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Introduction

Welcome to the Olympia Mountaineer's Sea Kayaking Program. The primary reason for this program is to ensure that you gain the basic skills required to safely paddle on most Mountaineer trips. While we can train you in many aspects of safe sea kayaking, decisions about safety rest solely with you as the paddler. Through this program and other classes you may take, you will gain knowledge that will make your paddling experience more enjoyable, comfortable and safe, knowledge that may one day save your life.

Organization

As a student in the Basic Sea Kayaking course, you will be aided by volunteer instructors and assistants. These volunteers include seasoned paddlers, usually qualified as trip leaders, and recent course graduates. In this way you will gain insight into both the seasoned paddler's experience and depth of knowledge and the recent graduate's perspective on the program. These instructors will help guide you in using the knowledge you gain to make sound judgments. Take advantage of this expertise to ask questions or raise issues that arise during your training.

All sea kayaking instructors, assistants and trip leaders are volunteers who donate considerable time to make your experience both profitable and pleasurable. At times, they may contact you to solicit information, check on your progress or make announcements regarding unexpected program changes. Please respond to them promptly. They want to help.

The Basic Sea Kayaking course consists of three evening lectures, a pool session, an open water session, a "wet" paddle and one experience paddle. To graduate and participate in other Mountaineer sea kayaking trips and classes you must complete all of these activities, so schedule your activities promptly and follow through on your commitments. Delaying class or trip registration places a burden not only on you but also on the club in trying to ensure that everyone has ample opportunity to finish the course requirements. Make-up sessions are not planned and are difficult, if not impossible to arrange.

A copy of your welcome letter is included in this handbook to remind you of the activities you must schedule. If you need help in understanding what is required, please contact myself or Tim, by phone and/or email.

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Course Coordinator

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Lesson 1: BOATS, BASIC GEAR AND KAYAKING ESSENTIALS

- Goal** This class will present introductory level information about sea kayaks, paddles and basic safety gear required to participate in a Mountaineers sea kayak trip. Basic safety issues and introductions to navigation will also be covered.
- Objectives** From this lesson, students will be able to:
- Explain the value of the essential equipment needed for kayaking
 - Identify the features of a sea kayak and explain their usage
 - Be familiar with the different PFD types and identify which are appropriate for sea kayaking
 - Describe the characteristics of a kayak paddle
 - Describe the features and purpose of a spray skirt
 - Describe the purpose of a hand pump and self rescue float
 - Be aware of the most common safety issues associated with sea kayaking
 - Be introduced to charts and the impacts of weather and tides.
 - Be prepared for the Pool session
- Preparation** Be prepared to actively participate, ask lots of questions and have fun!
- Materials** Instructors will bring the following materials to class:
- Boat
 - Paddle
 - PFD
 - Spray skirt
 - Pump
 - Paddle float
 - Kayaking essentials
 - Clothing (hats, gloves, etc.)
- Handouts** The following material is in this section of the handbook:
- Sea Kayaking Essentials
- Local Resources**
- Local Suppliers
- Appendix**
- Pool session—Details and Directions
 - Glossary

Lesson 1: BOATS, BASIC GEAR AND KAYAKING ESSENTIALS

Activity	Presenter	Time allowed
INTRODUCTION		25 minutes
<ol style="list-style-type: none"> 1. Instructor introductions 2. Student introductions 3. Course goals 4. Course schedule 5. Sign up for wet paddle & experience paddles 		
EQUIPMENT 1: BOATS, PFD AND ESSENTIALS		60 minutes
<ol style="list-style-type: none"> 1. Boats – sea kayaks vs. others, parts of the boat 2. Spray skirts 3. PFD's 4. Pumps 5. Paddle floats 6. Fitting boats 7. Getting in and out 		
BREAK		15 minutes
EQUIPMENT 1: PADDLES		15 minutes
<ol style="list-style-type: none"> 1. Parts of the paddle 2. Types of paddle 3. Feathered/unfeathered 		
SAFETY		20 minutes
<ol style="list-style-type: none"> 1. Lifting & carrying boats & gear 2. Stretching 3. Cold water 4. Weather 5. Floatation 		
NAVIGATION		20 minutes
<ol style="list-style-type: none"> 1. Introduction to Charts 2. Compass 3. Weather 4. Tides 		
10/20 ESSENTIALS		15 minutes
<ol style="list-style-type: none"> 1. 10 Essentials 2. Additional Sea Kayaking Essentials 3. Recommends options 		
EXPLANATION OF UPCOMING POOL SESSION		5 minutes
QUESTIONS, ANNOUNCEMENTS		5 minutes

Book References: Johnson: Boats: pp. 17-54
Gear: pp. 55-93
Lifting & Carrying: pp. 97-105
Stretching: pp. 6-13
Charts: pp. 197-211

Lesson 1: BOATS, BASIC GEAR AND KAYAKING ESSENTIALS

Introduction:

This session will discuss boats, paddles and overall safety. The equipment focus for this lesson is Personal Flootation Devices (PFD's), spray skirts, paddle floats and pumps.

Students will be introduced to variations and options among boats, paddles, clothing, and other equipment used in the sport. They will also be shown and discuss the kayaking essentials.

Presentation and discussion about basic design characteristics of boats and paddles to allow students to differentiate between white water boats and sea kayaks, different hull designs, their intended functions and construction materials (plastic, wood, fiberglass, Kevlar, etc.), regular versus Greenland paddles, and how paddle shape, length and material affect one's paddling experience.

Equipment discussion to include PFD's (their designations and proper wearing), spray skirts, paddles, pumps and paddle floats.

Conditioning for paddling will improve your enjoyment of the sport. While the class does not focus on conditioning, the water sessions and trips will. Stretching is one of the most beneficial forms of conditioning. Please review the applicable section on stretching in your text.

The following page contains a list of equipment used in sea kayaking. Some of the equipment is listed as essential. While it is generally accepted among most sea kayakers that all these items are important, not all trip leaders agree on what constitutes truly essential gear. Equipment considered essential is dependent on weather conditions, trip rating, the skill of trip participants, and a variety of other factors. However, those items marked with an asterisk (*) indicate items without which a student paddler will be denied permission to participate in a Mountaineers trip. For the remaining items, it is best to check with the trip leader beforehand as to what that leader wants participants to bring. Equipment that is almost always provided as part of a rental package is marked with a (§) symbol. You will have an opportunity during class to see, touch and ask questions about each of these items. Following the list of essential items are general equipment descriptions and definitions.

NOTE: On any trip, your participation is at the discretion of the trip leader.

Suitable Kayaks for Mountaineers Sea Kayaking

Single sea kayaks, with approved flotation or bulkheads, are the craft you will be using for this course, and, very likely, for most of the Mountaineers Sea Kayaking trips you will take after graduation. Some paddlers may even say these are the only kayaks suitable for Mountaineers Sea Kayak trips.*

Many types of paddle craft may be suitable for easy, short trips in benign conditions on very protected waters. However, in keeping with the Mountaineers tradition of wilderness travel, exploration, and education, we prefer fully-equipped, seaworthy, single sea kayaks, capable of performing well in a variety of circumstances, helping us travel to exciting and remote locations, perhaps unreachable by any other means. Let's compare the alternatives to help explain our preference for "single sea kayaks."

Simplified overview of various types of single kayaks and related watercraft**

Length	Closed Cockpit (traditional)	Open Cockpit (washdeck)
Short (6-12')	rec ¹ , river ² , polo ³ , surf ⁴	rec/ww/surf sit-on-top ¹⁰ , waveski ¹¹
Medium (12-16')	rec touring ⁵ , sea kayak ⁶ , downriver ⁷	touring/fishing/diving sit-on-top ¹⁰
Long (16-22')	expedition sea kayak ⁸ , racing ⁹	expedition sit-on-top ¹⁰ , surfski ¹²

1. Short "recreational" kayaks are wide with large cockpits. Usually lacking in safety features.
2. Short river kayaks include playboats (freestyle), "river running", creek, squirt, and slalom.
3. Polo kayaks (for playing water polo) are like river kayaks, but with bumpers on the ends.
4. Surf kayaks are usually sharp-railed, with low volume sterns and significant bow rocker.
5. Recreational ("transitional") touring kayaks are a hybrid between "rec" kayaks and sea kayaks.
6. Medium length sea kayaks are fully equipped, seaworthy, and commonly used for day trips.
7. Downriver or "wildwater" kayaks are a form of river racing kayak. Not for casual recreation.
8. Expedition sea kayaks are fully equipped, seaworthy, fast, and have significant storage space.
9. Kayaks designed for flatwater or open-ocean racing are long, light, fast, and somewhat fragile.
10. Sit-on-top kayaks, often self-bailing, are popular for fishing, diving, whitewater, and surfing.
11. Wave skis are high-performance surf kayaks, like a short surf board with a paddler strapped on.
12. Surfskis are long, narrow, tippy, ruddered, washdeck sea kayaks for open-ocean racing.

* Whatever equipment you choose, whether it is your kayak, paddle, immersion wear, or anything else, it is the trip leader who will have the final say as to what is acceptable on their trip. If you have any doubt, please ask your trip leader about your concerns well before the day of the trip. Please honor their decisions, as it is their right and duty, as a trip leader, to decide these matters as they see fit. This basic aspect of good followership helps ensure our leaders continue leading trips.

** We list most common types of "human-powered watercraft, usually decked, and usually propelled with a double-bladed paddle from a low, seated position, with legs outstretched." The term "kayak" (qajaq) is an arctic term for a traditional skin boat, built with ancient techniques, used by Inuit hunters. Our kayaks are merely modern interpretations of that craft.

Sea Kayaks

For the Mountaineers Basic Sea Kayaking Course, you will use a single occupancy sea kayak. It will provide one seating position within a traditional "sit inside" closed cockpit. The cockpit opening is "traditional" as compared with the "washdeck" cockpit seen in sit-on-tops, or the oversized cockpit found in "recreational" (or "rec") kayaks. The cockpit usually has an egg-shaped or "keyhole" opening, up to two feet wide and up to three feet long. The cockpit area is sealed nearly watertight with a flexible sprayskirt (or spraydeck), keeping out rain, spray, splashes, and crumbs.

A "double" sea kayak will provide two cockpit openings. While double sea kayaks can be fast, efficient, and very suitable for sea kayak touring and expeditions, we do not use them for this course. Learning in a single sea kayak will allow you greater control over the kayak, with better feedback to help you improve your strokes. Through learning how to control your own kayak, under your own power, you will come to know your own abilities, bringing you more confidence as a paddler. You will enjoy being the "captain" of our own boat. Most Mountaineer Sea Kayakers, even those who have purchased double sea kayaks, prefer single sea kayaks for almost all club sea kayak outings.



double sea kayak

Sea Kayak Safety and Performance

A properly equipped sea kayak has adequate flotation to keep the boat mostly free of water, even if the sprayskirt becomes detached and water enters the kayak through the cockpit opening. This buoyancy facilitates quicker rescues in the event of capsize, so that the trip may continue without significant inconvenience or delay. The flotation is either provided by large air bags, inflated so as to occupy all of the unused space in the kayak, or by rigid (or foam) bulkheads which divide the kayak into sections. Sea Kayaks with bulkheads will almost always have openings for each section, allowing access to the compartments, with a hatch cover over each opening to provide a watertight seal. To be extra prepared, paddlers are encouraged to use air bags in addition to bulkheads for "back up" flotation.

Other safety features include deck rigging, such as perimeter safety lines and deck "bungies." The safety lines are invaluable during rescues and reentry into the kayak after a capsize. They are often made from a strong synthetic rope with strands of reflective material interwoven to aid in nighttime visibility. The bungies are useful for attaching small items to the deck, such as a chart. In most modern kayaks, the deck lines and bungies will be secured with recessed fittings to keep the deck smooth, minimizing the likelihood of snagging on clothing during rescue procedures.

