International Offshore Safety at Sea Hands-On Training

Marine Trades Association of Maryland

MITAGS

March 28 and 29

Captain Jonathan Kabak

- STCW Master Unlimited
- 1600/3000 Auxiliary Sail
- US Sailing Safety at Sea Committee
- Chair Moderator Working Group
- CEO, Maritime Rhode Island
- Storm Trysail Club Member
- NYYC Member

I’m Also a Recreational Sailor Too!

Why Are We Here?

Recent Marine Casualties

2024 Newport Bermuda Race

- 2 Abandonments of vessels enroute to Bermuda
- 1 Abandonment on return from Bermuda

2024 Chicago Yacht Club Race to Mackinac

- 1 Crew Overboard
- 3 Catastrophic rigging failures/dismastings

2024 Sydney Hobart Race

- 2 Deaths resulting from trauma from main boom or mainsheet
- 1 Crew Overboard

Recent Marine Casualties

November 2025- New Zealand Sailor dies from entanglement with winch during round the world voyage

January 2026- German sailor dies in Trans-Atlantic race

Why Are We Here?

Yacht Name: _____ Sail No: _____ Captain: _____

The following members of the yacht's Newport Bermuda Race® crew have completed onboard drills for the topics listed:

☐ Man Overboard	☐ Recovering MOB from the water	☐ Abandoning Ship
☐ Dismasting	☐ Sailing with the Storm Trysail	☐ EPIRB
☐ Life Rafts	☐ Lifejackets and Harnesses	☐ Fire Prevention/Fighting
☐ Pyrotechnics	☐ Rudder/Steering Loss or Failure	☐ Preventer Rigging
☐ Communications Equipment	☐ AIS / Personal Crew Overboard Beacons	☐ Satellite Phone Use


PUGET SOUND
KOMO NEWS abc 4
SAILORS RESCUED

Incident Reports and Hanson Medals

SAFETY AT SEA
US SAILING
SAFETY AT SEA


FLASS
FLASS

Safety at Sea Training

Original International Offshore Safety at Sea Certificate

(World Sailing Compliant)

Completion of 15 Module On-Line Training

or

Completion of in-person Offshore Safety at Sea course

and

Attendance at a US Sailing sanctioned Hand-On training course

Refresher International Offshore Safety at Sea Certificate

Completion of in person Hand's On training

Completion of online modules 11-15 if not previously completed

What’s the difference between a professional mariner and a recreational sailor?

You Can’t Buy Safety

Purchase-Safety Equipment

Engage in-Risk Management and Mitigation

Work to- Maintain Situational Awareness

Responsibility and accountability

- Chain of Command
- Situational Awareness
- Crew Resource Management
  - Ensure all crew know they are responsible for observing and communicating changing conditions

Predeparture Risk Assessment and Briefing

- GAR Assessment
- Everyone knows how to start the engine
- How to use the VHF, SSB, Sat Phone, Iridium GO
- When “don’t we wear PFDs?”
- Don’t do a great job of convincing yourself you should go out there!

Post Voyage Debrief

- ✓ Not just about the cocktails and war stories
- ✓ Where can we do better?
- ✓ Who is making the change?
- ✓ Did we have a good time?
- ✓ Did we learn something?
- ✓ Ten fingers, twelve toes?

The Seven ”P” Principle

Prior
Proper
Planning
Prevents
Piss
Poor
Performance

The ”Safety Mindset”

Really the Risk Management/Mitigation Mindset

In the event of an Emergency we will reconvene in this space

In the event there is an Emergency inside the Main Building we will muster at the far end of the parking lot by the Flare Training Area

MTAM S@S Sunday 3/29/2026				
	B/W Check	Blue	Yellow	Red Stars
0730-800	Registration			
0800-0815	Welcoming Remarks			
0815-1000	Lessons Learned/Why We're Here/Crisis Management and Comms			
1015-1115	Damage Control	Flares/Fire Fighting	Communications	Pool
1115-1215	Pool	Damage Control	Flares/Fire Fighting	Communications
1215-1300	Lunch			
1300-1345	Crew Reboarding/MOB Response			
1400-1500	Communication	Pool	Damage Control	Flares/Fire Fighting
1500-1600	Flares/Fire Fighting	Communications	Pool	Damage Control
1615-1700	Things That Make You Go Hmmmm…End of Day Topics			
1700-1730	Questions, Thank Yous, Good Byes			

MAYDAY MAYDAY MAYDAY:
Crisis Management Communications, and Planning

Group Exercise

Time: 1330 local time Winds SE'ly F4 Seas 3-5' Sail Plan: Full Main and #2Jib

You are 13 days into an 21 day passage between Astoria and Oahu aboard a 45' 1980's racer/cruiser. While reaching in moderate sea conditions you hear a loud BANG and the stern of the vessel lifts out of the water and lurches to starboard. Crew are thrown off of their feet down below and within a few seconds an alarm can be heard.

Now
What??????????????

How do you respond?

Working in your groups, decide what your response plan will be.

You can utilize any equipment that you would normally carry aboard

Please indicate:

- Where the particular item or piece of equipment is located or stowed
- Who on board is familiar with its operation
- How many times those on board have trained or practiced operation,deployment, use, etc…
- Indicate your prioritization (What did you do first, second, third,…)

Timeline: Minute 1
Accountability/Initial Response

Response

Muster All Hands

Everyone in Life Jackets

Preparation

Develop a Station Bill

List of all persons aboard

Initial responsibilities in an emergency situation

- Man Overboard
- Fire/Flooding
- Abandon Ship

Spreads workload

What is a Station Bill?

ARTICLE NUMBER	RATING	FIRE AND EMERGENCY STATIONS	ARTICLE NUMBER	BOAT NUMBER	ABANDON SHIP AND BOAT STATIONS
A	MASTER	ON THE BRIDGE. IN COMMAND, ALL OPERATIONS.	A	1	IN COMMAND. ON BRIDGE IN CHARGE ALL OPERATIONS.
1	CHIEF MATE	AT SCENE OF EMERGENCY, IN CHARGE.	1	2	IN COMMAND. IN CHARGE LAUNCHING LIFEBOATS AND/OR RAFTS.
2	2ND MATE	AT SCENE OF EMERGENCY, ASSIST AS DIRECTED.	2	1	2ND IN COMMAND. PREPARE LIFEBOATS FOR LAUNCHING.
3	3RD MATE	RELIEVE BRIDGE WATCH.	3	2	2ND IN COMMAND. RELIEVE BRIDGE WATCH.
4	RADIO OPERATOR	RADIO ROOM, AT COMMUNICATIONS CONSOLE.	4	1	ATTEND MASTERS CHORES. PROVIDE EMERGENCY TRANSCEIVER.
5	POOUR/A.B.	EMERGENCY SQUAD PROVIDE LIFELINE AND HARNESS.	5	2	RELEASE AFT GRIPE ASSEMBLY, STAND BY WINCH BRAKE.
6	ABLE SEAMAN	EMERGENCY SQUAD PROVIDE FIREMAN'S OUTFIT.	6	1	RELEASE FORWARD GRIPE ASSEMBLY, SECURE DRAIN CAP.
7	ABLE SEAMAN	EMERGENCY SQUAD PROVIDE M.S.A. AIR PACK.	7	2	RELEASE FORWARD GRIPE ASSEMBLY, SECURE DRAIN CAP.
8	ABLE SEAMAN	EMERGENCY SQUAD PROVIDE FIRE AX AND SPANNER.	8	1	RELEASE AFT GRIPE ASSEMBLY.
9	ABLE SEAMAN	EMERGENCY SQUAD PROVIDE M.S.A. RESUSCITATOR.	9	2	LEAD OUT AND ATTEND BOAT PAINTER.
10	ABLE SEAMAN	EMERGENCY SQUAD PROVIDE FIRE EXTINGUISHER.	10	1	LEAD OUT AND ATTEND BOAT PAINTER.
11	ABLE SEAMAN	EMERGENCY SQUAD RELIEVE WHEEL.	11	2	ASSIST AS DIRECTED, ATTEND FORWARD FRAPPING LINE.
12	SHIP UTILITY	EMERGENCY SQUAD PROVIDE 4 FOOT APPLICATOR.	12	1	ASSIST AS DIRECTED, ATTEND FORWARD FRAPPING LINE.

What is a Station Bill?

	General Quarters	Man ~~Over Board~~	Fire/Emergency	Abandon Ship
Chief Mate	In Charge Forward	In Charge Rescue Boat	In Charge Scene	In Charge Stbd Raft
Assistant Scientist	M	Roster Boat crew / VHF Operator	Roster Secure Lab, Report to Captain	Roster Release Rescue Boat
	U	L Backboard	Bring Fire	406 EPIRB
	S	A Dive Light	Extinguishers, Fire	Flares/Dive light
	T	U Boarding Ladder	Blankets, Fire Axe	Handheld VHF
	E	N	to Muster by Deck	Heaving line
	R	C B	Pump.	Emergency food
		H O	DAMAGE	Emergency Kit
	F	A	CONTROL	Distribute suits
	W	T	TEAM	EPIRB Backup
	D			Assist raft launch
				Assist raft launch
Steward	Secure Galley	Secure Galley, Blankets	Secure Galley, Evacuate Saloon/Library	Food - Distribute exposure suits

Radio Call	Frequency:	High Site:	DF Bearing:
Type of Comms:		Original Relay	
Time:	Date:	UCN:	Initials:

-- Initial SAR Check Sheet --

1. Position How determined?		*Type of Position:*	[ ] Lat/Long [ ] Geographic Reference
2. Number of Persons On Board	Adults:	Children:	Total:
3. Nature of Distress (if PIW complete additional PIW box below)			
4. Description of Vessel	Name: Make:	Length: Color:	Type:
5. Have all persons on board the vessel put on Personal Flotation Devices / adequate number of PFD's available? Y / N			

***** ADVISE REPORTING SOURCE OF INTENDED ACTIONS AT THIS TIME *****

6. Determine Initial Severity / Emergency Phase	
[ ] Distress	**[ ] Uncertainty** **[ ] Alert**
[ ] Dispatch Resources / Activate SAR Alarm	*Additional information is needed*
[ ] ***Advise reporting source of Coast Guard's Actions***	*Complete one or more of the following:*
[ ] Issue Urgent Marine Information Broadcast (UMIB)	[ ] Supplemental Check-sheet
[ ] Brief Sector / District	[ ] Overdue Check-sheet
[ ] Provide emergency instructions to vessel in distress	[ ] Flare Sighting Check-sheet
[ ] Complete additional check-sheets as situation dictates	[ ] MEDEVAC/MEDICO Check-sheet
	[ ] Grounding Check-sheet
	[ ] Mass Rescue Operation Supplemental Check sheet

Timeline: Minute 1
Who Knows we are out here?

Response

- Establish External Communications
- GMDSS
- Passive Comms
  - EPIRB
- Active Comms
  - VHF Radio Call (w/DSC)
  - MF/HF Call (w/DSC)
  - Satellite Call to REC
- Alternative means of notification
  - Spot Trackers

Preparation

- Float Plan
- Programming your MMSI into your Radios
- Pre-program the number for local Rescue Coordination Center (RCC) into Satellite Phone
- Crew training on EPIRB, VHF and Satellite Communications
- Regular logging of position
- Vessel information organized in same format and order that USCG will ask for it.

