

# *View from the Other End of the Towline & Hoist Cable*



Safety at Sea  
Seminar  
Annapolis, MD

31 March 2012

Captain Kip Louttit  
U.S. Coast Guard  
Retired &  
USCG Auxiliary



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# Agenda

- Background on me
- Coast Guard overview
- Preparation...avoid trouble
- Self-rescue
- Outside Rescue
  - Surface, Air & Medical
- Equipment...
  - Signaling, VHF-FM, EPIRBs/PLBs, & PFDs
- Summary



*Air Mail Fall Race Annapolis to Baltimore 2002*



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# Me...mix of Sailing & Coast Guard

- 1967 parents bought 1<sup>st</sup> boat
  - Cruised Annapolis to Cape Cod
- 1975-1979 USCG Academy Cadet
  - 44' Luders Yawls & 42' 2 Tonner *Nike*
    - 1978 Newport to Bermuda race...  
Watch Captain & won Destroyer Trophy
- 1979-2009 USCG: 10 years at sea, 6 ships, 3 commands
  - Atlantic: Canada & Bermuda to Caribbean & Transatlantic
  - Pacific: Panama & Hawaii to Midway & Alaska
  - Cutters of 82', 110', 270' & 378 feet
    - Crews of 10-160 people with helo on 270s & 378s
- Major races:
  - Vineyard & Block Is. Races                      San Diego to Ensenada                      2 Newport to Bermuda
  - 3 Annapolis to Newport                              Multiple Gov Cup, Solomons, Hampton races, etc
  - 4 Annapolis to Bermuda: 2002 3<sup>rd</sup> in class      2006 1<sup>st</sup> in class & won Navigator's trophy
  - Great South Bay Long Island 4<sup>th</sup> July/Labor Day Series 2010 & 2011... 1<sup>st</sup> in class



My 270' ship at NYC Fleet Week



2006 Annapolis/Bermuda



**Takeaway... I'm one of the few CG members who sails!**  
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# Coast Guard Missions by \$\$s 2012

1. Ports, Waterways & Coastal Security (22%) *(2% pre-9/11)*
2. Aids to Navigation (18%)
3. Drug Interdiction (12%)
4. Search and Rescue (12%) (on demand...we'll always go!)
5. Living Marine Resources (10%)
6. Migrant Interdiction (8%)
7. Marine Safety (8%)
8. Defense Readiness (5%)
9. Marine Environmental Protection (3%)
10. Ice Operations (1%)
11. Other Law Enforcement (eg: Boating under the influence) (1%)

*Maritime,  
Multi-Mission,  
Military*



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# On an average day in 2011, the CG...

- Saves 12 lives and \$433,000 property, and assists 68 people in distress
- Responds to 64 search and rescue cases
- Seizes over 1,000 pounds of illegal drugs (\$12.9M value)
- Interdicts 17 migrants at sea
- Services 116 buoys and fixes 24 aids to navigation discrepancies
- Screens 720 commercial vessels and 183,000 crewmembers and passengers
- Issues 173 licenses and credentials to U.S. merchant mariners
- Investigates 13 marine accidents
- Inspects 29 vessels for compliance with air emission standards
- Performs 28 safety and environmental examinations of foreign vessels
- Boards 13 fishing boats to ensure compliance with fisheries laws
- Responds to and investigates 10 pollution incidents



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# CG Mindset

- Unlimited Electrical Power.
- Many radios, all running all the time.
- Enclosed boats, ships & aircraft w/ heat & air conditioning.
- While some CG members have speedboats, very few sail.
- Sailboats are so confusing...going every which-way.
- Pleasure boats *all* cut too close.
- Any vessel without the right lights *or doesn't answer the radio* right away must be doing something illegal.
- Go sailing? Why would anyone want to do that? It's hot, cold, wet, slow, and uncomfortable.



45' Response Boat Medium



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# New Drug Threat...Self-Propelled Semi-Submersibles



37 bales of cocaine worth \$187m

- SPSS...
  - No or low radar return & no lights
- Fiberglass sailboat with carbon-fiber mast & running light obscured by the genoa or bow wave...
  - No or low radar return and no lights!
- Therefore...Keep the lights and radio **on!**



Seizure, Pacific Ocean, Sep 2008, CG boarding from USS McInerney



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# The CG tries to Balance Safety, Security & Law Enforcement with your Sailing Pleasure



1. Keep clear of the big guys.
2. Have radio on 16/13
3. Cooperate if we want to board
4. All CG boats & people are armed, just like police officers



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# In a post-9/11 USA, what you can do...