A sea kayak is a high-performance craft. This means the design of the hull will be efficient for forward motion, able to hold its course in wind, waves, and currents, yet still be maneuverable enough to change course as needed. It will be durable to withstand a high degree of abuse, so that sea kayakers can paddle in rocky areas, surf zones, and remote areas without having to worry excessively about equipment failures, enabling them to enjoy the experience more fully.



single sea kayak

River, Surf, Racing, and “Rec” Kayaks

Occasionally, a paddler will ask their trip leader if they may bring one of these types of kayak on a sea kayaking trip. River kayakers and surf kayakers are indeed handy on the coast, and we do offer trips and clinics where these kayakers are ideal. While river kayakers are often used by sea kayakers for rolling clinics, pool practice and ocean surfing, we do not bring them on routine touring outings because they are generally too slow, unwieldy, uncomfortable, small, and/or lacking in important safety features.

Likewise, racing kayakers, even those designed for the open ocean, usually lack perimeter safety deck lines and access hatches. Their ultra-lightweight construction may be too fragile to support common rescue procedures or paddling in rocky areas. They are long and narrow, making them relatively tippy and difficult to maneuver in tight spaces, such as near rocks or in kelp beds. Further, we do not generally paddle at a racing pace, so the speed benefit of a racing kayak will not be realized on most touring trips. In fact, the long length will result in extra drag at a typical touring pace of three knots.

“Rec” kayakers occupy the other end of the speed spectrum. While popular for their low cost, small size, and ease of use, they usually lack the safety features, speed, and handling we require on our trips.

whitewater river “playboat”



ocean surf kayak



“recreational” kayak



Open Cockpit (Washdeck) Kayaks

A kayak’s dimensions and hull shape, rather than the configuration of its cockpit, are more likely to determine its best use. As you can see from the table (above), for almost any intended use, there are both open and closed cockpit variations. However, the sit-on-top is particularly popular for sport fishing and diving, especially in warmer areas, such as the Gulf of Mexico, California, and Hawaii.

In our region, you will often see sit-on-top kayakers used for casual flatwater paddling, surfskis for open-water racing (and surfing ocean swells), and both sit-on-tops and waveskis used for kayak surfing. As for

serious sea kayaking, a small number of high-performance washdeck models are available, but are much harder to find than equivalent closed cockpit models, especially here in the Pacific Northwest.

The Mountaineers generally prefer the closed cockpit configuration for protection from the elements, greater “positive” contact, lower center of gravity, and the opportunity to practice a greater variety of rescue procedures. Therefore, the traditional closed cockpit sea kayak is what you will use for this course and for almost all Mountaineers Sea Kayak clinics and trips you will likely take in the future.



open-cockpit sit-on-top

Skin-on-Frame, Folding and Inflatable Kayaks

Most Mountaineers generally paddle rigid kayaks made of fiberglass or plastic, especially for training events. Yet, many also own wood and “skin-on-frame” kayaks (such as folding kayaks). While most “rigid” skin-on-frame kayaks are handmade by home builders, a number of commercially available folding sea kayak models may be readily purchased. Given a suitable design, approved flotation, adequate outfitting, and seaworthy condition, skin-on-frame kayaks are usually acceptable to leaders.

Assembling a folding kayak, then disassembling, cleaning and drying it, for each and every time it is used, will lead many to prefer the convenience of rigid kayaks. Those unable to transport their kayak on a car, or having limited storage space at home, may find folding kayaks worth the extra effort.

Inflatable kayak models are available for recreational touring, expedition paddling, river running, and fitness training. Inflatables are often less expensive, lighter, more durable, and more easily stored and transported than rigid or even folding kayaks. For some activities, such as sea cave exploration, bird watching, fishing, running rapids, or touring, they may be an excellent choice. As with folding kayaks, inflatables are especially popular with apartment dwellers, bus riders, and travelers.

Despite these wonderful benefits, most inflatables come with serious drawbacks, such as decreased gear capacity, greater wind load, less efficient hull shapes, and less “positive contact” for the paddler. Since we often paddle in windy conditions, and require good boat control and the ability to make decent headway, our trip leaders are not likely to accept typical inflatable kayaks on club trips.



hybrid folding-inflatable surfski

Sea Kayaking Essentials

The Mountaineer Ten Essentials - a systems approach

- 1. navigation**

It's a good idea to carry a map and compass - and know how to use them. USGS, Custom Correct and Green Trails© all provide useful topographic information, and the latter two show relatively up-to-date trail info. Even if you don't plan on leaving the trail, being prepared is essential.

- 2. sun protection**

Sunglasses, sunscreen and hats are smart items to carry year-round. While the benefits are obvious on a sunny summer day, these items are useful against glare and sunburn while traveling on snow or under cloudy skies which UV rays may still penetrate.

- 3. insulation**

Pack extra clothing, in anticipation of the worst possible conditions you could encounter on your trip. Weather can change on short notice, and it's not uncommon for temperature (and precipitation) to vary significantly between the trailhead and higher elevations. If done smartly, these items won't add much too much weight to your pack.

Items you should carry (avoid cotton!):

 - fleece or wool sweater
 - water resistant shell (such as nylon or Gore-Tex)
 - extra hat (wool or fleece)
 - mittens or gloves
 - extra socks (synthetic or wool)

- 4. illumination**

Remember that it usually gets darker in the mountains earlier, so having a flashlight or headlamp is handy. Headlamps also have the benefit of leaving your hands free. When choosing batteries, consider using rechargeable. Make sure the light won't turn on by itself, and is accessible in case you need to find it in the dark.

A good first aid kit doesn't need to be big and bulky, and many of the basics are items you probably have around the house. Outdoor stores sell a range of kits that vary from a small "envelope" type kit to the larger "box" kits. Depending on the length of your trip and the size of your pack, you can adjust the contents as needed.

Basic first aid kit items:

- Band aids - mainly large fabric type; include butterfly/finger
- gauze pads
- adhesive or athletic tape (to hold gauze in place)
- small tweezers
- moleskin (good for blisters)
- one athletic compression bandage
- one or more triangle bandage (think arm sling)
- antibacterial ointment (small tube is plenty)
- OTC painkiller such as Advil or Tylenol
- OTC antihistamine such as Benadryl
- extra supply (2 days) of any prescription medicine

5. first-aid supplies

You don't need to take full bottles or rolls! Zip-type bags or photo canisters work great for small objects.

Consider taking a first aid course. Workplaces often offer a basic first aid course for employees.

6. fire

Temperatures can drop significantly overnight, and having a means to start an emergency fire will help ensure you maintain warmth if necessary. Waterproof matches, butane lighters and firestarters (candle stubs, chemical heat tabs, canned heat) should be reliable. If you are headed where there may be very little firewood, an ultra light stove is a good source of emergency heat.

7. repair kit and tools

Anything to repair the gear and/or equipment you will be carrying. There are a number of multi-tools out on the market, along with the standard Swiss army knife. Other items to consider: shoelaces, safety pins, needle and thread, wire, duct tape and nylon fabric repair tape.

8. nutrition

Even if only heading out for a day hike, nutrition is an important factor in your well-being. In addition to your lunch and snacks, pack a few extra compact food items in case your trip is unexpectedly extended. Choose no-cook foods: fig bars, cheese, nuts, bagels, pop tarts, candy bars, energy bars or packets, etc...

9. hydration

Extra water. Many people forget that we all need a plentiful supply of water each day, and especially when our body is expending extra energy. 1 liter is a minimum quantity for a short day hike; 2.5 for an all-day excursion. Take hot weather and the strenuousness of your outing into account. More heat or effort means more water. And it's not advisable to rely solely on water sources near the trail. If you must use these, be sure to pack a reliable water filtration system.

10. emergency shelter

Most day hikers shouldn't need to carry a tent with them. However, it's a good idea to pack an emergency space blanket. Most of these that are commercially available fold down to a wallet-size packet. For the budget minded, a jumbo size plastic trash bag can also be used to keep out wind and rain.

The Mountaineer Ten Essentials - Kayaker Interpretation

- 1. navigation**

Having a map/chart, and knowing how to use it are two different things. We don't expect new paddlers to be proficient right away. Feel free to ask the activity leader questions about the chart, route or symbols on the chart.

A compass is an essential tool for chart and navigation. Read and keep the instructions that come with the compass.

Paddlers may also choose to carry other navigational tools such as a Global Positioning System (GPS) receiver. A GPS is not a valid replacement for a map/chart and/or compass.

 - 2. sun protection**

Sunglasses will protect your eyes from the harmful effects of ultraviolet rays. This is particularly important on the water as the reflective light doubles the effect. Wear polarized sunglasses to see through the glare off the water.

There is no shade on the water. A broad brimmed hat cuts glare and sun exposure.

Waterproof sunscreen with SPF of at least 25. Don't forget lip sunscreen as well.

 - 3. insulation**

Carry an extra fleece, pair of socks and gloves. A pair of dry tennis shoes or sandals might be comfortable on the beach. The term "extra clothes" refers to additional layers that would be needed to survive the long, inactive hours of an unplanned bivouac.

 - 4. illumination**

A waterproof headlamp rather than a flashlight works best and leaves your hands free. You can wear it while paddling at night or when in camp. Batteries and bulbs do not last forever, so carry spares of both at all times.

 - 5. first-aid supplies**

Carry and know how to use a first-aid kit, but do not let a first-aid kit give you a false sense of security. The basic use will be to stabilize a situation, not do an operation, so it should be compact, waterproof and sturdy. At a minimum, a first-aid kit should include gauze pads in various sizes, roller gauze, small adhesive bandages, butterfly bandages, triangular bandages, battle dressing (or Carlisle bandage), adhesive tape, scissors, cleansers or soap, latex gloves, and paper and pencil. Consider the length of your trip and distance from additional help when packing your kit.

 - 6. fire**

A quantity of wooden or waterproof matches stored in a watertight container. Some paddlers carry a weatherproof butane lighter in addition to matches.

The easiest type of fire starter seems to be the solid or paste chemical fuels which burn hot and light easy. A candle will work perhaps but not if the rain keeps putting it out. If you need your emergency fire starter you will want the most aggressive technique available. Try it at home before the emergency.
-

7.	repair kit and tools	You need your knife to do many jobs so consider versatility important in making your selection. A multi tool knife seems to be a good solution to carrying only one tool of this type. Duct tape.
8.	nutrition	Have a lunch for day paddles, snacks for throughout the paddle and enough extra food to make you feel good if you had to stay out overnight.
9.	hydration	Carry at least 2 liters of water, more for hot days.
10.	emergency shelter	Space blanket, tarp, or tent.

Sea Kayaker's Additional "10"

In addition to "The Mountaineer Ten Essentials", the following items are required on all Mountaineer Sea Kayak trips:

1.	sea kayak with flotation in both ends	Flotation can be compartments separated from the cockpit by bulkheads or bags specifically designed to provide the kayak flotation. A sea sock should be used in boats without bulkheads, but is not adequate flotation without float bags.
2.	USCG approved Personal Flotation Device (PFD)	Required by the Coast Guard, each paddler should wear a type III PFD while paddling.
3.	paddle	
4.	spray skirt	A spray skirt is a waterproof cover designed to attach to the coaming (cockpit rim) of the kayak and your body. The purpose of the spray skirt is to keep paddle drips, rain and large dumping waves out of your kayak. The skirt seals off the cockpit and traps in warm air, making it very useful.
5.	bilge pump with flotation	Usually this is a hand pump device; however there are some foot operated pumps and even electric pumps for kayaks. A bilge pump is an indispensable tool for a self-rescue after what is commonly called a "wet exit." Once you get back in the boat, use a bilge pump capable of 8 - 10 gallons per minute to quickly empty the swamped boat.
6.	self-rescue paddle float	A paddle float is a heavy duty PVC-coated nylon bag that, when used in conjunction with a paddle functions as an outrigger designed to stabilize your kayak. A paddle float consists of a mouthpiece for inflation, a pocket for inserting one end of a paddle, and a web strap to secure the float to the paddle shaft. While it is possible to re-enter without the use of flotation aids, a paddle float is key to quickly getting back in the boat. Paddle floats can also be found in nylon covered foam eliminating the need to inflate but are more bulky.
7.	signaling device (audio)	Whistle preferred; make sure yours is a marine whistle without a "pea." Land whistles often won't work if they get wet.
8.	neck strap for glasses	Preferably with some sort of flotation attached.
9.	appropriate clothing for conditions	Clothing must tolerate getting wet. Consider water temperature as well as air temperature, wind and sun. Take layers to allow for changing weather.

