

*Requirements  
&  
Lessons Learned*

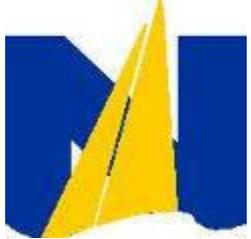
**CDR Gerard VandenBerg**  
Deputy Director, Naval Academy Sailing



# Outline

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- Overarching concepts
  - Admiral Burke...
- Navigation related incidents
- Contact management and avoidance related incidents
- Weather and sail handling related incidents



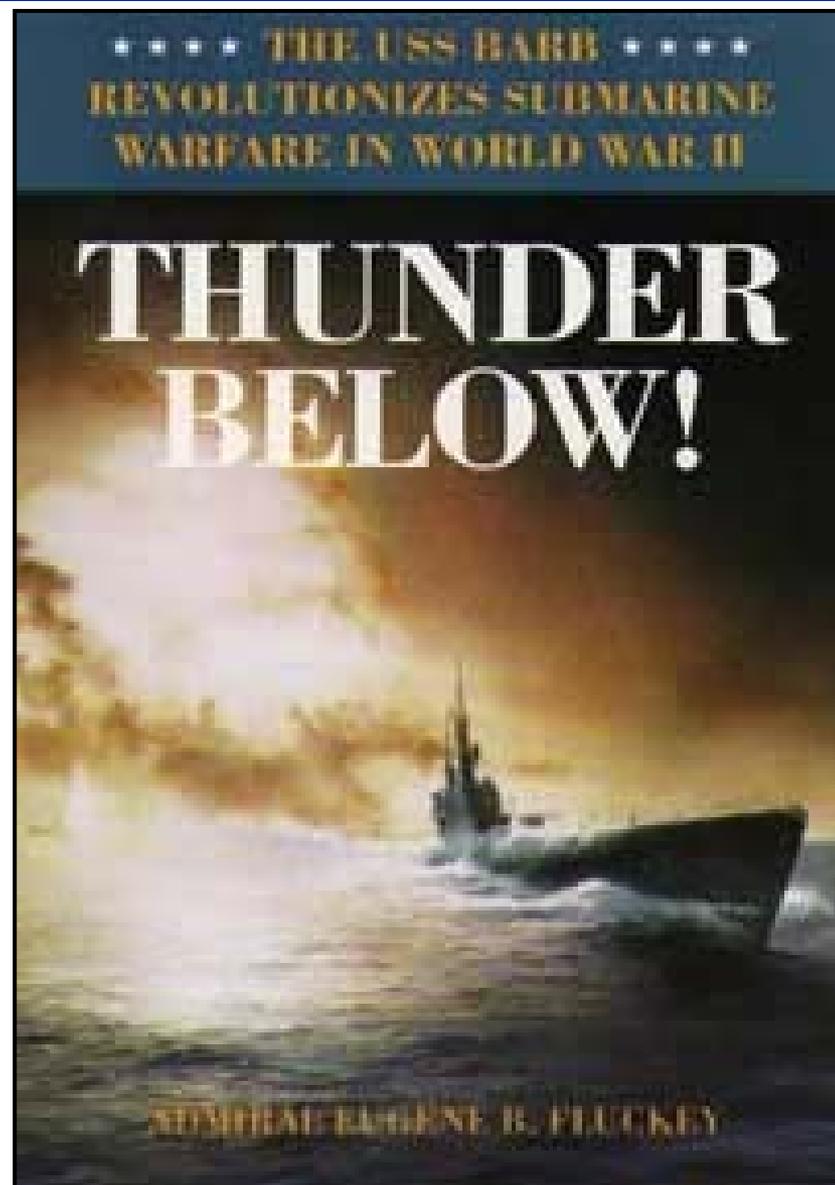
# Who is in the room?

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- How many:
  - Long-term program participants?
  - How many sailed with us in the fall for the 1<sup>st</sup> time?
  - How many are just now joining the training program?
- Goal of tonight's presentation is to get us all on the same page...
  - What problems are we seeing
  - What problems are we trying to solve
  - Show that the winter training schedule is targeted to help us solve these problems...



Do you know this man?





Memorize these, and you'll be able to anticipate DNAS/DDNAS response to issues.

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1. An inferior program risks producing officers with inferior knowledge, attitudes, and performance that will have to be corrected in the Fleet.
2. An inferior program can result in a serious incident that puts our midshipmen and our entire sailing program at risk.
3. An inferior program puts the reputation of the Naval Academy and the Navy at risk before a public that properly expects the highest standards of performance.



Before a public that properly expects the highest standards of performance...

**The Navy  
Comes Ashore  
At Wasque**

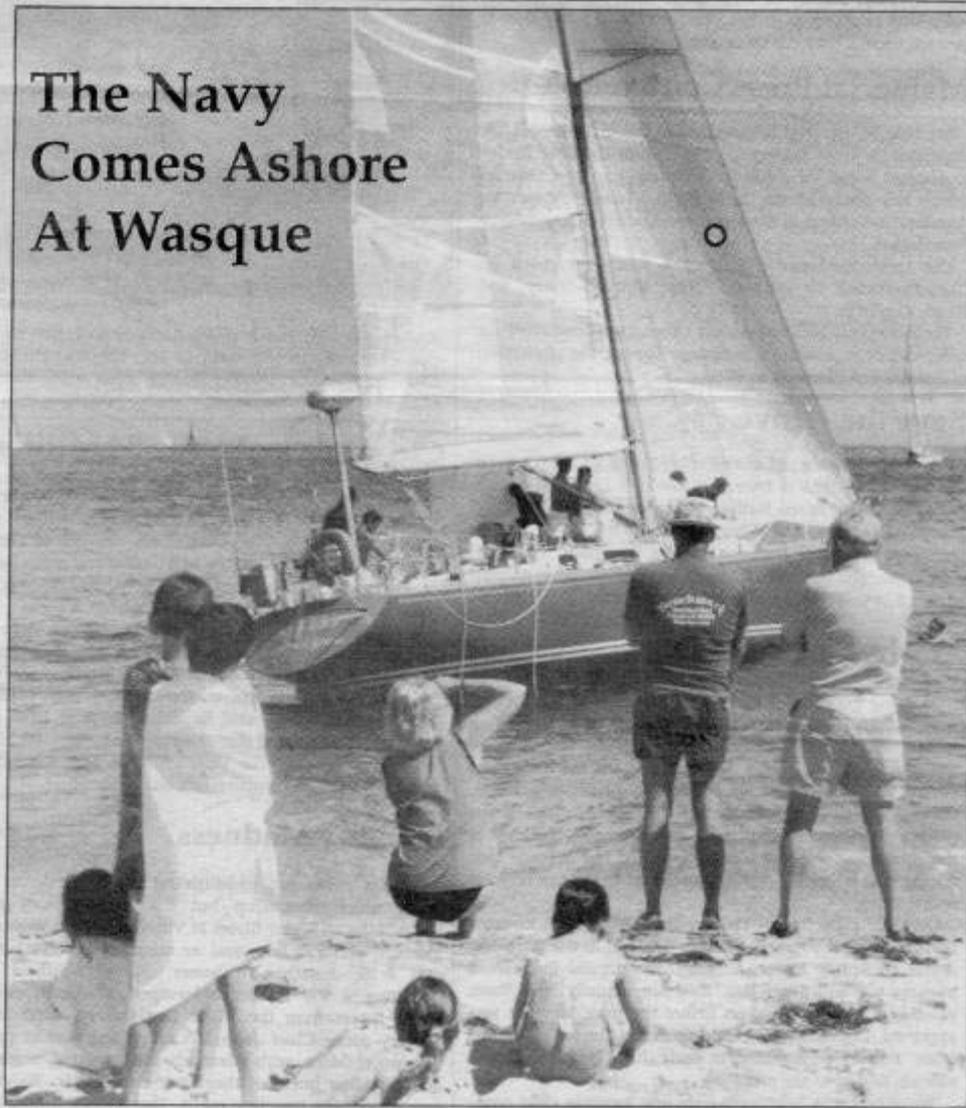


PHOTO BY NELSON SIGELMAN

*The sloop Fearless from the Naval Academy at Annapolis, racing in the Edgartown Regatta, ran aground on a sandbar off Wasque Point, and there it stuck. Whoops.*

Front Page News

The sloop Fearless from the Naval Academy at Annapolis Ran Aground on a sandbar off Wasque Point, and there it stuck. Whoops.



# What Do We Train Midshipmen?

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- Leadership and Teamwork
- Watchstanding
- Small boat handling
- Knowledge of and appreciation for the forces of wind and sea
- Relative motion
- Marlinspike seamanship
- Meteorology and oceanography
- Forehandedness and vigilance
- Shipboard organization
- Navy preventative and corrective maintenance systems (3M)
- Navigation (open ocean and coastal piloting)
- Damage control



# Note!!!

- Sailing isn't on the list
- We don't teach sailing!!!
- We teach people how to sail...  
... Because it underpins safety
- Saying that we teach sailing is like saying the ice hockey coach teaches skating...



So?

After an incident occurs, don't come and explain:

“That's how I do things on my sail boat.”



# The Navy Sailing Summer Cruise Program

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- We teach deck watch officer skills in the open cockpit of a small boat, inshore and offshore, in all weather.
- What are deck watch officer skills?





# What are deck watch officer skills?

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- C - Command Presence
- S - Basic Seamanship
- N - Principles & Practice of Basic Navigation
  - Specific emphasis on piloting & deduced reckoning
- T – Train the Mids
- S – Squadron integrity to mitigate risk



# What are deck watch officer skills?

---

To ensure safety at sea, the best that science has to offer and that naval organization can provide, must be regarded as an aide and never a substitute for good seamanship, self-reliance, and the sense of ultimate responsibility which are the first requisites in a seaman and naval officer.

Admiral Chester W. Nimitz  
1945



# What are basic seamanship skills?

---

- Mooring and unmooring
- Small boat handling
  - Especially in confined areas
  - Sail trim
- Stow for sea
- Boat husbandry
- Ready the vessel for the next underway  
BEFORE going on liberty



# What are basic navigation skills?

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- Fix taking
- Fix evaluation
- Minimum cyclic routine
  - Plot, Label, DR... Plot, label, DR... Plot, Label DR...
- Watch Captain involvement
- Midshipman Navigator involvement
- OIC involvement



# Program Construct

## Week 1

- Spend 3 days practicing basic boat handling drills
  - Goal: Develop competence in the CREW
- Spend 2 days testing the boat, and sailing after dark
  - Goal: Develop competence in the WATCH SECTION





# Program Construct

## Week 2

- 5 day transit to Newport
  - Goal: Develop competence in the INDIVIDUAL
  - Hand, reef and steer

## ~~Week 3~~

- ~~• 4 day transit home
  - ~~– Testing~~
  - ~~– Goal: Build self confidence while operating~~~~





# Program Construct

- One of the fallacies of our program
  - We train in the benign environment of the Chesapeake Bay to sail offshore





# Some Simple Lessons Learned

- Legislate to the least common denominator
  - You must do it this way
    - Standard Operating Procedures
  - You can't go there
    - You can only go here...
  - Bring your foulies
    - Where them when we tell you to
  - Don't sleep topside
  - Wear closed toe shoes
- Standard Operating Procedures
  - Culled from our best collective expertise





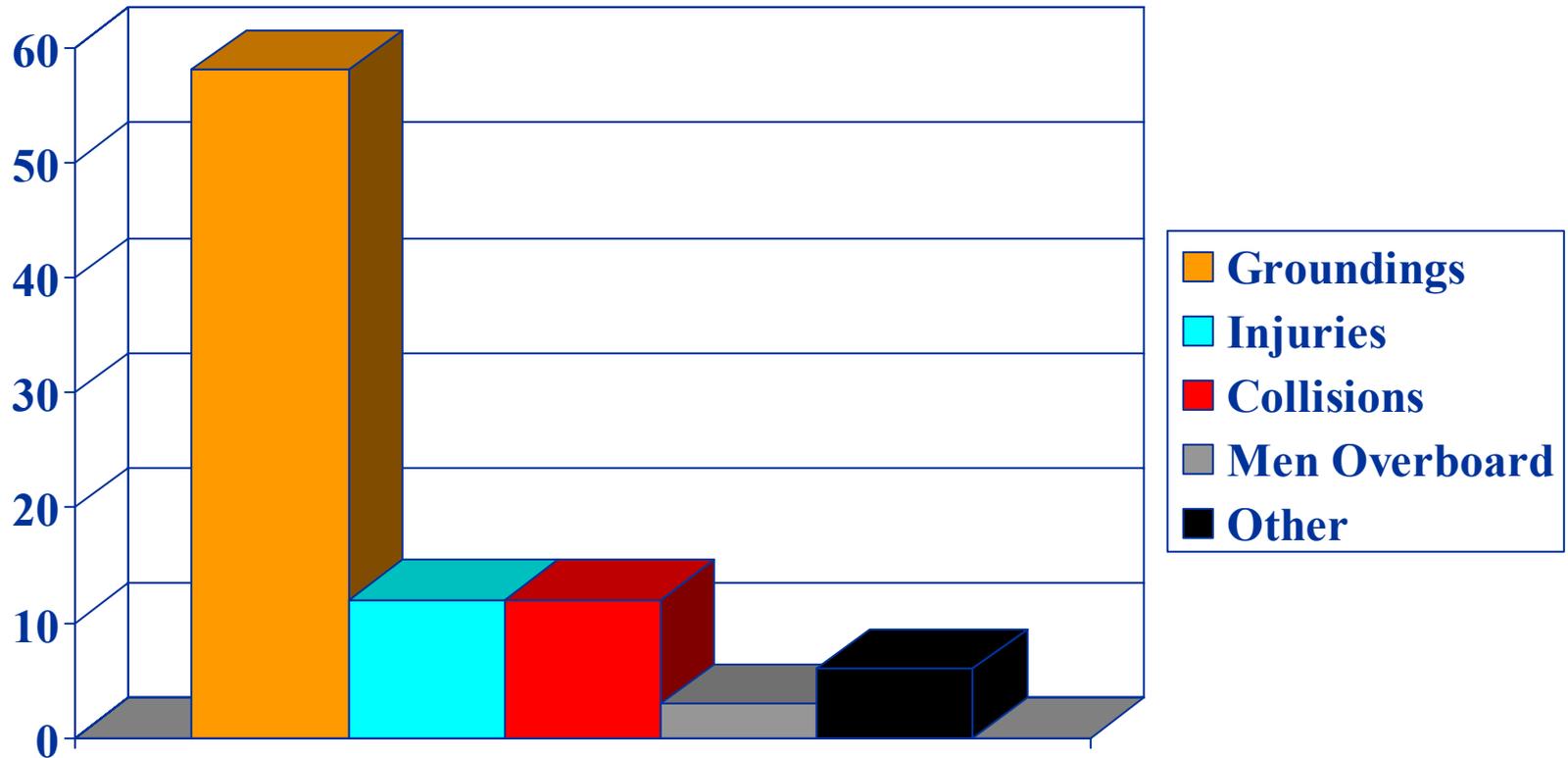
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- Admiral Burke...



