



# Wasabi Paddling Club Outrigger Canoe Steering and Safety Manual

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## **MANUAL OVERVIEW**

This manual provides essential information for anyone taking on the responsibility of steering a six person outrigger canoe in practice and in competition. Reading the manual carefully will give a steersperson an understanding of general boating rules and safety guidelines specific to WASABI PADDLING CLUB.

There are many resources available for those interested in learning more about outrigger canoeing; the sport, paddling and steering the canoes. This manual does not attempt to provide all of the information for all of these topics.

All steerspersons should read:

The Art and Skill of Steering by Steve West

The Paddlers Guide to Outrigger Paddling by Steve West

The images and some content in this manual are used with permission from Steve West. More information can be found at:

<http://kanuculture.com/>

Thank you Steve!

## **WHO IS WASABI PADDLING CLUB?**

WASABI PADDLING CLUB is a 501(c)3 non-profit organization dedicated to the participation in, and promotion of, the national and international amateur sports of Dragon boat and Outrigger Canoe paddling and racing. Founded in Portland, Oregon in 1993 as one crew, Wasabi currently has members of all ages racing competitively and for recreation. Additional information can be found on the club website [www.wasabiusa.org](http://www.wasabiusa.org)

## TERMINOLOGY

Ama	The outrigger float that helps stabilize the canoe.
Double hull	Two canoes connected with two iaku's and no ama.
Gunwale	The upper edge of the side of the canoe.
Huli	The boat flips over.
Iaku	The spars connecting the ama to the main hull. Usually two are used.
Kanu or Va'a	Canoe
Single hull	A canoe rigged with one hull and one ama.
Small boats	One or two person canoes.
OC6	Six person outrigger canoe.

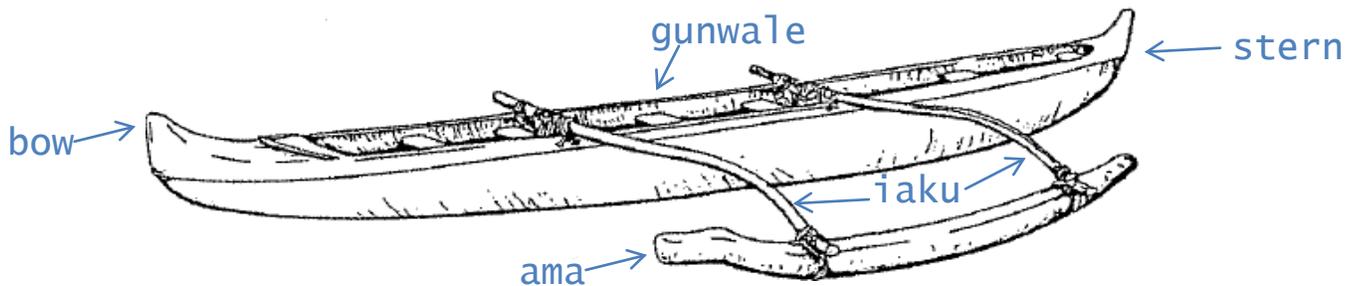
## COMMANDS

Bumpers in/out	Paddlers near the dock bumpers move them in or out.
Debris port/starboard	Paddlers watch for debris in water.
Draw - specific seats called out, port or starboard	Named paddlers draw water towards the boat. Paddlers try to pull the water forcefully towards and under the boat. If the drawing is on starboard, the other paddlers in the boat may need to lean left. They should make the decision to do so based on the feel of the boat, and not wait for the command of the steersperson. (See pictures on p.17.)
Ease off	Paddlers refrain from paddling with full power, but <b>continue to paddle</b> .
E ho'omakaokao or "Is everybody ready?"	All paddlers should indicate their readiness by saying "Aye", or "No".
Hoe Pa'a or "Paddles up"	All paddlers put paddles in the front position
Hold	All paddlers place paddles in the water with the blade face perpendicular to the boat.
Hold for drift	All paddlers place paddles in the water with the blade face parallel to the boat.
Hold hard	All paddlers drive blade doing a backstroke then hold firm vertically.
HUT!...HO	The caller will shout a crisp "hut" to prepare the paddlers for changing paddling sides. On the next stroke, everyone says

	"ho" together and everyone switches the side on which they are paddling.
Imua or "Take it away"	Go forward. All paddlers start paddling
Lava or "Let it run"	All paddlers stop paddling.
Port	The left side of the boat, looking forward.
Power	Paddlers apply power to the stroke, pulling hard through the water.
Prepare to take it back	Paddlers prepare to back paddle
Pry	The opposite of draw. Slide the paddle into the water, with the blade close to the body of the canoe and the forearm steady on the gunwale. Resting the shaft of the paddle on the gunwale for leverage, push water forcefully away from the boat.
Sit ready	All paddlers sit solid in their seats and prepare to receive next command
Starboard	The right side of the boat, looking forward. Paddlers leaning starboard may cause the canoe to huli.
Take it back, or back paddle	All paddlers paddle backwards, the paddle is held the same as for paddling forward. Having all paddlers back paddle on the left will minimize potential of a huli.
Watch your blades	Paddlers move blades out of danger when approaching another boat, dock, etc.

E kahi	One
E Lua	Two
E Kolu	Three
E Ha	Four
Kokua	Help

## THE KANU



Wasabi owns a number of boats. These include 10 and 20 person dragon boats and 1, 2 and 6 person outrigger canoes. There are several different models of boats; each has its own design characteristics which can affect steering the boat. This manual is specific to the OC6's, and does not attempt to explain use of all types of boats. Most safety rules outlined in this manual will apply to all types of canoes.

It is important for a steersperson to become familiar with the individual differences between the boats. In addition, the way in which each boat is rigged can significantly change how it behaves. The distance between the boat and the ama, and the amount of toe-in of the ama can be varied depending on whether the priority is on speed or stability. Rigging for fastest speed means minimizing surface area on the water, this also makes the canoe more susceptible to huli.

The two Calmar OC6 boats are very stable. The two Bradley OC6 boats have a different hull design, are lighter, sit higher on the water and are less stable than the Calmars. The Bradleys slide faster over the surface of the water allowing them to turn more quickly, but they can also be more difficult to control especially in windy conditions. Regardless of the differences all OC6 boats are steered the same way.

- # 76 Hoku Pa'a (Northern Star)
- # 77 Kai Holo (Running Water)
- # 78 Manuwai (Bird of the Water)
- # 79 Lokomaika'i (Grace/Aloha)

## **OUTRIGGER TRADITIONS**

- Respect the canoe as a family member.
- Keep the canoe and the area around the canoe clean.
- Never step over the canoe hull or ama.
  - Exceptions are sometimes made for dry-land training or demonstration purposes.
  - If you must step over the canoe hull or ama, apologize to the canoe.
- On land, the bow of the canoe always points toward the water nearby.
- Avoid stepping on the seats when getting in and out, this can stress and damage the boat.
- Avoid standing in the canoe.
- Leave egos and personal issues in the car. Relax and have fun.
- Swearing or arguing is not accepted on the outrigger canoe.
- Everyone helps with cleaning, maintaining, rigging and de-rigging, and general care of the canoes.
- Give your kokua (help) anywhere you see it might be needed.
- When at a race and ANY TEAM is in need of lifting, rigging or help of any kind, pitch in.
- Avoid leaning right to prevent a huli.
- Paddlers should learn the duties of the seat in which they sit.
- Take the time to learn proper Hawaiian names and pronunciation of the common terminology.
- A chant is often said at the end of practice/races. Each crew can decide what they want to say. A standard with Wasabi is “Imua, Imua Wasabi”.

## **Steersperson**

### **Overview of Responsibilities**

On an outrigger, each person on board must observe and react as needed to maintain safety even without a direct command from the steersperson. While on the water, everyone should be aware of safe operation of the boat and on the lookout for hazards.

The steersperson is in charge of the boat and is ultimately responsible for steering the canoe in the right direction, for the safe operation of the outrigger canoe and for the safety of everyone onboard. This requires knowledge of boating safety, safe boating practices and the rules of navigation for the Willamette River or for a given race site.

**A STEERSPERSON ALWAYS NEEDS TO BE OBSERVANT OF THE SURROUNDINGS!**

### **Steersperson Responsibilities**

The steersperson is responsible for the

- Safety of the crew.
- Safety of the boat.
- Safety of others on or in the water.
- Image of outrigger canoeing, Wasabi Paddling Club and your club/crew to the public.