- Participate in *America's Waterway Watch*
  - Report anything suspicious
  - You know what is normal & not normal in your area
  - Call CG National Response Center, Washington, DC
  - **1-800-424-8802 or 1-877-24WATCH**
  - **www.AmericasWaterwayWatch.org**
- Dial 911 for Immediate Danger to Life or Property
- Or call the CG by radio.



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# Safety at Sea...Overarching Themes

1. Best option is to avoid trouble
2. Next best option is self-rescue
3. Final option is to need outside assistance
  - Call early if having trouble or need assistance
  - Don't wait until the water is over the floorboards and the batteries die

## *Cascading Casualties*



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# Remember “P” !!!

- “Preparation Equals Performance”

- Admiral James Loy, Commandant of the USCG thru 9/11

- The 6 Ps:

- Prior Planning Prevents Piss Poor Performance

- *And if you remember nothing else...*

- #1: Position *Position* POSITION!!!

- #2: PFDs *PFDs* PFDs!!!



Next time you are sailing along at a good speed in the middle of the night with no moon and salt spray on your glasses, consider that there are now 58 more 40' containers floating around in the Atlantic.



4 Feb 2008  
*M/V Horncliff*  
Arriving in England

Jan 2010  
30 lost off Key West

Nov 2010  
26 lost in Bay of Biscay

Mar 2011  
31 lost in typhoon off  
Australia

Jan 2012  
29 lost in Gulf of Alaska

*What is your collision & flooding plan?*



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# M/V *Selkirk Settler* November 2006, Lake Superior



A nasty day with boarding seas...



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# Same laker a few minutes later...



Consider...

1. Even the best lookouts won't be able to see well.
2. Even the best radars don't work well in heavy rain & seas.

3. Can your hatches, ports & vents keep solid water out?

*"Preparation Equals Performance" & safe passage.*



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# Best option: Avoid trouble

- Good crew, boat & equipment
- Good crew trained on boat & equipment
- Practice:
  - Sailing, Racing, Cooking, Sleeping & Living on the boat
  - Handling the boat...docking, anchoring, navigating, communicating, tacking, gybing, changing sails, reefing, etc
  - Handling the unexpected, the unusual & emergencies
  - Under controlled conditions, day/night & heavy weather
  - Using emergency gear



*Air Mail* spinnaker reach offshore...Annapolis-Newport Race 2005



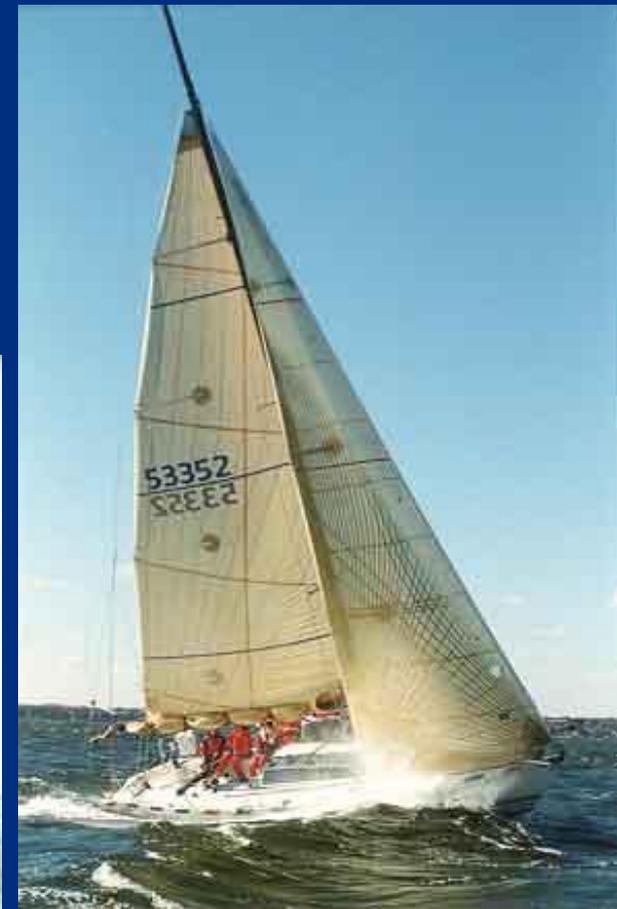
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# Before going offshore, practice inshore in heavy weather



*“What winch does the reef line go to?”*

Can you do this at night?