# Incident Summary...

## 1994-2004



In many grounding cases the boat was where it should have never been!



# Summer 2002 Incident Summary

---

## Block I

- Seasickness requiring MEDIVAC
- Allision with Bridge – Newport Harbor
- Grounding – Coaster’s Harbor
- Grounding - Bermuda

## Block II

- Accidental Jibe with injury
- Grounding - Delaware River
- Collision - Resulting in loss of a mast
- Fuel contamination - Resulting in loss of engine

## Block III

- Shroud failure – No mast failure
- Close aboard contact – Chesapeake Bay
- Grounding - Exit of C&D Canal
- Grounding - Coast of Maine

## Block IV

- Grounding - Eastern Bay
- Grounding - Greenbury Point
- Failure to reach Newport
- Allision with buoy while motoring – Delaware River



# Navigation Related Incident Summary

## Summer 2002

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- Grounding - Coaster's Harbor
- Grounding – Bermuda
- Grounding - Delaware River
- Grounding - Exit of C&D Canal
- Grounding - Coast of Maine
- Grounding - Eastern Bay
- Grounding - Greenbury Point
- Allision with bridge – Newport
- Allision with buoy – Delaware River (motoring)



# Summer 2003 Incident Summary

---

## Block I

- No reportable incidents

## Block II

- Grounding - Tolly Point

## Block III

- Allision with bridge
- Grounding - Southport Marina Entrance

## Block IV

- No reportable incident



# Summer 2004 Incident Summary

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- 1 Allision with a buoy – minor scrape
- 1 Allision with the pier – transmission failure
- Civilian powerboat ran into an anchored Navy 44  
– Civilian vessel sank
- 3 Groundings
- 3 Fuel contamination - resulting in loss of engine



# Fall 2004

- Man overboard resulting in drowning

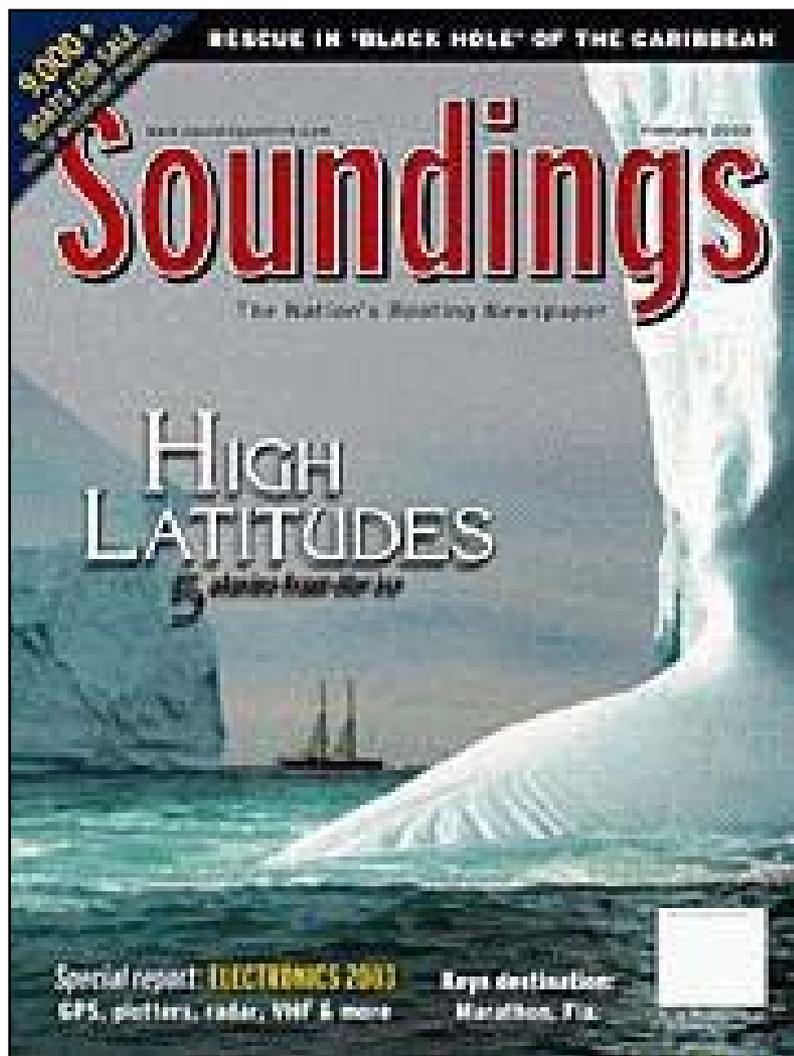


# Do you recognize these people?





# Have You Seen This Article???



## Kennedy schooner finds a sandbar

By JoAnn W. Goddard  
STAFF WRITER

Sen. Edward Kennedy's vintage schooner, Mya, was slightly damaged en route to winter storage after going up on a sandbar near Cape Cod's Cold Storage Beach. The 50-footer got hung up on a bar just outside the breakwater, near Dennis, Mass., Dec. 1, according to Dennis harbormaster Edward Goggin Jr.

A two-man delivery crew had taken Mya from her home port of Hyannis (Mass.) Harbor and through the Cape Cod Canal, bound for Northside Marine on Sesuit Harbor in East Dennis. Winds were blowing north/northwest at 40 to 50 knots, and rough seas made transiting the shallow area difficult, according to Goggin.

The schooner grounded in the sand about 150 feet from shore. The crew was able to walk ashore. Initial attempts to free Mya were unsuccessful, prompting fears that the battering waves would damage the wooden schooner.

Work crews pumped water from the hull and stabilized her with a line run from the schooner to shore. A small

crowd gathered the following morning at high tide to watch as the sailboat was towed off the bar. Mya was taken to the marina.

There were a few scrapes and at least one small hole in the hull, says Goggin, adding that there appeared to be no major damage to the keel or hull.

Mya has been in the Kennedy family for about 20 years, according to Kennedy's staff. She is a familiar sight



Sen. Edward Kennedy's 50-foot schooner, Mya, ran aground Dec. 1 off East Dennis, Mass.

each year in races around Cape Cod and the islands, including the annual Figawi race from Hyannis to Nantucket and back. Mya recently had taken members of the Kennedy family on their traditional Thanksgiving cruise.

An avid sailor, Kennedy was notified of the grounding. Witnesses say he made a brief appearance to check his boat. ■

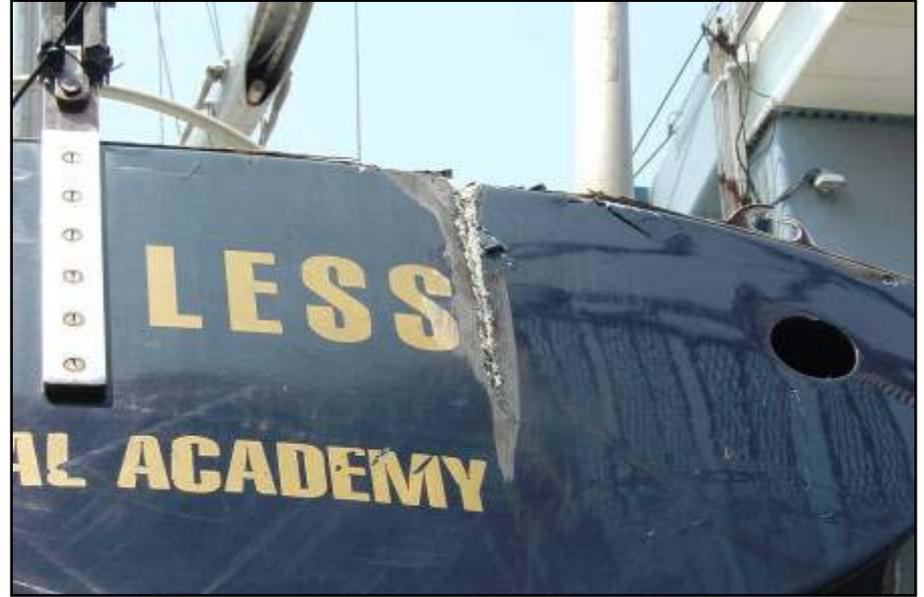


# Allisions...





# Navy 44 & Civilian Power Boat



OPORD Compliance?

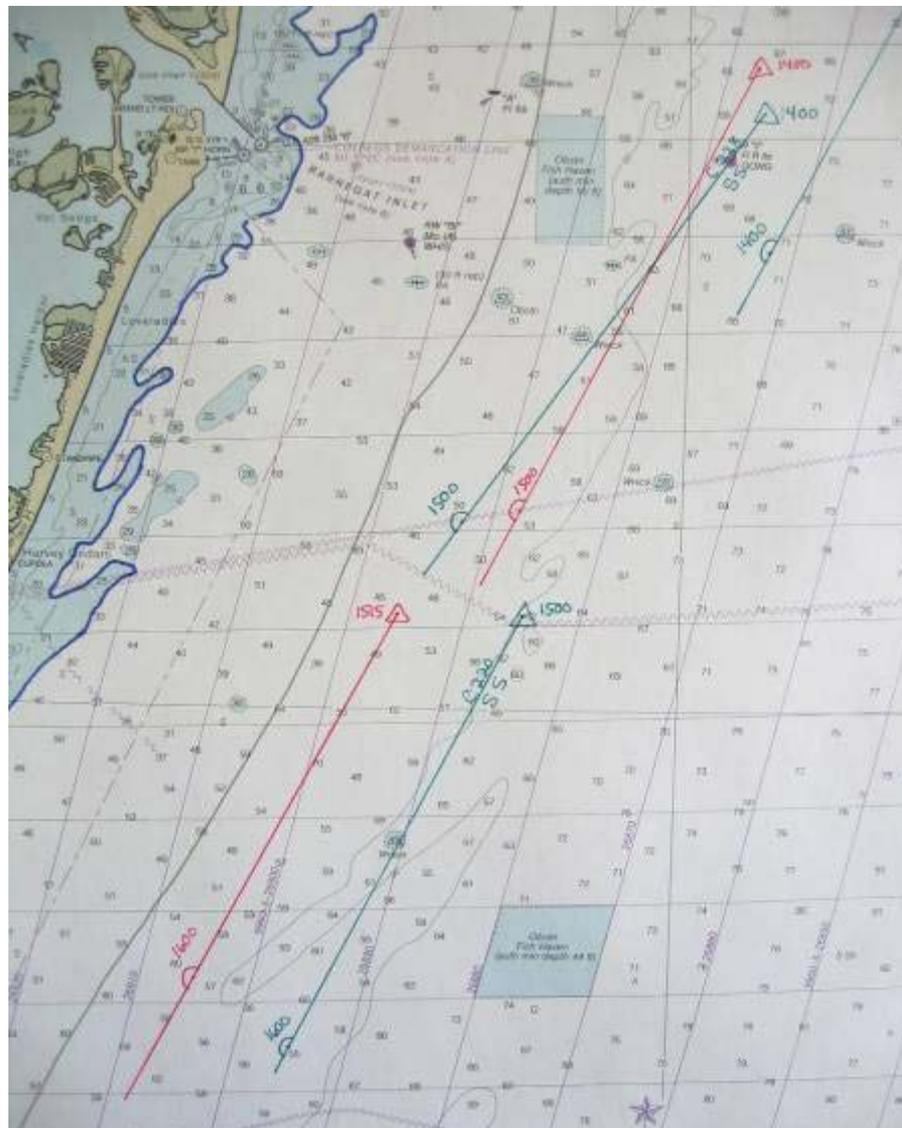
Rules of the Road Compliance?

Common Sense Compliance?