10. waterproof bag for extra clothing

Dry bags are available from any kayak store in a full range of sizes and materials. Prices range from \$10 to \$40. Each material has its own merits. Another inexpensive alternative is a trash compactor bag. Their strength makes them a better choice than garbage bags.

Sea Kayaker's Highly Recommended

The following items are recommended for all trips and may be required for some:

-
- | | | |
|-----|---|---|
| 1. | spare paddle | |
| 2. | rescue sling | |
| 3. | emergency signaling device | Flares, smoke, dye, mirror, strobe, etc. |
| 4. | chemical light stick | Chemical light sticks are about \$3 and have a shelf life of only a couple of years. |
| 5. | waterproof chart case | Kayaking shops sell these for about \$30. Many kayakers use a large zip-lock plastic bag. |
| 6. | waterproof wrist watch | |
| 7. | wetsuit or drysuit (required on some trips; strongly suggested on all trips) | |
| 8. | waterproof jacket | Jackets made specifically for paddling can be purchased from kayak shops ranging in price from \$100 to \$350 (coated nylon to Gore-Tex). A plastic or nylon raincoat will work, preferably one with a tight wrist. Don't forget a rain hat as well. |
| 9. | pogies or gloves | |
| 10. | towing system | Kayak shops sell tow ropes that are very good and cost approximately \$70. A less expensive tow-rope can be made with a 50 foot length of 3/32 to 1/4 inch thick polypropylene rope and two plastic, brass or stainless steel snap hooks. Secure a snap hook to each end of the rope by splicing eyes into the ends of the rope. Coil the rope neatly so it won't become tangled. |
| 11. | VHF radio | |
| 12. | weather radio | |
| 13. | advance repair kit | Two rolls of duct tape; pliers; screwdriver (Phillips and spade); and a knife or "Leatherman" type tool. Use a plastic peanut butter jar to carry a few items just in case. Add some stainless steel nuts and bolts (1x1/4 in. bolt) for possible rudder cable repair; plastic zip ties; etc. Wrap the duct tape around the outside of the jar to save space |
| 14. | deck bag | Used to store miscellaneous gear needed while paddling. |
-

15. paddle tether	Allows paddlers to have free hands without the danger of losing their paddle. The paddle leash can be attached to the kayaker or the kayak.
16. flares	These will expire in one to two years so need refreshing. Check Coast Guard recommendations and make sure the ones you purchase are suitable for hand held use. About \$30 for 3 at a marine store or kayak shop.
17. toilet paper and plastic bags	
18. hat with visor	Any hat with a wide brim preferably with neck protection for sunny days. Add a strap to keep it on your head in the wind. On a cold day a close fitting neoprene skull cap or lightweight polypro cap worn under your hat will help keep you warmer. A neoprene cap is good to wear while practicing wet exits and rescues.

Lesson 2: BASIC NAVIGATION: WIND, WAVES AND CURRENTS, MORE GEAR, CLOTHING, & HYPOTHERMIA

Goal	This class will present introductory-level material about tides, currents and wind effects on paddling, and navigation fundamentals. It will also delve into additional gear, proper clothing and hypothermia.
Objectives	<p>From this lesson, students will be able to:</p> <ul style="list-style-type: none">• Explain what tides and currents are and how they are predicted.• Explain the effect tides and currents have on paddling.• Explain the impact wind has on paddling conditions and the paddler, and where weather related information can be obtained.• Be familiar with the basic elements of charts that are used for navigation.• Apply the general concepts of tides, currents and navigation to a simple float plan.• Identify the symptoms of hypothermia and first aid steps required for a victim• Have an understanding of the proper clothing required for different conditions• Identify additional equipment that will make paddling safer and more comfortable
Preparation	Read the pages on navigation, clothing and hypothermia in the text
Materials	<p>Students should bring the following materials to class:</p> <ul style="list-style-type: none">• Laminated chart handout• Tide book• Any navigation tools you may have such as a parallel ruler or dividers
Handouts	<p>The following material is in this section of the handbook:</p> <ul style="list-style-type: none">• Navigation Class Questions (with answers)• Beaufort Wind Scale• Hypothermia• Basic Clothing List
Local Resources	<ul style="list-style-type: none">• Local Suppliers• Books About Kayaking, including navigation• Wetsuit and Dry Suit Rental Options• Useful Web Sites
Appendix	<ul style="list-style-type: none">• Glossary

**Lesson 2: BASIC NAVIGATION: WIND, WAVES AND CURRENTS,
MORE GEAR, CLOTHING & HYPOTHERMIA**

Activity	Presenter	Time allowed
<p align="center">WELCOME BACK</p> <ul style="list-style-type: none"> • Questions about last session or pool • Open Water Boat Rental • Sign up for experience paddles • Agenda 		10 minutes
<p align="center">TIDE & CURRENT EXERCISE</p> <p>Demonstration in power point on how to go about trip planning with the chart, weather and tide/current tables.</p>		20 minutes
<p align="center">MORE BOATS AND GEAR</p> <ul style="list-style-type: none"> • Brief overview of boat differences • Students to break into 4 groups to rotate through 4 stations with different boats and gear. Instructors to show their gear and explain pros/cons. 	<p>W. Greenough Instructors</p>	<p>10 minutes 50 minutes</p>
BREAK		15 minutes
<p align="center">WEATHER AND TERRAIN; INTERACTION WITH TIDES AND CURRENTS</p> <p>This session will explain how weather and surrounding terrain affect tides and currents that may influence paddling conditions.</p>		15 minutes
<p align="center">HYPOTHERMIA VIDEO</p> <p>Discuss what to watch out for – symptoms, weather/water conditions.</p>		30 minutes
<p align="center">CLOTHING</p> <ul style="list-style-type: none"> • NO COTTON • Layering • Carry plenty of extras • Rain gear • Hats • Footwear 		15 minutes
<p align="center">CLASS WRAP-UP</p> <ul style="list-style-type: none"> • Questions • Open Water Session Orientation 		15 minutes

Book References: Johnson: Navigation: pp. 197-233
Physical demands: pp. 6-16
Hypothermia: pp. 79-85, 262-263
Clothing: pp. 79-89
Group Signals: pp. 251

Basic Navigation: Wind, Waves and Currents

This section is probably a little misleading. As a beginning kayaker, this class will not attempt to teach you navigation in a kayak. The premise here is that you will be going on trips with groups and a leader. The leader will have had intermediate navigation training and can adequately navigate for the group. The leader is also assisted by two or more assistant leaders who also have experience in navigation. Therefore the beginning student should be working on paddling skills like, reading water, looking around, pilotage, recognizing land forms and their effect on the water. And that is what this class will attempt to teach. Rest assured that a more intensive kayak navigation course is available and offered each year to the qualified students.

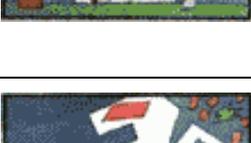
As a craft that can only travel at about 3-4 knots, it is important for you as a novice paddler to understand the effect of wind, waves and currents on your boat. This section will hopefully give you an appreciation of what is necessary for solo paddles and/or becoming a trip leader. It will acquaint you with the tools of the trade such as charts and tides and current guides.

You will also be given an exercise to hone your skills at evaluating information available on charts. Use this exercise to your advantage by asking your instructors about anything you may not understand or interpretations of the chart.

Beaufort Wind Scale

Devised by British Rear-Admiral, Sir Francis Beaufort in 1805 based on observations of the effects of the wind.

Beaufort number (force)	wind speed		wave height (feet)	WMO* description	effects observed on the sea	effects observed on land
	knots	mph				
0	under 1	under 1	-	Calm	Sea is like a mirror	
1	1 - 3	1 - 3	0.25	Light Air	Ripples with appearance of scales; no foam crests	
2	4 - 6	4 - 7	0.5 - 1	Light Breeze	Small wavelets; crests of glassy appearance, not breaking	
3	7 - 10	8 - 12	2 - 3	Gentle Breeze	Large wavelets; crests begin to break; scattered whitecaps	

Beaufort number (force)	wind speed		wave height (feet)	WMO* description	effects observed on the sea	effects observed on land
	knots	mph				
4	11-16	13-18	3½ - 5	Moderate Breeze	Small waves, becoming longer; numerous whitecaps	
5	17-21	19-24	6 - 8	Fresh Breeze	Moderate waves, taking longer form; many whitecaps; some spray	
6	22-27	25-31	9½-13	Strong Breeze	Larger waves forming; whitecaps everywhere; more spray	
7	28-33	32-38	13½-19	Near Gale/ Moderate Gale	Sea heaps up; white foam from breaking waves begins to be blown in streaks	
8	34-40	39-46	18-25	Fresh Gale/ Gale	Moderately high waves of greater length; edges of crests begin to break into spindrift; foam is blown in well-marked streaks	
9	41-47	47-54	23-32	Strong Gale	High waves; sea begins to roll; dense streaks of foam; spray may begin to reduce visibility	
10	48-55	55-63	29-41	Whole Gale/ Storm	Very high waves with overhanging crests; sea takes white appearance as foam is blown in very dense streaks; rolling is heavy and visibility is reduced	
11	56-63	64-72	37-52	Violent storm	Exceptionally high waves; sea covered with white foam patches; visibility further reduced	

Beaufort number (force)	wind speed		wave height (feet)	WMO* description	effects observed on the sea	effects observed on land
	knots	mph				
12	64 and over	73 and over	45 and over	Hurricane	Air filled with foam; sea completely white with driving spray; visibility greatly reduced	
*World Meteorological Organization						

Navigation Class Questions

(Page numbers refer to pages in *The Coastal Kayaker's Manual*)

Charts

What do they mean by the "scale" of a chart? What scale is best for kayakers?

Answer: The scale is how big objects appear on the chart. Imagine a chart with a scale of 1:1 where everything on the chart is shown its true size! That would be a very large scale chart. Common scales are from 1:20,000 ("large" scale with lots of detail) to 1:100,000 ("small" scale showing many square miles). For kayakers, a 1:40,000 scale chart provides a good mix of detail and area. (pg 158)

What is the difference between latitude and longitude? What units are they measured in? What are they used for?

Answer: Latitudes are lines that run east/west parallel to the equator; longitudinal lines run north/south from the North Pole to the South Pole. Both are measured in degrees, minutes, and seconds (a degree is made up of 60 minutes; 60 minutes is made up of 60 seconds). They are used to define a specific location. For example, the latitude/longitude of Golden Gardens is 47° 41' 27" N 122° 24' 12" W. (pg 158-159)

What is the difference between a nautical mile and a statute mile? What's an easy way of measuring a nautical mile on a chart?

Answer: A nautical mile is longer than a statute mile (one nautical mile equals 1.15 statute miles). Each minute of latitude is equal to one nautical mile, so the latitude scale on the left or right edges of a chart can be used as a distance scale (pg 159)

What are examples of chart symbols that are of use to kayakers? Where can details on these be found?

Answer: Water depth; areas that cover and uncover with the tide (called intertidal areas and shown as green on charts); rocks; shore composition; lights and buoys; and landforms that are of use in locating your position. A complete index of symbols can be found in Chart #1. (pg 161-164)

What is a compass rose and how can it be used?

Answer: A compass rose is a circle, graduated in degrees, that is printed several places on a chart. The outer circle is oriented towards geographic (true) north. The inner circle is oriented towards magnetic

north. The compass rose can be used for determining the bearing between two points on the chart. It can also be used to easily convert between True and Magnetic bearings. (pg 166)

Navigation Techniques

What is the difference between dead reckoning and piloting?

Answer: Dead reckoning is determining (guessing) your position based on your compass course, at your paddling speed, for a given time. Piloting is determining (with accuracy) your position using visible reference points. (pg 165-166 & 170)

What is a range? How is it used to determine your location?

Answer: A range is an alignment of one feature in front of another, usually at a good distance away. You can locate your position by drawing (or imagining) a line drawn between those two features and you are somewhere along that line. If you can find an additional range using two other features, then you can fix your position by where the two range lines cross. (pg 171)

How can a range be used to check drift caused by current?