Can you do this, navigate & change watches at night?



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# Next best option is self-rescue

- Blown out sail or broken running rigging
- Broken standing rigging, mast, boom, or spinnaker pole
- Loss of engine, navigation, or communications system
- Person overboard
  - Wearing Life Jacket (PFD) or not
  - Kite up or not, day / night, good weather / bad weather, # POB
- Loss of Steering      Tiller ... Wheel ... Rudder (gone vs. damaged)
- Fire...      Small/Large ... Controllable / Uncontrollable
- Flooding      Minor Leak ... Uncontrollable ... Can't find source
- Medical      Minor, Major, First aid or Life Threatening; Sea Sickness
- Grounding      Soft...Hard...Inconvenient...Life Threatening (eg: surf)



# Case Study: Self-Rescue Annapolis/Bermuda Race 2008



*Air Mail*

Great race for  
400 miles...



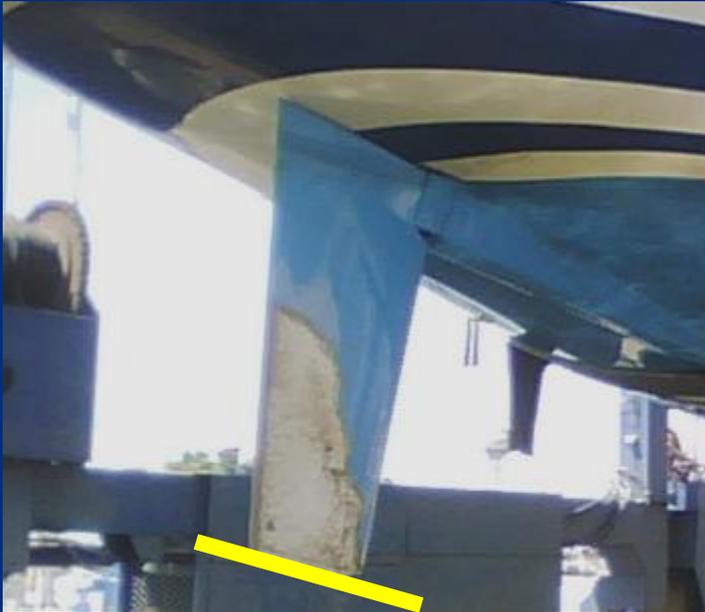
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# Then we lost control...



- Wild ride for a few minutes while we shortened sail
- Found a course we had control... North toward Montauk
- Looked over-the-side...bottom 3 ft of rudder gone and sides delaminated
- Called CG Atlantic Area Command Center, Portsmouth, VA by Sat. Phone
- CG put us on a 4 hr then 12 hr check-in schedule...position, course, speed, weather, ops normal
- Sailed home under #4 jib & reefed main
- “Preparation Equals Performance”
- Self-rescue worked



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# Last option is to need outside assistance

- Leave a **float plan** with someone ashore
- **Call early** if you are having trouble or need assistance!
  - We can put you on a communications schedule.
- Search and Rescue Checklist
  - 1. POSITION *POSITION* **POSITION**
  - 2. Number of people on board
  - 3. Nature of Distress
  - 4. Description of Vessel (name, length, type, make, color)
  - 5. **Put life jackets (PFDs)**
  - Rest of checklist...
    - Question: Why do we ask all of the questions?
    - Answer: Because we can do detective work and do a better rescue, particularly if we lose communications.



HC-130 Hercules



# The big 6 that get you in trouble...

1. Cold

2. Wet

3. Tired

4. Hungry

5. Scared

6. Seasick



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# Case Study: Outside Assistance Big 6 & Cascading Casualties...

