

# Going Offshore

Skills for open-water travel

**TrawlerFest®**

BOAT SHOW – EDUCATIONAL EXPERIENCE – RENDEZVOUS

PassageMaker Magazine 2023

**Baltimore, MD – Thursday September 28th**

Presented by Jeff Merrill, CPYB

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# Get ready before you take off!

- Nothing quite so satisfying as completing a trip
- Preparation and planning  
Safety, food, sleep...
- What do you do out at sea?



# What's it really like?

- **WARNING** – Impossible to simulate the motion, or the feelings, but this presentation should be helpful to all trawlers owners whether or not you have ventured out of sight of land or not.
- **I am a yacht broker!** 30+ years of working with clients including dozens of offshore trips training owners out at sea have provided the basis for this information

# Some questions...

- How many of you have been aboard out of sight of land?
- How many of you have been underway through the night?
- Anyone have experience with modern navigation electronics?
- How many have your own boat?
- Anyone have a Captains license?



# 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 boating background

# **HANDOUTS EMBEDDED**

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

Please fill out your contact details on my mailing list form and I will email you a reminder



# You (the Owner) need training

- US Power Squadron = America's Boating Club
- Boating classes – online, classroom
  - Anchoring
  - Docking
- Seamanship
- Weather
- Navigation
- Rules of the road

# You (the Owner) need skills

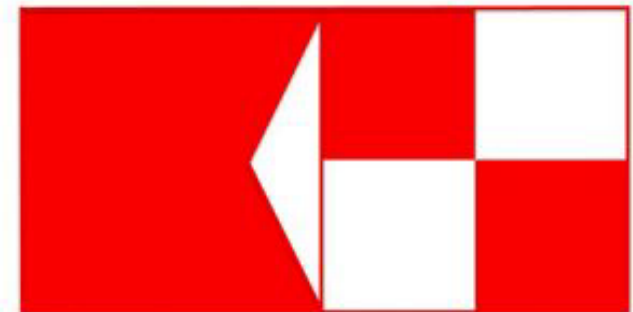
- Charter? Crew with friends?
- Familiarity with machinery and operations
- Boat handling
- Hiring a Captain to train with you
- Education...online, local colleges, professional schools – any suggestions from the class?
- **Boaters University - online**



# Expert Instruction From The Brands You Trust.

## 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**

# Two excellent schools

**Chapman's School of Seamanship**

Stuart, Florida

772.283.8130 | [www.chapman.org/](http://www.chapman.org/)

**Training Resources Maritime Institute**

San Diego, California

(619) 263-1638 | [www.trlmi.com](http://www.trlmi.com)



# YouTube videos

## OFFSHORE TRAINING



YouTube

54:49

# INSURANCE (for those shopping)

Getting coverage to be an owner operator has become more difficult.

Looking into insurance coverage NOW is just as important as figuring out the trawler you want to buy.



# Your boat must be ready too!

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



**JMYS Trawler Performance Table | Speed/Burn/Range data collection template** Note: Fins centered, gen off, hull clean.

Location \_\_\_\_\_ Wind \_\_\_\_\_ Seas \_\_\_\_\_ Current/Tide \_\_\_\_\_ Full load: \_\_\_\_\_ gal fuel, \_\_\_\_\_ gal water

**1. Test one heading:** \_\_\_\_\_

RPM	Speed (SOG)	Coolant Temp	Oil pressure	% load	Gallons per hour	Range	Comments
1000							
1100							
1200							
1300							
1400							
1500							
1600							
1700							
1800							
1900							
2000							
2100							
2200							
2300							
WOT							

**2. Test two heading:** \_\_\_\_\_ (180 degree reciprocal)

RPM	Speed (SOG)	Coolant Temp	Oil pressure	% load	Gallons per hour	Range	Comments
1000							
1100							
1200							
1300							
1400							
1500							
1600							
1700							
1800							
1900							
2000							
2100							
2200							
2300							
WOT							

PAGE 1

Note: Averages, GPH, % load and range estimated after data collected © JMYS 2018 www.JMYS.com



# Tools

Keep the right tool near the service item



AllTimeTools.Com





# 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



# Vessel Vanguard/Wheelhouse

You will be happier if you are organized

Do you like to create spreadsheets?

**Vessel Vanguard /Wheelhouse** offers a systematic maintenance system that is fantastic and worth considering.

# 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...



# Pre-departure preparation

- Book smarts AND practical experience
- Navigation & Communications equipment
- Checklists, maintenance procedures, routines
- Join Vessel Assist, Sea Tow, Tow Boat US
- You need to be mentally and physically ready, preparation provides peace of mind



# Electrical Panel – understand each breaker





# Owner Hands-on Knowledge

## Hand Out\*

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





## **JMYS Owner Operator Hands on Knowledge**

As the captain of your own yacht, you are responsible for the safety and well-being of all aboard. You should also realize the requirement for some basic Hands-On skills to keep your vessel operational. Most insurance underwriters require some essential skills for owners to be comfortable with. This is a simple summary of some important aspects you should be acquainted with:

### **Ships papers and documentation**

USCG Document, Dinghy registration, personal papers for all crew members, etc.

### **Rules of the road**

USCG navigation rules, buoys, lights, crossing situations (overtaking and bow to bow), etc.

### **Weather**

How to use NOAA forecasts and other resources to anticipate conditions during your trip.

### **Navigation**

Understanding of all navigation and communication equipment. How they are powered, how they are adjusted, set up for day mode and night mode, interactions between radar/plotter/autopilot, etc.

### **Safety**

First aid, USCG requirements (flares, fire extinguishers, life jackets, etc.) life raft, EPIRB, abandon ship Ditch bag, etc. Fire suppression gear.

### **Diesel engines**

Fuel management, supply and return valves. Racor filters. Belts and Impellers. Coolant. Through hulls and strainers. Oil filters, fuel filters.



# 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 - 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 your pilothouse.





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### **US Coast Guard Requirements**

#### **EXAMPLE: Nordhavn 5017 Northern Ranger II**

##### Minimum Coast Guard Safety requirements (and locations)

- 6 Ea. Type II life jackets - dock box on boat deck
- 1 Ea. Bernard Oil Discharge placard – ER door on inside
- 1 Ea. Bernard Waste Discharge placard – under galley sink locker door
- 1 Ea. Safety blaster – pilothouse – starboard locker door under dash
- 1 Ea. Chrome bell– pilothouse inside (starboard side)
- 1 Ea. Jim Buoy Life ring – (cockpit)
- 1 Ea. Flare kit– pilothouse wet hanging locker
- 5 Ea. Fire extinguishers – (three required)
  - a) Saloon aft locker by door
  - b) Saloon stairs to pilothouse (outboard).
  - c) Pilothouse – forward stair locker – starboard
  - d) Master head - forward
  - e) Engine room – just inside forward door to port
  - f) Boat Deck – inside dinghy

**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



# Personal Locator Beacons





# 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 Websites

- [www.noaa.gov](http://www.noaa.gov) – National Weather service
- [www.buoyweather.com](http://www.buoyweather.com) – Sea State
- [www.sailflow.com](http://www.sailflow.com) – Wind speed and direction
- [www.darksky.com](http://www.darksky.com) – Local weather
- [www.intellicast.com](http://www.intellicast.com) – Weather
- [www.stormsurf.com](http://www.stormsurf.com) – Weather



Remember, there are nice days out there too...

