

DSUSA

**Dragon Boat Steering
Training and Certification
Program**

Version 1.1.2

8/8/2016

Program Section Outline

1. Dragonboat Basics
 2. Basic Steering
 3. Safety
 4. Basic Navigation
 5. USCG Inland Navigation Rules & Willamette River Safety
 6. Willamette Docks and Emergency Stops
 7. Hypothermia
 8. Capsize Procedures
 9. Steers Responsibilities
 10. Dock Procedures
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1. *Dragon Boat Basics*

Dragon Boat Background and Types

- ❖ Dragon boat racing is a tradition more than 2000 years old, coming to us from China.
- ❖ First international dragon boat race in 1976 in Hong Kong.
- ❖ Dragon boats typically hold 10 or 20 paddlers, with a caller in the front and a steersperson in the back.
- ❖ Most racing held under the banner of the International Dragon Boat Federation (IDBF)
- ❖ Portland boats are “616” boats; wider, concave hull profile, with a center bar running the length of the boat. Other races use BUK boats, which are narrower, lack a center bar, and have a flat bottom.
- ❖ Portland also has ceremonial boats provided by the Portland-Kaohsiung Sister City Association for the Rose Festival Dragon Boat Races; these are not run by Dragonsports.

2. *Basic Steering*

Basic steering has the steersperson standing up in the back of the boat, holding the tiller with his or her left hand.

1) In motion

The boats are easiest to control when the paddlers are paddling.

When the handle is rotated such that it is vertical, it means the blade of the tiller is vertical. With the blade of the tiller submerged in the water, pushing the handle away from your body – so the handle points to your left – will cause the boat to create drag on the right side, and steer the boat to the right.

Pulling the handle to the right will cause the blade of the tiller to deflect to the left, creating drag on the left side of the boat, causing the boat to turn left.

2) Sitting still

The steersperson has significantly less control over the motion of the boat when it is not moving. To turn or “aim” the boat, use a push-or-pull rotating motion with the tiller to sweep the boat left or right.

2. Basic Steering

Using the basic steering techniques, you can steer the boat. To actually guide the boat in the right direction, the most common technique is to line up the front of the boat in the direction of a landmark, then keep the boat pointed at that landmark until it's time to turn toward a different landmark.

Also important is knowing what's going on in the water all around the boat. The steersperson is responsible for the safety of the crew and should be aware of other watercraft and water hazards (such as debris.) With a major blind spot being directly behind the steersperson, it is advisable for that person to periodically look behind them – and be mindful of areas where other boats frequently are!

2. *Basic Steering*

Paddlers should know about the uni and draw strokes, (*all done on the left side to prevent a huli.*) For navigating close to a dock, these can be a powerful way to move the whole boat left or right.

Also important are steers commands. The paddlers must be able to hear clear, concise commands from a steers. When getting underway, consistent commands such as “paddles up”, “take it away”, or “hold the boat” should be used and given with enough volume that they can clearly be heard in bench 1.

When in doubt, “hold the boat”!

There are more advanced steering techniques out there. For example, for a great write-up on steering, read:

<http://www.joshuaconnor.com/steeroutrigger/steer.outrigger.htm>

3. Safety

Required to have on board:

- ❖ USCG approved Type I, II, or III PFD – all paddlers must be wearing them!
- ❖ Whistle – Qty.1
- ❖ Bailers – 3-6 (at least one 5 gallon)
- ❖ Lights during darkness or limited visibility – Qty. 1 each: red/green, white

- ❖ Crew: 1 steersperson, 1 caller, at least 10 paddlers in summer, 12 in winter

Optional (but recommended!):

- ❖ Cell phone for emergencies

3. Safety

Boating Casualties

Boat Type	Drownings	Other types of deaths	Total Deaths	% of Deaths from Drowning
1 Open Motorboat	180	105	285	63%
2 Canoe	62	6	68	91%
3 Kayak	57	14	71	80%
4 Pontoon	33	13	46	72%
5 Inflatable	25	1	26	96%

USCG Boating Statistics – 2015

<http://www.uscgboating.org/library/accident-statistics/Recreational-Boating-Statistics-2015.pdf>

Top 5 Types of Accidents

Accident Type	Number of Accidents	Number of Fatalities
Collision with Rec. Vehicle	4158	626
Flood/Swamping	449	56
Collision with Fixed Object	470	58
Grounding	350	17
Skier Mishap	301	12

