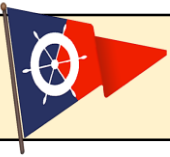


QUARTERMASTER YACHT CLUB – Boat Handling Tech Talk

Boat Handling in Adverse Conditions – Project Data

Title:	Boat handling in adverse conditions
Objective:	For a variety of boat types, discuss boat handling skills and methods to deal with wind, waves and currents and how to avoid common boat handling errors
Speaker(s):	Kevin Jones, Tom Baker, Mike Lawson
QYC Only?:	No
Date:	8 Feb, 2017
Time:	7 – 9 PM
Duration:	120 minutes
Location:	Vashon Library (Meyers Hut as backup)
Space Required:	Room with tables, chairs, projection screen and white board
Supplies to bring:	Laptop and power cable, projector and power cable, laptop to projector cable
Tools to bring:	None
Props & Examples:	None
Advertising plan:	Advertise tech talk w/ flyer at QMM, library, grocery store, HW store, Burton Boat, QYC (Meyers Hut, top of hill bulletin board, dock gate), preview at QYC meeting



QUARTERMASTER YACHT CLUB – Boat Handling Tech Talk

Boat Handling in Adverse Conditions – Videos

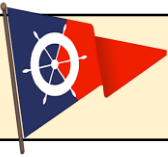
<https://www.youtube.com/watch?v=trsKPugInoM>

<https://www.youtube.com/watch?v=4w3QwJdzwsE>

<https://www.youtube.com/watch?v=aPFgycnGRrY>

<https://www.youtube.com/watch?v=E3on5CYbZP4>

<https://www.youtube.com/watch?v=YganM4xVTac>



Boat Handling in Adverse Conditions – Agenda

7:00 Welcome / Overview / Introduce experts

7:05 Boat Handling – General Rules

7:40 Avoiding adverse conditions

7:50 What can your boat handle?

7:55 Adverse conditions preparation

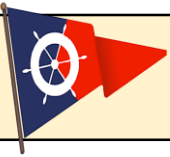
8:10 Waves, Wind, Current

8:25 Riding out a storm

8:30 Questions?

8:45 Start teardown / Complete surveys

9:00 Depart

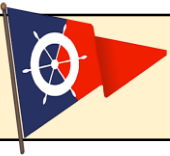


WELCOME to QYC Tech Talks!

- A Tech Talk is...
 - An exchange of information, ideas and experience
 - More dialogue than “teaching”
 - A little structure
- We encourage...
 - Listening, learning & contributing
 - Discussion and debate
 - Questions
- Our next Tech Talk is:
 - 8 Mar at 7PM – Dinghy Ditch Kit



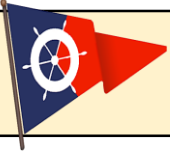
Together, to Learn From Each Other



Boat Handling in Adverse Conditions - Overview

- Avoiding Adverse Conditions
- What can your boat handle?
- Adverse Conditions Preparation
- Wind, Wave & Current Effects
- Riding out a Storm

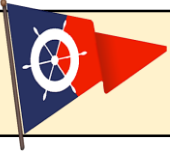




Boat Handling in Adverse Conditions - Prevention

- VHF radio weather
- <http://www.nws.noaa.gov/om/marine/zone/west/sewmz.htm>
- http://weather.gc.ca/marine/region_e.html?mapID=02
- <http://i90.atmos.washington.edu/ferry/Ferryjs/mainframe1.htm>
- <https://www.windyty.com/47.502/-122.484?47.502,-123.061,9>

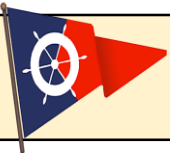
**Also: OpenCPN
GRIB weather
data plot**



Boat Handling - What Can Your Boat Handle?