Your loved ones can track your AIS on [www.marinetraffic.com](http://www.marinetraffic.com)

Also [www.vesseltraffic.com](http://www.vesseltraffic.com)



# Weather Forecasts Underway:

- \*IridiumGo (with Predict Wind offshore app)
- \*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

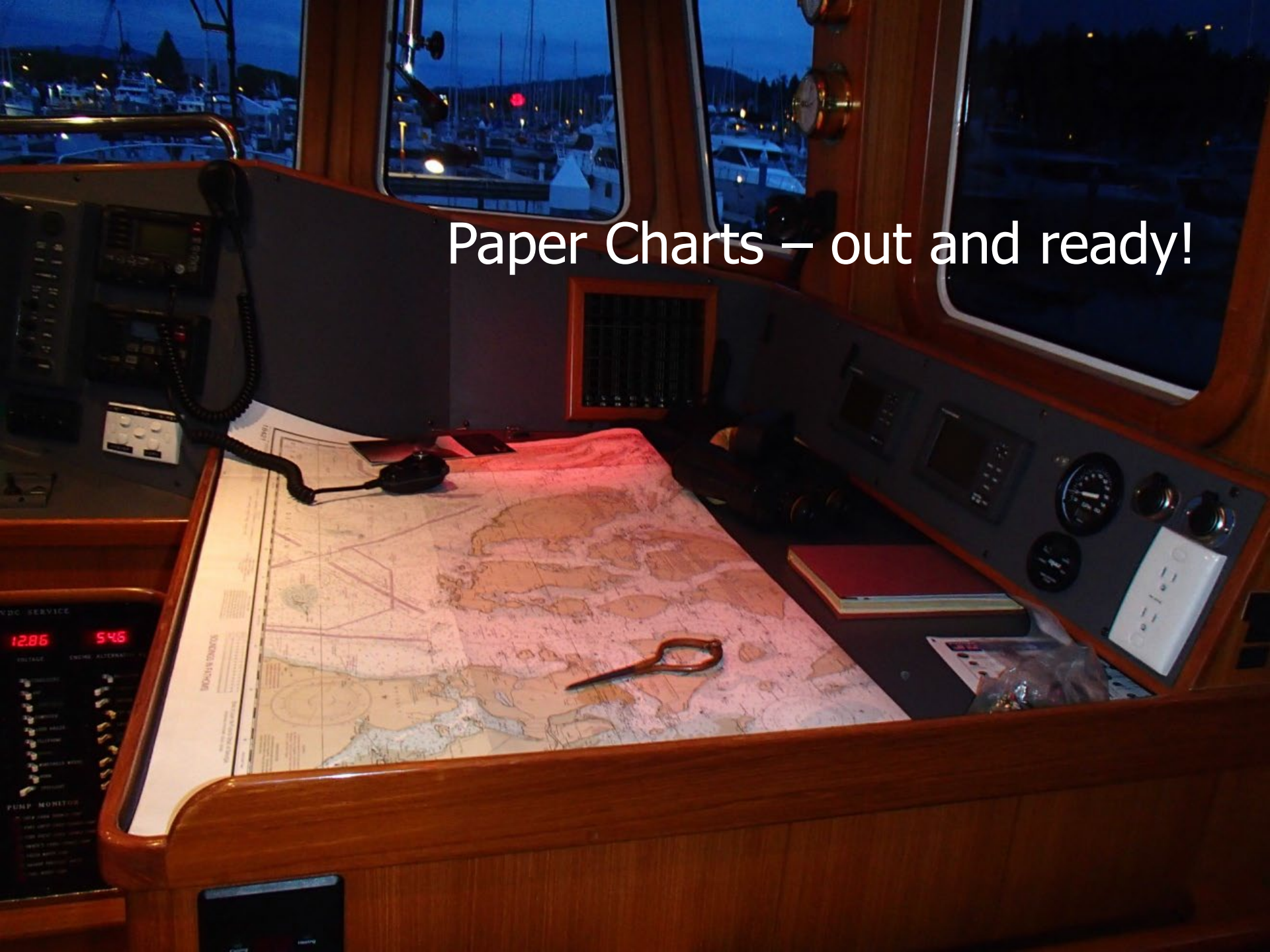
- Anticipate and prepare, sometimes you have to go through it...it won't last forever
- Make sandwiches in advance
- Secure all moving parts
- **Change course and/or reduce speed** to make it a more comfortable ride
- **Head back the way you came?**

# 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!



# Pilothouse Tools

- Binoculars “long eyes”
- Night vision (FLIR), hand held monocular
- Barometer
- Clock – local and GMT
- Calculator



# Pilothouse Tools

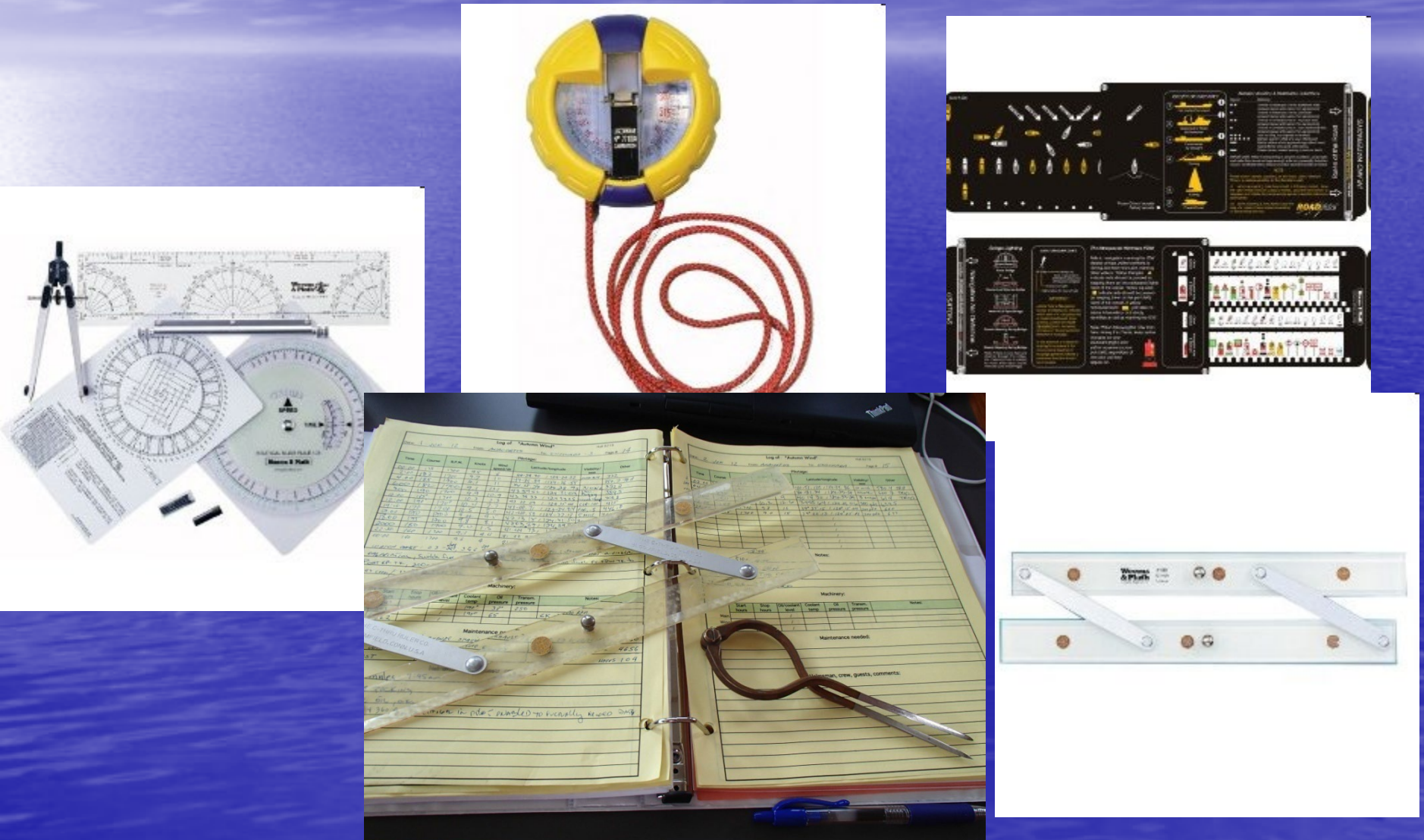
- Closed Circuit TV
- Spot light – built in, hand held
- Chart Guide
- Hand held compass