Fatalities & Life Jacket Wear (excludes unknown status)

Cause Of Death	Life Jacket	
	Total Fatalities Worn	Not Worn
Drowning	415	352
Trauma	78	49
Cardiac Arrest	23	15
Hypothermia	13	10
Unknown	32	29

4. *Basic Navigation*

- ❖ Navigation law is complex and sometimes confusing. Who has the right of way? The answer isn't always obvious, but canoes and kayaks enjoy NO special privileges and, in fact, must yield to powered vessels and vessels constrained by draft (think of the Portland Spirit; she can't maneuver to avoid you due to the narrowness of the channel.)
- ❖ Prudent steers should observe at all times the single best navigational advice of the "Gross Tonnage Rule," an informal but universally-applicable guideline: "Always yield to the bigger boat!". Having the right-of-way is of little consolation if there's an accident.
- ❖ Be sure to have proper lights when paddling at night or during conditions of reduced visibility. You can't expect faster boaters to avoid you if they can't see you.
- ❖ With most of the boat facing forward, the steers must maintain awareness! The steers is responsible to maintain constant vigilance and lookout of all traffic and should be especially cautious of traffic to the rear.

5. USCG Inland Navigation Rules

USA Inland Rule 1 (a) – Application

“These Rules apply to all vessels upon the inland waters of the United States, and to vessels of the United States on the Canadian waters of the Great Lakes to the extent that there is no conflict with Canadian law.”

USA Inland Rule 2 (a) – Responsibility

“Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.”

USA Inland Rule 2 (b) – Responsibility

“In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.”

5. USCG Inland Navigation Rules

USA Inland Rule 3 – Selected General Definitions

- (a) The word “**vessel**” includes every description of water craft, including nondisplacement craft, WIG craft and seaplanes, used or capable of being used as a means of transportation on water.
- (h) The word “**underway**” means that a vessel is not at anchor, or made fast to the shore, or aground.
- (j) Vessels shall be deemed to be in sight of one another only when one can be observed visually from the other.
- (k) The term “**restricted visibility**” means any condition in which visibility is restricted by fog, mist, falling snow, heavy rainstorms, sandstorms or any other similar causes.

USA Inland Rule 5 – Look-out: Any condition of visibility

“Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.”

5. USCG Inland Navigation Rules

USA Inland Rule 6 – Safe Speed

“Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.”

In determining a safe speed the following factors shall be among those taken into account:

- (i) the state of visibility;
- (ii) the traffic density including concentration of fishing vessels or any other vessels;
- (iii) the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
- (iv) at night, the presence of background light such as from shore lights or from back scatter of her own lights;
- (v) the state of wind, sea, and current, and the proximity of navigational hazards;
- (vi) the draft in relation to the available depth of water.

5. USCG Inland Navigation Rules

USA Inland Rule 7 – Risk of Collision

- (a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.
- (b) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.
- (c) In determining if risk of collision exists the following considerations shall be among those taken into account:
 - (i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change; and
 - (ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

USA Inland Rule 8 – Action to Avoid Collision

- (a) Any action taken to avoid collision shall be taken in accordance with the Rules of this Part and shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.
- (b) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.

5. USCG Inland Navigation Rules

USA Inland Rule 34, Sounds – Definitions

- ❖ **SHORT BLAST:** About one second
- ❖ **PROLONGED BLAST:** About 4-6 seconds

Vessels Meeting or Crossing

- ❖ **ONE SHORT BLAST:** “I intend to pass port-to-port.” (one blast for one syllable word “port”)
- ❖ **TWO SHORT BLASTS:** “I intend to pass starboard-to-starboard.” (two blasts for two-syllable word “starboard”)

Overtaking Vessel

- ❖ **ONE SHORT BLAST:** “I wish to overtake you on your starboard side.”
- ❖ **TWO SHORT BLASTS:** “I wish to overtake you on your port side.”

5. USCG Inland Navigation Rules

USA Inland Rule 35, Sounds – Reduced Visibility

- ❖ **ONE PROLONGED BLAST** (at intervals not more than 2 minutes): Vessel is making way under power in reduced visibility.
- ❖ **TWO PROLONGED BLASTS** (at intervals not more than 2 minutes): Powered vessel is under way, but stopped and making no way.

