



Harvest Moon Regatta 2011

At-Sea Safety

By



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Four sections:

1. **Coping with Emergencies**
2. **Crew Training and Practice**
3. **Watch Systems and Crew assignments**
4. **Potential Hazards**



1. Coping with Emergencies

- **Critical situations**
 - Manoverboard
 - Vessel capsize, sinking or on fire
 - Medical emergencies
- **Other emergencies**
 - Loss of steering
 - Heavy weather
 - Loss of engine



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Manoverboard



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A recent sailboat race

Video clip link:

http://www.liveleak.com/view?i=d84_1312738445&comments=1



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Coping with: Crew overboard

Cases from US sailing:

<http://www.usps.org/seattle/images/links/105-mob-cases.pdf>

Case 21. On September 6, 1984, a 38 foot Hans Christian ketch was sailing off Santa Cruz, California. The skipper fell overboard in darkness. He was wearing a PFD with a strobe. The crew managed to locate him and get him alongside. They then attempted to lift him aboard with a boathook. However, the boathook pulled his PFD off, he drifted away, and the crew lost sight of him. A Coast Guard helicopter recovered the body two hours later.

Case 56. This is the story of a successful rescue with the Lifesling. It might also show how good fortune may favor those who are most prepared and experienced.

"Xanadu" was off Cape Beale, on the west coast of Vancouver Island, Canada. The wind was blowing about 25 knots, the seas were 6 to 8 feet and "sloppy". Paul, wearing a PFD and Lirakis safety harness, clipped into a jack line, went forward to lower the jib. The main was up and the boat was driving on a reach. After the jib was on deck, Paul went to the bow to secure the sail and halyard. He clipped the harness directly into a pad eye on deck, and reached up to get the shackle on the halyard. He had a hand on the pulpit, when the bow fell off a wave. As the boat dropped, Paul's hand slipped off the pulpit, and he came up short and hard on the harness's tether. The pad eye, a standard brand tack welded item, broke at the weld, allowing Paul Weston to fall overboard; although it was the boat which actually dropped out from underneath him.

Randy Williams immediately tossed overboard a horseshoe buoy and pole. The horseshoe landed close to Paul who grabbed it. Randy depowered the mainsail, started the engine, made sure no lines were trailing in the water alongside "Xanadu", and then motored close to Paul. He deployed the Lifesling, put the engine in neutral and circled Paul. Paul got the Lifesling and put it on. Randy hauled him in to the stern of the boat where Paul was easily able to climb aboard on the stern ladder. He had only been in the water for 5 to 6 minutes. They continued into Bamfield where Randy bought Paul dinner.



Coping with: Crew overboard

- ***Instructions to my crew:***
 - *Throw flotation*
 - *Launch MOB pole*
 - *Shout “Manoverboard”*
 - *Set GPS manoverboard feature*
 - *Visually contact victim and point*
- ***Practice and experience needed***



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Using a Lifesling

Video clip link:

<http://www.youtube.com/watch?v=FXMQIBAhFFs>



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Capsize, Sinking or on-fire



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Got that sinking feeling?





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Or all fired up?

Video clip link:

<http://www.youtube.com/watch?v=J0mvCV1zuWU>



Coping with: **Fire or Sinking**

- **Necessary equipment aboard**
- **Abandon ship instructions**
- **Emergency bag ready**
- **Realization of how dangerous this can be!**



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Abandon Ship Responsibilities

Some of the abandon ship tasks to be assigned:

Name	Task
Skipper	Activate EPIRB, Activate DSC Emergency call
1st Mate	Launch Liferaft
Crew A	Get Emergency Grab BAG
Crew B	Get hand-held VHF and GPS
Crew C	Get flares and knife



Coping with: **MEDICAL EMERGENCY**

- **First-Aid kit**
- **Basic skill and info aboard**
- **Communication equipment**
- **Awareness of what medical emergencies are most likely to occur**



Other emergencies: ***Loss of Steering***

- **Emergency tiller**
- **Cable, clamps and sheaves**
- **Loss of rudder**
- **How to sail with no rudder**



*Other emergencies: **No Engine***

- **Engine repair parts**
- **Engine repair knowledge**
- **Sailing skill**
- **Battery charging?**



*Other emergencies: **Bad** weather*

- **Reefing ability**
- **Experience**
- **Avoiding hypothermia**
- **Avoiding fatigue**



Obtaining assistance

- **VHF or SSB radio**
- **Automatic emergency equipment (EPIRB, DSC)**
- **Flares**
- **SPOT satellite GPS Messenger**
- **Cell phones ???**



