Nova Scotia Women's Sailing Curriculum

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Introduction

The idea for this document was developed in 1999 when I had the opportunity to be a guest instructor at a Women's Keelboat Seminar in St. Margaret's Bay. The multi-day seminar was deemed a great success, by both instructors and participants. Women who had little or no sailing experience got an introduction to the sport in a supportive and friendly atmosphere, onboard donated boats.

Following this experience, as I transitioned from dinghy to keelboat sailor, I became aware of the discrepancy between level of interest, and the opportunities for the development of sailing skills in women. I also learned more about the seminars that were being developed and facilitated by those sailors dedicated to increasing the participation of women in the sport. It became clear when speaking with both the participants and facilitators of these programs, that there was a need for a curricular resource that would allow more experienced sailors to teach women to sail, and to build their confidence with existing skills.

With this curriculum, I hope to take much of the leg work out of facilitating women's sailing programs, by providing a template that can be utilized by anyone with some sailing experience and the desire to help build the sailing community.

The content of this curriculum is a compilation of the input I received from women sailors, CYA's Basic Cruising Standard, past women's programs, and a number of articles sourced from sailing publications. You do not need to be a sailing instructor to use this document. It is meant to be a road map for sailors to facilitate learning experiences for soon-to-be-sailors. The topics and facilitation suggestions come from aspects of women's sailing programs that have proven successful and effective in Nova Scotia. Instruction is intended to be facilitated on the water as much as possible. It is intended to be adapted and modified, but most importantly, used!

This curriculum was created at the NSYA, to fulfill a requirement for my Bachelor's of Education degree at Queen's University. It was written with the help of many individuals in the sailing community. Thanks to the women and men who shared their experience and ideas about women's sailing in the province, and to Frank Denis and the NSYA for supporting this project.

It is my hope that this curriculum will be a permanent and sustained 'work in progress' to be used and improved by women across the province. To this effect, any and all feedback is appreciated.

Happy Sailing,

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How to Use this Curriculum

Do:

- **Listen to the needs of your participants.**
- **Create a supportive learning environment that encourages questioning, self-reflection and trust**.
- **Assemble a custom program.**
- **Encourage participants to follow up their learning experience.**
- **Focus on objectives**.
- **Solicit interest and expertise from the women in your local sailing community**.
- **Use this curriculum to avoid re-inventing the wheel…it will free up time to go sailing!**

Don't:

- **Be limited by this curriculum. Expand and adapt it according to the skill level of your participants and facilitators.**
- **Hesitate to share programming ideas and collaborate with other clubs**.
- **Get stuck on land. Whenever you can facilitate a lesson in the cockpit rather than in the classroom, do it!**

Facilitation and Program Structure Suggestions

You have established that there is interest in having a women's sailing program at your club. What next?

The following suggestions have come directly from women who have run and attended women's sailing programs and seminars in Nova Scotia. These are the essential components and preferred methods of program structure and delivery.

Pre-Program:

1. Coordinate with club re: use of clubhouse and facilities as program venue.

2. Seek out volunteer facilitators/instructors and donated boats.

3. Advertise in sailing club newsletters, on club bulletin boards, websites, bulletin boards at local retailers, word of mouth, etc.

4. Schedule program outside of prime sailing season to increase probability of boat donation.

5. Pick topics from curriculum, or use whole curriculum. See suggested program format. Solicit input from interested participants: what do women want to learn/review/practice? Plan your program around these topics accordingly.

6. Send out a pre-program package to participants. See appendix for sample documents.

7. Hold ONE instructors meeting. The lower the commitment of your program, the more success you will have getting volunteers and participants.

8. Acquire teaching materials- see suggested materials for the topics in your program.

9. Have a plan 'B' in case of storm/equipment failure etc.

10. Plan a wrap-up social event, this is essential!

Program:

1. Give each participant a program schedule.

2. Give handouts and notes at beginning of program.

3. Consider setting up stations for classroom sessions. Facilitators who feel comfortable teaching one topic do so during a given time slot. Participants can choose which stations they attend.

4. Include information on follow-up sailing and theory courses, racing opportunities, and sailing club membership. Ideally, women who learn to sail and develop their confidence will go on to become active members of the sailing community.

Post- Program:

1. Have participants fill out a feedback form on the last day/session. See appendix for sample documents.

2. Thank-you to volunteers.

Suggested Program Format

** The suggested topics are listed according to sailing skill progression. The time spent, and depth of material covered for each topic will depend on the duration of the program and the needs of the participants. Every program should include at minimum, a safety briefing**

Program Duration	Curriculum Topics
Weekday nights- 2x2.5hrs per week=5hours x number of weeks	Goal Setting, Boat Etiquette, Sailing Terminology, Knots, Safety, Getting Underway, Basic Boat Handling.
Weekend- single day 6hrs.	Boat Etiquette, Sailing Terminology, Knots, Safety, Getting Underway, Basic Boat Handling, Docking or Mooring.
Weekend- 2 days x6hrs.= 12hrs.	Goal Setting, Boat Etiquette, Sailing Terminology, Knots, Safety, Getting Underway, Basic Boat Handling, Docking or Mooring, brief intro Weather/Navigation.
Weekend- 1 night x 3hrs. 2 days x 6hrs.=15hrs.	ALL
Extended Weekend- 2 nights x 3hrs. 2 days x 6hrs.= 18hrs.	ALL- Potential for intro to racing module or a guest speaker.
One session- 3-5hrs.	Custom Focus- Safety and one topic.

Ice Breakers, Goal Setting and De-briefing Activities

Ice Breakers

Name Bingo- Each participant receives a bingo sheet. The goal is to have participants mingle with each other and get enough names to fill in their sheets. Depending on group numbers, you can allow participants to use each name only once, or twice etc. First person with a full sheet wins. Game can go on until everyone fills their card with smaller groups. Modify statements according to the context of the group.

Introducing Experts- Group is split into pairs. Each pair has a few minutes to learn enough about their partner to present them to the group as a 'guest speaker'. One partner introduces the other briefly, and ends with their presentation topic. Can be funny, related to a like/hobby/profession of theirs. Ex: "This is Marie, she is a native of Toronto. Marie has 3 dogs, and has wanted to learn how to sail for ages. She will be giving us a talk titled 'What to do when your mother takes up skydiving'."

Name Ball Toss: Group stands in a circle. Use at least 2 squishy balls of different colors. One ball is a forwards ball, the other is a backwards ball. The person starting with the ball says their name and someone else's and throws the ball to them. Once the ball makes its way through the entire group, the backwards ball can be started. This ball travels in the opposite direction, always starting with the participant's name and the person they're throwing the ball to. If the group is getting good, throw in another few balls!

Hobby Switch- Group stands in a circle. One person volunteers for the centre. They say a hobby they enjoy. Anyone else in the group who also enjoys that hobby must exchange spots with a group member. The person in the middle is trying to steal a spot as well. The person left without a spot becomes the person in the centre.

Goal Setting

Full Value Contract- Group brainstorms their goals for the program. They also brainstorm 5 things that each person can commit to about how the group will function.

Ex: ask questions, respect ourselves, each other, the boats, be open to new experiences. Group goals are recorded and posted in a visible location for duration of program to refer to. Each group member signs full value contract.

Goal Retrieval- Acquire a number of random small objects, small household items and toys work best. Have at least 1 per person. Arrange group in a circle. Place objects on the floor/ground in the middle of the circle. Have each participant think of a goal they have for the program/seminar etc. Ask them to retrieve an object from the floor that represents this goal. Have group members share their goals/objects with the group. Write these down. Next, instruct participants to place their 'goals' (objects) anywhere in the room (or within a given area if outdoors). Once objects are placed, reassemble group and have members hold on to a rope circle with both hands, facing outwards. Their challenge is to retrieve everyone's goals as a group while keeping both hands on the rope circle. For an easier version, participants can take one hand off the rope. Allow for group to struggle initially as they will most likely all start heading in different directions for their own objects. Once each member has their goal, have group sit in a circle with the rope circle on the ground and de-brief experience. Sample guided questions: What did the circle represent? (group) What happened when you started? (everyone had their own agenda) What happened so that everyone could get their goal? (working together) How many people needed the help of another person to retrieve their goal? This can be an effective way to set the tone of a program- no one can achieve their goals for the sailing program on their own.

Know, Want to Know, Learnt! Handout- Allows sailors to track their own learning by providing a record of their initial and end-of program knowledge levels for comparison. Encourage participants to fill out the sheet at the end of the program, and provide resources for any of the things they wanted to learn, but weren't covered in the program.

Regardless of how a goal setting session is facilitated, the most important thing is that it is facilitated!! Taking a bit of time at the beginning of the program to set and share goals will ensure that everyone's aims are met and will increase participant's sense of ownership over their own learning experience. This will avoid having disappointed participants at the end of the program with unfulfilled goals you never knew they had!

De-briefing

Rolling the dice- have established de-brief questions that correspond to the numbers 1 through 6. At the end of the session, have each participant roll the die and answer the associated question. Sample questions: What boat handling skill did you learn today? What was the most memorable part of the day? Name something you did well today. Of the skills you learned today, what would you most like to practice/review tomorrow? If something didn't go so smoothly today, how would you do it differently the next time?

Weather Report- routine, frequent check-ins with the group to assess mood, comfort level and learning/skill progression. Ex:

On a scale of 1-10, how are you feeling about rigging the boat on your own right now?

Who feels confident with their ability to skipper through a tack? 1. Fists in centre of circle. 2. Thumbs up/down/to the side.

Should we spend more time on docking tomorrow or do you want to move on? Have participants write answer anonymously on a post-it note as they leave the boat.

Tableau- split group into pairs. Each person describes their most memorable/funny/successful/proud etc. moment of the sail to their partner who must act it out in tableau format (no speaking). Pairs present to the entire group. Each person describes the tableau that their partner is performing.

Topic

Objectives:

- Learning outcomes for topic: skills, knowledge, applications
- Material to be covered

Teaching Materials:

Materials to aid in instruction of topic
Small, inexpensive, portable materials able to be used onboard

Suggested Activities/Teaching Strategies:

- Activities and strategies to help participants learn about the topic and/or practice a skill (not necessarily presented in order of skill progression).
- Tips and reminders for teaching/facilitating each topic.
- Drills and activities focussed on select components of skill.
- Activities can be used individually, or in combination as required.

Closing:
Take home message to convey to participants
Key points from topic
Overall teaching considerations

Modifications/Accommodations:
Suggestions for altering instruction based upon participant skill level, weather, equipment availability, etc.

Resources/Links:
Other sources of information
Attached Articles: included in curriculum

Boat Etiquette

Objectives:

- Where to sit
- Where to stand
- What to wear on your feet
- Water systems
- Head use
- Stove use

Teaching Materials:
n/a

Suggested Activities:

- Give a thorough explanation of all the quirks of life on a sailboat.
- Explain why soft soled shoes/boots are necessary.
- Tour the deck and cabin and be explicit about where you can/cannot step, sit, hold on, etc. Demonstrate how to move from one side of the boat to the other while underway, during a tack, etc.
- Locate water tanks and explain that water needs to be conserved on sailboats.
- Explain how to use the onboard toilet/head and how to ensure it works properly.
- Demonstrate how to safely use the stove. Gas on first and off first.
- Provide time for questions. Make sure participants feel free to ask about any aspect of life onboard.

Closing:
Embrace all questions. Chances are, people will appreciate learning about the intricacies of boat life in this environment.

Modifications/Accommodations:
Obviously, this section can be skipped if the participants are familiar with boats. However, encourage participants to give a brief run down of boat etiquette to non-sailors when they board their boats, as it can prevent a lot of headaches.

Resources/Links:
n/a

Sailing Terminology

Objectives:

- **Parts of the Boat**

Hull & Keel	Standing Rigging	Head, Tack & Clew
Bow, Beam & Stern	Tell-tales & Ticklers	Luff, Foot & Leech
Fenders	Spring & Breast Lines,	Outhaul & Cunningham
Deck & Cabin	Gooseneck	Battens, Hanks & Sail
Rudder, Tiller/Wheel, Helm	Boom vang & Topping Lift	Slides
Cockpit & Self-bailing	Shackles & Fairleads	Cringles & Reef Points
Cockpit	Cleats & Winches	Sheets & Halyards
Mast & Boom	Pulpit & Pushpit	Main, Jib & Storm Jib
Spreaders	Stanchions & Lifelines	Genoa & Spinnaker
Shrouds & Stays	Roller Furling	
Running Rigging		

- **Points of Sail**

In Irons/Head to Wind/NO GO zone
Close Hauled/Beating
Close Reach
Beam Reach
Broad Reach
Run

- **Sailing Terms**

Ahead	Sailing by-the-lee	Windward
Abeam	Heading up, Bearing off	Leeward
Astern	On a tack	Underway
Forward	Luffing	No Way, Headway,
Aft	Wash	Sternway Leeway
Heading		Starboard & Port
Wake		

Teaching Materials:

Points of Sail Diagram
Parts of the Boat Diagram
Terminology cards

Suggested Activities:

- Getting to know the boat- introduce participants to the boat they will be sailing. Start with boat balance and the function of the keel as you board. Why does the boat heel a bit when I step onboard? Will it tip over?

- Walk participants around boat (One hand for you- One hand for the boat). Locate safety equipment. Settle into cockpit and start introducing boat parts, and other terminology. Preface this lesson by letting participants know that although it may seem overwhelming, they will remember names of boat parts as they begin to use them.
- Begin rigging running rigging and continue introducing terms. Depending on wind/skill level/boat, rig mainsail, or main and jib.
- Provide cards with names of boat parts and have participants move around boat and attach them to the respective piece of equipment. Group helps correct any misnamed parts.
- It may make sense to introduce the concept of the boat sailing at different angles to the wind while onshore/at mooring, but introduce points of sail during the first sail.

Closing:
Boats differ, but most terminology crosses over. When in doubt on a new boat, fight the thingamajiggy designation, and ASK!!

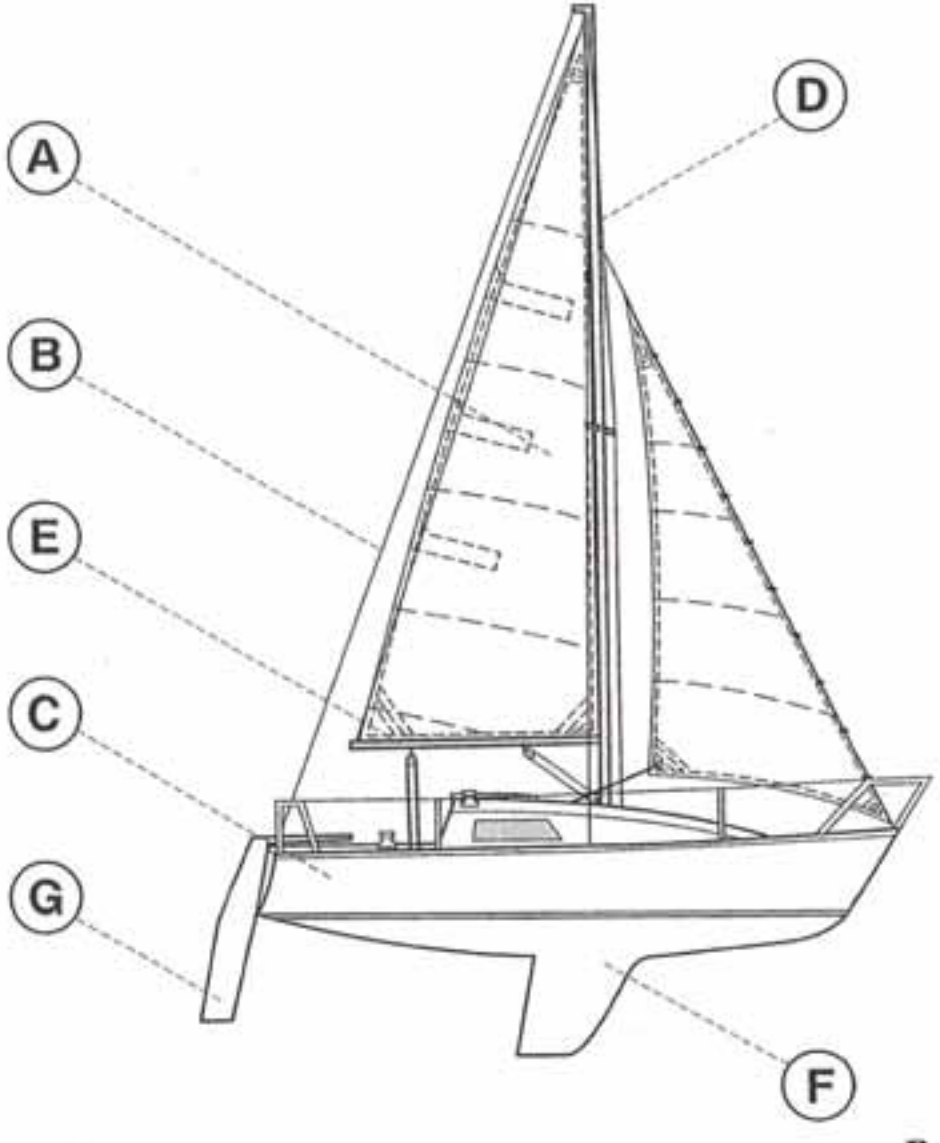
Modifications/Accommodations:
If the skill level of the participants is high, it may be a good time to discuss more technical terminology, such as parts of the sail, sail controls etc.

Resources/Links:
CYA Basic Cruising Skills Manual

Attached articles:
Points of Sail Diagram
Parts of the Boat Diagram

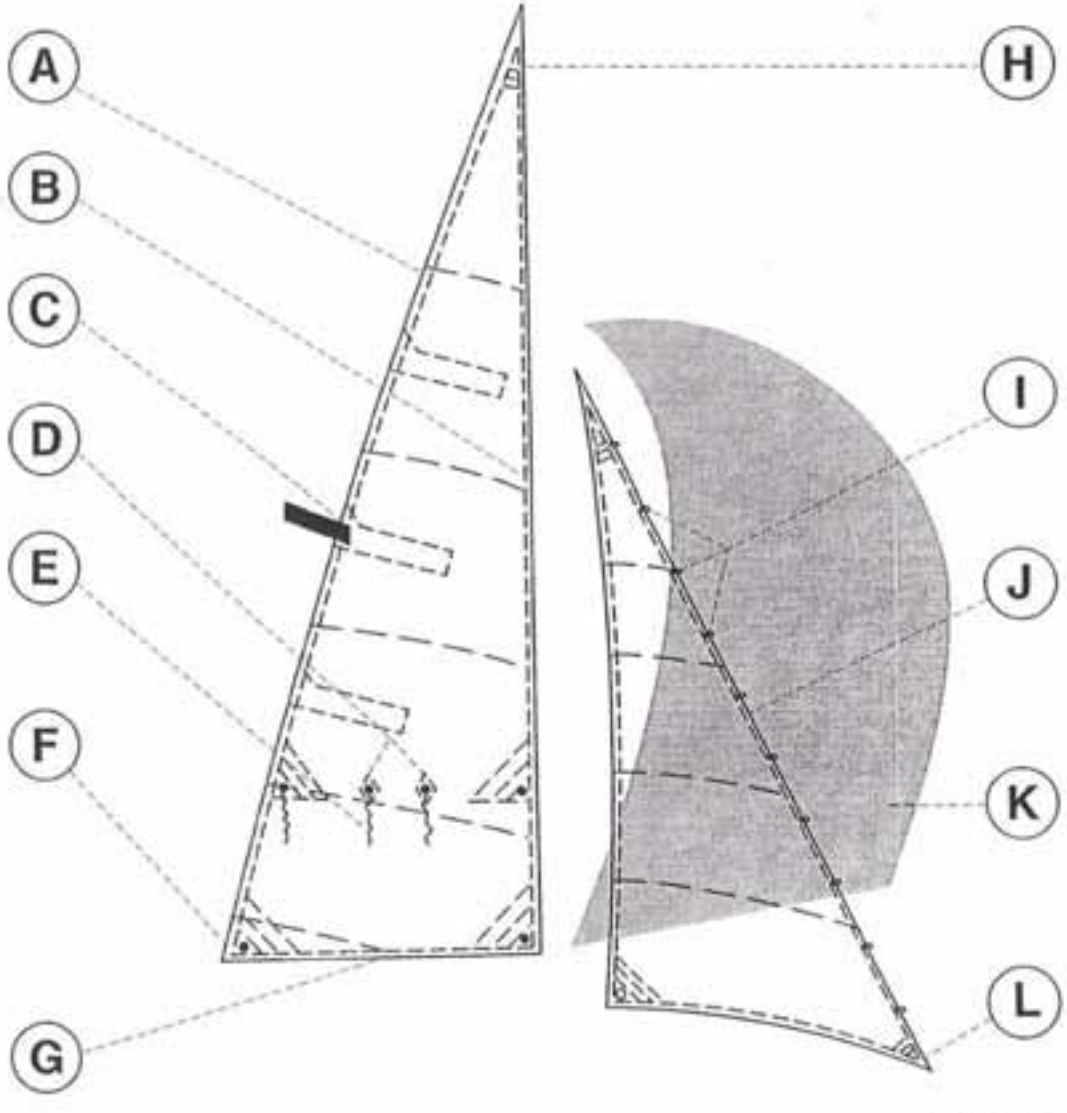
Terminology: The Boat

A Sails
B Rigging
C Hull
D Mast
E Boom
F Keel
G Rudder



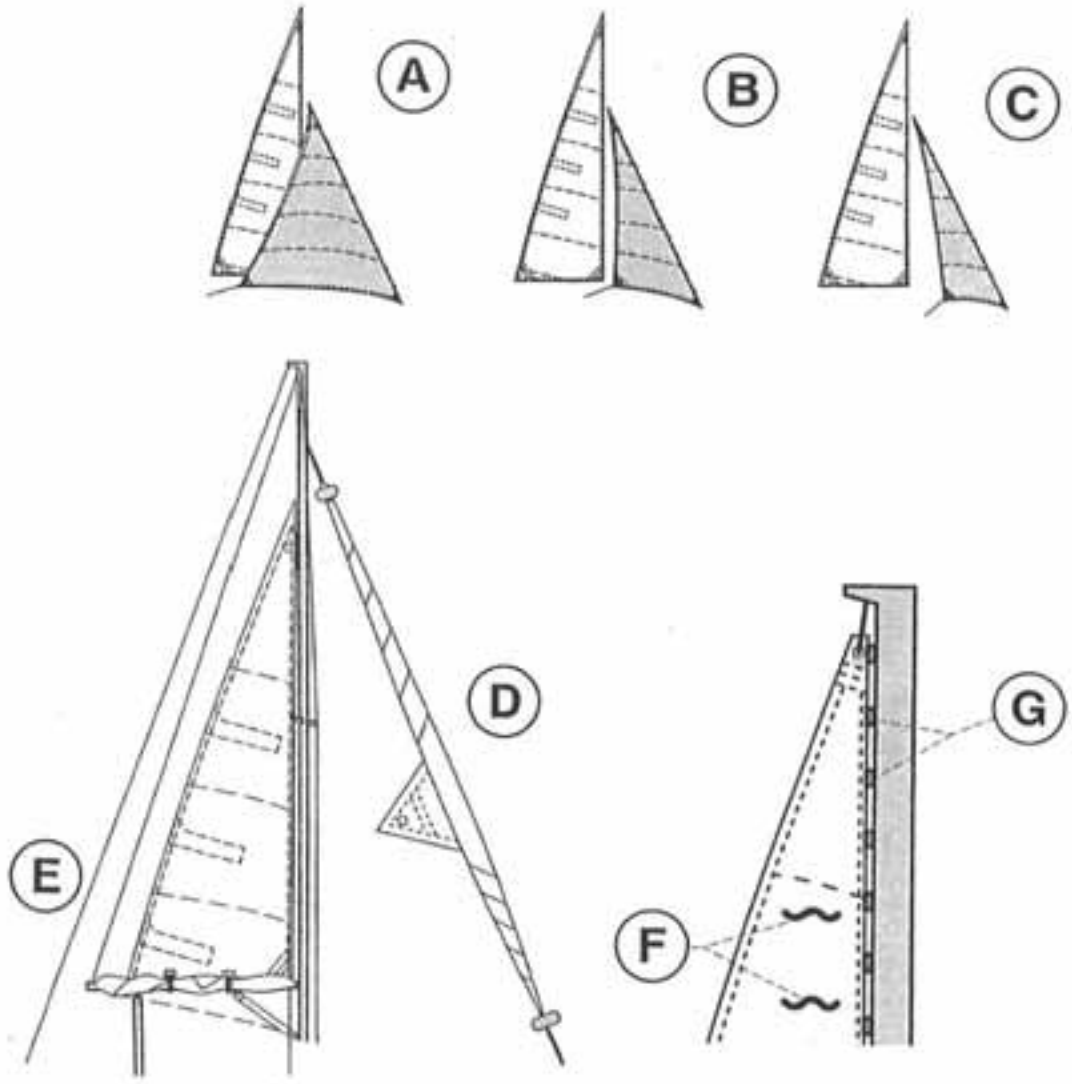
Terminology: Sail Parts

A Leech
B Luff
C Batten Pocket & Batten
D Cringles
E Reef Point
F Clew
G Foot
H Head
I Hanks
J Luff
K Spinnaker
L Tack