- June 1991
- Pearson 34
- 2 Couples from Philadelphia ... 3 sailors ... 1 non-sailor
- 2 Week vacation
- Plan: Cape May to Block Island in 1 leg; multiple stop return
- Weather: Departed Cape May into Nor'Easter
- 24 Hours Later... "Mayday Mayday Mayday... We've blown out our sails, the engine won't start, and we're sinking!"



# The Cascade...

- $\frac{3}{4}$  crew sick...only one not sick was the non-sailor.
- No one made rounds below and checked bilge
- No one ate or slept
- Reefed Main...Improperly
  - Reef points tighter than clew...ripped out the reef points
- Tried to start engine...wouldn't start
- Looked at engine and found water in bilge...we're sinking!
- "Mayday Mayday Mayday"



# Initial CG actions

- CGC HARRIET LANE (270' w/ 100 crew)
- Sent over a machinery technician and electrician
- Found a cockpit drain hose had come off, which let cockpit water pour on the engine
- A little magic with spray electrical drier and engine start spray...
- Engine started...
- “OK skipper, no more flooding, we fixed the hose, we pumped the bilge, the engine is running, we furled your sail, your electronics work...she’s all yours...”
- *“PLEASE, TAKE US TO SHORE...”*



# Final CG actions & Impact of *Big 6*...

- CG Options...(1) Tow her or (2) we crew her
- We chose #2...I was XO (LCDR) & went over with an Ensign
- Sent all 4 to bed with water/crackers.
- Put *Jimmy Buffet* on stereo.
- Double reefed main (above rip) & unrolled the jib.
- 7 knots on a reach toward Long Island
- ***6-8 hrs later the crew came alive...***
- We were relieved by CG small boat from Shinnecock.
- ***Guard against cold, wet, tired, hungry, scared & sick.***



# Outside Assistance

## 1. Surface:

- Bays and Ocean to 20 miles...small boats
- 20-100 miles offshore...small cutters
- >100 miles...large CG cutters, Navy & AMVER

## 2. Air:

### ■ **Helicopters:**

- Short Range H-65s out to 100 mi (orange color)
- Medium Range H-60s out to 200+ mi (white color) & Navy/Other DOD
- Lily-pad ops from CG & Navy flight decks & Bermuda

### ■ **Fixed Wing:**

- Medium range HU-25 Jets & HC-144 Turboprops
- Long range 4 engine HC-130s & Navy/Other DOD



NSC, HC-144 & H-65



## 3. Medical advice by radio or phone (Medico)...Flight Surgeons



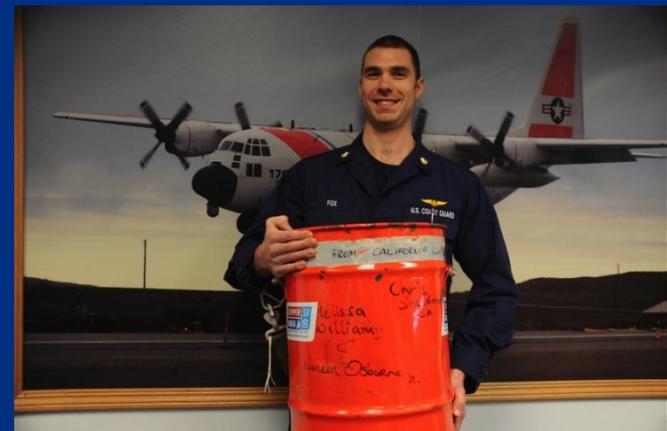
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# Air Drops

Rafts, radios, pumps, food, water, Paramedics with medical gear, etc.

120 GPM Drop Pump and waterproof, floating canister



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# AMVER:

## Automated Mutual Assistance Vessel Rescue System



- Worldwide Volunteer Network of Merchant Ships
- Computer tracking system in Martinsburg, WV
- May stand-by or take you off
- You go where they go!
- Good Samaritans

•South Korean flagged M/V *Auto Baner* rescued Mr. Leo Sherman after his sailboat capsized 180 miles South of Madagascar 22 Jan 2009.

•CG presenting M/V *Auto Baner's* master with *Thank-you* flag.



