

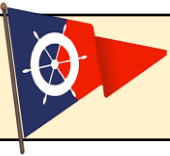
QUARTERMASTER YACHT CLUB – Tech Talk Introduction

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:
 - Marine Corrosion, May 23, 7PM

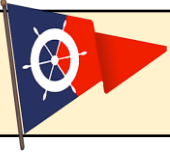


Together, to Learn From Each Other

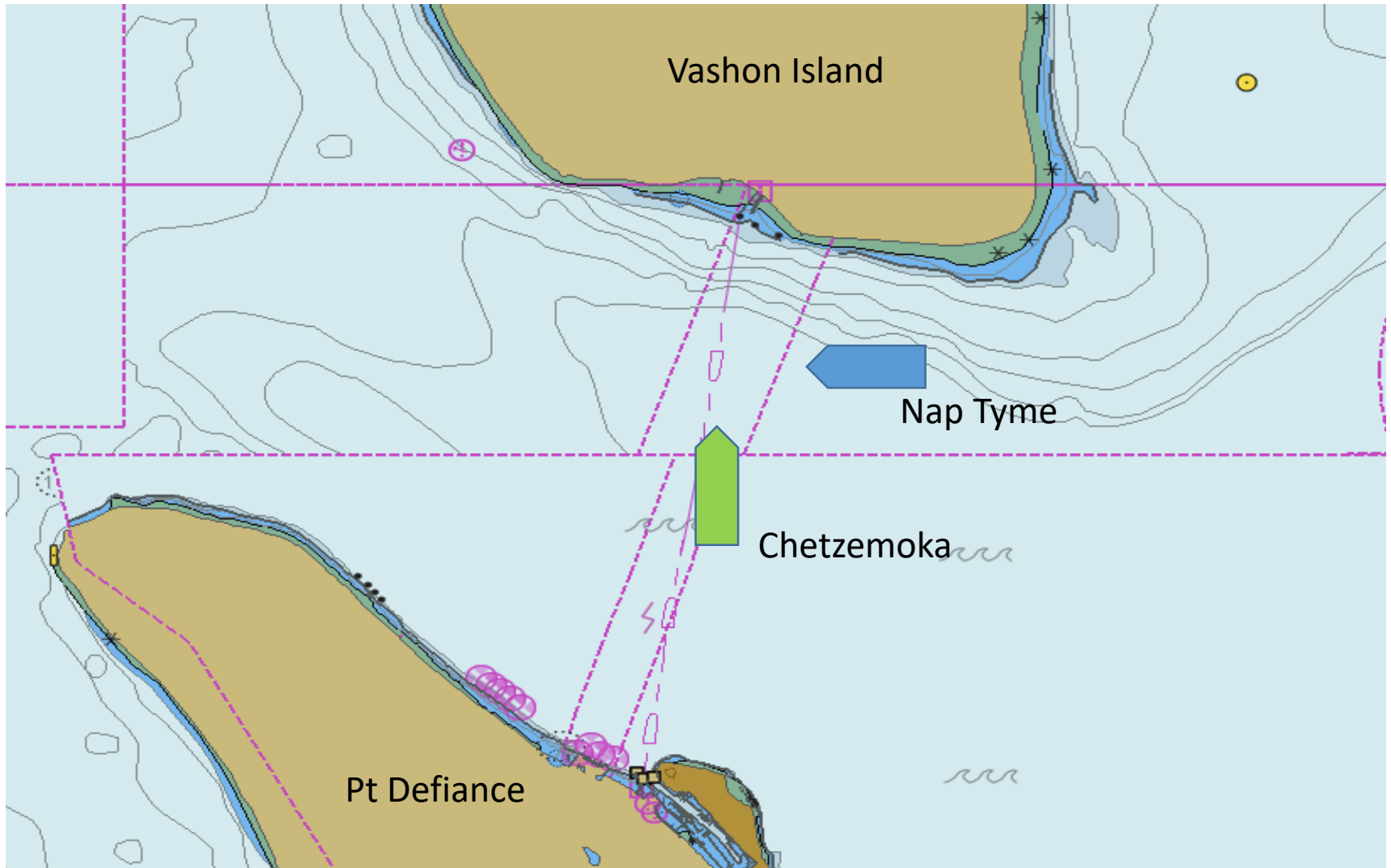


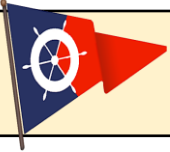
Marine Rules of the Road - Overview

- International vs Inland Rules – which apply?
- Which vessel has priority, which must give way
- Sound signals
- Traveling in fog
- Lighting requirements
- Unsafe for travel - Canada cardinal buoyage system
- Nap Tyme / Chetzemoka collision
 - Who's at fault
 - Why



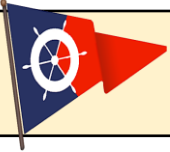
Nap Tyme / Chetzemoka collision





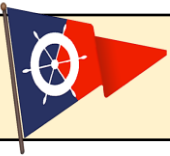
Marine Rules of the Road - Video

- <https://www.bing.com/videos/search?q=nap+tyme+chetzemoka+collision+video&view=detail&mid=FAF41E01C1E8AA6BE006FAF41E01C1E8AA6BE006&FORM=VIRE>



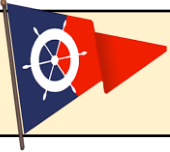
International or Inland Rules?