### **Assume nothing!**

- Do not assume your crewmembers know what they are doing.
- Do not assume others on the water know what they are doing.
- Do not ASSUME anything.

### **Management**

#### **Steersperson must know**

- How many people are on his/her boat.
- Who is on the boat. Make a list if you need one.
- Who knows how to swim and who doesn't. Assign buddies if needed.
- The skill level of the crew. Only go out with a crew able to paddle with sufficient skill to maintain safety and control of the boat.
  - It is usually desired to have at least three experienced OC paddlers on the crew
- If anyone has a pre-existing medical condition (pacemaker, asthma, diabetes, etc.).

## **Abilities**

### **Steersperson must be able to**

- Paddle an outrigger canoe.
  - Learn to paddle before learning to steer.
- Manage the loading and unloading of crew members. Load the boat from a dock or beach.
- Maintain a straight course at full racing speed with a full crew of paddlers.
- Steer a course which includes both left and right turns.
- Execute evasive maneuvers if other boats are encroaching.
- Turn the boat safely both with and against the current.
- Execute an emergency stop (from racing speed to full stop).
- Execute safe approaches to a dock or to a beach in both calm and windy conditions.
- Secure the boat and ensure all gear is put away correctly.
- Back the boat towards a dock and onto a beach.
- Ensure that club rules and policies are followed by the crew, on and off the water.

## **OUTRIGGER PADDLING**

Paddling an outrigger canoe is very similar to paddling any other type of canoe but there are many small variations that can have a significant impact on the effectiveness of the stroke and the resulting speed of the boat. Coaches and paddlers may subscribe to different techniques due to their personal preferences or physical limitations. The techniques described here are intended to be used as a starting point.

### **Basic paddling technique**

The stroke starts out in front, the trunk and shoulders rotate around the spine. Use leg drive and hip rotation to transfer force onto the blade. A slight hinge forward from the hip can be incorporated but be careful not to bounce the boat up and down. Minimize all side to side motion. The head should stay in the boat, in-line with the center line of the boat without tilting to one side.

Excerpts from The Paddlers Guide to Outrigger Paddling by Steve West:

“The most fundamental understanding that you will need to firmly establish in your thinking is that you will not be pulling the paddle through the water towards you. You will be pulling your hips up to the blade and with it the va’a.”



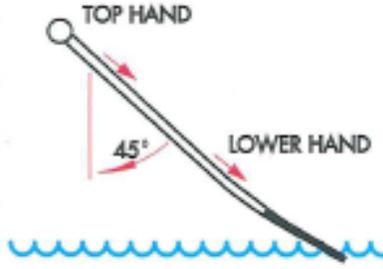
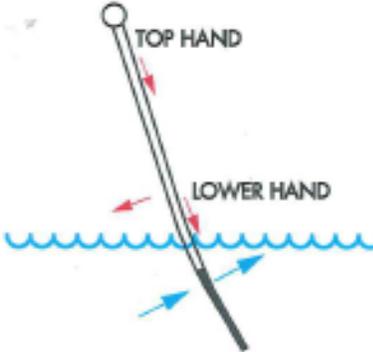
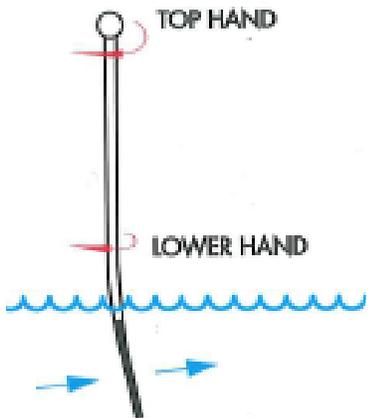
Grip the lower shaft approximately one hand span up from the neck of the paddle. Place top hand on grip, lower hand grips paddle firmly but not a death grip. Lower hand can be raised or lowered, usually no more than two hand spans up from where shaft meets blade.

1) Top elbow is raised but level with head, elbow slightly flexed, leading shoulder remains as low as possible.

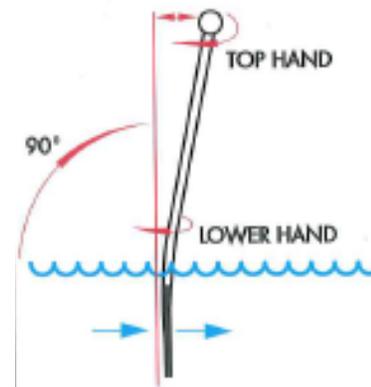
2) Lower arm is slightly bent, chin and gaze remains up, lower arm moves down to bring about entry.

Leading leg should be extended with knee bent, opposing leg should be bent, with foot firmly planted on the hull floor.”

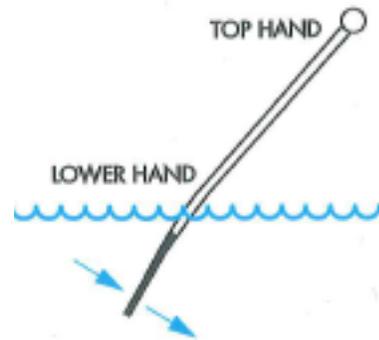
## Stroke components

<p>1. Set up: Maximum rotation and reach prior to blade entry</p>	
<p>2. Entry: Placement of blade in water The direction of pull with lower arm is initially downward in order to encourage lift and drive.</p>	
<p>3. Catch: Loading of blade The exact moment when the blade is fully submerged and catches or grips the water. This requires that water is 'pressured' against the blade face. The blade has been placed, locked into position, then loaded – immersed into water and under pressure. If the blade has poor catch it will simply slip backwards and fail to pull the va'a up to the blade.</p>	
<p>4. Pull Through/ Power Phase: Pull applied to the blade 80-85% of the forward power is generated during 7-8" of pull. The torque of the body and pull of the lower arm can be executed in an explosive yet smooth manner. This quick and sudden compression provides little time for the water to flow off and around the blade face. You want to have the feel of pole vaulting yourself over the top of your paddle.</p>	

5. Exit: Removal of the blade from the water at the end of the stroke  
When the blade moves past vertical, it is time to exit.



6. Recovery: The swing through the air to set up.



**Seat Positions** – These are accepted general practices. A crew may vary these practices based on the experience and skill level of crew members.

Seat 1

- Sets the pace of the stroke
- Communicates with steersperson regarding position of the bow and helps steer from the front
- Alerts paddlers and steersman of what lies ahead
- Not a power seat

Seat 2

- Provides feedback to #1 on rate
- Must match #1 exactly on entry and exits
- Helps turn the boat, especially with tight turns
- May lean on front aiko to prevent huli

Seat 3

- Call changes
- Part of the power section (engine room)
- Typically the heaviest paddler

Seat 4

- Rests on rear iaku when boat is stationary
- May lean on rear iaku to prevent huli
- Bails the boat when needed
- A power seat

Seat 5

- Assistant steerer - helps to steer when needed, or takes over steering if #6 cannot steer
- May lean on rear iaku to prevent huli
- Bails when needed
- A power seat

Seat 6

- Captain of the va'a
- Keeps crew focused and boat moving forward
- Alert to all conditions all around the va'a
- Responsible for safety of all
- Prime motivator

## **STEERING**

The steersperson is important to the success of a winning team. A good steersperson will have knowledge of boat commands and will understand the effects of wind and water conditions. The steersperson has the responsibility to make sure all navigation and safety rules are followed.