Answer: Pick two features in front of you, like where one ridge line intersects with another ridge line. By watching how the intersection point changes, you can tell if you are moving to the left or to the right of your intended course. (pg 171)

Tides & Currents & Wind

What are tides? What causes them?

Answer: Tides are the up and down movement of water. They are caused by the gravitational affects of the sun and the moon. (pg 174)

What are currents? What causes them?

Answer: Currents are the horizontal movement of water, like in a river. The currents kayakers talk about are tidal currents. They are caused by water flowing to equalize the difference in water height between one location and another due to the tides. (pg 176)

What do the terms slack, flood, and ebb mean with regards to currents?

Answer: Slack is the period when the current slows and turns to the other direction. Flood is when current is flowing inland from the sea. Ebb is when the current is flowing to the sea from inland. (pg 177)

How do waves and currents interact?

Answer: When waves (wind) flow against the direction of the current, the waves get rough and unruly. The same stretch of water can settle down when the current changes and flows in the same direction as the waves (wind). (pg 181)

Reading Water (and what to do about it)

How can you tell which way the current is flowing?

Answer: Look for kelp bulbs floating on the surface with their other end still attached to the bottom. The kelp head points downstream. You could also stop paddling and observe a natural range to see which way you're drifting. (pg 173 & 187)

How can you use a shoreline to help paddle against current?

Answer: Use the technique called eddy hopping. Eddies are counter currents that can form along the shoreline downstream of points or obstructions. Paddle as close as you can next to shore to use the counter current. When you reach the point or obstruction that has caused the eddy, you will need to momentarily enter the main current and paddle against it until you reach the next eddy. (pg 186-188)

What is an eddyline?

Answer: An eddyline is an area of turbulent water where two opposing currents meet. Commonly forming on the downstream side of points of land - along the edges of eddies. They may be broad and diffused or a sharp shear line. (pg 181)

What is a tide rip? Where are they likely to be found?

Answer: Tide rips are areas of closely spaced and sometimes breaking waves caused by a change in speed or direction of the current. They can be found downstream of shoals, downstream of narrow passages, off points, and along eddylines. (pg 181-182)

What paddling tactics can be used when dealing with tide rips?

Answer: Keep an eye out for rips so that you can change course in enough time to avoid them if they seem significant. If you find yourself being pulled through a rip, head into it and keep paddling. You are more stable when you are actively paddling as the paddle gives some additional support. (pg 183)

What are the tactics for crossing current?

Answer: (1) "Ferrying" that is, adjusting your course upstream just enough to equal the current's speed with the result that you actually travel straight across. (2) Paddling directly across and accept that you will be set downstream some distance (this can be offset by paddling upstream the same amount you think you will be set). (3) Wait for slack current. (pg 183-186)

Explanation of Warnings

SMALL CRAFT ADVISORY: To alert mariners to sustained (more than two hours) weather or sea conditions, either present or forecast, that might be hazardous to small boats. If a mariner notices a Small Craft Advisory pennant displayed he should determine immediately the reason by tuning his radio to the latest marine broadcast. Decision as to the degree of hazard will be left up to the boatman, based on his experience and size and type of boat. There is no legal definition of "small craft". The Small Craft Advisory is an advisory in Coastal Waters and Near shore forecasts for sustained winds, frequent gusts, or sea/wave conditions, exceeding defined thresholds specific to geographic areas. A Small Craft Advisory may also be issued when sea or lake ice exists that could be hazardous to small boats.

Western (WA..CA) - Sustained winds of 21 to 33 knots. A Small Craft Advisory for Hazardous Seas is issued for seas 10 feet or greater.

Alaska (AK) - Sustained winds or frequent gusts of 23 to 33 knots. A small craft advisory for rough seas may be issued for sea/wave conditions deemed locally significant, based on customer needs, and should be no lower than 8 feet.

GALE WARNING: To indicate winds within the range 34 to 47 knots are forecast for the area.

STORM WARNING: To indicate winds 48 knots and above, no matter how high the speed, are forecast for the area. However, if the winds are associated with a tropical cyclone (hurricane), the STORM WARNING indicates that winds within the range 48-63 knots are forecast.

HURRICANE WARNING: Issued only in connection with a tropical cyclone (hurricane) to indicate that winds 64 knots and above are forecast for the area.

NOTE: A SPECIAL MARINE WARNING is issued whenever a severe local storm or strong wind of brief duration is imminent and is not covered by existing warnings or advisories. No visual displays will be used in connection with the Special Marine Warning Bulletin; boaters will be able to receive these special warnings by keeping tuned to a NOAA Weather Radio station or to Coast Guard and commercial radio stations that transmit marine weather information.

PHYSICAL DEMANDS, HYPOTHERMIA AND CLOTHING

Introduction: Every year, students comment on the emphasis this class places on hypothermia. One might think the intent of the class is to scare off new prospects for kayaking by instilling in them a fear of the water. However, just the opposite is true. The class emphasis on this subject is designed to give new paddlers a healthy respect for the conditions we paddle in here in the Pacific Northwest. The bottom line is that the water is cold. If you, as a new paddler, are unprepared for it, those conditions can be dangerous.

This class teaches you the conditions that can arise from exposure to the water when not wearing proper clothing. The lesson will also teach you what is considered proper clothing for different types of paddles.

For the most part, clothing we discuss in this class is clothing you already own (if you are an outdoors-type person) or it can be purchased in inexpensive outlets. Ask your instructors about where to obtain clothing. The Appendix of this notebook also lists outfitters that provide good quality clothing at reduced prices.

The one exception to the purchase of inexpensive clothing will be a dry suit or wetsuit, if you choose to buy your own. Immersion clothing is required on many trips. A 3mm farmer john style wetsuit is relatively inexpensive and will last a long time. While not required for the course, this type of wetsuit will make your rescue practice more enjoyable. Rentals of this type of wetsuit are not generally available. Drysuits are very expensive and it is highly recommended that, if you desire to utilize one for the rescue portion of the course, you rent one instead of purchasing.

Finally, remember that in kayaking we dress for the water in which we may find ourselves and not necessarily for the outside air temperature and conditions.

Hypothermia

Every year, students comment on the emphasis the class places on hypothermia. One might think the intent of the class is to scare off new prospects for kayaking by instilling fear of the water in them. However, just the opposite is true. The class emphasis on this subject is designed to give new paddlers a healthy respect for the conditions we paddle in here in the Pacific Northwest. The bottom line is that the water is cold. If you, as a new paddler, are unprepared for it, it can be dangerous.

This class teaches you the conditions that can arise from exposure to the water without the proper clothing. You will also be instructed as to what is considered proper clothing for different types of paddles.

Clothing we discuss in the class for the most part can be clothing you already have (if you are an outdoors type person) or it is available in inexpensive outlets. Ask your instructors about where to obtain clothing. The Sea Kayaking Resources Document also has some proven outfitters that provide good quality clothing at reduced prices. The one exception will be a dry suit or wet suit if you choose to purchase your own. It is highly recommended that you rent these items until you are sure of what is going to work well for you.

Finally, remember that in kayaking we dress for the water in which we may find ourselves and not necessarily for the outside air temperature and conditions.

Hypothermia and Cold Water Survival

Hypothermia is a serious threat to Northwest boaters, and it takes the lives of several Washingtonians each year. Our marine waters and most of the state's lakes and streams remain cold throughout the year, so hypothermia is a danger that knows no season. A boater who ends up in the water may begin falling victim to hypothermia in a matter of only a few minutes, so quick action is often the key to survival. Understanding and avoiding hypothermia can mean the difference between being alive or dead when help arrives.

What is Hypothermia?

Hypothermia is subnormal temperature within the central body. When a person is immersed in cold water, the skin and nearby tissues cool very fast. However, it may take 10 to 15 minutes before the temperature of the heart and brain starts to drop. When the core temperature drops below 90° F serious complications begin to develop. Death may occur at about 80° F; however, a person may drown at a higher temperature due to loss of consciousness or inability to use the arms and legs.

How long can I Survive in Cold Water?

Survival in cold water depends on many factors. The temperature of the water is only one. Others include body size, fat, and activity in the water. Large people cool slower than small people. Fat people cool slower than thin people. Children cool faster than adults.

By swimming or treading water, a person will cool about 35 percent faster than if remaining still. "Drown-proofing" — the technique of staying afloat, facedown, with lungs full of air, and raising the head every 10 to 15 seconds for a breath — conserves energy, but also results in rapid heat loss through the head and neck. This technique reduces survival time by nearly one-half in cold water.

An average person, wearing light clothing and a personal floatation device (PFD), may survive 2-1/2 to 3 hours in 50° F water by remaining still. This survival time can be increased considerably by getting as far out of the water as possible and covering the head. Getting into or onto anything that floats can save your life. The following predicts survival times for an average person in 50° F water:

Predicted Survival Time	
No Floatation	hours
Drown-proofing	1.5
Treading Water	2.0
With Floatation	hours
Swimming	2.0
Holding Still	2.7
HELP	4.0
Huddle	4.0

What do I do if an Accident Occurs?

If you fall into cold water, remember that water conducts heat many times faster than air. Most boats will float even when capsized or swamped, so get in or on the boat to get as far out of the water as possible. Wearing a PFD is a must. It will keep you afloat even if you are unconscious. Remaining still and, if possible, assuming the fetal, or, Heat Escape Lessening Posture (HELP), will increase your survival time. About 50 percent of the heat is lost from the head. It is therefore important to keep the head out of the water. Other areas of high heat loss are the neck, the sides, and the groin.

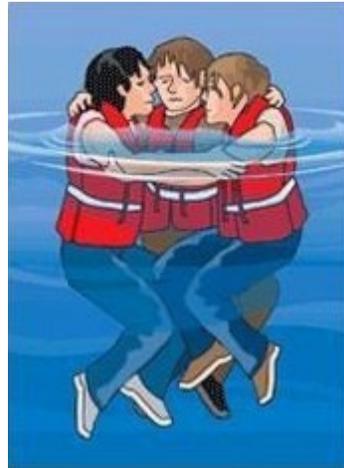
Note: It is impossible to assume the HELP position while wearing some PFDs. However, even a partial HELP position gives some protection to the high heat loss areas, thus increasing survival time.



HELP
Heat Escape
Lessening Posture

Huddle

Retains body heat and increases survival time



If there are several people in the water, huddling close, side to side in a circle, also will help preserve body heat. Placing children in the middle of the circle will lend them some of the adult body heat and extend their survival time.

Should I Swim for Shore?

This is a most difficult decision. It depends on many things. Some good swimmers have been able to swim up to .8 mile in 50° F water before being overcome by hypothermia.

Others have not been able to swim 100 yards. Furthermore, distances on the water are very deceptive. Staying with the boat is usually the best thing to do. This will make it easier for rescuers to spot you. Even a capsized boat is easier to see than a person in the water. Do not swim unless there is absolutely no chance of rescue and you are absolutely certain you can make it. If you do swim, use a PFD or some other floatation aid.

First Aid for Hypothermia Victims

1. Make sure the victim has an open airway and is able to breathe. Then, check for respiration and pulse. Respiration may be slow and shallow and the pulse may be very weak. So check vital signs very carefully. If there is no pulse or respiration, CPR must be started immediately.
2. Prevent further heat loss:
 - a) Gently move the victim to shelter and warmth as rapidly as possible
 - b) Gently remove all wet clothing; cut it away if necessary. The small amount of heat energy the victim has left must not be expended on warming and drying wet clothing.
 - c) Wrap the victim in blankets or a sleeping bag. If available, place warm water bottles or other gentle sources of heat under the blanket on the victim's neck, groin, and on the sides of the chest.
3. Transport the victim to a hospital as soon as possible. Only a physician should determine when the patient should be released. Incorrect treatment of hypothermia victims may induce a condition known as After-Drop. After-Drop is a continued fall in the victim's core temperature even after he has been rescued. This is caused by improper re-warming, allowing cold, and stagnant blood from the extremities to return to the core of the body. When this cold blood returns to the core of the body it may drop the core temperature below a level that will sustain life. For the same reason, hypothermia victims must be handled gently and should not be allowed to walk. Additionally, remember to avoid the following when dealing with a person with hypothermia:

Do not:

- Place an unconscious victim in a bath tub.
- Give a victim anything to drink, including hot liquids and especially alcohol.
- Rub the victim's skin; especially do not rub it with snow.