- **International Rules apply outside the COLREG Demarcation lines**
- **Inland Rules apply inside the COLREG Demarcation lines**
 - **COLREG Demarcation = magenta lines on the chart**
 - **But, where to be found???**
- **It is worth noting for those who don't know, all of the waters of Puget Sound, the Lake Washington Ship Canal and Lake Washington are currently governed by the International Rules rather than Inland Rules. ([source](#))**



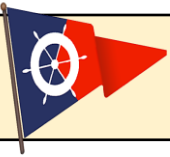
Marine Rules of the Road - Preamble

- **Rule 1 – The rules apply to ALL VESSELS on the high seas and navigable waters.**
- **Rule 2 – Nothing in the rules exonerates any vessel or its owner, master or crew from consequences of neglect to comply with the rules...**
- **Rule 5 – Every vessel must at all times maintain a proper lookout by all means available in the prevailing circumstances (including radar even under conditions of unlimited visibility) so as to make a full appraisal of the situation and of the risk of collision.**



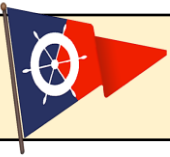
Marine Rules of the Road - Preamble

- **Rule 6 – Safe Speed – to allow:**
 - Proper and effective action to avoid a collision
 - Be stopped within an appropriate distance
- **Rule 7 – Risk of Collision**
 - Must use all means to determine if risk of collision exists
 - If in doubt, assume risk of collision exists
 - Risk exists if the bearing to another vessel doesn't change
- **Rule 8 – Action to Avoid Collision – Must be:**
 - Positive
 - Made in ample time
 - With regard to good seamanship
 - Apparent to other vessels
 - Willing to reduce speed or take off all way



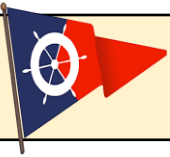
Marine Rules of the Road - Definitions

- **Underway –**



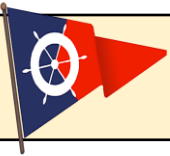
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- **Underway – Not anchored, grounded or attached to shore.
Does not have to be moving through water or over ground.**



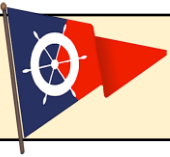
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- **Underway – Not anchored, grounded or attached to shore.
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- **Restricted visibility –**



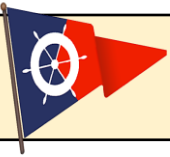
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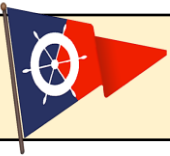
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- **Vessel –**



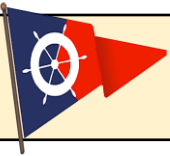
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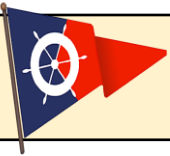
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- **Give-way vessel –**



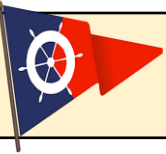
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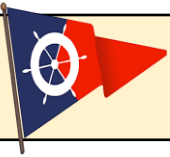
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- **Stand-on vessel –**



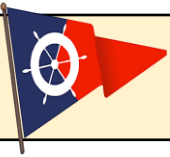
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- **Vessel – anything that carries people or cargo over water.**
- **Give-way vessel – obliged to keep out of the way.**
- **Stand-on vessel – obliged to maintain course and speed, unless required to avoid collision.**



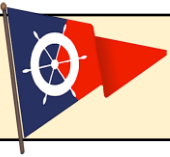
Marine Rules of the Road - Definitions

- **Vessel not under command –**



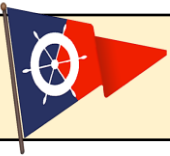
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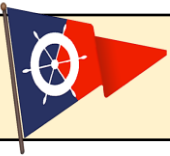
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- **Vessel restricted in ability to maneuver –**



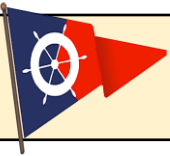
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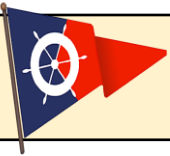
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- **Vessel constrained by draft –**



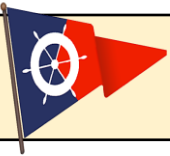
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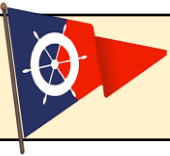
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- **Vessel engaged in fishing –**



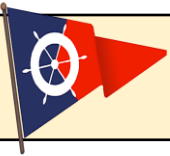
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- **Vessel engaged in fishing – any boat fishing with equipment that limits its ability to maneuver (nets, trawls, etc).**



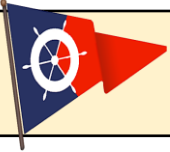
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- **Sailing vessel –**



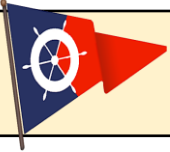
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- **Sailing vessel – a sailboat underway with sails only.**



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- **Sailing vessel – a sailboat underway with sails only.**
- **Power-driven vessel –**