# Pilothouse Tools

- Binoculars “long eyes”
- Night vision (FLIR), hand held monocular
- Closed Circuit TV
- Spot light – built in, hand held
- Flash light, red lens
- Good pencil & sharpener
- Barometer
- Clock – local and GMT
- Calculator
- Chart Guide
- Hand held compass
- Back up navigation on laptop
- Nav lights “slide rule”



# Navigation Tools



DIY electronic navigation ▶ Power voyagers and reading the manual

# OCEAN NAVIGATOR

MARINE NAVIGATION AND OCEAN VOYAGING

OCEAN VOYAGING  
**The Magic of Landfall**

3D Printing on  
a voyaging boat

**HIRING A BOAT AGENT**  
THE PROS AND CONS

Ocean  
Navigator  
Magazine

**Read The Factory Manual**

Mar/Apr 2021

Digital sextant ▶ Power voyaging pilothouse tools

# OCEAN NAVIGATOR

MARINE NAVIGATION AND OCEAN VOYAGING

OCEAN VOYAGING  
**END-RED MISAPPS ON**  
**Isola Vulcano**

SPECIAL SECTION  
**SAFETY**

A CINDERELLA WORKS  
FAVORITE OCEAN FILMS

UNEXPLAINED  
**KILLER WHALE**  
**ATTACKS**

**Prized Pilothouse Possessions**

Jan/Feb 2021



# Ships Log – buy or make your own

THE  
SHIP'S  
LOG™

## Cruising Log Handout\*

Log of "Autumn Wind" Hull 6219

Date: 30 MAY 12 From: ANA CONUS 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	CLCMT	LV. DOCK
8:00	248	1450	8.5	5.4	48 26 39 / 123 07 79	1.5 CLCMT	DRIVE EAST
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	4K	48-23,96 / 124.16.04	4	72.5
6:00	250	1450	9.2	8.4	48 26 14 / 124 40 09		89
8:00	182	1450	6.6	6.2	48 12 99 / 124 41 92	3 calm	
10:00	174	1450	6.4	5	48 00 96 / 124 46 91	4 calm	
12:00	160	1450	7.0	21	47 47 89 / 124 39 89	WCCITE	131 NM
00	136	1450	7.4	15	47 33 76 / 129 26 26	NIGHT	145 / 94 gal
					/		
					/		

Notes:

Date: \_\_\_\_\_ Destination: \_\_\_\_\_  
Skipper: \_\_\_\_\_ Time of Departure: \_\_\_\_\_  
Port of Departure: \_\_\_\_\_ Planned Port of Arrival: \_\_\_\_\_  
Actual Time of Arrival: \_\_\_\_\_  
Gear/Checklist: \_\_\_\_\_

Barometer: \_\_\_\_\_ Wave Height: \_\_\_\_\_ Wind: \_\_\_\_\_  
Narrative: \_\_\_\_\_

Places/Events to Remember: \_\_\_\_\_  
What and Where We Ate: \_\_\_\_\_  
Where We Shopped and What We Bought: \_\_\_\_\_  
Who We Met: \_\_\_\_\_

LOG BOOK  
& JOURNAL





# CRUISING LOG BOOK DAILY REPORT

Date: \_\_\_\_\_

Starting location: \_\_\_\_\_ Dock Departure time: \_\_\_\_\_

Destination: \_\_\_\_\_ Destination arrival ETA time: \_\_\_\_\_

Departure Engine hours: \_\_\_\_\_ Sunrise: \_\_\_\_\_ | Sunset: \_\_\_\_\_

People on board: \_\_\_\_\_

Float plan person called: \_\_\_\_\_ | \_\_\_\_ Departure \_\_\_\_ Arrival

Weather forecast: \_\_\_\_\_ Actual weather: \_\_\_\_\_

Barometer: \_\_\_\_\_ Wind speed and direction: \_\_\_\_\_

Sea conditions: \_\_\_\_\_ Wave height/chop/swell: \_\_\_\_\_

Underway comments: Sights, events, places \_\_\_\_\_

Call ahead phone/VHF marina: \_\_\_\_\_ Spoke to: \_\_\_\_\_



# Ships Log (Where are you?)

- Record your position, departure and arrival plus machinery hours of operation
- Hourly - on the hour - recordings
- Typical details – Lat/Lon, 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 traditional



# 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

(The operator of the other boat may not know the rules)





# Navigation Electronics Instruments to know

- Autopilot modes: Auto, Standby and Nav
- Depth Sounder

# Navigation Electronics Instruments to know

- Radar – Targets, Rings, Distance, CPA
- AIS – ship tracking



# Navigation Electronics Instruments to know

- VHF— 16, how to talk and switch channels
- How to communicate

# Navigation Electronics Instruments to know

- Chart Plotter – Waypoints, Routes
- Chart and Radar overlay



# 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.





# VHF Communications

- VHF radio – Ship to Ship (line of sight)
- Hi vs. Lo settings (close range or far away)
- Weather channel on VHF (Channel 3 or 4)
- Radio check (Channel 27)
- Channel 22A “Twenty Two Alpha” – USCG communications to a boat
- Working channels –switch to 68, 69, 71, 72, 78
- MOB – Latitude/Longitude distress signal
- Fog horn, Hailer