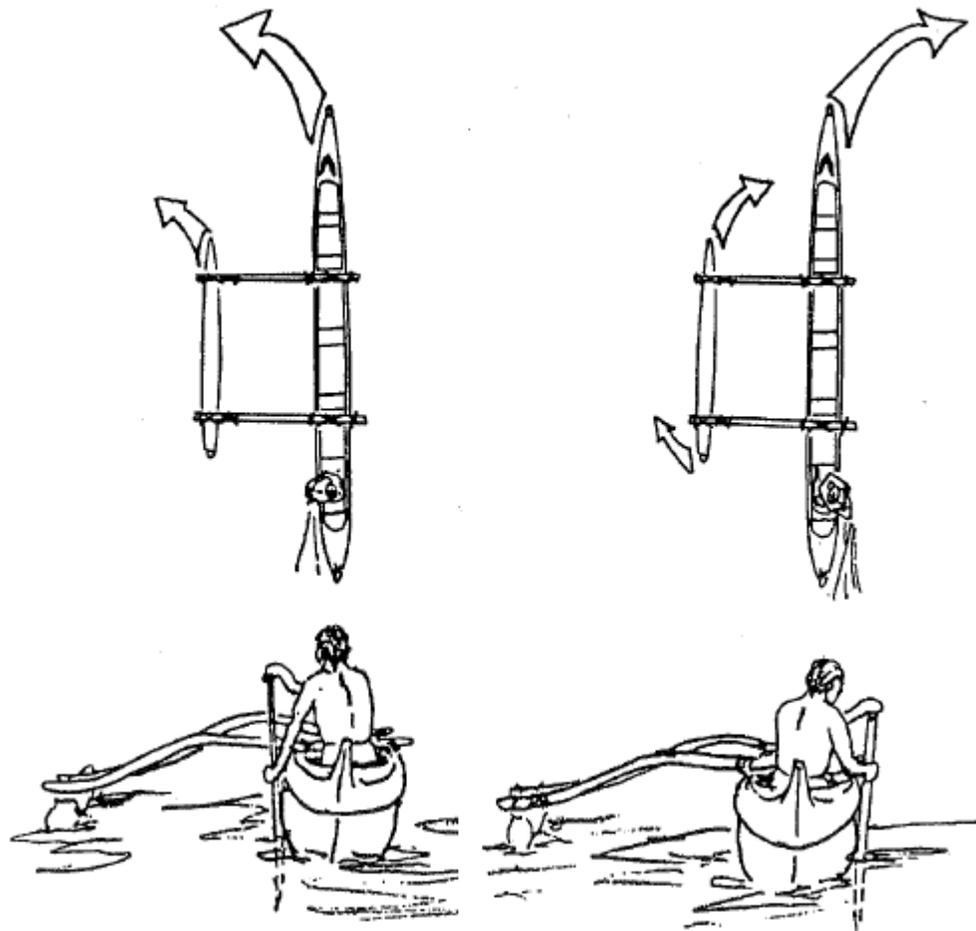
The very act of steering slows the boat down. Any time a steersperson puts his or her steering blade in the water to steer, drag is created. This is precisely why the paddle is inserted in to the water. Drag allows the steersperson to direct the canoe. But to do so slows the canoe down. The primary job in steering is to maintain a straight course and avoiding obstacles. Hold a steady course by picking a spot on the horizon and steering toward it.

A good steersperson will paddle as much as possible without allowing the canoe to go off course. It might not seem important during practice to stay straight, but it can have a negative effect on the morale of the crew if they feel the boat meandering back and forth down the river. The steersperson wants to contribute power to the boat, but needs to remember that the biggest impact they have on getting the boat to the finish line is in steering the straightest, shortest course.

Learn to point the bow into the wind or water current to maintain the boat's position. Use flags, trees, boats and the water surface to help determine wind direction. Point the bow or stern perpendicular to wakes and waves to minimize impact and disturbing the boat. Allow for drift when positioning a boat for a race.

The best way to handle an oncoming boat wake is to turn the front of the boat at a 45 to 60 degree angle into the wake, so that the front end hits the wake first and the boat rolls easily through the wave or wake. Running parallel or head on at 90 degrees to a series of waves is a situation that could cause the canoe to huli. The closer to 45 degrees that the canoe meets these waves the better. For maximum control the crew should continue to paddle.

## Poke stroke



To move left – Poke on the left

To move right – Poke on the right

The poke is the basic outrigger steering stroke when moving forward. There are other strokes that are needed when maneuvering the boat, especially when leaving or returning to a dock. The poke requires the steersperson to do little more than to hold the blade parallel against the side of the canoe, level with, or forward of the hip and at a variance of depth according to how dramatic the correction needs to be. "Poking", though relatively simple in calm conditions, becomes something of an art when rough and/or big seas.

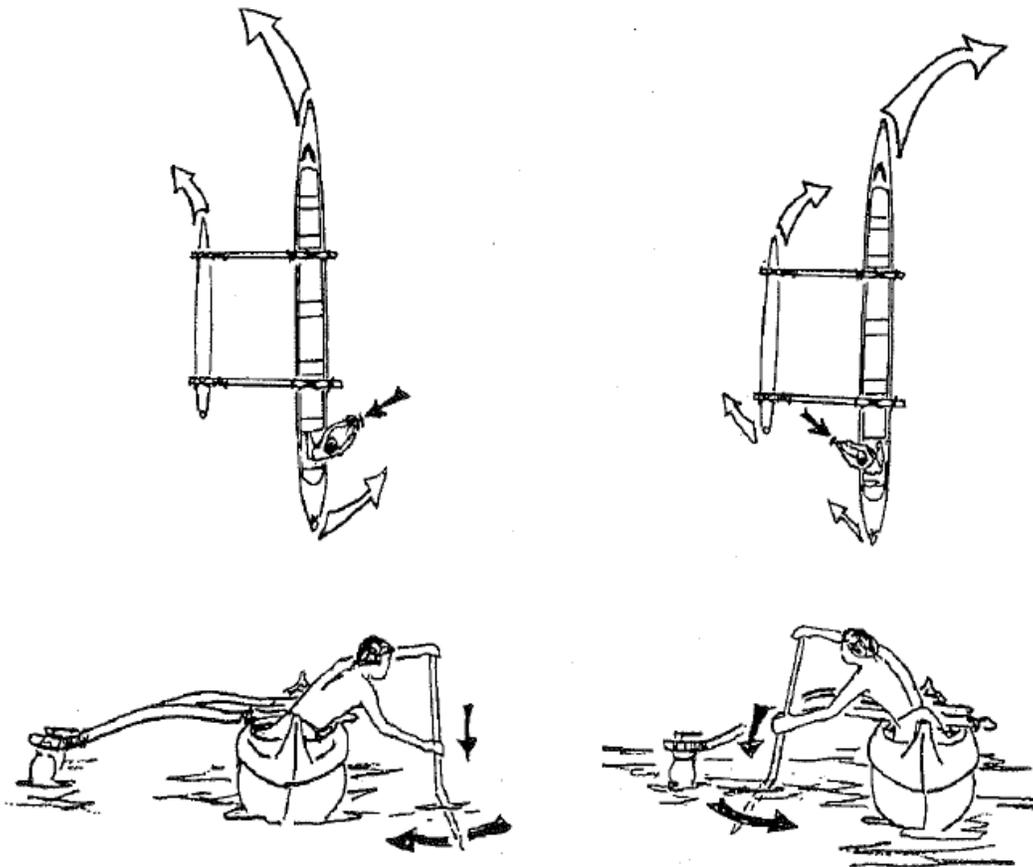
To poke, enter the paddle forward of the body, parallel to the side of the canoe hull – sliding the blade face in at approximately a 45 degree angle away from you and in a downwards motion so as to maintain constant contact with the side of the canoe. The deeper you plant your blade in to the water, the tighter the turn with more drag created.

One of the most common errors is to position the paddle behind the body line when performing a poke. Positioning the blade in this manner maximizes drag and causes the steersperson to have less control over the blade.

Be aware that every time you poke you create drag on the boat and this also takes you out of being an effective sixth paddler. As a general rule, leave the blade in the poking position only for as long as it takes for the canoe to cease its progression away from your intended direction.

Many small frequent pokes and corrections are more effective and desirable than having to execute longer, drawn out corrections, leading to greater drag compounding all the negative consequences, slowing the canoe's forward momentum.

### Draw stroke



The draw stroke is a powerful turning stroke that pulls the canoe towards the side the paddle is on and is very effective when the canoe is moving at slower speeds, when stationary and when having to make very sharp turns.

It is a very useful stroke as it provides for quick maneuverability, and acts as a brace providing stability.

To execute a draw stroke, rotate your body on your paddling side and lean out as far as possible over the water and place your paddle in the water in a near vertical position. The paddle should act as a brace. Keep your lower hand high up on the shaft, two hand spans up from the neck. As the need for greater course correction increases, increase your lean out from the side of the canoe, so you are near 90 degrees and parallel to the water. Be careful if executing this move on the starboard side of the kanu, do not unbalance the kanu.

Keep the paddle shaft vertical and blade parallel to the canoe's keel line. Pull the paddle directly towards you with your arms progressively bending as they near the canoe. Push the water forcefully under the boat. You are attempting to pull the canoe over towards your paddle, not the paddle to the canoe. The draw stroke should be used primarily on the left side of the canoe.

