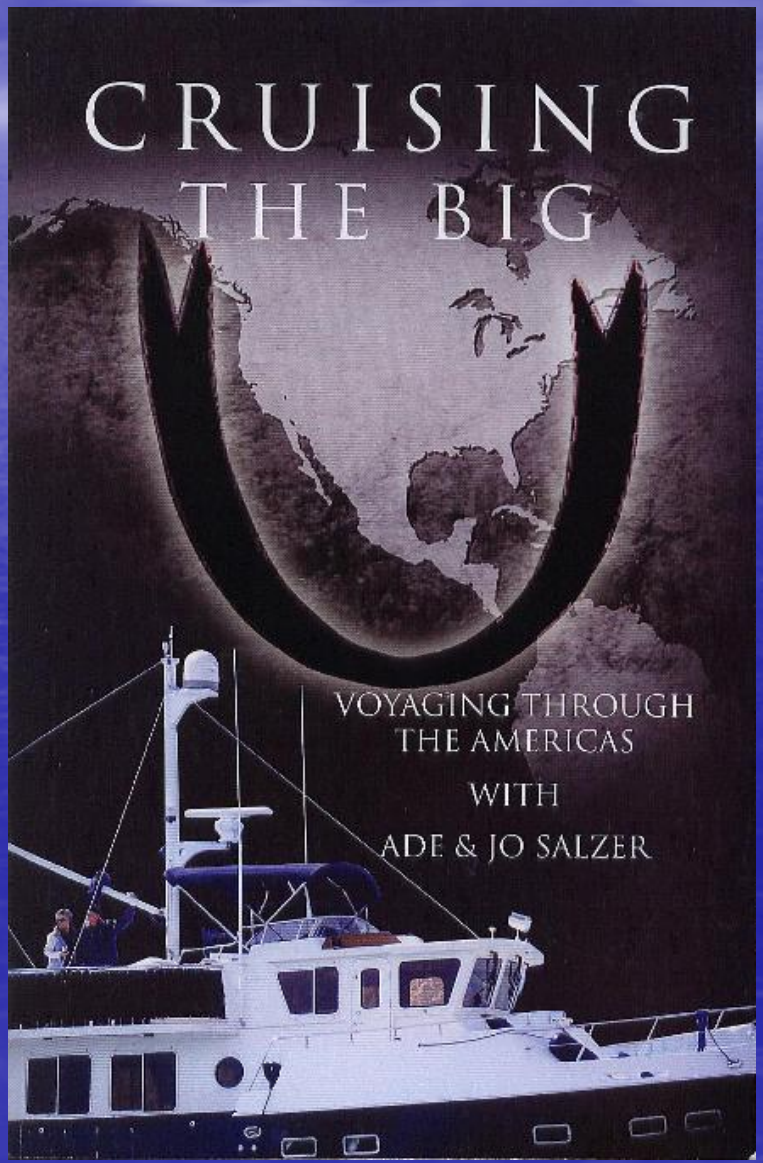




"The" book on anchoring



A great book for coastal cruising



Safety First!

- Medical First Aid Kit
- Red Cross First Aid
- Red Cross CPR
- Life raft – with paperwork inside
- Ditch bag – hand held GPS, VHF, small H20 maker, EPIRB, etc.
- Sun screen, sunglasses and hats
- Galley fire blanket
- Supplemental visuals – distress smoke and water dyes
- Burn injuries
- Defibrillator


defibtech
LIFELINE
AED
check pads
do not touch patient
analyzing
SHOCK
FIRST AID
FAC-4
CERTIFIED
SAFETY
MFG.
Meets ANSI Standards
MADE IN AMERICA
WITH CERTIFIED PRIDE
DAN
DIVERS ALERT NETWORK
919-684-4DAN (919-684-4326)

First Aid and Injuries

- You need a proper ships medicine cabinet and some basic first aid gear
- Phone a doctor service – www.medaire.com
- Most injuries occur when moving about underway – slipping while wearing socks
- Move around with one hand for you and one for the boat, keep your weight low and don't grab overhead handrails
- Burn injuries, cuts are most common