Maneuvering/Warning

- ❖ **THREE SHORT BLASTS**: “I am operating in reverse.”
- ❖ **FIVE OR MORE SHORT BLASTS**: Danger or in doubt

5. USCG Inland Navigation Rules

Lights

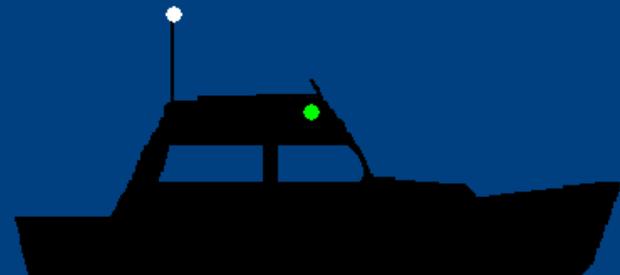
- ❖ RED: Port fore (“port wine is red”)
- ❖ GREEN: Starboard fore
- ❖ WHITE: Stern
- ❖ YELLOW: Towing/pushing

International Rules
Inland Rules



Viewing the vessel from its port side.
Power driven vessel less than 50m in length.

International Rules
Inland Rules



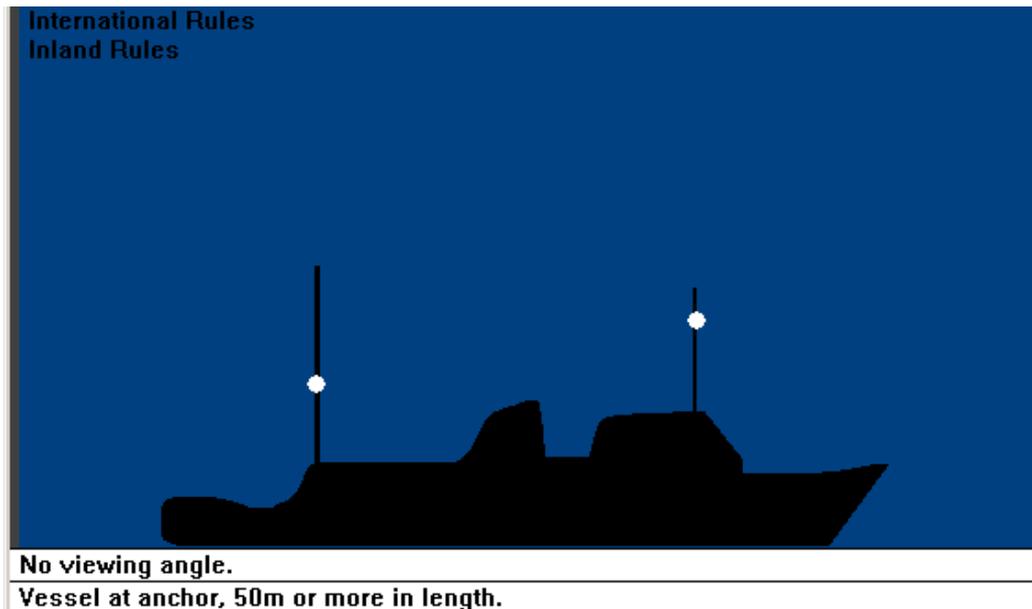
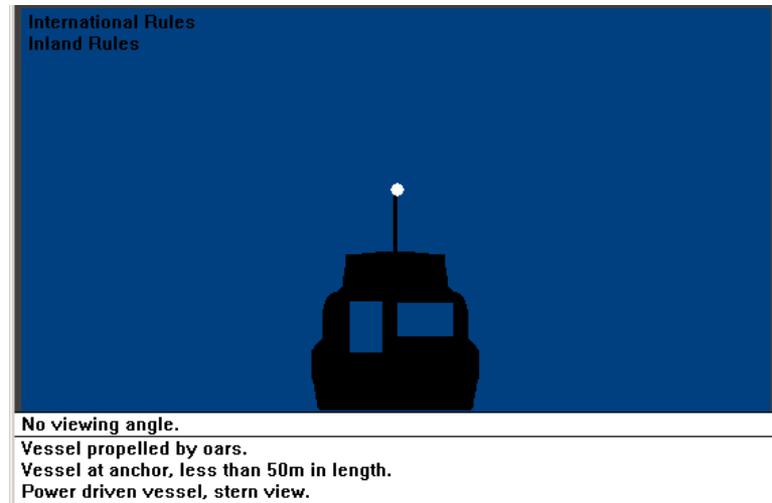
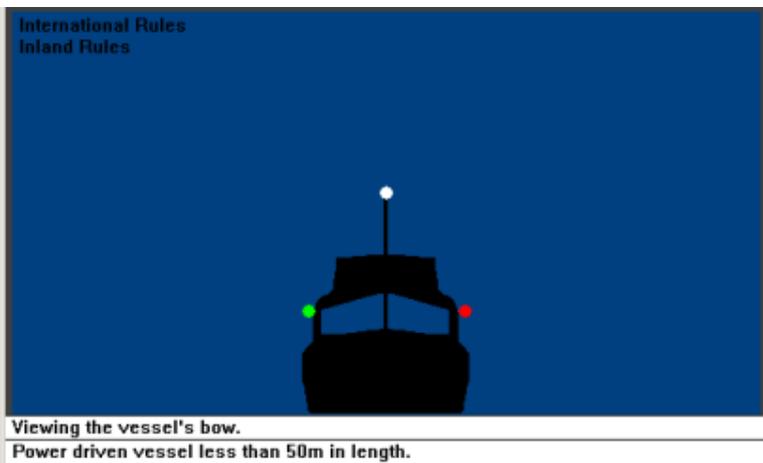
Viewing the vessel from its starboard side.
Power driven vessel less than 50m in length.