### **Pry stroke:**

The pry stroke can be executed either moving or stationary. A pry combines with a poke and uses the side or gunwale of the canoe for extra leverage.

The paddle is positioned for a poke, then by using the canoe gunwale as a leverage or fulcrum point, the paddle is repeatedly pulled and pushed 45 – 90 degrees relative to the gunwale forwards and backwards and marginally across the body line (over the gunwale) so additional leverage can be created, the blade 'prying' the water in a pumping action. The force of the water pushing the blade serves to push the stern of the canoe away from the side on which you are prying, the bow travelling towards the side you are on.

When stationary, this is particularly useful when you need to maneuver the canoe when it is proving hard to turn using a draw stroke. This stroke is also useful used on the left when parking the canoe at the Wasabi Paddling Club dock. The steersperson commands the paddlers to pry as needed to get the canoe in to the parked position, however, the paddlers in the front of the

boat must maintain awareness and control of the nose. They may make the decision to act without a command from the steersperson.

### **Steersperson's job during races**

Read the Rules & Regulations for the festival in advance of the race when possible. There will be a meeting before the race starts, make sure to find out when the meeting will be held and arrive promptly. Seat one or another crew member should attend the meeting along with the steersperson. The race course and conditions will be described, as well as the race rules.

Get the paddlers together and launch the boat with enough time to get to the start line before the official start. Get to the starting line quickly, but pay attention to the field. If other boats are still coming out from the dock, stay back from the start line to avoid having to back paddle. Maintain your position as other boats are coming to the front of the line.

- Pay strict attention to the starting officials, the crew should be listening to you not them.
- Maneuver the boat as requested by officials prior to the start.

Once the race has started, steer the boat in the straightest possible course to the finish line. In long distance races determine when it is better to be close to the shore, or close to the center of the river. In general, when paddling with the current stay in the deeper water, hug the shore when paddling against the current. Wind conditions will also influence the steering strategy. Use a stationary object past the finish line, not the buoys, as an aiming point.

- When approaching a turn evaluate the speed and position of boats ahead and behind you.

## **SAFETY IS YOUR FIRST PRIORITY**

### **Commanding the boat**

Take command of the boat at all times. Project your voice *with authority* to the front of the boat. Physically point your mouth towards the front of the boat. If you give a command while your head is turned away from the front of the boat most paddlers won't hear you. Use the mid-boat paddlers to relay your commands if conditions make it difficult for those at the front of the boat to hear you.

Use the commands and wording consistently. Do not wait too long to give a command; paddlers may not be ready and may delay executing the command. Your team must recognize the importance of following all your instructions quickly. If time permits, give a short explanation of your intention to the boat: "Let's move away from the dock..." "We're drifting towards shore..." followed by your command.

### **Equipment and weather**

Check the condition of the boat including ama and iaku, and rigging; do not use faulty or unsafe equipment. Boats must have a minimum of two bailers, one of which should be a large (5 gallon) bucket kept behind seat 4. Bailers should be tied in such a way that they stay with the boat during huli, but are easily untied by a simple pull when needed.

It is a Wasabi Paddling Club rule that someone on the canoe must carry a cell phone on board. This is typically not the steersperson, but one of the paddlers who can call for assistance if needed. Do not accept any incoming calls while paddling.

Verify that everyone on board is properly wearing a Coast Guard Approved life vest or has one in the boat depending on the club rules in place at the time. Non-swimmers must always wear a life vest. The steersperson is required to have a whistle. Wear sunglasses for glare and appropriate headwear to allow for visibility in rain and wind. You will be constantly scanning the water for snags or debris that paddles or the boat might contact, avoiding them as much as possible.

It is recommended to have a spare paddle on board; this can be kept behind seat 6, or may be lashed to an iaku. This may be needed if a paddle is lost or broken.

If paddling during a low light situation or at night, make sure lights are functioning and placed in the proper position. Wasabi keeps lights in the boathouse, check to ensure the lights are functioning before leaving the boathouse. Most will have a suction cup for attachment to the hull, and a cord to secure the light to the boat in case the suction cup comes loose. Always loop the cord around a seat and thread the light through a loop on the end of the cord. This will help prevent loss of the lights.

A white light must be visible on the boat before and after sunset, if the lamp fails, it should be replaced immediately or the boat should head back to the dock. It is a good idea to have a backup white light on board. A headlamp can serve as a backup and is also useful when locking and unlocking the boat.

- Fore port light is red
- Fore starboard light is green
- Stern light is white

Be aware of weather, winds, tides, currents and wakes. Check the skies, scan for lightning, listen for thunder, and watch for squalls. Although the tidal differential in the downtown area is rarely much more than a foot, there is a tidal difference. Cancel the practice if inclement weather or water conditions create an unsafe level of risk. Do not exceed your crew's strength capacity to correct an unsafe condition. The most common conditions in the Portland area are:

- High winds
- High river levels with a high level of debris flow
- Cold temperatures
- Lightning
  - Lightning is an automatic reason to cancel practice. Get off of and away from the water.
  - Paddling should not resume until 30 minutes after the last lightning was seen.

### **Before leaving the dock (or beach at some race venues)**

Brief the crew on safe behavior and what to do in the event of huli. Seat the crew, making sure that the boat is loaded properly (max persons not exceeded, weight distributed evenly). All paddlers should be briefed on or be familiar with the methods of docking with 2 boats positioned side by side. Seats 2 and 4 must be able to lift the ama in order to get the outside boat in and out. Seat 3 may be required to assist and should be prepared to do so when needed. The crew should always lean to the left when entering, exiting or moving around in the boat to prevent a huli.

Seat the boat in a balanced manner, keeping in mind the strengths and paddling techniques of each paddler in the boat. Consider the weather and water conditions in determining whether it is preferable to have the bow or stern higher or lower in the water and adjust the seating as necessary.

- Do not back away from the dock until you determine it is safe, then signal the paddlers to proceed.

Prior to leaving the dock, you need to be aware of any non-swimmers on your crew and assign a buddy to the non-swimmer in case of boat swamping or capsizing. Typically this would be a paddler sitting near them, or one with good swimming or lifesaving skills. Ask if any crewmember has a medical condition of which you should be aware. Instruct the crew members on docking, loading and unloading procedures. Also ask about swimming ability and remind non-swimmers that they must always wear a life vest.

### **On the water**

Scan the area in all directions to look for other water traffic or obstacles. Check behind frequently. There is no caller in the front of an outrigger; therefore, no one else is looking behind you. This is the steersperson's responsibility.

- Be aware of regular traffic patterns:
  - Rowers like to be close to the shore to have a reference since they face backwards.
- It can be difficult to predict a sailboat's course, so give them lots of room.
- Swimmers are hard to see and are usually close to shore.

When approaching boats head on it can be difficult to determine which direction they will go, point the bow in the direction you want to go to signal your intentions. Remember to smile, wave and be friendly to all other people on the water. Better to establish goodwill than to make up for a poor reputation.

Consider the position of the boat in the body of water when assessing safety. There are places where egress is extremely difficult and paddling in these areas has an additional safety risk. The sea wall in downtown Portland is an area to treat with caution and should be avoided as there is no egress from the river in the event of an emergency.

Wakes encountered near an obstruction, such as the seawall or docks, can greatly magnify the size of the wake. Waves may reflect off of the shore, other boats or objects in the river. The resulting waves can increase the wave peaks, or create opposing waves which shift in direction. Watch for these changes, anticipate them so you can anticipate where the canoe should be and which direction it should be pointed to minimize the impact and maintain a safe position.

Water in the boat can add weight and affect steering. Paddlers should bail the boat if significant water is up around the ankles. 1" of water spread over the length of the boat weighs ~100lbs. Bailing should be done with very fast, efficient movements. Hold the bailer in the right hand and flick the water out of the boat on the ama side, avoiding splashing the paddler behind you.

### **Returning to the dock**

Do not cut across heavy traffic to return to the dock. Reduce speed when approaching the dock. Communicate clearly to the crew when assistance is needed. Have the paddlers in seats 1 and 2 monitor and maintain nose position by using pry and draw strokes. All paddlers should be listening for commands from the steersperson and be ready to use pry or draw strokes on the left as needed to safely dock the boat. New paddlers may not be familiar with the terms and should be reminded what they mean before approaching the dock.

Seats 2 and 4 must be ready and able to lift the ama in order to get the outside boat parked safely, seat 3 may be required to assist and should be prepared to do so when needed. Be vigilant during docking procedures to limit movement inside the boat and prevent a huli while parking. It may be necessary to remind crew members to lean left while parking the canoe to prevent a huli, regardless of the fact that they should know never to lean right.