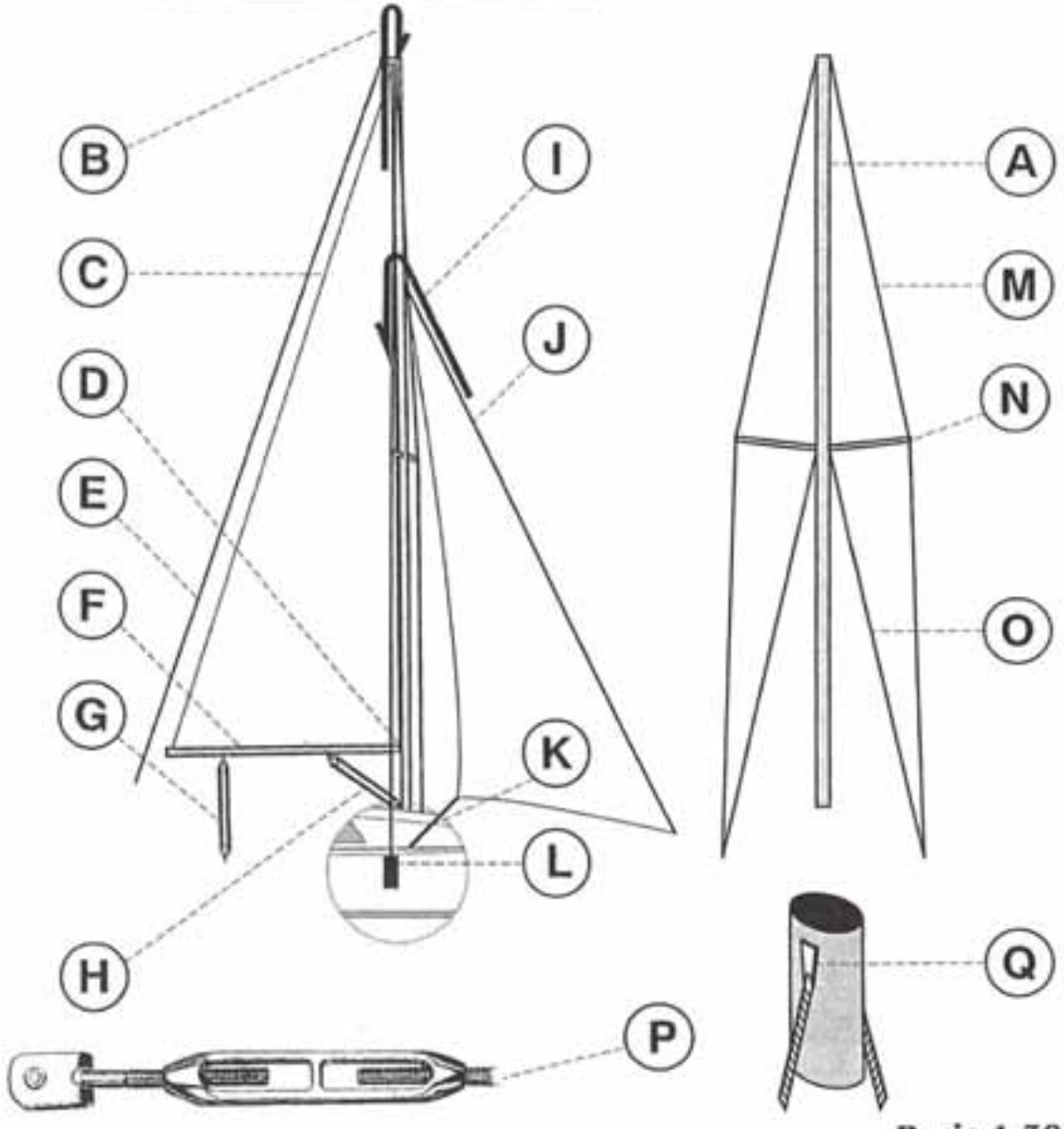
Terminology: The Sail

A Genoa
B Jib
C Storm Jib
D Roller Furling
E Slab Reefing
F Ticklers
G Sail Slides



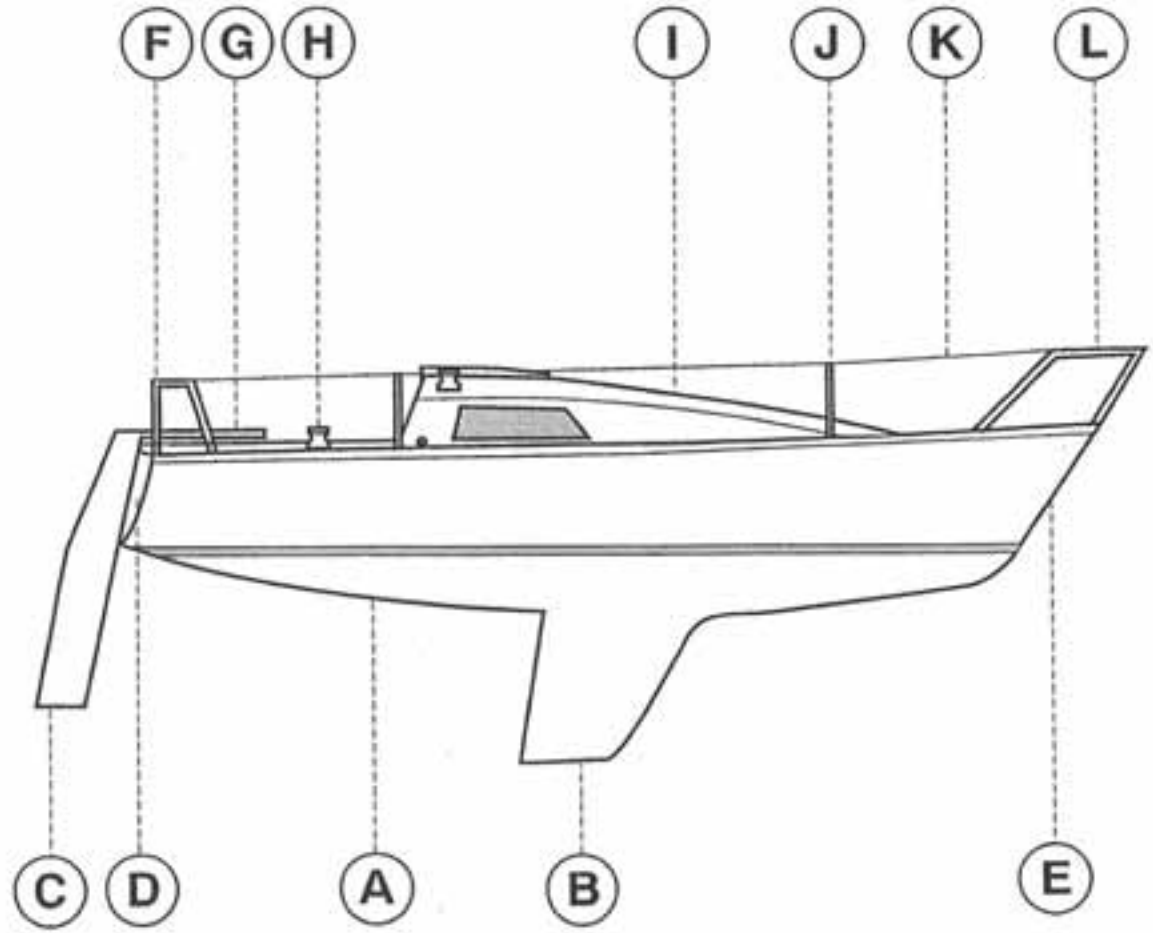
Terminology: Rigging

- A Mast
- B Main Halyard
- C Topping Lift
- D Gooseneck
- E Backstay
- F Boom
- G Mainsheet
- H Boomvang
- I Jib Halyard
- J Forestay
- K Jib Sheet
- L Chainplate
- M Upper Shrouds
- N Spreaders
- O Lower Shrouds
- P Turnbuckles
- Q Tangs

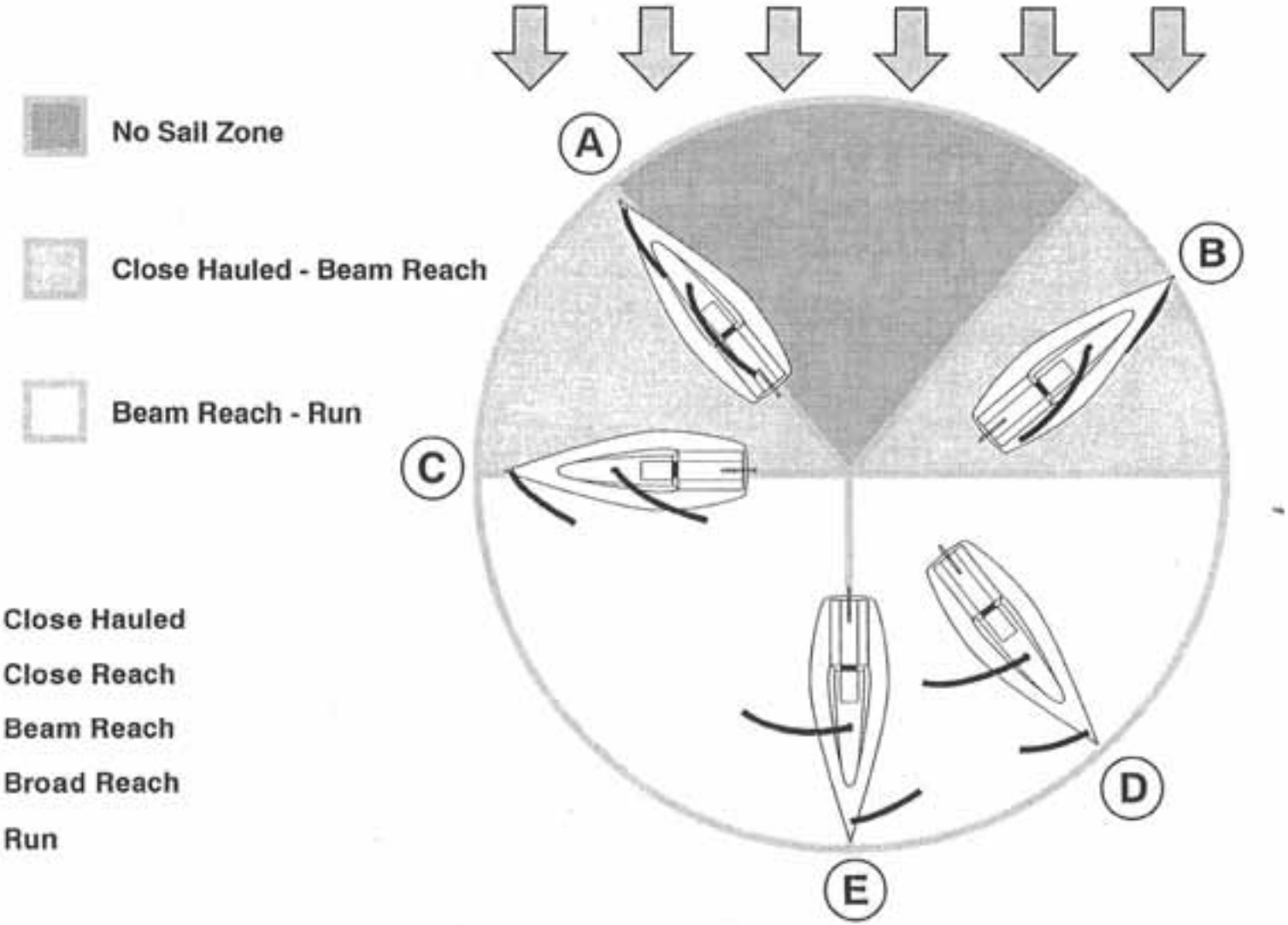


Terminology: The Hull

A Hull
B Keel
C Rudder
D Stern
E Bow
F Pushpit
G Tiller
H Winch
I Cabin
J Stanchion
K Lifelines
L Pulpit



Points of Sail – Sail Zones



A Close Hauled
B Close Reach
C Beam Reach
D Broad Reach
E Run

Knots and Handling of Lines

Objectives:

- Demonstrate the following:
  - Bowline
  - Figure Eight
  - Reef Knot
  - Clove Hitch
  - Round Turn Two Half Hitches
  - Rolling Hitch
  - Sheetbend
- Proper use of above knots
- Care and storage of lines
- Securing a boat to a dock and/or mooring using the appropriate lines, cleats and knots

Teaching Materials:
Individual pieces of line for each participant

Suggested Activities:

- During the first on water session, give each participant their own piece of line to practice the knots as they learn them.
- Teach participants how to tie the above knots, and how to untie knots that have been under a load.
- Demonstrate the proper way to secure a line on a cleat, use the appropriate bow/stern/spring lines and then allow for each participant to have a chance to practice during the program.
- Practice heaving and catching lines on land, have participants split into two groups and make lines facing one another.
- Explain proper care and storage of lines: coiling, protection from UV/Salt water, whipping/splicing, different materials for different purposes, etc.

Closing:
At minimum, ensure each participant can competently tie a bowline, and figure eight knot. Ensure participants can recognize when the knot is properly dressed.

Modifications/Accommodations:
During a land session, (if the group seems responsive/bad weather etc.) knot tying relays can be fun. Split group in half and have them stand in two, parallel lines about 3m away from you. At Go, the first member of each team approaches, and you give them a knot to tie. As soon as it is correctly dressed, the person runs back to their team and the next person goes. The first team to have all their members tie a knot properly wins!

Resources/Links: CYA Basic Cruising Skills Manual

Getting Underway

Objectives:

- Demonstrate boat and motor preparation
- Use of a pre-departure checklist and float plan
- Leaving from a dock/mooring
- Leaving boat overnight-gear and motor considerations

Teaching Materials:

Copies of Pre-departure checklist for each participant (laminated if possible)

Suggested Activities:

- Demonstrate proper method of using dinghies/tenders to get to mooring.
- Allow participants to observe how boat is secured to the dock/mooring before boarding the boat.
- Use pre-departure checklist to establish a routine for getting underway. Rigging/motor/fenders/lines etc. Stick to this.
- Demonstrate rigging appropriate lines/sails. Allow for practice.
- Demonstrate procedure for starting/stopping motor and for leaving motor overnight.
- Emphasize that motor needs to be started and working properly before untying from dock/mooring, and before lowering sails when returning to dock/mooring. In the absence of a motor, boat must be fully secured to mooring before sails are lowered.
- Discuss the wind direction and how it affects leaving a dock/mooring.
- Allow time for practice (preferably from mooring).
- Demonstrate appropriate way to stow/leave gear onboard. Emphasize securing all equipment on deck, tiller, motor, etc.

Closing:
Make sure to review systems on the boat you are using before bringing participants onboard. This will ensure that what you are teaching them reflects what they will observe.

Modifications/Accommodations:
Encourage participants to make and use a checklist for their own boats to ensure all gear is stowed/positioned in the appropriate way each time they head out for a sail.

Resources/Links:
CYA Basic Cruising Skills Manual
Attached articles:
Sample Float Plan
Sample Departure Checklist
Tools of Self-Sufficiency

Preparing to leave dock/mooring

Leaving:
Safety check on deck
Main cover off
Prepare sheets
Halyards
Key in ignition
Unlock wheel/untie tiller
Winch handles and blocks in place
ON:
- Batteries
- Bilge Pump
- Water
- Check propane sniffer is on
- Instruments

Stow gear
Start engine/cast off mooring/docklines

Preparing to return to dock/mooring

Returning:
Start engine
Lower sails
Main cover
Coil/stow lines
Stow blocks and winches
Prepare lines and fenders
Bring boat into dock/mooring
Tie up
Engine off/remove key
Close and lock hatches
Close head valves and through hulls
OFF:
- Instruments
- Water
- Bilge Pump
- Batteries

The Tools of Self-Sufficiency

By George Perry

Daysailer:
All to be stored in a water tight box:
- a multi screw driver
- a pair of vice-grip pliers
- a hammer
- duct and electrical tape
- a knife

Larger Coastal Cruising Vessel:

Basic Tools required:

- cell phone – this is most important as you can either call the Coast Guard or a friend for help/advice
- screwdriver with inter-changeable ends – preferably stainless steel – and one large standard screwdriver
- vice grip pliers (several sizes) – these are most important as they serve as an extra pair of hands in many procedures
- socket/tool set (metric & SAE)
- hack saw with extra blades
- hammer
- set of wrenches (metric & SAE) and adjustable wrench
- large wire/bolt cutter – this is important and greatly needed should you dismast in rough weather and find it necessary to get rid of the rig before it punches thru the hull causing the boat to sink – the rig can always be replaced – if the rig can be saved you have the tools to detach it and secure to the deck
- utility knife with extra blades
- duct tape, electrical tape, plastic ties and 25 feet of light rope/twine.
- WD-40, silicone grease and caulking
- assorted stainless steel screws, nuts and bolts and hose clamps
- Plastic tool box

Tools and supplies for engine, electronics etc.:

- manuals for engine, electronics and any other additional equipment installed to the boat.
- oil and oil filters – although it would be unlikely that you would change your oil at sea you have to check the oil and top up on occasion and it is always nice to have a spare filter on the boat should you or a service need to change the oil
- fuel filters – depending on the set up most will have a primary on the engine and an addition water separator filter. There should be two spares of each. This is something that may be required to be completed while at sea and most times the conditions will be rough. The rough condition causes the problem as sediment in the bottom of the fuel tank gets stirred up and will plug filters stopping the flow of fuel to the engine. This procedure should only be attempted if instruction has been taken.

- filter removal tool – as filters differ in size it may be necessary to have one or more of the devices to fit the filters required
- belts – alternator, water pump and accessory. Most engines will have one or more belts and one of each size should be kept as spares.
- rubber impellors for water pumps
- wooden plugs to fit thru hull fittings should the fittings fail
- spare light bulbs for interior and navigational lights

Tools for making the boat ready for the water:

Topsides:

- soap and cleaners to remove winter dirt from hull
- compound and wax
- orbital polisher

Bottom:

- random orbital sander/sand paper – to prepare the bottom for painting
- scraper, putty knife and sand paper
- quality dust mask and goggles, rubber gloves – bottom paints are very toxic and one should be careful as not to breath in or touch any dust
- paint brush/roller, masking tape and again rubber gloves

Recommended courses: Canadian Power and Sail Squadron courses available for navigation/repairs and maintenance.

Safety

Objectives:

- Describe the purpose and care of the following safety items: PFD, safety harness and attachment, pulpits and lifelines.
- Knowledge of appropriate sailing clothing
- Identify required navigation lights for a vessel
- Cold Water Immersion: Understand the effects, treatment and prevention of hypothermia. Survival techniques: H.E.L.P. position, Group Huddle.
- Understand onboard hazards and safety gear-location and use
- Emergency Preparedness: first aid kit, float plan, distress signals
- VHF emergency use

Teaching Materials:

PFD
Properly stocked first aid kit (see appendix for suggested contents) -
Onboard safety gear: VHF, Signal Flare, fire extinguisher, GPS, etc.
Small whiteboard and dry erase markers.

Suggested Activities:

- Use hands-on teaching methods, and actual safety equipment to make this potentially dry topic interactive, and encourage participants to get into the habit of practicing safety procedures regularly.
- Role modeling is the single most effective way to teach safety practices and encourage good risk management on the water. If you expect participants to wear PFDs, you should be wearing one.
- Make a point of illustrating and highlighting situations during the sail where safety issues need to be considered. Boating safety may be second nature to you, but not to new sailors. Try to make explicit those thoughts that occur as the wind picks up, before a gybe, etc. Walk participants through that awareness/decision making process.
- Before heading out, walk group around boat and see if they can identify hazards or potentially dangerous equipment. Identify any they've missed and direct their attention to the surrounding area: geography, environment/weather etc.
- Ensure each participant has a properly fitted PFD. Outline proper care for PFDs re: storage, UV exposure, expiry, different types available. Compare a PFD to a lifejacket.
- Familiarize all participants with safety equipment onboard: First aid kit, fire extinguisher, bilge pump, VHF etc.
- Pass around several different types of flares and have participants look for instructions, expiry dates etc.

- Pull out first aid kit (ideally more than 1 for teaching purposes) and allow participants to look through them. Provide participants with list of suggested contents for their personal kits.
- Re-iterate the fact that with a little preparation and anticipation, sailing can be a safe and fun activity.
- Have a demo float plan and departure checklist written for the sailing session and have copies for all participants.
- Outline effective layering systems for sailing in different weather conditions.
- Briefly outline the dangers of cold water immersion: actions to be taken, prevention, and treatment.
- Introduce the VHF as an emergency communications device (if unlicensed). Demonstrate proper way to make Mayday and Pan, Pan calls. Divide group into pairs and give them a prepared situation to communicate. Boat details, emergency details. Allow time for practice and ask for a volunteer to perform in front of group.

Closing:
Emphasize the importance of assessing and managing the risks associated with sailing to avoid the need to use any of the above emergency procedures.

Modifications/Accommodations:
Safety info can be included in pre-seminar reading and assessed/briefly reviewed at the beginning of the first session. Safety info can be presented in a short on-land session, or as an ongoing part of on-water sessions.

Resources/Links:
Canadian Power and Sail Squadron www.cps-eps.ca
Canadian Red Cross www.redcross.ca
Boat Smart www.boatsmartcanada.com.

Attached articles:
A Cold Reality
Hypothermia
Optimal Offshore Medical Kit
Getting Safely Home
Safe Boating Guide Excerpt

A Cold Reality

Canadian Safe Boating Council
Conseil canadien de la sécurité nautique

Boaters, hunters and anglers in Canada are a lot like golfers; they will play until the snow flies and then can't wait to get out once the snow and ice melt and Spring returns.

But being on a lake in early May, for example, is vastly different from a golf course in early May.

It's really all about the water. It's incredibly cold. And that's the problem.

The CSBC (Canadian Safe Boating Council) in co-operation with SmartRisk Canada, an injury prevention organization, discovered some very interesting facts in a recent study.

The Council determined that 99 percent of those who drown in Canada each year do so in water that is colder than 20 Celsius! It doesn't matter if it's a lake, a river or an ocean.

20 Celsius on a golf course is a balmy day! In the water, it's something entirely different.

Generally, the water in Canada is cold and it is not unusual to find temperatures averaging only 10 degrees or so, especially early and late in the season. And when you fall into water that cold, your body is going to react.

The first thing that happens is an involuntary gasp when your body hits the water and it realizes just how cold the water is. That gasp can fill your lungs with water and make you as heavy as a rock. And as everyone knows, rocks don't float very well.

Then you will begin to hyperventilate, causing panic among other things. Your heart rate can skyrocket. And that's only in the first minute!

Over the next 10 minutes or so, you will begin to lose the ability to move your limbs which will have a direct effect on your ability to swim to safety. Things will go rapidly downhill from there. And if you are not wearing a lifejacket it won't be long before you go down as well.

But there are simple steps you can take when you're boating early or late in the season and the water is cold.

First, wear your Personal Flotation Device (PFD). It can save your life! The PFD guarantees that you will float, even if you inhale a lung full of cold water. Of course, that means having it on before you fall in!

Some PFDs, like floater jackets will also provide insulation, too. When your body is in cold water, heat loss is the greatest threat as the minutes tick by and wearing a PFD means you don't have to exert yourself trying to stay afloat, which is a sure way to lose heat and lessen your survival chances and rescue time.

Today's lifejackets/PFDs are modern marvels. Some can be worn in a belt pack around your waist, ready to inflate the instant it senses water. Others are a collar worn over your

shoulders: one tug and it inflates in a split second. A floater coat can help preserve vital body heat in cold water as it keeps you floating, and there are also full length survival suits that protect you against the worst of elements.

Whatever your boating style, whenever you boat, think about the water temperature and conditions and prepare for them by having the proper PFD and by wearing it. It will help you stay afloat, stay warm and stay alive.

Online article retrieved from: Canadian Safe Boating Council www.csbc.ca/

Hypothermia

Online article retrieved from: http://www.princeton.edu/~oa/safety/hypocold.shtml

1. Hypothermia - "a decrease in the core body temperature to a level at which normal muscular and cerebral functions are impaired." - Medicine for Mountaineering

2. Conditions Leading to Hypothermia

- Cold temperatures
- Improper clothing and equipment
- Wetness
- Fatigue, exhaustion, dehydration, poor food intake
- Alcohol intake - causes vasodilation leading to increased heat loss

Stage	Core Temperature	Signs & Symptoms
Mild Hypothermia	99º - 97ºF	Normal, shivering can begin
	97º - 95ºF	Cold sensation, goose bumps, unable to perform complex tasks with hands (knots), shiver can be mild to severe, hands numb
Moderate Hypothermia	95º - 93ºF	Shivering, intense, muscle incoordination becomes apparent, movements slow and labored, stumbling pace, mild confusion, may appear alert. Use sobriety test, if unable to walk a 30 foot straight line, the person is hypothermic.
	93º - 90ºF	Violent shivering persists, difficulty speaking, sluggish thinking, amnesia starts to appear, gross muscle movements sluggish, unable to use hands, stumbles frequently, difficulty speaking, signs of depression, withdrawn.
Severe Hypothermia	90º - 86ºF	Shivering stops, exposed skin blue of puffy, muscle coordination very poor, inability to walk, confusion, incoherent/irrational behavior, but may be able to maintain posture and appearance of awareness
	86º - 82ºF	Muscle rigidity, semiconscious, stupor, loss of awareness of others, pulse and respiration rate decrease, possible heart fibrillation
	82º - 78ºF	Unconscious, heart beat and respiration erractic, pulse may not be palpable
	78º - 75ºF	Pulmonary edema, cardiac and respiratory failure,death. Death may occur before this temperature is reached.

Treating Hypothermia

The basic principles of rewarming a hypothermic victim are to conserve the heat they have and replace the body fuel they are burning up to generate that heat. If a person is shivering, they have the ability to rewarm themselves at a rate of 2 degrees C per hour.

Mild - Moderate Hypothermia

1. Reduce Heat Loss

- Additional layers of clothing
- Dry clothing
- Increased physical activity
- Shelter

2. Add Fuel & Fluids

It is essential to keep a hypothermic person adequately hydrated and fueled.

a. Food types

- Carbohydrates - 5 calories/gram - quickly released into blood stream for sudden brief heat surge - these are the best to use for quick energy intake especially for mild cases of hypothermia
- Proteins - 5 calories/gram - slowly released - heat given off over a longer period
- Fats - 9 calories/gram - slowly released but are good because they release heat over a long period, however, it takes more energy to break fats down into glucose - also takes more water to break down fats leading to increased fluid loss

b. Food intake

- Hot liquids - calories plus heat source
- Sugars (kindling)
- GORP - has both carbohydrates (sticks) and protiens/fats (logs)

c. Things to avoid

- Alcohol - a vasodilator - increases peripheral heat loss
- Caffeine - a diuretic - causes water loss increasing dehydration
- Tobacco/nicotine - a vasoconstrictor, increases risk of frostbite

3. Add Heat

- Fire or other external heat source
- Body to body contact. Get into a sleeping bag, in dry clothing with a normothermic person in lightweight dry clothing.