External Communications

- Priorities
  - Making sure someone knows you are out there and in trouble
    - Type of trouble is less important in initial phase of emergency
  - One Way means of communication
    - EPIRB, Flares, etc…
  - Two Way means of communication
    - VHF, MF/HF
      - Everyone can hear you
    - Satellite Phone
      - Only other party can hear you

Two Way Communications

- VHF
  - Line of Sight
- MF/HF (SSB)
  - Signal bounces of off Earth's atmosphere
- Satellite Phone Systems (Voice and Data)
  - Inmarsat
  - Iridium
  - Globalstar
  - Starlink

EMERGENCY RADIO PROCEDURES

SPEAK SLOWLY, CLEARLY, & CALMLY

Identity

Situation

Position

Your Intent

1. **Make sure the communication equipment is ON**, on **HIGH POWER** and assure that the "SQUELCH" control is adjusted properly.
2. Press the **RED DISTRESS** button **AND HOLD** for 3-5 seconds.
3. Wait for 15 seconds for the transmission to complete.
4. Select **VHF Channel 16**, or other emergency frequency used where you operate.
5. Press microphone button and calmly say, "**MAYDAY - MAYDAY - MAYDAY** This is S/V_____, S/V_____, S/V_____.
6. State the Nature of Your Distress, Condition of Your Vessel, and Number of Injuries (if any).
7. State Your Location Twice (latitude & longitude, or range & bearing from a known point).
8. Finally state your intent:
    a. _____Holding position and listening on VHF Channel 16 OR
    b. _____Making way toward Safe Harbor OR
    c. _____Launching life raft(s) and Abandoning Ship OR
    d. _____Other: _____
9. End by saying, "This is S/V _____. Over."
10. **Release the microphone button briefly and wait for an acknowledgement**. If no answer, repeat Step 4.
11. If the Coast Guard or another vessel responds, say, "**MAYDAY**, this is S/V_____."
12. If the situation permits, stand by the radio for further communication with the Coast Guard or another vessel. If no one answers, repeat the above, then try on another channel.

FILL IN NECESSARY INFORMATION ABOVE AND POST NEXT TO RADIO

The life you save may be your own!

Digital Selective Calling (DSC) - An Underutilized Maritime Distress Alerting Option

Question

What is this red Distress button for on my marine radio and how does it work?

Photo Credit: ICOM America

https://www.dco.uscg.mil/Portals/9/OCSNCOE/Articles/DSC-Article-2024.07.24(508).pdf?ver=tXZKLMbH7wk0ZZQTmn0H8A%3D%3D

VHF DSC Emergency Broadcast

Connect VHF to GPS

Register for a Maritime Mobile Service Identity (MMSI) #

9 Digit “phone number”

Learn how Digital Selective Calling (DSC) works

BoatUS DSC Tutorial

Two ways to get an MMSI

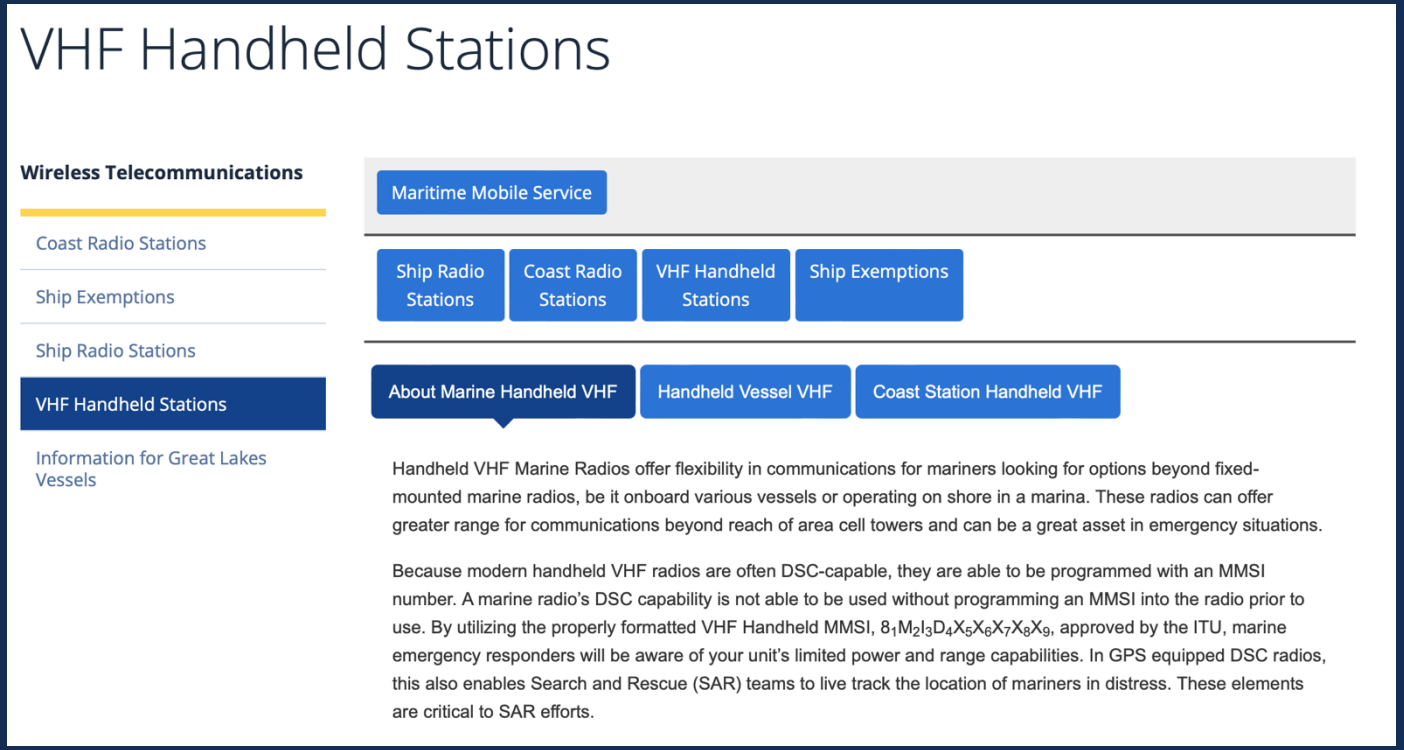
Compulsory

- Traveling outside of US
- Vessel is registered in International SAR Database
- Required equipment aboard
- FCC Station License
- $$$
- Number is linked to EPIRB registration

Voluntary

- For domestic use only
- Vessel is registered in USCG SAR Database only
- Low fee/no fee for BoatUS members

MMSI For Handheld Radios



VHF Handheld Stations

Wireless Telecommunications

- Coast Radio Stations
- Ship Exemptions
- Ship Radio Stations
- VHF Handheld Stations
- Information for Great Lakes Vessels

Maritime Mobile Service

Ship Radio Stations | Coast Radio Stations | VHF Handheld Stations | Ship Exemptions

About Marine Handheld VHF | Handheld Vessel VHF | Coast Station Handheld VHF

Handheld VHF Marine Radios offer flexibility in communications for mariners looking for options beyond fixed-mounted marine radios, be it onboard various vessels or operating on shore in a marina. These radios can offer greater range for communications beyond reach of area cell towers and can be a great asset in emergency situations.

Because modern handheld VHF radios are often DSC-capable, they are able to be programmed with an MMSI number. A marine radio's DSC capability is not able to be used without programming an MMSI into the radio prior to use. By utilizing the properly formatted VHF Handheld MMSI, $8_1M_2I_3D_4X_5X_6X_7X_8X_9$, approved by the ITU, marine emergency responders will be aware of your unit's limited power and range capabilities. In GPS equipped DSC radios, this also enables Search and Rescue (SAR) teams to live track the location of mariners in distress. These elements are critical to SAR efforts.

https://www.fcc.gov/wireless/bureau-divisions/mobility-division/maritime-mobile/vhf-handheld-stations

EPIRBs/GPS EPIRBS

406MHz Primary frequency

- Sends signal to COSPAS/SARSAT Satellites

121.5MHz Secondary frequency

- Used as a homing frequency by SAR Aircraft

GPS Enabled EPIRBs (GPIRBS)

Category I

- Float Free mount with hydrostatic release
- **Automatic activation**
- Found on SOLAS compliant vessels