- Wind speed versus headway
- Able to lie ahull safely?
- Steering tactics - headway against heavy seas
- Riding down a wave & broaching risk
- How to know?
 - Talk to others with same / similar boat
 - Incrementally pushing the envelope

Experience with each individual boat is the key

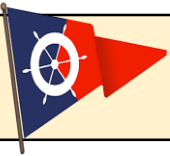


Boat Handling - Adverse Conditions Checklist

- Discussions with the crew
- Storm avoidance
- Storm preparation
- During the storm



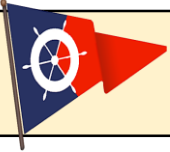
Let's discuss each "phase" of Adverse Condition preparation and Boat Handling



Boat Handling - Crew Discussion

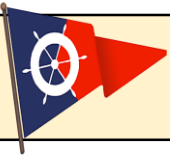
- Who is prone to seasickness?
- Establish or change watch assignments
- Keep low in the boat, do not move around excessively
- Do not go on the foredeck unless necessary
- Give them all an assignment to keep them occupied and keep their minds off the situation.
- Easily-prepared food available
- Captain stands watch / the 'go-to-person' for problems

Captain composure / confidence = crew confidence



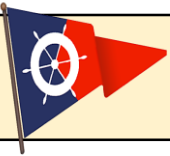
Boat Handling - Storm Avoidance

- Determine:
 - Position of storm
 - Wind direction & speed
 - Storm track & speed
 - Estimated time to your location
- Alter course to sheltered waters if possible
- No sheltered waters? Stay at sea !
 - Most wrecks caused by land, not sea conditions
 - U.S. Navy puts to sea when threatened by a hurricane



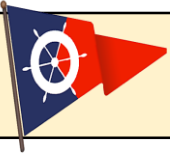
Boat Handling - Storm Preparation

- Secure all hatches / close all ports and windows
- Pump bilges dry and repeat as required
- Secure all loose gear above decks and below
- PFD's & foul weather gear - Before the weather gets bad
- Ready emergency equipment
- Extreme weather:
 - Review abandon ship procedures
 - Make sure the life raft is ready
- Emergency food and water in the life raft
- Rig jack lines / life lines / safety harness
- Make ready your sea anchor or drogue if needed
- Turn on navigation lights
- Change to a full fuel tank



Boat Handling - During the Storm

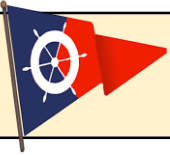
- Get a good fix of your position & plot it on your chart
- Make note of the time, your heading and speed
- Keep away from metal objects
- Keep a sharp lookout for floating debris and other boats
- Do not operate the boat from the fly bridge or on autopilot
- Monitor channel 16 for updates to severe forecasts
- Discourage heroics - that means you too
- Encourage rest and sleep when possible



Boat Handling - Wind Effects

- All boats
 - Point into the wind / waves
- Sailboats
 - Reduce sail area
 - Risks: Knockdown
 - Very high winds
 - Take in all sails
 - Sailboat now becomes a power boat
- Power boats
 - Fly bridge & canvas increase wind effects
 - Stow canvas if possible





Boat Handling - Wave Effects

- More wind = larger waves / Shallow water = taller waves
- Wind against tide = taller & steeper waves

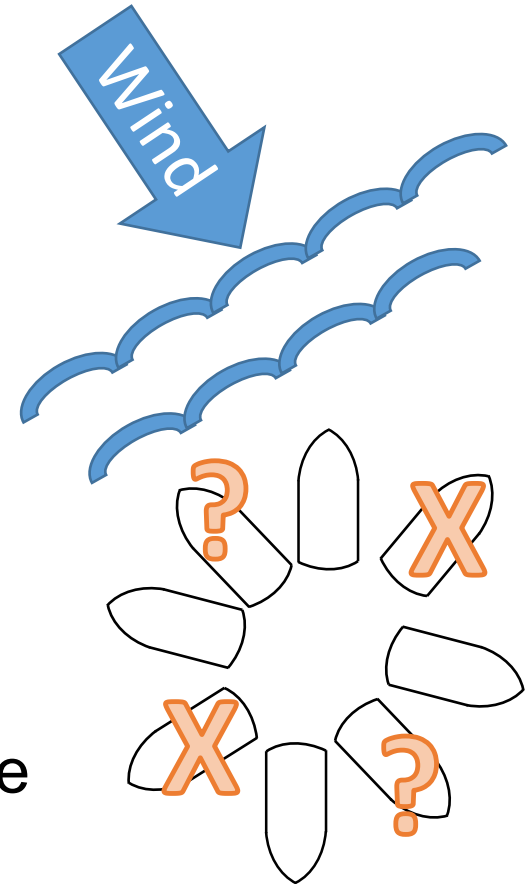
- Heading into waves
 - “Quartering” attitude
 - Risk: Pitch Poling