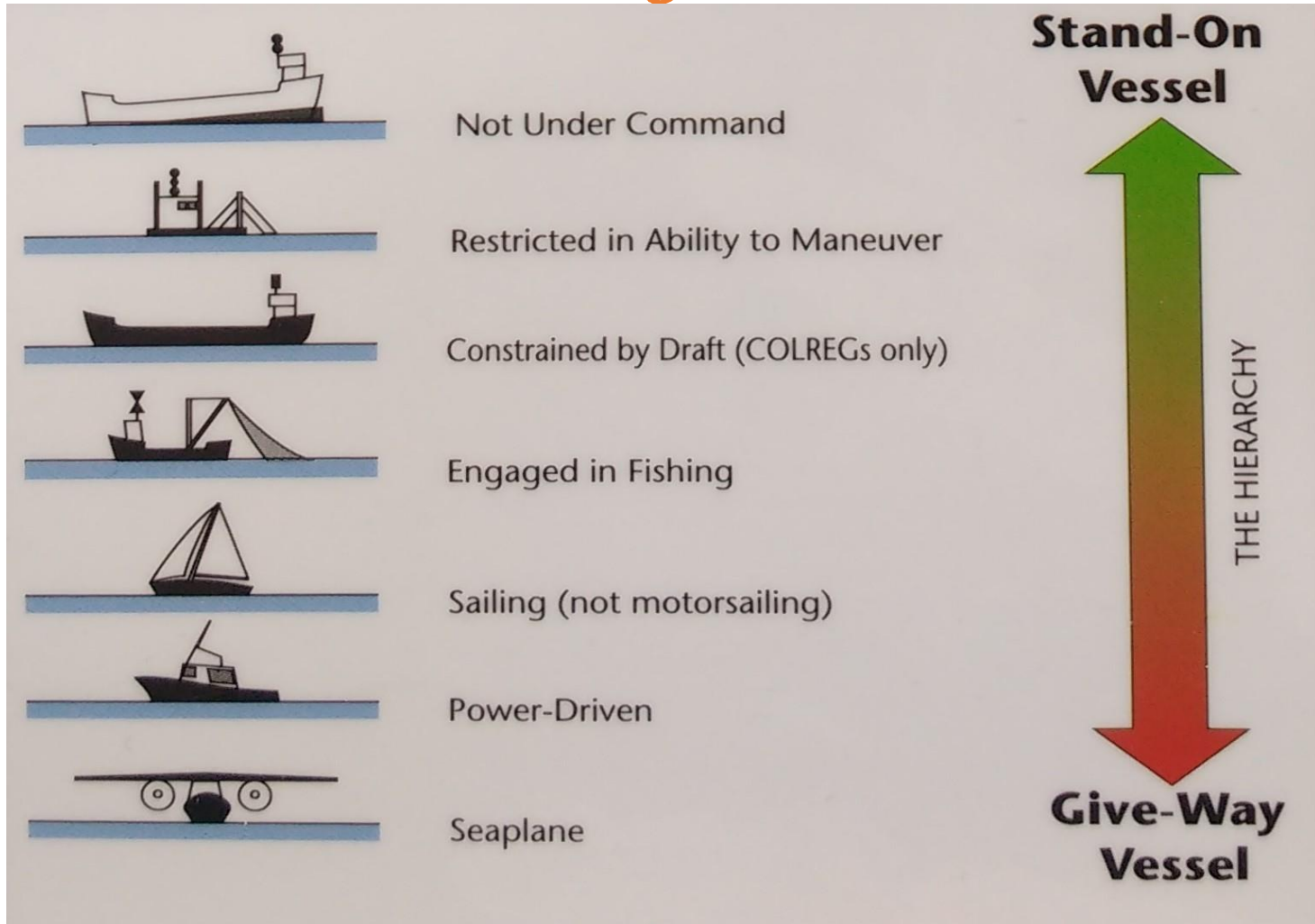


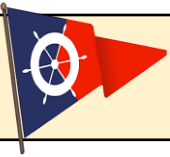
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- **Vessel engaged in fishing – any boat fishing with equipment that limits its ability to maneuver (nets, trawls, etc).**
- **Sailing vessel – a sailboat underway with sails only.**
- **Power-driven vessel – any vessel underway with an engine.**