How Can I Avoid Hypothermia?

Because most boaters who die in water-related accidents had no intention of going into the water, the obvious answer is to avoid those behaviors that cause accidental immersions. **Therefore, do not:**

- Stand or move around in a small boat.
- Overload your boat or distribute the load unevenly.

Things You Should Do:

- Dress for immersion by wearing a wetsuit or drysuit.
- Always wear a PFD on the water.

Hypothermia Discussion

Questions

- 1) What is hypothermia?
- 2) What symptoms appear as the body's core temperature lowers?
- 3) How much body heat can be lost through the head and neck?
- 4) How do you treat the EARLY stages of hypothermia?
- 5) Describe the condition called "after drop."
- 6) Why is it advisable to dress in layers?
- 7) Why is cotton such a poor choice for insulation?
- 8) True or False: Swimming can increase survival time, so, if you exit your boat, striking out for shore should always be attempted.
- 9) True or False: Energy reserves have little or no effect on vulnerability to hypothermia.
- 10) True or False: A hypothermia victim may resume usual activity as soon as his/her temperature has returned to normal.
- 11) Think of several paddling scenarios that could lead to hypothermia.

Answers

- 1) Abnormally low body temperature.
- 2) Sensation of cold and shivering, loss of manual dexterity, clumsiness, slurred speech, rigid muscles, confusion, impaired judgment, no longer feel cold, euphoric. The “umbles,” mumble...fumble...stumble.
- 3) At least 50% of heat loss occurs through the head and neck — Keep them out of the water, if possible.
- 4) Exercise, warm shower or bath; hot drink (early stage only), remove wet clothes; insulate victim to prevent further heat loss. KEYS: slow, gentle and long re-warming.
- 5) Cold blood returning from the extremities can cause an unusual heartbeat that can result in a heart attack.
- 6) Clothing layers provide the best way to adapt to changing conditions.
- 7) Cotton’s absorbent fibers hold large amounts of moisture next to the skin, and conduct away body heat.
- 8) False (review hypothermia document)
- 9) False (review hypothermia document)
- 10) False (review hypothermia document)
- 11) Skipping meals and drinks; capsize; unexpected rain or wind; hard paddle — resulting in fatigue and/or perspiration; early sunset; no dry clothes after paddling.

Sea Kayak Clothing

Basic Clothing

If there is one sure way to recognize sea kayakers, it would have to be by their clothing. No well-dressed kayaker will ever win a fashion show, but color coordination aside' the clothing choices made for this sport are for comfort and safety considerations, not for show. Contained in this section you will find some general guidelines for clothing selection.

Materials

Arguably the most important factor of the clothing you select to wear kayaking will be the material of which it is constructed. Below are listed some of the fabrics to consider and avoid.

- **Cotton:** This is definitely a fabric to avoid on the water. Cotton absorbs moisture and releases it slowly. Garments constructed of this material may be quite comfortable on land, but on the water will cause you no end of frustration and discomfort and possibly contribute to hypothermia. The kayaker mantra has long been "Cotton Kills!" This includes items such as t-shirts and jeans.
- **Wool:** Wool will retain moisture somewhat similar to cotton, but it stays warm even when wet. However, wool is bulky when packed so is not the best choice for trips. And since it does stay wet longer than more modern synthetics, it can be difficult to carry along.
- **Polyester:** As a synthetic fiber, polyester dries relatively quickly when wet, but when worn next to the body can get somewhat odiferous and make you the bane of your paddling companions. Still it does pack tightly and may be worn in the form of fleece outer garments.
- **Polypropylene:** Similar to polyester in that it wicks moisture away from the body when worn next to the skin but it also gets very smelly.
- **Nylon:** With its relatively tight weave, nylon protects well against the wind. When combined with a fleece outer garment used for warmth, the nylon layer forms a good wind protection adding to your comfort. Nylon dries very quickly and can be a cool protection layer when worn alone. Nylon shorts are very comfortable for paddling. Although nylon can pick up odors it washes very easily. It also packs very well.

Articles of clothing

Temperatures change often on the water, depending on time of day and conditions that may change suddenly. Most kayakers include the following articles in their on-the-water wardrobe for a day trip:

- Synthetic T-shirt (usually at least one short-sleeve and one long-sleeve)
- Nylon shorts (Typically, Northwest waters are too cold for shorts to be worn alone, but they are often worn over wetsuit to provide wear resistance and pockets.)
- Nylon shirt (for sun protection and easy drying in hot weather)
- Synthetic or nylon pull-on pants (often just some synthetic long underwear)
- Synthetic top (pullover, zip-tee, fleece etc, for layering in colder weather)
- Synthetic or wool socks
- Neoprene booties (most paddlers advise against Teva-style sandals)
- Nylon windbreaker
- Wetsuit or drysuit (many leaders insist on at least a wetsuit)
- Hat, with broad visor for sunny or rainy days. Water proof is a good idea.

- Gloves or pogies (watch for slipperiness of material that can make it difficult to paddle)
- Paddle jacket or dry top (A waterproof jacket kept close at hand in case conditions worsen. Paddle jackets are cut shorter to not conflict with spray skirts and have neoprene or Velcro closures at the wrists and neck. Dry tops have water-tight latex seals at the wrists and neck and seal tightly to a spray skirt.)

How to dress

Kayakers always dress in layers and for the water temperature more than the surface temperature. Even when water conditions are glassy calm, a wet exit may become necessary due to boat wake, or even just inattention. While it is advised that you dress for that eventuality (wear a wetsuit or drysuit) many paddlers do not always wear immersion protection. By dressing in layers, you can add or remove clothing as conditions dictate.

No matter what clothes are worn, the final outer garment will always be the PFD.

During this class, your instructor can best advise you what you should wear. But bear in mind that you will almost always get wet paddling a kayak. After all, as George Gronseth of the Kayak Academy is so fond of saying, "It is a water sport." Therefore, it is always suggested that you bring spare clothes with you on the paddle in a dry bag in order to provide some additional warmth and a change of clothing should you need it.

Listed below are the basic items one might wear with either a wetsuit or drysuit. These lists might change due to weather, venue or probability of immersion.

Wetsuit
Wetsuit-bib style, ("Farmer John or Jane")
Shoes, neoprene/water resistant, soft-soled
Socks, neoprene/Fleece
Undershirt, fleece/polypro
Jacket, windproof
Jacket, fleece
Pants, wind/rain proof
Gloves, neoprene/latex
Hat, sun and/or cold
Swimsuit
Paddle jacket

Drysuit
Drysuit
Shoes, neoprene/water resistant, soft-soled
Socks, wool or fleece (to be worn inside suit)
Underwear, fleece (that provides sufficient insulation)
Jacket, fleece top, etc.
Gloves, neoprene/latex
Hat, sun and/or cold

In addition to these items, please bring and/or suggest substitutions for some of these items. Also bring extra clothing that you might carry with you for emergencies or when you stop for lunch such as warm hat, gloves, neck gaiter, scarf, large jacket, extra underwear, closed-cell foam pad, etc.

Lesson 3: TRIP PLANNING, FIRST AID, CONSERVATION, TRIPS AND FOLLOWERSHIP

Goal	Review conservation for kayakers. Discuss how to sign up for trips and what will be expected from the participating paddler. Discuss the techniques and importance of followership.
Objectives	From this lesson, students will be able to: <ul style="list-style-type: none"><input type="checkbox"/> Be exposed to simple trip planning for safe kayaking<input type="checkbox"/> Be familiar with most common first aid issues and equipment<input type="checkbox"/> Be familiar with conservation concerns and kayaker etiquette<input type="checkbox"/> Understand how to interpret the Trip Rating Scale• Understand how to use the Mountaineers' <i>Activity Listing</i> and sign up for trips<input type="checkbox"/> Understand the need for good followership on trips and explain the characteristics of a good follower
Materials	Students should bring the following materials to class: <ul style="list-style-type: none"><input type="checkbox"/> Tide & Current book<input type="checkbox"/> Blank Tide and Current prediction worksheets<input type="checkbox"/> Chart
Handouts	The following material is in this section of the handbook: <ul style="list-style-type: none"><input type="checkbox"/> Blank Tide and Current prediction worksheets<input type="checkbox"/> Sea Kayaking Trip Rating Scale<input type="checkbox"/> Thoughts on Followership by Gary Knudson<input type="checkbox"/> Power point presentation on Mountaineers Website navigation
Local Resources	<ul style="list-style-type: none">• Wetsuit and Dry Suit Rental Options• Local Suppliers• Catalogs, Magazines, Books about Kayaking Handy Web Sites
Appendix	<ul style="list-style-type: none">• Glossary

Lesson 3: TRIP PLANNING, FIRST AID, CONSERVATION, TRIPS AND FOLLOWERSHIP

Activity	Presenter	Time allowed
WELCOME		10 minutes
<p style="text-align: center;">TRIP PLANNING EXERCISE</p> <p>Student groups to work on a real trip planning exercise, taking into account weather, tides and shore features.</p>		45 minutes
<p style="text-align: center;">FIRST AID</p> <p>Review and discussion of most likely injuries/ailments. Discussion about what should be in the first aid kit</p>		15 minutes
<p style="text-align: center;">CONSERVATION & KAYAKING ETIQUETTE</p> <ul style="list-style-type: none"> • Environmental etiquette • Respect for private property • Issues at launch sites 		20 minutes
BREAK		15 minutes
FOLLOWERSHIP		10 Minutes
<p style="text-align: center;">TRIPS</p> <p>Trip rating, signing up, what to expect..</p>		20 minutes
REVIEW OF RESCUES		20 minutes
<p style="text-align: center;">WHAT'S NEXT</p> <p>General discussion related to next steps in the kayak program including student paddles, trips, future classes, and graduation.</p>		20 minutes
CLASS WRAP-UP		10 Minutes

Book Resources: **Johnson:** **Safety: pp. 250-263**
Conservation: pp. 264-265; 272-274
Trips: pp. 275-285

SAFETY, CONSERVATION, TRIPS AND FOLLOWERSHIP

Every Mountaineer is concerned about conservation and keeping the environment clean and natural. Kayakers are no exception. This manual includes some information about the environment in which we paddle. Be aware of the rules for safe exploration around wildlife. Also be alert for opportunities to contribute to the cleanliness and maintenance of these wonderful areas by packing out whatever you bring in with you, and perhaps something that someone else has left behind. We all can make a difference.

Sea Kayaking Trip Rating Scale

	SK1	SK2	SK3	SK4	SK5
Wind	<6 knots	<10 knots	<15 knots	<20 knots	>20 knots
Waves	Ripple	<1 foot chop	<2 feet, whitecaps, etc.	<3 to 4 feet, waves may be breaking	>4 feet, breaking waves, breaking surf
Current	<0.5 knot	<1.0 knot	<2.0 knots May have rips and eddies	<5 knots Rips, eddies, whirlpools and upwelling	>5 knots Tide races, overfalls, etc.
Terrain	Accessible shoreline	May have short inaccessible sections	Access may be limited	May include headlands, narrow passages, etc.	May include rocky shoreline; launching and landing in surf
Route	no obstacles	Crossings <1/2 nm no obstacles	Crossings <2 nm Chart and compass helpful	Crossings <5 nm Navigation required	Crossings >5 nm Navigation required
Skills Required	Capsize and wet exit	Self and assisted rescue	Bracing skills	Reflexive edging and bracing, boat control in wind, waves and currents, familiarity with charts and navigation	Tested rough water skills, self-reliance if separated from group, ability to roll highly recommended

These ratings are approximate and may change throughout the course of a day. Special consideration should be given to — among other things — water temperature, time of year, visibility, and skill and motivation of the group.

The rating system is a general guide; the highest rating of any factor is usually used to rate the trip.