Images from :

www.navrules.com

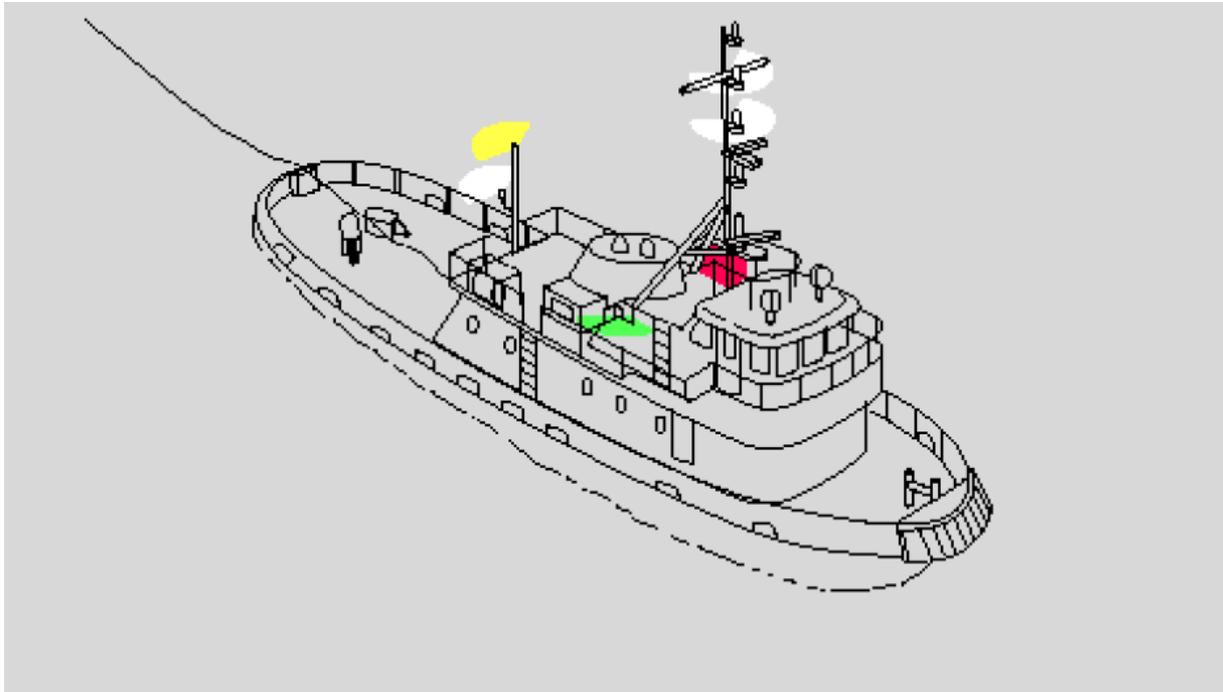
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5. USCG Inland Navigation Rules