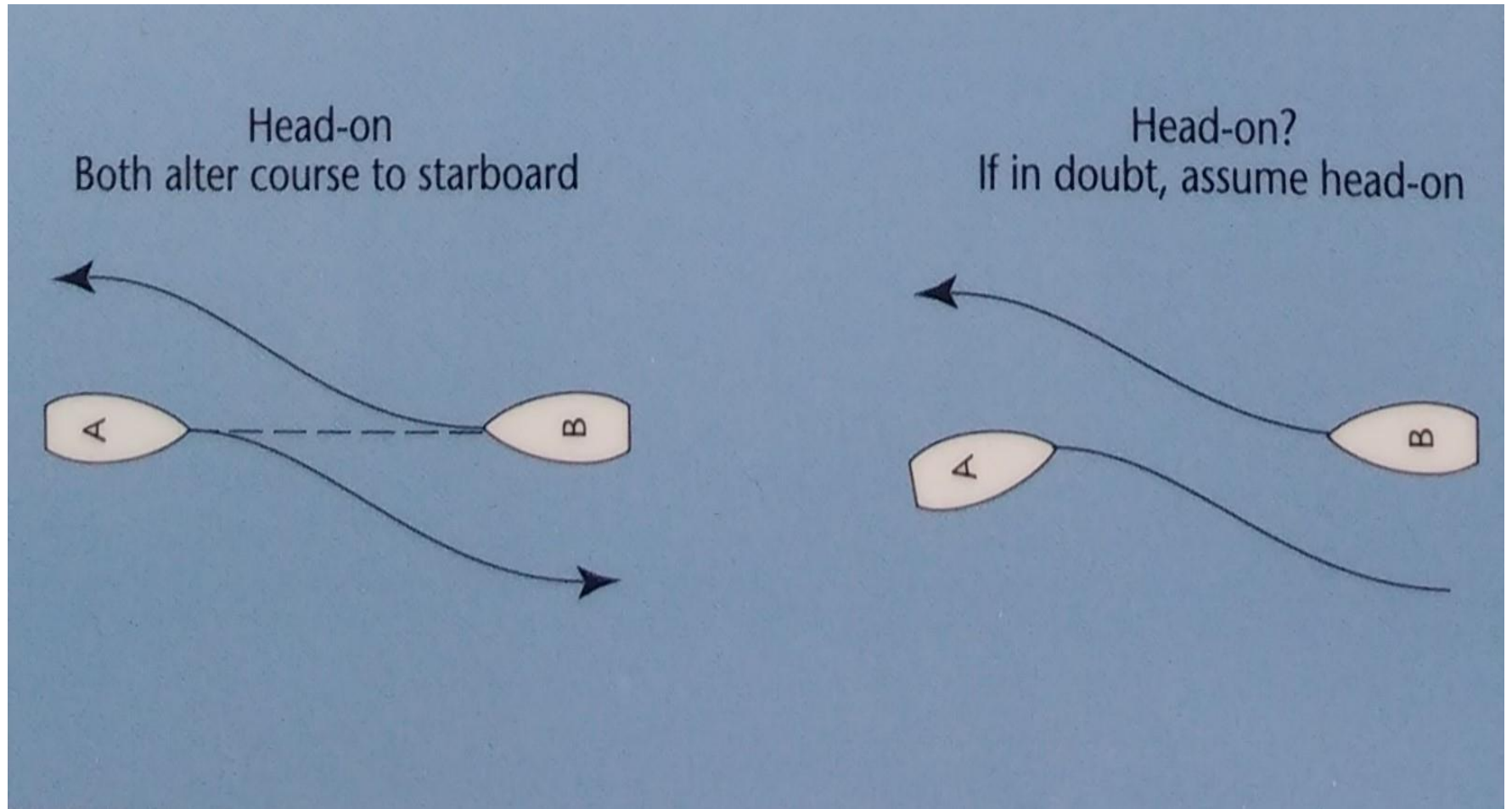


Rule 18 – Stay clear of vessels higher on the list than your vessel

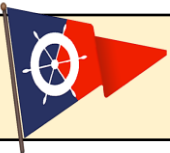




Rule 14 – Like Vessels Meeting Head-On

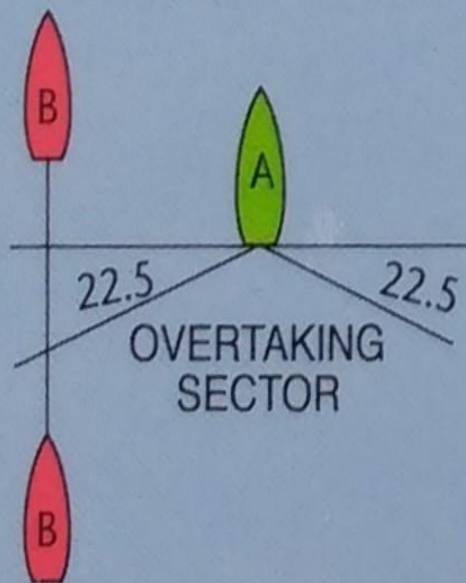


What if vessels are not “Like”?

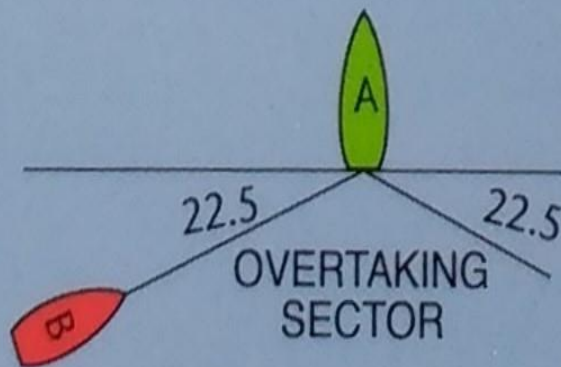


Rule 13 – Overtaking / Being Overtaken

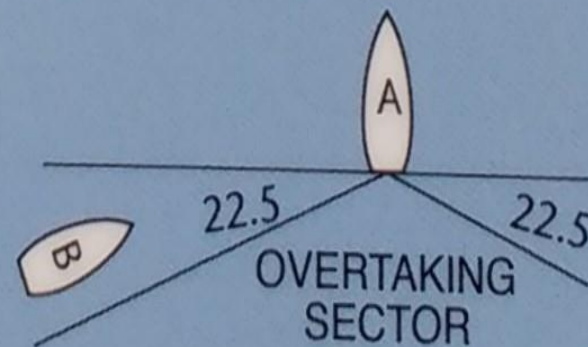
B is overtaking & remains so until past and clear



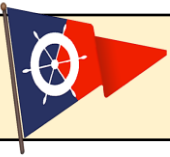
Not sure; assume B is overtaking



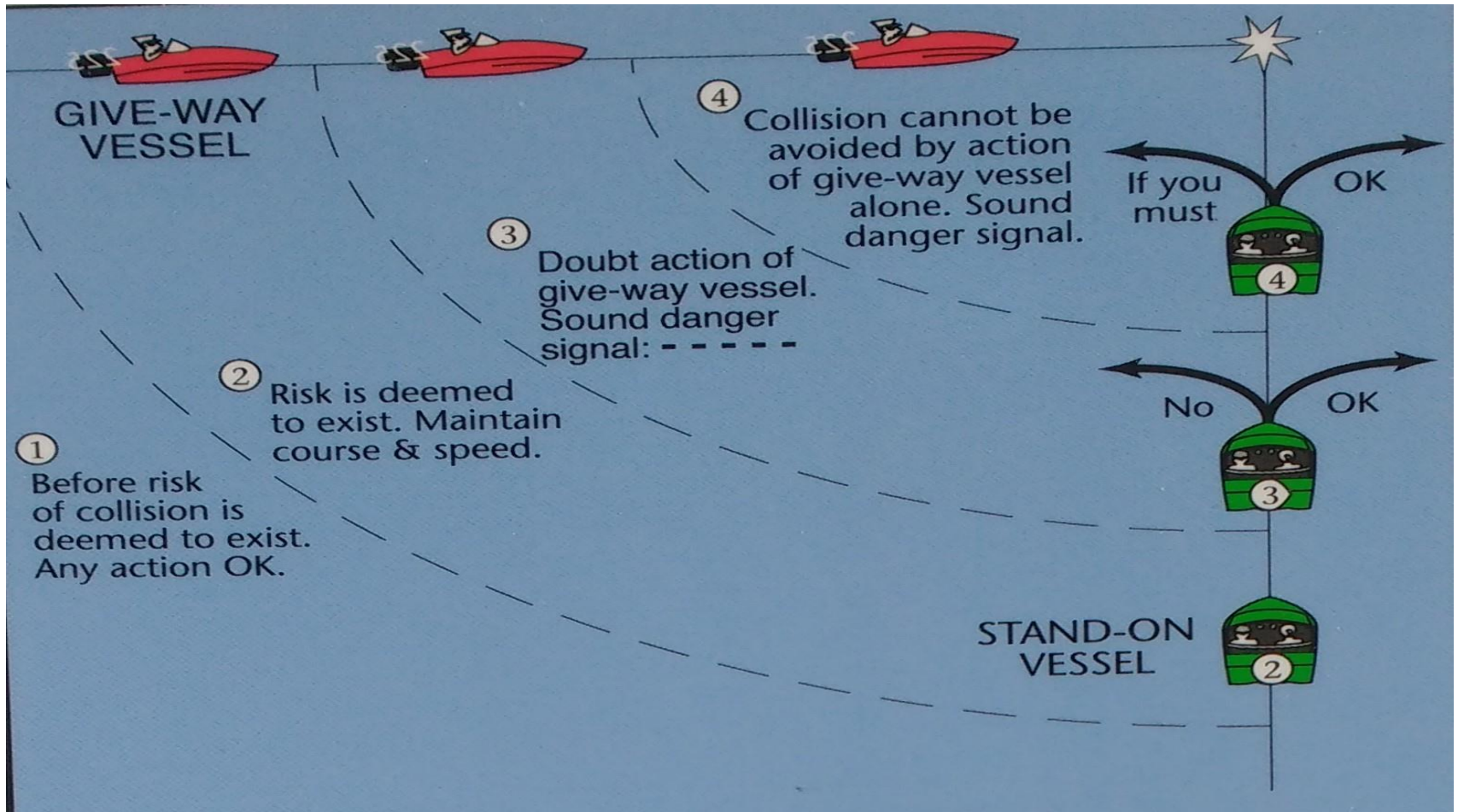
B is NOT overtaking



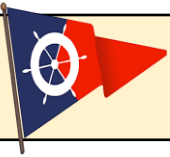
Not Overtaking – Rules 15 & 17 apply



Rule 15 & 17 – Vessels Crossing Paths



See red? Give way. See green? Stand on.