Plus or minus signs can be used to further differentiate the levels. For example, a minus sign could be used for a trip that technically fits a given level but is on the easy side of that level. An asterisk designates training trips open to paddlers new to that level. The distance to be paddled and the expected paddling speed should be listed but do not affect trip level.

Due to the extra risk, the following factors increase the trip ratings 1/2 level:

- Water temperatures less than 55° F, unless participants bring wetsuits or dry suits to wear.
- A slightly faster current or a longer crossing when all other conditions meet the criteria of a stated level.
- Overnight or longer trips, unless an alternative (such as hiking out or being picked up by a support boat) is available.
- Trips planned for time of year when weather is at its worst and/or at least unpredictable.
- Reduced visibility, i.e. night trips.

Group Paddling (a.k.a. Followership)

Thoughts on Followership

Gary Knudson

The following explores the why's and where-fore's of group participation by examining the nature of group activity, motivations for group participation and some practical guidelines.

The Why's of Groups?

The Mountaineers, like other outdoor organizations, emphasize group activities as the preferred form of activity and adventure. For many activities, Sea Kayaking included, demonstrated competence at a certain skill level is required before members can participate.

For expeditions as well as day trips, the group format has much to recommend it. Foremost is safety, since solo wilderness travel in extreme or changeable conditions is never condoned. Simply put, the group is a ready-made rescue party at the service of any member in need.

Second, the collective knowledge and wisdom of the group is greater than that of most individuals, permitting an easy introduction to new routes, locales and ways in which to apply or build our skills.

Finally, we recreate in groups for camaraderie; for the sheer fun of adventuring with our friends.

The group approach to wilderness activities is based on logic and common sense, but we believe we actually travel in groups out of enlightened self interest. It is simply the easiest, safest and most enjoyable means to partake of and expand our scope of wilderness adventure. The group can afford us power, knowledge and support not available to the solo enthusiast.

Who Is a Group?

In the commercial world, an outfitter-led group can be any collection of souls, with any, little or no knowledge or competence in their selected activity. Their only common bond may be the fact that they are in the same place, with similar interests. The only guiding principle is to do as they are told. They will literally be taken on their trip.

In the Mountaineers, a trip or outing is composed of peers. We share not only membership, but also a commonly held competency and commitment to safe and responsible outdoor travel. Our leader and co-leader are not guides or caretakers; rather, they are fellow paddlers appointed by their peers to coordinate the activities of the group for a particular activity. They are trained and evaluated in certain skills in group management, but they are not equipped or authorized to impart or supplant for any participant the knowledge or skill necessary to engage in the activity.

For any volunteer organization, effective leadership is not possible without the cooperation of informed and responsible participants. This informed participation in group activities we call followership.

The How's of Group Activity

Good followership is motivated foremost by concern for our own safety; it is evidenced by behavior which enhances the safety and integrity of the entire group. Some points:

- Arrive promptly at the put-in. Delays to the group due to your tardiness will cause tension and unnecessary urgency, particularly if the trip is planned around tides and or currents. If late, be prepared to be left behind.

- Come prepared with equipment in good working order. Advice and assistance are available before the trip, not on the beach. Whether your equipment is owned, borrowed or rented, you are responsible for the fitness and appropriateness of the equipment you bring, as though it were your own.
- Be aware of your own interests, motivations and limitations relative to your trip. Discuss them in advance with the leader. Don't assume his or her definitions or goals for the trip will match your own. Trip classifications are broad and address many variables; be sure you understand what's involved in your trip.
- Listen to the weather immediately before the trip. The leader will keep the group updated, but be prepared to proactively protect your own limits or to clarify the leader's intentions in the face of new or changing conditions.
- Stay within hailing distance of fellow paddlers. In case of a mishap, you will need to summon help for yourself or provide assistance in rendering aid to another paddler. Rescues and assistance will be carried out by group members under the direction of the leader or co-leader. It is your responsibility to be available to render assistance.
- Stay aware of the position of all other group members.
- Do not break out of the group for exploration, equipment adjustment, etc., without approval of the leader and a fixed time and place for rendezvous.
- Within any skill rating, a group will contain paddlers of varying skill levels and paddling speeds. Do not contribute to disorder by using your own faster paddling rate to "string-out" the group.
- Worsening conditions will exaggerate the differences among members of the group. When the wind and seas build, focus on the "shape" and cohesiveness of the group; fight the "everyone for himself" instinct. Be available to help or to be helped.

The above behaviors, motivated by personal and group safety, can directly contribute to the realization of the other benefits of group travel: expanded personal skill and knowledge (through proximity of information and support), and the sheer joy of being out there together.

Failure to practice the above behaviors carries a price. Inappropriate equipment or actions on your part may result in the inability of the group to render timely assistance or even save your life.

Final Thoughts

If taken as just another set of rules, the foregoing will likely not be heeded or remembered with much concern. However, keep in mind why you paddle, why you paddle with the Mountaineers, and what you want out of it. We think you'll see that each of the ideas above works directly for your benefit through added safety and access to information and support on the water.

And, just in case you feel that group travel is a local or club phenomenon, keep in mind that in Britain, home of some of the most skilled paddlers in the world, the guiding precept is that, "less than three shall never be". In New Zealand, with ocean, island and sheltered paddling much like our own, it is against the law for outfitters to hire out kayaking gear to solo paddlers.

Covering your Assets

Every time we launch a kayak we're placing a bet on a safe return. Our enjoyment, thrills, and safety result from the assurance that our technique and our equipment are equal to the task. The skills that will take us out and bring us back include, and depend upon, our use of reliable equipment. Things like leaky boats, broken paddles, snarled tow-lines, jammed zippers, dead batteries and even smelly clothes can do a lot more than dampen our enthusiasm for this sport.

While there is no question that some stuff just seems to "happen", we can vastly improve our odds by inspecting and maintaining our paddling equipment.

- Salt water is corrosive.
- Prolonged dampness may cause damage.
- Ultraviolet light degrades most things.
- Pretty much everything will break.
- Everything that doesn't float **will** sink.
- Water resistant is **only** that.

We could, of course, simply avoid saltwater, sunshine, rocks and other boats, but if our sense of adventure calls us out onto the sea, there are a number of ways we can improve our chances of a safe return.

What to Clean

Kayak

Any part of the boat exposed to saltwater should be rinsed thoroughly with fresh water. Pay particular attention to the foot-brace tracks, rudders, and other metal fittings. The boat is best stored dry with hatch covers removed. Rubber hatch covers, 'O' ring seals (when clean and dry) should be lubricated with "Seal Saver," "UV Tech," "303," etc. Lifting toggles, deck-lines, deck fittings, bungees, skegs, rudders, etc. should be inspected routinely. Check outfitting foam periodically and re-glue if needed. Plastic boats are strongest on their sides and are best stored that way. A product like "3M Marine Cleaner and Polish" can brighten up the deck of composite boats.

Paddles

Rinse with fresh water and inspect for cracks. For two-piece paddles the connection should be rinsed, allowed to dry and lubricated periodically with a silicone spray.

PFD

Rinse with fresh water; hang to dry; check stitching; test whistle; keep knife clean. Remove unnecessary items (candy bar wrappers, shells, rocks, etc.) from pockets.

VHF Radio

After every outing, it's a good idea to remove your radio from its waterproof bag. Test the batteries in the radio and, periodically, all of your replacement batteries as well (flashlight, etc.). Everything that has a battery compartment should be opened and allowed to air dry.

Clothing

Rinse with fresh water and let dry somewhere other than in direct sunlight. When latex seals are clean and dry, lubricate (at least monthly) with "Seal Saver," "UV Tech," "303," etc. Neoprene items should be soaked in "Sink the Stink" or "MiraZyme" and allowed to dry slowly (giving the anti-bacterial agents time to work). In the right conditions, neoprene is like a terrarium, and will allow bacteria to flourish. For everyone's sake, clean and maintain this stuff.

Dry Bags

It's a good idea to open all bags when not in use. Kayaking is a water sport and "everything gets wet".

What to Use

While the Mountaineers Club in no way endorses the following products, they are mentioned as having served our needs for many, many seasons.

- Fresh Water: Still an abundant and essential item for rinsing all things subject to corrosion. Any salt crystals not removed will eventually attract moisture.
- Silicone: The best friend your latex seals ever had: "Seal Saver," "UV Tech," "303," etc.
- Outfitting Glue (H2 Glue): Once you have got the boat to fit, you can keep it that way. Only the best waterproof glue is worth using.
- "Aquaseal": The ultimate solution for abrasion, holes, attaching seals, etc.; the list goes on....
- "PB 300": One brand of waterproof glue, preferred by many, for attaching latex seals.
- "Sink the Stink" or "MiraZyme": Do us all a favor and use this stuff on anything made of neoprene.
- Gelcoat: If you find yourself venturing into this realm, "Fiberlay" in Seattle, comes highly recommended.

Conclusion:

Take care of your equipment, and your equipment will take care of you.

Finished the classroom sessions, Now What ?

- 1) Sign up for at least one Experience Paddle at www.mountaineers.org Meet the requirements to complete the Basic Sea Kayak class. Contact the leader.
- 2) Contact Will Greenough, kayakwill@yahoo.com after all class requirements are met.
Request A) The kayak badge to be posted on your Mountaineer's membership page
B) Your email to be added to the Olympia Mountaineers Google Group (OMSK)
olympiamountaineersseekayaking@googlegroups.com
- 3). Sign up for Mountaineer Kayak Trips. Go to mountaineers.org. Activities>Sea Kayaking>Olympia Contact the Leader. Maintain your Mountaineers membership
- 4) Read (OMSK) olympiamountaineersseekayaking@googlegroups.com emails
One kayak email update per month. Questions contact explorer.ron@gmail.com
- 5) Attend the Wednesday Evening Paddles (May-September)
Open to all kayak graduates or equivalents. Bring kayak & gear. On the water at 6:00 pm
Meet at Boston Harbor boat ramp. Information contact Bob Burreson, reburreson@gmail.com
- 6) Sign up for the Mountaineers August Paddle, Picnic, Kayak Graduation and/ or attend the Mountaineers Banquet to receive your Basic Kayak Class Certificate
- 7) Get involved with the Mountaineers Kayak Group- Everyone is welcome
Kayak Committee meetings Sept-May, third Wednesday.
Follow or Post OMSK Olympia Mountaineers Sea Kayakers Facebook.
Attend the first Wednesday of month Potlucks and Adventure Speaker Series (October-May)
Volunteer to be a mentor to a new member
Help with the next Basic Kayak Class. Take the free class: Train The Trainer in April
- 8) Take Kayak training classes: Train the Trainer Class, Incident Management, Roll Class, Rock Garden kayaking, Surf class, Leader training
- 9) Go to the Kayak Pool Sessions. (Nov.-April) Practice rescues, bracing, cowboy entry, etc.
Ask for help or learn by watching. Join us for dinner afterwards
- 10) Set your Mountaineer Profile to receive the Olympia Mountaineers emails once a month, get current Olympia news. Go to my profile>my preferences>Branch Communication> Opt in
- 11) Make a goal to earn three Kayak Paddle Pins. (p75) Forms and procedures are in your handbook. Sign up for Paddle Pin Kayak Trips.
- 12) Spread the word about the Mountaineers Basic Kayak Class and the Kayak Program.
Equivalency is an option. olympiamountaineers.org courses>Sea Kayaking>scroll equivalency
- 13) Ask a kayak leader how you can meet the requirements to become a kayak leader
- 14) Continue building your Kayak skills. Increase your confidence increases your fun.

More info. ? Questions? Call 360 705 2055 Leave a message. Carolyn will return your call.

APPENDIX

LOCAL RESOURCES

Wetsuit and Dry Suit Rental Options

Note: Most places recommend that you reserve wetsuits and dry suits in advance during the high season.