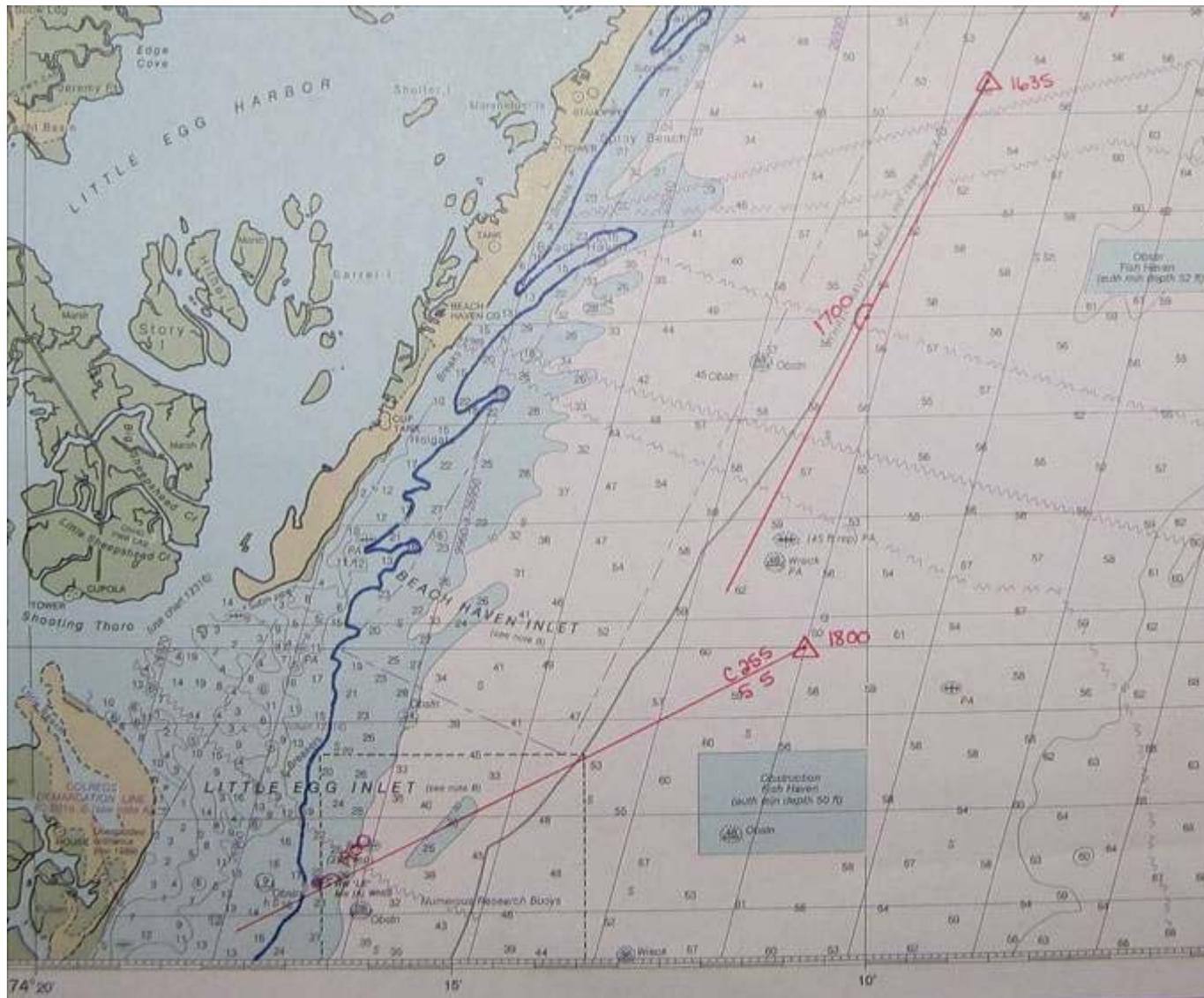


# Chart 12323 plotting errors





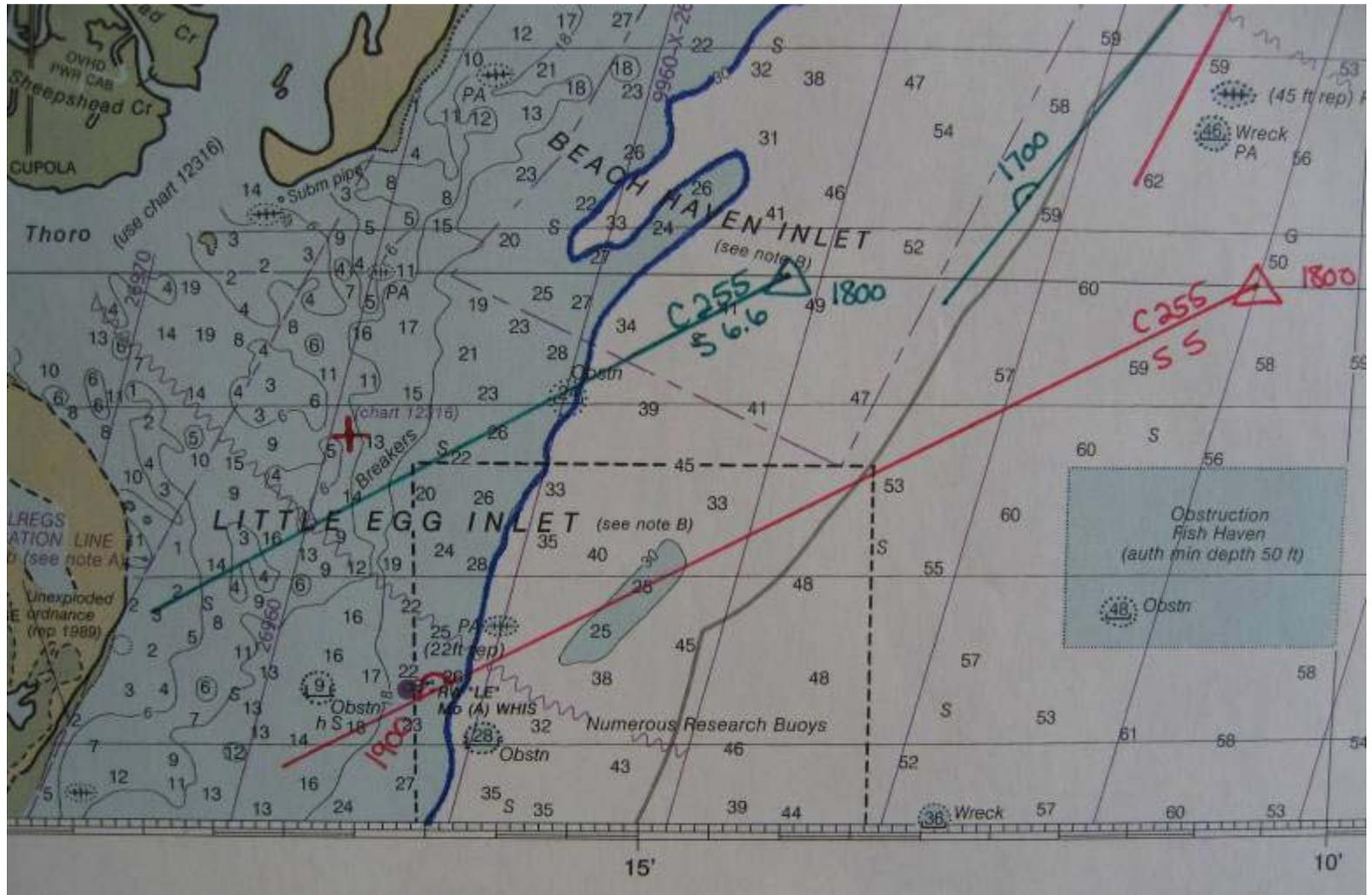
# More plotting errors







# As the boat hits the breakers



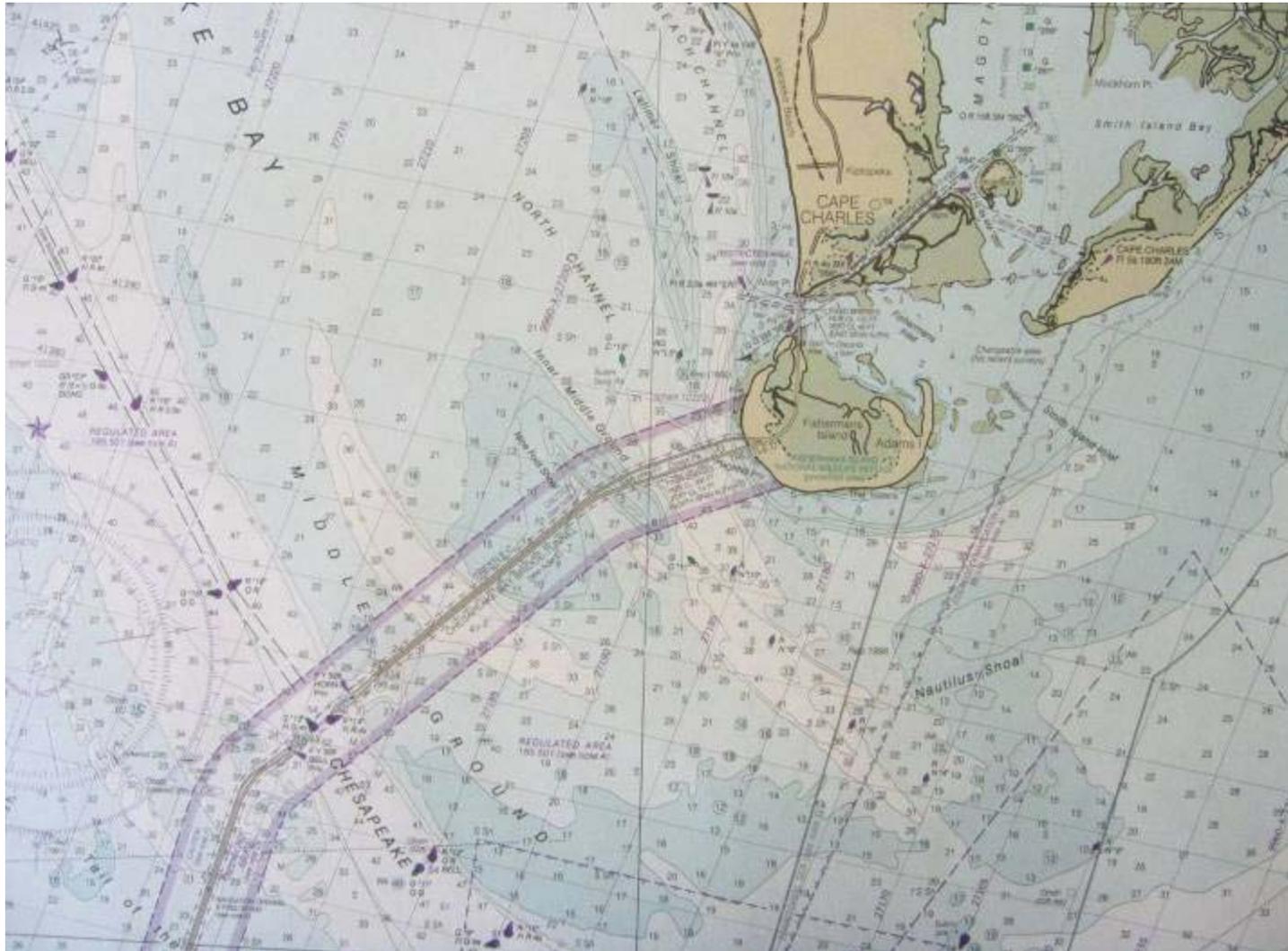


# Allision With Bay Bridge



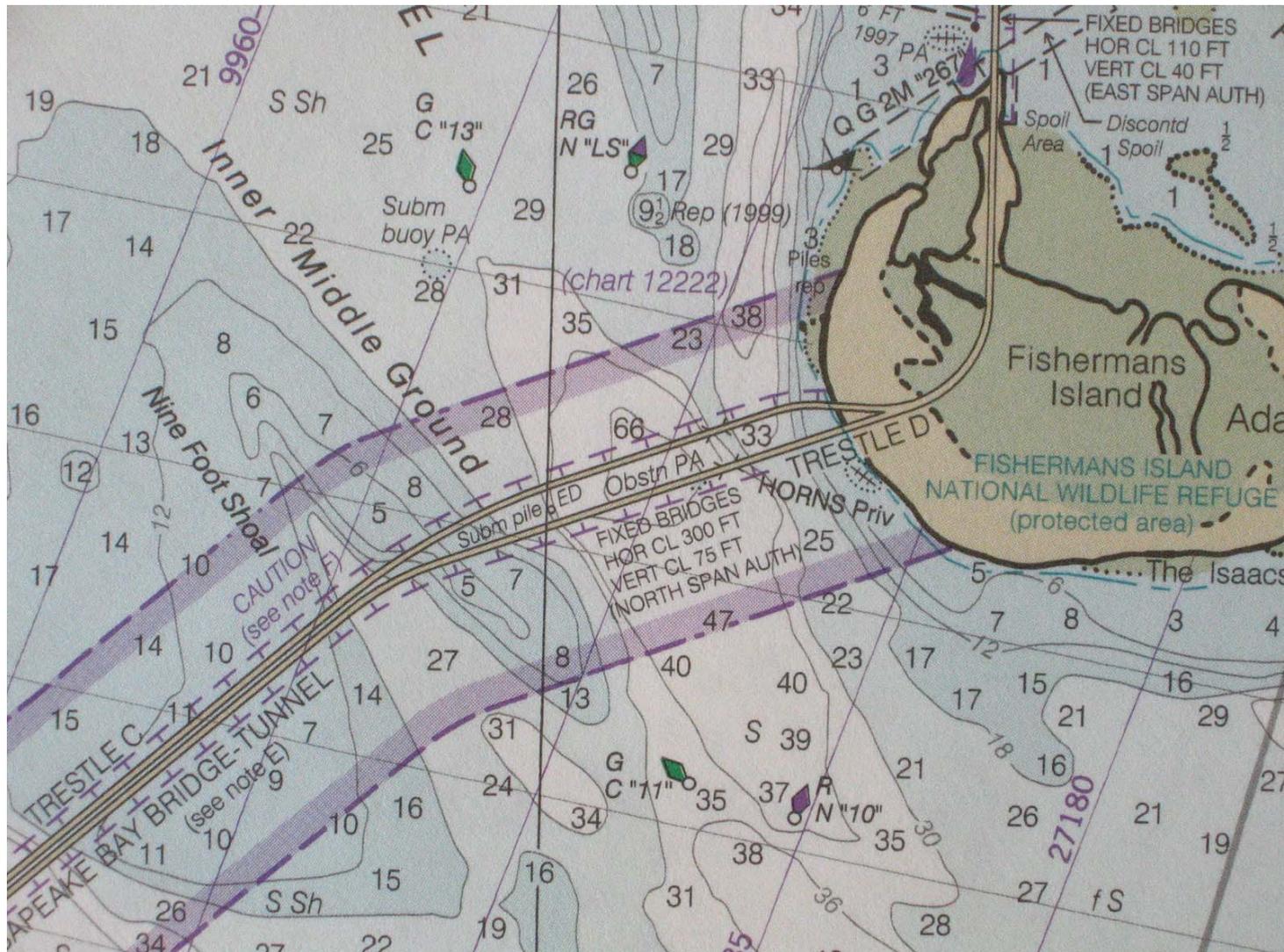


# Which chart to use? 12221?



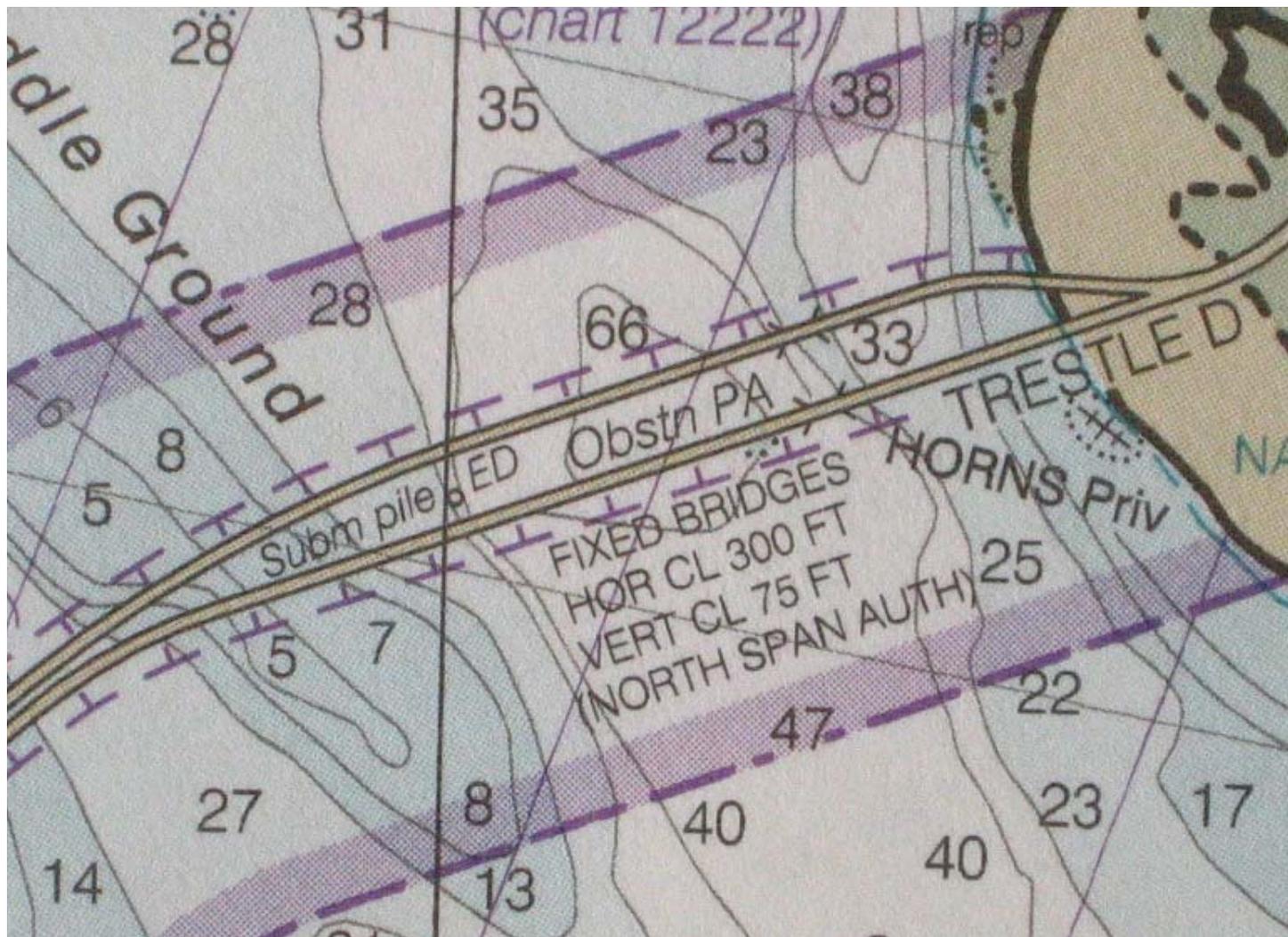


# Which chart to use? 12221?



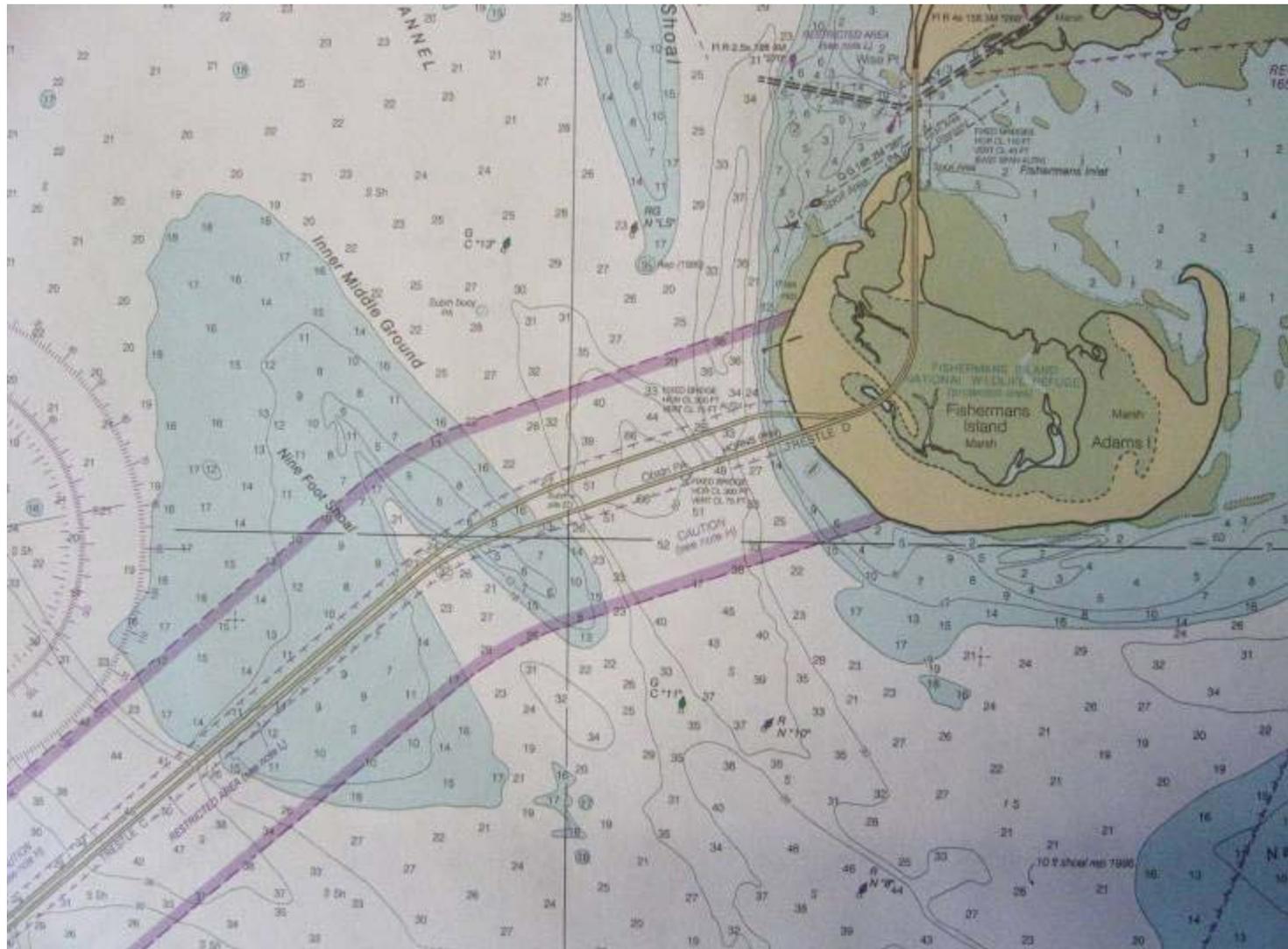


# Which chart to use? 12221?





# Which chart to use? 12222?



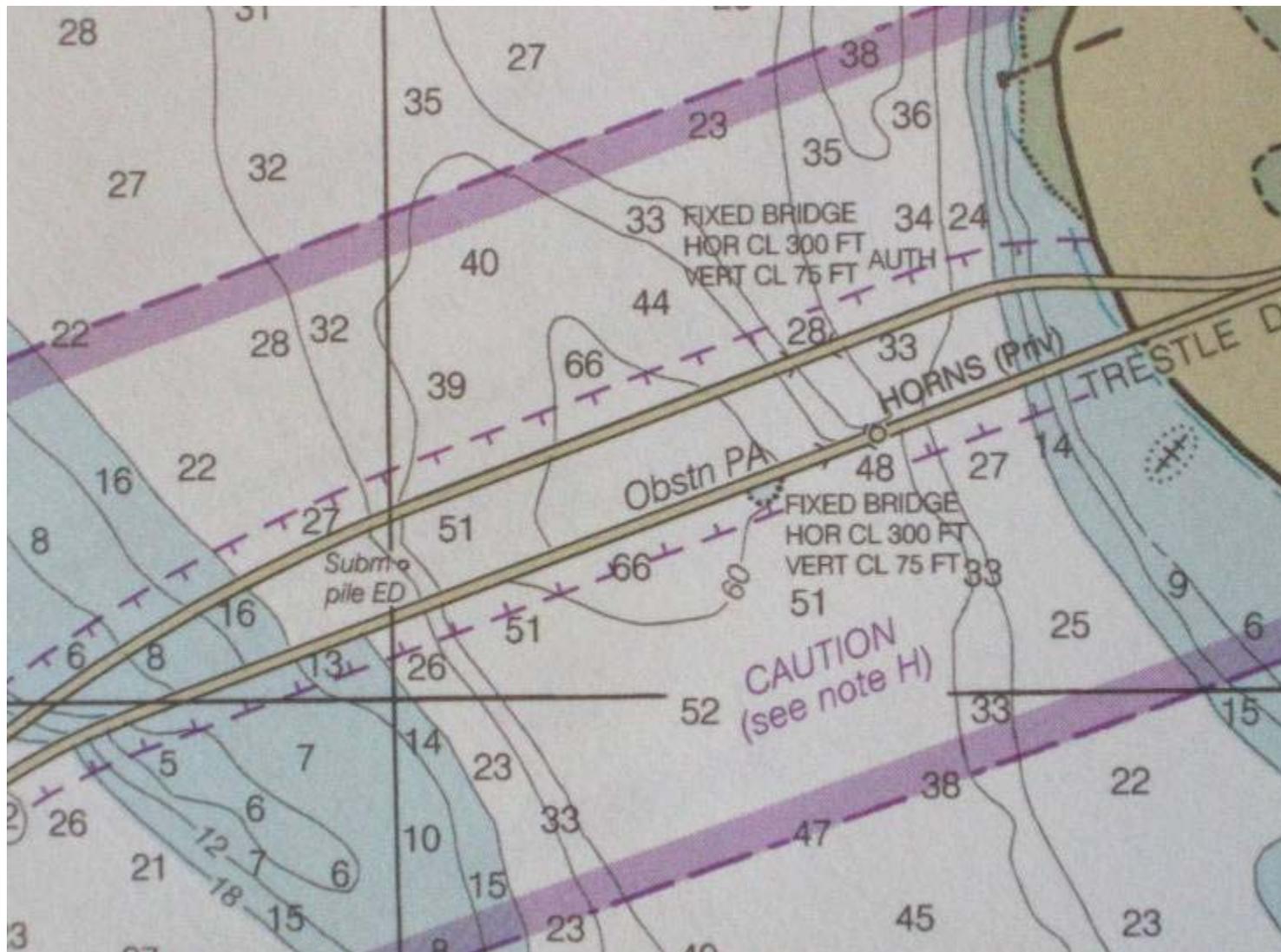


# Which chart to use? 12222?



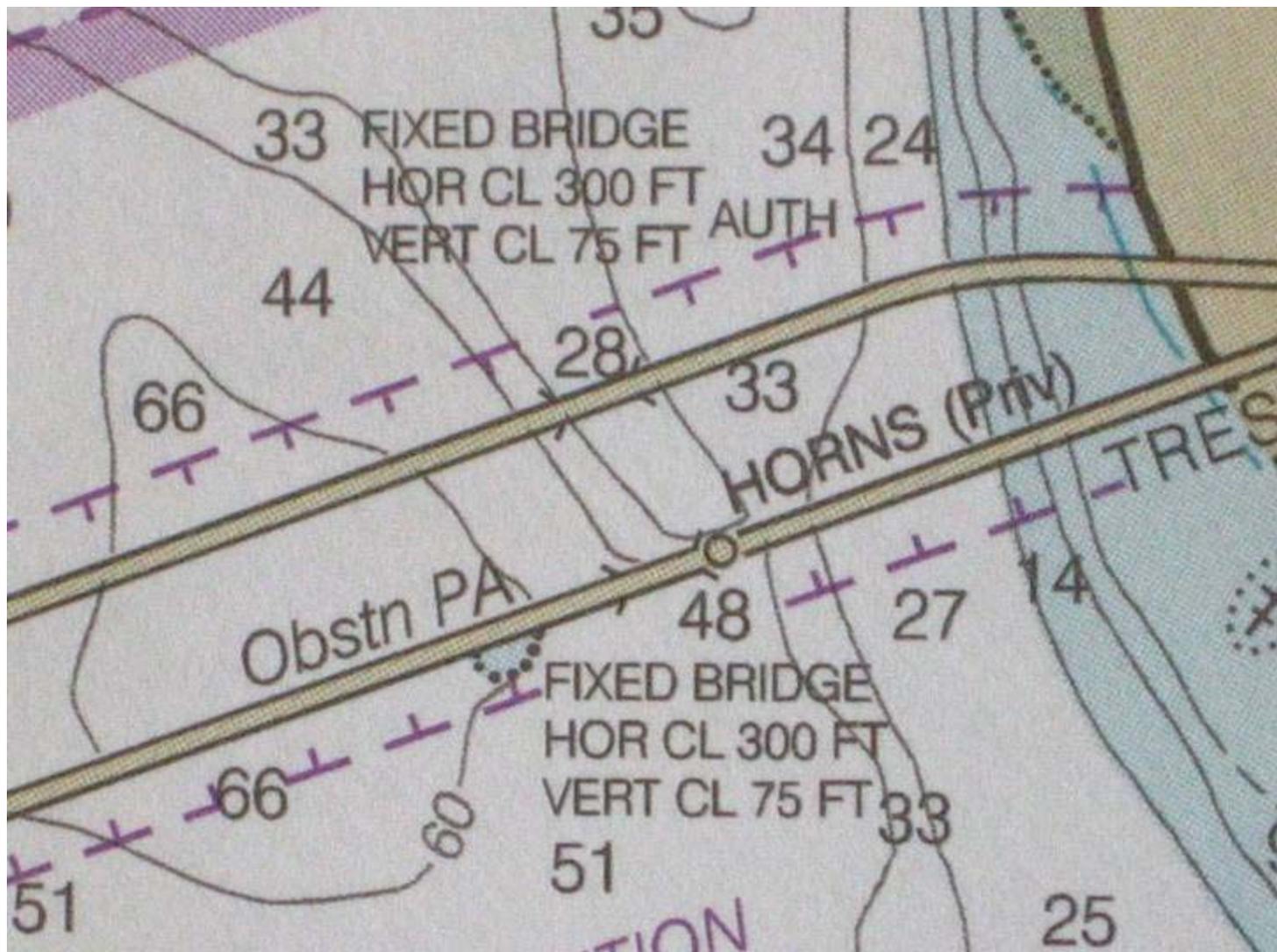


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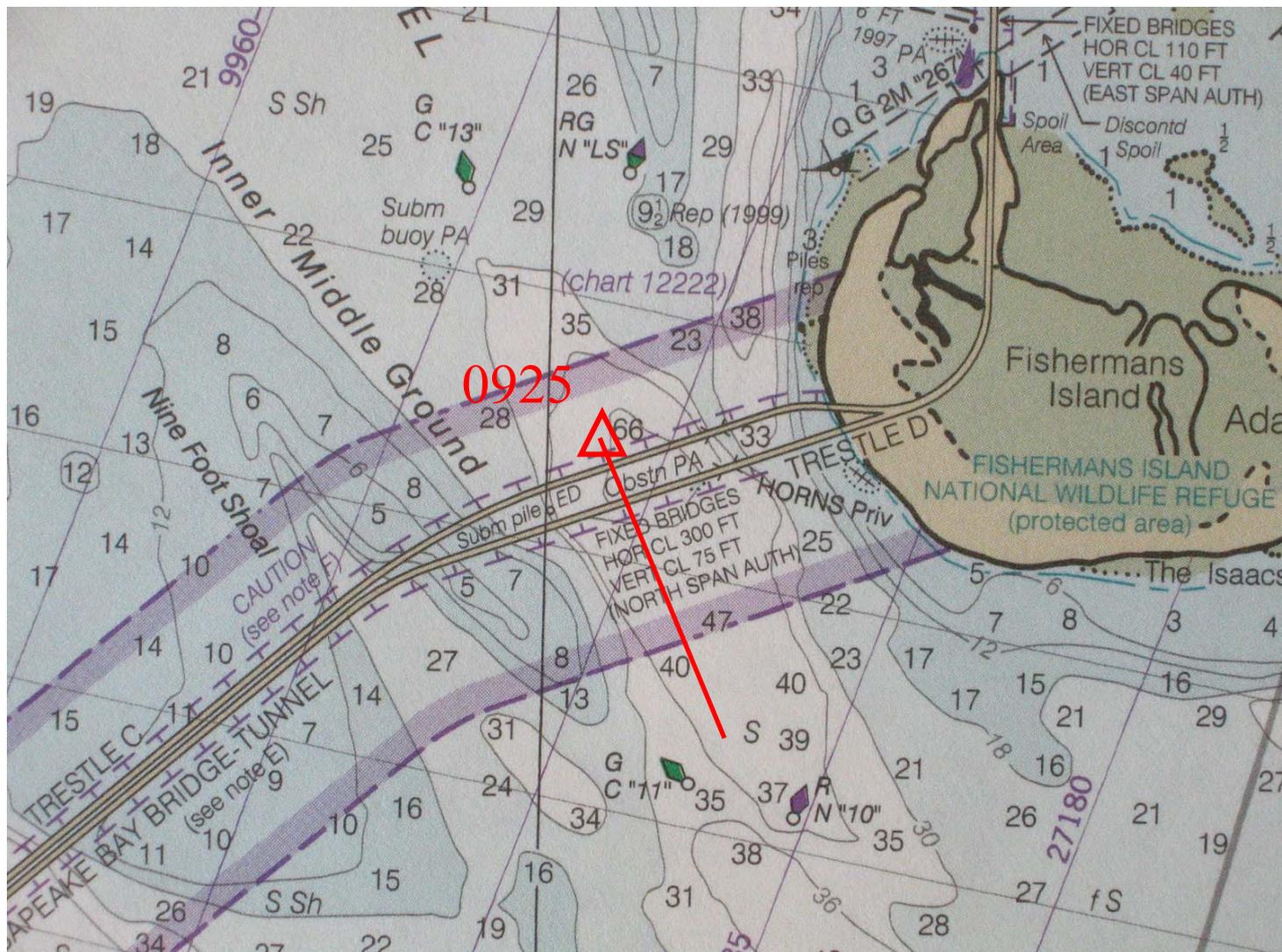


# Which chart to use? 12222?



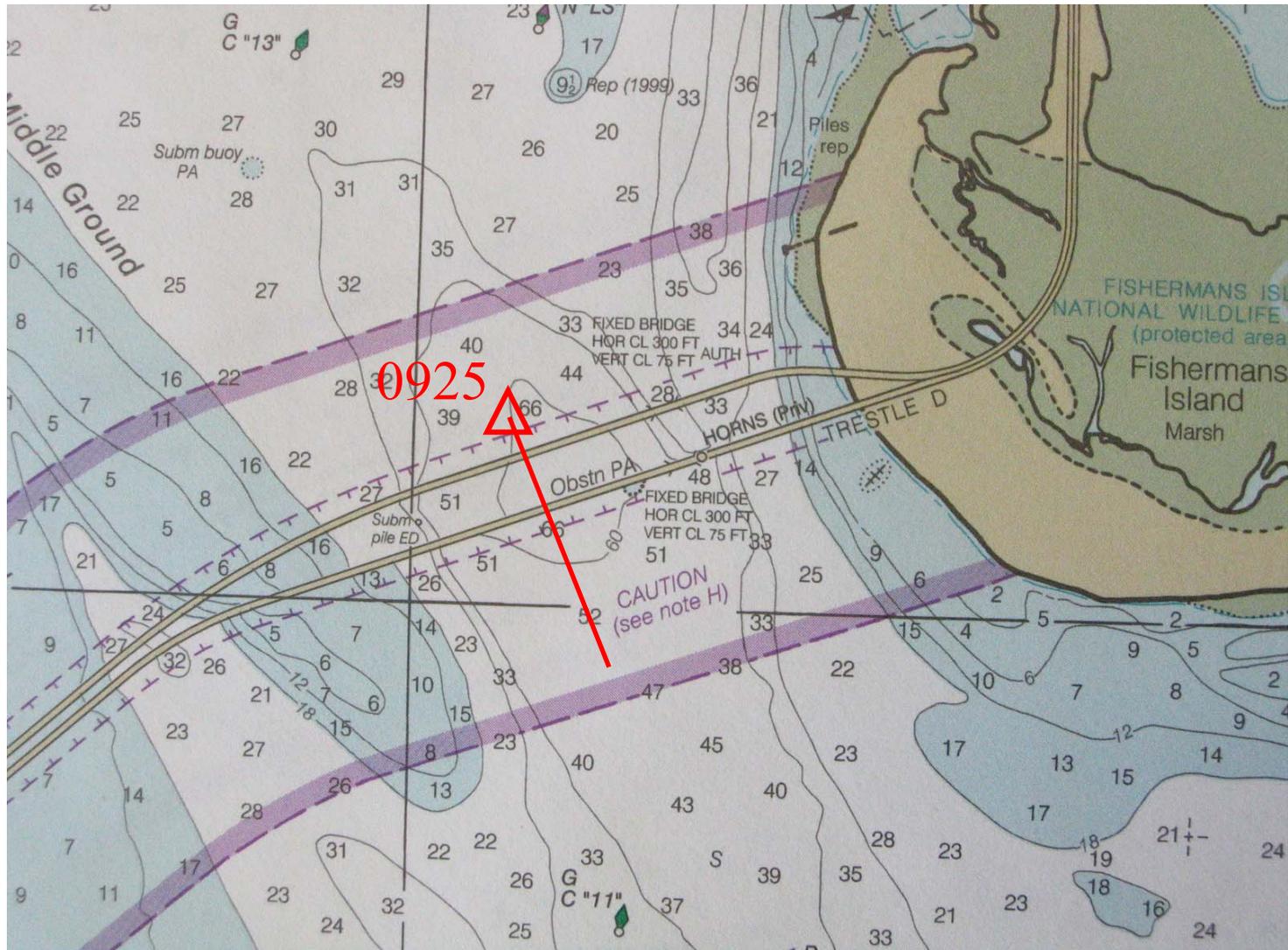