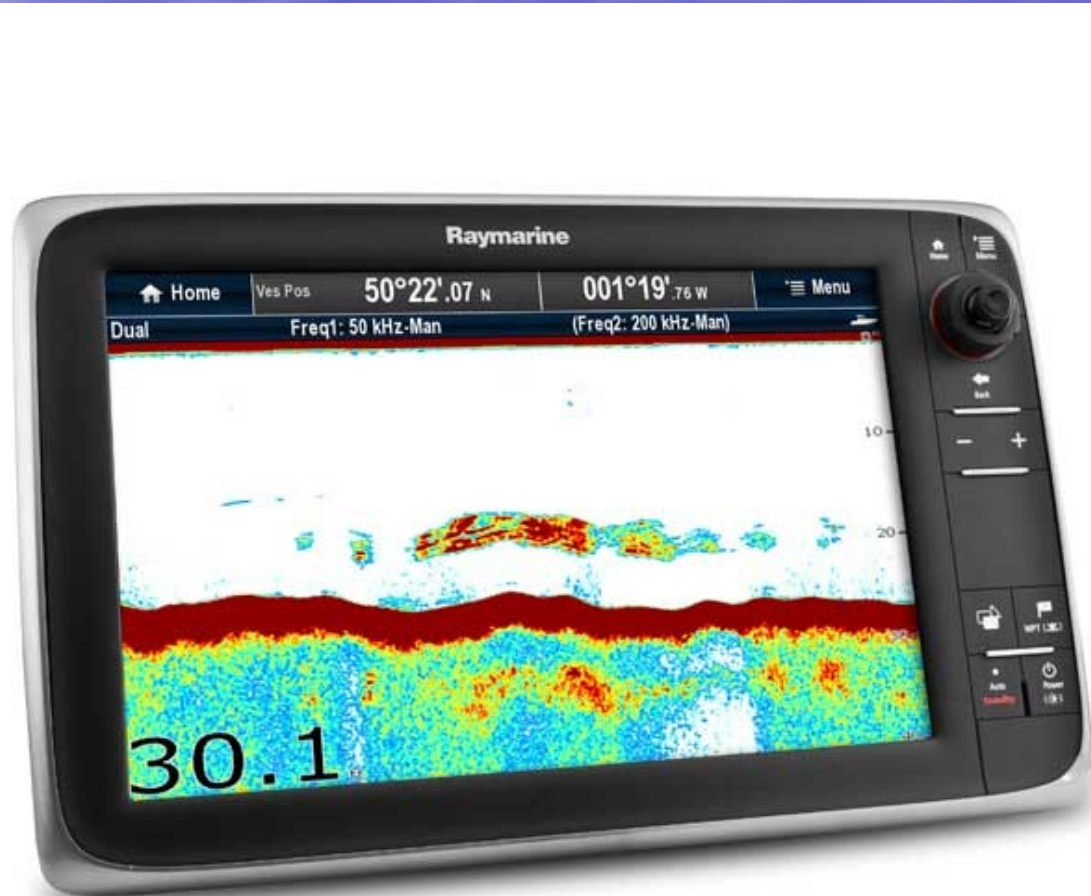
# VHF – calling for Help

- This is like 9-1-1. Captain should make the call
- “**Mayday Mayday Mayday**” (Broadcast if you are in imminent danger and need immediate assistance)
- The USCG will ask... “**Your coordinates?**”  
“**How many souls are aboard?**”  
“**Describe your boat colors**”
- All crew will be asked to put on life jackets



# 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

Knowing your **Latitude and Longitude** is a key navigational development, surely much easier and more accurate than a sextant – **revolutionary development** – has allowed cruising to become more mainstream



# 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.)

The image shows a portion of an AIS (Automatic Identification System) radar display. It features concentric green circles representing range rings. A red dashed line originates from the center and points towards a specific target, which is marked with a red icon. To the right, there is a red-shaded area representing landmasses. A blue triangle with a red arrow points towards the target. In the top right corner, a black box displays the coordinates 48° 16' and 123° 15', along with the heading 'Hdg 2'. A green crosshair is visible near the center of the display.



# AIS details





# 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





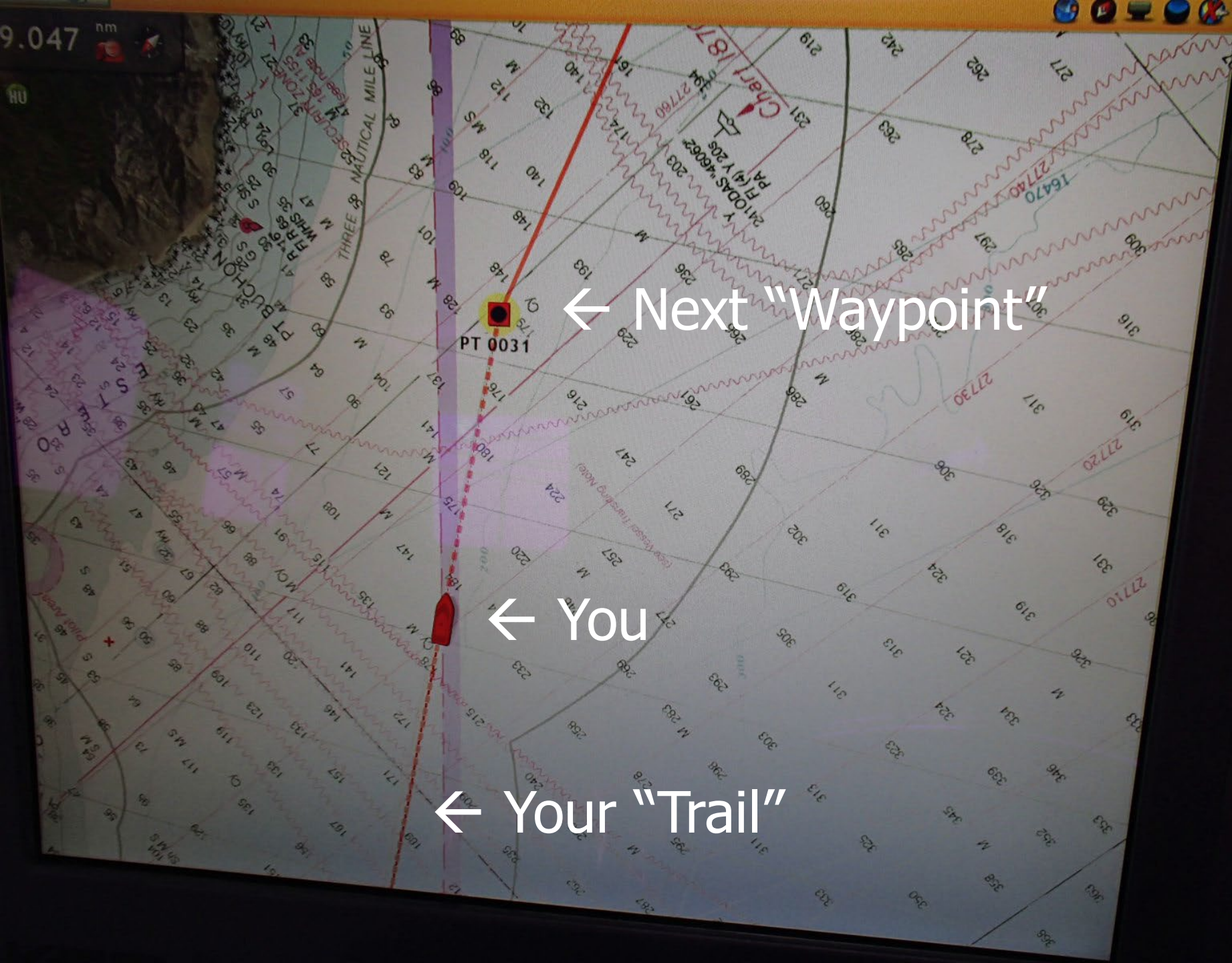
# **Plotting:** (Paper and Electronic Charts)