Be prompt returning from practice; other teams may be waiting for your boat.

- Remove all water bottles and any other items from the boat.
- Bail the boat and use sponges to clean any dirt from the inside of the boat.
- Securely tie off and lock the boat to the dock using the lock and cable provided. The combination to the lock can be obtained from a WPC board member, coach or certified steersperson.
- Remove lights & bailers and return them to the proper storage

- area in the boathouse.
- Return club cell phone cases to the proper storage location if used. There may not always be cases available, so it may be necessary to supply your own if you want to protect your phone.

### **Rules of the Road**

The steersperson must be aware of the "Rules of the Road" for safe navigation of the outrigger canoe. These rules apply to all vessels in navigable waters. All Wasabi steerspersons must adhere to these rules. While all who use watercraft should know and use the rules of the road, never assume that all will.

The steersperson is required to be aware of other boat traffic at all times. Listen and look constantly. Do not assume other boats see you. You must be aware of what is to the bow, the stern, and both the port and starboard sides. Always check over your shoulder to see that your course is clear before you turn or change to a new course heading.

You must determine if there is a collision risk and take all action necessary to avoid any such collision. Indicate your course of action to the other boat if possible. The Gross Tonnage rule applies – if the other craft is larger than your craft be prepared to give way.

- When crossing the path of another vessel the boat on the right has the right of way. The other vessel must give way.
- When overtaking another vessel you must give the other vessel the right of way and stay clear.
- Five short whistle blasts alert other boats to a dangerous situation.

Look for lighted bouys marking hazards in the river. The standard boating practice is "Red, Right, Return". Remember this advice is geared for return into the river from the ocean.

- Keep red navigation lights on your right when traveling South on the Willamette, and green lights on your left.

Develop knowledge of our practice area; know waterways, dead head locations, shallow areas and busy traffic areas. Make sure to keep your practice route in areas where shore access is possible.

- If a situation becomes hazardous and you are far from the dock, head to the safety of shore.

Stay clear of anchored boats, fishing boats and their fishing lines.  
Respect rowing crews and their course lines.

### **Be prepared for the unexpected**

If the unexpected/disaster occurs, it is the steersperson's responsibility to take charge and manage the situation.

**Huli – boat flips over** – The following seat responsibilities in the event of a huli are given as a guideline. A crew may vary these assignments based on the experience and skill level of crew members. This should be discussed and agreed upon before leaving the dock.

- 1) In the event of huli, everyone should stay in the boat and protect their heads as the boat goes over. Do not jump out of the boat as it is going over. Injuries have occurred when paddlers have been struck by paddles or parts of the boat such as amas and iaku's.
- 2) Ascertain that there are no injuries and have crewmembers check for the paddlers in front of and behind them. Each paddler should call out their seat number when surfacing. Take a head count. Ensure that non-swimmers are paired with a buddy – if needed provide non-swimmers with additional buoyancy. Have crew confirm that their life vests are properly fastened.
- 3) Look around and assess the immediate safety of the boat position. Look at boat traffic and obstructions, direction of drift.
- 4) Reassure crew and remind them to listen for instructions and to stay with the boat unless otherwise instructed. The steersman is instructing the crew and maintaining command at all times until all paddlers are safely back in the boat. Adjustments to the standard practice will be made by the steersman in response to the immediate needs of the crew, maintaining paddler safety as the most important priority.
- 5) Seat 1 collects paddles and as many floating items – life vest, bailers as safely possible.
- 6) Seats 2 and 4 should use the iaku's to step on and climb over the upturned boat, getting in position to grab onto the iaku's or gunwale and pull the boat back over.
- 7) Seat 3 should be positioned under the ama, helping to lift/pop it off the surface of the water and make it easier for 2 and 4 to get the boat turned over.
- 8) Seat 5 will act as directed by the steersperson. They will often help seat 5 in popping up the ama, but can be given any other job to help the recovery. The steersperson should assess the abilities of the crew and give direction to seat 5 as appropriate for the crew and conditions.

- 9) Once the boat is right side up, 2 paddlers should get in and start bailing. Typically seat 4 is first, getting the bailer bucket from behind their seat and passing another bailer to another paddler, usually seat 2. Gaining entry to the boat is easiest when using the iaku as well as the gunwale for support.
- 10) Any paddler with a physical limitation, injury or poor swimming ability should be helped into the boat as soon as possible. They should assist with bailing if they are able.
- 11) Seat 1 and 6 will be positioned at the front and rear of the boat, controlling the position of the boat in the water relative to the current, any obstacles and other boats.
- 12) Once the water level in the boat is low enough, the steersman will direct other paddlers to get in the boat.
- 13) Seat 1 will distribute paddles to the proper seats.
- 14) When all paddlers are back in the boat, the steersman will command the paddlers to get the boat underway as quickly as possible. If racing, bailing may still be needed and the steersman will determine which paddler(s) should bail while others are paddling.
- 15) In the event that prolonged exposure presents a risk for hypothermia abandon the boat and get all members ashore as quickly as possible.
- 16) If it is not possible to get the crew back in the boat; have everyone stay with the boat. Climb on top of the hull if the water is cold.

### **Steering Blade Breaks**

- 1) Switch to the spare blade stored behind you
  - a. Inform seat 5 that there is a problem and their assistance may be needed.
  - b. Alert the crew if the canoe course will be affected while you are switching paddles
  - c. Stop the boat if needed.
  - d. If no spare blade is near you, request the crew to pass you a blade. There may be one lashed to an iaku, request the blade from seat 5 if no other is available
- 2) Steer the canoe in standard fashion, direct the crew to provide pry or draw strokes if needed.
  - a. If this occurs during practice, immediately return to dock if necessary.
  - b. If this occurs during a race, continue racing only if safe control of the boat can be maintained. Alert other boats or race officials if assistance is needed.

### **Rescuing a swimmer** (crew member fallen out of boat)

- 1) If a paddler falls out of the boat, maneuver alongside them and have crewmembers hold the boat. Position the boat with the swimmer on the ama side of the boat (port). If you (the steersperson) fall out, you will need to instruct paddlers to take these actions.
- 2) Have the swimmer grab the side of the boat if they are able, and they should kick their legs hard while pulling themselves into the boat. A crewmember can assist by grabbing the swimmer firmly by their life vest, or upper body/shirt/arms.
- 3) Check for injuries and possible hypothermia.
- 4) During a rescue the crew needs to maintain boat balance to avoid swamping or capsizing during the rescue.

### **Swamping**

Providing that the in rush of water is not too great or fast, it is possible to bail a boat while it's being swamped, and if not fully swamped, to continue the bailing and either continue practice or return to shore (depending on weather conditions).

### **Cold Water Immersion Shock**

We are in a cold water area. "Cold water immersion shock" occurs when a person falls into very cold water. What occurs is a gasp reflex response or the involuntary inhaling of the lungs. Holding your hand over your mouth as you enter the water is one way to lessen the chances of inhaling water. If your head is in the water you could take water into your lungs and drown.

Water temperature can very quickly follow air temperature in our area. Sometimes as little as two days especially if precipitation has accompanied the air temperature change.

Wasabi Paddling Club closely monitors the water temperature as well as imminent weather conditions. Water temperature is taken at the Morrison Bridge and is recorded every 6 hours. Check the link in Appendix A for the USGS temperature gauge at the Morrison Bridge, the information is also available on the Wasabi Paddling Club home page, [wasabiusa.org](http://wasabiusa.org).

## **Hypothermia**

Mayo Clinic definition: Hypothermia occurs when more heat escapes from your body than your body can produce. Prolonged exposure to cold air or cold water temperatures are common causes. Signs and symptoms of hypothermia may include gradual loss of mental and physical abilities. Severe hypothermia can lead to death.

### Conditions Leading to Hypothermia:

- Cold temperatures
- Improper clothing and equipment
- Wetness
- Fatigue, exhaustion
- Dehydration
- No knowledge of hypothermia
- Alcohol causes vasodilatation leading to increased heat loss

### Signs and Symptoms of Hypothermia:

Watch for the "Umbles" - stumbles, mumbles, fumbles, and grumbles, which show changes in motor coordination and levels of consciousness

### Treating Hypothermia:

The basic principles of warming a hypothermic victim are to conserve the heat they have and replace the body fuel they are burning to generate that heat. If a person is shivering, they have the ability to rewarm themselves at a rate of approximately 3.5°F per hour.