Category II

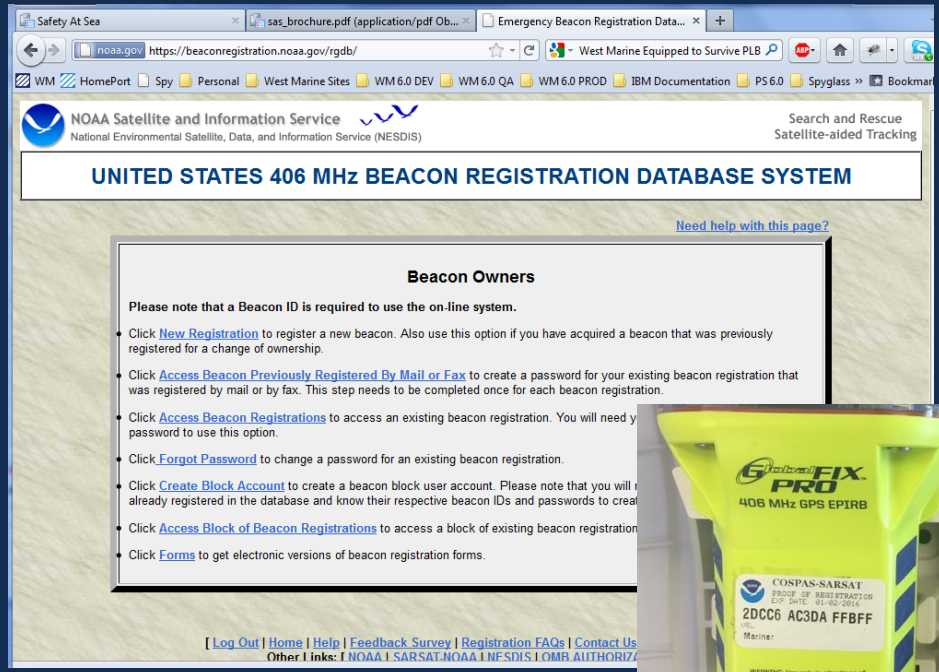
- Manually activated
- Not Float Free

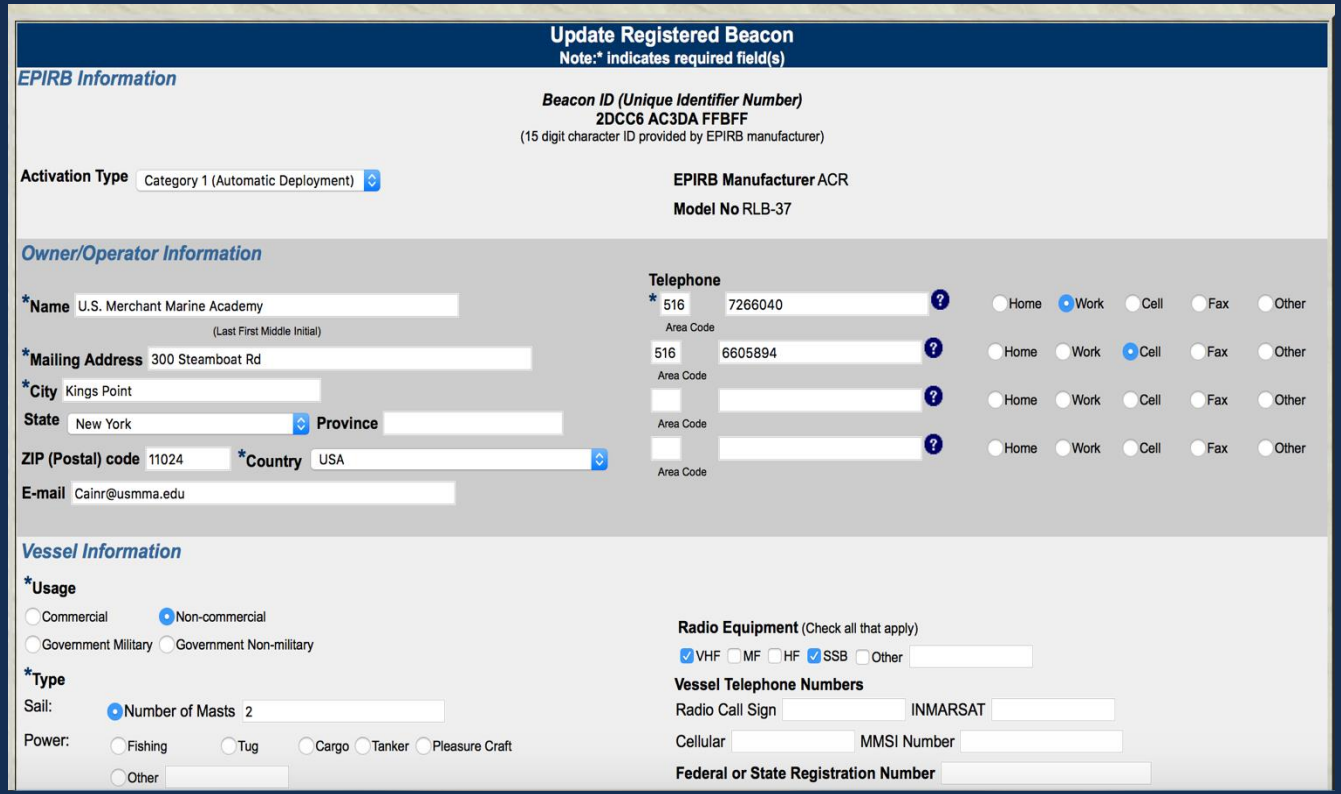
3.16.1 EPIRB

A boat shall carry a 406MHz EPIRB that is properly registered to the boat. This device shall be equipped with an internal GPS.

After January 1, 2028 this device shall be equipped with AIS transmit capability.

beaconregistration.noaa.gov





Update Registered Beacon

Note:* indicates required field(s)

EPIRB Information

Beacon ID (Unique Identifier Number)
2DCC6 AC3DA FFBFF
(15 digit character ID provided by EPIRB manufacturer)

Activation Type Category 1 (Automatic Deployment)

EPIRB Manufacturer ACR

Model No RLB-37

Owner/Operator Information

***Name** U.S. Merchant Marine Academy
(Last First Middle Initial)

***Mailing Address** 300 Steamboat Rd

***City** Kings Point

State New York **Province**

ZIP (Postal) code 11024 ***Country** USA

E-mail Cainr@usmma.edu

Telephone

	Area Code						
*	516	7266040	Home	Work	Cell	Fax	Other
	516	6605894	Home	Work	Cell	Fax	Other
			Home	Work	Cell	Fax	Other
			Home	Work	Cell	Fax	Other

Vessel Information

***Usage**

Commercial Non-commercial
Government Military Government Non-military

***Type**

Sail: Number of Masts 2

Power: Fishing Tug Cargo Tanker Pleasure Craft
Other

Radio Equipment (Check all that apply)

VHF MF HF SSB Other

Vessel Telephone Numbers

Radio Call Sign INMARSAT

Cellular MMSI Number

Federal or State Registration Number

Distress Signals

If necessary to **attract the attention of another vessel**, any vessel **MAY** make light or sound signals that **CANNOT BE MISTAKEN FOR ANY SIGNAL** authorized elsewhere in these Rules, or may direct the beam of her searchlight in the direction of the danger, in such a way as **NOT TO** embarrass any vessel.

Pyrotechnics

Should only be used on the instructions of the person in charge of the craft.

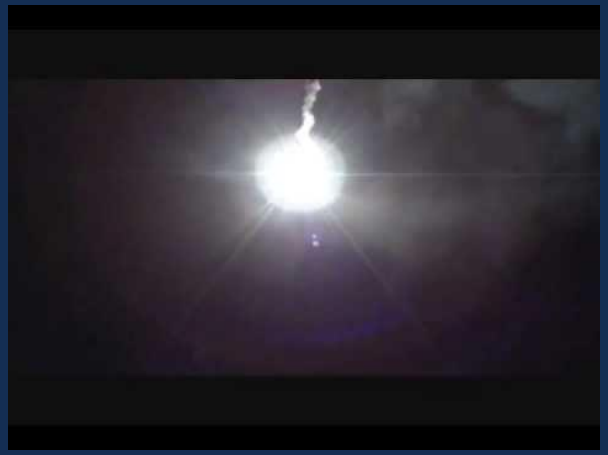
Activated on downwind side of survival craft & only when there is a great chance of the signal being seen

Parachute Flares

- The SOLAS parachute flare is the most powerful distress flare available.
- The intense brilliance of the **SOLAS red** achieves 30,000 candela and a burn time of 40 seconds, to alert others of a distress situation day or night.

White Flare

The **SOLAS white** illuminating flare is designed for use in crisis situations involving poor visibility or darkness, to avoid collision by alerting oncoming vessels to your boat's position, and for search and rescue operations.



The white paras have a brightness of 75,000 candela, a burn time of 30 seconds, and a maximum height of 300 meters.

Hand Held Flares

SOLAS Hand Held Flares

- The SOLAS red flare is designed to show location and allow homing, with one-minute burn and 15,000 candela.
- The SOLAS white flare for distress is designed to avoid collision in poor visibility, with a burn time of 40 seconds and 10,000 candela.
- Each weighs 10 ounces, measures 9 5/8" x 1 3/8" and will not drip molten slag down your arm.

Smoke Signal

SOLAS Orange Smoke Signals

- The burn time on the canister is three minutes, a dense orange smoke excellent for daytime location, weighs 19 ounces and is very portable at 5 5/8" x 3 5/8".
- Buoyant orange smoke for daylight use only
- Produces dense bright orange smoke for 3 minutes
- May not be effective in high winds

Other Means of Attracting Attention

Flashlight suitable for morse signaling

Daylight **signaling mirror**

Whistle

Orange sails in open boat

Searchlight

Table of Lifesaving signals provided as part of survival craft equipment

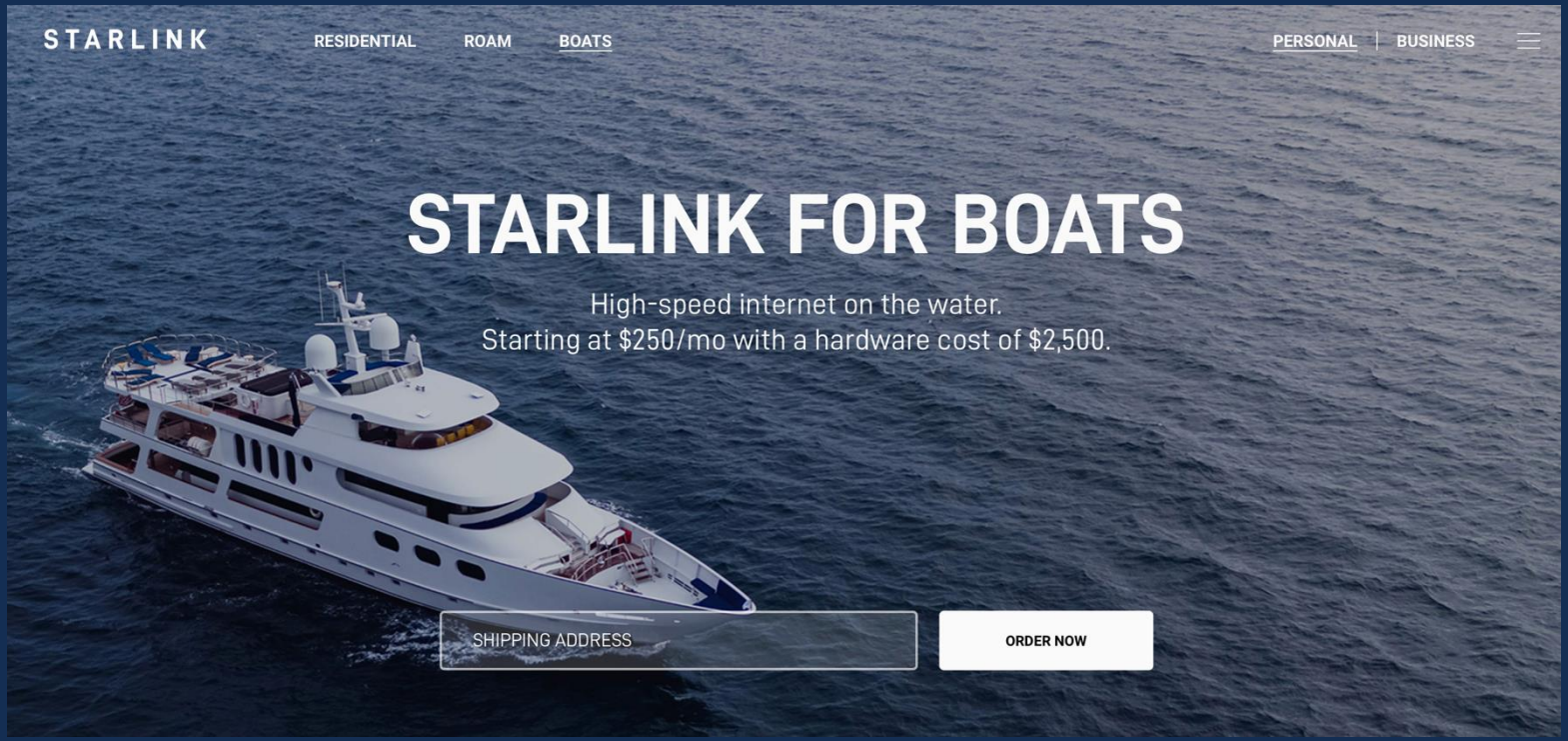
IRIDIUM GO, BIVY STICK, ETC….