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

# Chart Plotting – Electronic Chart features

- Set up **Waypoints** (GPS coordinates)
- Create a **Route** (connect Waypoints)
- Can save **Routes**, also pre-program trips
- Move Cursor and “Go-to” it on Chart
- Connect **Autopilot to Navigate the Route**
- Leave a “bread crumb” trail
- Can overlay Chart and Radar
- Center Boat on Screen





← Next "Waypoint"

← You

← Your "Trail"

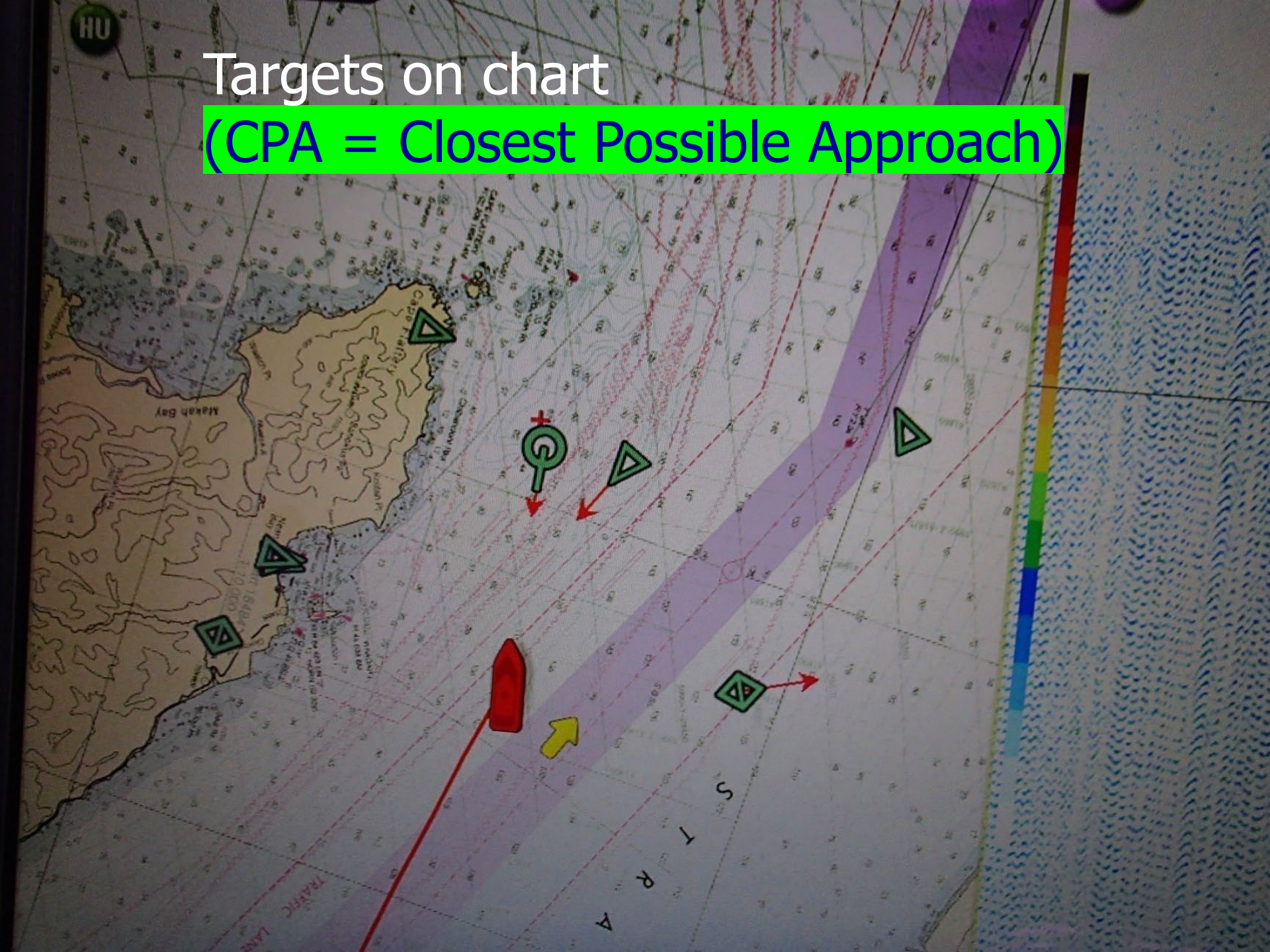
# **“Bread Crumb Trail”**

- This is a very useful feature
- Shows where you have been – good if you need to retreat
- Keep tides/depths in mind when using same trail
- Helps orientation, especially at night
- Also works with anchoring alerts



Targets on chart

(CPA = Closest Possible Approach)





# Autopilot





# Autopilot settings

- “Hands Free” much easier than steering
- “A” Autopilot – Digital compass course
- “N” Navigate – Route to next Waypoint
- “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



# LET'S TAKE A BREAK

## Navigation Priorities Class Drill

- There are 15 primary navigation items on this list.
- Rank them in your priority order 1 – 15
- This is subjective
- Once you are done – hand in and we will review.



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Skills for open-water travel

**TrawlerFest®**

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**What is the most dangerous thing on a boat?**





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**
- Rain-X on windows
- Fresh Impellers, Belts, Clean Filters
- Clean Fuel and confirm Valves correct
- Clean out intake Strainers
- Test run all equipment at the dock



## **START UP CHECK LIST FOR NORDHAVN 5017 Northern Ranger II**

### **CREW ORIENTATION**

Discuss life jackets location, safety and first aid

Discuss trash plan and toilet operation

Discuss Captain in charge, and what docking assistance if any would be helpful, with respect to lines, fenders, etc.

Float plan - travel intentions told to other parties

Confirm all hatches, windows and doors secure

Confirm all interior belongings and equipment are secure

### **ENGINE ROOM**

Wipe Belt area clean

Clean drip pad

Check engine room for loose tools or parts

Check bilge for excess oil or water

Check intake through hulls and strainers for all raw water requirements

Clean out bilge pump strainer

Check fuel valves to make sure the appropriate fuel valves are positioned correctly for the trip planned (understand "to" and "from" fuel directions). Suggest draw from one tank and return only to supply tank.

Check fuel quantity in main tank sight glasses - port and starboard

Supply tank bottom - water or sediment drained off?

Check engine oil - starboard side dip stick

Check engine coolant - expansion tank lid

Check alternator belts

Check transmission oil level - port side aft (make sure you have oil, proper test after warmed up and in neutral)

Check throttle and gear connections - pinned properly on engine?