5. USCG Inland Navigation Rules

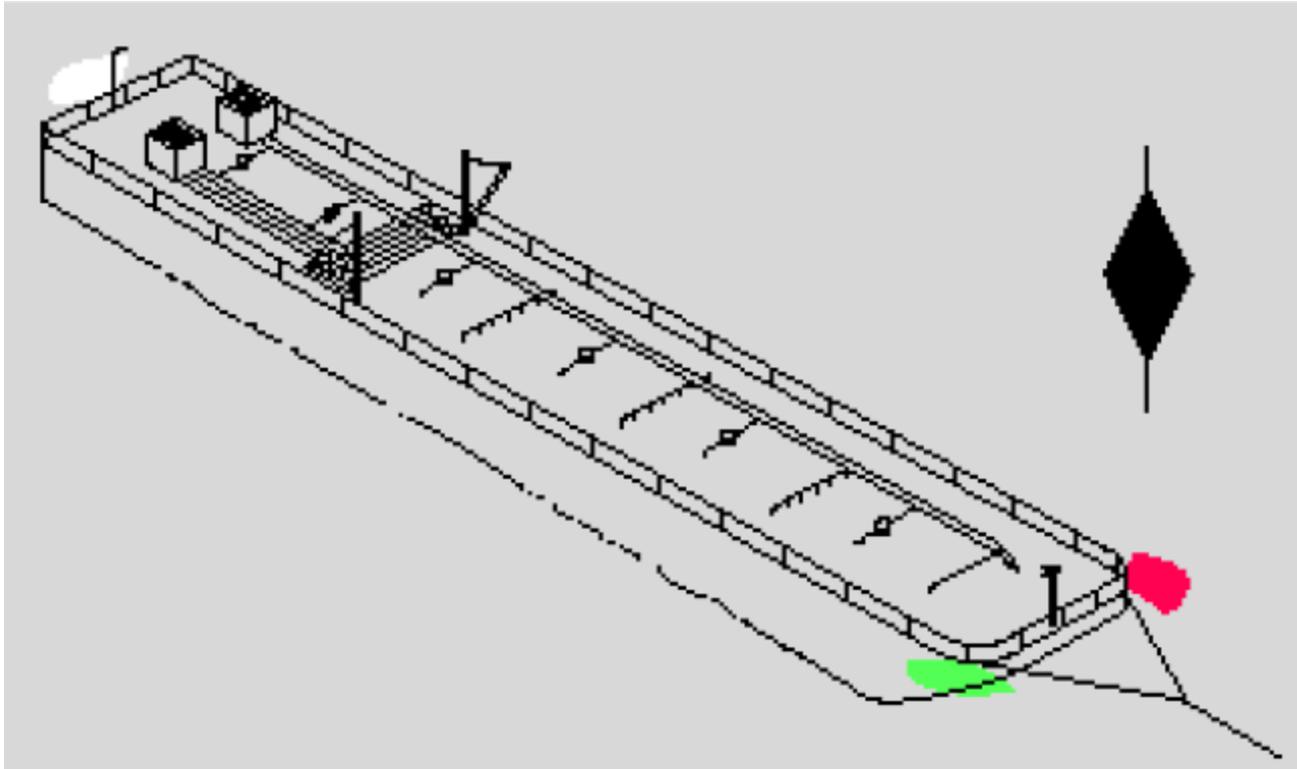
USA Inland Rule 24, Lights & Shapes – Pushing or Towing



Power-driven vessel towing astern - towing vessel less than 50 meters in length; length of tow 200 meters or less. Same for International.