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# Sailing Vessel *Reina Del Sol* 200 miles South of Halifax, Canada, Nov 2008

- Lost Rudder
- Called USCG Atlantic Area Command Center, Portsmouth, VA
- CG diverted a U.S. Navy DDG-51 class Destroyer, who stood by
- CGC SPENCER embarked both crewmembers and took s/v in tow
- Canadian CG Vessel relieved SPENCER, who took both crewmembers aboard and towed s/v to Halifax



*You may be  
assisted by  
multiple assets.*

*Be flexible &  
patient.*



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## Being Towed sequence:



S/V Saorsa in tow to Bermuda  
CGC HARRIET LANE, Oct 1991  
following "The Perfect Storm"

- Put on Life Jackets
- May circle to evaluate tow point(s) & seaworthiness
- May send people to help w/ hookup
- Heaving line or Line Throwing Gun
- Perhaps a light messenger line before towline
- Single pennant, double bridle, or snap shackle to trailer eye
- Perhaps a fender float
- Towline
- Install Chafing Gear
- Tow watch...VHF-FM "ops normal"
- Stay in cockpit & keep life jackets on while in tow



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# Passing the Towline by Heaving Line



PFD

Heaving Line

Towline



In tow with Double Bridle

Orange fender float

2 disabled S/Vs...  
enroute Hawaii and in  
Caribbean



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# Fishing Vessel *Lady of Grace*, Nov 1997 Gulf Stream North Wall, 75 mi South of Cape Cod



Passing towline line fm CGC SPENCER, rolling up to 55 degrees in 20' seas.

We are nervous in this position...limited maneuverability with line in the water, and we fear putting the line in our props or around your keel/rudder/prop.

Therefore...pull hard, hook up fast, and wear your PFDs!



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# Helo Rescue

- 100+ knots of wind from the rotor wash
- Be ready when we get to you
- Clear your deck of clutter if possible
  - Makes it easier for helo
  - Coolers, cushions, flags, flag-halyards, dodgers, etc.
  - Increases the chance you won't have to go into the water
- If you can make way under power, wind 30 degrees off your port bow (330 relative) works best for the helo.
- Helos see your mast & antennas as spears...you need to be ready to go into the water and be hoisted from the water.
- *Listen to the helo, and listen to the swimmer...*



H-60 Jayhawk

*...because you won't be able to hear once the helo is overhead!*



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# Helo Rescue Options



1. Basket
2. Litter
3. Direct Deploy Double Lift



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# A Rescue Swimmer may deploy to help you



Note rotor wash &  
spray.

Get in and sit...  
CG will do the rest.



Keep your arms in



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# Your view:



1. Rope trail line may be lowered first
- 2. Trail line won't shock you**
3. Use trail line to pull device to you



# Hoisting Safety

1. Don't touch the rescue device until it touches & grounds on your boat or you will get a mild shock from static electricity caused by helo's rotor.
2. Once grounded, holding the hoist cable to keep it from fouling is good.



3. Don't foul or tie off the trail line or hoist cable. *The helo will cut it & that could be the end of the rescue.*
4. Don't unhook anything.
5. Keep trail line neat. 



*Hand signals are good;  
thumbs up, OK, etc.*



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Classic Hoisting Configuration:  
Wind off your port bow.  
Helo head to wind.



Trail Line



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# Inside an airborne HH-65 with MEDEVAC Patients



H-65 Short Range Helo offloading  
MEDEVAC patient to  
Los Angeles County Fire Dept

2 Pilots up front

Hoist Operator and Rescue Swimmer in  
back...EMT Trained

Flight surgeon or paramedic if required



2 Stokes Litter Patients ... Diving accident & internal bleeding



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Depending on the nature of your injuries, weather & availability of rescue assets, you may be taken off by surface vessel

Medical Evacuation of 51 year old male by large cutter & its small boat

CGC ESCANABA  
18 August 2009



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# Case Study: Mr. John Young in water

Great Lakes



*Mr. John Young, one of two survivors, was in the water for a remarkable 31 hours before being rescued. With him is Rescue Swimmer, AST3 Shaun Legas from Coast Guard Air Station Traverse City, who helped recover Mr. Young, U.S. Coast Guard Photo*

31 hours in water

Wearing blue and grey

CG flew over him at night  
on night vision goggles,  
but he had  
*no illumination.*

*You must be  
seen to be  
rescued.*



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# Signaling...