Severe Hypothermia

1. Reduce Heat Loss

- **Hypothermia Wrap**: The idea is to provide a shell of total insulation for the patient. No matter how cold, patients can still internally rewarm themselves much more efficiently than any external rewarming. Make sure the patient is **dry**, and has a polypropylene layer to minimize sweating on the skin. The person must be protected from any moisture in the environment. Use multiple sleeping bags, wool blankets, wool clothing, Ensolite pads to create a minimum of 4" of insulation all the way around the patient, especially between the patient and the ground. Include an aluminum "space" blanket to help prevent radiant heat loss, and wrap the entire ensemble in plastic to protect from wind and water. If someone is truly hypothermic, don't put him/her naked in a sleeping bag with another person.

2. Add Fuel & Fluids

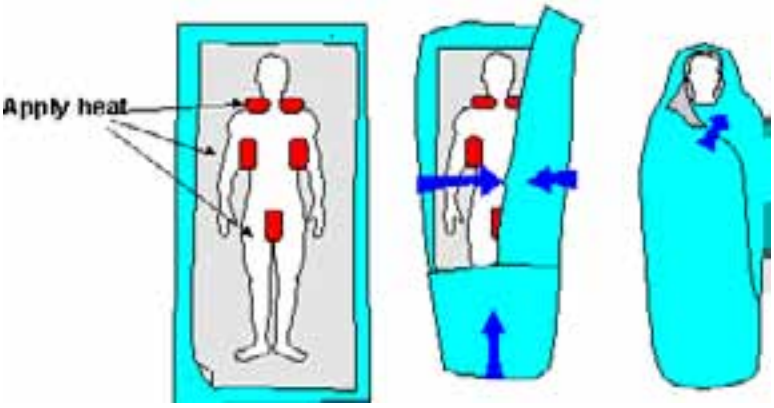
- **Warm Sugar Water** - for people in severe hypothermia, the stomach has shut down and will not digest solid food but can absorb water and sugars. Give a dilute mixture of warm water with sugar every 15 minutes. Dilute Jello™ works best since it is part sugar and part protein. This will be absorbed directly into the blood stream providing the necessary calories to allow the person to rewarm themselves. One box of Jello = 500 Kilocalories of heat energy. ***Do not*** give full strength Jello even in liquid form, it is too concentrated and will not be absorbed.
- **Urination** - people will have to urinate from cold diuresis. Vasoconstriction creates greater volume pressure in the blood stream. The kidneys pull off excess fluid to reduce the pressure. A full bladder results in body heat being used to keep urine warm rather than vital organs. Once the person has urinated, it precious body heat will be used to maintain the temperature of vital organs. So in the end urinating will help conserve heat. You will need to help the person urinate. Open up the Hypothermia Wrap enough to do this and then cover them back up. You will need to keep them hydrated with the dilute Jello solution described above.

3. Add Heat

Heat can be applied to transfer heat to major arteries - at the neck for the carotid, at the armpits for the brachial, at the groin for the femoral, at the palms of the hands for the arterial arch.

- Chemical heat packs such as the Heat Wave™ provides 110 degrees F for 6-10 hours.
- Hot water bottles, warm rocks, towels, compresses
- For a severely hypothermic person, rescue breathing can increase oxygen and provide internal heat.

Hypothermia Wrap



Optimal Offshore Medical Kit

By William Mahaffy

Online article retrieved from:
http://www.sailnet.com/forums/her-sailnet-articles/20936-onboard-medical-kit-part-one.htm

The inland kit

The inland kit contains articles used to treat the small, more common on-board injuries, such as; cuts, abrasions, contusions, minor burns, etc.

Here are the items that should be in an inland-type marine first-aid kit: bandages, dressings (include non-stick dressings, e.g. Telfa), gauze rolls, tape, Ace wraps, isopropyl alcohol, Betadine solution, hydrogen peroxide, sterile saline for irrigation, burn dressings and over-the-counter medications. Include a thermometer (oral and rectal), some sterile gloves, bandage and trauma scissors, tweezers, cold packs, eye-wash solution and antibiotic ointment packets.

The medications for the inland-type first-aid kit should include: aspirin and a non-aspirin pain relievers (Tylenol or Motrin), Maalox, Pepto-Bismol, Calamine lotion, Imodium, Benadryl, decongestant, sore-throat lozenges, hydrocortisone ointment, sunscreen and after-sun lotion. As for prescription medications, these need to be specific to any known problems.

To round out the kit, I would include a blood-pressure cuff and stethoscope. Even if you are not an expert at using them, someone on board may be and you will find them to be a useful diagnostic tool. They will also be essential equipment if you upgrade to a more sophisticated kit.

The near-coastal kit

The near-coastal kit, designed for use by sailors with some advanced first-aid training, contains, in addition to the items of the inland kit: splinting materials (a ladder splint, padded arm board and finger splints), an emergency dental kit (commercially available as a complete set), tongue depressors, Insta-glucose, petrolatum gauze, Steri-strips and/or butterfly bandages, K-Y Lubricating jelly, a naso-gastric tube, some large trauma dressings and an emergency space blanket.

The medications in the near-coastal kit include those in the inland plus: Lomotil, Dulcolax or Senekot, glycerine suppositories, Lotrimin antifungal cream and Monistat cream and vaginal suppositories. I recommend Silvadene cream for more severe burns (it is rather expensive but well worth it for second-degree burns). Oral antibiotics include Ampicillin 250 mg, Augmentin 500/125 mg, Keflex 500 mg, Ciprofloxacin 500 mg,

Erythromycin 500 mg, Tetracycline 150 mg and Bactrim DS. You should have sublingual nitroglycerine 0.4 mg, Darvocet N-100 or Percocet.

The near-coastal kit should also contain intravenous and suturing supplies. You should carry 1 or 2 1000 cc bags of Lactated Ringers solution with tubing, an IV start kit and some 18- and 20-gauge IV catheters. For suturing, you will need a surgical scrub brush, surgical instrument tray (containing sterile scissors, hemostats and clamps), Lidocaine 1% without epinephrine (20 cc multi-dose vial), a needle "driver", disposable scalpel, syringes (5, 10 and 20 cc), needles (18-, 21- and 25-gauge), some Vicryl (2-0) and Ethilon (3-0, 4-0) suture. Obviously, these items require training over and above advanced first-aid, but the skills are not difficult to learn and you needn't be a surgeon to get the job done.

The voyaging kit

The voyaging kit, with still more items added to the kit, is the highest level medical kit. It should augment the dressings and bandages with more bulky and trauma dressings, roller gauze, sterile eye pads, a burn sheet, fiberglass cast material and padding. More Betadine solution, saline irrigation solution, Burrow's solution (for fungal infections), isopropyl alcohol and alcohol wipes, sterile gloves, suturing materials, IV fluids and syringes. You will need a Foley catheter (16 French) and some gauze drains.

Medications will include Mannitol 25% (IV), Lasix 20 mg (IV and oral), Atropine sulfate 1 mg (IV), Ceftriaxone 1 gm vials with Diluent (IV antibiotic), Demerol 50 mg/ml, Morphine sulfate 10 mg/ml, Medrol 40 mg vials and Epinephrine 1:1000 30 cc vial, Prednisone 5 mg tablets, Compazine suppositories, Albuterol inhaler, Auralgan ear drops, 10% sulfacetamide eye ointment and Garamycin topical antibiotic.

There are other items that, given the medical history of the crew and the specific cruising grounds, your health care provider may recommend.

In my future articles covering minor and major trauma, illnesses and infections, I will refer back to these supplies. Hopefully, this will help clarify the reason for carrying this equipment.

Your boat's medical first-aid kit is as important as your sail inventory. As with a storm trysail, it is far better to have it and not need it than to need it and not have it at all.

Marine medical references

A Guide to Small Boat Emergencies, by John M. Waters, Naval Institute Press, 4/93 (ISBN# 1557509131)

Your Offshore Doctor: A Manual of Medical Self-Sufficiency at Sea, by Dr. Michael H. Beilan, Sheridan House, 11/96, (ISBN # 1574090135)

Getting Yourself Safely Home: Using the Radio to Get Help

Originally published in *Seaworthy*, the BoatU.S. Marine Insurance journal
Online article retrieved from- http://www.boatus.com/women/safe1.asp

If you are not often the primary operator of your boat, are you prepared to take control in an emergency? Any skipper can be incapacitated by sudden illness ranging from poisoning to heart attack. Unconsciousness could result from illness or accident, and even a relatively minor accident could render the primary skipper unable to continue operating the boat. If that happens, someone else on the boat needs to know enough to deal with the emergency.

A BoatU.S. member recently thought about the prospect of having to take over in an emergency and asked *Seaworthy*, the BoatU.S. Marine Insurance journal, for an article expressly for "women who leave the maintenance to the men, but who are concerned for the safety of all aboard in the event of mishap."

There is no short course to learn all the points of proper boat operation. But in an emergency, keeping calm and knowing a few basics could save the day — and maybe a life.

Here is a look at how an inexperienced person who suddenly is in charge, i.e. can use the boat's radio to get help. (Experienced skippers can turn this article over to your second in command and tackle some overdue chore.)

Help is available from other boaters, acting as Good Samaritans, and from professional like the local marine police, U.S. Coast Guard, Coast Guard Auxiliary, and TowBoatU.S. towers.

If you can see people on other boats or on shore, simply waving your outstretched arms or a towel, etc., could bring help. There are other recognized ways of attracting attention such as flying a flag upside-down, five or more rapid blasts on a horn, and lighting a flare. (You should know where they are and how to use them.)

Today, the most common means of getting help is by using the VHF marine radio. You probably hear the radio chatter more than you care to, so you know many people are listening. You can talk to anyone who answers and your emergency message will be forwarded to the Coast Guard or other appropriate rescue service.

But remember, the person on the radio doesn't have a clue who you are or where your boat is. You need to give them enough information to be able to find you. Practice using the radio and how to describe your boat. If you aren't sure, have the skipper write it down and post it at the radio. Nothing can frustrate a rescuer more, and delay your being helped, than looking for "a white boat" somewhere "out-side the inlet."

A simple process is used: **Push and hold the button**. **Talk. Release the button and listen.** Many beginners forget to release the button and wonder why no one seems to be answering. Unlike a telephone, a radio does not permit talking and listening at the same time.

Make contact, and say: "Coast Guard…" (with the name of the nearest station if you know it) three times, followed by "This is (name of your boat)" three times.

Speak slower than normally, but normal volume, with the microphone a few inches from your mouth. Loud or fast speech becomes distorted over the radio.

Many people are familiar with the word "Mayday." Use it ***ONLY*** in grave emergencies such as fire or imminent sinking. The word "Pan" (rhymes with "on") can be used to attract attention and let rescuers know that you have an URGENT call involving safety. For example: "Pan! Pan! Pan! This is the vessel *Happy* with a medical emergency requesting assistance, over."

Wait a few moments and you may hear several people answer. If the Coast Guard or marine police answer and you can hear them clearly, direct your call to them. If the communication is weak or unclear, it may be better to talk to a nearby skipper who will relay your information to authorities.

After contact has been made, the problem is stated something like: "This is the *Happy*. The captain fell and is unconscious and I don't know how to operate the boat to get home, over."

The rescuers will ask for information, the most important being your location and a description of the boat (so someone can find you out there among all the other boats that look similar). Think about what makes your boat look unique: The exact make and model, trim color, a raft on the roof, a BoatU.S. pennant on the bow, etc. You can make the boat unique by tying or taping a brightly colored shirt or towel to an antenna or railing.

If you don't have or can't read navigation instruments to get your boat's position in latitude/longitude, try to give the boat's location in relation to nearby objects such as bridges, towers, lighthouses islands or shoals. "We're on the bay" doesn't mean much, but you probably would be found without too much trouble if you said "on the bay, 30 minutes cruising from the city marina. We passed buoy #12 about five minutes ago and there is a green ship going by."

Rescuers also might want to know how many people are on board, whether you are in immediate danger, and more details on the nature of the problem. Medical advice may be available if you can provide details about the injured or sick person. And the Coast Guard will want to check back with you from time to time to keep track of what is happening.

The modern VHF marine radio is, perhaps, the most important single piece of safety gear aboard. Everyone who is frequently aboard should be familiar with proper radio procedure and comfortable with using the equipment. There are other fine points of official radio procedure for those who want to know it "by-the-book".

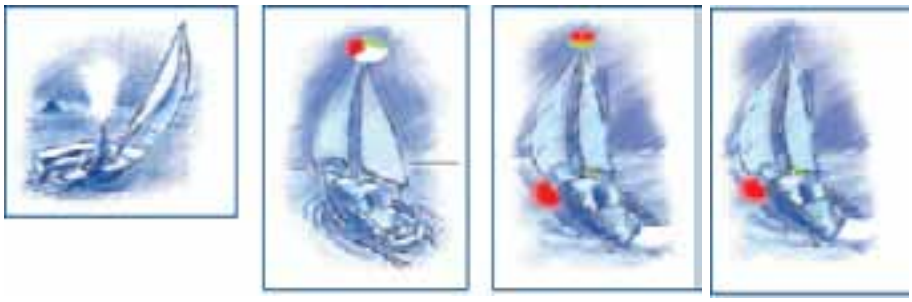
The Safe Boating Guide

Required Safety Equipment for Pleasure Craft

Pleasure craft greater than 6 m (19’8”) in length but no greater than 8 m (26’3”) in length

Including unpowered craft

Note: Radar reflectors are required under certain conditions.



Personal protection equipment

1. One (1) Canadian-approved personal flotation device or lifejacket of appropriate size for each person on board
2. One buoyant heaving line no less than 15 m (49’3”) in length

   OR

   One (1) approved lifebuoy with an outside diameter of 610 mm or 762 mm that is attached to a buoyant line no less than 15 m (49’3”) in length
3. A reboarding device if the freeboard of the vessel is greater than 0.5 m (1’8”)

Boat safety equipment

4. One (1) manual propelling device (for more detailed description, refer to the manual propelling device definition)

   OR

   An anchor with no less than 15 m (49’3”) of cable, rope or chain in any combination

5. One (1) bailer

   OR

   One (1) manual water pump fitted with or accompanied by sufficient hose to enable a person using the pump to discharge water from the bilge of the vessel over the side of the vessel

6. One (1) Class 5BC fire extinguisher, if the pleasure craft is a power-driven vessel, plus another class 5BC fire extinguisher if the pleasure craft is equipped with a fuel-burning cooking, heating or refrigerating appliance

Distress equipment

7. A watertight flashlight
8. Six (6)* Canadian-approved flares of Type A, B or C

   * Exempt from carrying pyrotechnic distress signals if:

   - Operating in a river, canal or lake in which it can at no time be more than one nautical mile (1.852 km) from shore

   OR

   - Engaged in an official competition or in final preparation for an official competition and has no sleeping arrangements

Navigation equipment

9. A sound-signalling device or a sound-signalling appliance
10. Navigation lights that meet the applicable standards set out in the Collision Regulations if the pleasure craft is operated after sunset and before sunrise or in periods of restricted visibility

Pleasure craft propelled by oars and pleasure craft 8 m (26’3”) or less within sight of navigational marks do not require a compass or a compass bearing device.

Pleasure craft greater than 8 m (26’3”) in length but no greater than 12 m (39’4”) in length ^

Including powered craft

Personal protection equipment

1. One (1) Canadian-approved personal flotation device or lifejacket of appropriate size for each person on board
2. One (1) buoyant heaving line no less than 15 m (49’3”) in length
3. One (1) approved lifebuoy with an outside diameter of 610 mm or 762 mm that is attached to a buoyant line no less than 15 m (49’3”) in length
4. A reboarding device if the freeboard of the vessel is greater than 0.5 m (1’8”)

Boat safety equipment

5. An anchor with no less than 30 m (98’5”) of cable, rope or chain in any combination
6. One (1) bailer
7. One (1) manual water pump fitted with or accompanied by sufficient hose to enable a person using the pump to discharge water from the bilge of the vessel over the side of the vessel
8. One (1) Class 10BC fire extinguisher, if the pleasure craft is a power-driven vessel, plus another class 10BC fire extinguisher if the pleasure craft is equipped with a fuel-burning cooking, heating or refrigerating appliance

Distress equipment

9. A watertight flashlight
10. 12* Canadian-approved flares of Type A, B, C or D, no more than six (6) of which are of Type D

    * Exempt from carrying pyrotechnic distress signals if:

    - Operating in a river, canal or lake in which it can at no time be more than one nautical mile (1.852 km) from shore

    OR

    - Engaged in an official competition or in final preparation for an official competition and has no sleeping arrangements

Navigation equipment

11. A sound-signalling device or a sound-signalling appliance
12. Navigation lights that meet the applicable standards set out in the Collision Regulations

Note: Radar reflectors are required under certain conditions.

Power-driven pleasure craft greater than 8 m (26'3") in length require a properly adjusted compass. If the voyage is more than 20 nautical miles (37 km) from shore a compass bearing device is required.

Excerpted from The Safe Boating Guide: http://www.tc.gc.ca/MarineSafety/

BOATsmart!

www.boat-smart.com 1.877.792.EXAM

Trip Plan

Personal Information

Owner's Name: _____

Address: _____

Phone Number: _____

Vessel Information

Vessel Name and License Number: _____

Vessel Type: ☐ Sail ☐ Power ☐ PWC ☐ Canoe/Kayak ☐ Other

Colour: Hull: _____ Deck: _____

Size: _____

Type of Engine (if applicable): _____

Other distinguishing features: _____

Type of Radiotelephone: ☐ HF ☐ VHF ☐ MF

Channel Monitored: _____

Number and Type of Flares: _____

Type of safety equipment carried on board: _____

_____

Trip Details

Number of persons on board: _____

Launch Point: _____ Date and Time: _____

Proposed Route: _____

_____

Stop-Over Location(s): _____ Date and Time: _____

Arrival Point: _____ Date and Time: _____

Emergency Contacts

Local Search and Rescue Phone Number: _____

Person to contact in case of emergency: _____

Phone Number: _____

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Pre-Departure Checklist

Equipment

- ☐ I have properly maintained my pleasure craft and its components
- ☐ I have all required safety equipment on board and in good working condition
- ☐ I have enough approved flotation devices of the correct size for each person on board
- ☐ I have an emergency repair kit on board with spare parts suitable for my type and size of craft/engine
- ☐ I have a first aid kit on board including dry clothing, water, sun protection, and emergency rations
- ☐ I have all required distress equipment on board and know how to use it properly
- ☐ I have an effective, properly functioning means of communication (such as a cell phone or VHF radio)
- ☐ I have stowed equipment in appropriate, accessible locations on board my craft

Preparation

- ☐ I have enough fuel for the trip - 1/3 out, 1/3 back, 1/3 in reserve
- ☐ I have thoroughly checked the condition of my craft, its engine and fittings
- ☐ I have completed a trip plan and filed it with a responsible individual
- ☐ I have reviewed emergency and safety procedures and practiced the proper techniques
- ☐ I have reviewed each passenger's responsibilities before departing
- ☐ I have explained the location and correct use of required safety equipment with each passenger

Waterways and Weather Conditions

- ☐ I have the marine charts and/or nautical publications for the area in which I'll be boating
- ☐ I have researched and know the location of any local hazards
- ☐ I know of any boating restrictions that may apply in the area in which I'll be boating
- ☐ I have checked the weather forecast
- ☐ I know of or have marked the location of safe harbours/marinas

Crew Overboard

Objectives:

- Prevention
- Demonstrate helmsperson's action/commands while under sail from the time a member of the crew falls overboard without warning, until the crew is safely recovered
- Demonstrate crew's actions during C.O.B. rescue procedure
- Include the following minimum actions:
  a) Sound alarm "Crew Overboard!",
  b) Deploy marker and buoyant object(s),
  c) Appoint and maintain a look out,
  d) Triangle method of return (under sail),
  e) Describe at least two methods of getting a person out of the water and back aboard.

Teaching Materials:

C.O.B. dummy wearing a PFD
Whiteboard and dry erase markers.

Suggested Activities:

- Emphasize the importance of PREVENTION. Rescuing a C.O.B. is extremely difficult and risky, even in good weather. (PFD, lifeharness, lifelines, jacklines, night precautions, etc.)
- Practice rescue drills once participants have had a chance to become familiar with the manoeuvring ability of the boat.
- Ideally, allow participants to practice C.O.B. drills in little wind at first, and then take advantage of different wind and weather conditions to stage unexpected C.O.B. drills.
- Go over the C.O.B. procedure step by step. Use a whiteboard to illustrate the J hook/triangle path of the boat.
- Re-iterate the importance of: communication, assigning a lookout, GPS M.O.B. button if equipped, SLOW boat, safe pick-up.
- Split up group and have pairs rig one of the accepted retrieval systems to get a crew member back onboard: lowering foresail, deflated dinghy, block and tackle/life sling. Have each group use their system and report back to the group re: pros/cons.
- Encourage sailors to practice at least one C.O.B drill on their own boats each season.

Closing:
PREVENTION and PRACTICE!

Modifications/Accommodations:
Ideally, practice C.O.B. procedures in different wind conditions, using both planned and unplanned drills.

Resources/Links:
CYA Basic Cruising Skills Manual

Attached articles:
Crew Over Board Procedure
ISAF- Crew Overboard Handouts

Crew Overboard

PREVENTION

Online article retrieved from: http://www.boatingsafety.com/nzcg/prevention.html

- Guardrails should be continuous around the upper deck. The ends should be secured with lashings or quick release slips so that you can cut or release them to recover a person from the water.
- Treat any slippery areas with either non-skid paint or stick on strips. Pay particular attention to the tops of hatches and sloping coachroof sides which become walkways when the boat is heeled.
- Use harness in rough weather and at night. Make sure they are adjusted to a tight fit or you can fall out of them.
- Fit suitably placed harness attachment points close to the companionway so that you can clip on before coming on deck and on both sides of the cockpit. Rig jackstays on both sides of the boat so that you can walk the full length of the deck without having to unclip. Flat webbing straps are in some ways better than wire because the wire tends to roll underfoot when you stand on it.
- Wear suitable protective clothing and a lifejacket preferably fitted with reflective tape and a light.

REMEMBER that if you do go over the side, at night or in bad weather, there is a high probability that you will not be recovered.

- Have the necessary safety equipment to hand so it is ready for immediate use:

HORSESHOE LIFEBOUY - fitted with:

A DROGUE to prevent drifting.
AN AUTOMATIC LIGHT - a continuous beam is considered most effective.
A DANBOUY - fitted with flag 2 meters clear of the water which assists in marking the position of the lifebuoy.

A BUOYANT HEAVING LINE may be necessary in heavy seas if it is difficult to come alongside the person in the water.

- Practice man overboard Drill regularly - This can be achieved by using a fender and bucket as your casualty.

RECOVERY

- Getting the person aboard can be difficult. If you have a bathing platform or boarding ladder and the person in the water is able to help themselves, use it if it is safe to do so. If they are unconscious or exhausted, a form of lifting gear will need to be improvised.
- A short strap used in conjunction with a block and tackle rigged on the end of a halyard (sailing vessel) or attached to a suitable strong securing point on the wheel house (powerboat) would make it easier for a heavy casualty to be brought on board.
- A parbuckle can be improvised by using ropes, nets or a small sail, and then rolling the person out of the water.
- A dinghy provides another option for recovery, perhaps by partially deflating one section of the sponson tube to make it easier to get them on board.
- Prevention is **better** than cure. Ensure that all the actions and safety precautions to prevent a person overboard have been taken and practice drills regularly in all weathers and sea conditions - **You could save someone's life.**

Crew Overboard: Four Recovery Methods

Highlights from the Crew Overboard Retrieval Symposium show four effective recovery techniques, and the best gear to get the job done. From our Nov./Dec. 2006 issue.

Jun 7, 2006
By Tony Bessinger

While racing sailors usually spend more time practicing man-overboard drills than casual sailors and cruisers, it doesn't make them immune to being lost overboard. Two sailors I knew drowned off raceboats in the past three years—one in Long Island Sound in 2002 and one off the coast of New Jersey last fall—so I was thinking well beyond the hypothetical already when I headed to San Francisco Bay last August to participate in the Crew Overboard Retrieval Symposium, an event sponsored by West Marine and Modern Sailing Academy, with support from Cruising Club of America, BoatUS Foundation for Boating Safety and Clean Water, Sailing Foundation of Seattle, Garmin, North Sails, and Landfall Navigation.

Tony Bessinger

All recovery methods showed the challenge of getting the victim aboard. Generally, recovering the victim to leeward was preferred.

Last held in 1996, the Symposium included 120 volunteers from different disciplines in the sport as well as industry reps and a handful of boating writers. The plan was to test lifesaving gear introduced since 1996 and to determine which recovery methods worked best. From the opening day, it was obvious we'd be spending a significant amount of time on the water. Each morning, volunteer crews were given a list of specific tasks to perform on racing and cruising sailboats, ranging from 24 to 56 feet. A designated skipper was in charge of each boat and one of the crew, equipped with a Garmin handheld GPS and a notebook, sailed as a record keeper.

The rest of the crew would take turns steering, trimming sails, and trying to retrieve either Styrofoam heads, a 150-pound dummy, or volunteer divers. At the end of the day, each GPS's track would be downloaded and matched with its respective record-keeper's written record. The skipper of each boat provided a videotaped debrief. Through all of this, event organizers hoped that after four days of observation, a large amount of valuable data would be in hand and ready to be distilled into a report.

I sailed one day and, to get a better overall picture, spent the rest of the event riding a Vessel Assist rescue RIB. We stood by as boats put "victims" in the water and tried four different methods of returning to the victim, many different techniques of getting the victim aboard, some tried-and-true and new pieces of recovery gear. Details and official observations from the Symposium will be compiled into a report and released before the end of the year, but in the following pages, I'll share my observations.