Kayak Academy

11801 188th Ave. SE

Issaquah, WA

(206) 527-1825

www.kayakacademy.com/

Northwest Outdoor Center

2100 Westlake Ave N

Seattle, WA

(206) 281-9694, (800) 683-0637

www.nwoc.com/default.asp

Local Suppliers

See the Mountaineers Sea Kayaking web site for the most up-to-date information

****Boat rentals available**

****ADVENTURE MARINE:** 1851 SE Catalina Drive, Oak Harbor (360) 675-9395

Kayak rentals, tours, classes

****ALDER CREEK KAYAK & CANOE**

250 NE Tomahawk Island Dr., Portland, OR 97217 (503)285-0464

aldercreek.com

ARMCHAIR SAILOR: 2110 Westlake Ave. N, Seattle (206) 283-0858

Charts, books, gifts

www.armchairsailorseattle.com

****AGUA VERDE:** 1303 NE Boat Street, Seattle (206) 545-8570

Hourly kayak rental for Portage Bay, Lake Union, and Lake Washington only

First come first served...no reservations

www.aguaverde.com

****AQUA SPORTS:** 7907 159th Place NE, Redmond (425) 869 7067

Kayaks, rental, gear (day trip recreational kayaks)

www.aqua-sports.com

CAPTAIN'S NAUTICAL SUPPLY: 2500 15th Ave. West, Seattle (206) 283-7242

Charts, compasses, binoculars, navigation aids and books

www.captainsnautical.com

BODY BOAT BLADE: PO Box 1487, Eastsound, WA 98245 (Orcas Island) (360) 376-5338

Boats, gear, high quality instruction

www.bodyboatblade.com

****CASCADE CANOE AND KAYAK CENTERS, INC:** Two locations

Enatai Beach Park, Bellevue: 3529 108th Ave SE (425) 430-0111

Cedar River Boathouse, Renton: 1060 Nishiwaki Lane (formerly N Riverside Dr)

Rentals, lessons, tours. Rentals for Lake Washington only. Open April through September.

www.canoe-kayak.com

CENTER FOR WOODEN BOATS: 1010 Valley Street, Seattle (206) 382-2628

Workshops in boatbuilding, knots & navigation, special events and volunteer opportunities

www.cwb.org

****CASCADE CRAGS:** 2820 Rucker Ave., Everett (425) 258-3431

Indoor climbing gym and outdoor specialty store; kayak sales, instruction and rentals

www.cascadecrags.com

****BOSTON HARBOR MARINA:** 312-73rd Ave. NE, Olympia (360) 357-5670

Full service marina; kayak rentals by the hour or day

www.bostonharbormarina.com

EASY RIDER BOAT COMPANY: 15666 West Valley Hwy., Tukwila (425) 228-3633
Kayaks, accessories
www.easyriderkayaks.com

EXOTIC AQUATICS: 146 Winslow Way West., Bainbridge Island (866) 842-1980
Kayak gear, instruction, trips, rentals; Located on the water
www.exoticaquaticsscuba.com

HENNESSY HAMMOCK: Galliano Island, BC (888) 539-2930 or (250) 539-5390
Hammocks
www.hennessyhammock.com

****ISLAND OUTFITTERS:** 2403 Commercial Ave., Anacortes (360) 299-2300, (866) 445-7506
Formerly Eddyline Kayaks. Kayaks, rental, gear, classes
www.seakayakshop.com or www.eddyline.com

KAYAKERS GO COASTAL: 3915 12th St., Tacoma, WA
98405. 25.735.9402
<http://kayakersgo.coastal.com/>

****KAYAK ACADEMY:** 11801 188th Ave. SE, Issaquah (206) 527-1825
Classes & gear, new & used rentals
www.kayakacademy.com

LOPEZ ISLAND KAYAKS: Lopez Island (360) 468-2847
www.lopezkayaks.com

MARMOT MOUNTAIN SPORTS: 827 Bellevue Way, NE Bellevue (425) 453-1515
Quality clothing, mountaineering and ski equipment, with some relevant gear
www.marmotmountain.com

METSKER MAPS: 1511 First Ave., Seattle (206) 623-8747, (800) 727-4430
Charts, guidebooks
www.metskers.com

****MOSS BAY ROWING AND KAYAK CENTER:** 1001 Fairview Ave. N, Suite #1900, Seattle
(206) 682-2031; Rentals, lessons, demos – Note: If you are renting for weekend, you may
pick up on Friday and return Monday morning at no additional charge.
www.mossbay.net

****NORTHWEST OUTDOOR CENTER:** 2100 Westlake Ave. N, Seattle (206) 281-9694,
(800)683-0637 Kayaks, gear, rentals, classes, tours. You must have approved kayak rack or
rent one for \$50 – Note: You may pick up boat Friday evening for one-day rental and bring
back Sunday morning before 9 a.m. for no additional charge.
www.nwoc.com

****OLYMPIC OUTDOOR CENTER:** 32379 Rainier Ave, Port Gamble, WA (360) 297-4659
Kayaks, rentals, classes, trips
www.olympicoutdoorcenter.com

****OLYMPIC RAFT & KAYAK:** 123 Lake Aldwell Road, Port Angeles (888) 452-1443
Full line of kayaks and accessories, classes, rentals, guided trips
www.raftandkayak.com

PIRAGIS NORHTWOODS COMPANY: 105 N Central Avenue Ely, Minnesota (800) 223-6565
Source for Chota boots and other useful items
www.piragis.com/

****POPEYES MARINE & KAYAK CENTER:** 814 13th Street, Everett (425) 339-9479
(North side of Everett Marina) Kayak sales, instruction, gear, rentals
www.popeyesmarine.com

PORTLAND KAYAK COMPANY
6320 SW Macadam Avenue
Portland, OR 97239
503-459-4050
www.portlandrivercompany.com

****PT OUTDOORS:** 1017B Water St., Port Townsend (888) 754-8598
on the water at the Flagship Landing Mall; Rentals, instruction, tours
www.ptoutdoors.com

PYGMY BOATS: 355 Hudson St, Port Townsend (360) 385-6143
Wooden kayak kits and supplies, no rentals
www.pygmyboats.com.

RACK N ROAD VEHICLE OUTFITTERS: 7918 Aurora Ave. N, Seattle (206) 528-8090
also 1299 156th NE, Bellevue (425) 957-7225
Kayak racks and supplies
www.sportsrack.com

RASMUSSEN'S EXPERT BICYCLE SERVICE: 6290 Ershig Road, Bow (360) 766-8720
Kayak customizing materials, dry suit replacement gaskets
Kayak 2 Fit at www.kayakfit.com

REI (Recreation Equipment Inc.): 222 Yale Ave. N, Seattle (206) 223-1944
Also in Lynnwood, Redmond, Portland, Tacoma & Olympia; Kayaks, gear, clothing, books,
racks, classes; repair of clothing, tents & sleeping bags; No kayak rentals
www.rei.com

SEATTLE FABRICS: 8702 Aurora Ave. N, Seattle (206) 525-0670
Outdoor fabrics, including Gore-Tex, neoprene & dry bag materials, webbing, cording,
patterns & fasteners
www.seattlefabrics.com

SEATTLE SPORTS: 6200 Seaview Avenue NW, Seattle (800) 632-6163
Dry bags, fleece, waterproof coolers and factory outlet sale
www.seattlesportsco.com

****SHEARWATER KAYAKS:** Orcas Island (360) 376-4694
Kayak sales, new and used kayaks, tours, gear; Contact directly for rental information
www.shearwaterkayaks.com

TO THE BACK OF BEYOND: 195 Winslow Way & Waterfront Park on the barge
(206) 842-9229, cell 206-579-5193
Kayak Rentals, equipment
www.tothebackofbeyond.com

**** VASHON WATERSPORTS:** PO Box 908, Vashon Island (206) 463-9257 Rentals, tours,
lessons, used boat sales
www.vashonwatersports.com

WEST MARINE: 1530 Black Lake Blvd SW, Olympia (360) 352-1244
Many other locations in Puget Sound area; Marine supplies, radios, GPS, charts, books
www.westmarine.com

Catalogs

CAMPMOR: (800) 331-0304
Camping equipment and clothing
www.campmor.com

CASCADE OUTFITTERS: (800) 223-7238 to order catalog
Camping gear, paddling clothes, dry bags
www.cascadeoutfitters.com

CRAZY CREEK: (406) 446-3446
Chairs, hand warmers
www.crazycreek.com

NANTAHALA OUTDOOR CENTER: (888) 905-7238
Adventure travel
www.noc.com

NORTHWEST RIVER SUPPLIES: (877) 677-4327
Paddle sports equipment, gear swap. Good source for larger paddlers wet suits.
www.nrsweb.com

KOKATAT: (800) 225-9749
Dry suit, dry jacket, PFD, paddling clothes and accessory.
www.kokatat.com

SIERRA TRADING POST: (800) 713-4534
Discount clothing and gear, binoculars, tents, wetsuits
www.sierratradingpost.com

Magazines

ADVENTURE KAYAK: (613) 758-2042 Ontario, CANADA
www.rapidmedia.com/

CANOE AND KAYAK MAGAZINE: (800) 829-3340
www.canoekayak.com

COAST&KAYAK MAGAZINE: (800) 799-5602 Gabriola Island, BC
Free in most paddling and outdoor stores Subscriptions available online and paper
www.coastandkayak.com

Books about Kayaking

Each book on this list has valuable information. Most of them are geared to the Northwest. Those marked with ** were used as resources for information in this manual.

Books for the New Paddler:

** The Complete Sea Kayaker's Handbook, Shelly Johnson
Included with course materials – comprehensive introduction to the sport.

**Sea Kayaking: A Woman's Guide, Shelly Johnson

**Sea Kayaker's Savvy Paddler, Doug Alderson
More than 500 tips for better kayaking

The Coastal Kayaker's Manual, Randal Washburn
A complete guide to skills, gear and sea sense

Canoeing, Nigel Foster
A beginners guide to the kayak

Nigel Foster's Sea Kayaking, Nigel Foster
Secrets from the pro

Sea Kayak Navigation Simplified, Lee Moyer

Chart 1, Department of Defense & Department of Commerce
Nautical chart symbols, abbreviations and terms

Afoot & Afloat series, Marge & Ted Mueller
Boating and hiking information on North, Middle & South Puget Sound; Seattle's
Lakes Bays and Waterways; San Juan Islands; British Columbia's Gulf Islands

Kayaking Puget Sound, The San Juans and Gulf Islands, Randal Washburn

Sea Kayaker: Deep Trouble, Matt Broze & George Gronseth
True stories and their lessons

BOOKS ABOUT KAYAKING

Watertrail: The hidden path through Puget Sound, Joel Rogers
Joel's travels on the hidden path through Puget Sound from Olympia to Point Roberts

Skill Improvement:

Complete Book of Sea Kayaking, 4th ed., Derek Hutchinson

Kayak: A Manual of Technique, William Nealy

Knots For Paddlers: A Nuts and Bolts Guide, Charlie Walbridge

Sea Kayaking: A Manual for Long Distance Touring, John Doud

**The Essential Sea Kayaker, David Seidman
A complete course for the open water paddler

Sea Kayak Rescue, Roger Schumann & Jan Shriner
A guide to modern reentry & recovery techniques

The Bombproof Roll & Beyond, Paul Dutkey
Mastering balance and boat control

Touring in Your Sea Kayak: A Nuts & Bolts Guide, Linda Legg

**Nigel Foster's Surf Kayaking, Nigel Foster
A tutorial about the sport of paddle-powered surfing

Navigation:

Fundamentals of Kayak Navigation, David Burch
Everything you ever wanted to know about kayak navigation

Sea Kayak Navigation, Franco Ferrero

Captain Jacks Current Atlas
Illustrates tidal current, speed and direction

Northwest Marine Weather, Jeff Renner (KING 5 weatherman)

International Marine's Weather Predicting Simplified, Michael William Carr
How to read weather charts and satellite images

Emergency Navigation, David Burch

Path finding techniques for the inquisitive and prudent mariner

GPS Made Easy, Lawrence Letham

Using global positioning systems in the outdoors

Trips: Places to Go

Paddle Routes of Western Washington: 50 Flat-water Trips for Canoe and Kayak, Verne Huser

Paddle Routes of the Inland Northwest: 50 Flat-water and Whitewater Trips for Canoe and Kayak, Rich Landers & Dan Hansen

Kayak Routes of the Pacific Northwest Coast, Peter McGee & John Dowd

Washington Public Shore Guide: Marine Waters, James Scott & Melly Reuling (out of print)

Paddling the Sunshine Coast, Dorothy & Bodhi Drope

Shades of Gray, Ken Campbell

Sea kayaking in western Washington

Island Paddling, Mary Ann Snowden

A paddlers guide to the Gulf Islands & Barkley Sound

Canoe and Kayak Routes of Northwest Oregon, Philip Jones

B.C. Marine Parks Guide

Official guide to B.C.'s Coastal Marine Parks

A Sea Kayaker's Guide to South Puget Sound, Ken Campbell

21 day trips for paddlers of all abilities

Touring and Camping:

Kayak Cookery: A Handbook for Provisions and Recipes, Linda Daniel

Hearst Marine Books: Kayak Camping, David Harrison

Kayak Touring and Camping, Cecil Kuhne

Complete Sea Kayak Touring, Jonathan Hanson

Other Information:

The Aleutian Kayak: Origins, Construction, and Use of the Traditional Seagoing Baidarka,
Wolfgang Brinck

Baidarka: The Kayak, George Dyson

Travels With A Kayak, Whit Deschner
Humorous stories while traveling with a kayak around the world

The Optimum Kayak: How to Choose, Maintain, Repair and Customize the Right Boat for You, Andy Knapp

The Whole Paddler's Catalog, Zip Kellogg
The world according to canoeists, kayakers and rafters

Complete Folding Kayaker, Ralph Diaz

Conditioning For Outdoor Fitness, David Musnick, MD & Mark Pierce, ATC
A comprehensive training guide for all outdoor sports.