Check Racor filters, select correctly valved, gauges, drain off sediment or water

Check wing engine oil, coolant, transmission, stuffing box, fuel valves and belt

Check generator oil, coolant, breakers and fuel valves all gens and belt

## 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?





# Watch Standing Essentials

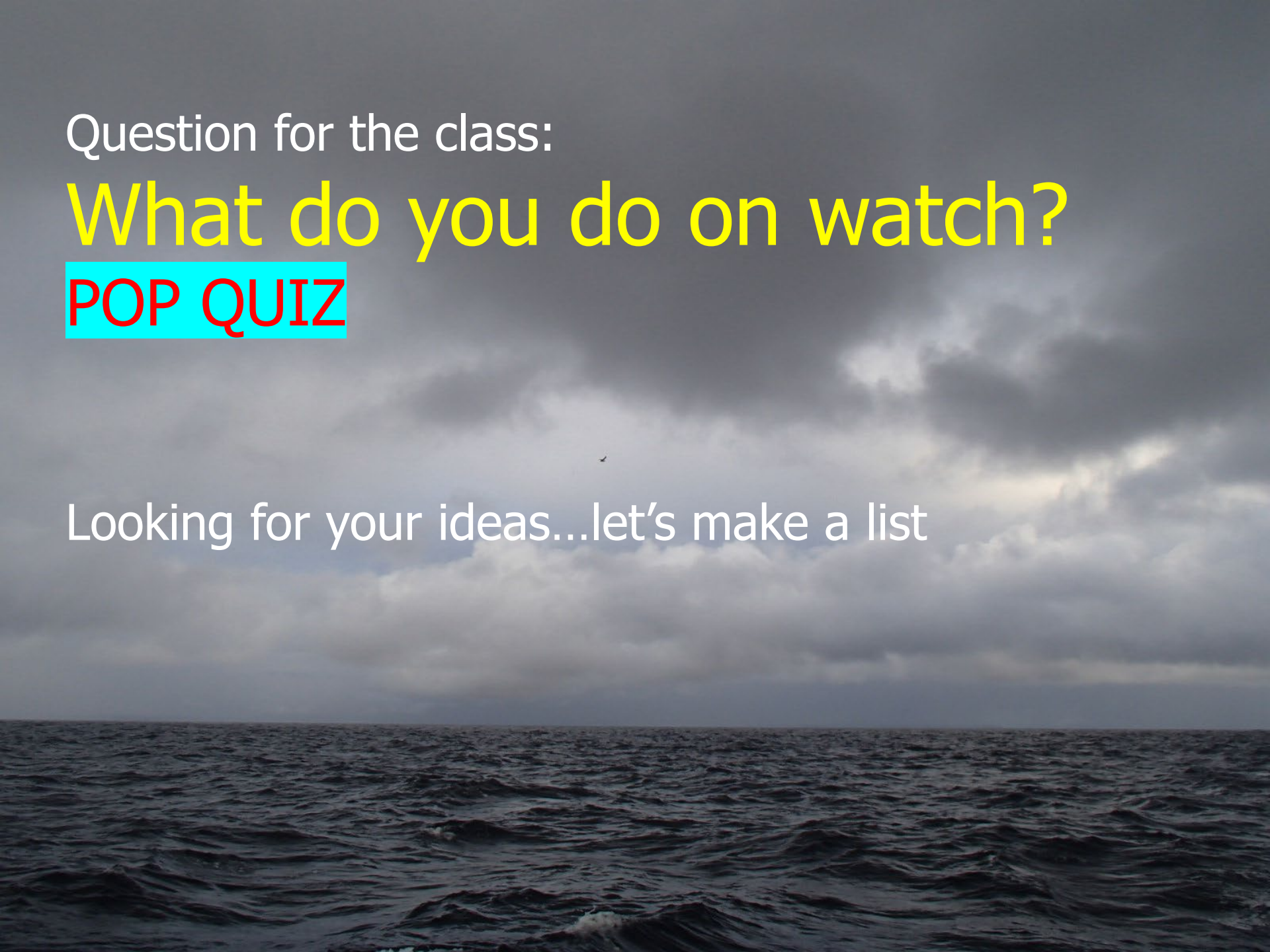
- **Keep water under the keel - don't hit anything!**
- Compass Heading: Correct direction
- Navigation: Position and intended course
- Radar: Awareness of targets, boats and land

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**

- \*Review boat safety and overview of plan with crew
- \*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...



READY FOR SEA PRE-DEPARTURE CHECK LIST FOR _____				
	Manual	Spares	Sign off	Comments
<b>SHORE BASE - Paperwork preparation</b>				
Float plan - travel intentions told to other parties - fill out form   SPOT or InReach				
Check VHF radio - radio check, local NOAA weather forecast				
Paper charts and chart kits to cover intended cruising grounds				
Electronic nav charts to cover intended cruising grounds				
Back up plan contingency - alternative ports of arrival				
All necessary flags - US, Q, countries to visit - provision to fly				
Passports, visas   US contact - embassy phone number				
Customs procedures and paperwork required				
Fuel bunkering - agent for fuel (refill after arrival)				
Weather router - subscription, phone contact				
Marina reservation and local hospital at arrival port				
Ships papers in order and in an accessible location				
<b>HULL</b>				
Haul out to inspect underbody and insure all ready - cutlass bearing, props, zincs, bottom paint				
All through hulls fully operational and emergency bungs affixed to each location in case of failure?				
Hull puncture kit? Sea anchor and or Drogue ready?				
Rudder turning freely? Stabilizers clear? Thrusters clear? Shafts and props clear?				
<b>CAPACITIES</b>				
Fuel tanks filled? Diesel fuel - tanks clean, fuel clean, transfer and polish. New Racors and spares				
Water tanks filled?				
Propane tanks filled?				
Dinghy gasoline fuel tank full?				
<b>EQUIPMENT INSPECTIONS</b>				
Steering - pressurized, good fluid, spare hydraulic fluid, emergency tiller				
Windlass and ground tackle. Anchors secure, snubbers?				
Active Fin Stabilizers - hose chafe, reservoir level, actuator seals, kelp cutters				
Windlass and ground tackle				
Thrusters - header tank oil levels, hoses, cables, blades clean				
Main engine /transmission. Recent oil change (needed on trip?). Coolant? Mounts? Shaft seal?				
Generator(s)   Inverter(s)   Chargers   Alternators				
Engine 2   Wing engine /transmission/ stuffing box				
Inverter(s)   Chargers   Alternators   Batteries charged				
Air conditioning   Watermaker				
Fire suppression   Bilge pumps - strainers, hoses, through hulls, pumps				



A sunset over the ocean with a yellow highlight box for the title.

# What do you record in the log?

## **Underway Log Handout\***

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?



[illegible]

# 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



# 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

- 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



### JMYS 3 person watch schedule

<u>Time of Watch</u>	<u>Watch Name</u>	<u>Name</u>	
0000 – 0300	Mid – Watch	A	_____
0300 – 0600	Morning Watch	B	_____
0600 – 0900	Breakfast Watch	C	_____
0900 – 1200	Forenoon Watch	A	_____
1200 – 1500	Early Afternoon Watch	B	_____
1500 – 1800	Mid Afternoon Watch	C	_____
1800 – 2100	Evening Watch	A	_____
2100 – 2400	Night Watch	B	_____

Oncoming watch standers should report to the wheelhouse 15 minutes prior to scheduled start for a briefing from the current watch stander who should identify course, next way points, settings and targets. Prior to standing watch, a thorough engine room inspection should be conducted (use head, bring up snack, drink, etc., before reporting). Arrive at your watch alert and ready to take over. Turn over your watch once you are certain that the crew member following is ready to go. It should be clear at all times who is at the helm and on watch. It is a good practice to scan the horizon every 15 minutes – an egg timer set at 15 minutes is a helpful tool.