# 12221 plotted





# 12222 plotted





# The Tunnel Houses





# Post Critique...

## Actual Root Causes

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- OIC not setting the right standard
- OIC focused on the wrong set of priorities
- Nav Party not manned when required
- Post mission let down
- Midshipman steering errors

Note:

None of these say “Poor navigation skill on the part of the midshipmen...”

- The flight instructor analogy



# Some Thoughts On Navigation

- Navigate From The Chart Table, But, Don't Remove Topside Supervision
  - Companionway Ladder
  - Russian Roulette Analogy
  - Use the off-watch instructor to teach at the chart table
- Make it easy on yourselves
  - Fathometer and “No-Go” Sounding
- Chart preparation
  - The “Clown Suit”



“No-Go” Sounding



# Make Sure Your Instruments Match The Chart's Datum

---

- Latitude & Longitude... Two scales
  - Degrees, Minutes and Tenths
  - Degrees, Minutes and Seconds
- Sounding Datum & Keel Depth
  - Fathoms, Feet or Meters???
- Compass Rose
  - Piloting charts normally have a magnetic compass rose



} X Feet?



# Make Sure Your Instruments Match The Chart's Datum



- Degrees, Minutes and Tenths/Seconds?
- Courses & Bearings in Degrees Magnetic
- Scan VHF Channels 13, 16 & 82A (9?)
- Fathoms, Feet or Meters?



# A Few Words On Variation & Deviation



A



B

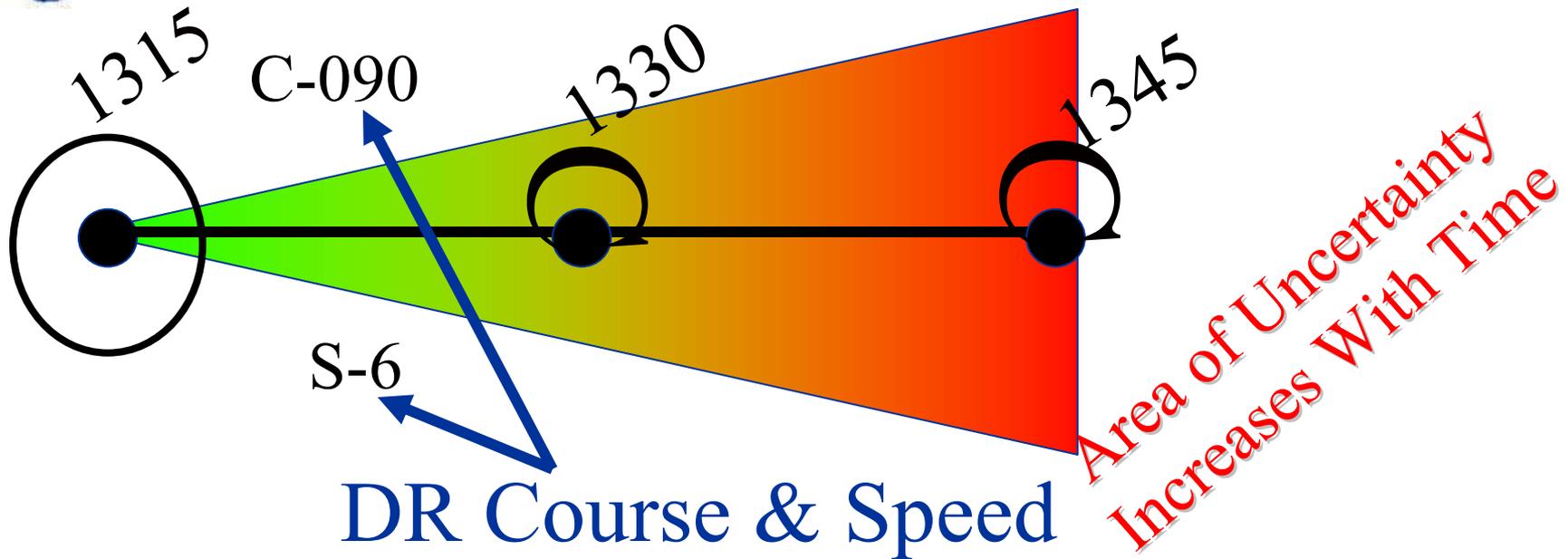


C

- You don't need to account for variation if you use the magnetic ring
- You can assume deviation = 0