Watch your speed

On the first day in particular we saw poor technique, which included approaching the victim at terrifying speeds. On many occasions, once the COB was attached in some way to a retrieval device, the boat was moving at a rate of knots that could potentially drown the very person they were trying to rescue. One valuable tip from our volunteer victims to potential crew overboard was to turn around (back of the head toward the boat) and spread your arms and legs out so your body would plane rather than plow. It was also suggested by several of the volunteer victims that everyone who sails should carry a knife because, if a victim is being towed too fast, he or she can cut themselves free. Once you've lost somebody overboard, reduce your sailplan. When jib sheets are cast off in more than 15 knots of breeze, they become thrashing tentacles that can injure or remove crewmembers from the deck. If the boat is equipped with a roller-furling headsail, it should be rolled; it will be just as easy to roll it out should steerage or boatspeed be required.

You need steerage way and boatspeed to get to your victim, but if you stay close enough to the COB you take away the intricate challenge of trying to balance speed and steerageway that a long approach requires. The Quick Stop (see diagram) can keep you close enough to the COB to use throwing devices, but the Quick Stop isn't for everybody. Think about the havoc that a Quick Stop would create on a swing-keel supermaxi sailing 30 knots downwind.

Talk to the victim

Communication with the crew overboard is important. Victims are desperate to know they're being recovered. If you're close enough, yell to the COB that you have them in sight and are trying to get to them ASAP. Once the victim is secured to the boat with a retrieval device, it's important to continue the eye and voice contact. On the last day I watched a victim try to tell a boat's crew they were towing him too quickly. The entire crew was facing forward, occupied with sailhandling, as the victim was towed along, hapless and helpless, at 5 knots.

Don't forget the basics

Hit the COB/MOB button on the GPS and get on the radio and broadcast PAN-PAN as soon as you lose someone. The more help around, the better the chance of recovery. If you lose sight of the victim, immediately broadcast a MAYDAY and set off the EPIRB. You can always cancel both once the victim is back aboard. Use your engine; extra points aren't awarded if you recover your COB under sail. If you use the engine, don't rush. Make sure every line is accounted for and none are trailing from the boat ready to wrap around your prop.

Try to recover the COB to leeward; there will be less wind and wave action than a windward recovery, and the breeze will blow you toward the victim rather than away. Stern ladders and swim platforms only work when the sea condition is benign. When a boat is pitching in large waves, the stern could easily injure someone trying to board the boat via the transom.

Determine which return technique works best for your type of boat. The Corsair 24 trimaran's crew quickly figured out that the Quick Stop technique stopped the boat so quickly they couldn't reach the victim. When they tried the Figure 8, the speed built too quickly. In the end, no technique was accepted as perfect for the speedy tri; it depends upon the conditions.

We'll discuss gear in the follow-up article (Best Recovery Gear, Nov/Dec '05), but from our observations, the LifeSling—developed as a result of an earlier COB seminar—works extremely well, as does its descendant, the inflatable LifeSling. MOM units, while expensive, are well worth the price. They are as complete a rescue package as can be delivered to a MOB victim. A simple heaving line works well if the victim is close and conscious and should be a part of the safety gear on every boat longer than 15 feet.

And finally, the obvious: always wear a PFD and augment it with a harness and jacklines when sailing offshore or alone.

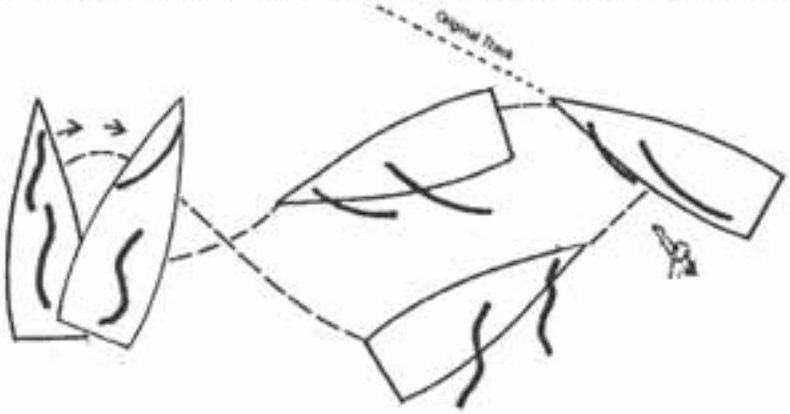
For more information on the Crew Overboard Retrieval Symposium, organized by John Connolly, Chuck Hawley, Karen Prioleau, John Rousmaniere and Ruth Wood, http://cobevent.com/

Fast-Return

In all cases:
After the victim falls in, throw flotation and yell:
"Man overboard"

If the boat was sailing UPWIND:

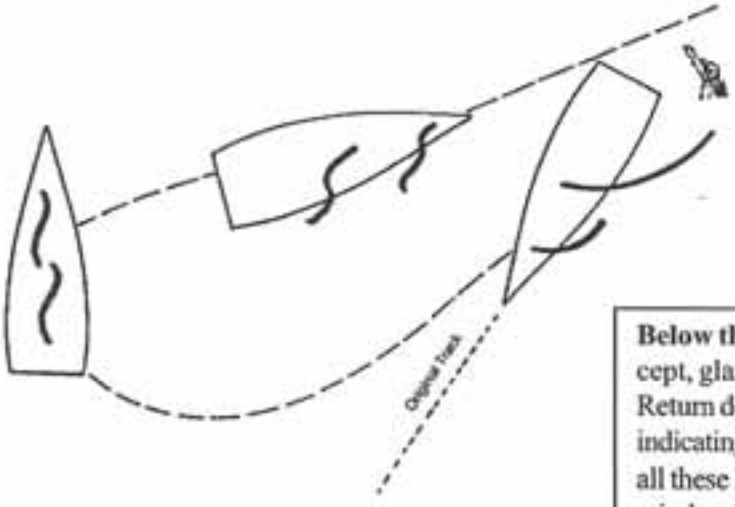
1. Turn the boat downwind
2. Tack into the wind about 2 to 2 1/2 boat lengths abeam of the victim.
3. Back the jib, getting below the victim briefly, than
4. Approach on a close reach, with the victim on the lee side of the boat



Wind

If the boat was sailing DOWNWIND:

1. Turn the boat upwind
2. Tack into the wind about 2 to 2 1/2 boat lengths abeam of the victim.
3. To show a possible variation, here the jib does not need to be backed because the boat is already below the victim (See note at the bottom of the page for what "below" means) Thus, the boat simply needs to be steered directly at the victim
4. Approach on a close reach, with the victim on the lee side of the boat



Wind

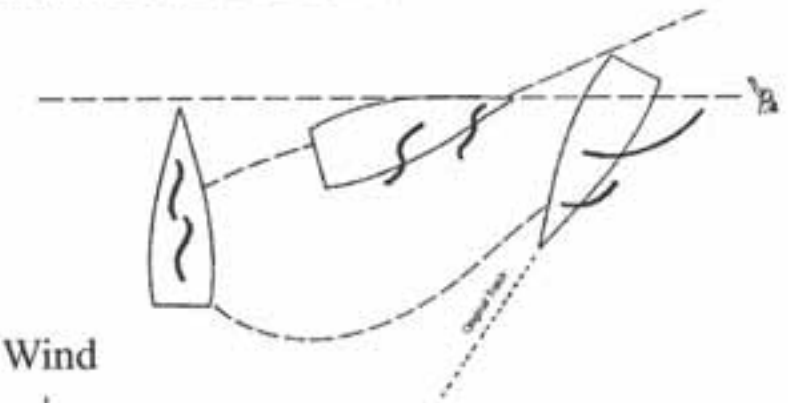
Below the wind? To understand this concept, glance at the second page of the Fast-Return description and note the dotted line indicating where the victim is. Recognize that all these lines are exactly 90% from the true wind and that when the boat is "below" that line, it is indeed, below the wind vis-a-vis the victim.

The Fast-Return's Window of Opportunity

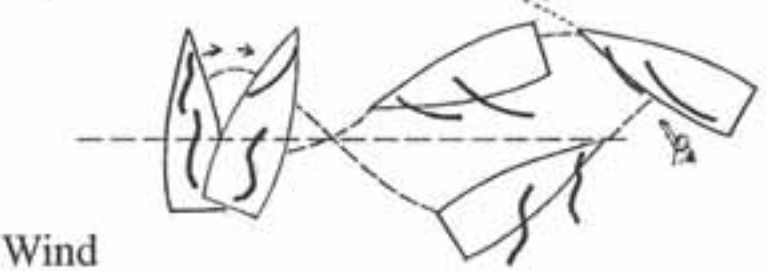
Since all Fast- returns call for tacking into the wind, at the moment of the tack when the boom centers, the helmsman knows the boat is pointing directly into TRUE WIND.

Thus, this is an opportunity to judge very accurately where the victim is vis-a-vis the boat. Let us repeat this because this is the key to understanding the Fast Return: WHEN YOU TACK INTO THE WIND AND THE BOOM CENTERS, YOU LOOK AT WHERE THE VICTIM VIS-A-VIS THE BOAT AND ADJUST YOUR MANEUVERING STRATEGY AS FOLLOWS:

Victim off the bow:
Here the boat is already below the victim, thus, no backing of the jib in order to bring the boat downwind is necessary. The helmsman simply points directly at the victim and approaches on a close reach.

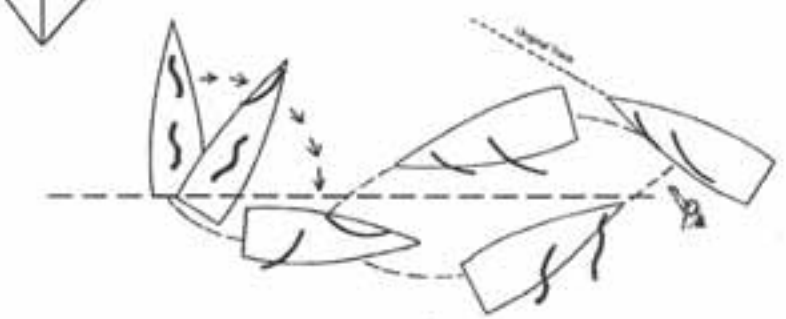


Wind



Victim off the beam:
Here, the boat needs to go downwind, Hence, the jib is backed to get below the victim, then the helmsman goes directly for the victim on a close reach

Wind



Victim off the stern:
The person at the helm, didn't notice the victim right away and continued upwind a little further than the example above. Thus, the jib needs to be backed for longer and the boat steered downwind for longer such that the boat can ultimately approach the victim from a close reach.

Figure Eight

Notes by Bob Diamond, Spinnaker Sailing, Redwood City, CA

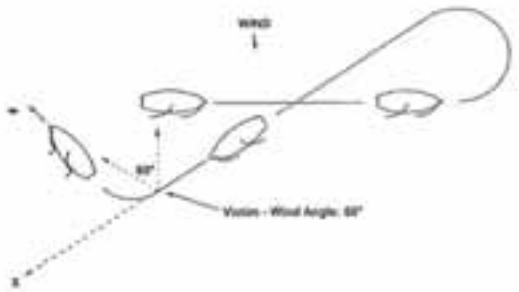
The Figure Eight is the most flexible approach. It can be used in heavy weather and when sailing short handed. It can also be used from any point of sail.

1. Give the alert - throw flotation - assign spotter.

2. Steer to a beam reach right away. (Trim doesn't have to be perfect.)

3. Tack after about 5 boat lengths. (Probably not as far as you think.) Here's where the roller furling jib (if you have one) can be furled. This will make things easier and safer.

4. Continue to bear away after tacking until the boat has turned past the direction of the victim and head toward a spot about three boat lengths directly downwind of the victim.



5. Before the boat reaches this spot, it will come to an area where the victim is in a close reach direction from the boat. The eye of the wind and the victim will be about 60° apart. Head up immediately to the windward side of the victim and cut the sheets in time for the boat to come to a stop next to the victim.

7. Make sure the boat comes to a stop by easing the tiller to lee. (toward the victim) As the boat slows it will try to bear away on its own. When it comes to a stop, you can have the tiller 45° to lee and the boat won't head up due to loss of steerageway. At this point, the boat is stabilized and you can get the victim back aboard without the boat trying to sail away from the victim.

8. There are many methods for getting a victim back aboard the boat. If the victim is not seriously injured, a swim ladder or the elevator method can be used. The elevator method involves using a line secured to the stern cleat and letting the middle of the line dangle in the water at about a 5 foot depth. The other end is run to a cockpit winch. The victim stands on the middle of the line holding onto side of the boat while a crew member cranks up the line on the winch. A more seriously injured or disabled victim may have to be hauled up with in a sling or hauled up in a sail.

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THE DEEP BEAM REACH METHOD OF CREW RECOVERY

The Deep Beam Reach Method was devised by CSA as a quick, simple, and safe method for crew recovery, which could be easily taught to basic sailors.

"When a crew falls off so does the helms person to a deep beam reach."

The tiller is merely pushed about 10 degrees to the windward side until the vessel is just below a beam reach (deep beam reach) at which time the helm is reversed heading the vessel just to weather of the person in order to protect them from the winds and seas. As the vessel is brought through the wind the sails are cast off and the main sheet is used to control the speed of advance. When alongside the crew they are tossed a line and either pulled aboard or lead to the rail ladder.

ORDER OF EVENTS:

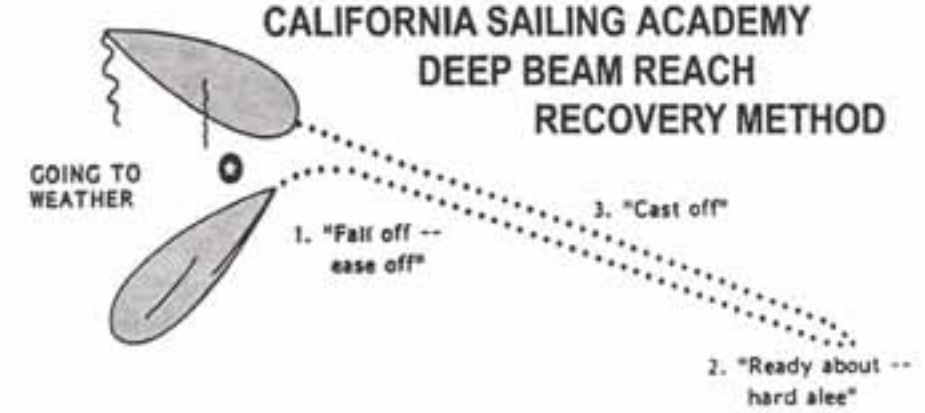
Maneuvering:

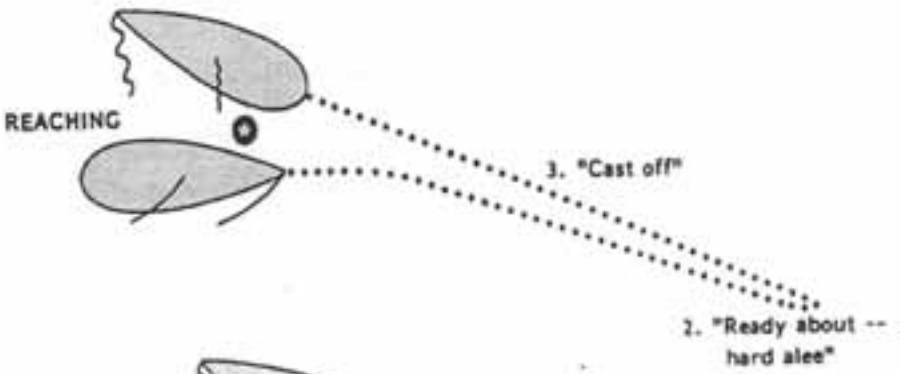
1. *Shout "Crew Overboard".*
2. *Toss over all floatables.*
3. *Post spotter.*
4. *Place helm to weather, Steer to deep beam reach.*
5. *Reverse helm at two boat lengths until steering just to weather of crew.*
6. *Cast off all sheets and control speed with main sheet bundle.*
7. *Lay vessel alongside crew providing a lee for person.*
8. *Bring crew aboard.*

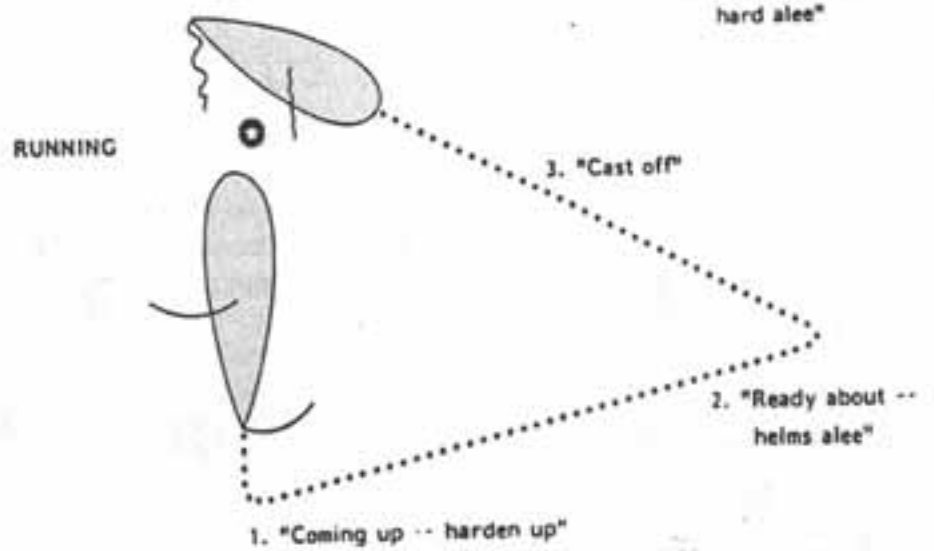
VHF radio: (extended search)

1. *Turn radio to channel 16.*
2. *Broadcast "Pan Pan" (urgent) " Mayday" (immediate danger)*
3. *Establish contact with Coast Guard.*
4. *Give vessel position and status.*
5. *Maintain contact with Coast Guard.*

CALIFORNIA SAILING ACADEMY
DEEP BEAM REACH
RECOVERY METHOD







Rules Of The Road

Objectives:

- Knowledge of Collision Regulations-Rules 12-17
- Distinguish between pleasure craft and power driven vessel
- Knowledge and Application of relevant portions of the following acts and legislations governing pleasure craft operation:

  Canada Shipping Act
  Small Vessel Regulations
  Collision Regulations
  Boating Restriction Regulations Contraventions Act
  The Criminal Code of Canada

- Safe Boating Guide- minimum vessel requirements
- Actions & precautions to take in reduced visibility [fog]

Teaching Materials:

Whiteboard, dry erase markers. -
Sailboat and powerboat cut-outs for scenarios. –
Copy of Safe Boating Guide for each participant

Suggested Activities:

- Explain collision regulations:
  - 12-Sailing Vessels- POW gives way (Port tack, overtaking, windward
  - 13-Overtaking
  - 14-Head-on- Pass on right
  - 15-Crossing- Collision Bearings, Early and Substantial Action to keep clear
  - 16-Give way- Big has right of way, POW
  - 17-Stand on

- Use concept of Five Rights: Stay Right, Turn Right, Pass on the Right, Give way to vessel on Right, 'Big' is Right
- Teachable Moments: every time boats are encountered on the water there is an opportunity for sailors to determine which boat has right of way, and why.
- Questioning: encourage group to share instances when they have been unsure about right of way and assist them in coming up with the verdict.

- Have sailors volunteer a scenario and model it on the whiteboard or on the deck of the boat, using cut-outs, boat models, etc.

Closing:
Encourage participants to read over relevant portions of the collision regs. and small vessel regs. before the sailing season. Racing Rules can be found in the ISAF Racing Rule Book, available at any marine retailer.

Modifications/Accommodations:
Introducing the 'rules of the road' can be done either on land or on water.

Resources/Links:
Collision Regulations, Canada Shipping Act, Small Vessel Regulations, Boating Restriction Regulations: http://www.tc.gc.ca

Criminal Code, Contraventions Act: http://laws.justice.gc.ca

Safe Boating Guide: http://www.tc.gc.ca/marinesafety/

Attached article:
Rules of the Road

Rules of the Road

By John Rousmaniere

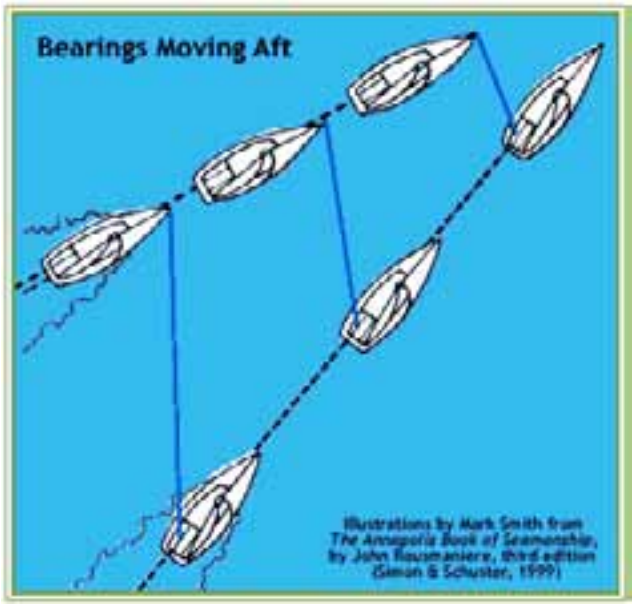
Online article retrieved from:
http://www.sailnet.com/forums/learning-sail-articles/18844-rules-road.htm

Did you know that sailboats under sail are required by law to avoid some powerboats, and when their engines are on and in gear sailboats become powerboats?

In *Treasure Island*, Robert Louis Stevenson's lively tale of secret maps and stolen doubloons, a conscience-plagued pirate throws himself on his knees and seeks forgiveness through solemn, if belated, prayer. Stevenson explains how Dick found himself in his predicament: "He had been well brought up, had Dick, before he came to sea and fell among bad companions."

Bad companions- For the typical sailor, the bad companions on the water are not shipmates, but other skippers who get in the way. Many of these intruders seem to be at the helm of the noisy, often too speedy vessels that sailors smugly call "stinkpots." Some of the most annoying and frightening of these are whiny, little personal watercraft (like the Jet Ski) and roaring pseudo raceboats (like the Cigarette). Their operators often appear to be oblivious to everything in the neighborhood, including each other. Marine police report that when a PWC collides with another boat, the odds are that the victim is another PWC.

We all have our stories about rude powerboats. The best comment I've heard was shouted at a speedboat blasting through a race fleet on Long Island Sound. "It's our Sound, too, you know!" my friend yelled. She was correct, but we sailors have no right to be sanctimonious. We can be pretty rude companions, too. We misread situations, ignore the rules of the road, blunder into the path of other vessels, and, in general, forget that it's also their Sound, too.



From the point of view of the leeward boat here, if bearings taken on the other boat move aft, you will cross ahead of her. If they move forward, she will cross ahead of you. But if the bearing doesn't change, the two boats will collide.

Sometimes the sailor tunes out the situation. When underway it's important, for instance, to know if your boat's relationship to another boat's position is changing . A good habit is to take regular bearings on a nearby boat to see if you're pulling ahead or behind. If the bearing doesn't change, you'll probably collide.

Sailors may not know the Navigation Rules. (Widely known as "the rules of the road" and available in a Coast Guard booklet and in good boating manuals, they specify how all vessels—boats and ships—must maneuver and what signals they must make in order to avoid collisions.) Skippers of auxiliary sailboats, for example, may think they always have right of way over powerboats, even when their engines are on. Not so: sailboats under sail are required by law to give way to (avoid) some powerboats, and when their engines are on and in gear, under the rules, sailboats become powerboats.

Knowing the Rules of the Road is an important part of good seamanship. After all, you are sharing the waters with other vessels.

Sailors may also be ignorant of how powerboats handle. For every powerboater unaware that a sailboat makes leeway and turns slowly, there's a sailor who doesn't know how easily a powerboat at low speed can be pushed around by the wind. "We always expect other boats to be as maneuverable as ours," says Sheila McCurdy Brown "and sometimes they're not." That's why the Navigation Rules

lay out specific priorities when different types of vessels are near each other. The logic is simple and can be summarized this way:

More manoeuvrable boats give way to less manoeuvrable ones. In wide open, deep water a powerboat gives way to a sailboat, and any moving boat gives way to a stopped boat (for instance, one that has fishing lines out). But in a narrow channel or traffic separation zone, smaller boats (under sail or power) give way to ships, ferry boats, and other large vessels that have little room to manoeuvre.

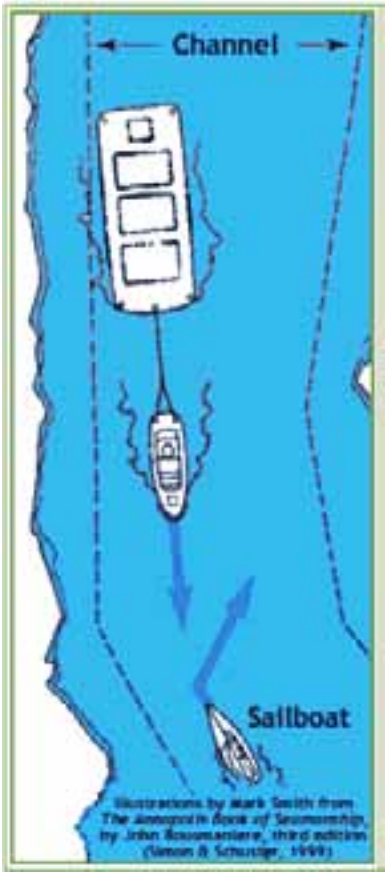
The challenge is to recognize the scenario.

Here's another rule with its own sound logic:

Any boat overtaking another boat must give way to the leader. If you can easily see the other boat's stern, it means that you're overtaking and also that her crew can't easily see you. You may pass, but you must keep your distance. This rule applies even to sailboats overtaking a powerboat.