USCG Rescue 21

- **The USCG now has the new Rescue 21 system active over 35,000nm of coastline including all of the US Gulf Coast**
 - Can locate position of Mayday call
 - Receive and respond to DSC emergency calls



Skipper's responsibility

- **To prepare the vessel for the intended passage such as to:**
 - Fit all appropriate equipment
 - Display a Safety Equipment location chart
 - Assign abandon-ship duties
 - Ensure communications equipment is all working and active (including DSC)



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DSC

- **Digital Selective Calling**
- **Using DSC in an emergency requires:**
 - DSC capable radio
 - MMSI number (from BoatUS)
 - Interfaced to GPS (to show position)
- **Contacting the USCG**
 - USCG are now able to respond to DSC emergency calls across the whole US Gulf Coast





Skipper's responsibility

- ...and to ensure the crew are ready for the trip
 - Crew training!



3. Crew Training and Practice

- **Harvest Moon Regatta
Seamanship and Safety Skills**
- **Suggested one-day on-the-water
crew training**



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Crew training day

- **Items to be practiced:**
 - Lifevests and harnesses
 - Mainsail and headsail reefing
 - Heaving-to
 - Anchoring
 - Non-GPS navigation (3 bearing fix, running fix)
 - VHF radio
 - MOB recovery
 - Emergency steering
 - Bilge pumps and through-hull fittings



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Possible crew training program

8:00am	Dockside	Crew briefing: location of safety gear, through hulls, operation of bilge pumps. Test fit emergency tiller. Have crew practice putting on lifevests and safety harnesses. Adjust harness to fit each crew member
9:30am	Leave dock, head to bay	Set mainsail. While using engine to maintain steerage way, practice reefing mainsail. Engine off. Set headsail and do same
11:30am		Heave-to or anchor. Have lunch. Practice 3 bearing fix. Listen to VHF channel 16. Discuss radio protocol
1:00pm	Get under way	Practice Manoverboard with MOB pole using quick stop method to return to the MOB pole. Deploy lifesling and circle pole
3:00pm		Fit emergency steering and practice MOB recovery
4:00pm	Return to dock	
4:30pm		While at dock, practice hoisting crew member aboard from water
5:00pm	Review	Decide on follow-up practices as necessary



3. Watch Systems and Crew Assignments

- **Watch systems considerations**
- **Skippers rules**



Watch systems considerations

- **Number of crew**
- **Experience of crew**
- **Weather conditions**
- **Fatigue and/or seasickness**



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Watch systems

Just a few possible watch systems of many:

# of crew	# of crew on watch	Watch length	Off-watch time	Notes
3	2	4 hrs	2 hrs	Minimal rest
4	2	4 hrs	4 hrs	Rotate crew every 2 hrs
5	2	2 hrs	3 hrs	Rotate crew every 1 hr



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Crew experience

- **Not all crew should be novices**
- **Try and keep at least one experienced person on watch at all time:**
 - Watching for and dealing with shipping
 - Recognizing weather changes
 - Avoiding dangerous sailing practice



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Weather Conditions

- **In heavy weather helm changes need to be more frequent**
- **In rain or cold, watch lengths may need to be shorter**
- **In changing conditions may need extra crew on deck**



Skippers rules

- **When to wear harness and tether**
- **Where (and where not) to attach the tether**
- **What to do if someone goes overboard**
- **What to do when crossing safety fairways**
- **What to do if wind picks up**
- **And a whole lot more**



1. Potential Hazards

- **Galveston Bay**
- **Along the coast**
- **Coming back in the ICW**



Hazards in Galveston Bay

- **Redfish Island**
- **Commercial traffic in the HSC**
- **Security zones**
 - Port areas such as Bayport, Texas City
- **Cruise liners**
 - Within 500 yards: operate at minimum speed
 - No closer than 100 yards unless authorized