$$\underline{A = B = C}$$

# The Fix - The DR – The Sounding



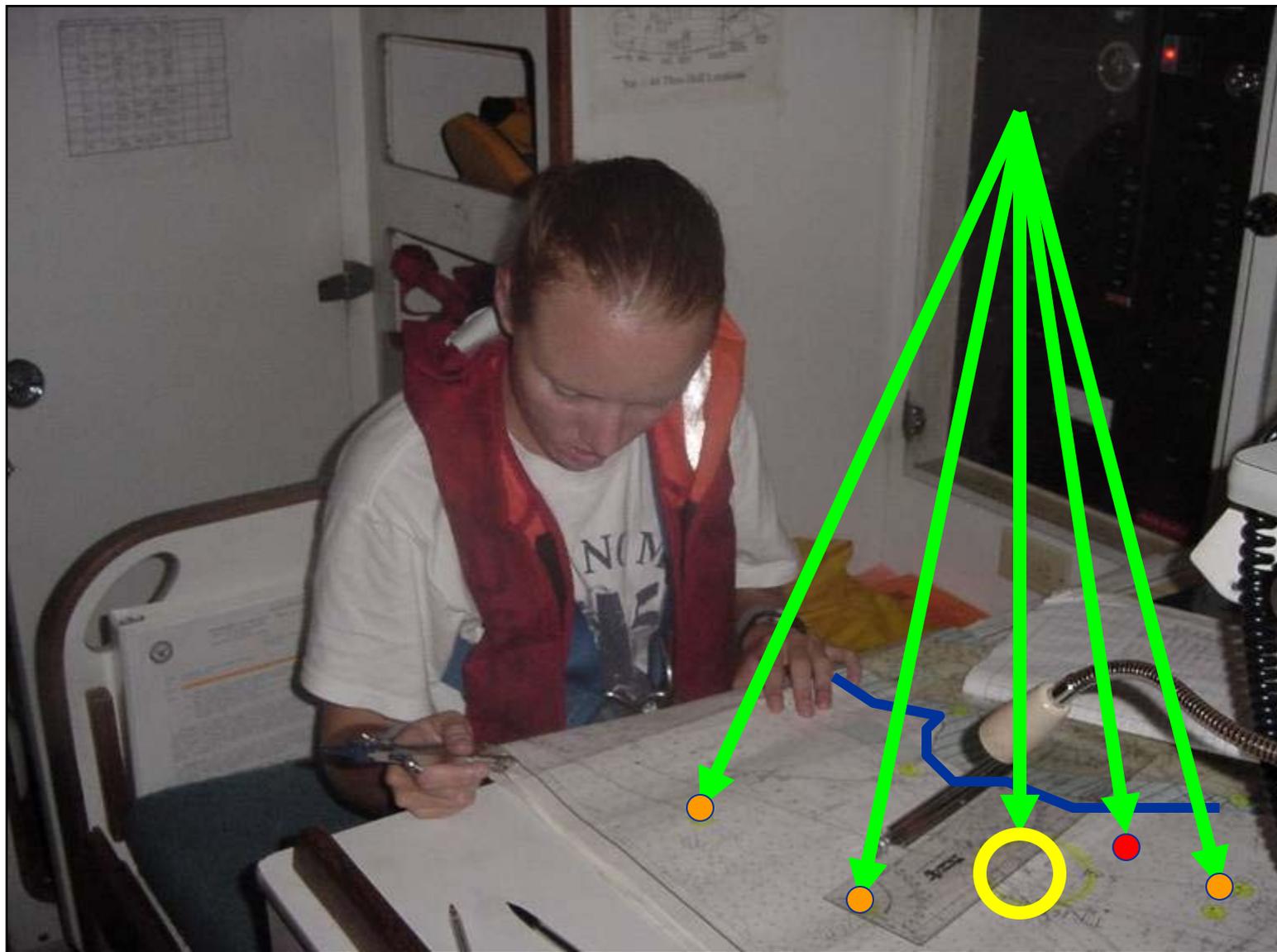
Come From Onboard Instrumentation

**Sounding – Checks With Chart**

**DR**

**Single, Most Important Thing On The Chart!**

# Dressing The Chart In A Clown Suit?





# Dressing The Chart In A Clown Suit? The Chart Prep Checklist...

## Navy Sailing Chart Preparation Checklist Chart Number \_\_\_\_\_

1. Note the chart's sounding datum (X the appropriate box).

Fathoms \_\_\_\_\_ Feet \_\_\_\_\_ Meters \_\_\_\_\_

2. Box the Sounding Datum. Highlight this in Orange and verify that it's visible after the chart is folded for use. If not - annotate it where it can best be seen.

3. Enter the vessel's draft (i.e., 7.5 feet) \_\_\_\_\_

- Use the same units as the chart's sounding datum

4. Round up \_\_\_\_\_

5. Define Your Risk Factor: \_\_\_\_\_

- Knowledgeable Crew/Racing Risk Factor = 1
- Novice Crew/Training Risk Factor = 2 or 3

6. Calculate minimum sounding line as follows:

- Multiply the number from Block 4 by the Risk Factor defined in Block 5

\_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_

(i.e., For a CSNTS Cruise: 8 feet times 2 = 16 ft)

6. Review the chart for actual sounding datum. Choose one based on Block 6 above (if required, round up): \_\_\_\_\_

7. Highlight this sounding line with a dark blue marker. Pay particular attention to the rate of change of depth, and mark the chart accordingly.

8. Visual Nav Aids: Carefully review the chart, and identify visual navaids:

- Circle, highlight in yellow, and label ABC (Where ABC is an easily spoken, unmistakable noun name)

9. Nav hazards: Carefully review the chart, and identify unlighted buoys and other nav hazards.

- Circle, highlight in pink, and label UNLIT ABC/NAVHAZARD ABC.

10. Radar Nav Aids: Carefully review the chart, and identify radar nav aids.

- Triangle, highlight in orange, and label ABC
- Pay particular attention for RACON buoys. These should have a circle and a triangle, and be labeled RACON ABC

11. Track: Draw and label the track.

- The track can be drawn down the center of the deep draft channel to alert the watchsection to the expected location of merchant traffic.

12. Shoal Water: Using the blue line defined in 7 above, slash the shoal water areas in blue, and double slash those areas where soundings won't provide meaningful backup.

13. Fold and label: Fold and label the chart as follows:

- Fold the chart in fourths
- Label the corner with the fold with the chart's noun name in large letters. Immediately above/below list the next chart along the north/southbound track

14. Verify Currency: Immediately prior to use, verify the chart is up to date by querying the NIMA Notice To Mariners Database at:

[http://pollux.nss.nima.mil/untm/untm\\_j\\_options.html?class\\_flag=N](http://pollux.nss.nima.mil/untm/untm_j_options.html?class_flag=N)

Latest Chart Edition \_\_\_\_\_ On-hand Chart Edition \_\_\_\_\_

Latest Notice To Mariners \_\_\_\_\_

CHART UPDATED THROUGH NOTICE TO MARINERS \_\_\_\_\_ / \_\_\_\_\_  
Number Date

Submitted: \_\_\_\_\_ Reviewed: \_\_\_\_\_  
Midshipman Navigator AOIC/Navigator

Approved: \_\_\_\_\_  
Officer In Charge

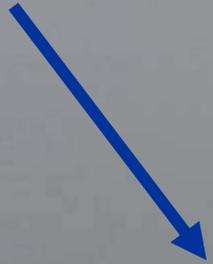


# Outline

- Overarching concepts
- Navigation related incidents
- Contact management and avoidance related incidents
- Weather and sail handling related incidents
- Admiral Burke...



# One of our biggest risks...



Contact Management & Avoidance



# One of our biggest risks...

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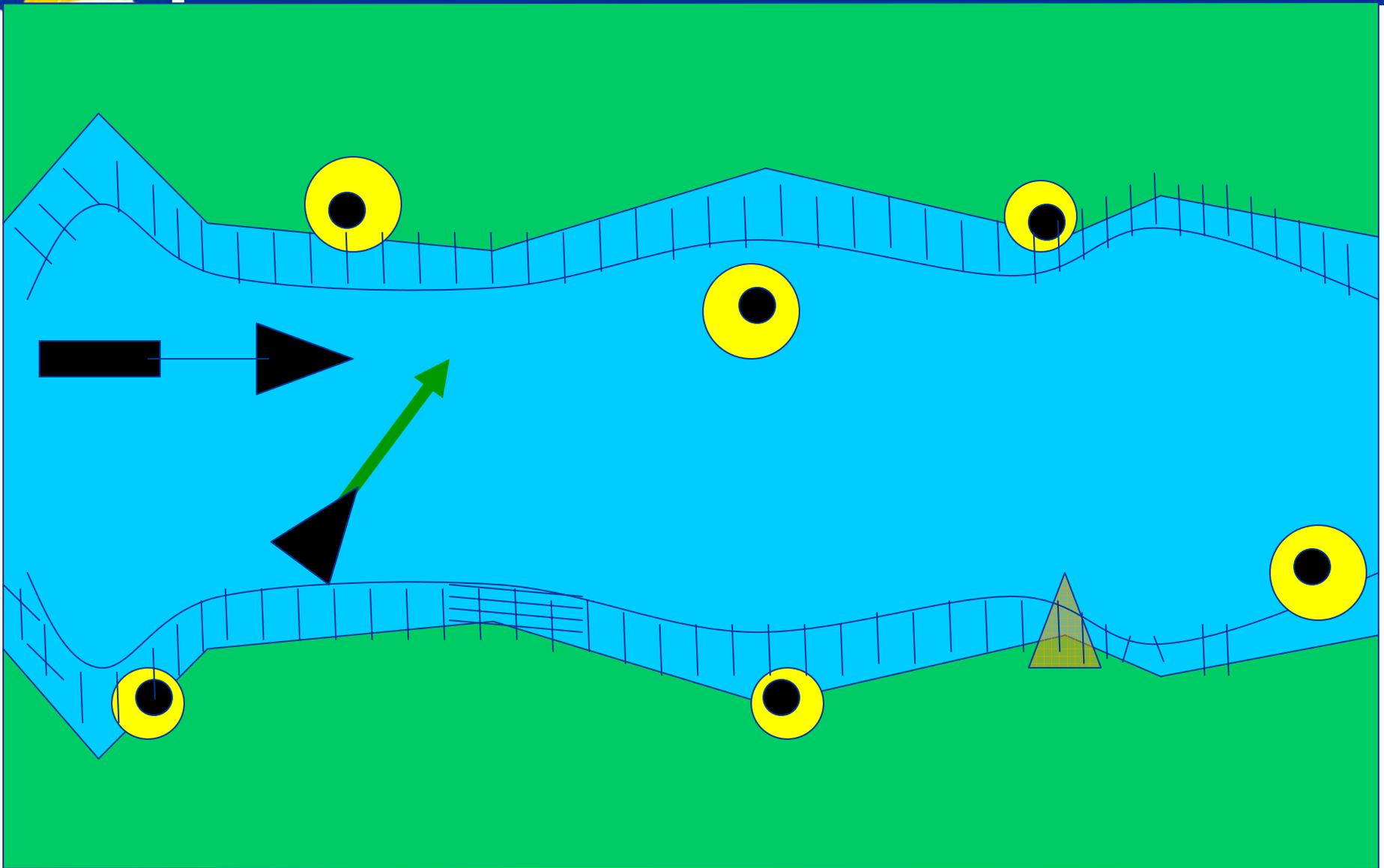