Rule 12 – Sailboats Crossing Paths

DIFFERENT TACKS
Port tack vessel
keep clear

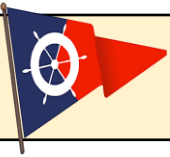


SAME TACK
Windward vessel
keep clear

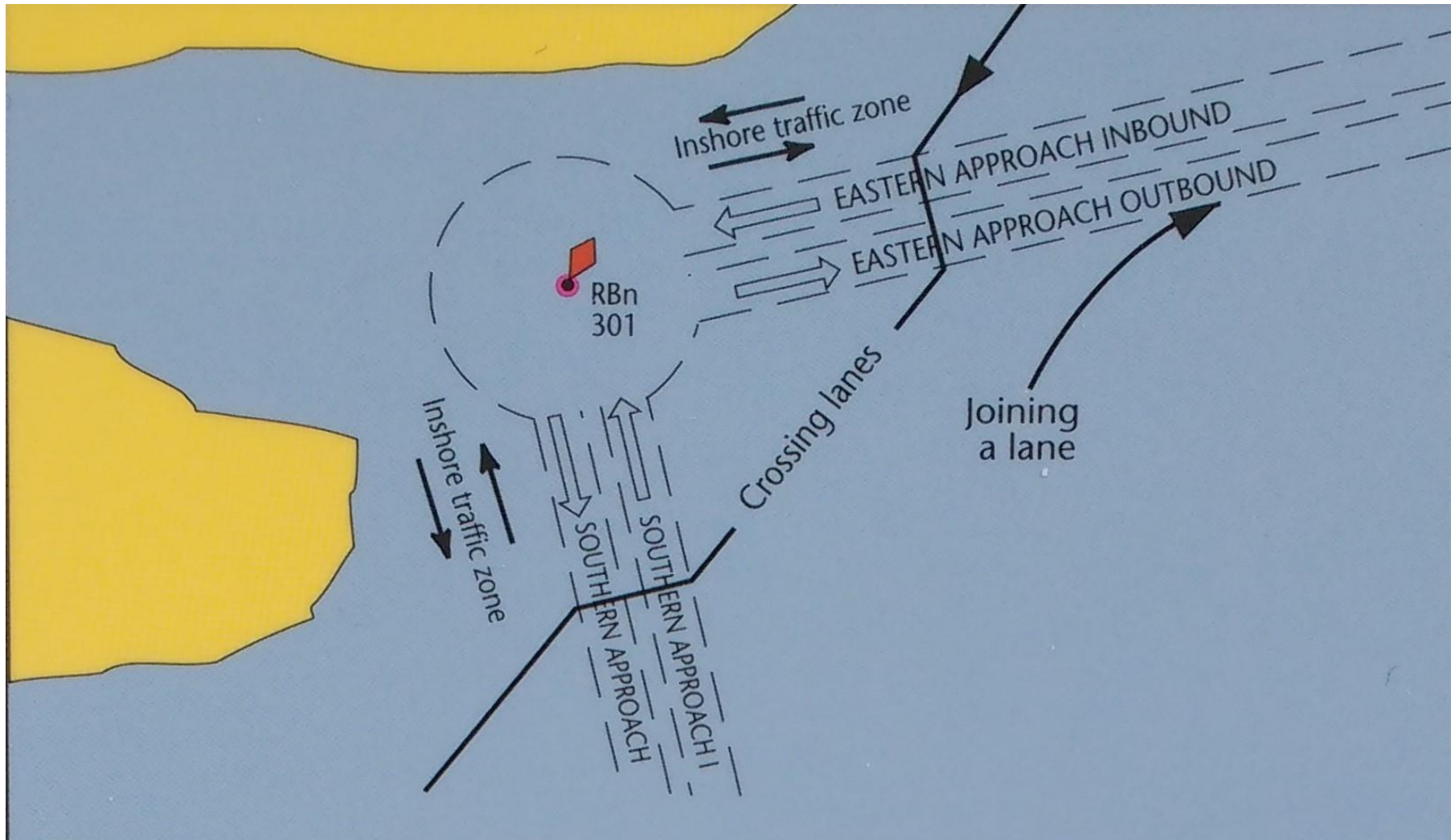


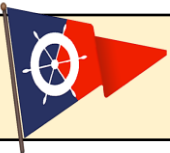
TACK UNCERTAIN
Port tack vessel
keep clear