ACR BIVY STICK

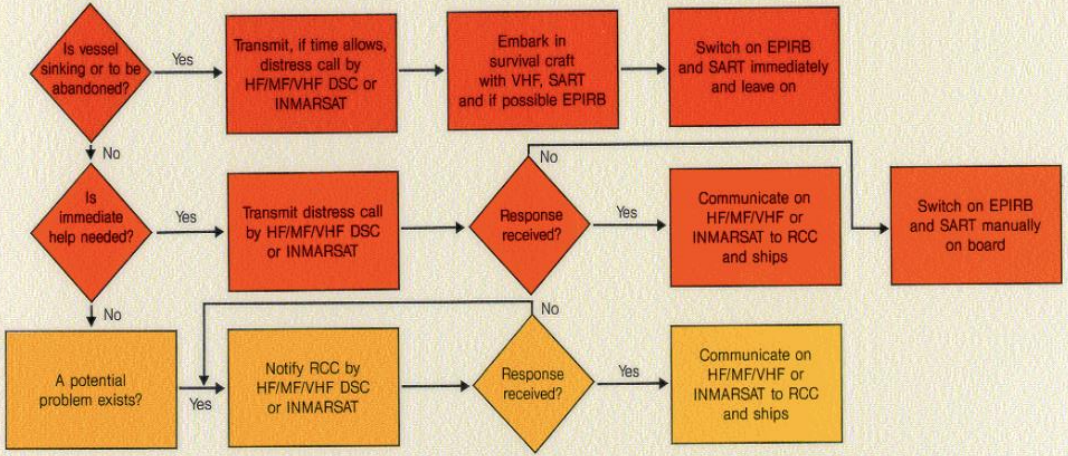
TAKE IT EVERYWHERE, COMMUNICATE FROM ANYWHERE

Stay connected with the ACR Bivy Stick. With 2-way satellite messaging, communicate with loved ones and emergency services beyond cellular coverage. Connect to smartphone via Bluetooth or use as standalone device. Benefit from dedicated SMS mobile number.

- **100% Global Satellite Coverage**
  Send and receive satellite text messages with your phone. Free check-in messages with GPS location shares.
- **Keep Your Crew Connected with GroupTrack™**
  The first satellite messenger with off-grid group messaging and location shares.
- **Communicate With Emergency Services**
  Get rescued anywhere in the world with 365/24/7 SOS monitoring provided by Global Rescue.


STARLINK
RESIDENTIAL
ROAM
BOATS
PERSONAL | BUSINESS
STARLINK FOR BOATS
High-speed internet on the water.
Starting at $250/mo with a hardware cost of $2,500.
SHIPPING ADDRESS
ORDER NOW

GMDSS OPERATING GUIDANCE FOR MASTERS OF SHIPS IN DISTRESS SITUATIONS



1. EPIRB should float free and activate automatically if it cannot be taken into survival craft.
2. Where necessary, ships should use any appropriate means to alert other ships.
3. Nothing above is intended to preclude the use of any and all available means of distress alerting.

RADIO DISTRESS COMMUNICATIONS

	Digital selective calling (DSC)	Radiotelephone	Radiotelex
VHF	Channel 70	Channel 16	
MF	2187.5 kHz	2182 kHz	2174.5 kHz
HF4	4207.5 kHz	4125 kHz	4177.5 kHz
HF6	6312 kHz	6215 kHz	6268 kHz
HF8	8414.5 kHz	8291 kHz	8376.5 kHz
HF12	12577 kHz	12290 kHz	12520 kHz
HF16	16804.5 kHz	16420 kHz	16695 kHz

International Maritime Organization

Printed and published in the UK by IMO Sales number: IMC-969E

Timeline: Minute 2 Preparing to Abandon Ship

Preparation

Pack and stow ditch bag in readily accessible location

- Accessible from on deck
- All Hands familiar with location
- Designated person on Station Bill
- Extras

Response

Grab Ditch Bag

Prepare to launch liferaft

Ditch bags

- Bag Floats
- Flares
- Handheld VHF
- Water and food rations
- Thermal Protective Aids (Space Blankets)
- Whistle
- Mirror
- Extra Prescription Meds
- Handheld GPS

USCG

https://www.boatingsafetymag.com/safety-tips/building-ditch-bag/

Timeline: Minute 2
Identifying the source of the water ingress
Dewatering

Preparation

Flashlights located at hatch

Floorboard tool readily accessible

Damage Control Kit easily accessible from deck

Test bilge pumps

Plumb emergency pick up to engine raw water pump

Response

Locate source of water

Attempt to stem ingress of water

Patch hole if possible

Start as many pumps as possible

Damage Control Kit

Stuff to…

- Plug a leak
- Wrap a hose or fitting
- Support a structure
- Cut away debris
- Glue things together

Timeline: Minute 2
Boat Handling

Preparation

Practice shorthanded maneuvers

Practice with emergency steering system

Response

Tacking to bring hull breach out of the water

Altering course to reduce water pressure on hull

Striking sails

Timeline: Minute 4 Develop a Plan

How much time have we bought ourselves?

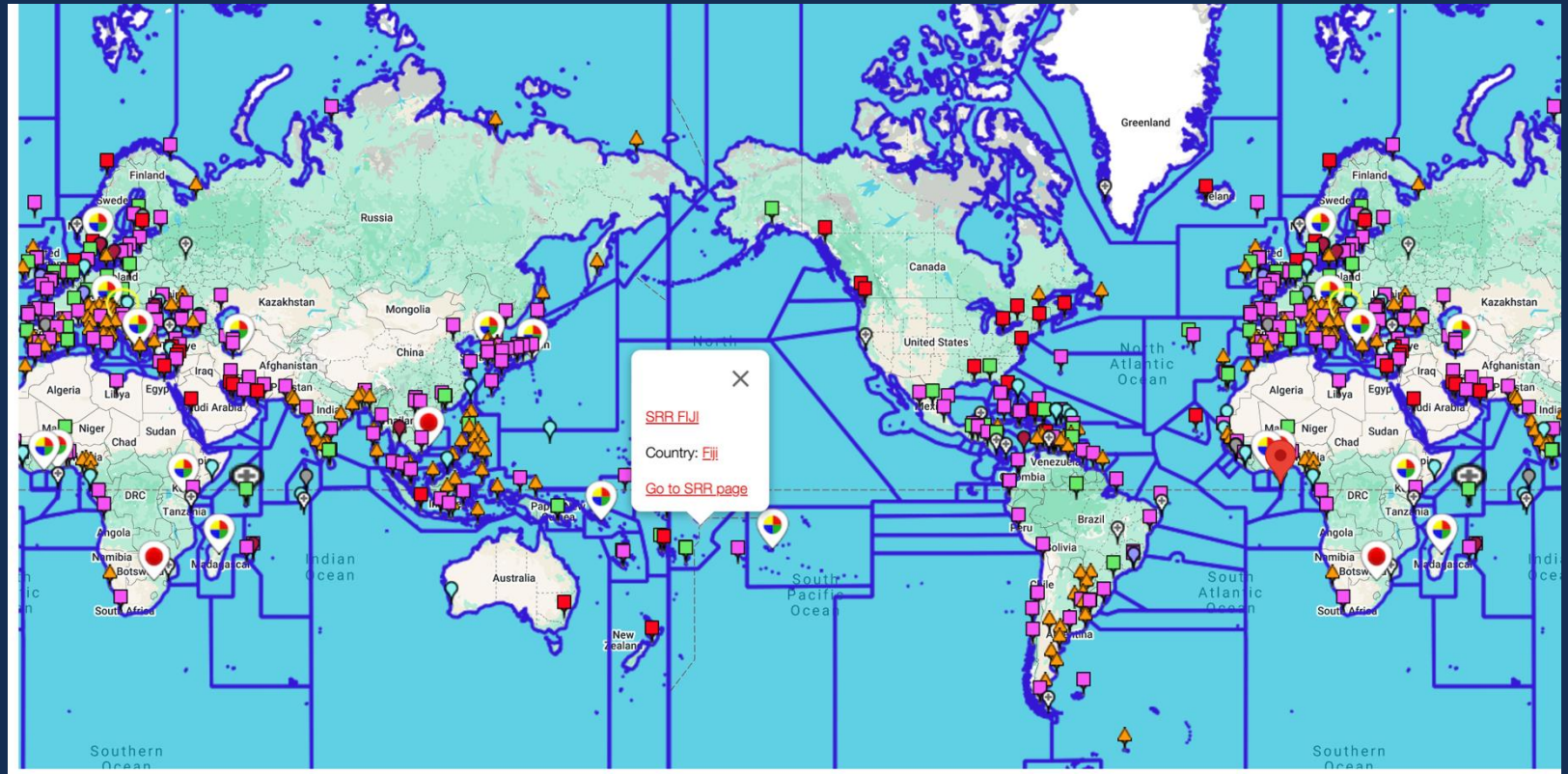
Are we staying with the boat?

Where should we head toward?

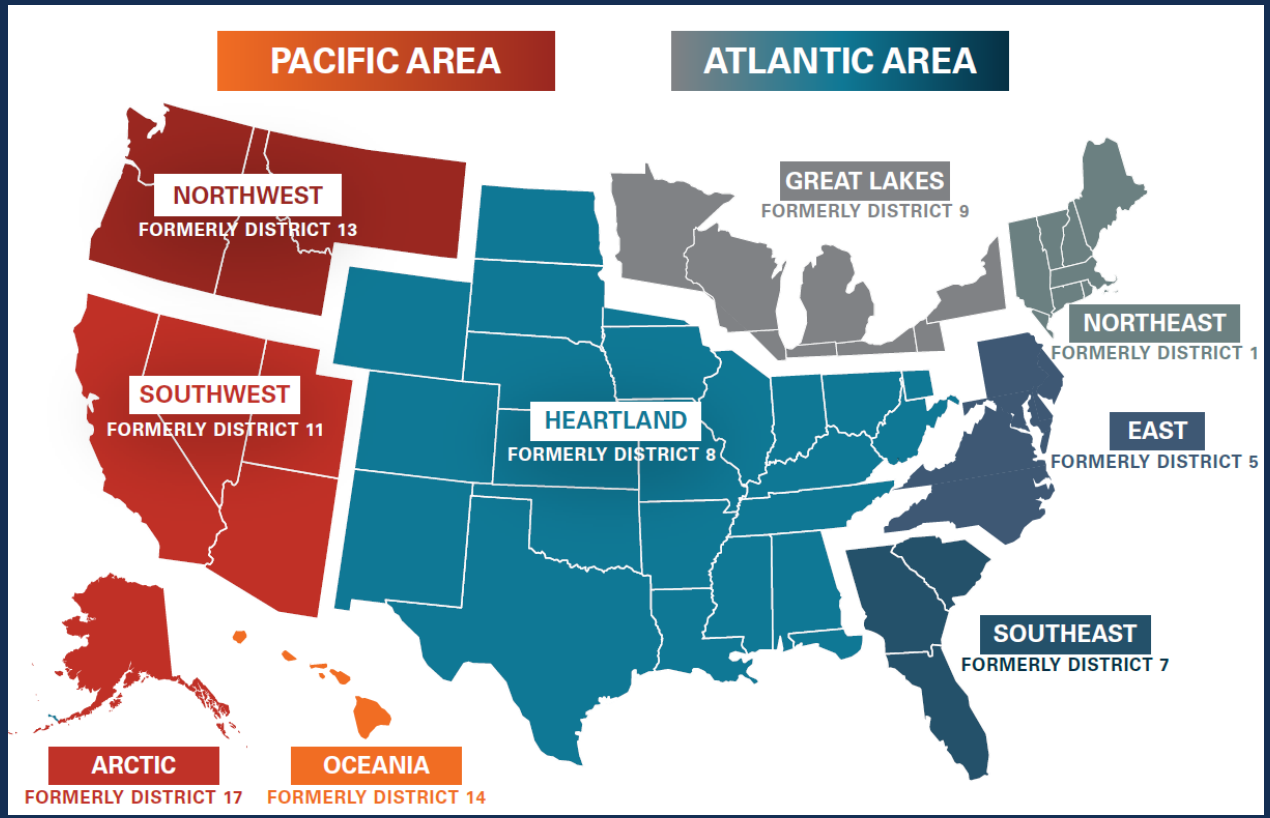
Is anyone injured?