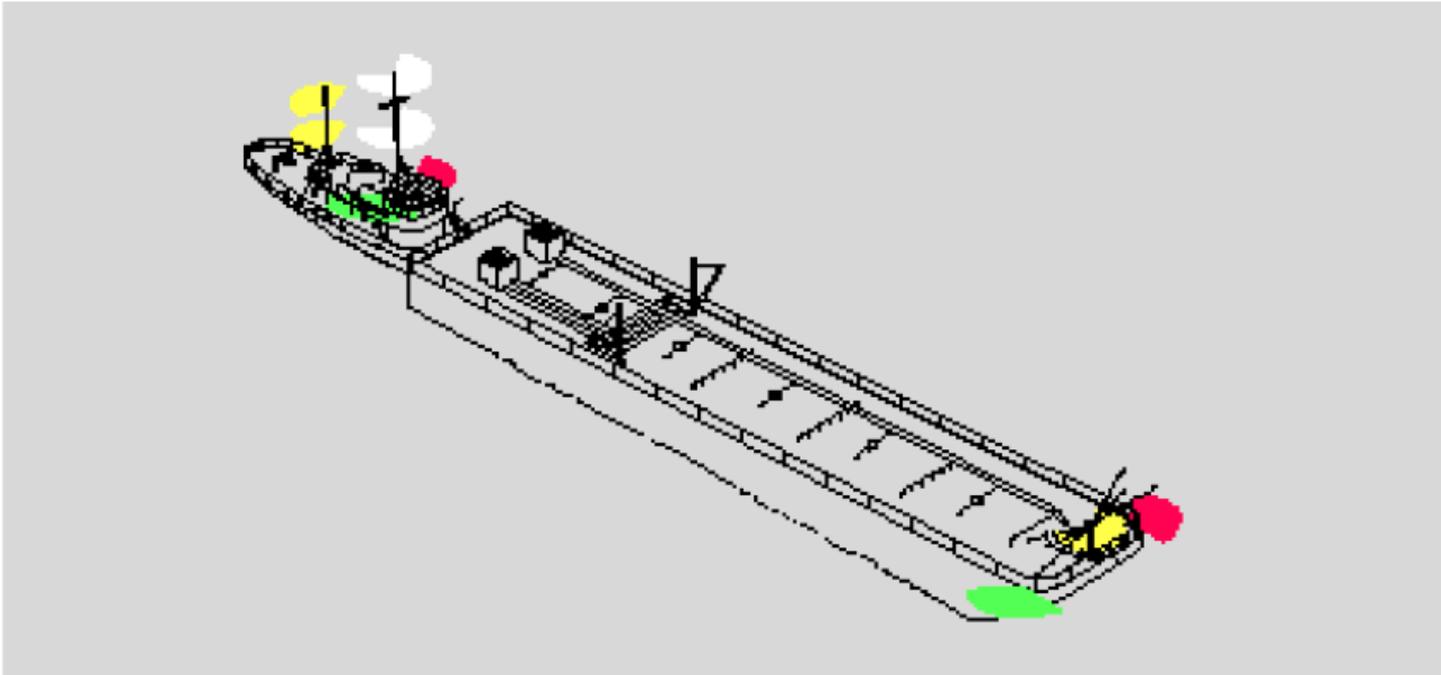
5. USCG Inland Navigation Rules

USA Inland Rule 24, Lights & Shapes – Vessel or Object Being Towed



5. USCG Inland Navigation Rules

USA Inland Rule 24, Lights & Shapes – Vessel Being Pushed (aka BARGES)



Vessel being pushed ahead, not being part of a composite unit.

6. Willamette Docks and Emergency Stops



Always know where you can go in an emergency – and how to describe where you are! In the winter, the current moves fast, and you may need to go downstream to get the crew and boat to safety.

It's important to have a plan!

Burnside Bridge

Morrison Bridge

Hawthorne Bridge

Marina

Marquam Bridge

Tilikum Crossing

Ross Island Bridge

Sellwood Bridge

7. Hypothermia

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

WATER TEMPERATURE / EXHAUSTION / SURVIVAL TIME

32.5 degrees.....	Under 15 min.....	Under 15 to 45 min.
32.5 to 40.....	15 to 30 min.....	30 to 90 min.
40 to 50.....	30 to 60 min.....	1 to 3 hrs.
50 to 60.....	1 to 2 hrs.....	1 to 6 hrs.
60 to 70.....	2 to 7 hrs.....	2 to 40 hrs.
70 to 80.....	3 to 12 hrs.....	3 hrs. to indefinite
Over 80.....	Indefinite.....	Indefinite

Minimize Body Heat Loss

- ❖ Button, buckle, zip and tighten collars, cuffs, shoes and hoods.
- ❖ Cover your head if possible.
- ❖ Minimize swimming – this keeps blood from going to extremities where it cools rapidly
- ❖ Use the Heat Escape Lessening Position (HELP) - cross your arms tightly against your chest and draw your knees together and up. Remain calm and still.
- ❖ Huddle with others

Watch Cold Water Boot Camp on YouTube:

<http://www.youtube.com/watch?v=J1xohl3B4Uc>

7. Hypothermia

DSUSA requires all paddlers to wear PFDS at all times.