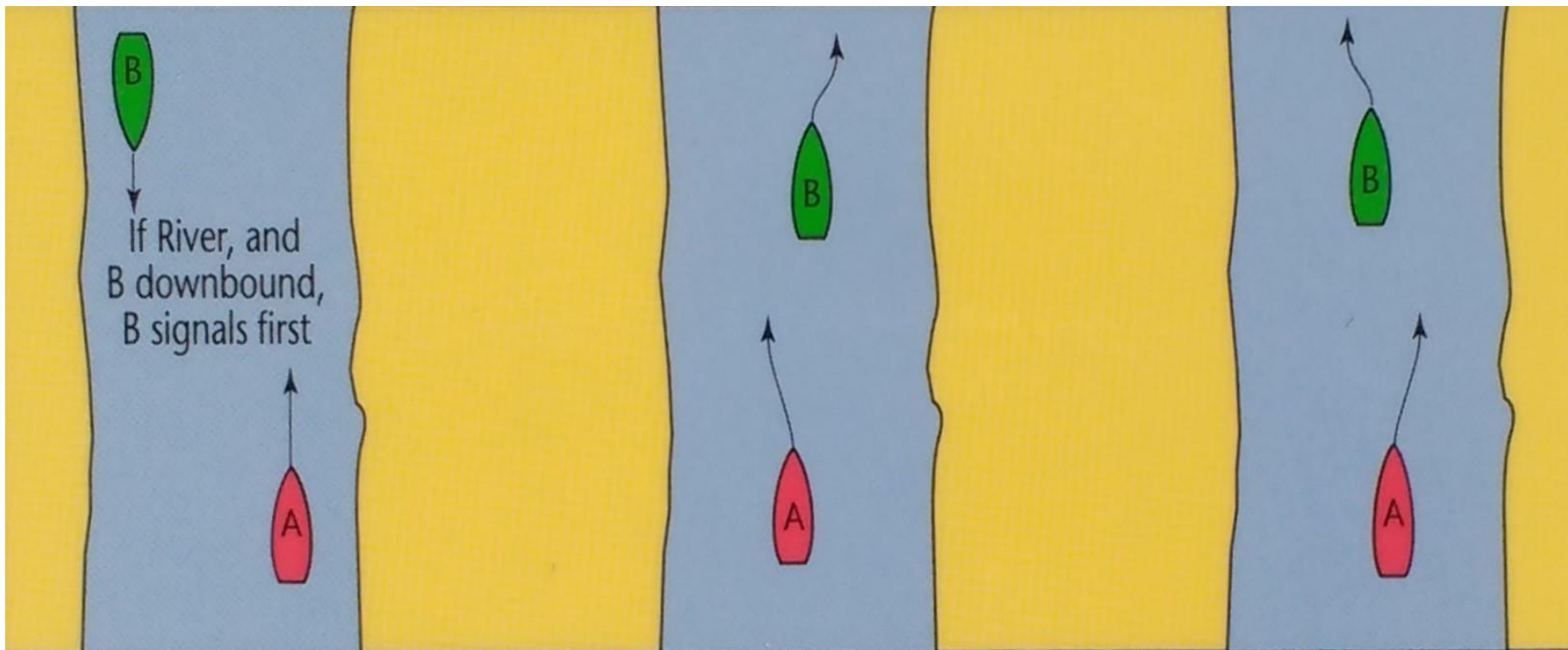


Rule 10 – Vessel Traffic Separation





Rule 9 – Operating in Narrow Channel



UNDER INTERNATIONAL RULES

Meeting in narrow channel, both keep to starboard side of channel

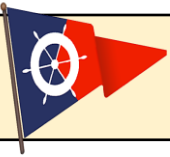
A overtaking on on B's port side

A — — — —
B — — — —

(See Sound Signals)

A overtaking on on B's starboard

A — — — —
B — — — —



Rules 32-37 – Sound Signals

● = 1 second blast

— = 4 – 6 second blast

Repeat every 2 minutes

INTERNATIONAL

Meeting or crossing and action required (no answer required):

I am altering my course to starboard ●

I am altering my course to port ● ●

I am operating astern propulsion ● ● ●

Overtaking in narrow channel or fairway and action required
(agreement required before action initiated):

I intend to overtake you on your starboard — — ●

I intend to overtake you on your port — — ● ●

I agree to be overtaken — ● — ●

Warning—I don't understand your intentions ● ● ● ● ●

Approaching a bend in a channel —

IN RESTRICTED VISIBILITY (INTERNATIONAL & INLAND)

Power vessel making way —

Power vessel underway but stopped — —

Manned tow — ● ● ● ●

Pilot vessel—optional signal ● ● ● ●

Not under command, restricted in ability to maneuver,
constrained by draft, sailing, fishing, towing or pushing,
fishing at anchor, or restricted at anchor — ● ●

Anchored:

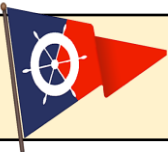
<100 m—ring bell rapidly for 5 sec. once per min.

≥100 m—ring bell 5 sec. forward, then gong 5 sec. aft

Aground: 3 bell claps + rapid 5-sec. bell + 3 claps; repeat all 1/min.

≥100 m—add gong 5 sec. aft

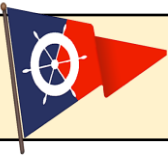
<12 m Inland option—horn, bell, or gong once per 2 min.



Rule 19 – Travel in Fog

What to Do in Fog (*Rule 19*)

Fog Situation	What You Should Do
Regardless of traffic	Maintain safe speed; power-driven vessels sound one 5-sec. blast every 2 minutes. Most other vessels sound one 5-sec. and two 1-sec. blasts every 2 minutes.
Hear sound signal forward	Slow to bare steerageway or stop.
Radar target forward	Slow; do NOT turn to port unless you are overtaking the target vessel.
Radar target aft or abeam	Maintain speed; do NOT turn toward the target vessel.



QUARTERMASTER YACHT CLUB – Rules of the Road Tech Talk

Rules 23-31 – Vessel Lighting

Fishing Vessels (Rule 26)

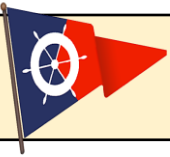
RULE/VESSEL	GROUPS	SHAPES	BOW	STERN
BOTH INTERNATIONAL AND INLAND				
Rule 26(b) Trawling, making way ≥50 m	Masthead Sidelights Sternlight G/W all-around			
Rule 26(b) Trawling, making way <50 m	Sidelights Sternlight G/W all-around			
Rule 26(b) Trawling, not making way	G/W all-around			
Rule 26(c) Fishing other than trawling, making way Any length	Sidelights Sternlight R/W all-around			
Rule 26(c) Fishing other than trawling, not making way Any length	R/W all-around			
Rule 26(c) Fishing other than trawling, making way Gear out >150 m	Sidelights Sternlight R/W all-around All-around	 gear side		
Rule 26(c) Fishing other than trawling, not making way Gear out >150 m	R/W all-around All-around	 gear side		

Vessels Not Under Command or Restricted in Ability to Maneuver (Rule 27)