It is important that the hypothermic victim be re-heated from the core/head out. Do not re-heat from the extremities first.

Keep a hypothermic person adequately hydrated and fueled. Give them hot liquids to drink, and some sugars for energy. Avoid giving liquids with alcohol or caffeine.

Reduce heat loss and add heat as soon as possible. Get the hypothermic victim into dry clothing, add layers and get them into a safe, warm shelter.

- Apply hot water bottles or heat packs under the arms and between the legs
- Cuddle with a normothermic person in lightweight dry clothing

## **OUR WATER**

### **The Willamette River – Rules and Information**

Wasabi is located in the Portland Boathouse at 1515 SE Water Avenue. Our boats are docked at the Portland Boathouse dock on the east side of the Willamette River.

Our primary practice route is south from the dock through the Holgate Channel, which runs on the east side of Ross, Hardtack and East Islands. In addition, practice includes the Ross Island lagoon and a route north from the dock to the Fremont Bridge.

#### **Local awareness**

- All watercraft must have an aquatic invasive species permit (AISP) from OR State Marine Board. These permits are located under seat 6 on OC6's. There are also copies located in dry bags stored with the OC1 and OC2's, these must be present on the canoe whenever on the water. Many paddlers have purchased their own permit and keep it in their PFD. This purchase helps to support water safety in the state.
- Commercial shipping boats. You are required to give them right of way.
- Ross Island Sand and Gravel. A commercial group located in the lagoon. They run tugs that tow barges from the lagoon to the gravel fill station next to OMSI and to points North. There is often barge traffic between the Tilikum and Ross Island Bridges. Listen for their directional horns.
- Large tour boats, such as the Portland Spirit.
- Construction areas including the Sellwood bridge.
- Rocky shallows, especially in these areas:
  - Upriver (South) end of Ross Island and near Toe Island. To avoid these shallows if going around the island, do not cross the channel until reaching the south end near the floating homes.
  - West of Tilikum Crossing Bridge (between the shore and the first bridge pier).
- Rock shoals. Stay to the left of the following Buoys when heading South.
  - Rock shoals extend out 200 feet left side from the west bank of the main channel at Stevens' Point, upriver from Willamette Park. These are marked by unlighted Buoy 4.
  - More rock shoals marked by Buoys 6, 8, 10 and 12 on the way to Milwaukee.

- Channel between East Island and Hardtack Island. This is very shallow most of the year and should be avoided.
- Channel between Toe Island and Hardtack Island. This can be very shallow – proceed with caution.
- Bridge pilings. Strong eddies and current shear are often present near bridge pilings. Especially during the winter and spring months after heavy rains when the river is high and running fast. The waters around the pilings of the Hawthorne Bridge, especially on the north side, are very treacherous and should be avoided.
- The ocean tides have an effect along the entire Willamette River below the falls at Oregon City and the lower Columbia River below Cascade Locks. Rising and lowering water levels have an effect on the speed of the river current.
- Stay to the right hand side when moving up and down the channels. Hold your course direction and make gradual changes. Do not weave back and forth in the practice areas. Make sure other boats know your intentions.
- Do not stop in the center of the channel.
- Note the two large white signs with vertical red stripes on the east side of Ross Island. If the red lines of the two signs match up, you are in the shipping lane (in the way of barges and cruise ships).

### **Incidents**

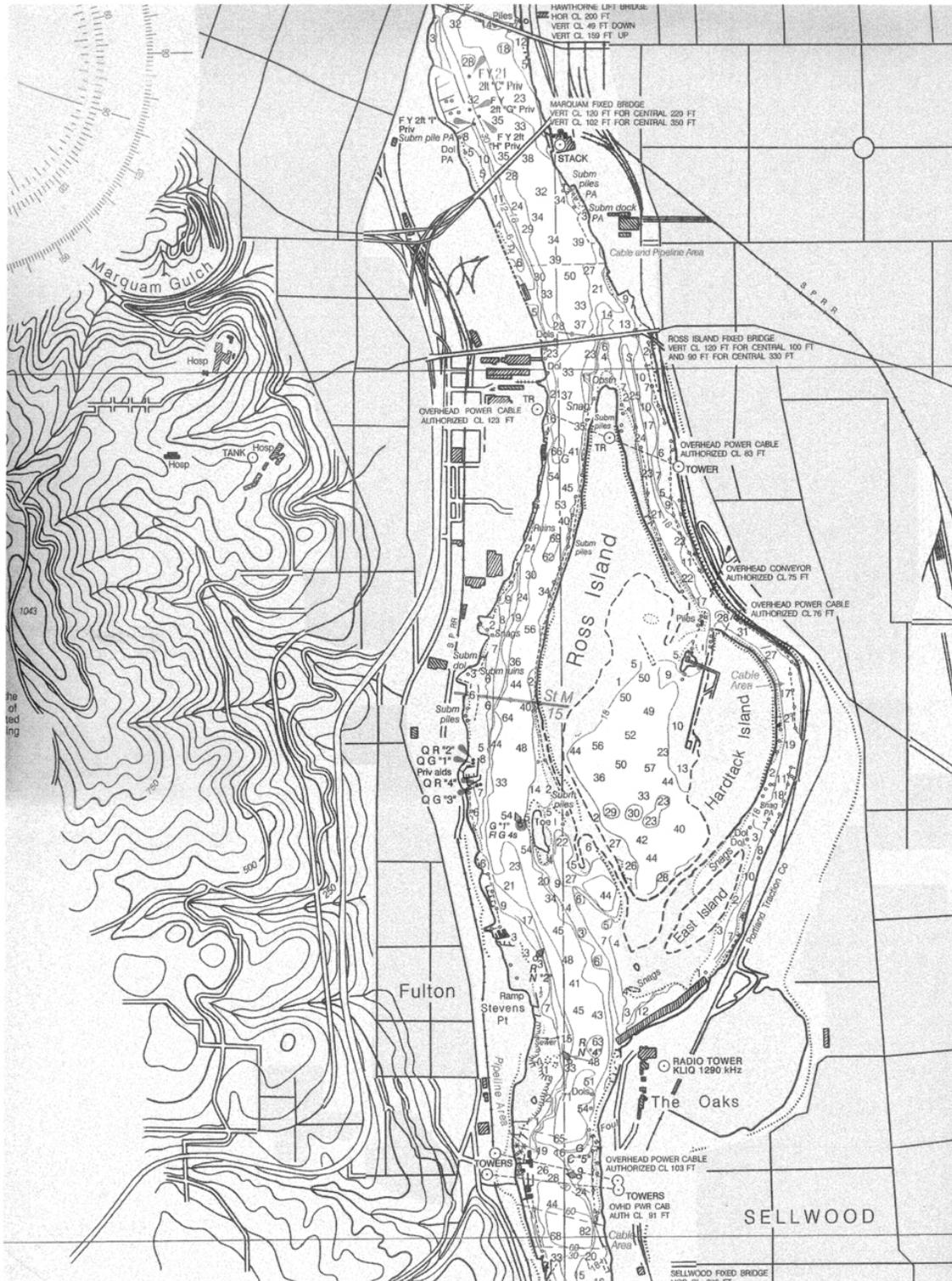
What is a reportable incident? The following are guidelines and by no means are they a complete list:

- Collision with another boat.
- Collision with an object such as a submerged log.
- Near miss with another craft.
- A medical emergency while paddling.
- An incident involving a club member and another party.
- Any violation of the law or of club rules by a club member while participating in a club event.
- Unplanned huli.

The purpose of the incident report is to provide documentation of incidents involving Wasabi owned equipment and/or members and non-club craft or personnel that have occurred. The documentation of such incidents has been deemed prudent by the Board of Directors and can be of great assistance in improving the overall safety for the membership of the club.

The incident report form can be downloaded from the [wasabiusa.org](http://wasabiusa.org) website. Blank copies may also be in the boathouse near the waivers and payment box. Fill out an incident report as soon after the incident occurs as practical. Upon completion, place them in an envelope marked to the attention of the Safety Officer and place them in the Grand Masters locker.