7. Hypothermia

Signs and Symptoms

Stage	Core Temperature	Signs & Symptoms
Mild Hypothermia	99° - 97°F	Normal, shivering can begin
	97° - 95°F	Cold sensation, goose bumps, unable to perform complex tasks with hands, shiver can be mild to severe, hands numb
Moderate Hypothermia	95° - 93°F	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.
	93° - 90°F	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	90° - 86°F	Shivering stops, exposed skin blue or puffy, muscle coordination very poor, inability to walk, confusion, incoherent/irrational behavior, but may be able to maintain posture and appearance of awareness
	86° - 82°F	Muscle rigidity, semiconscious, stupor, loss of awareness of others, pulse and respiration rate decrease, possible heart fibrillation
	82° - 78°F	Unconscious, heart beat and respiration erratic, pulse may not be palpable
	78° - 75°F	Pulmonary edema, cardiac and respiratory failure, death. Death may occur before this temperature is reached.

8. *Capsize Procedures*

- ❖ Safety of paddlers is the primary goal, protecting the dragon boat is secondary
- ❖ Dragon boats are exceptionally difficult to right when they have capsized.
- ❖ Paddlers should stay with the boat in the event that it overturns!
- ❖ The steersperson is responsible for managing the crew in the event of a capsizing. **VERIFY EVERYONE HAS MADE IT TO THE SURFACE** – do not go looking for anyone until you are sure of who's missing. Each paddler should make sure they know where their benchmate is.
- ❖ Paddlers should swim the boat toward shore – doing so together will best ensure the safety of all.
- ❖ If the water presents dangerous conditions, climb on the hull. **GET OUT OF THE WATER**, then use emergency lights and whistles to draw attention.

9. *Steers Responsibilities*

1. Steers is responsible to ensure all paddlers are DSUSA members and have signed waivers.
2. Steers is responsible to instruct all paddlers of their responsibilities in case of a capsized.
3. Steers certification is valid as long as the steers/team has paid dues and is in good standing with the club. DSUSA reserves the right to withdraw certification of steers and/or crews from using its canoes at any time for any reason. Reasons include, but are not limited to:
 1. Demonstrated unsafe on-the-water procedures
 2. Failing to adhere to DSUSA dock procedures and rental agreement
 3. Community complaints of inappropriate or disruptive behavior
4. Only DSUSA-trained and certified steers may steer an DSUSA dragon boat, and only DSUSA can certify steers.

10. Dock Procedures

- ❖ For all practice times, gather all scheduled crew members at top of ramp.
- ❖ Obtain paddles and PFDs as required from the DSUSA locker.
- ❖ Personal items may be left in locker during scheduled practices, however DSUSA is not responsible for loss of items left in the locker.
- ❖ Ensure that the dragon boat has at least three bailers in it at all times.
- ❖ Running lights must be on the boat from sunset to sunrise and at times of reduced visibility. Crews are responsible for their own lights.
- ❖ Return to the marina by the time practice ends.
- ❖ Unless you have confirmed that another crew is will be taking the boat immediately after your practice, make sure the boat is locked before leaving.

11. DSUSA Scheduling

- ❖ Only DSUSA members may use DSUSA dragon boats. Non members can 'try' the paddling up to twice before deciding to join.
- ❖ All paddlers must have signed a DSUSA waiver.
- ❖ Dragon boat practices are 60minutes.
- ❖ Team practices can be scheduled by contacting scheduling@dragonsports.org. Team practices are \$28/hour.

12. Next steps

Training and Testing

This class is the first step in getting certified!

Next Steps

You must watch the Cold Water Boot Camp video - see link in Chapter 7.

Obtain PaddleSports certificate (or boating license) and email a digital copy of the certificate (offered as a download upon completion) to steering@dragonsports.org.

Practice steering! For dragon boat, any current certified steers can train you. For outrigger, contact DSUSA for a list of steers who can conduct training.

Take the on-the-water test. On-the-water test includes leaving the parking space, exiting the marina, turning around a Marquam bridge piling, returning to the marina and parking the boat, without collision. Also demonstrating effective and audible commands, including “let it run”, “hold”, “paddles up”, and “go” (or team-specific commands for these.) Your steers trainer can conduct the test, but must notify dragonsports at steering@dragonsports.org that you’ve passed the test!

Appendix A: More Information

River Conditions

Water Velocity: <http://www.nwrfc.noaa.gov/river/station/flowplot/flowplot.cgi?PRT03>

Wind Conditions: <http://willamettesailingclub.com/weather/>

Water Temperature: http://or.water.usgs.gov/will_morrison/monitors/will_morrison_t_7.html