How far away is assistance?

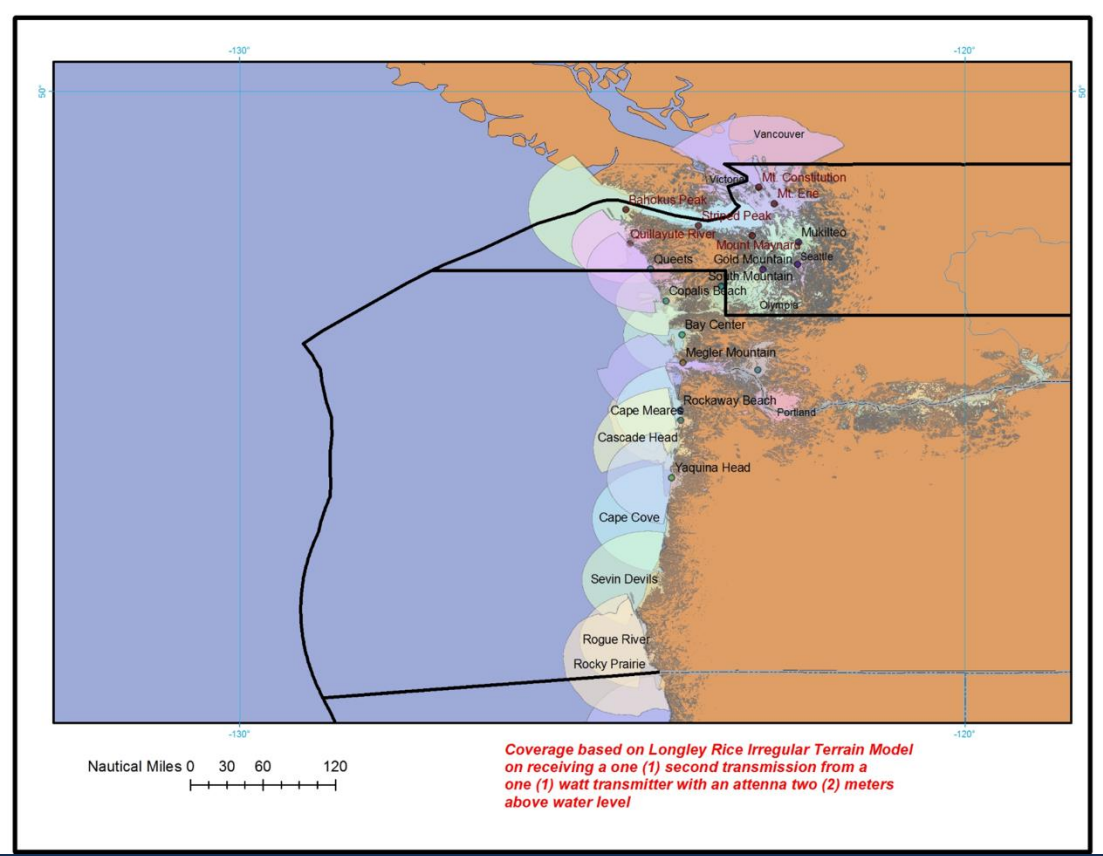
Worldwide SAR AORs



USCG Assistance by AOR



USCG Rescue 21



USCG Assets

- Cutters
- Patrol Boats
- Boats
- Helicopters
- Planes

45’ Response Boat Medium

Jet Propulsion

Max Speed over 40kts

Cruising Speed 30kts

12’ Seas

50kt winds

USCG Helicopters MH-65D Dolphin

Characteristics

Length (with rotor blades): 44 feet 5 inches

Rotor Diameter: 39 feet 2 inches

Height: 13 feet 3inches

Maximum Weight: 9,480 pounds

Cruise Speed: 148 knots

Range: 350 nautical miles

Endurance: three hours

USCG Helicopters MH-60T JayHawk

Characteristics

- Length: 64 feet 10 inches
- Rotor Diameter: 53 feet 8 inches
- Height: 17 feet
- Maximum Weight: 21,884 pounds
- Cruise Speed: 170 knots
- Range: 700 nautical miles
- Service Ceiling: 13,000 feet
- Endurance: 6.5 hours
- Crew: four

AMVER

The Rescue

Video Credit Ryan Mann

Giving Assistance is International Law

"The master of a ship at sea which is in a position to be able to provide assistance, on receiving a signal from any source that persons are in distress at sea, is bound to proceed with all speed to their assistance, if possible informing them or the SAR service that the ship is doing so. If the ship receiving the distress alert is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, the master must enter in the log-book the reason for failing to proceed to the assistance of the persons in distress and, taking into account the recommendations of the Organization, inform the appropriate SAR service accordingly."

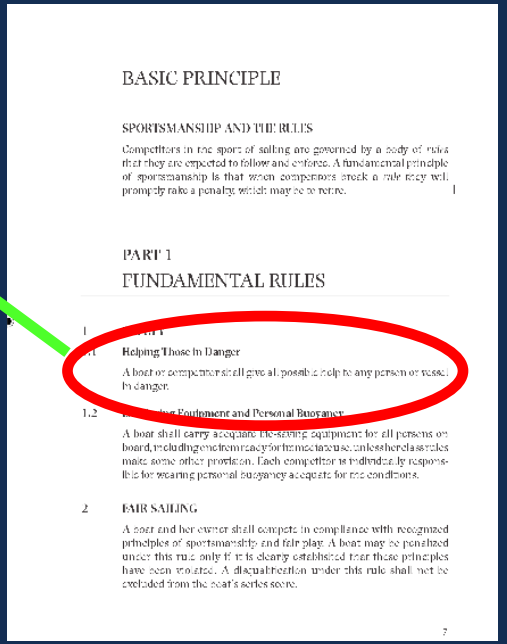
-International Maritime Law

It’s also US Law

“A master or individual in charge of a vessel shall render assistance to any individual found at sea in danger of being lost, so far as the master or individual in charge can do so without serious danger to the master’s or individual’s vessel or individuals on board. (46 USC 2304(a)(1)).

It's also in the Race Rules of Sailing

"A boat or competitor shall give all possible help to any person or vessel in danger"



BASIC PRINCIPLE

SPORTSMANSHIP AND THE RULES

Competitors in the sport of sailing are governed by a body of rules that they are expected to follow and enforce. A fundamental principle of sportsmanship is that when competitors break a rule they will promptly take a penalty, which may be to retire. 1

PART 1

FUNDAMENTAL RULES

1

1.1 Helping Those in Danger

A boat or competitor shall give all possible help to any person or vessel in danger.

1.2 [illegible] Equipment and Personal Buoyancy

A boat shall carry adequate life-saving equipment for all persons on board, including one for immediate use, unless her class rules make some other provision. Each competitor is individually responsible for wearing personal buoyancy adequate for the conditions.

2 FAIR SAILING

A boat and her owner shall compete in compliance with recognized principles of sportsmanship and fair play. A boat may be penalized under this rule only if it is clearly established that those principles have been violated. A disqualification under this rule shall not be excluded from the boat's series score.

7

The moral imperative

A moral imperative is a principle originating inside a person's mind that compels them to act.

A moral imperative is often confused with an ethical obligation, rather than a basic function of the human mind. Morals are distinct from ethics by their innate origin, while ethics originate from somewhere or someone, not the person who has that ethic. Imperatives transcend obligations or responsibilities, outside the possibility of choice.

From Wikipedia “Moral Imperative”

What are your obligations?

Lend assistance if you can

Respond to emergency communications

Log your actions in a logbook

Stages of a typical rescue

Awareness

Contact

Analyze your ability to respond

Calculate the distance and time to be onsite

If racing, log the time and place where you stopped racing

Make way to the vessel in distress

Stand by the vessel in distress

Maintain communication with rescue agencies

Transfer crew if necessary

How can you help?

Shelter

Man overboard

Medical assistance/supplies

Radio relay to shore station, vessel, or aircraft

Stand-by and provide comfort/support

Provide technical or mechanical skills

Supply equipment for repairs

Supply fuel or water

Provide crew member

Examples of giving assistance

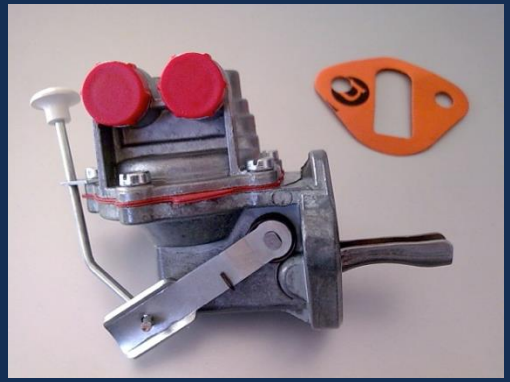
Providing a fuel pump to a boat returning from Baja California, MX (Cabo Race, 1982)

Standing by after losing a keel (Transpac, 1983)

Joining in a search for a man overboard (King Harbor Race, 2008)

Rescuing crew from an inverted sailboat (Chicago Mac Race, 2011)

Offering assistance to a vessel without a rudder (Islands Race, 2013)



How much risk is too much risk?

- Take “prudent risks to assist the other crew
- Both proximity and ability are required
- “without serious damage…to vessel or individuals
- A great reason to have your own vessel under control

Maneuvering close to a sinking vessel

Why?

- Communication
- Transfer of crew or gear
- Passing a line

Use a dinghy

Toss a line directly

Float a line downwind on a fender

In conclusion…

It’s the law

Right thing to do

Time-honored tradition

Karma

Thank You!

Staying on Board

and MOB Recovery

Preventing a crew member from going overboard

Takes commitment and buy in from ALL

…." Ralf Steitz"- Sailing's Yoda


PUGET SOUND
KOMO NEWS abc 4
SAILORS RESCUED

Prevention, Prevention, Prevention

Responsibility of the skipper

Responsibility of the crew/guest

Take all steps necessary to minimize the risk of a COB

- Pre-departure Checklist:
  - Lifelines/Gates, Pushpits, Pulpits,
  - Safety Gear, Float Plan

Prevention, Prevention, Prevention

Responsibility of the crew (guest)

Take all steps necessary to minimize the risk of a COB

Let your skipper know your Limitations

Look out for each other “Buddy system”

Wear the right Gear

Being cold and wet sucks but it also slows you down and you will make bad decisions.