# One of our biggest risks...

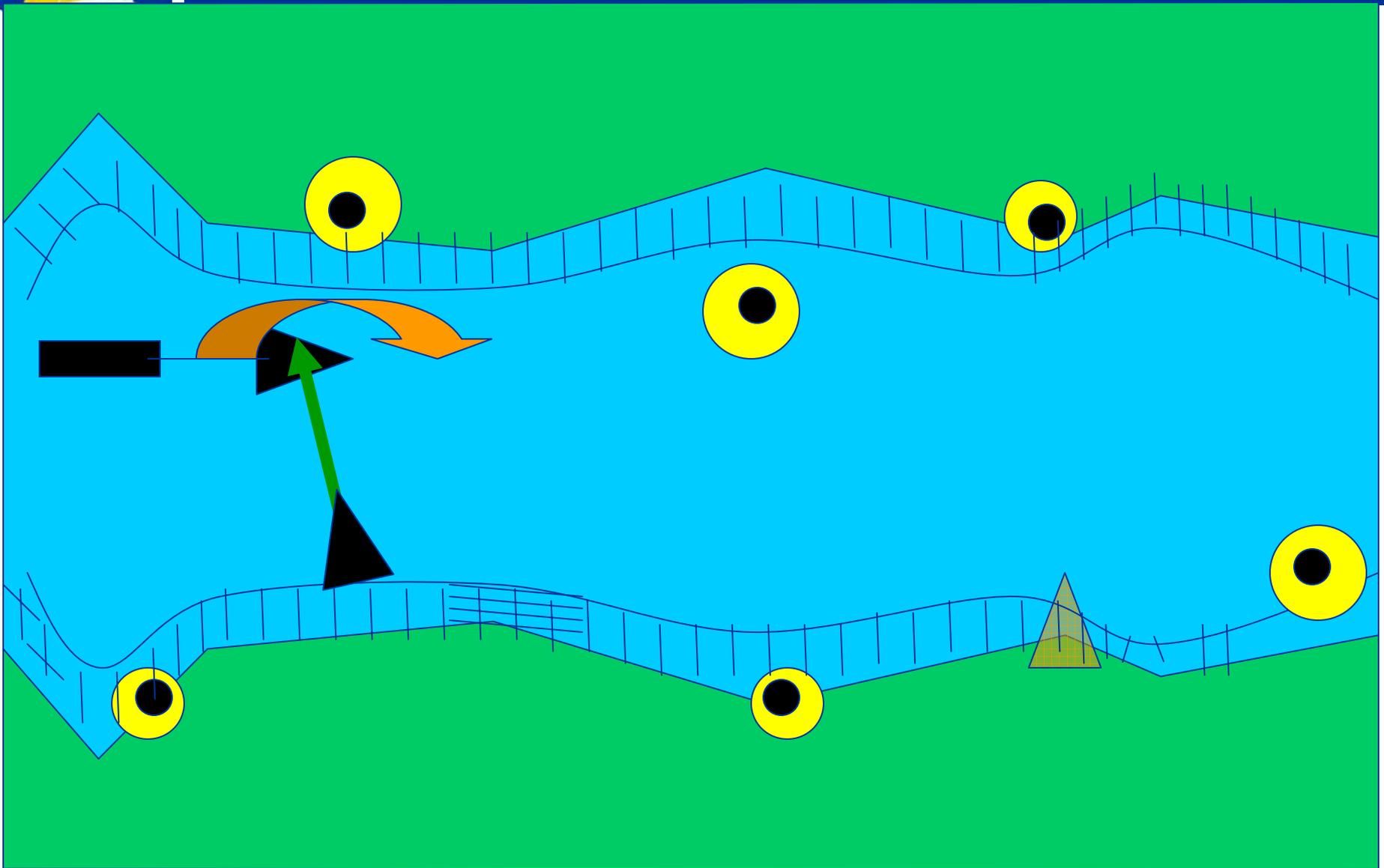
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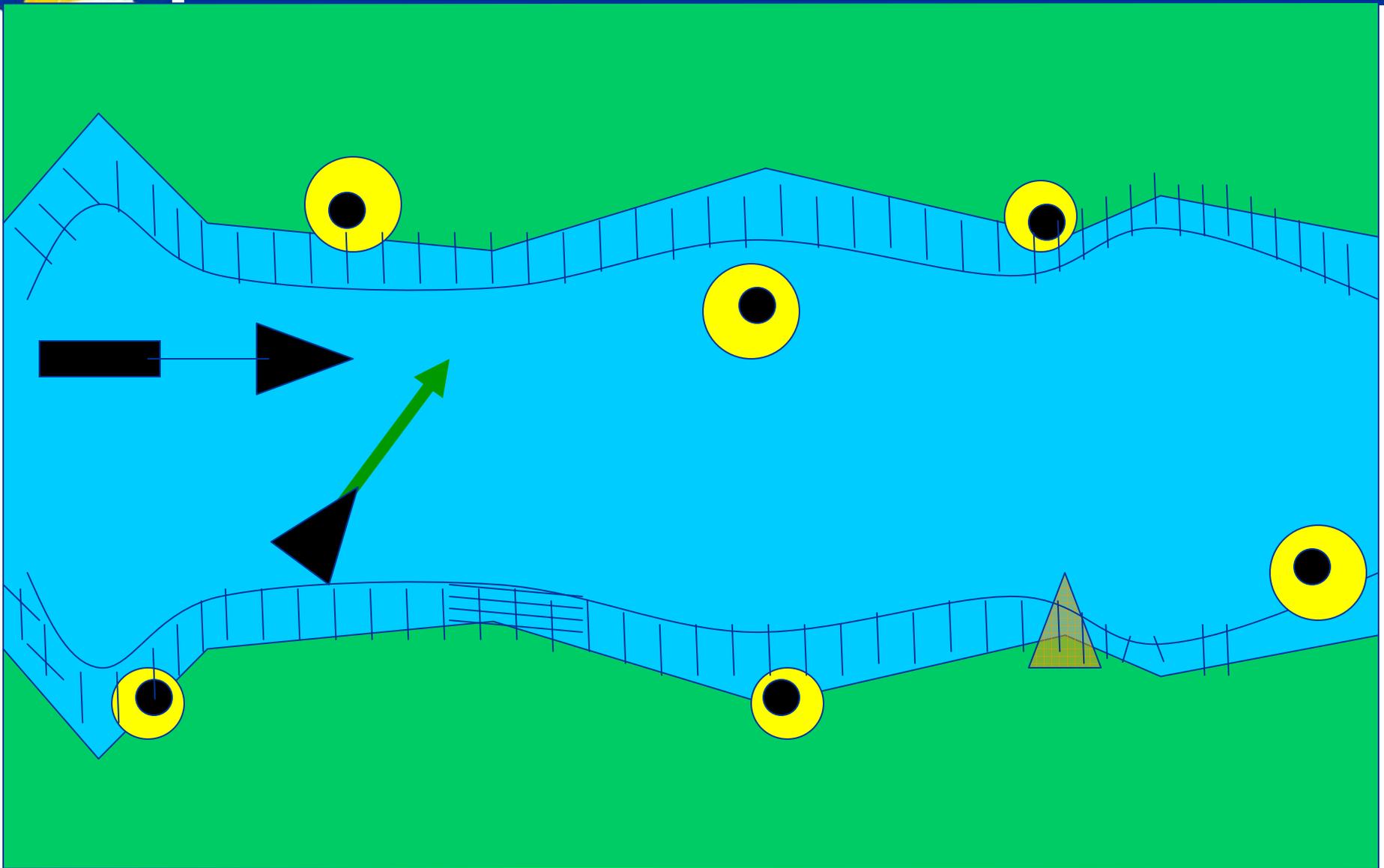
# Near Collision With A Tug



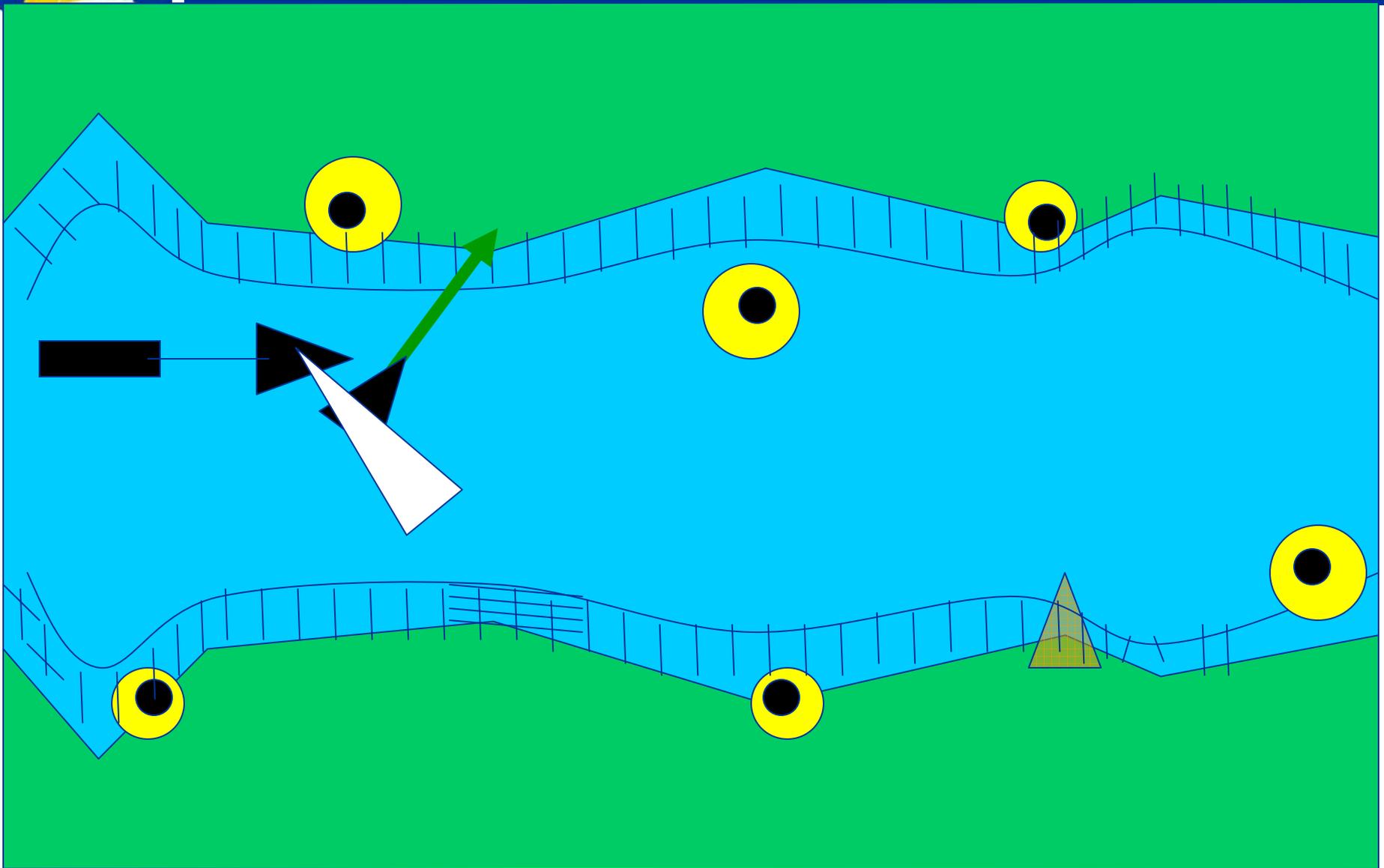
# Near Collision With A Tug



# Near Collision With A Tug



# Near Collision With A Tug





# American Promise







# What channel do you use?

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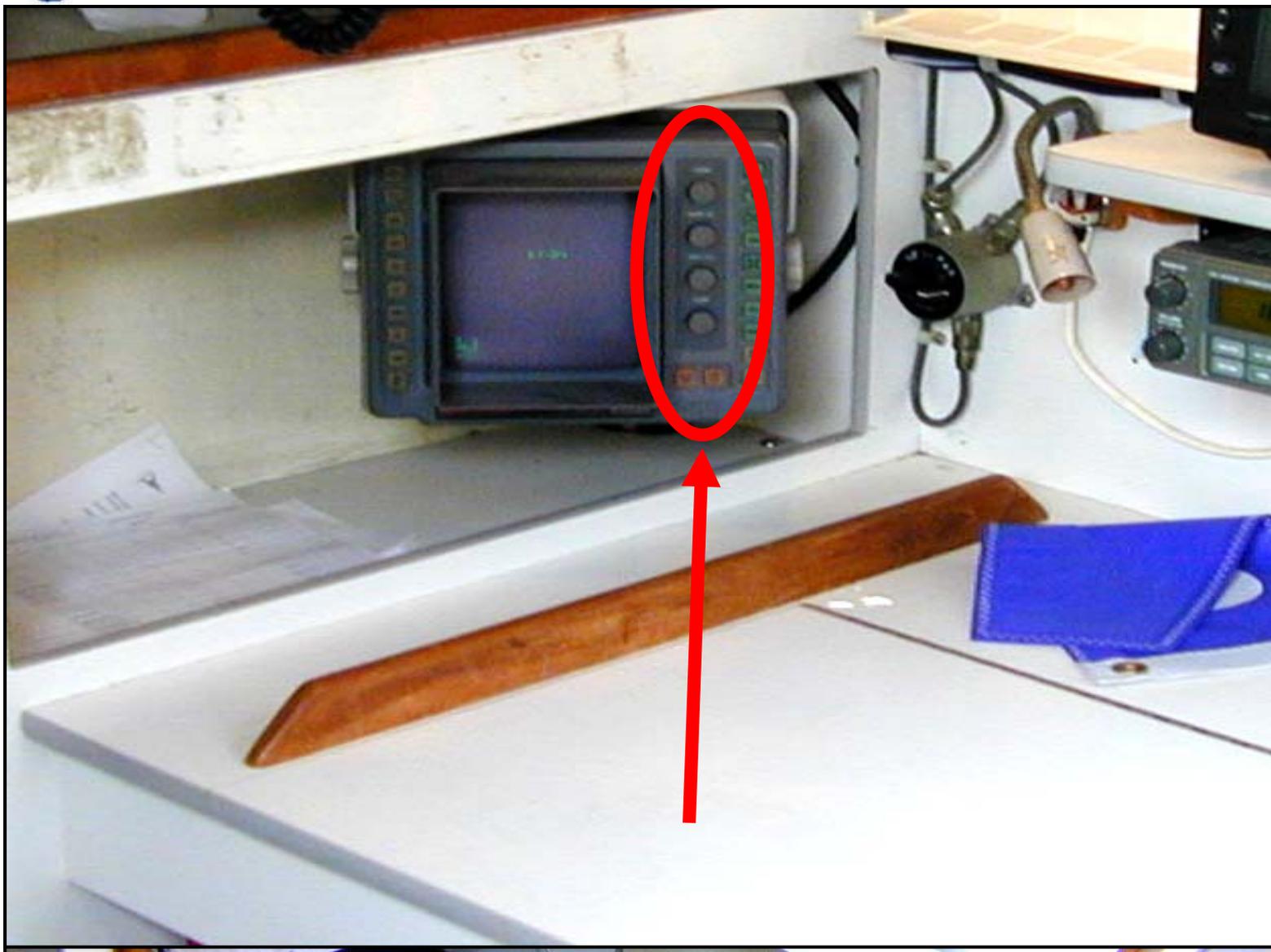
- VHF channels
  - 13 Bridge to bridge
  - 16 International hailing and distress
  - 9 North of Tom's River New Jersey
  - 82A Santee Basin Control
  - 12 YP Basin Control
- How do you hail?
  - Don't affiliate us...

# Protect Your Ability To See Clearly





Memorize the pot settings...





# Outline

- Overarching concepts
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- Admiral Burke...



# Single Biggest Cause of Injury?

## ACCIDENTAL JIBES

- Helmsman steering errors
- Wind shift
- Sea state

May result in Death...





# Accidental Jibes

- Not viewed by some small boat sailors as a “BIG DEAL”
- Some have never experienced a real accidental jibe
- Simply talking about accident statistics, while sobering, doesn't work





# Pop Quiz

- What does a preventer prevent?
- What is this device called?
- How do you rig a preventer?
- What does it mean to be sailing “By the lee”?