RULE/VESSEL	GROUPS	SHAPES	BOW	STERN
BOTH INTERNATIONAL AND INLAND				
Rule 27(a) Not Under Command Making way	Sidelights Sternlight R/R all-around			
Rule 27(a) Not Under Command Not making way	R/R all-around			
Rule 27(b) Restricted in Ability to Maneuver Making way <50 m	Masthead Sidelights Sternlight R/W/R all-around	 		
Rule 27(b) Restricted in Ability to Maneuver Making way ≥50 m	2 Mastheads Sidelights Sternlight R/W/R all-around	 		
Rule 27(b) Restricted in Ability to Maneuver Not making way	R/W/R all-around	 		
Rule 27(b) Restricted in Ability to Maneuver Anchored <50 m	R/W/R all-around W all-around	 		
Rule 27(b) Restricted in Ability to Maneuver Anchored ≥50 m	R/W/R all-around 2 W all-around	 		
Rule 27(d) Dredging or Underwater Operations Not making way	R/W/R all-around R/R all-around obstr. side G/C all-around clear side	 obstr. side clear side		
Rule 27(e) Diving, but unable to display Underwater Operations lights	R/W/R all-around	 Int'l Code Flag "A"		
Rule 27(f) Mine-clearing Making way ≥50 m	2 Mastheads Sidelights Sternlight G Δ all-around	 		
Rule 27(f) Mine-clearing Making way <50 m	Masthead Sidelights Sternlight G Δ all-around	 		

All Other Vessels (Rules 28-31)

RULE/VESSEL	GROUPS	SHAPES	BOW	STERN
INTERNATIONAL ONLY				
Rule 28 Constrained by Draft Making way	Masthead Sidelights Sternlight R/R all-around 2nd Masthead			
If 50 m, add				
BOTH INTERNATIONAL AND INLAND				
Rule 29(a) Pilot Vessel on Duty Underway	Sidelights Sternlight W/R all-around	 Int'l Code Flag "H"		
Rule 29(a) Pilot Vessel on Duty Anchored	W/R all-around Anchor Light	 Int'l Code Flag "H"		
Rule 29(b) Pilot Vessel off Duty Making way <50 m	Masthead Sidelights Sternlight	None		
Rule 30(a) Anchored 50-100 m	2 W all-around			
Rule 30(b) Anchored 7 m and <50 m	W all-around			
Rule 30(c) Anchored 100 m	2 W all-around All deck lights			
Rule 30(d) Aground 50 m	W all-around forward Lower W all-around aft R/R all-around (if practicable INLAND)	 		
Rule 30(d) Aground ~50 m and 12 m	W all-around R/R all-around (if practicable INLAND)	 		
Rule 30(f) Aground <12 m	W all-around			
Rule 31 Seaplane Underway	Masthead Sidelights Sternlight	None		



Canada cardinal buoys

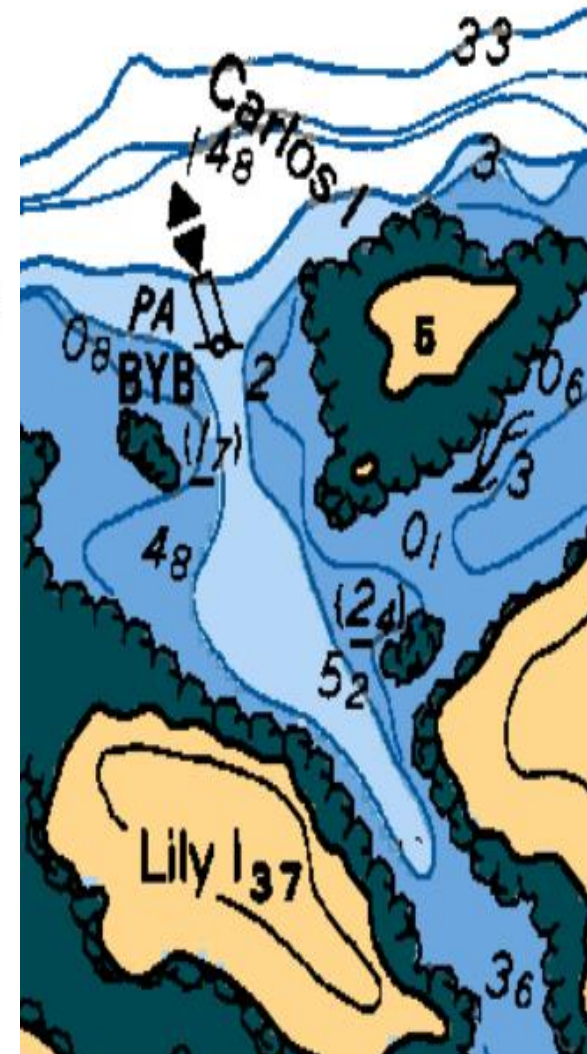
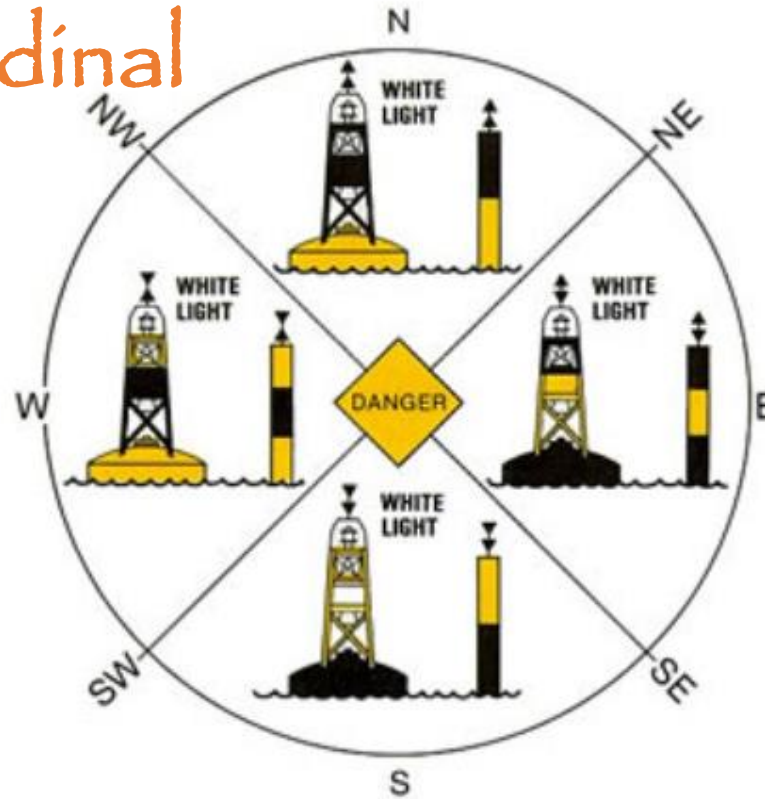
Marks direction of dangerous water:

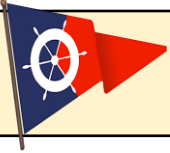
▲ = Safe to the North

◆ = Safe to the East

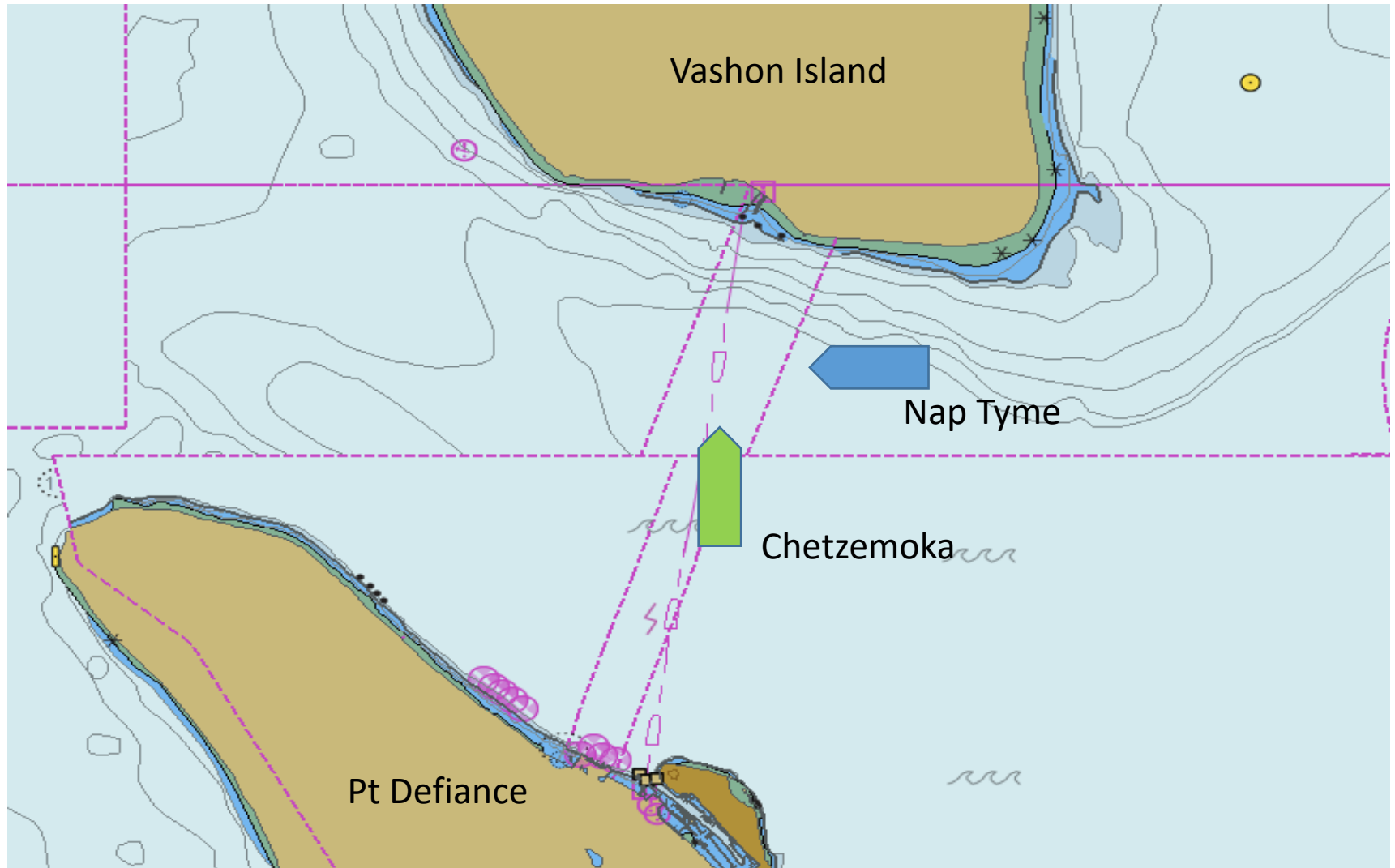
▼ = Safe to the South

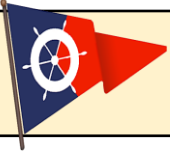
◀ = Safe to the West





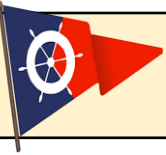
Nap Tyme / Chetzemoka collision





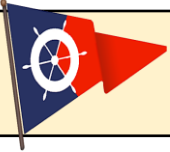
Marine Rules of the Road - Video

- <https://www.bing.com/videos/search?q=nap+tyme+chetzemoka+collision+video&view=detail&mid=FAF41E01C1E8AA6BE006FAF41E01C1E8AA6BE006&FORM=VIRE>



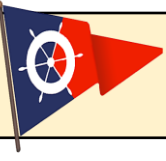
Discussion

- **Who was at fault?**
- **Did the Nap Type Captain violate any rules?**
- **Did the WSF Captain violate any rules?**



WSF Investigation Findings

- **WSF Captain violated Navigation Rules:**
 - **Rule 7 – Risk of Collision**
 - **Rule 8 – Action to Avoid Collision**
 - **Rule 15 – Crossing Situation**
 - **Rule 16 – Action by Give-way Vessel**
- **Nap Type Captain violated Navigation Rules:**
 - **Rule 5 – Lookout**
 - **Rule 17 – Action by Stand-on Vessel**



Questions ??