- Mirrors work GREAT in sunny weather!
- Flashlight, waved frantically & pointed at the rescuer, can be better than a steadily beating strobe light.
- Whistles can be heard much further than yelling.
- Flares must be perfectly timed.
- CG aircraft now have Forward Looking Infra Red (FLIR)
  - Anything that makes heat can be seen by FLIR (you/engine/stove), night or day.
- CG Night Vision Goggles
  - Can see virtually any light
  - Cigarette at 2-3 mi



**Beware sparks  
& slag**



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# Chem Lights & Retro Tape

- Chem Lights:

- *Myth:* Night vision goggles can't see green chem lites
- *Truth:* CG NVGs can see any light of any color
- No maintenance & long-lasting
- Emergency light if power loss (eg: compass light)

- Retro tape:

- No maintenance & long lasting
- It's always there
- Works amazingly well



Thunderstorm returning from Bermuda, 2008



# Can you see me?



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# How about now?



The  
SEE/RESCUE®  
Streamer  
25' & 40' long

Orange smoke  
flare would be  
similar but  
doesn't last as  
long



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For all of you who are going to call the  
Coast Guard by with satellite or cell phones,  
here is the ##...

757-398-6700

USCG Atlantic Area  
Command Center,  
Portsmouth, VA



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**406 MHz EPIRBs/PLBs:** Transmit signal to satellites, which alerts rescue forces, worldwide.



H-60 helo hovering over *Paradox*  
Classic Tactic...fixed wing up high & helo down low

FLIR pictures

150nm Southwest of St. Pete, FL

C-130 at 10,000 ft... DF locked on at 15 miles

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# PFDs/Life Jackets

“But Captain, I look really silly standing on deck in a life jacket.”

My answer: “Seaman \_\_\_\_\_, you will look a lot sillier floating in the ocean without one.”



- Personal decision, mandated by skipper, or race rules
- Consider day / night / offshore / seas / wind / # POB



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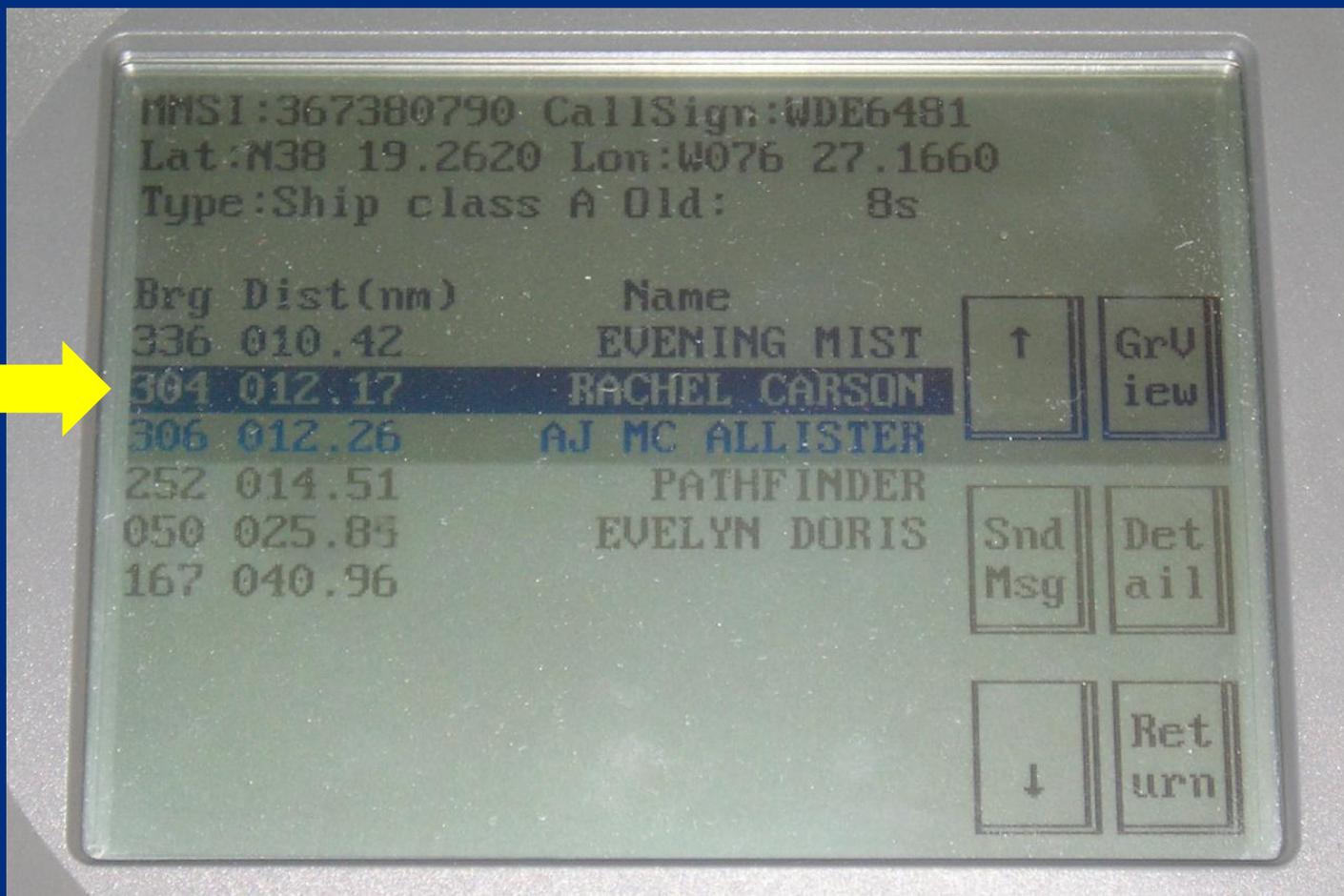
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# Automatic Identification System (AIS)