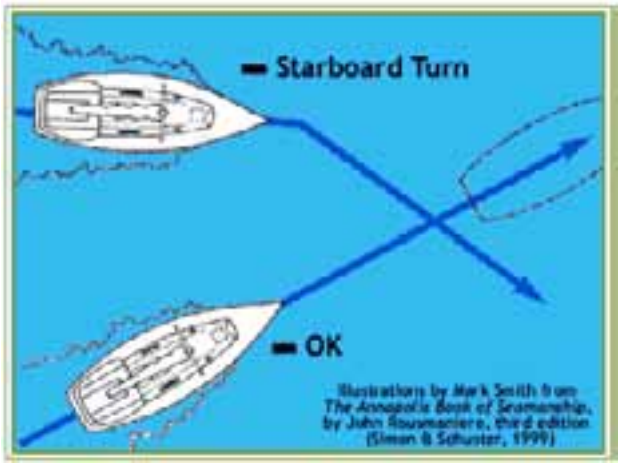
When similar boats are near each other, the rules assign priorities according to arbitrary rules, including:

When sailboats under sail are near each other, a boat on port tack must give way to one on starboard, and a windward boat must give way to a leeward one.



Sailboats normally have the right of way over powerboats, but must give way to large vessels in constricted channels.

Those rules sound simple, but in the heat of the action even the best of us can momentarily misread a situation. I've known good racing boats that have the following reminder written in large, red letters on the port side of the boom: "You're now on port tack! STAY CLEAR!!"



When boats under power cross, the one on the right is right. The other boat must cross her wake, not her bow. Sound one horn blast under the "intent-agreement" rule of the Inland Rules.

Another example of an established rule governing similar boats is the crossing rule for powerboats (which, again, include sailboats under power). We are frequently tempted to cut across another boat's bow in channels and harbors, for example, to reach the slip. The rule that helps makes that action seamanlike can be summarized this way:

The boat on the right IS right. When boats under power are crossing, the stand-on vessel (the one that does not alter course) is the one on the other vessel's starboard side and the give-way vessel is the one on the other boat's port side. The give-way vessel must cross astern of the other, not ahead.

It's important to know not only how to interact with other moving vessels but also with buoys for example.

Communications must be clear. You cannot assume that the skipper of the other boat can read your mind. One way to communicate is with clear action. The give-way vessel must make an early and substantial course alteration—say, 20 degrees. An old rule of thumb is "show her your side." A small course change may be easily interpreted as a steering error. "Intent-agreement" horn or whistle signals specified by the Inland Rules (which govern US coastal and inland waters) also communicate intentions: one short blast indicates that the boat intends to turn to starboard; two blasts, a turn to port. (Other signals apply to other situations.) The second vessel indicates agreement by sounding the same signal, at which point the turn is made, or the second vessel warns of a risk of collision by

sounding the five-blast danger signal. A third way to communicate between boats is over a VHF radio, which in crowded waters should be kept on, tuned to channel 16, and carefully monitored.

Finally, there are two informal, but helpful rules of thumb (*not* rules of the road) that have saved many skippers from embarrassment or worse:

The clear visibility rule: If you don't think the crew of the other vessel is able to see you, give way regardless of who is technically correct.

The gross tonnage rule: Give way to vessels much larger than yours, for the same reason.

Both these guidelines reflect a cautious, realistic, and determined effort to be the good companion that you'd like that guy in the stinkpot to be.

Boat Handling

Objectives:

- Act as helmsperson and crew while sailing on all points of sail
- Practice stopping boat while under sail
- Under power, practice accelerating, stopping, and turning boat
- Act as helmsperson and crew while tacking and gybing
- Demonstrate an understanding of relationship between course steered, sail trim, and wind direction
- Use of safe and effective communication while sailing

Teaching Materials:
Points of Sail diagram

Suggested Activities:

- Explain the relationship between tiller, rudder, and direction of travel. Allow for participants to practice holding tiller, and steering while on the mooring. This works well if there is decent wind.
- Explain the concept of being 'on a tack' and review the No Go zone with respect to the actual wind direction. Draw participant's attention to a specific landmark for easy reference: 'we won't be able to sail with our bow pointing directly at that buoy or house on the shore.'
- Once sail(s) are hoisted, draw participant's attention to the boom, deck blocks and sheets. Be explicit with instructions for safe and unsafe sitting positions while sailing on a tack, and while tacking/gybing.
- Demonstrate what is meant by 'bringing in' and 'letting out' the sails.
- If possible, sail on a closehauled course so that each participant can experience steering and the relationship between tiller movement, sail trim, and course steered.
- Allow for participants to make mistakes (within reason). Inevitably, participants will turn boat head to wind at some point and lose steerage. Use these moments to review sail theory, and draw attention to signs that will enable the helmsperson to prevent this.
- Demonstrate the proper way to signal a tack and a gybe, specifying communication responsibilities of helmsperson and crew. Role model this!
- Allow for group to practice call and response while sailing on a tack before tacking/gybing for the first time.
- Prepare participants for what will happen during a tack/gybe. Address: communication; movement of boat; sail movement; crew movement.
- Make a point of teaching strategies for the prevention of accidental gybes downwind.
- Practice tacking only, if conditions/comfort/skill level warrants. Convey to participants that tacking is a safe/controlled alternative to gybing.

- Explain and demonstrate that the manoeuvrability of boats is dependent upon many factors. Boats are not like cars and do not have brakes!
- In an area of open water, practice stopping the boat under power and demonstrate using the motor to try and keep boat stationary. Introduce the concept of a transit and allow for participants to practice stopping the boat. Prompt participants to brainstorm why this is a useful skill.
- When participants feel more comfortable, practice steering boat through a slalom course, empty mooring field, etc.
- Set (or use fixed) buoys/marks to create an octagonal sailing course that allows for all points of sail.
- Allow for enough room that participants will not have to worry about proximity of other vessels.
- After each tack/gybe, give feedback to helmsperson AND crew. Encourage helmsperson and crew to critically reflect on their skills once they understand the difference between a 'good' and a 'bad' tack/gybe.
- When appropriate, ask participants to try and stop boat as quickly as they can.
- Arrange a fun race.
- Reiterate points of sail terminology using guided questioning: Where is the wind coming from? What point of sail are we on? How are our sails set? How would we change our sails if we were to bear off? etc.

Closing:
Practice in both the roles of helmsperson and crew cannot be underestimated!! Even if participants forsee themselves in primarily one role, remind them that unexpected circumstances can occur, that may force them into a helming/crewing role. Basic knowledge of helming techniques, especially, is essential for boating safety.

Modifications/Accommodations:
With more experienced participants, on water sessions can be structured to focus on fine tuning sail trim and helming abilities. Spinnaker use can be covered. Poor weather can be an opportunity to discuss heavy weather boat handling: reducing sail area, anticipation, safety judgement.

Resources/Links:
CYA Basic Cruising Skills Manual
Attached articles: How to Slow Down and Stop
Reefing
Sailing Basics

How to Slow Down and Stop

By John Rousmaniere

Online article retrieved from:
http://www.sailnet.com/forums/learning-sail-articles/18836-how-slow-down-stop.html

This article was originally published on SailNet in March 2001.

Sailing in fresh air is always a balancing act between speed and control. Letting her rip can be such a joy that intentionally slowing or stopping a boat may seem boring. But when you try heaving-to, you'll probably find it to be as satisfying a feat of seamanship as it is a necessary one.

Successfully managing big breeze requires vigilance and a working knowledge of boat-handling techniques.

In this balancing act, sailing is like another inherently risky pastime, downhill skiing. There, an "expert" is defined not as the fastest or flashiest skier on the mountain, but as someone who can safely negotiate all slopes in all conditions. The challenge is to be able to ski both fast and slow, and to stop quickly, too.

One way to slow a boat in a gust is to let the sheets fly, but that eventually leaves her dead in the water with her sails luffing so violently that they seem likely to explode. Feathering and forereaching are much more satisfactory techniques because they keep the sails in control and leave the boat with steerage way, so you can dodge the next wave or a passing boat if the need arises.

Feathering (sometimes called pinching) is to sailing what edging is to skiing, a brief check of speed in order to regain control. On a beat or reach, as you first feel a puff on your face and the boat starts to heel, quickly head up a few degrees until the luffs of the sails bubble and the boat levels a little. If that sharp shot to windward isn't enough, you can forereach—head up another few degrees until the sails luff about halfway back, but not so much that the boat stops. If forereaching doesn't spill enough wind, ease the sheets several inches and let most of the sails luff (this is sometimes called "sailing on your leech"). You can practice feathering and forereaching on a slalom course of a line of buoys laid into or across the wind.

Feathering up into the wind in heavy air and big seas can take some of the strain off the rig and the hull as you work through a difficult seaway.

To stop a boat under sail so that she's comfortable but can still get under way quickly, heave-to. In terms of skiing, it's like slowing down drastically in order to take in a mountain view or carefully negotiate a patch of ice (you can see that I ski in New England). Usually associated with riding out storms at sea, heaving-to in fact has many uses in many conditions, for example, to ease the boat's heel and motion under a crew that is eating or reefing.

The traditional way to heave-to is to back the jib when the boat is on a close reach (or you can tack without releasing the windward jibsheet). The mainsail leech and jib luff then work against each other to balance the boat, the mainsail pushing up and the jib pushing down. Adjust the sheets and mainsail traveler until boat speed is very low, there is some leeway, and the boat steers herself, usually with a line making the wheel or tiller fast in one position. The proper sail geometry varies with the boat; an overlapping jib may have to be rolled up partway, and you might be able to heave-to under mainsail alone.

The prudent mariner is familiar with the vessel's handling characteristics when hove-to before he ever needs to use them.

A newer way to heave-to (which I call the Rod-stop because it was developed by Rod Stephens) requires pushing the sails out. On a close reach, ease the mainsheet and pull the boom all the way forward to the leeward shrouds with a preventer (see sidebar). Cleat the preventer and luff or roll up the jib. Flatten the mainsail by tightening the outhaul and other sail controls or by reefing. The mainsail will flags with the wind, alternately filling on its two sides to push the boat along slowly with swoops to windward and leeward, usually without requiring a steerer.

The Rod-stop is good in light to fresh winds and keeps the boat level, which makes it an excellent way in normal conditions to quickly pause to in case you need to navigate, make lunch, take a photo, or change a diaper—whatever.

The preventer, seen on this former Whitbread Race boat just aft of the vang on the boom, keeps the boom from becoming lethal should the boat unexpectedly jibe.

You'll need a preventer for the Rod-stop, but you should have one aboard anyway to keep the boom from swatting crew. Except for the liquor locker, the boom is potentially the most lethal item on a boat that's underway, and like booze it must be secured. A simple preventer is a line whose end is secured at the boom a few feet aft of the gooseneck. The line is led through a block on the rail forward of the chainplates, then aft to the cockpit near the main sheet cleat so the sheet and preventer can be adjusted simultaneously. The leeward preventer should be tight always, in all conditions. I rig port and starboard preventers so that when we change tacks there's always a line holding the boom out and away from my skull. I'll fill you in more on boom control devices in my next article.

The Basics of Reefing

Online article retrieved from:
http://www.sailnet.com/forums/learning-sail-articles/18863-basics-reefing.html

Simply put, reefing is the art and practice of reducing sail area. Every sailor knows that the wind exerts its force over the exposed surface of a sail, but many don't realize that even a small increase in wind speed can bring about substantial increases in the force of the wind. And, when you consider that spars and rigging, along with the sails, create windage that absorbs the wind's energy, it's easy to see that the more surface area that's presented to the wind, the more impact the wind's energy will have on the handling characteristics of a vessel.

Reefing before the sails load up beyond their intended wind range is an important part of good seamanship.

Knowing when to reef is a much-debated subject among sailors. If you find yourself fighting the helm as though King Neptune himself were wrestling the rudder beneath you, or if the cabin down below has become a zero-gravity environment with hooting crew members flying amid airborne gear, it's pretty obvious that it's time to reef. However, prudent sailors recognize the tell tale signs that indicate a reef might be necessary well in advance and they respond accordingly. If there's an increase in wind speed or a change in sea state, they take note. They might also discern increased cloud cover or a decrease in the air temperature or a drop in the barometric pressure. When underway, it's important to notice these changes and reef before the sails start loading up too much or before the conditions deteriorate and managing the boat becomes dangerous.

The time-tested rule for veteran mariners is to reef deep and reef early. Shortening sail to suit the power of the gusts instead of the average wind speed will keep the boat balanced and life below more manageable. Ideally, the procedure should occur in anticipation of strengthening conditions. If you're daysailing, reefing while still at the dock is prudent if the forecast calls for heavy air. If you're offshore, analyzing and interpreting weather events and comparing these to the forecast should lend insight into whether reefing will be necessary or not. While we all like to make good time underway, safety should should take precedence. And reefing early can keep things like sail cars, battens, blocks, and other essentials from breaking when the wind really starts to blow.

Reefing is often discussed with a specter of dread hanging about the topic, and it becomes easy to imagine crew members clinging to the mast, shouting desperately at each other in the face of a maelstrom. But this needn't be the scenario at all, because with the proper equipment, reefing the mainsail can be accomplished in a few simple steps. Here's how:

Let's say you're planning to reef the mainsail before you even leave the dock. So, with the boat oriented into the wind, you take the sail cover off, find the main halyard, and attach it to the head of the sail. Then you look up to see that the halyard is run cleanly from the masthead and not twisted around the shrouds or anything else. After you attach the halyard securely to the head of the mainsail you can release the mainsheet and other mainsail controls (like the vang, cunningham, and reef lines) and then raise the sail, taking care that the wind isn't going to swing the boom into any nearby boats. Once the sail is up, take a look at it to ensure that all battens are in place and won't shake loose, and that there are no tears nor other anomalies that disqualify the sail for heavy-air work.

"Before you start tightening your reef, look up to see that the halyard is run cleanly from the masthead and isn't tangled around anything like a spreader."

Then lower the sail and find its luff—the edge closest to the mast—and choose which set of reef points you'll be using. Along that edge of the sail there will be a series of cringles, or large stainless grommets. Some sails may have only one set of reef points while other sails may have two or three. Complicating this is the fact that some sails may have an attachment point for the cunningham, a sail flattening device whose luff grommet looks similar to the first reef cringle. This is a good time to examine the sail to determine whether you are working with a cunningham or the reef tack. Reef points usually have several layers of heavy reinforcement designed to take the full load of the sail, and cunninghams typically have less reinforcement.

The reef points and reinforcement patches on this mainsil are clearly visible. This sail would be described as having two full sets of reef points.

Once you locate the first reef point, find the reef hook, horn, or other gear that is used to secure the luff cringle. The reef hook may be a fitting located on the boom near the gooseneck where the sail is connected to the boom or it may be a stainless steel hook tied to a piece of line and attached to a cleat while others may have a hook connected to the forward end of the boom. Regardless of the system your boat has, put the forward most reef cringle over the hook or put the hook through the reef cringle. Then tension the halyard so that the cringle stays attached to the hook.

Now it's time to focus on the other end of the sail near the aft end of the boom. The clew of the sail should be attached to the outhaul—the sail trim device that controls the draft of the sail and puts tension fore and aft on the foot, or bottom of the sail. Run your hands up the leech—the trailing edge of the sail—until you come to the first reef cringle there. This should have a line traveling through it if the reefing line is already led. But every boat is different, so you may have to hunt around to find the reefing line if it's not already led to the cringle. The idea is to make sure that the line is led up from the boom, through the cringle, and then back down to the boom and secured somehow there. Depending upon how your boat is rigged, the reefing line should be led forward along or through the boom to a winch or a cleat on the boom, or it may travel all the way forward to a block on the mast and back down to a winch on the deck.

When using reefing hooks, make sure that they face outboard to avoid chafing against the sail.

Before you tension the reefing line, make sure that you are dealing with the same set of reef points along the leech of the sail as you are along the luff. Once you are sure the reef points are the same and the lines are sorted out, get the reef line as taut as humanly possible. Any slack in this line will leave your sail looking like a wrinkled handkerchief and not the flat, aerodynamic shape you need in heavy air. After that, you can raise the halyard as far as it will go and apply a generous amount of halyard tension. Remember, always look up when raising a sail. If you just crank away blindly on a winch, you won't know if the halyard is lead around the spreader or snagged somewhere else and you'll end up damaging either the sail or the rig, and certainly the halyard.

At this point, your reef is now almost complete. All you have to do now is tidy up the bulk of the sail that's not being used. If your sail has them, you can use the reef ties—the lines that hang from small grommets in line with the reef cringles—to secure the sail. Again, notice the manner in which the sail is constructed. Typically reef ties are small diameter lines led through grommets. Contrary to popular belief, these ties are not structural, but are put in place in order to keep the bunt, or bottom part of the sail, from flapping around. If the reef ties are tied too tightly and the clew becomes loose, long vertical creases will develop in the sail, radiating from the reef ties. If that happens, the reef points can easily tear out of the sail and leave a big hole in the sail. Tie the reef lines with a slip knot or a square (reef) knot. Should the winds lighten, these knots can be

easily untied, releasing the sail, and allowing you to ease the halyard, release the clew, and re-hoist the full sail. Now, if your sail isn't set up with reef lines, don't worry, you can still tidy up that bulk of sail that's hanging around the boom by rolling it and tying sail ties around the roll near the aft and forward-most reef points.

You can tell when a reef isn't properly set. In the photo above (looking forward along the boom), the aft reef cringle is too loose and the reef ties are too tight so the sail ends up looking baggy and has awkward creases.

Reefing while underway essentially follows the same procedures outlined above, although balance becomes more of an issue should you or one of your crew have to go forward to put the luff hook in place and handle the halyard and clew line. Heaving-to is probably the easiest way to put a reef in, though plenty of reefs have been put in with the boat head-to-wind, or by paying out the main until it luffs.

Now, there are a number of different ways in which reefing systems are set up. What I've described above is usually called jiffy reefing, but some boats are set up so that you use just one line to affect the reef and there aren't any hooks or other fittings involved. That is usually referred to as single-line reefing. And some systems have the reefing lines terminate on the mast, some on the boom, and others are led back to the cockpit for convenience. Also, there are methods of roller reefing, but the idea is essentially the same—the object is to shorten sail in the face of rising wind velocities.

In the case of roller reefing, the technique is somewhat different. Some boats have booms with internal gears and an accompanying crank that allow you to roll the sail around the boom. With this set up you first raise the mainsail and then lower the halyard while cranking the boom to roll the sail around the boom until you get to the desired setting. Other systems can include a spring in the gooseneck—a manual mechanism that allows the sail to be rolled up by hand like a window shade. And there are a number of newer systems that are capable of stowing the entire mainsail either in the boom, behind the mast, or inside the mast.

A smooth, flat sail should be the end result of a properly reefed mainsail.

No matter what system you use, you'll know that you have reefed correctly if the sail is free of creases and wrinkles. If you have reef points, you might consider using bungee cord instead of line for these. Should these areas load up, they'll be less likely to rip holes in the sail if there's a little give built in by way of the bungee cord.

One thing every sailor can do to ensure that reefing works as intended is to practice tucking in a reef in the mainsail before the wind kicks. Doing this will provide familiarity with the procedure and build your confidence for when the real need arises. Reefing really needn't be intimidating. Remember, there's plenty of good sailing to be had when the wind pipes up.

Sailing Basics
Online article retrieved from: www.sailnet.com By Steve Colgate

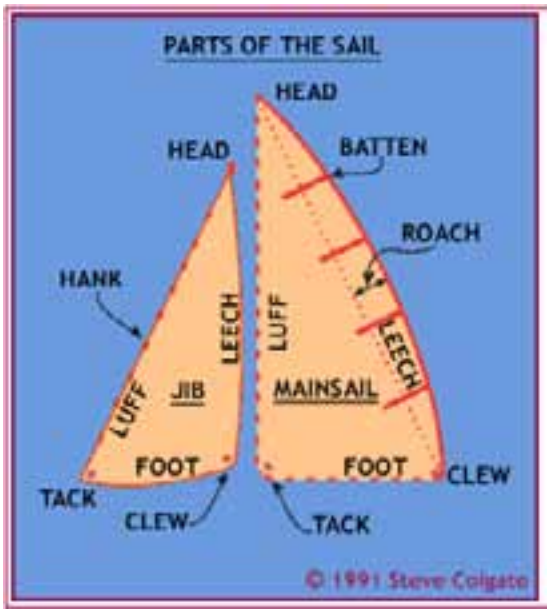
This article is excerpted from Colgate's Basic Sailing, which is used as a text at the Offshore Sailing School. Steve Colgate calls upon a vast experience gleaned from teaching thousands of students and competing at some of the highest levels of the sport. His clear and straightforward approach focuses on reasons why a sailboat moves with the wind the way it does and seeks to allay the fears of novice sailors.

At the author's Offshore Sailing School, students get a strong dosage of fundamentals before they even get on board.

Editor's Note First-time sailors are faced with a lot of unfamiliar material. The centuries-old terminology can be bewildering, and at times it may indeed seem as if you are learning a new language as you incorporate these words. It is important not to get discouraged while sifting through the meanings. The sailor's language and onboard movements eventually become second nature after repeated exposure. That said, it doesn't do any good to plow along blindly not knowing your clew from your tack or your outhaul. Proceed slowly, and when an unfamiliar term comes up, take the time to consult one of the accompanying diagrams and study the text until the concept is clear.

Bending and Hoisting the Sails Locate the clew of the mainsail. Starting at the point where the boom connects to the mast, insert the clew into the groove of the boom and pull it out to the end while another person feeds the foot of the sail into the groove. A pin is placed through the tack corner, the "outhaul" is attached to the clew, pulled tight to stretch the foot, and "secured" or cleated.

The battens are then placed in the batten pockets of the sail. Check that you have the right length of batten in the proper pocket. Starting at the tack, follow along the luff to make sure there are no twists in the sail. Attach the main halyard, looking "aloft" (up) in case it's "fouled" (twisted) around a spreader or backstay. If the main luff has slides, put them all on the mast track starting at the head of the sail. If the mast is grooved, you will have to feed the luff of the sail in



What's in a name? When it comes to sailing, and learning to sail, a handle on the basic terminology presents a level playing field and is infinitely preferable to "pull that thing over there."

the groove as it goes up. However, before you hoist the mainsail, it's best to get the jib ready.

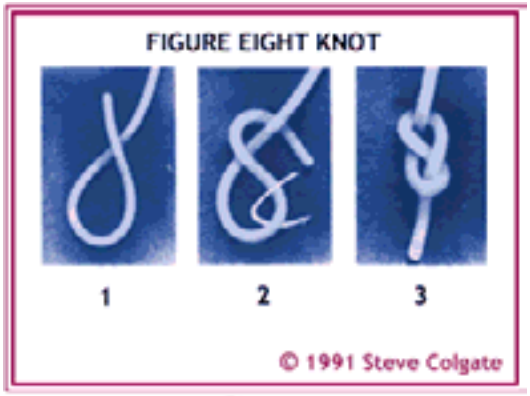


Figure 1

Start with the basics: A figure eight knot can be used to keep the ends of jib sheets and main sheets from being carried forward.

If the jib is not rolled up on a roller furler, it will have to be attached each time you go out sailing. The tack of the jib is the corner that is attached first. There are a number of ways to quickly identify this corner: (1) the sailmaker's label or emblem is almost always located there since there is an International Sailing Federation rule to this effect; (2) the angle at the tack is much wider than the angle at the head; (3) the jib hanks, or snaps, usually attach to the jibstay from right to left, for right-handed people—in other words, with the opening in the snap on the left. If you dump a large sail out of the bag, just by looking at one jib hank you can tell which way to follow the luff to the tack; (4) a good crew, knowing that the tack is needed first, will leave that corner on top of the sail after "bagging it" (putting it away in a sailbag); and (5) on larger boats, "Tack" is often written at the corner so there can be no mistake.

Attach the tack of the jib and start hanking on the snaps from bottom up. If you start at the top of the sail, you would have to hold the sail up and hank on each snap underneath. This would get mighty heavy after a while. Also, the sail would be up high where a gust of wind could blow it overboard. So you start with the tack first and pull the sail forward between your legs to keep it low, protected from the wind, and to avoid draping it over the side of the bow in the water.

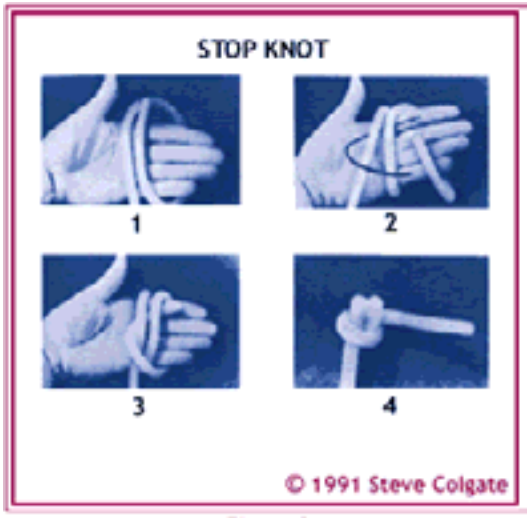


Figure 2

The stop knot essentially functions the same as the figure eight, although the

The jib sheets (the lines that adjust the jib in and out) are now attached to the clew and led through their proper "leads" (blocks, or pulleys, that adjust the trim angle of the jib), and either a "figure-eight" knot or "stop" knot, as shown in Figures 1 and 2, is made in the end of each sheet. This keeps the end of the line from running out of the jib lead when you let it go. Of the two knots, the "stop" knot is the better. Now attach the jib halyard that will pull the sail up, and you're all set to go.

ability to tie both will prove beneficial when learning other knots.

The mainsail is raised first for various reasons. It acts like a weather vane and keeps the boat headed into the wind. This is most important on a cruising boat since you are apt to motor out of a harbor, head the boat into the wind, and idle the engine while the mainsail is raised. If the boat swings broadside to the wind, which might happen if you raise the jib first, the mainsail will fill with wind, press against the rigging, and bind on the sail track, making it virtually impossible to raise the sail farther.

The same problems arise on smaller boats, but if you start from a mooring, the boat automatically "lays" with her bow pointed directly into the wind. Sometimes the current is strong enough to overpower the wind's effect, but in that case, usually the wind won't be strong enough to create problems in raising the sail. Therefore, with small boats sailing from moorings, the only reason to raise or unroll the jib last is because it flails around during and after raising. This tangles the jib sheets and causes an awful commotion on a windy day, which continues until the main is raised and you start sailing. The flailing also reduces the life of the jib because it breaks down the cloth fibers and fatigues the sail. If the jib is rolled on the forestay, just release the furling line and pull on the leeward jib sheet to unroll it for use.