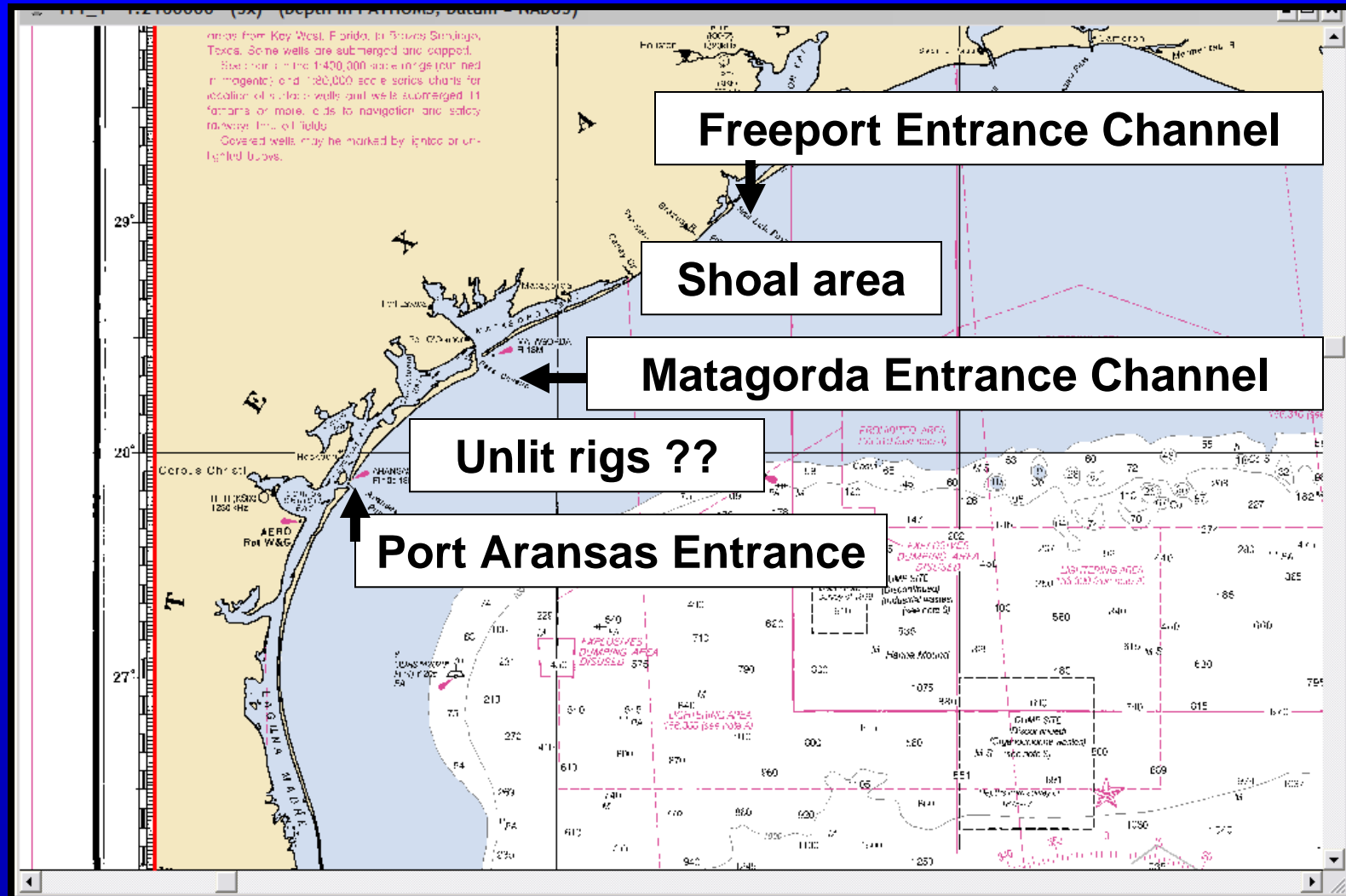


Hazards along the coast

- Shoal areas
- Oil rigs
- Fishing boats (trawling)
- Crew boats
- Seismic survey vessels
- Tows
- Freighters and other commercial traffic
 - AIS (Automatic Identification System)



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Hazards on the ICW

- **Commercial tows**
 - Use of AIS (Automatic Identification System)
- **Brazos River lock**
- **Going aground**



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ORC Category 3: Quiz

- What do the regulations say about the responsibility of the person in charge (the skipper)?



ORC Category 3: Quiz

- What do the regulations say about the responsibility of the person in charge (the skipper)?
 1. **The safety of a yacht and her crew is the sole and inescapable responsibility of the person in charge who must do his best to ensure that the yacht is fully found, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather.**



ORC Category 3: Quiz

- What do the regulations say about the responsibility of the person in charge (the skipper)?
- 2. He must be satisfied as to the soundness of hull, spars, rigging, sails and all gear.**



ORC Category 3: Quiz

- What do the regulations say about the responsibility of the person in charge (the skipper)?
- 3. He must ensure that all safety equipment is properly maintained and stowed and that the crew know where it is kept and how it is to be used.**



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Experience

It's only by getting *real experience* offshore that you can become competent and confident in your abilities



More information

- **Copies of these notes on our website: www.hshyachts.com**
- **We offer classes in navigation and more: see our website: www.hshyachts.com**