Wonderful & emerging tool

Send and receive, or receive only



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# Personal input from VADM Rob Parker, Commander, USCG Atlantic Area

- ◆ It's counter-intuitive, but despite economic conditions today, more people seem to be getting into boating. CG worried that people will prioritize scarce resources to things other than safety equipment.
- ◆ Digital Selective Calling and EPIRB registration: Forgetting to register or not putting the right data into the right fields. Effect is that the CG's automatic systems may not display a call or work correctly if they don't have proper registry data.  
Recommendation: Add confirmation of registration data to pre-sail checklists.
- ◆ Loss of life from 75' Jack-Up rig sinking in Gulf of Mexico. They did everything right and had everything loaded in the liferaft. But the liferaft broke loose before anyone boarded. 6 survived but 4 died, in part due to separation from EPIRB/flares.  
Recommendation: Keep some safety equipment with you at all times.
- ◆ Boating Under the Influence remains a problem.
- ◆ Distracted driving accidents in fast craft are on the rise (think texting while driving) *(and you will be on the receiving end of these accidents).*



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# Closing words from CG rescue crews

I contacted pilots & aircrew at CG Air Stations Elizabeth City, Miami, Cape Cod, Los Angeles & San Diego; Surface COs/OinCs/Coxswains; SAR controllers/personnel at the Atlantic Area Command Center & District 7 in Miami.

Their words to you:

- “I can’t tell you how many times we’ve interviewed crews who said that once they lost power, 1 of 2 things happened:
  - “(1) Batteries were shot on their hand-hand radio/GPS,
  - “(2) They didn’t have backups or hand-helds.”
- “The vital importance of maintaining a 406 EPIRB. Stress that *maintaining* it is incumbent on the owner to make sure it’s properly registered!”
- “Don’t ever tie or hook anything from the helo to your boat.”



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# Closing...Rescue Crew Comments (con't)

- “Watch the weather.”
- “Medical Evacuation patients should bring ID, credit cards, and medication if able.”
- “Tell them to take their hats off, buckle their life jackets, and zip up their survival suits before we get there.”
- “It’s not enough to have signaling devices on board. If they aren’t on your person and attached in some way, you don’t really have them.”
- “A head is a lousy search target.”
- “Lifejackets, EPIRBs, and good float plans...all of those add up to finding you”





# Position & PFDs



greatly increase the chance  
we will find you!!!

Sail, Race & Cruise  
Safely & Well...  
See you on the water!



 **THE SHIELD OF  
FREEDOM**  
[www.gocoastguard.com](http://www.gocoastguard.com)



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