One important item to remember when raising sails is that all the sheets must be completely loose so the sail will line up rather than fill with wind. At the same time, all lines that might be holding the boom down (like the cunningham or the boom vang) must be eased so that nothing can keep the main from going all the way up. A crew member should hold the end of the boom up in the air to relieve the pull of the leech of the sail if the boat does not have a topping lift (line to hold the boom end up).

Leaving the Mooring Before leaving the mooring, let's get a couple of basic terms clear: starboard and port are two terms in constant use on board a boat. Starboard is right and port is left when facing forward (toward the bow). Some remember this by the fact that "port" and "left" have the same number of letters. It's been said that the words came from sailing ships of long ago that used a sweep, or oar, for steering. It was called the "steering board" and was over the right side of the boat when one faced the bow. Thus the right side was called the "steering board" side and later, the starboard side. The left side was clear to lay next to a dock while the boat was in port and became the "port" side.

"Make sure you understand the difference between port and starboard before getting underway."

Now we're ready to sail away, but since the boat is headed directly into the wind at a mooring and is not moving through the water, it is what we call "in irons" or "in stays." This can happen at other times when a boat attempts to change tacks by turning into the wind, is stopped by a wave, and loses "steerageway" or "headway." In order to steer a boat, water must be flowing past the rudder. If the boat is "dead in the water" (motionless) the rudder is useless, so the sails have to be used in its place.

Because the boat is pointing directly into the wind, the sails are "luffing" (shaking). To "fill" the sails, you will have to place the boat at an angle to the wind. Usually this angle is 45 degrees or more, and when the boat reaches this position, the sails will fill with wind and the boat will start moving forward. Until that point, however, the sails have to be manually forced out against the wind to fill them. This is called "backing" the sail. If you want to turn the bow of the boat to starboard (to the right), you hold the jib out to port as in Figure 3. The wind hits the port side of the jib and pushes the bow to starboard. After the boat is pushed 45 degrees to the wind, the jib is released and trimmed normally on the starboard side. Though backing the jib is the fastest and surest method of falling off onto the desired tack, there are other ways. If the boat is drifting backward as in Figure 4, put the tiller to starboard. The rudder will turn the stern of the boat in the direction of the arrow and the boat will "fall off" onto the port tack.

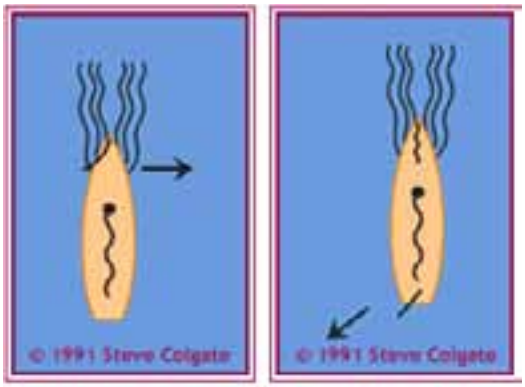


Figure 3 Figure 4

When the boat is pointed directly into the wind, backing the jib in Figure 3, causes the bow to move to starboard, as does moving the tiller in Figure 4.

You might be sailing a small boat that has no jib. In that case, you can push the main out against the wind. This starts the boat moving backward and turns the stern to the opposite direction of the side that you are holding the main. In other words, if you back the main to the starboard side, the stern will go to port as in Figure 5. Help the boat to turn by putting the tiller to starboard as described in Figure 4.

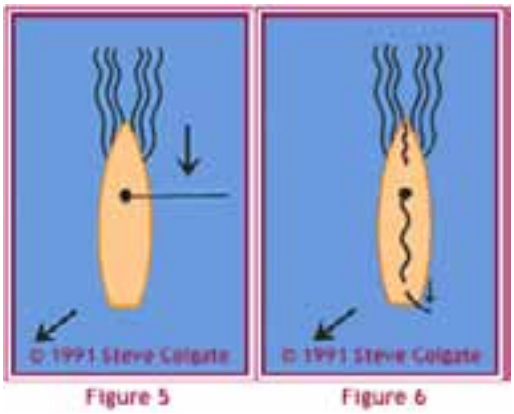


Figure 5 Figure 6

Pushing the boom out in Figure 5 causes the stern to swing to port, while luffing into the wind in Figure 6 and back winding the mizzen sail accomplishes the same thing.

If you are sailing a yawl or a ketch, you can back the mizzen (aftmost smaller sail) out against the wind in the same manner, and with the same effect, as backing the main of a small boat. Note Figure 6. The standard procedure when leaving a mooring is for a crew member to untie the mooring line, but hold on to the end of it (or, if possible, use it to pull the boat forward to gain a little forward momentum) while another crew member backs the jib. When the bow is definitely swinging in the desired direction, the mooring line is released and you're off sailing.

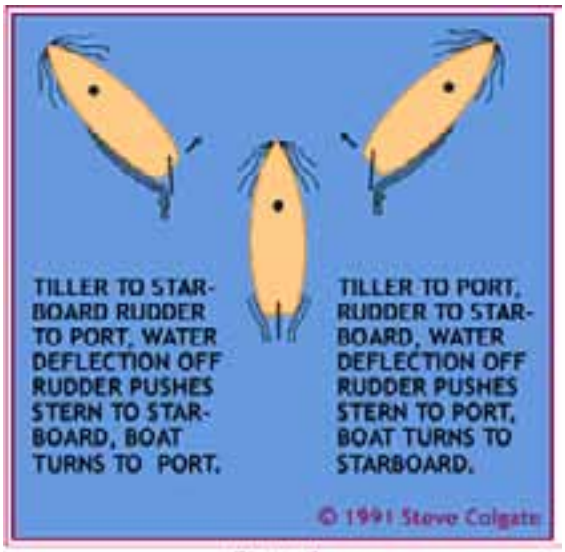


Figure 7

The basics of tiller movement and how it relates to the direction of the boat is the starting point for many students.

As the boat starts moving forward, the rudder becomes effective. Though it eventually becomes automatic, at first one has to think which way to push the tiller to steer a sailboat. As the boat sails along, water flows past the rudder. When the rudder is turned, it deflects the water flow and pushes the stern opposite from the direction of the deflected flow.

You should study Figures 7 and 8. The hull and keel of the boat act as a pivotal point, so the bow goes in the opposite direction of the stern. When leaving a dock in a cruising boat under power, one often sees the new owner try to swing the bow out too sharply. The stern bumps along the pilings because the skipper is so intent on turning the bow, he forgets he is actually throwing the stern toward the dock. To turn to port you have to push the tiller to starboard and vice-versa, which confuses many beginners. It's interesting to note that the fireman who steers the rear wheels of a hook-and-ladder truck is called the "tillerman." The theory is the same. There's no easy way to remember how to steer a sailboat. Practice is the key. Just sail on a "beam reach" (see Figure 8) and make a series of small turns to get the feel of it.

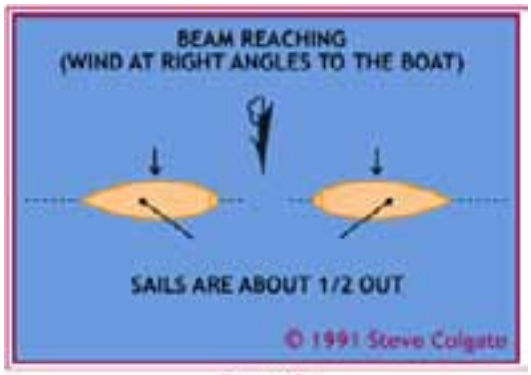


Figure 8

Beam reaching is a useful reference point when it comes to sail trim. When the wind is 90 degrees to the boat, the sails are half in and half out. Pointing higher, the sails must be trimmed in more, falling off, they must be eased.

By Steve Colgate

Sail Theory

Objectives:

- Develop an understanding of how a sail works
- Develop an understanding of how a boat moves and the factors that affect this movement
- Identify wind direction through a variety of means
- Distinguish between True, Apparent and Boat wind

Teaching Materials:
Whiteboard and dry erase markers
Banana
Highway/Air flow analogy diagram

Suggested Activities:

- Use the analogy of a plane wing to illustrate the concept of 'lift'. This will be a point of reference for most people.
- You can also represent the curvature of a sail as a highway and exit ramp on a whiteboard or chart paper. When traffic is busy and slow on the highway, you can get to the same destination more quickly by taking the exit ramp to the short cut. Highway (windward side of sail)=more cars, more air molecules, higher pressure, slower moving air. Short cut/Exit Ramp (leeward side of sail)=fewer cars, fewer air molecules, moving more quickly, lower air pressure. Cars must reach convergent point (trailing edge of sail) at the same point!! (air on leeward side speeds up in order to do this)
- Explain that the keel and rudder provide lateral resistance to the sideways force produced by the sails, which combine to produce forward movement. If any of the forces are out of balance, the boat will turn!
- Debunk wind indicator myths!! – (licking your finger etc.) Replace with: flags, boats at moorings in no current, telltales, boats sailing etc.
- Define True, Apparent, and Boat wind-we sail by apparent wind (mast head wind indicators/telltales), use bicycle analogy for boat wind, boat wind plus true wind equals apparent, etc.
- Assign a different participant to be responsible for determining the direction of the wind for each sailing session.
- Use a banana to illustrate the shape of the whetted area of a boat when it is heeling (two bananas end to end make the shape of a curved hull nicely). Show that when just the leeward half of the hull is in the water (banana shape) the hull wants to naturally turn up into the wind.

Closing: Boats sail using the same principles as a plane. The hull/keel and rudder provide underwater resistance that results in forward motion. Both air flow and water flow are required for steering and movement!

Modifications/Accommodations: If participants are interested, and at the appropriate skill level, you can try the following activity to demonstrate the effect of sail controls on sail shape/draft. Spread out a smaller sail on land, and hold it above the ground. Place a ping pong ball on it. Have participants hold the edges of the sail and make changes corresponding to changing sail control tension. Use guided questioning: Where does the ping pong ball 'sit' naturally? Where does it move when the foot of the sail is pulled taught? Where does it move when the halyard tension is increased? Simulate any of the sail controls to illustrate their effect on the draft of the sail, both position and amount.

Resources/Links:

Attached articles: Sailing Basics
CYA Basic Cruising Skills Manual
CYA Advanced Sailing Sills Manual

Anchoring and Mooring

Objectives:

- Demonstrate sailing/motoring onto a mooring
- Demonstrate sailing/motoring off a mooring
- Common types of anchors and their uses
- Anchoring terminology
- Considerations when anchoring
- Demonstrate setting and raising anchor

Teaching Materials:

Whiteboard and dry erase markers
Anchor, chain and rode appropriate for size of boat (preferably different types of anchors for comparison)

Suggested Activities:

- Outline considerations for approaching a mooring: wind direction/strength, obstacles, boats in proximity, length of mooring line.
- Suggest different types of crew/helmsperson communication and positioning of crew for line pick-up. (pointing at mooring with extended arm, standing on one side of bow to enable helmsperson a clear line of sight, counting down distance, signal for 'secure' before motor gets turned off)
- Draw 'J' hook approach on whiteboard and emphasize allowing enough distance for boat to approach head to wind (under sail or motor) and slow down.
- Demonstrate re-approach technique if crew cannot secure mooring line.
- Demonstrate how to secure mooring lines: use of bridle, cleating a line over mooring lines eyes, etc. Model turning motor off only after boat is secured to mooring.
- Demonstrate starting motor/raising sails at mooring and casting off mooring line to windward side of bow in clear view of helmsperson (crew points to line until helmsperson can see it).
- Briefly introduce common types of anchors used in Nova Scotia: Bruce, danforth, plow etc.
- Examine anchor, chain and rode. Describe function of each. Discuss shape of anchor vs. type of seabed, use of nylon rode for elasticity etc.
- Use whiteboard to introduce concept of scope, and to indicate how an anchor holds a boat (more horizontal pull=better hold). Scope= ratio of total length of rode to depth of water. 5:1 standard scope, 7:1 rough weather scope.
- Emphasize anchoring considerations: holding ground, room to swing, sheltered location from wind/waves, sufficient depth (account for tidal activity).
- Demonstrate proper anchor setting technique: crew slowly lowers anchor protecting bow, and alerts helm when it is on the bottom, helmsperson motors in reverse slowly, crew lets out required scope.
- Encourage establishing hand signals between crew/helm for anchoring.

- Draw attention to indicators that anchor has set at half throttle in reverse: feeling of snugging up, transit on land, jerk of tiller/wheel, crew feels anchor rode for constant tension (no bumping).
- Demonstrate use of trip line to aid in anchor retrieval, and use of anchor light at night.
- Demonstrate procedure for raising anchor: crew/helm communication, helmsperson drives boat slowly forward onto anchor as crew brings in rode until vertical, helm stops boat, crew alerts helm that anchor is off the ground, crew finishes bringing in rode.
- Allow for one group practice session if possible.

Closing:
Encourage participants to develop a routine for anchoring, one that involves consulting charts and tide tables. The skill can be demonstrated by creating a raft up during your program which also provides an opportunity for socializing and theory sessions.

Modifications/Accommodations:
If there isn't an opportunity for participants to practice mooring and anchoring (reluctant skipper, weather), provide roles for participants other than helming roles, to gain hands-on experience. (Consulting charts, choosing location, calculation of scope, establish communication method with helmsperson, etc.)

Resources/Links:
CYA Basic Cruising Skills Manual

Attached articles:
Anchoring
Mooring

Anchoring

Online article retrieved from:
http://www.sailtrain.co.uk/anchoring/choice.htm

Choice of an Anchorage

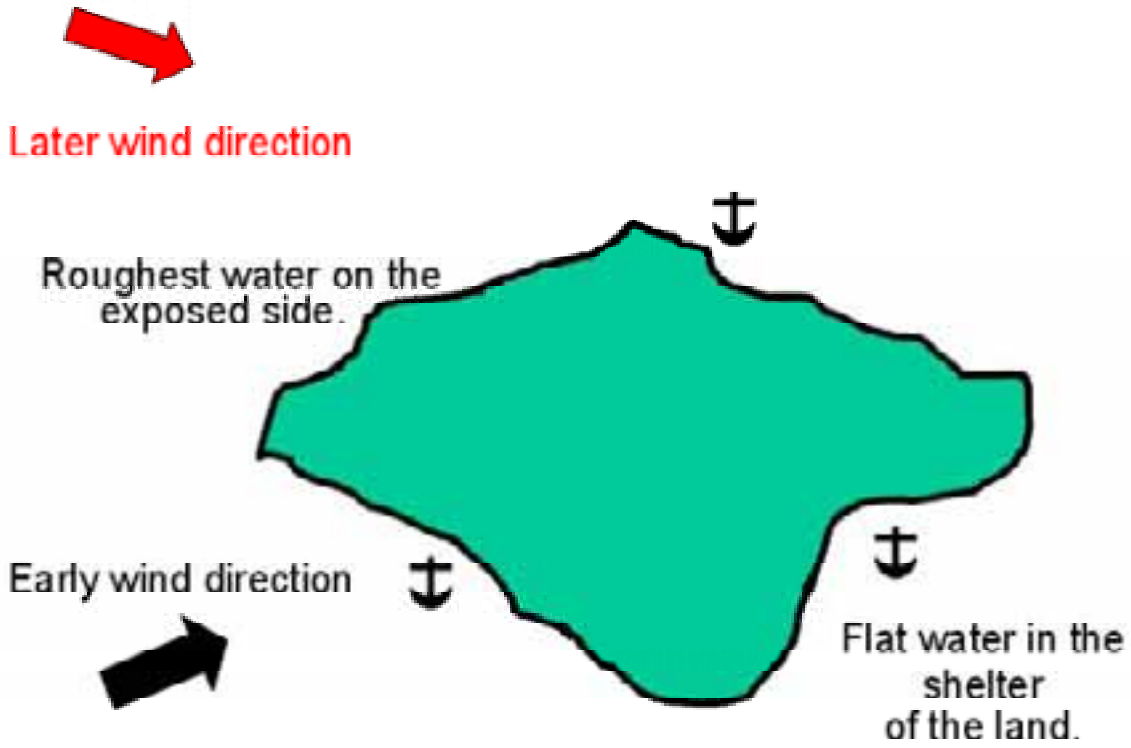
Factors affecting the decision of where to anchor

- Depth: Is the water shallow enough for the length of cable carried?

- Local bylaws: Busy harbours may ban anchoring altogether, and certainly, it is not advisable to anchor in the fairway of busy harbours.

- Anchor watch: Do you need to set an anchor watch? Not a popular plan, with most people on holiday. Will the anchor alarm on the echo-sounder or GPS be sufficient to warn you if the anchor drags?

- Shelter: One of the main reasons to anchor is to stop and rest. If the boat is rolling and bouncing you will not find the stay very restful, especially at night. The best anchorage is usually at a point where the wind is offshore and there is little current. Consider that a place which is completely sheltered when you arrive may well change completely if the wind direction shifts or the tide runs in a different direction.



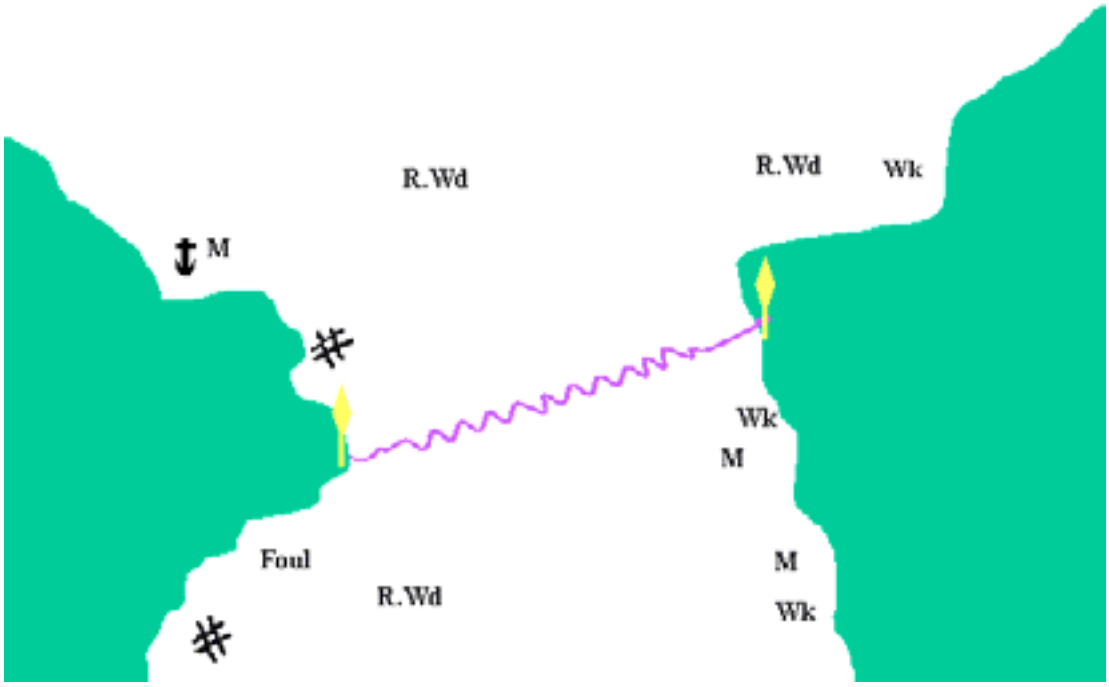
- Holding: The quality of the bottom is indicated on the chart. Ideal materials are mud and sand; both will provide a good surface for the anchor to dig into. The worst holding is often in rock and weed, weeds tend to bind around the anchor and prevent it from digging in. An anchor will only hold on a rock bottom when it hooks into a protrusion or crack in the rocks and if the wind or current change the anchor will drag until it catches on something else.

Hydrographic publication 5011, Symbols and Abbreviations, gives the full range of abbreviations used on Admiralty charts.

R = Rock

Wd = Weed

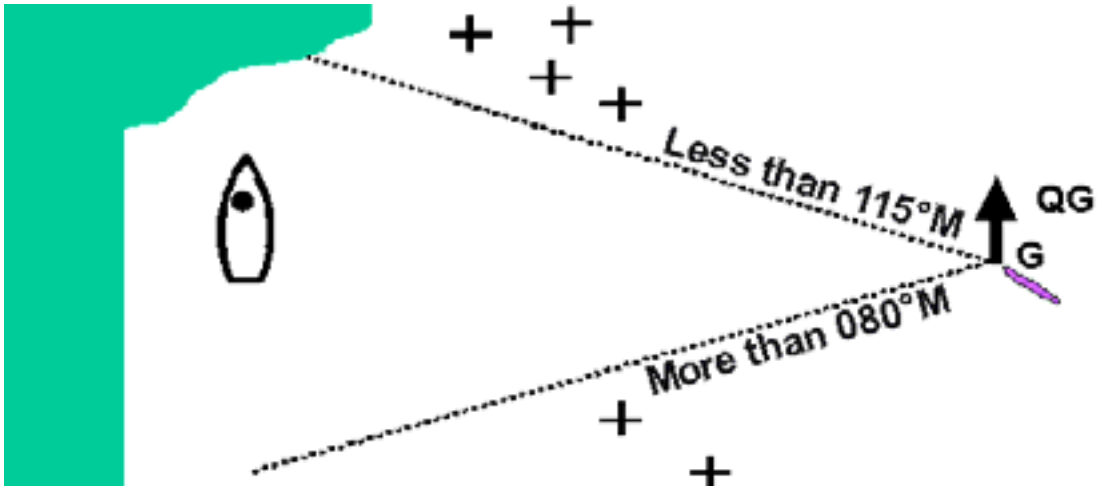
Wk = Wreck



- Obstructions on the bottom: Before anchoring check the chart for cables or gas pipes, the shoreward ends may be marked by diamond shaped yellow or white signs. There may also be wrecks or remains of wrecks on the bottom; these may be marked by the word Foul or the symbol #. Often areas where there are obstructions or it prohibited to anchor have an anchor symbol with a cross and perhaps a limit symbol.

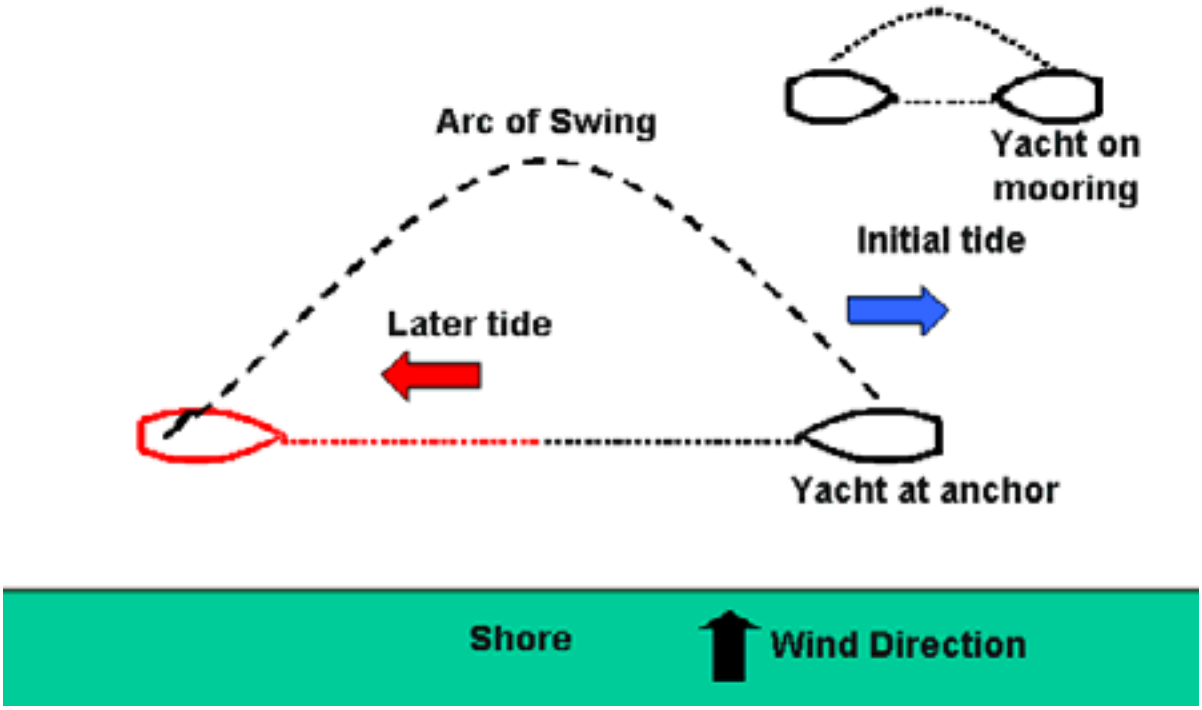
- Facilities: Is it possible to land, are there any facilities once you get there? A good pub is always nice! Remember that a beach which is easy to cross in one tidal condition may change or disappear completely when the tide changes.

- Departure in an emergency: If the conditions change, can you leave the anchorage in a hurry, perhaps in the dark? It may be a good idea to pre-plan clearing lines for a night- time departure.



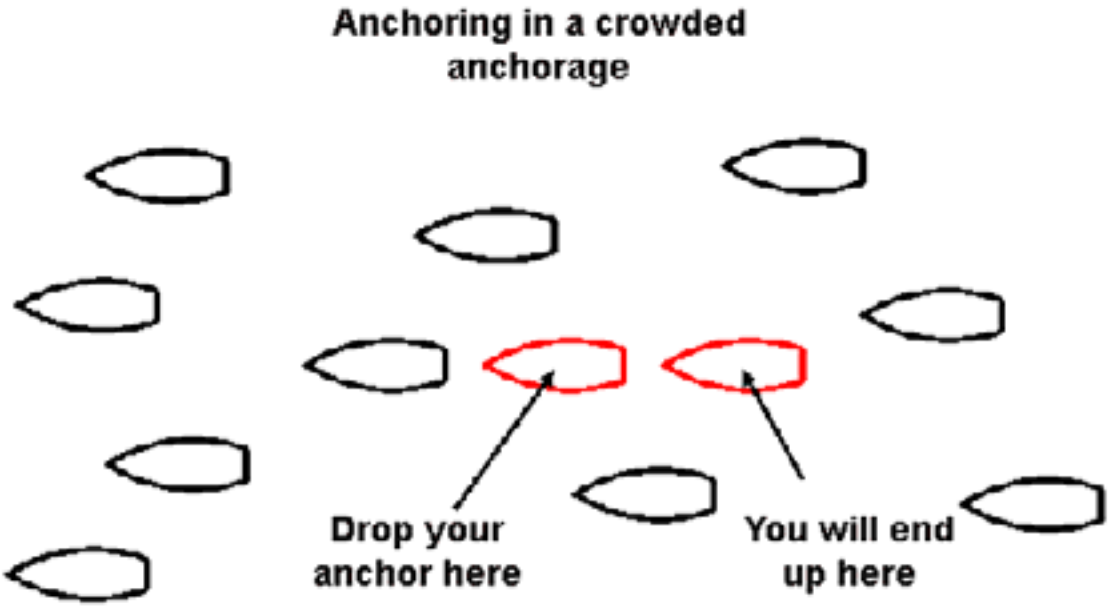
In the above example, keeping the Quick green flashing light on the buoy on a bearing of between 080 and 115 degrees will ensure that you pass between the rocks. Note that if there is a tide running, these clearing lines may be very different to the course the vessel may have to steer.