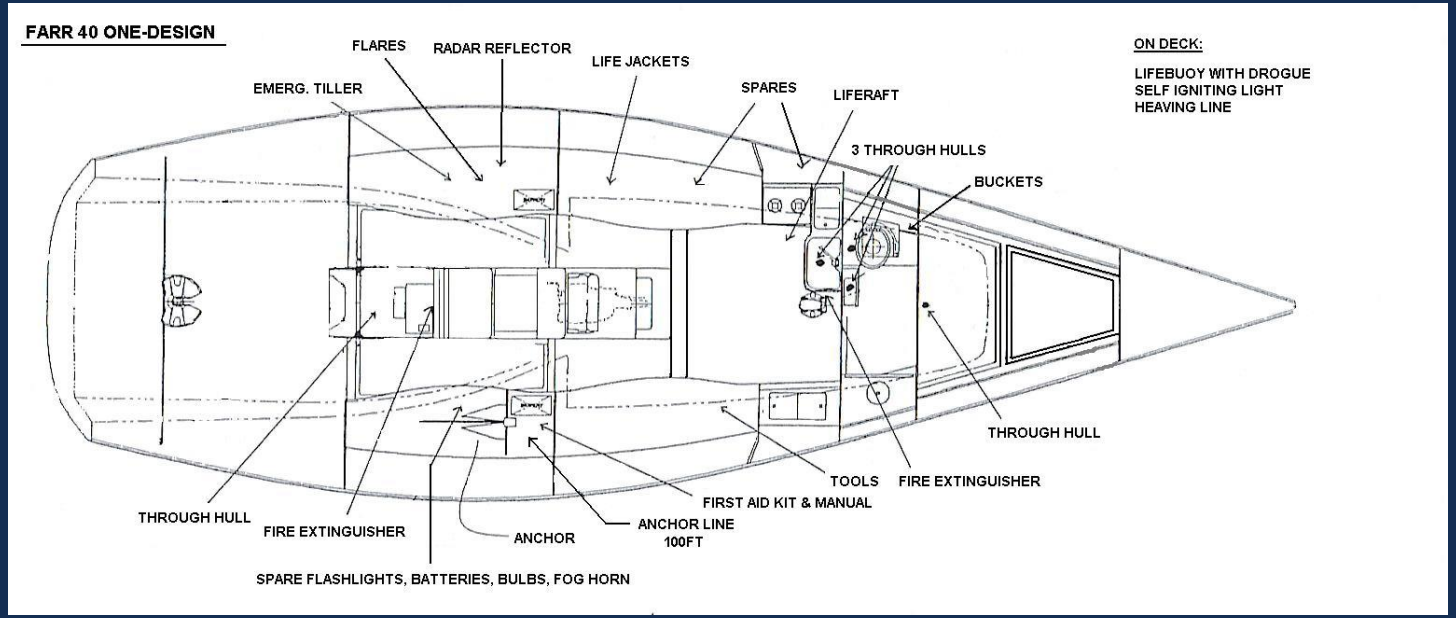
The same goes for Heatstroke or a bad sunburn.

Some Boat Rules

1. One hand for yourself and one for the boat
2. Wear life jackets and Harness at night
3. No Peeing over the side unless you are clipped in
4. Always wear boat shoes
5. If a command is given it must be acknowledged
6. Count off after all maneuvers and watch changes
7. Use the boathook to pickup mooring pennants

Safety Gear All In One Place

Sample Safety Diagram



Now, go put your hands on everything in this diagram!

More Prevention

Communication

Always let your helmsman know if you have to perform a task on the Bow

Nutrition

Hydrate and eat - not always easy in bad conditions

“ Buddy system”

Seasickness

It happens and it is ok

Let your Buddy know and make sure you are clipped in

All this Prevention and Sh*t Still Happens

Strategies for Successful Rescues

- Know your Boat's Characteristics
- Wear flotation
- Always be prepared (do not panic)
- Increase your visibility
- Log COB position
  - Return quickly
- Use gear to make contact
- Command Structure
- Station Bill

Know your Boats Characteristics

Time-Speed-Distance Chart
Boat to Victim

	5 kts.	7 kts.	10 kts.	25 kts.
5 sec.	42'	59'	84'	210'
10 sec.	84'	118'	168'	420'
15 sec.	126'	177'	252'	668’
30 min.	2.5nm	3.5nm	5.0nm	12.5nm

Wear Flotation!

Be Visible

Be More Visible

AIS Personal Locator Beacon

Practice Practice Practice Practice

Four Stages of a Rescue

Communication

Maneuvering

Contacting

Reboarding

Use Gear to Make Contact

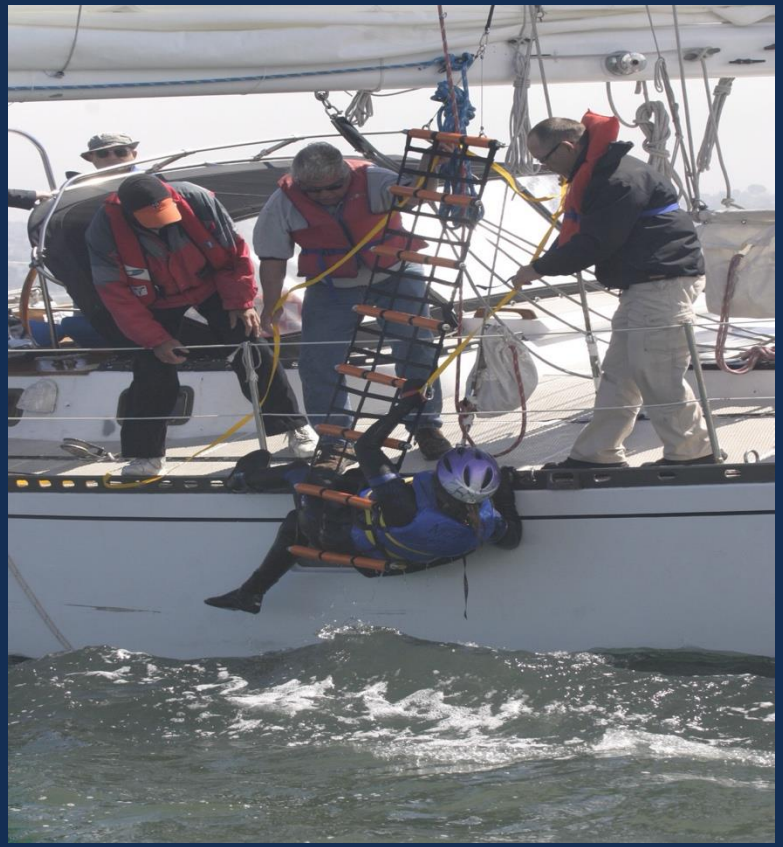
What Works For Your Boat and Your Crew to Get Back On Board?

To be effective, a rescue device must be available and be part of a reliable method

Many products perform some portion of this task, but very few accomplished the entire task.

Practice Experiment Practice Repeat

Jason's Cradle



Life Sling

Photo Credit Storm Trysail Club

Assisted Recovery with Lifesling/Harness

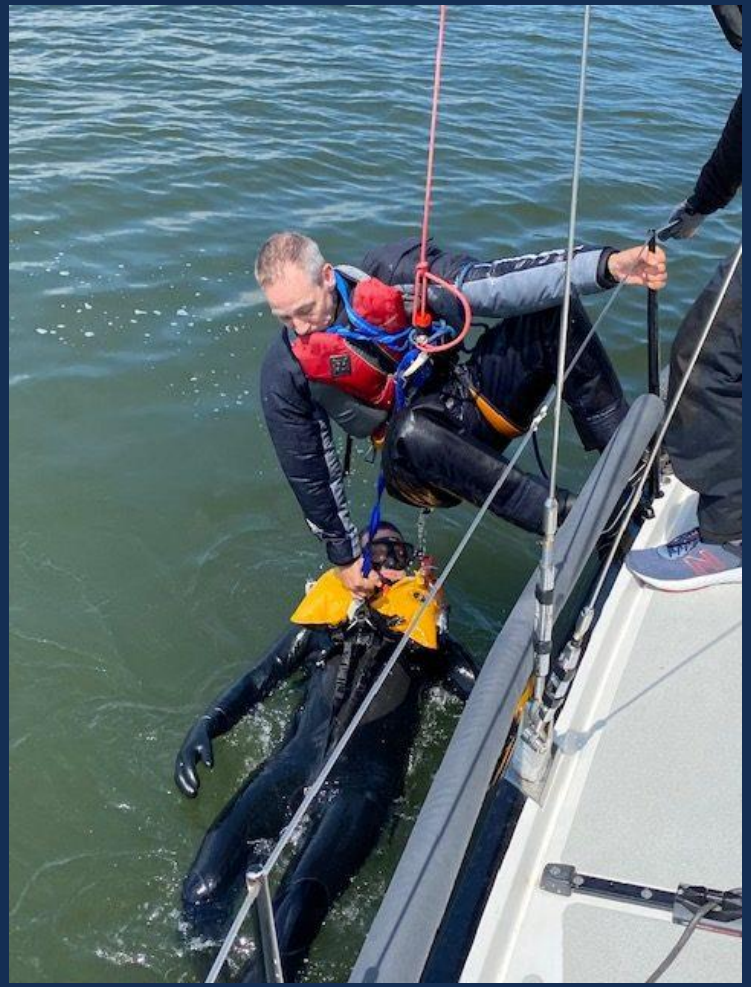
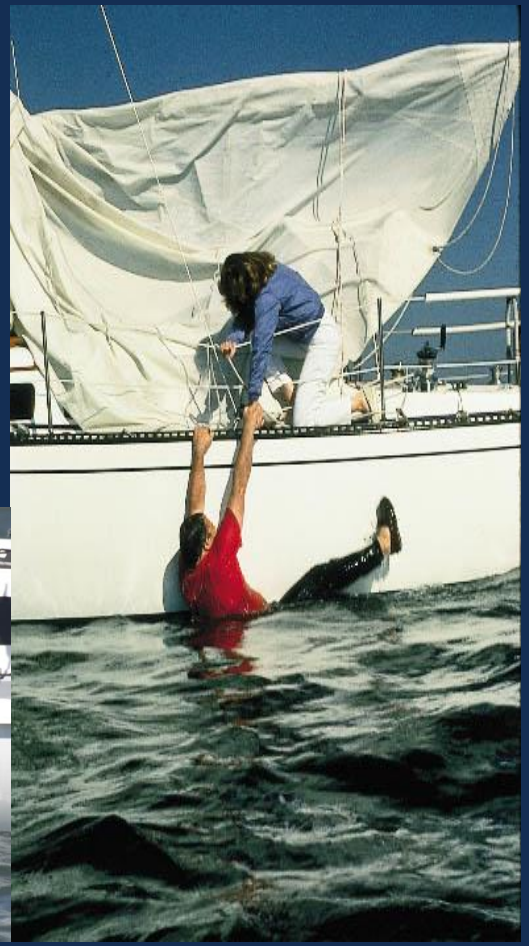


Photo Credit Storm Trysail Club

Inability to Re-board

- Greater weight of water-soaked victim
- No equipment for re-boarding
- Lack of strength from crew
- Lack of victim's strength



Are You Drowning the Victim?

The DECISIONS you make are going to be more important than the EQUIPMENT you have

You Do You Recovery

You have to utilize and practice recovery method**S** that work aboard your particular vessel in a variety of conditions.

The vessel must remain under control

The vessel must remain safe

You shall cause no harm to additional persons

YOU MUST PRACTICE ON YOUR OWN BOAT!!!!

Medical Management @Sea

Marine Trades Association of Maryland

MITAGS

March 28 & 29, 2026

Onboard medical management issues

- Emergent Issues
  - Trauma to the head
  - High volume bleeding
- Non-Emergent Issues
  - Without proper evaluation and care these can become emergent!
- Impact on Vessel Operations?

An ounce of prevention…..