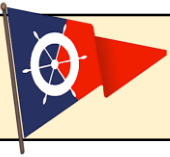


- Running in the trough



- Following seas (waves from behind)
 - Throttle control – stay on “back” of wave
 - Risks: Broaching / Being Pooped
 - Keep weight aft, secure transom doors (trawlers)

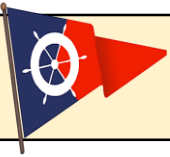




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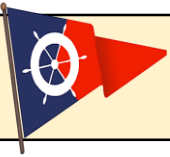
Boat Handling - Jack Line & Harness





Boat Handling - Broaching & Breaking Waves

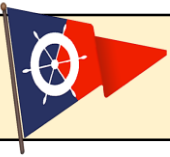




QUARTERMASTER YACHT CLUB – Boat Handling Tech Talk

Boat Handling - Broaching & Breaking Waves

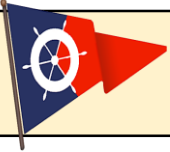




QUARTERMASTER YACHT CLUB – Boat Handling Tech Talk

Boat Handling - Broaching & Breaking Waves



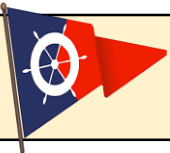


Boat Handling - Current Effects

- All boats
 - Bow into current increases control & handling
- Sailboats / Displacement hulls
 - More susceptible to currents
- Semi displacement / planning hulls
 - Less susceptible to currents
- Rapids: Boat speed at least 5 knts > current speed
 - Non-laminar flow, cavitation

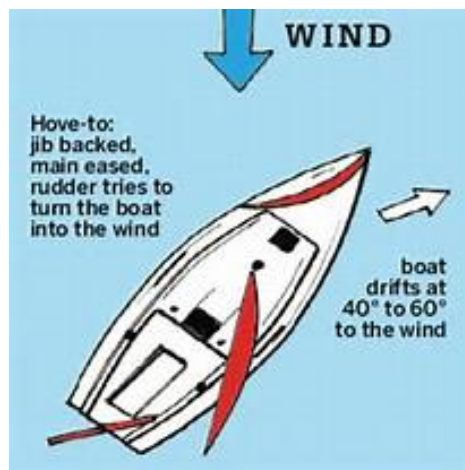
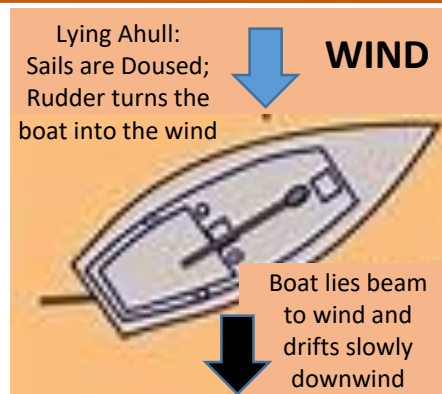


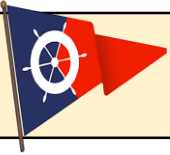
Generally only a boat handling concern in rapids, narrows or docking



Boat Handling - Riding out the Storm

- All boats
 - Lying ahull
 - Drogue or Sea Anchor
 - Streaming warps
- Sailboats
 - Heaving To





Boat handling in Adverse Conditions

QUESTIONS?