- Swinging room: When the wind or the tide change the boat will swing to a new direction, will it swing clear of moored vessels, the shore or any obstructions?

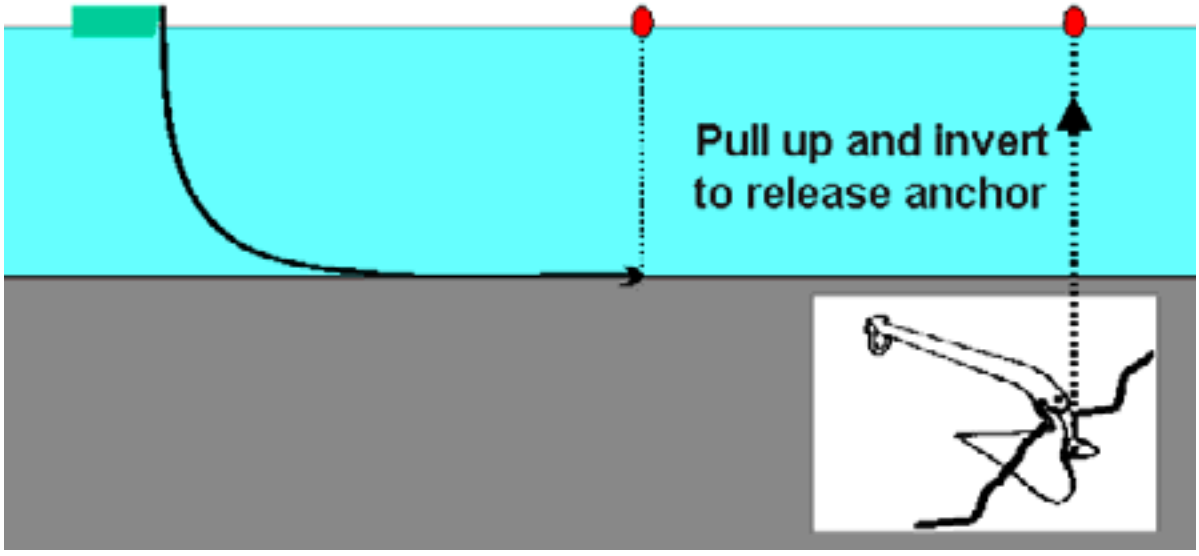


- Crowded anchorages: In a crowded anchorage, it is often better to motor close up the stern of a similar vessel to your own which is already at anchor, lower your

anchor, then drop back away from the other craft as the chain pays out. This will make the most of the available space.



- Tripping Line: A tripping line is a line attached to the lower end of the anchor. It enables you to upend the anchor if it becomes stuck under an obstruction. The disadvantages are that you or another vessel can catch them on the propeller or another vessel may try to use it as a mooring buoy! I would normally only advocate the use of a tripping line if I was in a place where there may be debris on the bottom, such as in a harbour area.



Mooring

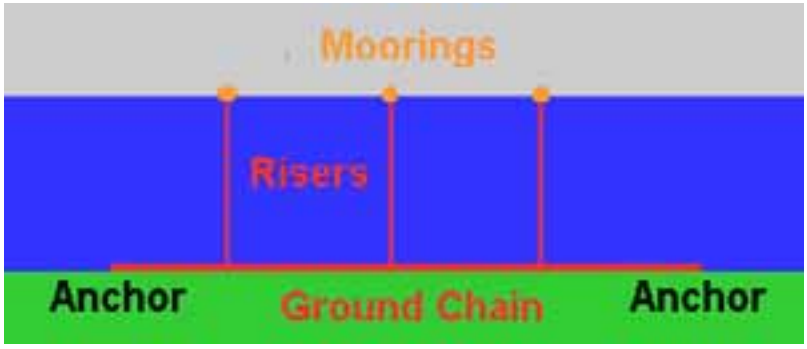
Online article retrieved from: http://www.sailtrain.co.uk/anchoring/buoy.html

Mooring to a buoy

Mooring to a buoy is generally fairly relaxed compared to arriving at a pontoon. If you get it wrong most buoys will just bounce off and you can go around again and have another go.

Buoys

Most moorings consist of a ground chain attached to a heavy object that is buried in the sea bed or to anchors at either end, on some moorings this weight could be a block of concrete or old engine block. The moorings may be individual or on a "trot", that is a line of moorings attached to a long heavy chain on the bottom. If the bottom is mud, the sinkers or anchors will gradually work their way in to the bottom and become very secure. If the sea bed is hard hand or compacted dead coral the moorings may be made by screwing an anchor point into the bottom.



The main mooring buoy is often too heavy to lift as it has to be big enough to support the heavy riser chain. There is normally a ring on the top of the buoy to moor to, and to make picking the mooring up easier, there is often a "pick up" line attached, this may have a small buoy on the end, like to one on the right.

If you are picking up a mooring in an area that you do not know you should ensure that it is strong enough to support your vessel. If not, you may pull it out of the bottom and damage the mooring as well as your vessel. There may be information available about the size of the vessels that the mooring is suitable for marked on the buoy or in the local sailing directions, in environmentally sensitive area, especially with coral bottoms there may be strict regulation of mooring and anchoring.

Around the World there are many organisations laying moorings that are intended to reduce the damage to the seabed caused by anchor chains dragging across coral reefs, one anchor can destroy 100s of years of coral growth overnight. If you sail near areas of coral make sure you know what the arrangements are, the fines for damaging a reef can be very large.

Well managed moorings are lifted annually so they can be serviced and assessed for damage, in many places this is not done and if you are on a mooring during strong winds the mooring may fail because of lack of basic maintenance. On a few occasions I have gone on deck in the morning after a rough night and seen 2 or 3 boats on the beach still attached to their mooring buoys.

Preparation

You will need a boat hook ready to hand, it is worth briefing a novice crew to pull along the length of the boat hook, not to lift with it at arm's length, it is easy to break a hook if it is used like a crane rather than to pull with. If a heavy weight is lifted in the manner of the hook on the right there is a good chance the hook will bend or snap.

It is useful to have a mooring rope ready when you approach the buoy, if the mooring has a ring on the top you will need to attach your line to the buoy as quickly as possible.

Approach

Aim into the tide or if there is no tide, in to the wind. If it is not clear where to approach from look for a similar type of vessel and approach the buoy on a parallel heading. If there are no other vessels, the direction of the pick up line will indicate the direction of the tide.

As you are approaching the buoy it is best to keep it to one side of the bow slightly, this will enable you to see it for longer, the crew should be on the other side of the boat and only step forwards at the last moment to avoid blocking the helm's view. It is vital that the vessel does not pass between the main buoy and the pick up one, the danger is that the line will snag on the propeller or the rudder.

Some skippers like the crew to count the distance to the buoy down in feet or metres. This can help once the buoy is out of sign under the bow, I find it works best with a crew

that is used to sailing together, with an unfamiliar crew there is a little adjustment time until everyone is familiar with the rest of the crew.

The best judgment of speed will come from looking to one side to create a transit. Once the buoy has disappeared under the bow, speed is very hard to estimate, but if you look to the side you can easily see if you are still moving or not.

If the crew with the boat hook is briefed to point the hook at the buoy it may help the driver to position the boat.

On a larger or high decked vessel, it is easier to pick the buoy up at the lowest point of the deck, this is normally about 2/3 of the way aft. Once the crew have the buoy, the vessel needs to be gently reversed until the buoy is on the bow. On some vessels or if you are alone it may be best to reverse on to the buoy, just take care not to foul the propeller.

Mooring

Once at the buoy, the boat must stop and stay stopped relative to the buoy long enough that the crew can attach the boat to the buoy. Frequently you see a boat slowly dropping back until the load is fully on the boat hook, the crew can not release the hook from the buoy because of the pressure and when it is ripped from the foredeck crew's hands the skipper blames the crew. This situation it is always caused by poor boat control, the helm must keep the boat stopped, this may mean subtle use of the engine and steering.

The mooring rope should be pulled in until the main mooring line is reached, this can then be attached to a cleat. If there is no pick up line available, the yacht's mooring line must go to the big ring on the top of the mooring.

There are several mooring tools that can make life much easier, especially when you are short handed. There are some that clip a carbine hook directly to the ring on the buoy and others that will feed the line through the ring on the buoy for you.

Staying attached

Many boats are left with a single line through the ring on the buoy. That is fine for a few minutes but in gusty conditions the rope will cut through in no time. The best approach is to tie a round turn and two half hitches to the ring on the buoy, and if staying overnight I would always tie two lines to the buoy (I have often seen one knot fail but never two!). The round turn and two half hitches is ideal because the rope does not move very much around the ring on the buoy. If a bowline is used (much easier to undo), it should have an extra turn round the ring.

On larger boats or in more exposed conditions it may be prudent to shackle the anchor chain to the buoy, a well equipped yacht will carry a 5-6m length of chain with a large shackle especially for this purpose. In somewhere like Bray harbour at Alderney ropes

will chafe through surprisingly quickly and there are no guarantees that someone will re-moor the boat before the lines snap. If this happens when you are ashore your vessel could be subject to a salvage claim.

Mooring maintenance

A well maintained mooring should be lifted every year and inspected for  corrosion. Commercial moorings are normally lifted and any damaged areas repaired, mooring laid by yacht clubs may not get lifted so often unless the club owns a lifting barge. Moorings laid by private individual may never get any maintenance.

If you pick up a mooring that you know nothing about, there is a chance that it may be in a very poor condition. Frequently after severe gales I see yachts floating out to sea or washed ashore still attached to their mooring buoy.

If the main mooring buoy shows sign of severe weed growth there is a good chance the mooring has not been inspected for some time.

Take care when using an unfamiliar mooring!

http://www.sailtrain.co.uk/anchoring/buoy.html

Docking

Objectives:

- Considerations when docking
- Boat and crew preparation
- Approach dock safely and effectively
- Secure Boat
- Leave dock safely and effectively

Teaching Materials

Whiteboard and dry erase markers
Extra fenders for both port and starboard sides

Suggested Activities:

- Explain to participants that docking is like any other sailing skill, one that only comes with practice. Sailors with good docking skills aren't born, they're bred!
- Many people are nervous about docking, be cognizant of the learning environment. It will do little for someone's confidence to have them learn to dock on a blustery day while many sailors are on the next dock.
- Take advantage of periods of low wind (early morn, hour before sunset) to have each participant practice a number of times. Those who most need to build their skills might be reluctant to try docking more than once, for fear of failing/damaging boat. Practicing more than once will give these sailors an opportunity to get feedback and act on it, to build their docking skills.
- Model a calm and methodical approach to docking. Be explicit…..think out loud as you demonstrate docking.
- Have group brainstorm factors that must be considered when docking: wind strength, direction, size of boat, speed of boat, size of dock/berth, room to manoeuvre, number of crew onboard, people available to assist on land etc.
- Draw a diagram of a dock and relative wind direction. Suggest a safe and appropriate position to dock boat. Illustrate an approach that would allow for a leeward approach/head to wind.
- Emphasize the importance of learning how long it takes for your boat to slow down. Slower is better!
- If approaching the dock under sail, ability to slow down must be balanced with enough momentum to reach dock. Under motor, it is always easier to give it some gas close to the dock than to have to slow down at the last minute.
- Explain that participants should never use hands/feet to fend off boat, and that many clubs will be happy to assist with docking lines if hailed via VHF.
- Talk through the procedure of docking well ahead of time: fenders in correct position at correct height, bow, stern and spring lines properly attached to boat and ready to heave, crew positioning-for helmsperson visibility and ability to step off boat.
- If possible, start with a few participants on the dock to assist those on the boat.

- Switch people through roles of helmsperson and crew.
- Encourage participants to take their time during the approach, and not to hesitate to circle around and try it again if they find their speed and/or angle is off.
- Emphasize the use and proper positioning of spring lines.
- Place fenders on both sides of the boat and allow participants to practice approaching from both starboard and port sides.
- If possible, attempt reversing onto the dock.
- Demonstrate how to cleat and coil docking lines and how boat should be left for a long period of time (chafe guards on lines at chocks, fender position etc.).
- Remind participants to account for tide when tying up to a fixed wharf/dock.
- Allow participants to dock boat, secure it, and then practice motoring off dock.

Closing:
This skill seems to have a lot of anxiety attached to it. The only way for sailors to feel confident is sheer repetition of the skill. The more times they get to dock, in different wind conditions, the more confident they will be. If a group of women have requested a program that builds confidence with docking, it may be very beneficial to spend the on water session docking. To allow for this practice, try to use smaller keelboats, at a readily accessible dock with lots of fenders!

Modifications/Accommodations:
If weather is not conducive for docking during the program, providing the opportunity to practice docking a reasonably sized motorboat can be a good substitute.

Resources/Links:
Attached article:
When Docking, Easy Does It
CYA Basic Cruising Skills Manual

When Docking, Easy Does It
Online article retrieved from:
http://www.sailnet.com/forums/learning-sail-articles/18886-when-docking-easy-does.htm

Below the high-water mark on the piling to leeward of *Kirsten*, two large rusty screws stuck out several inches. Right now *Kirsten's* hull was safe from these newly revealed hazards, but once I slipped the lines and began backing out, the wind would surely arrange a meeting between these screws and *Kirsten's* hull.

Fortunately, the wood was punky below the high-water mark and a pair of pliers easily removed the screws.

A careful eye for protruding hazards is a must when docking in unfamiliar places.

Now all that remained was to free the spring lines and back out of the slip without banging into the piling or scraping past the bowsprit of the boat in the next slip over. The 15-knot breeze made this seemingly simple task a very delicate operation.

An extra pair of hands helped immeasurably. John, a friendly liveaboard on a large motor yacht at the end of the slip, stood on the floating dock, gripped the forestay, and gave a hearty push that carried *Kirsten* safely past the piling and neighboring boat.

The push was a reminder of a hard-earned lesson that a little boost, not a lot of power, can finesse a sailboat out of just about any situation. This and other lessons in the sidebar may take firsthand experience to fully grasp, but some advance warning may help avoid serious harm.

Unlike powerboats, most sailboats cannot be muscled into tight spaces with the engine. *Kirsten's* hull bears the scars of the experiences that taught me this lesson. With a sailboat, easy does it. This means working with the wind and current, using momentum more than revolutions per minute, and good line handling.

Before I learned these lessons, entering my slip was like a panic fire drill. Trying to overcome the wind or current with engine power, I would invariably bang into the neighboring boat or the piling at the end of the finger pier and embed the wire bobstay into the wood of the dock. Today, I rev the engine in reverse to slow down my approach, put it in neutral, coast in, hop onto the dock with the bow and stern lines in hand, ease her into place, and tie up without fuss.

Leaving the slip was even worse. Crosswinds would have me slamming into forward and then reverse to escape the pilings and raised powerboat propellers on all sides, poking at boats and pilings with the boat pole, frantically looking around to see the next collision course. Today, I take stock of the wind and current, keep a grip on the bow line, push off from the dock, leap aboard, give a little juice to the engine in reverse, put it in neutral, back out until I'm clear of the slip and other boats, and then put the gear in forward and head down the channel. Sounds complicated, but it's so easy it still amazes me that I escape with so little trouble.

I used to think maneuvering *Kirsten* in reverse was simply not meant to happen. Then one day Vinny, the marina manager, took the helm to get *Kirsten* back to her slip after some work. My jaw dropped as he effortlessly drove her backward with inches to spare on either side, where great big bolts stuck out from pilings. Getting some way on in reverse and then putting the gear in neutral, he explained, makes it simple to steer while going backward because it eliminates the prop turbulence.

Wind and current can be neutralized by working with them, instead of against them. Knowing how your boat will respond to wind and current takes some time, but it can be roughly calculated by thinking of how the boat's above-water and below-water profiles react to these two forces. In *Kirsten's* case, the high bow and the mast set well forward mean that the wind will push the bow more than the stern. Her shallow forefoot and deep stern mean that the current will push her stern more than the bow.

A boat does not turn like a car, with the rear following the front wheels as they turn. A boat swings its stern out in one direction as much as the bow turns in the other direction. Bear this in mind and you can visualize how the boat will handle a manoeuvre before you carry it out.

Visualizing and then thinking the process through helps you execute docking and leaving a dock without banging or scraping into other boats. A little forethought helps avoid the general pandemonium that both amuses and panics fellow boat owners in the marina.

"Knowing how your boat will respond to wind and current takes some time, but it can be roughly calculated by thinking of how the boat's above-water and below-water profiles react to these two forces."

Mastering the art of docking at your own marina takes time, and you shouldn't expect to handle dockings at unfamiliar marinas effortlessly until you have plenty of experience to guide you. After all, if you're accustomed to tying up to cleats on a floating dock, how well can you expect to do when you're a transient at a marina and have to lasso four pilings with clove hitches and double half-hitches—and take the tidal range into account?

Accounting for tidal range can be done mathematically with great precision. But most of us are not going to brush up on Euclidean geometry in order to calculate the amount of slack to leave in a line to prevent the boat from bumping into pilings at high tide or pulling a cleat out of the deck at low tide.

A variety of docking scenarios exists. Knowing how to tie up to something like this requires a through knowledge of knots and line handling.

When you have to tie up to pilings, start with the windward lines first to prevent the boat from banging into the leeward pilings. Now, with the boat secured for the moment, add enough slack to the lines to account for the tidal range. That done, you now know how much line to use when tying up to the leeward pilings. The windward lines will be taut, the leeward lines will be slack. If the leeward lines are taut, then you have not used enough line, and there's a good chance your boat will be heeled over at low tide.

One of the great joys of sailing is learning to work with the elements, instead of beating them into submission with overwhelming force. This applies to docking as well as sailing on the open water, and perhaps more so, because at the dock, your every move is on display to the public.

Docking Safely and Easily

- Easy does it—work with the tidal currents and wind, visualizing what you will do before you do it, and use the throttle for starting or stopping momentum, not for brutal force.
- Tie up to windward or up-current pilings first.
- Prepare crew for your maneuvers by telling them in advance how you plan to enter or leave dock and what they will need to do.
- Get lines, bumpers, and boat pole out of lockers and ready before they are needed.
- If fending off is necessary, use the boat pole, not hands or feet.
- When coming into an unfamiliar marina, radio ahead to ask for wind, current, tidal range information, and directions to your slip.
- If tying up to a fixed dock with unprotected pilings, protect your hull with a wooden plank, with holes in each end for lines

and long enough to lay across fore and aft fenders, or with a bumper strip fitted to the plank on the side facing the hull.
- Warn crew to keep hands and feet on board until the boat is docked.
- Keep extra docking lines, fenders, and chafing gear on board .

Just like a suburbanite who might need a big city passerby to help in parallel parking, don't be afraid to ask the marina or a dockside resident for a hand; just remember that boats don't turn like cars!

http://www.sailnet.com/forums/learning-sail-articles/18886-when-docking-easy-does.html

Weather and Navigation

Objectives:

- Knowledge of Canadian buoyage system and aids to navigation
- Local weather information: sources and hazards
- Interpreting marine weather forecasts
- Reading a chart and tide table
- Using a compass

Teaching Materials:

Local hydrographic chart
Tide Table
Compass
Copies of Environment Canada forecast
Whiteboard and red/green dry erase markers

Suggested Activities:

- Introduce different sources of weather info (VHF, internet, newspaper,TV). Emphasize the importance of checking the weather before heading out on the water. Role Model!
- Pass around copies of Environment Canada marine forecast for the day, and help participants interpret the information.
- Discuss implications of forecast on decision of when and where to sail/sail selection.
- Assign participants to provide the weather forecast for the remaining sailing sessions.
- Look at chart with participants and go over important symbols.
- Have participants identify local navigation hazards from chart and observation.
- Introduce concept of Lee Shore.
- Explain the concept of true north, magnetic north, deviation, influences on compass.
- Demonstrate how to read a bearing from the compass.
- Apply chart bearing to compass/course bearing and vice versa.
- Use attached articles to discuss marine distance and speed terminology-knots, nautical miles, V=D/T, etc.
- Explain Canadian buoyage system, colors and shapes (fairway, red/green RRR, cardinal, special buoys). Draw a buoyed channel on the whiteboard and have participants draw a safe path for the boat.
- Point out local navigation markers/hazards during sail.
- Encourage participants to practice reading their course bearing while sailing, crew can practice applying that bearing to the chart.
- Demonstrate GPS use if available.

Closing:

The ability to navigate, and predict the weather are invaluable skills for day sailing, cruising and racing. There are many excellent courses offered in Nova Scotia that focus on piloting/navigation and weather. See resource links below.

Modifications/Accommodations:
If participants have some basic weather knowledge, cloud formations, barometer use and weather systems can be discussed.

Resources/Links:
Attached articles:
Interpreting Marine Weather Information
Navigation Basics

Canadian Power and Sail Squadron- Extensive selection of piloting and weather courses: http://www.cpshalifax.com/

Environment Canada Weather Office: www.weatheroffice.gc.ca

Fisheries and Oceans Canada- Tide and Current Tables: http://www.waterlevels.gc.ca

Halifax Harbour Weather Buoy:
http://www.ndbc.noaa.gov/station_page.php?station=44258

Interpreting Marine Weather Information

South Western Shore

Environment Canada Weather Forecast

Marine Forecast issued for Southwestern shore.
Issued: 10.00 AM ADT Wednesday 19 March 2008.

Synopsis:
A weakening low pressure system southeast of Laurentian fan will Move away today. As a result..Gale to storm force northerlies over southeastern waters will diminish today. A narrow ridge of high pressure extending north to south over extreme western waters will move eastward to lie over Cape Breton by Thursday morning.
Winds will become light as the ridge passes. Behind the ridge a developing low pressure system and trough will approach the district spreading southeasterly gales to all but easternmost waters by Thursday evening. Strong westerlies will arrive over western waters behind the trough late Thursday.
Marine interests are advised that storm a warning remain in effect for Laurentian fan. Gale warnings are in effect for all remaining waters.
Freezing spray warnings remain in effect for eastern shore..Sable.
Fourchu and Cabot strait.
Marine interests are also advised that ice pressure warnings are in effect for Cabot strait and all Gulf of St Lawrence waters.
Strong ice pressure in the ice pack and along north-facing coasts will continue to ease today. Special ice warnings are in effect for eastern shore and eastern half of Sable due to unusual presence of sea ice.

Forecast:
Gale warning in effect.
Winds northerly 15 to 20 knots diminishing to light early this evening. Winds increasing to southeast 20 overnight and to Southeast gales 35 Thursday morning then veering to southwest Winds 30 Thursday evening. Rain beginning overnight tapering to showers Thursday afternoon. Fog patches forming Thursday morning.
Visibility fair in precipitation and poor in fog. Temperatures near minus 3 rising to zero to 2 this afternoon and to 3 to 6 Thursday afternoon.
Outlook for Friday...Strong westerlies.

Terminology

Wind direction: Always given in reference to where the wind is COMING FROM. Northerly winds blow from the North.

Knot: 1 Knot = 1 Nautical Mile per hour

1 Nautical mile = 6076.12 ft. = 1852 m **

A nautical mile is exactly equal to 1/60th of a degree of latitude. A 1/60th of a degree of latitude is known as a minute of latitude. Therefore a nautical mile is equal to one minute of distance. There are 90 degrees from the equator to the pole. Therefore a nautical mile is 1/5,400th the distance from the equator to the pole. This number is found by multiplying 90 (degrees from equator to pole) * 60 (number of minutes in a degree of latitude). The nautical mile is based on how our system of ocean navigation evolved, using a circle of 360 degrees, with each degree divided into 60 minutes and 60 seconds. At sea, one's position is always based on degrees, minutes and seconds, so therefore how fast you traverse the ocean is based on "minutes" traveled per unit time (hour); hence, the nautical mile per hour or knot. In centuries past, mariners determined the speed of their ships using a knotted "log line." The buoyant line was let out freely as the ship sailed along, and then the number of knots let out during a given time gave the shipmaster a measure of his vessel's speed.

by Jeff Haby

As retrieved from: http://www.theweatherprediction.com/habyhints/74/

Envrionment Canada Marine Wind Speed Designations:

- Light (less than 12 knots)
- Moderate (12-19 knots)
- Strong (20-33 knots)- Previously referred to as ‘Small Craft Warning’
- Gales (34-47 knots)
- Storm force (48-63 knots)
- Hurricane (64 knots and over)

VHF marine weather broadcasts:
Eastern:

- Atlantic/Great Lakes channels **21B** (161.65 MHz) and **83B** (161.775 MHz)
- Environment Canada broadcasts continuously over three dedicated VHF-FM bands: 162.400, 162.475, and 162.550 MHz
- Coast Guard monitors VHF channel 16 –for Emergency use ONLY

Weather information- Pressure Systems

An **air mass** is a large, horizontal body of air with a uniform distribution of moisture and temperature throughout. A **front** is the boundary between two different air masses. A **cold front** is the leading edge of an advancing cold air mass and moves in such a way that the cold air replaces the warm air. A **warm front** is the trailing edge of a retreating cold air mass and moves in such a way that the warmer air replaces the colder air. A **wave**, in meteorology, is the intersection of warm and cold fronts.