- Preparing Your Vessel for Sea
  - Well stocked first aid
    medical kit
- Preparing Your Crew for Sea
  - Be aware of crewmember's pre-existing conditions
  - Anticipate problem sets
    - Sea sickness
    - Dehydration
    - Fatigue

Distance to Definitive Care

- Inshore
  - Minutes to hours
- Coastwise
  - Many hours
- Offshore
  - Days to weeks
- Don’t forget that the closest definitive care may be where you started from or somewhere other than where you were going

Vessel preparation

- Medical Kits
  - First Aid Supplies
    - Store bought
    - Extras of high use items
  - Trauma Supplies
    - Specialty provider
    - Assembled at home
  - Aches and Pains
    - NSAID
    - Narcotics
  - Medication
    - Over the Counter
    - Prescription Medications

PS VALUE GUIDE — OFFSHORE CRUISER MEDICAL KITS vs. *PS* MINIMUM CONTENTS

COMPONENTS	ADVENTURE MEDICAL MARINE 2000 ★	FIELDTEX COASTAL CRUISING PAK	OMI CLASS B
BAND AIDS	Yes	Yes	Yes
BUTTERFLY BANDAGES	Yes	Yes	Yes
GAUZE PADS	Yes	Yes	Yes
ROLL GAUZE	Yes	Yes	Yes
ELASTIC ADHESIVE BANDAGES	Yes	No	Yes
ADHESIVE TAPE	Yes	Yes	Yes
STERILE DRESSINGS	Yes	Yes	Yes
SEVERE LACERATION DRESSINGS	Yes	Yes	Yes
RAZOR	No	Yes	Yes
INSTANT COLD PACKS	Yes	Yes	Yes
ELASTIC ROLL (ACE) BANDAGES	Yes	Yes	Yes
TRIANGULAR SLING	Yes	Yes	Yes
FINGER SPLINTS	Yes	Yes	Yes
LIMB SPLINTS	Yes	Yes	Yes
FORCEPS/TWEEZERS	Yes	Yes	Yes
EYE WASH	Yes	Yes	Yes
SCISSORS	Yes	Yes	Yes
SCALPEL	Yes	Yes	Yes
NEEDLE HOLDER	Yes	No	Yes
SUTURE NEEDLES	Yes	No	Yes
STERILE SUTURE	Yes	No	Yes
STAPLE KIT	Yes	Yes	Yes
IV CATHETERS	Yes	No	Yes
IV ADMINISTRATION LINE	Yes	No	No
BAGGED STERILE FLUID	No	No	No
STERILE SYRINGES	Yes	No	Yes
STERILE NEEDLES	Yes	No	Yes
STERILE GLOVES	Yes	Yes	Yes
NON-STERILE GLOVES	Yes	Yes	Yes
SPACE BLANKET	Yes	No	Yes
THERMOMETER	Yes	Yes	Yes
HYPOTHERMIC THERMOMETER	Yes	No	Yes
STETHOSCOPE	Yes	No	No

https://www.practical-sailor.com/safety-seamanship/medical-kits-for-offshore-cruising

Medical Supplies

- Standard Kits
  - Pre-Fab
    - Marine/USCG Approved
    - "Adventure"
  - Build Your Own

Trauma Kit

- Box of Gloves
- Absorbent Dressings
- Vet-Wrap
- Eye Protection
- Tampons
- Menstrual Pads

Accessing Prescription Medication
21 CFR 1301.25

(a) If acquired by and dispensed under the general supervision of a medical officer described in paragraph (b) of this section, or the master or first officer of the vessel under the circumstances described in paragraph (d) of this section, controlled substances may be held for stocking, be maintained in, and dispensed from medicine chests, first aid packets, or dispensaries:

(1) On board any vessel engaged in international trade or in trade between ports of the United States and any merchant vessel belonging to the U.S. Government;

Controlled Substances

(g) Owners or operators of vessels, aircraft, or other entities described in this section shall not be deemed to possess or dispense any controlled substance acquired, stored and dispensed in accordance with this section. Additionally, owners or operators of vessels, aircraft, or other entities described in this section or in Article 32 of the Single Convention on Narcotic Drugs, 1961, or in Article 14 of the Convention on Psychotropic Substances, 1971, shall not be deemed to import or export any controlled substances purchased and stored in accordance with that section or applicable article.

(h) The Master of a vessel shall prepare a report for each calendar year which shall give in detail an accounting for all controlled substances purchased, dispensed, or disposed of during the year. The Master shall file this report with the medical officer employed by the owner or operator of his/her vessel, if any, or, if not, he/she shall maintain this report with other records required to be kept under the Act and, upon request, deliver a copy of the report to the Administration.

(i) Controlled substances acquired and possessed in accordance with this section shall be distributed only to persons under the general supervision of the medical officer employed by the owner or operator of the vessel, aircraft, or other entity, except in accordance with **part 1317 of this chapter.**

[62 FR 13951, Mar. 24, 1997, as amended at 79 FR 53561, Sept. 9, 2014]

Preparing your Crew

- Crew Training
- Medical Forms
- Human Physiology
- Diet and Nutrition

Crew Training

Basic First Aid and CPR Courses

Wilderness Medicine Classes (WMA or SOLO)

Marine Medical Classes for Voyagers

EMT/Paramedic Classes

IMO/STCW Medical Training

Onboard vessel specific/event specific training

Medicine Aboard Ship

- Emergencies
  - Injury
  - Illness
- Short term and long term medical care
  - Treatment of chronic conditions
  - Treatment of acute conditions
  - Nursing care
    - Wounds
    - Pain management

What's Important When it comes to crew training?

- Actual Medical Emergency?
- Medical Emergency in the Larger Context
- Need of External Communications
- Development of Alternative Voyage Plan?
- Is one person trying to do it all?

Is this an actual Medical Emergency

What defines a Medical Emergency Aboard?

The Clock is ticking……

- Airway-Can't get oxygen into the body
- Breathing-Body isn't trying to get oxygen into the body
- Circulation-The blood isn't flowing or it's flowing out and you can't stop it
- Head Trauma- "the central processor got fried" see above

Everything else may be a highly stressful situation, but you can control the clock

Medical Forms

Crewmember's:

- Age
- Emergency Contact
- Major Medical History
- Medications

According to US Sailing 55% of their membership as of 2010 were over the age of 51

There Are No Secrets at Sea

It is imperative that you disclose medical conditions to the skipper/owner before getting underway

Your crew should also be aware of your medical issues

The “sealed envelope” only open in the event something happens to someone doesn’t allow the boat to be prepared to deal with a situation in an intentional manner including deciding that it’s a bad idea to go offshore

Everybody Pees, Poops, Sleeps and Eats Some of Us Menstruate

- Dehydration
  - Can result in a mild form of compensated volume shock
  - Promotes sea sickness
  - Can complicate other medical conditions
- Constipation
- Sunburn
- Fatigue
  - Reduced performance
  - Poor decision making

External Medical Resources

- Race Fleet Surgeon
- Radio/Satellite Medical Services
- USCG Medical Assistance

Illness, Injury, Now what????????

- Decision Tree
  - Emergent
  - Non-Emergent
  - Acute
  - Chronic

Creating Valuable Training for Your Crew

Sail the way you train-train the way you sail

Set training and practice goals using the SMART methodology:

Specific

Measurable

Attainable

Relevant

Time Based

Team leadership, roles, and followership

- Identify subject matter experts
- Use tabletop exercises when you can’t go sailing
- Give people the opportunity to step up into leadership roles so they are prepared to do so when it matters

Responsibility and accountability

- Chain of Command
- Situational Awareness
- Bridge Resource Management
  - Ensure all crew know they are responsible for observing and communicating changing conditions
- Station Bill

Emergency management

- Stop
  - Listen
  - Assess
- Think
  - Make a plan
- Execute
  - Communication
    - Know your audience

Predeparture Risk Assessment and Briefing

GAR Assessment

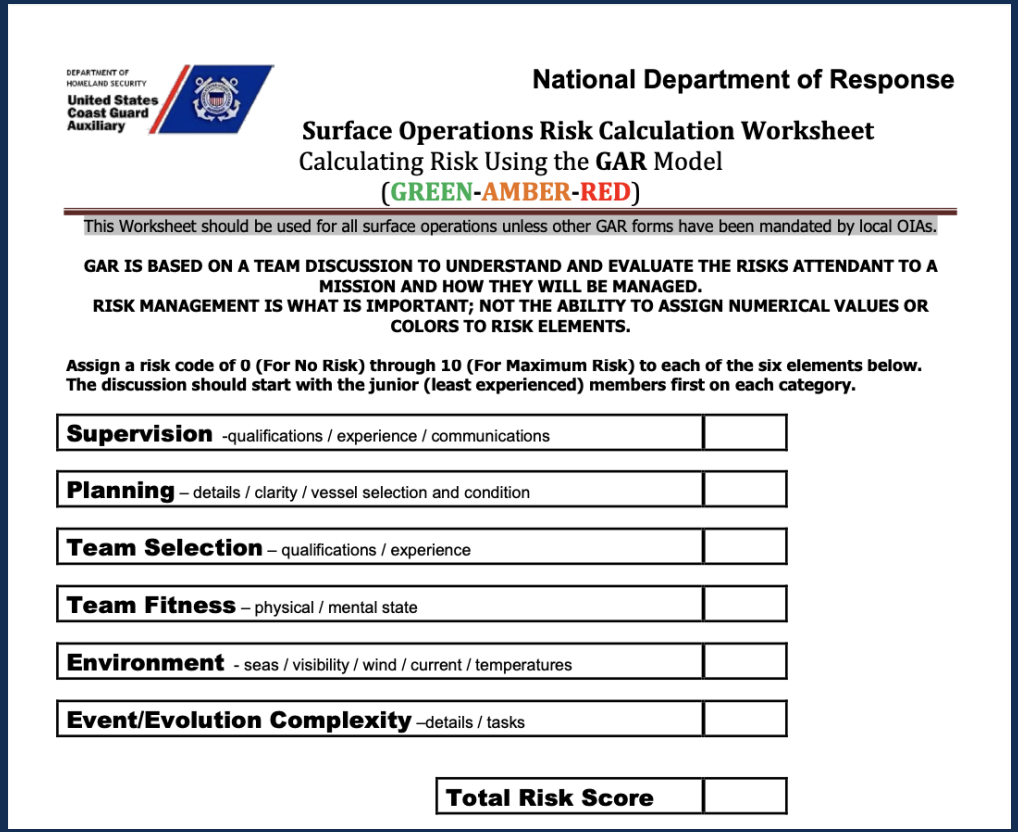
Everyone knows how to start the engine

How to use the VHF, SSB, Sat Phone, Iridium GO

When “don’t we wear PFDs?”

Don’t do a great job of convincing yourself you should go out there!