A photograph of a boat's cockpit. The dashboard is equipped with several analog gauges and digital displays. A steering wheel is visible in the center. To the right, there are more electronic equipment and a VHF radio. The background shows the boat's windows and the exterior environment.

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?



A man wearing a grey baseball cap and glasses is sitting in a red leather boat seat. He has his feet propped up on the dashboard. The cockpit is filled with various electronic equipment, including two large chartplotters showing maps, a radar display, and several analog gauges. The background shows the boat's windows and the sea outside.

## 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



POP QUIZ \* let's make a list!

What do you do during an Engine room check?

Looking for your ideas...





# Engine Room Checks

## **\*Handout: Hourly Temperature Watch List**

- Wear ear muffs. Eyes? Knees?
- Does everything look right?
- Does everything smell right?
- Do you see any evidenced of chafe or drips?

# ENGINE ROOM TEMPERATURE WATCH AND INSPECTION LIST FOR NORDHAVN 4748 Ghost Rider

Date/Time of Day	:	:	:	:	:	:	:	:	:	:
Target	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp

## ENGINE ROOM - FWD

1/V	Starboard Active fin locker									
2/T	Forward bulkhead									
3/V	Supply tank gallons, valves									
4/V	Alternator belts - chafe?									
5/#	Stabilizer pressure gauge									
6/V	High water bilge chamber									

## ENGINE ROOM - PORT

7/V	Port Active fin locker									
8/V T	Hydraulic tank level and temp									
9/V	Main engine Racor vacuum									
10/V	Fuel return manifold valves									
11/T	Thermostat									
12/T	Oil cooler									
13/T	Alternator - Engine start									
14/V	Engine mounts - port forward									
15/T	Fuel pump									
16/T	Exhaust manifold									
17/T	Starter									
18/V	Engine mounts - port aft									

## ENGINE ROOM - STBD

19/T	Coolant tank									
20/T	Keel cooler out									
21/T	Keel cooler in									
22/V	Engine mounts - stbd forward									
23/T	Alternator - House bank									
24/T	Hydraulic pump									
25/V	Under engine drips									
26/T	Oil filter temp									



A man wearing a blue short-sleeved shirt with a white floral pattern, khaki shorts, and large red earmuffs is working on a boat engine. He is leaning over a white engine compartment, using a white cloth to wipe a metal part. The background shows various engine components, hoses, and a green storage bin.

## 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?

# 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? (Red lights)

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



## Night Watch:

- \*Have a flashlight handy
- \*Red light is easier on your eyes
- \*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...



**\*Hourly Watch handout**

**\*Top of the hour**

**\*Why each hour?**



## JMYS HOURLY WATCH UNDERWAY CHECK LIST

### ENGINE ROOM

Be careful - no loose clothing or jewelry, metal items will be hot, take your time

Wear ear muffs and gloves. Take a rag, flashlight and temp gun with you

Note temperature on thermometer - "shoot" temps on key locations and fill in ER Temp Watch Log

Does the ER smell normal?

Check engine room for loose tools or parts

Check bilge for excess oil or water

Check bilge pump strainer for debris

Go aft centerline to check stuffing box, is it dripping, is it cool or hot?

Check throttle (port) and gear (aft) connections - pinned properly on engine?

Check stabilizer panel - working smoothly?

Engine room blowers on? Air circulation

Fuel valves positioned correctly?

Check fuel quantity in main tank sight glasses - then close valves

Check the Racor sight vacuum gauge and look at Racor bowls

Check transfer and return manifolds - are they valved correctly?

Confirm battery select switches are correctly positioned "Normally ON"

Look for belt chafe powder, leaks, lift up floor boards, drips, smoke...

### LAZARETTE

Check all steering gear for firm fasteners and no leaks

Inverter panel correct

Close door between ER and Laz

### WHEEL HOUSE

Main engine rpms, oil pressure and coolant temperature

Check battery voltage

Alternator output?

Check all displays for proper values

# 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, highest 3' swell. Strongest winds 6kt. Magical! 1000km to go!

Speed: 9.52 mph

Course: NW

Elevation: 21.00 ft.

Batt: Normal

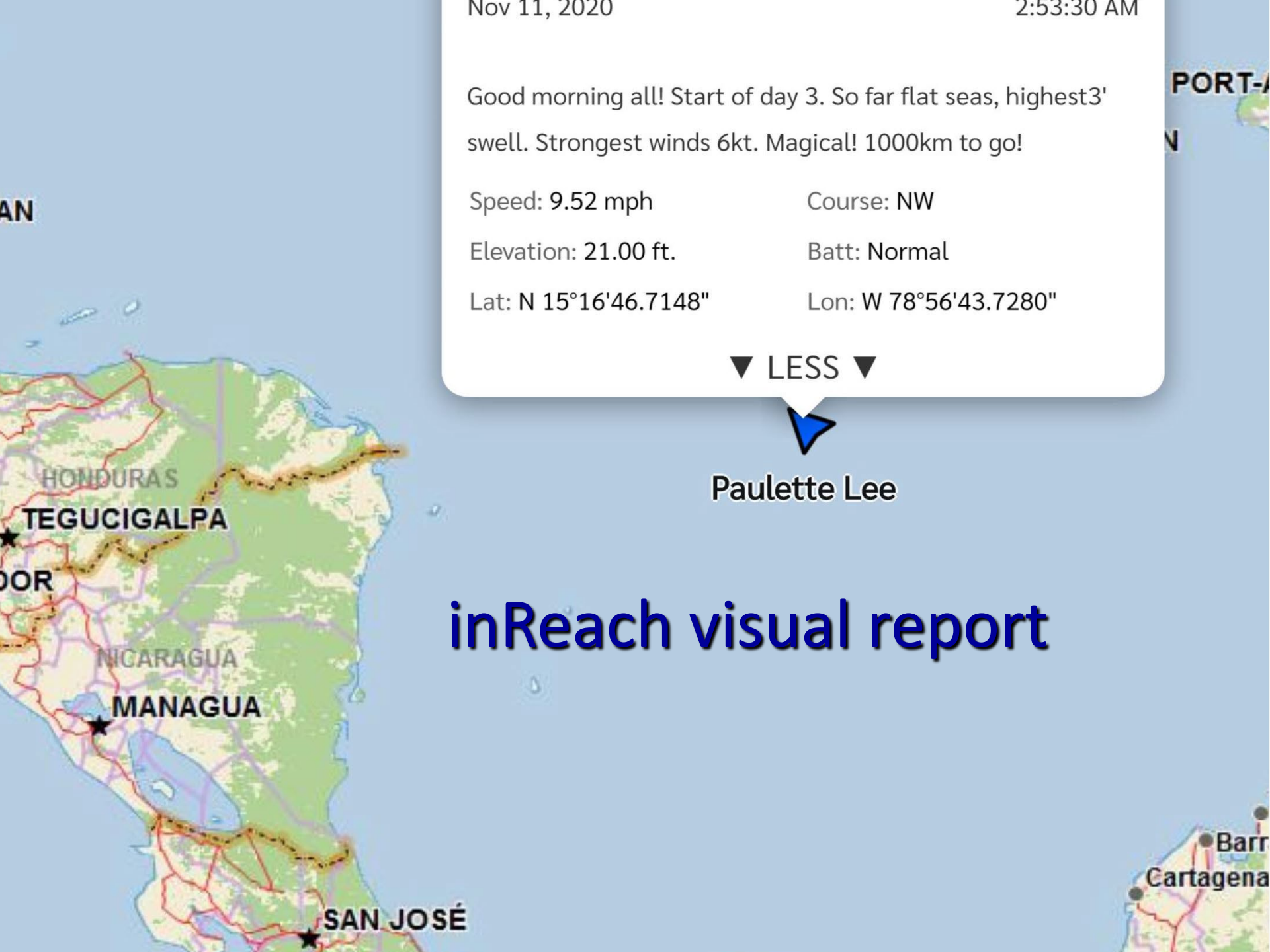
Lat: N 15°16'46.7148"