The **atmosphere** is the mass of air held close to the earth by gravity. Atmospheric **pressure**, also known as air pressure or barometric pressure, is the force exerted by the weight of the atmosphere. A drop in pressure usually predicts foul weather, while a rise in pressure usually means fair weather ahead. In the northern hemisphere, a **high** is an area of high atmospheric pressure with a closed, clockwise movement of air, while a **low** is an area of low atmospheric pressure with a closed counterclockwise circulation of air. A **ridge** is an elongated area of relatively high pressure extending from the centre of a high pressure region. A **trough** is an elongated area of relatively low pressure extending from the centre of a region of low pressure.

Cloud Formations

Latin Root	**Translation**	**Example**
Cumulus	Heap	Fair weather cumulus
Stratus	Layer	Altostratus
Cirrus	Curl of hair	Cirrus
Nimbus	Rain	Cumulonimbus

As retrieved from: Environment Canada

http://www.msc.ec.gc.ca/cd/brochures/forecast_e.cfm#7

Weather Resources:

Environment Canada: www.weatheroffice.gc.ca

NOAA: (USA) www.**noaa**.gov

Navigation Basics

Online article retrieved from:
http://www.sailnet.com/forums/learning-sail-articles/18810-navigation-basics.html

This article was originally published on SailNet in November, 1999.

Along with the Rules of the Road, every mariner should be very familiar with the principles of navigation.

For the safety of your boat and crew, there are two areas that every mariner needs to know cold. One is the Rules of the Road and the other is navigation.

The word *navigator* comes from two Latin words, "navis," meaning ship and "agere" meaning to direct or to move. Navigation is defined as the process of directing the movement of a craft from one place to another. The craft may be, in its broadest sense, any object requiring direction or capable of being directed. Navigation of a watercraft is called marine navigation. It is also important to understand that marine navigation methods and techniques will vary with the type of vessel, the prevailing conditions, available equipment, and the navigator's experience. There is a world of difference between navigating a pleasure craft and an oil tanker, even though you may use the same type of equipment and navigation techniques. An experienced professional navigator will navigate a pleasure craft in an easy and offhand manner that belies the complexity of the techniques involved.

Basic to the study of navigation is an understanding of certain terms that could be called the dimensions of navigation. These so called dimensions of position, direction, distance, and time are basic references used by all navigators. A clear understanding of these dimensions, as they relate to navigation, is necessary to provide a means of expressing and accomplishing the practical aspects of navigation.

Position The exact location of a boat or object is a point defined by stated or implied coordinates. Though frequently qualified by such adjectives as "dead reckoning," "estimated," "GPS," and "Radar," the word *position* always refers to some place that can be identified. It is obvious that the navigator must know the ship's position before being able to direct the vessel to another position or in another direction. The ship's position can be expressed in coordinates of latitude and longitude or Loran TD's. The position may also be expressed as being "close abeam" a particular aid to navigation or so many miles in a particular direction from any geographic location. For example, "two miles due south of Point Lookout."

Hand-bearing compasses like the one shown here are a useful tool for finding a relative position.

Direction The position of one point relative to another, without reference to the distance between them, for example, "due south," is termed direction. Direction is not in itself an angle, but it is often measured in terms of its angular distance from a referenced direction, such as true north or magnetic north. For example, a course of 135 degrees true.

Distance The spatial separation between two points is what we call distance, and this is measured by the length of a line joining them. On a plane surface this is a fairly straightforward and simple measurement. On a sphere the separation between two points may be expressed as a variety of curved lines, i.e. great circle and usually requires a segmented measurement. The length of the line can be expressed in various units, such as, nautical miles, statue miles, yards, or feet.

Time This concept is defined in many ways, but those definitions used in navigation consist primarily of either the hour of the day in reference to a particular line of longitude (i.e. GMT, LMT, and EST) or as an elapsed interval between events.

Time is an important concept for almost any form of navigation, but particularly so for celestial navigation.

The principal divisions of navigation are dead reckoning, pilotage, electronic, and celestial. Within these divisions navigation can often be further broken down into sub-divisions such as radar navigation within electronics. There are also certain areas of knowledge required in order to fully understand a navigation division, such as having a basic understanding of tides and currents when determining an estimated position. Each of these types of navigation will be covered thoroughly in future articles.

Dead Reckoning (DR) The determination of position by advancing a known position along the vessel's steered course (C) for a calculated distance (D) is what sailors call DR. This distance is based upon the speed of the vessel through the water and the elapsed time since departing a known position. An Estimated Position (EP) is determined by applying the set and drift of the current to the DR position or by using the vessel's Speed and Course over the Ground (SOG & COG) from the GPS to calculate the EP directly from the last known position. Dead reckoning is the basis of all navigation and should be carried on your paper chart at all times as a safety backup to pilotage and electronic navigation. A good DR is absolutely essential for celestial navigation.

Piloting Also known as pilotage, piloting is navigation involving frequent or continuous accurate determination of the vessel's position, or a Line of Position (LOP) relative to geographic points, using visual or electronic means. Pilotage is practiced near land and aids navigation. It requires good judgement, constant attention, and alertness by the navigator, especially when near hazardous areas.

Electronic Navigation
Sailors who use electronic equipment in any way to navigate(including radar, Loran, depth sounders, and GPS), are engaging in electronic navigation. The latest means of electronic navigation is the use of a computer connected to the GPS, or a stand-alone plotter, to display the boat's position on an electronic chart. This type of equipment has been covered in detail in earlier articles and in future articles I'll cover using it for navigation as it overlaps pilotage to a considerable degree.

Handheld GPS units like the one in use above are one of the most popular forms of electronic navigation, but savvy mariner repeatedly warn against using them as your sole means of navigation.

Celestial Navigation Using information obtained from celestial bodies to determine one's position at sea (a process that relies considerably on DR techniques) is known as celestial navigation. Today, many mariners consider celestial navigation to be archaic now that GPS is available. However, celestial is the only way to evaluate the reliability of the GPS position and is a necessary backup to the GPS if your power or electronics should fail at sea.

These divisions are considered separately here for the purpose of instruction; however, they are so intertwined in actual practice that it's often difficult to separate them. For example, you'd use DR to get an ETA for a sharp change of depth contour; then use the depth sounder to get an LOP as you cross that depth; take a visual bearing and a radar range to confirm your DR position; and note the time and mark your position on the chart. Finally, you'd compare this position with your computerized charting program or GPS plotter to confirm its reliability. Now that's what I call navigation. Practicing these techniques on the sunny days will pay dividends on the foggy ones.

Remember that the science of navigation can be taught, but the art of navigation must be developed from experience.

By Jim Sexton
http://www.sailnet.com/forums/learning-sail-articles/18810-navigation-basics.html

General Navigation Techniques by Jim Sexton

Canadian Yachting Association

www.sailing.ca

National Authority for Sailing

The Canadian Yachting Association is a Registered Amateur Athletic Association with charitable status, designated by the Government of Canada as a National Sport Organization representing the sport of Sailing. The Association represents all participants including recreational sailors and high performance athletes at the club, provincial, national and international level.

Vision Statement

To Make Sailing and Recreational Boating Lifelong Activities for Canadians Through Excellence in Competition and Training.

Instructional courses offered through Nova Scotia Yachting Association:

Learn to Cruise

Student Standards

The Canadian Yachting Association Learn to Cruise standards provide safe standardized instruction on cruising sailboats equipped with accommodation and auxiliary power.

Competent Crew standard enables the graduate to be able to cruise safely by day in local waters as a crew of a sloop rigged keelboat, 20-30 feet, in moderate wind and sea conditions.

Intermediate Crew standard enables the graduate to be able to cruise safely by day in local waters as a crew aboard a sailing yacht of 8 - 12 meters in moderate wind and sea conditions by day. Emphasizes on-the-water skills at a level acceptable for bareboat chartering.

Basic Cruising covers the skills required to cruise safely in familiar waters as both skipper and crew of a sloop rigged keelboat of 6 to 10 meters in moderate wind and sea conditions by day.

Basic Keelboat Racing Standard provides the knowledge necessary to compete in club & local races with a fundamental understanding of the racing rules, protest procedures and applying sailing and seamanship skills in winds up to 20 knots.

Intermediate Cruising covers the skills required to safely cruise a keelboat of 8 - 12 metres in familiar waters. It is recommended as the minimum qualification for bareboat chartering. The recommended time for teaching and examining the standard is five days or two weekends.

Advanced Cruising covers the skills needed to skipper or crew a sailing cruiser of 8 - 15 metres, in both day and night conditions in coastal waters in any weather.

Offshore Cruising Standard is the highest level of the CYA Learn to Cruise Program. It covers the skills required to skipper or crew on offshore passages exceeding 500 miles in length and venturing more than 100 nautical miles from land.
Coastal Navigation Standard provides the required training to enable the student to demonstrate the navigational theory required to safely navigate a sailing cruiser in coastal or inland waters. The concepts are introduced in the Intermediate Cruising and Power Standards. The Standard is applied practically and tested in the Advanced Cruising Standard.

Instructional courses meeting the Learn to Cruise standards are available primarily from commercial sailing schools, community colleges, directly from CYA certified cruising instructors and through some member sailing and yacht clubs.

The CYA also offers the following courses:

Learn to Sail

Learn to Windsurf

Learn to Powerboat

Pleasure Craft Operator's Card

Marine Radio Certificate ROC(M)

Navigation

To make high performance sailing and recreational boating lifelong activities for Nova Scotians through excellence in competition and training

Services of the Nova Scotia Yachting Association

The Nova Scotia Yachting Association (NSYA) is the provincial governing body for the sport and recreation of sailing. NSYA is a member of Sport Nova Scotia, which is supported by the Nova Scotia Sport and Recreation Commission. The NSYA actively:

1. Represents the interests of yachtsmen provincially (and nationally through the Canadian Yachting Association), and coordinates the activities of yacht clubs and sailing schools throughout the province.

2. Emphasizes safety, co-operating with the Canadian Coast Guard and other agencies in programmes of education and incident reporting and maintaining accessibility to all Nova Scotian waters by the yachting community.

3. Assists yacht clubs and sailing schools to teach the CYA Learn-To-Sail**,** Learn-To-Windsurf and Learn-To-Cruise (sail and power) and SPARK Start programs, by training instructors and coaches to national CYA standards.

4. Provides a Provincial Coach to identify and prepare promising youth sailors for major events, at regional, national and international events.

5. Develops a team for the Canada Games, and assists Nova Scotia members of the National team prepare for the Olympic Games or other international events.

6. Encourages women sailors by holding on and off the water seminars and an annual keelboat championship for women.

7. Coordinates an annual provincial race schedule for all open events.

8. Encourages Yacht Clubs to host regional, national or international events, by providing advice, qualified Race Officers and Judges. Helps to coordinate events sponsored by more than one yacht club.

9. Trains Race Officers and Judges to national CYA standards.

10. Operates a racing-rules Appeals Committee at the provincial level, and provides advice to Club Protest Committees.

11. Administers the (ASPN) Atlantic Speed Potential Number system of keel-boat performance handicapping, as a Fleet within PHRF system.

12. Recommends experts on a wide variety of subjects to yacht clubs or sailing schools seeking speakers for seminars and special courses.

13. Continuously monitors developments in the yachting scene to ensure that Nova Scotia yacht clubs and sailing schools are in a position to maintain their enviable position in the forefront of the sport.

http://www.nsya.ns.ca/

Nova Scotia Yachting Association
5516 Spring Garden Road, 4th floor
Halifax, NS
B3J 1G6
(902)425-5450 ext 312
(902)425-5606 fax
nsya@sportnovascotia.ca

Funding Opportunities

WOMEN IN WIND - CYA Funding Opportunity
Each year, women sailors, coaches and race officials from across the country are encouraged to attend and help organize "Women in Wind" seminars, camps and clinics. The goal of any "Women and Wind" initiative is to increase the numbers of girls and women involved with the sport of sailing.
The CYA "Women In Wind" Program is a well recognized initiative, most recently featured in the new ACTive Canadian Strategy and Action Blueprint. This project was spearheaded by the Canadian Association for the Advancement of Women in Sport, also known as CAAWS.

CYA Women and Wind Description
Some examples of events granted assistance &/or funding via the "Women in Wind" initiatives in the past include:
Race clinics for youth sailors as well as the "young at heart" in all boat types.
Race Management, Umpiring and Judging clinics.
Financial assistance given to women pursuing goals in measurement, coaching and as officials.
Guest speakers at seminars, clinics and camps.

History of the CYA Women in Wind Campaign
On June 28, 2003 at the Armdale Yacht Club in Halifax NS, Christine Searle, Chair of the CYA's Womens Committee launched a national awareness campaign designed to help increase the participation of women in sailing.
Currently, less than 30% of Canada's competitive sailors are female and only 15% are coaches and officials. Yet 50% of those participating in Learn to Sail programs are female. The "Women in Wind" presentation aims to increase the participation of women and girls to participate in the lifelong sport of sailing. The presentation provides information and examples of how women of all ages and interests can get involved in sailing. The New and Improved Women in Wind Presentation, Updated January 2005 is now available. Please check the PDF Version. Please also check out Appendix 1- Organization of sailing in Powerpoint and Appendix 1- Organization of sailing in PDF and Appendix 2-Ottawa Women's Sailing Association Case Study in Powerpoint and Appendix 2-Ottawa Women's Sailing Association Case Study in PDF.
In the fall of 2002, the CYA Women's Committee prepared a planning and evaluation template for the Women and Wind Program (PDF)

For application information follow these links:

http://www.sailing.ca/racing/womeninwind/index.asp
http://www.caaws.ca/

APPENDIX
Sample Program Documents

Women's Sailing Seminar
June 18-20th

June 2nd 2008

Dear _____,

Welcome aboard the Women's Sailing Seminar! We are pleased you have decided to join us for what will be an exciting learning opportunity on the waters of St. Margaret's Bay. This is your chance to learn new skills, build confidence with previous skills, and ask about all things sailing related, in a positive and relaxed environment. We have some reminders, reading, and requests to make before getting underway.

This package contains:

Things to Bring list
Know-Want to Know-Learn form to complete and bring to the first class
Waiver/Medical form to be signed and submitted at the first class
Handouts for pre-seminar reading
Finish Line feedback form to be completed on the last day

The Women's Sailing Seminar will begin promptly at 5:00pm on June 18th, rain or shine. Come a few minutes early to socialize, get organized, and tour our facilities. There will be a closing dinner on Saturday evening to share our experiences from the seminar and to mingle with other club members.

Please call Jane Smith at 555-7865 if you have any questions. We're looking forward to a very supportive, challenging and fun sailing experience.

See you on the 18th!

Jane Smith & Sarah Doe

Things to Bring

☐PFD or Transport Canada approved lifejacket (no collar) MANDATORY

☐Completed Waiver/Medical form

☐Completed *Know, Want to Know, Learnt!* form

☐Pre-seminar handouts, notepad and pencil

☐Warm layers of wind and water resistant clothing. Layering will ensure you are prepared for any and all weather.

☐ Footwear- non-black rubber soled shoes mandatory

☐ Sunblock, sunglasses, hat (that won't blow off!)

☐ Rain Gear- top and bottom. We will be on the water rain or shine

☐ Water bottle (no glass) and snacks

☐ Personal medications- puffers, epi pens etc.

☐ Sailing gloves- optional

☐ CYA Basic Cruising Skills manual/ Basic Sailing Skills manual-optional

Participant Registration

Name:_____

Address:_____

_____

Email:_____

Telephone:_____

Emergency Contact: _____

Waiver

I, _____, as having registered as above am hereby releasing and forever discharging from personal injury, loss of life, or liability, and do further agree not to make claims against CLUB or OTHER CLUB, their agents or servants for such injury or loss of life or any other manner of cause whatsoever incurred during the Women's Sailing Seminar Series. Parent must sign if applicant is not 19 years of age.

Signature of participant_____

Signature of Parent/Guardian_____

Date:_____

Medical Conditions

N.S. Health Care number:_____

Please state all medical conditions and allergies you suffer from. If you do not suffer from any, please write 'none' in the space below.

_____

_____

_____

_____

KNOW, WANT TO KNOW, LEARNT!

Goal: participants evaluate the extent to which they were able to find out what they wanted to know as well as where and how their understandings have been extended or changed.

Sailing Topics	What do I know about this topic?	What do I want to know about it?	What have I learnt?
Boat Etiquette			
Sailing Terminology			
Knots			
Boating/water Safety			
Crewing			
Skippering/Helming			
Docking/Mooring			
Navigation/Weather			

The Finish Line
Program Feedback Form

We would appreciate your feedback to further improve our program. Please take a minute to fill out this feedback form and hand it in to your instructor before you leave. Thanks!

1. Did this seminar meet your expectations? Yes_____ No_____

    a) What worked for you? (comments re: length of course, teaching styles, time of day, group size, sailing practice, content etc.)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

    b) What didn't work for you? (please be as specific as you can)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

2. Would you recommend this women's sailing seminar to someone else?

Yes_____No_____ With Reservations (please specify) _____
_____
_____

2. Would you return next year? Yes, because_____
_____

No, because_____

Sailing Level Pre-Program: Beginner __ Novice ___ Intermediate __Advanced ___

Women's Sailing Program Feedback Form

1=unsatisfactory, 3=poor, 5=acceptable, 7=very good, 10=outstanding

	Rating	Comments
Facilities		
Boat/Equipment		
Class times/dates		
Instructor		
Hand-out materials		
Content		
Overall		

Do you have any other suggestions for our program?

_____
_____
_____

Would you like to be contacted about club membership?

_____
_____
_____

Where and how did you find out about this program?

_____
_____

FIND SOMEONE WHO

has brown eyes	speaks a language other than English	had toast for breakfast	has a birthday in July	has more than 3 siblings
plays the piano	plays on a sports team	has a dog	was born outside of Canada	has an older brother
has been outside of North America	is wearing earrings	**FREE**	has a phone number with a "9" in it	has seen "Titanic"
is wearing blue underwear	has been to Hawaii	is not wearing runners	has a younger sister	has worn braces
was born in a province other than [redacted]. N.S.	can do a cartwheel	has been on the ferry to P.E.I.	has no cavities	can count to 10 in French

From the January 2002 issue of Seaworthy, the BoatU.S. Marine Insurance Loss Prevention Newsletter

Women at the Helm

The *Marine Trader Owners Association Women's Underway Training Course—It's all in the Family.*

It may be a cliché that marriage is a give and take relationship, but one phrase you don't often hear from husbands is, "Here honey, take the helm." For whatever reason, some husbands have been reluctant to give their wives much responsibility on boats. It was with some excitement then, when Ruth Baumert, Special Programs Manager for BoatU.S. Marine Insurance, called *Seaworthy* one day to urge us to write about the "Women's Underway Training Course" offered by the Marine Trader Owners' Association (MTOA), which she said could be a model for other boating clubs. The safety-oriented course gets wives away from their husbands and teaches them some basic, hands-on boating skills. Ruth, a wife, mother and avid boater herself, suspect that most wives don't want to be taught boating skills by their husbands.

Hmm, she had a point. *Seaworthy* called Ray Wlodyka, President of MTOA, who confirmed that the training was an informal opportunity for wives who were uncomfortable operating boats to acquire some hands-on experience and maybe get some badly needed confidence from volunteer instructors other than their husbands. Ray explains that the women do basic maneuvers in open water and then bring the boats up to the dock under the watchful eyes of the instructors. He then graciously invites *Seaworthy* to observe the training program at MTOA's fall rendezvous at Somers Cover Marina in Crisfield, Maryland. He said they were expecting 85 trawlers, with a good turnout for the training program.

Upon arriving at Somers Cover, Ray's prediction is soon confirmed: 30 wives—35% of the women at the rendezvous—have signed on to take the course. *Seaworthy* is assigned to work with Glenn Westervelt, a retired Coast Guard officer who is the principal MTOA instructor in the club's northern region.

Session one is held in the classroom, with Glenn reviewing boat handling skills, answering questions, and perhaps calming any butterflies the women may have. Safety issues, such as anchoring, communication signals, and man-overboard drills will be covered, he says, with the emphasis always toward hands-on training behind the wheel. The women are each assigned to boats that are similar to their own.

One goal of the program is to give the women the confidence and skill necessary to return a boat to the dock. (In the next few days, several wives will mention the fear of being helpless to handle the boat in an emergency as a compelling reason for signing on to the course.) Another goal is to teach teamwork—wives working together with husbands to get the boat into a slip or raise the anchor. All too often, the latter situation finds the woman going forward to handle the anchor while the beefier man remains comfortably at the controls. Wrestling with an unwieldy pile of metal and dripping mud isn't much fun and Glenn notes that a husband's boating days could be numbered if his wife doesn't enjoy being on the water. He thinks that men will ultimately benefit as much from the course as the women. Maybe more.

On the Water Training: *Madam, Take the Helm*

Glenn and his four pupils, Janet, Mary, Geneva, and Sandy are assigned to a 36' single screw trawler owned by Sandy and her husband Flip, who will also be aboard. Teaching in smaller groups, Glenn says, has one outstanding advantage: "The women go through the learning process together, watching each other taking the helm and providing invaluable support for one another."

Glenn's approach is to teach in gradual steps, meaning they must first get acquainted with maneuvering in the spacious harbor water before moving into the tighter confines of the marina. Somers Cover is well suited for the training because of its proximity to a large harbor as well as its assortment of dock configurations, which will allow the women to practice docking with the wind on various quarters.

As the boat begins moving slowly out toward the harbor, Glenn describes how they will first get the feel of maneuvering the boat. Flip, perhaps feeling a little nervous about volunteering his boat, emphasizes the need to slow back to idle speed and then pause a second before changing gears or (slaps his hands for emphasis) , " . . . you'll be slammin' the heck out of the inside of the transmission." Glenn had already covered the topic ashore, the women say, but the point is worth reiterating. Flip has only encouraging remarks throughout the rest of the day, even when maneuvering occasionally gets a little dicey.

First up to the helm is Janet, who took the course three years ago but still feels intimidated. She has been boating for eight years, which makes her the *least* experienced member in the group. Glenn encourages Janet to use short bursts of power on the throttle. She seems tentative. "Talk to the boat," he says gently. Janet takes the boat through a series of tight maneuvers while Glenn explains things like prop rotation and how it can be used to her advantage. His talking has a calming affect.

One by one, the other women take turns at the helm. After everyone successfully negotiates the pivot turn, Glenn is confident the women are ready to maneuver at the marina docks.

Geneva has been boating for 25 years, but again, she has no real experience at the helm. Before attempting to move the boat down between two piers to an insides slip, he directs Geneva to steer between the head of two piers so they can practice easing the bow in and out, while allowing ample room to back out into the fairway. This puts the boat in a three-way intersection where there is a little more room. By coincidence, she backs into the center of the cross fairway just as three boats—two from one side and a large tour boat on the other—are converging on the trawler. About 40 pairs of eyes are glued on her. Glenn talks her through it though, encouraging her to take her time. "Talk to it," he repeats, "talk to it." She turns on a dime and the other boats pass. Flip never flinches.

Mary too, has a long history on boats, but as she says, always going along for the ride. As Mary takes her turn at docking the wind starts picking up. "It's the wind that gets you," Mary says. She's right. The wind can catch the high profile of a trawler like a sail and quickly push it sideways against the dock or other boats. Fortunately, Glenn is always there, ready to jump in if needed. After emphasizing the benefit of keeping the bow into the wind whenever possible at slow speeds, a gust catches the bow, as if on cue, shortly after Sandy takes the wheel. Glenn quickly steps in and gives the throttle a few short bursts in reverse and forward to overcome the wind. The bow slowly turns. Sandy apologizes. "No problem," Glenn says, "that's why we're here."

A Triumphant Return

As the group finally approaches the home slip, the women are confident and enthusiastic; they had all overcame what only a couple hours ago had seemed daunting. Each expressed how much more relaxed she felt and that operating their own boats won't be the mystery it once was. Glenn encourages them a final time to keep practicing, "When we get back out on your own

boats, kick the men off the helm, and say, ‘ I want to practice, I need to do this. Start doing it—practice anchoring and practice docking. That’s how you learn and become more confident.”

Glenn acknowledges that all of the women won’t continue to practice as much as they should, of course, but all have taken a significant first step. He’s optimistic.

Has the training ever been put to the test in a genuine emergency? Glenn says that it hasn’t, although he thinks it’s likely that someday it will be. “It’s a two-edge sword,” he says, “I don’t want anyone getting hurt, of course, but it will be my finest hour if someone is ever saved because of this training.”

Glenn then turns to the women, smiles, and asks, “So what are you going to do if your husband falls overboard?” They laugh and sing out, “KEEP GOING!”

Taking the Course!

The possibility that a crew member may have to suddenly take command of the boat is real: Captains fall overboard, have heart attacks, become seasick, and are injured. Last Labor Day weekend, to cite a recent example, a man and several friends went for a day cruise several miles off the coast of Florida, where he suddenly had a heart attack and was airlifted off the vessel to a hospital. Having no knowledge of how to operate the boat, the passengers were left stranded offshore until TowBoatU.S. arrived to tow them back to port. A less fortunate outcome occurred in another incident on the Chesapeake Bay, when a sailboat’s skipper fell overboard and drowned because his wife did not know how to turn the boat around to retrieve him.

You may not be able to give every passenger who boards your boat a crash course in boat handling, but you can make certain that your family and crew know enough to get back safely in an emergency. For groups, the MTOA training program is an excellent model that other boat clubs can implement on their own boats.

The United States Power Squadrons (USPS) offer a supplemental program called the Skipper Saver course, which covers the essential information a stand-in skipper needs to know. The classroom training sessions are offered to the general public, however, the hands-on training component is not always offered in conjunction with the classroom session; it depends on the group. The course is offered only intermittently in certain areas. To find USPS course offerings in your area, call the BoatU.S. Foundation CourseLine at 800-336-2628, or go to boatus.com/Courseline, or call the USPS at 1-888-FOR-USPS.

Another option is to use the Skipper Saver self-study manual as a training textbook in conjunction with hands-on training program offered by a club, or, if you dare, your spouse. The self-study manual may be ordered by calling USPS as well.