GAR Assessment



DEPARTMENT OF HOMELAND SECURITY
United States Coast Guard Auxiliary

National Department of Response

Surface Operations Risk Calculation Worksheet

Calculating Risk Using the **GAR** Model

(**GREEN-AMBER-RED**)

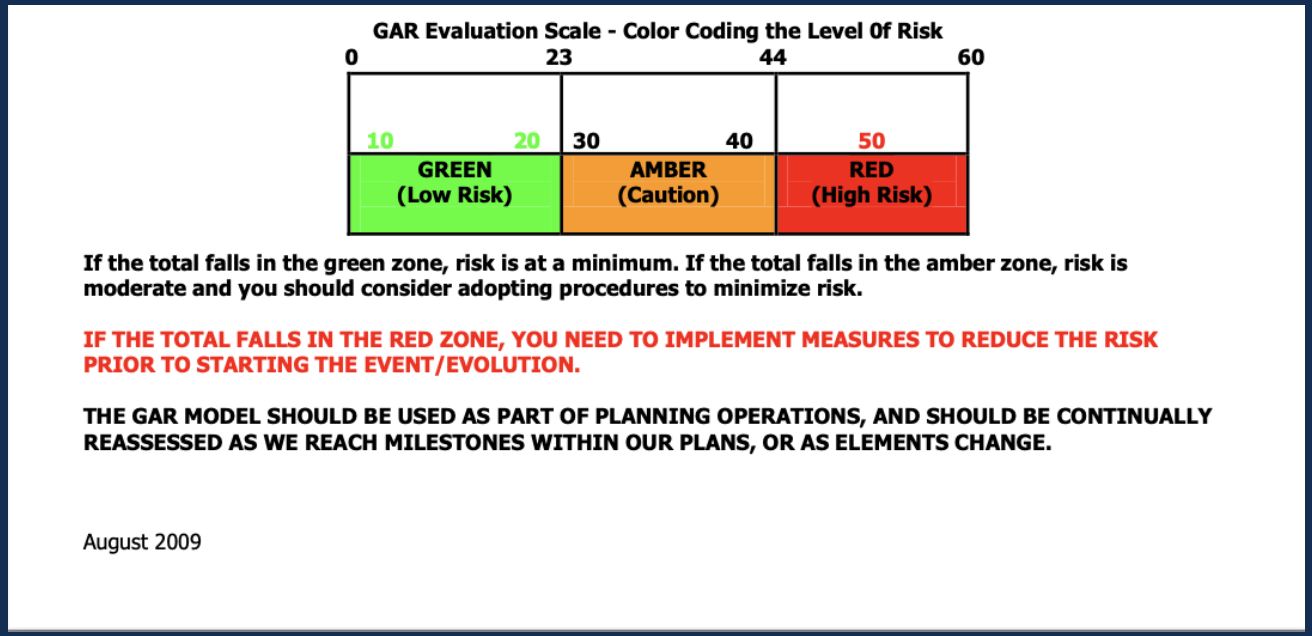
This Worksheet should be used for all surface operations unless other GAR forms have been mandated by local OIAs.

GAR IS BASED ON A TEAM DISCUSSION TO UNDERSTAND AND EVALUATE THE RISKS ATTENDANT TO A MISSION AND HOW THEY WILL BE MANAGED.
RISK MANAGEMENT IS WHAT IS IMPORTANT; NOT THE ABILITY TO ASSIGN NUMERICAL VALUES OR COLORS TO RISK ELEMENTS.

Assign a risk code of 0 (For No Risk) through 10 (For Maximum Risk) to each of the six elements below. The discussion should start with the junior (least experienced) members first on each category.

Supervision -qualifications / experience / communications	
Planning – details / clarity / vessel selection and condition	
Team Selection – qualifications / experience	
Team Fitness – physical / mental state	
Environment - seas / visibility / wind / current / temperatures	
Event/Evolution Complexity –details / tasks	
Total Risk Score	

GAR Assessment



GAR Evaluation Scale - Color Coding the Level Of Risk

0	10	20	23	30	40	44	50	60
	GREEN (Low Risk)			AMBER (Caution)			RED (High Risk)	

If the total falls in the green zone, risk is at a minimum. If the total falls in the amber zone, risk is moderate and you should consider adopting procedures to minimize risk.

IF THE TOTAL FALLS IN THE RED ZONE, YOU NEED TO IMPLEMENT MEASURES TO REDUCE THE RISK PRIOR TO STARTING THE EVENT/EVOLUTION.

THE GAR MODEL SHOULD BE USED AS PART OF PLANNING OPERATIONS, AND SHOULD BE CONTINUALLY REASSESSED AS WE REACH MILESTONES WITHIN OUR PLANS, OR AS ELEMENTS CHANGE.

August 2009

https://rdept.cgaux.org/documents/GAR%20Model%20Surface%20Ops.pdf

Post Voyage Debrief

Not just about the cocktails and war stories

Where can we do better?

Who is making the change?

Did we have a good time?

Did we learn something?

Ten fingers, twelve toes?

The Seven ”P” Principle

Prior
Proper
Planning
Prevents
Piss
Poor
Performance

Flare Disposal

Non County Alternatives

The fire investigation section of the County Fire Marshal's Office will accept items such as Aerial flares, parachute flares, and marine/smoke flares (encased in plastic) gunpowder, hand grenades, blasting caps, fireworks, etc. Call (410) 222-7884, Monday through Friday, between 8:30 a.m. and 4 p.m.

CHOOSE THE DEVICE YOU WILL WANT TO WEAR

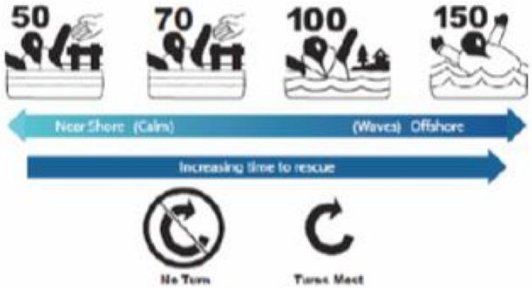
SIZE & FIT

- Check label for user weight and chest size.
- Different body types float differently.
- Try your device on in the water to ensure your airway is clear.
- A good fit is secure, comfortable, and adjustable.

TRY IT ON

PERFORMANCE

- Lower level number generally offers greater mobility, comfort, and style with good flotation for most people.
- Higher level number generally offers greater flotation, turning, and stability in the water.



CONSIDER YOUR ACTIVITY & ENVIRONMENT

WATER SAFETY INFO

- In over 80% of boating fatalities the person was not wearing flotation.
- Most of these are sudden falls overboard or capsize of a small boat.
- The first moments in the water are critical, even for experienced swimmers.
- Cold water shock causes involuntary gasping, loss of muscle control and swim failure.
- Long term immersion in cold water causes hypothermia and requires thermal protection and flotation in the HELP position to conserve energy.

FLOTATION DEVICES SAVE LIVES

DESIGN TYPES

- INHERENT – built-in flotation (always buoyant).
- INFLATABLE – activated gas canister inflates chamber(s) (no buoyancy until time of inflation, requires canister replacement, may be manual, may require secondary action to don).
- HYBRID – combination of flotation and inflation (some immediate buoyancy and supplemental when inflated, may require canister replacement).
- SPECIAL PURPOSE – your activity may require special features (safety color, harness, straps, etc.) and accessories (whistle, lights, reflectors, etc.) for certain conditions.

YOUR DEVICE ONLY WORKS WHEN WORN

MAINTENANCE

- Over time, exposure to sun, salt, fuel, and mildew can damage device.
- Allow to air dry. Inspect and test regularly.
- Inflatables require replacement rearming, repacking and regular servicing.

READ, SAVE AND FOLLOW INSTRUCTIONS

WARNINGS

- Children should have adult supervision when on or near the water.
- Devices must be fastened correctly and securely.
- Some devices were not designed for certain activities or conditions such as water skiing, towed sports, personal watercraft (PWC), or whitewater paddling.

CHECK LABEL FOR LIMITATIONS OF USE

APPROVAL

- Some devices are approved only when worn.
- Check federal, state/provincial and local requirements for carriage, use and wear.

☑ US Coast Guard ☑ Transport Canada

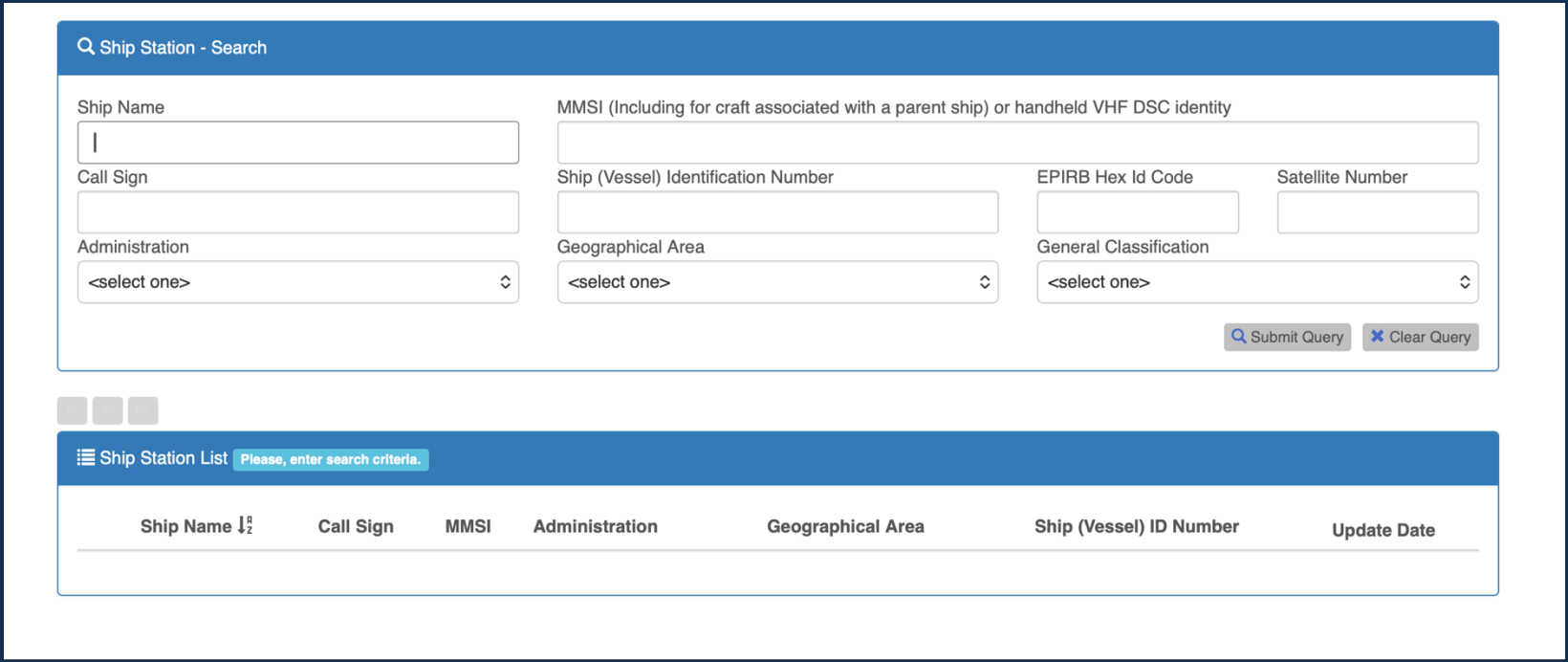
WEAR IT

For more info on the right choices for yourself, your family and friends.

Visit www.wearitlifejacket.org

SAFETY AT SEA US SAILING SAFETY AT SEA

MMSI Search



https://www.itu.int/mmsapp/ShipStation/list

The DECISIONS you make are going to be more important than the EQUIPMENT you have

Thank You!