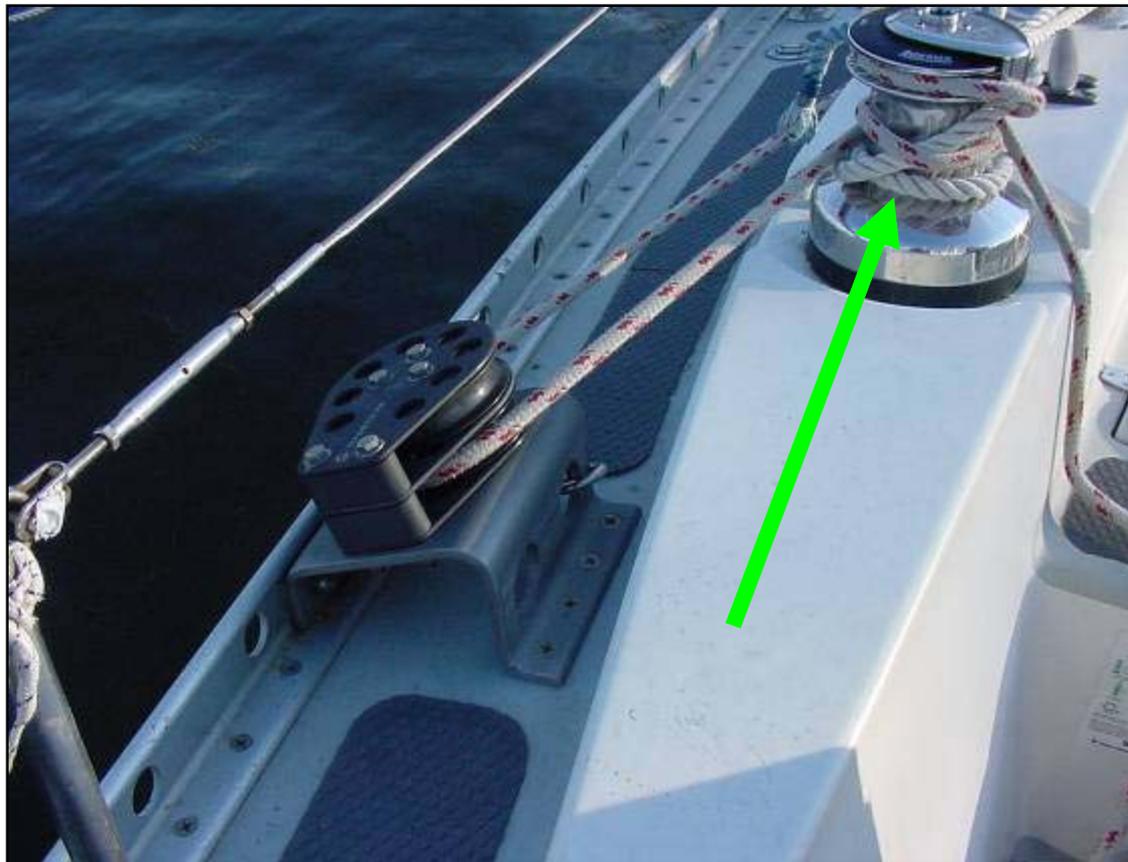
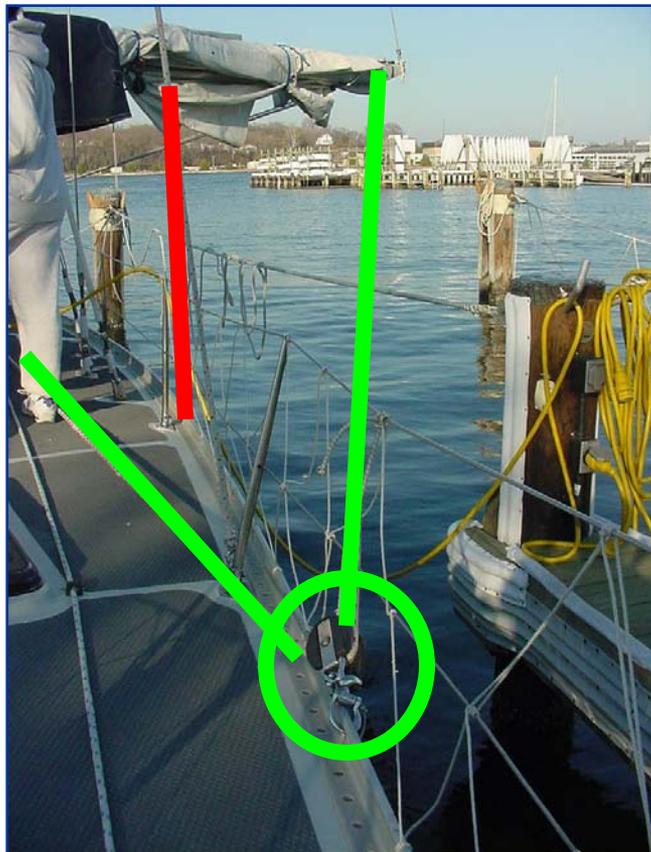


# The Preventer...





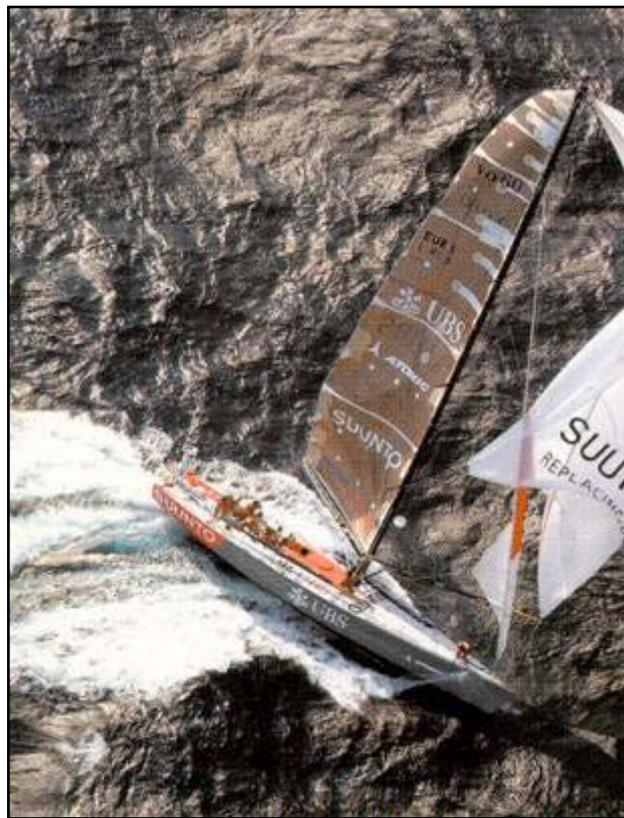
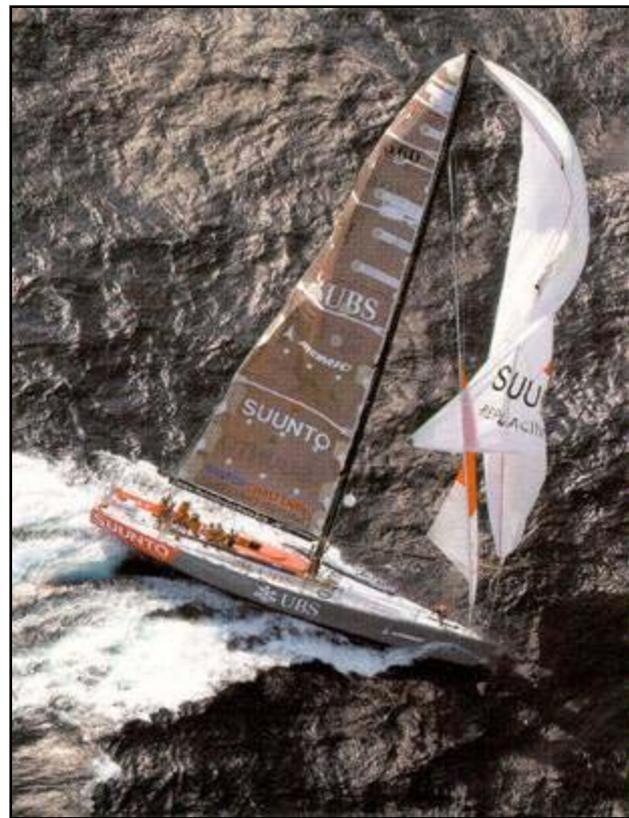
# The Preventer...



- End Boom System
- Turns on the drum, not just taken to the cleat
- Use of shackles?



# Why turns on the winch?





# Why turns on the winch?



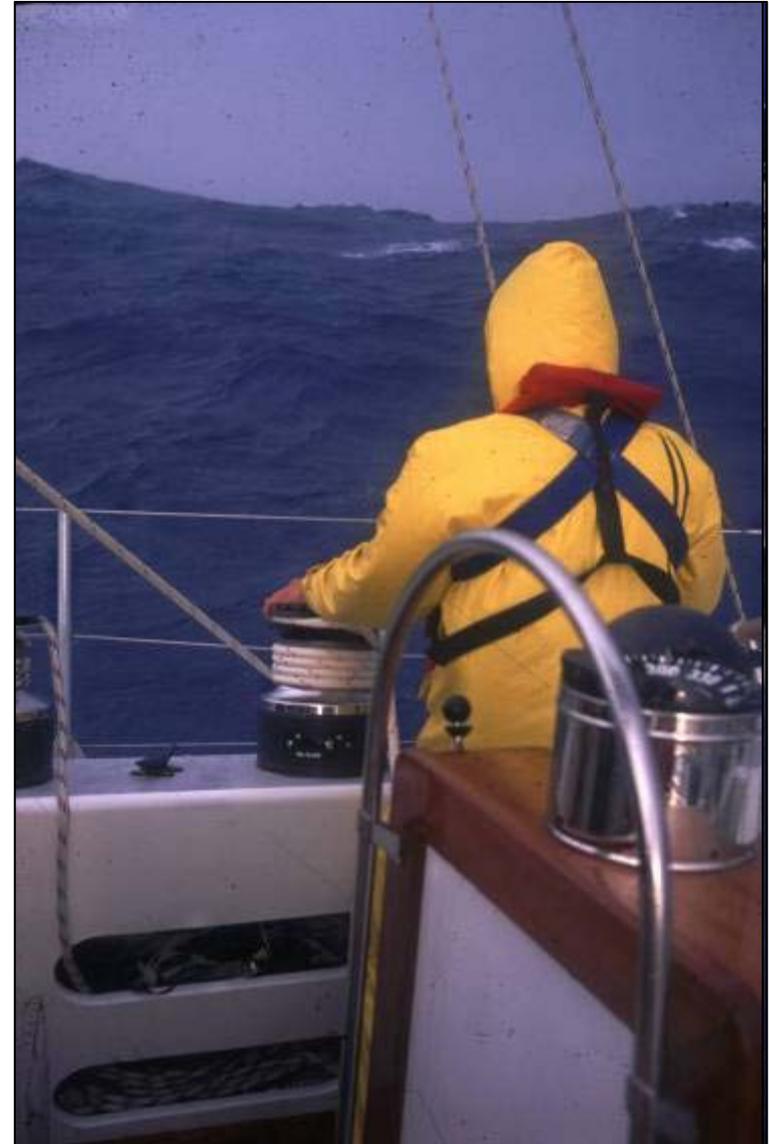
and smashed their way through the ocean wastes from Cape Town  
Preece and Matthew Sheahan report on a hair-raising Leg 2 of the



# 2<sup>nd</sup> Biggest Source of Injury

## SEA SICKNESS

- Tablets don't work
- Pscop patches
  - Be careful
- Most get their sea legs
- Stay hydrated
  - Avoid colas



# The Power Of Staying Hydrated...

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# Sail Damage

Integrate weather forecasting with sail combinations

- Weather Wise
  - Meteorology 101
  - Building daily awareness
  - VHF – Wx Channel
    - Make sure you know what area...
- Integrate Weather Forecasting With Sail Selection
  - Racing techniques for depowering sails work
- Reef, Reef, Reef and \_\_\_\_\_
  - Roller Furling Jibs – They get bigger before they get smaller...





# Is this right?





# Crew Overboard!

## Very Much One's Own Responsibility





# Know and Use The Quick Stop!

## Quick Stop

1. Shout “man overboard” and assign a spotter.
2. Provide immediate flotation.
3. Bring boat head-to-wind and beyond.
4. Allow headsail to back and further slow the boat.
5. Keep turning until wind is abaft the beam.
6. Head on beam-to-broad reach for 2 or 3 lengths then, go nearly dead downwind.
7. Drop the headsail while keeping the mainsail centred.
8. Hold downward course until victim is abaft the beam.
9. Gybe.
10. Approach victim (Course 45 to 60 degrees off wind).
11. Establish contact with the victim.

## Quickstop Under Spinnaker

1. The same procedure is used to accommodate a spinnaker.

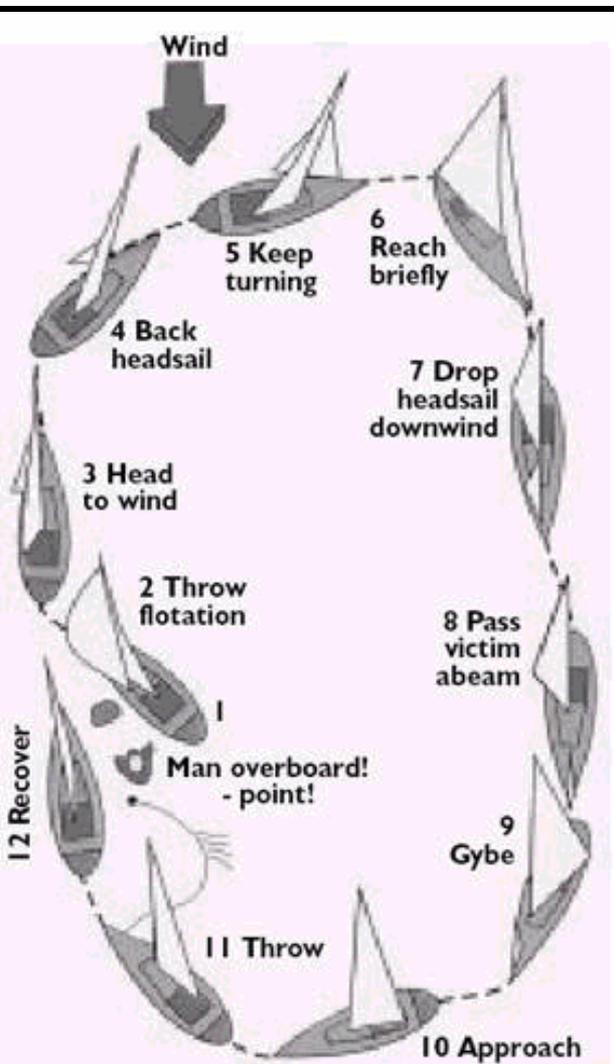


Figure 1: Twelve steps to a quick man-overboard recovery.



*Questions?*