Map of our general practice area



This is a controlled document. Revision control is tracked below;

<u>Revision</u>	<u>Date</u>	<u>Authors</u>
Original	8/10/12	Nancy Butler, Connie Cavagnaro
1	1/14/2013	Nancy Butler replaced "PFD" with "life vest"
2	1/15/2013	Nancy Butler updated links
3	3/1/2014	NB minor wording changes
4	3/21/2015	Connie Cavagnaro and Nancy Butler updated: Table of Contents Safety section Notes concerning lights, huli procedures. Our Water, Local awareness section updated in regard to construction zones and shallow areas. Certification requirements, added note that list of certifiers and certified steerspersons is on WPC website.
5	5/30/2016	Connie Cavagnaro and Nancy Butler updated: Table of Contents Terminology, put in alphabetical order and added "gunwale". Updated "Local awareness" section p.29. Added reference to website for incident report forms, p. 30. Added Appendix C: OC re-rig and after maintenance checklist. Added Appendix D: Race day checklist Added Appendix E: rigging information and diagrams.

## **Appendix A**

### **References**

The Art and Skill of Steering by Steve West

The Paddlers Guide to Outrigger Paddling by Steve West

[www.kanuculture.com](http://www.kanuculture.com)

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

USGS temperature gauge at the Morrison Bridge

[http://or.water.usgs.gov/will\\_morrison/monitors/will\\_morrison\\_t\\_7.html](http://or.water.usgs.gov/will_morrison/monitors/will_morrison_t_7.html)

Steerspersons must review the Oregon Boaters Handbook. Pay special attention to the "Aids to Navigation" section.

<http://www.oregon.gov/OSMB/library/docs/2011boatershandbook.pdf>

Steerspersons are required to have an Oregon Boaters Education Card. The course and test are both open book and can be taken online for free. There is a one-time \$10.00 fee for the card after passing the exam.

<http://www.oregon.gov/OSMB/BoatEd/Pages/index.aspx>

Other publications of interest to Oregon boaters

<http://www.oregon.gov/OSMB/Pages/library/library.aspx>

The Coast Guard also produces many useful pamphlets

<http://www.uscgboating.org/default.aspx>

- a) Hydrograph information is available at [www.nwrfc.noaa.gov/](http://www.nwrfc.noaa.gov/).
- b) River statement at [http://www.wrh.noaa.gov/total\\_forecast/getprod.php?wfo=pqr&pil=RV&sid=PQR](http://www.wrh.noaa.gov/total_forecast/getprod.php?wfo=pqr&pil=RV&sid=PQR).
- c) <http://www.willamettesailingclub.com/weather.html> is an excellent source to check for current conditions.

### **Form for reporting nuisance boaters**

Motorized boaters that are creating unsafe situations should be reported to the Multnomah County Sheriff's River Patrol. Make sure to get the hull ID.

[http://www.mcso.us/public/forms/river\\_patrol\\_complaint\\_form.pdf](http://www.mcso.us/public/forms/river_patrol_complaint_form.pdf)

The non-emergency number to call: 503-823-3333, Only call when it is safe to do so. Be familiar with the law concerning on water incidents and accidents. If notification of the authorities is required or is prudent, be sure to do so noting such action on the report. If an accident report needs to be filled out, attach a copy to the incident report.

## **Appendix B**

### **WASABI PADDLING CLUB STEERING CERTIFICATION REQUIREMENTS**

#### **Training**

With practice, a person will develop instincts of boat balance and be able to instill confidence in the crew. Written information regarding steering is helpful but nothing replaces hours of steering a boat in various weather and water conditions.

Be sure to conduct steering training and tests in a calm area away from traffic. A certified steersperson must be on the boat with the student and be able to take over steering if necessary. The person learning to steer will usually start in seat 5 and apply steering corrections under guidance of a certified trainer sitting in seat 6. After they have demonstrated basic proficiency they can start steering in seat 6, with the certified trainer sitting in seat 5.

- Use the more stable Calmar boats for training steerspersons if possible.

#### **How to Become a Certified Steersperson For Wasabi**

- Have at least 6 preliminary steering practice sessions supervised by a certified Wasabi steersperson.
- Steer the boat throughout an entire practice at least 3 additional practice sessions, including pulling away from and returning to the dock. A certified Wasabi steersperson must be on the boat during these practices, preferably in seat 5.
- Review all written material regarding steering provided by the WASABI PADDLING CLUB (including this manual).
- Pass both the oral exam and on the water practical skills test administered by a designated certifier.
- Attain an Oregon Boater Education card.

A list of all certified steerspersons and certifiers is on the WPC website.

#### **Meet the Minimum Qualifications**

- Sixteen years or older.
- Clearly see with both eyes.
- Clearly hear with both ears.
- Unrestricted use of arms and legs.
- Physically capable of steering an outrigger canoe for two hours.
- Ability to speak and read English.
- Ability to command & control up to 6 adult paddlers under stressful conditions and adverse weather.
- Knowledge of USCG rules of navigation on inland waterways.

**THE STEERSPERSON IS RESPONSIBLE FOR MAKING SURE ALL NAVIGATION AND SAFETY RULES ARE FOLLOWED.**

## Appendix C

### OC6 RE-RIG AND LAUNCH AFTER MAINTENANCE CHECKLIST

Following are general guidelines and an equipment checklist for an OC6 changeout.

#### Guidelines:

- If possible, work with the maintenance committee to set a launch date and time at least two weeks out.
- Start looking for 1-2 experienced Club rigging gurus. (Jean Quinsey, Nancy Butler, Corky Lai, Kate Kauffman, Gary Brown, Chris Burkhart, to name a few)
- Send an email to the Club (including both the Wasabi all-club email distribution list, and the Wasabi OC distribution list) asking for 12 volunteers to paddle the two canoes coming out of the water to Willamette Park, and to paddle the two newly refurbished canoes back to the Boathouse dock.
- Coordinate obtaining rigging materials with the maintenance committee.
- Determine if the crew paddling the canoes to and from Willamette Park will be the same crew that lifts the canoes on/off the trailer, and rigs them prior to paddling back to the boathouse.
- Another option is that a rigging crew meets earlier at Willamette Park, unloads the canoes to be launched from the trailer, and rigs them. There should be an expert rigger for each canoe and two assistants.
- Avoid too many people attempting to help rig the canoes. It's inefficient.
- There also needs to be extra people to help unload the boats from the trailer; however, these people can be excused once the boats are off the trailer.
- It takes about an hour to completely rig a canoe.
- When the paddling crew arrives with the canoes that are being pulled from the water, they can help finish rigging (if necessary), help load canoes that are being pulled from the water on to the trailer, and paddle the newly rigged canoes back to the boathouse.
- For Wasabi canoes, rigging includes strategically covering iakus with yoga mat material to prevent damage from stacking the amas. It also includes ensuring there are bumpers and mooring lines on the boats, and covering the ends of the iakus on the starboard side of the canoe to decrease the chance of damage from the dock.
- Ensure the maintenance committee facilitates a boat wash soon after the canoes are pulled from the water.
- Be sure and publicly thank the moving and rigging crew (via email to Wasabi/Wasabi OC).

### Rigging Equipment Checklist:

	Dolly
	Tires
	Old PFDs
	Scissors
	New yoga mats or other protective covers for iakus
	Duct or Gorilla tape (to secure yoga mats to iakus)
	A couple of measuring tapes to check the boat to ama distance
	Level (for checking the Calmars are not leaning too far right or left)
	Bike tire tubes to cover ratchet straps and rigging knots (split with valve cut out)
	Bumpers for iaku ends
	Heavy duty box cutter to cut rope and bumpers to fit over iaku ends
	Bumpers for hull
	Four ratchet straps for each boat (plus a couple extra ratchet straps in case a ratchet strap fails)
	Rigging rope - 3/16" cotton "canoe twist" rope from Island Paddler, Hawaii Each iaku requires 25-30 feet of rope.
	Electrical tape to tidy cotton rope ends
	Dowels to stretch and/or tighten rigging rope
	Lighter to tidy synthetic mooring rope ends
	Mooring rope
	Calmars need angled shims
	Current AISP to duct tape under bench six (if necessary)
	Bailers (in case it's raining and the boats need to be bailed)
	Pop-up tents in case it is raining

## Appendix D Race Preparation and Checklist

Each racing team MUST have a minimum of one person qualified for rigging. If no one is qualified, at least one person from the team must attend a rigging clinic prior to the race day.

Dates and times for the following activities should be announced by the OC Coordinator 2 weeks before the race.