Lon: W 78°56'43.7280"

▼ LESS ▼

Paulette Lee

**inReach visual report**



# Iridium Go – very popular

Text, talk, email and download weather  
max plan \$140/Mo.

Antenna box – connects to satellite –  
Wi-Fi signal to apps on phone.

Worth investigating



Are we there yet?



A photograph of the Golden Gate Bridge in San Francisco, viewed from a low angle looking up at the bridge's structure. The bridge's red-orange steel beams and suspension cables are prominent against a clear blue sky. The bridge spans a body of water, with a green hillside visible in the background.

## One Day Out:

- \*Plan your arrival for day light and slack tide (need rising tide?)

- \*Google Earth for aerial view

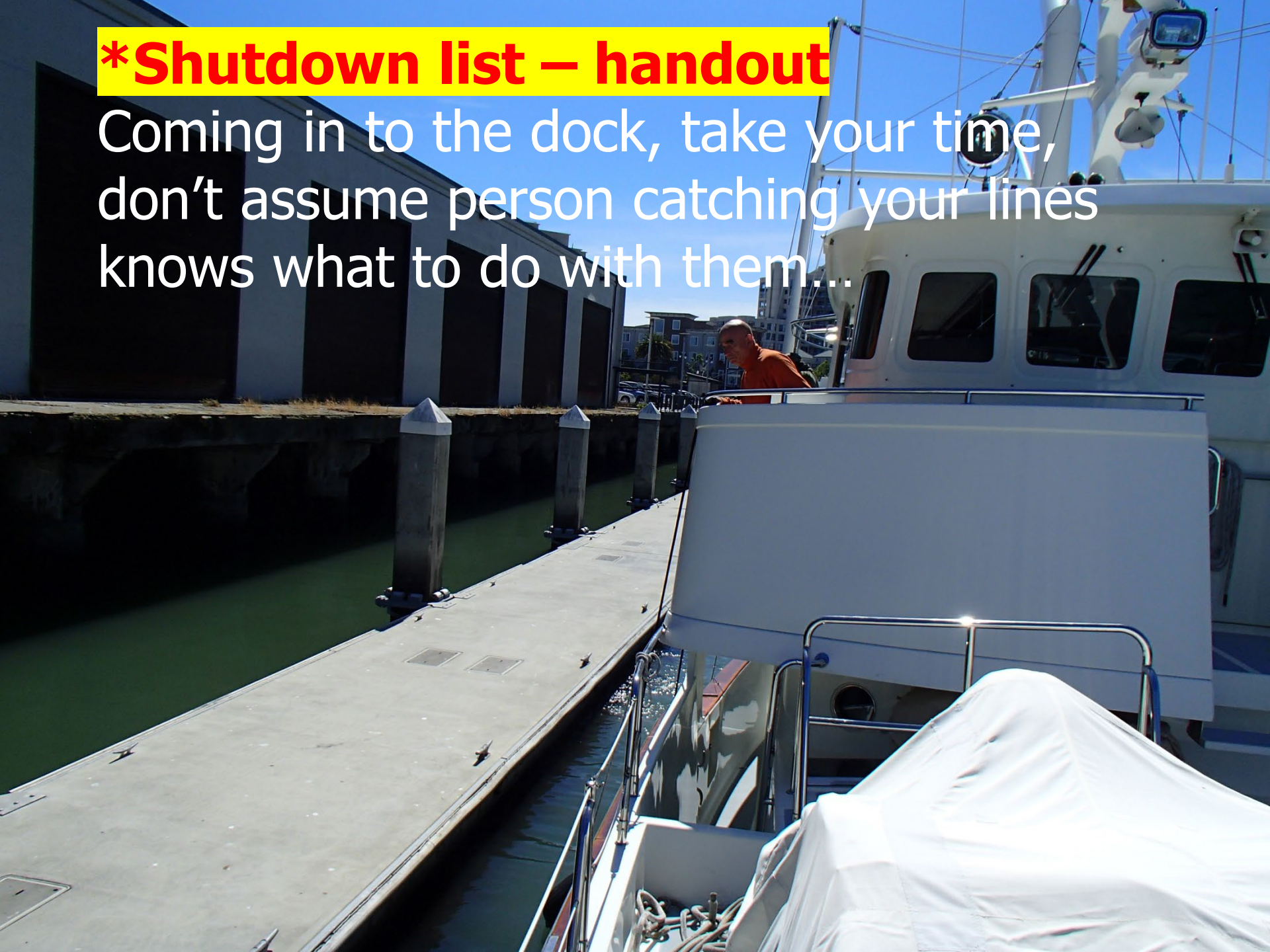
- \*Call ahead (VHF or cell phone) to confirm your mooring and provide ETA

- \*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.



## **\*Shutdown list – handout**

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





## JMYS SHUT DOWN CHECKLIST (ARRIVAL AT DESTINATION)

### HARBOR APPROACH

Run main engine hard for 10 - 15 minutes to blow out soot (during last hour before arrival)

Holding tank? (5 miles off shore) then close valves

Fenders and dock lines ready?

Slip location - contact harbor master for arrangements? -hours, dock hand, slip assignment, tides, VHF, gate key, wifi password, etc.

### FINAL APPROACH

Make sure fenders and dock lines are ready and crew knows intended docking maneuver

Center fins on stabilizers

Confirm thruster(s) ready

### SECURE AT DOCK OR ANCHORED AT MOORING?

### ENGINE ROOM

Check engine room for loose tools or parts

Check bilge for excess oil or water

Make sure bilge pump strainer is cleaned out

Check fuel valves to make sure the appropriate fuel valves are positioned correctly for next start up

Check fuel quantity in all fuel tank sight glasses - then close valves

### WHEEL HOUSE

Check all battery voltage

Shore power selected and coming in on ? AC voltage coming in from dock?

Bilge pump breakers on?



Questions & Answers:  
Any tips or suggestions?  
Open discussion...





A full-page background image showing a sunset over the ocean. The sun is a bright yellow-orange orb on the horizon, casting a long, shimmering reflection on the dark blue water. The sky is filled with large, billowing clouds that are illuminated from below, giving them a warm, orange and yellow glow. The overall scene is peaceful and scenic.

# Thank you!

Please provide your contact information if you would like me to notify you when this presentation is posted on [www.JMYS.com](http://www.JMYS.com)