For races where Wasabi is transporting boats to a race site, six team members from each team should be present for:

- De-rigging/cleaning/loading boats onto the trailer. This usually occurs early evening a day or two before the race.
- Unloading and rigging at the race site. This will usually be around 7:30 am on the day of the race.
- De-rigging and loading boats onto the trailer after the races. This will be done after the last team has completed racing. Teams finishing earlier in the day should make sure that enough people stay to get this done.
- Unloading/cleaning/rigging post-race at the boathouse. This may be the same day as the race, but is usually a day or two later.

When boats are pulled out of the water they should be inspected for damage, and to make sure the rigging rope is still safe.

### Pulling boats – equipment checklist

	Dolly
	Tires
	PFD's
	Scissors
	1 bucket for each boat for straps, shims etc. This can also be used to soak rope.

### **Race day Checklist**

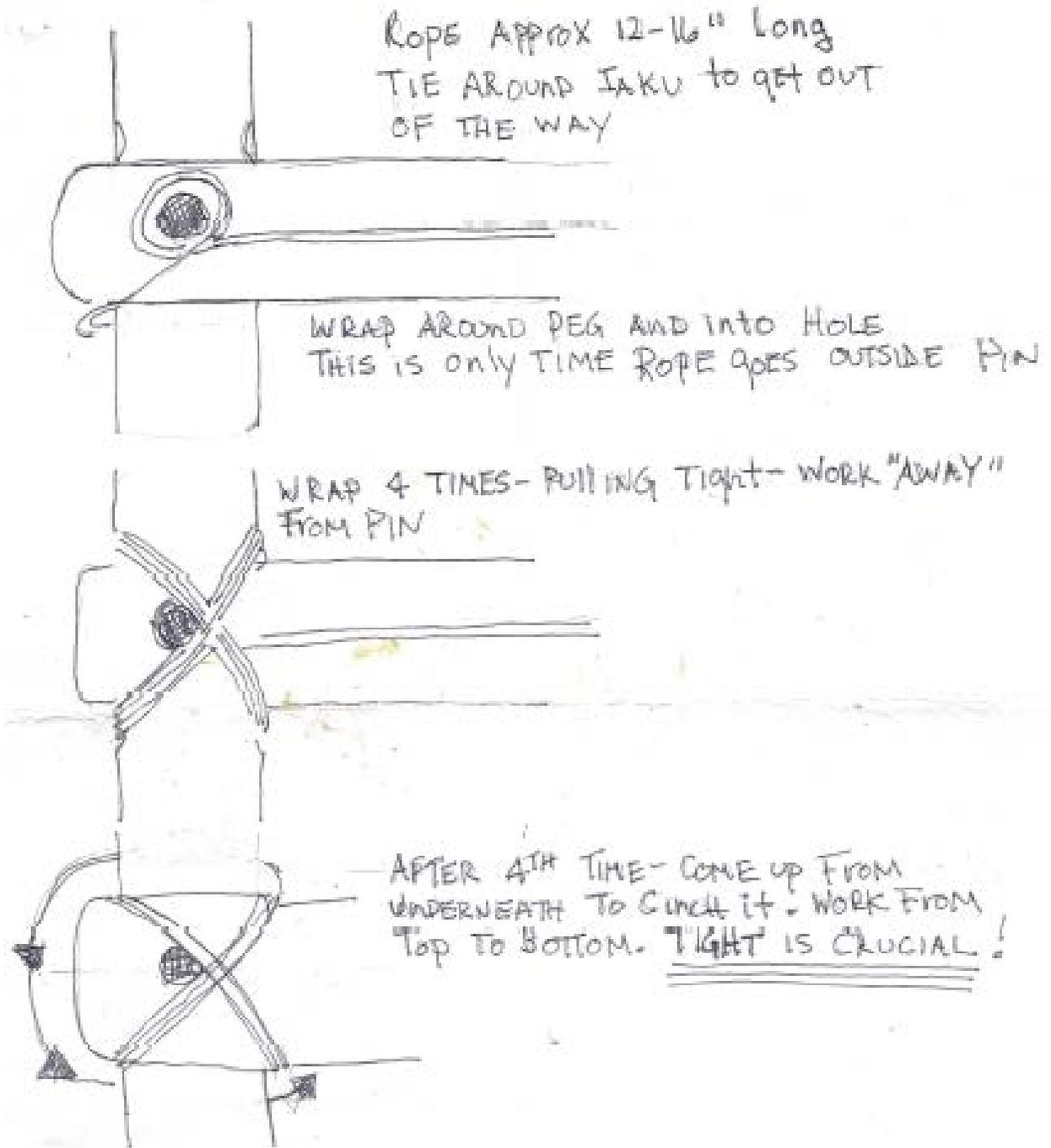
	Pop-up tents in case it is raining
	Tables
	Napkins, plates, forks, coolers, toilet paper, hand sanitizer
	Teams register themselves.
	Teams collect \$5 from each paddler for gas and additional money if needed for truck rental and give money to transport person.
	All teams on-site by 7:30am to unload and rig.
	All items on Rigging Equipment Checklist.

Each paddler should bring their own chair and food and water for themselves and to share.

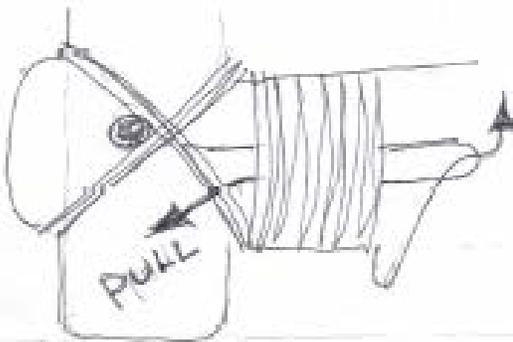
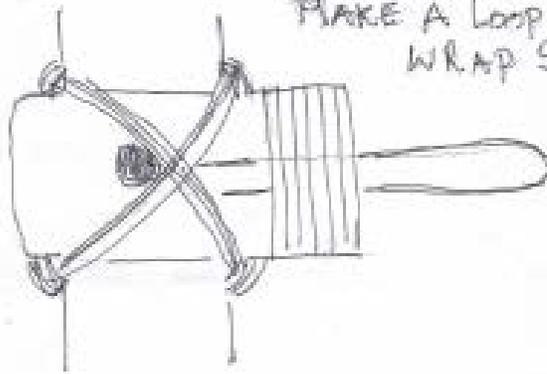
### **Putting boats back in the water – equipment checklist**

	Dolly
	Tires
	Old PFDs
	Scissors
	Duct or Gorilla tape (to secure yoga mats to iakus)
	A couple of measuring tapes to check the boat to ama distance
	Level (for checking the Calmars are not leaning too far right or left)
	Bike tire tubes to cover ratchet straps and rigging knots (split with valve cut out)
	Bumpers for iaku ends
	Bumpers for hull
	Lighter to tidy synthetic mooring rope ends
	Mooring rope

Appendix E  
Rigging Diagrams



ONCE CINCHED—NOW WE NEED TO USE EXCESS ROPE  
 MAKE A LOOP WITH ROPE YOU TIED ON IAKU.  
 WRAP SEVERAL TIMES UNTIL ALMOST OUT  
 OF ROPE—NOT TOO TIGHT



PUT END OF ROPE THROUGH  
 LOOP — PULL ON END OF ROPE  
 NEAR AMA — THIS WILL PULL  
 LOOP UNDERneath THE WRAPS  
 AND CONCEAL IT.

NOW JUST TIE A KNOT OF  
 SOME SORT AND COVER  
 WITH RUBBER

## Wedge Positioning

### Front Right Wedge

Causes canoe to loll away from the ama. The ama rides closer towards its bow, while the stern rides higher.

**Back Right Wedge**  
 Causes canoe to loll away from the ama. Front of the ama is raised, riding further back along its leading edge, while the stern rides lower.



### Front Left Wedge

Causes canoe to loll towards the ama. Front of the ama is raised, riding further back along its leading edge, while the stern rides lower. The thin end of timber positioned at the edge of the gunwale, between the spreader and the iaku. The thick end of the wedge varies from a 25° - 2°.

**Back Left Wedge**  
 Causes the canoe to loll towards ama. The ama rides closer towards its bow, while the stern rides higher.

### 3 STRAPS

\* MIDDLE JUST TO HOLD IAKU TO BOAT  
WHILE RIGGING AMMA TO IAKU

\* AFTER ABOVE RIGGING COMPLETED, ONE STRAP  
TO "OUTBOARD", ONE STRAP TO INBOARD