Spirited Waters, Jennifer Hahn
Soloing south through the Inside Passage

Marine Wildlife From Puget Sound Through the Inside Passage, Steve Yates
Marine mammals, birds, fishes, invertebrates and seaweed

The Whale Watcher's Handbook, David Bulloch
A field guide to the whales, dolphins, and porpoises of North America

Take advantage of your Mountaineers membership by enjoying a member discount in our bookstore. The Mountaineers also has a library at the clubhouse.

Handy Web Sites

These are websites we have found useful or interesting. Some have additional links to various manufacturers, clubs or services.

Alaska Marine Highway	www.akferry.org
British Columbia (BC) Ferries	www.bcferrries.bc.ca/index.html
Bowron Lakes Provincial Parks	crazywolf.com/bowron/parkindx.html
Leave No Trace (Center for Outdoor Ethics)	www.lnt.org
National Weather Service, Seattle, WA	www.wrh.noaa.gov/seattle
NOAA Charts with Tides & Currents	www.deepzoom.com/#/Views/boat/xaml
NOAA Weather Page	www.atmos.washington.edu/data/marine_report.html
North Sound Sea Kayaking Assoc (Everett)	nsseakayaker.homestead.com
People For Puget Sound	www.pugetsound.org
Puget Soundkeeper Alliance	www.pugetsoundkeeper.org
Puget Sound Action Team	www.psat.wa.gov
Seattle Weather Page	www.weatherpages.com/seattle
Shoreline Aerial Photos (WA state)	apps.ecy.wa.gov/shorephotos/
The Sea Kayaker's Salty Dog (the "official" sea kayakers webzine)	www.seakayaker.com
The Whale Museum (Friday Harbor)	www.whalemuseum.org
Trade Association of Paddle Sports (TAPS)	www.gopaddle.org
Washington Kayak Club	www.washingtonkayakclub.org
Washington State Ferries	www.wsdot.wa.gov/ferries/index.cfm
Washington State Parks	www.parks.wa.gov
Washington Water Trails	www.wwta.org
The Wilderness Medicine Training Center	www.wildmedcenter.com/home.html
US Coast Guard Office of Boating Safety	www.uscgboating.org/

How to Search and Sign-up for Mountaineers Courses and Trips Online

While most trips and courses are published in the *Mountaineer* magazine every other month, all Mountaineer trips are listed in the Activity area of the Mountaineer website. So how do you find trips and how do you register for a trip or course online?

Finding last-minute trips

Once you join the Mountaineers, you have the option of subscribing to as many “communities” as you like, including the “sea kayak” community. You can then set your “preferences” for each community individually. For some communities, you may wish to receive email notification each time a new message is posted. For others, you might only want to receive a daily or weekly digest of community posts. You can also choose not to receive email notifications at all. Instead, check the web site yourself on a regular basis.

Registering Online

Registration for Mountaineers trips and courses can be done by mail, in-person, by phone or online. To register online:

- Go to the Mountaineers home page (www.mountaineers.org)
- Login using your user ID and password
- Under “Explore” area or in the “Activities Snapshot” you will find listings for all the activities offered.
- You can now search by date or date range, type of activity (“Sea Kayak”) and/or other optional search criteria
- Scroll to the bottom of the form and click "Search for Activity"
- A list of activities fitting your search criteria will appear. The title of the activity is a hot link that will give you details about that trip or class. The leader’s name is a hot link that will give you contact information, should you have additional questions
- Decide on an activity, click the "Go" button in the first column, under the word “Register”
- Continue to follow the instructions
- You will receive an email confirmation of your registration!

- YOU MUST OBTAIN PERMISSION FROM THE LEADER FOR ALL OLYMPIA SEA KAYAK TRIPS! Make sure to contact the leader to obtain permission prior to registering on-line.**

Glossary of Basic Terms

A...

AGROUND - Touching or fast to the bottom.

AIDS TO NAVIGATION (AtoN) - Artificial objects to supplement natural landmarks to indicate safe and unsafe waters.

ANCHORAGE - A place suitable for anchoring in relation to the wind, seas and bottom.

B...

BEACON - A lighted or unlighted fixed aid to navigation attached directly to the earth's surface. (Lights and daybeacons both constitute "beacons.")

BEAM - The greatest width of the boat.

BEARING - The direction of an object expressed either as a true bearing as shown on the chart, or as a bearing relative to the heading of the boat.

BIGHT - The part of the rope or line, between the end and the standing part, on which a knot is formed. A shallow bay. .

BOAT - A fairly indefinite term. A waterborne vehicle smaller than a ship. One definition is a small craft carried aboard a ship.

BOW - The forward part of a boat.

BOW LINE - A docking line leading from the bow.

BOWLINE KNOT - A knot used to form a temporary loop in the end of a line.

BULKHEAD - A vertical partition separating compartments.

BUOY - An anchored float used for marking a position on the water or a hazard or a shoal and for mooring.

C...

CAPSIZE - To turn over.

CAST OFF - To let go.

CHANNEL - 1. That part of a body of water deep enough for navigation through an area otherwise not suitable. It is usually marked by a single or double line of buoys and sometimes by range markers. 2. The deepest part of a stream, bay, or strait, through which the main current flows. 3. A name given to a large strait, for example, the English Channel.

CHART - A map for use by navigators.

CHINE - The intersection of the bottom and sides of a flat or v-bottomed boat. .

COAMING - A vertical piece around the edge of a cockpit, hatch, etc. to prevent water on deck from running below.

COCKPIT - An opening in the deck from which the boat is handled.

COMPASS - Navigation instrument, either magnetic (showing magnetic north) or gyro (showing true north).

COMPASS ROSE - The resulting figure when the complete 360° directional system is developed as a circle with each degree graduated upon it, and with the 000° indicated as True North. True North is also known as true rose. This is printed on nautical charts for determining direction.

CURRENT - The horizontal movement of water.

D...

DAYBEACON - A fixed navigation aid structure used in shallow waters upon which is placed one or more daymarks.

DAYMARK - A signboard attached to a daybeacon to convey navigational information presenting one of several standard shapes (square, triangle, rectangle) and colors (red, green, orange, yellow, or black). Daymarks

usually have reflective material indicating the shape, but may also be lighted.

DEAD AHEAD - Directly ahead.

DEAD ASTERN - Directly aft or behind.

DEAD RECKONING - A plot of courses steered and distances traveled through the water.

DECK - A permanent covering over a compartment, hull or any part of a ship serving as a floor.

DOCK - A protected water area in which vessels are moored. The term is often used to denote a pier or a wharf.

DRAFT - The depth of water a boat draws.

E...

EBB TIDE - A receding tide.

EYE OF THE WIND - The direction from which the wind is blowing.

F...

FATHOM - Six feet.

FIBERGLASS - There was a time when all rigid sea kayaks were made from fiberglass. Now, only mid- to high level kayaks are constructed from fiberglass. Glass kayaks are relatively light weight, stiff, fairly durable, and moderately expensive. Fiberglass is one composite (composite: a combination of two different materials) construction material along with carbon, Kevlar, and other fabrics. Fiberglass is actually the glass fiber fabric that makes up the kayak. Sometimes polyester resin is mistakenly called "fiberglass", because it is the most common type of laminating resin. Polyester resin can be used in a Kevlar kayak without a single strand of fiberglass. Epoxy and vinyl ester are two other resins that can be used in composite construction. They are tougher, stronger, and more expensive than polyester resin. Most composite kayaks are covered with a layer of "gelcoat." Gelcoat is an opaque, tough, shiny layer of resin that is sprayed into the mold before reinforcing fibers are laid. Fibers are laid once the coating "gels", hence the name. Gelcoat also protects the reinforcing fabrics and resins in the completed kayak from UV light and abrasion. Fiberglass kayaks are either vacuum-bagged or hand-laid. Vacuum-bagged kayaks are produced by laying saturated fiberglass in a mold which is placed in a "vacuum bag" or "envelope." Vacuum pressure sucks extra air and resin out of the laminate resulting in a lighter-weight kayak. Hand-laid kayaks are made without the vacuum envelope, and are often slightly heavier due to excess resin, but are less-expensive because less equipment and labor are required. Fiberglass kayaks can either have thin, lightweight hulls, or thick, tough, heavy hulls, depending on their anticipated use. Glass kayaks are susceptible to damage from dropping or dragging, so treat your glass boat with care. Gelcoat will absorb most minor damage without causing structural harm. These kayaks are easy to repair with fresh resin and glass, provided the damage isn't too extensive. Glass kayaks cost from \$1,000 to \$2,500. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

FLARE - A distress signal.

FOLDING KAYAKS - Folding kayaks are easily-transportable, durable, and very expensive!! Popular with world travelers, folding kayaks can be folded into bags the size of a duffel bag and flown anywhere in the world. These kayaks have frames made of wood, plastic, and aluminum. Skins are generally made of nylon or polyester fabric with a Hypalon or rubber coating. Due to the folding mechanisms, size constraints, or the paddling needs of traveling kayakers, most folding kayaks are not produced in high-performance designs. These kayaks command costs from \$2,000 up to \$4,500 for a fully-outfitted double folder. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

FOLLOWING SEA - An overtaking sea that comes from astern.

FORE AND AFT - In a line parallel to the keel.

G...

GELCOAT - see **FIBERGLASS**

GIVE-WAY VESSEL - A term, from the Navigational Rules, used to describe the vessel which must yield in

meeting, crossing, or overtaking situations.

GUNWALE - The upper edge of a boat's sides.

H...

HARBOR - A safe anchorage, protected from most storms; may be natural or man-made, with breakwaters and jetties; a place for docking and loading.

HATCH - An opening in a boat's deck fitted with a watertight cover.

HEADING - The direction in which a vessel's bow points at any given time.

HEEL - To tip to one side.

HITCH - A knot used to secure a rope to another object or to another rope, or to form a loop or a noose in a rope.

HULL - The main body of a vessel.

HYPOTHERMIA - A life-threatening condition in which the body's warming mechanisms fail to maintain normal body temperature and the entire body cools.

K...

KEEL - The centerline of a boat running fore and aft; the backbone of a vessel.

KEVLAR - a brand of aramid fiber, Kevlar kayaks are stiff, lightweight, yet extremely tough, and expensive. Kevlar is the stuff bulletproof vests and flak jackets are made of. Kevlar is slightly less stiff than fiberglass, but much tougher and lighter weight. Kevlar kayaks are made in the same manner as fiberglass and carbon fiber kayaks. Often, a little fiberglass or carbon fiber will be combined with the Kevlar cloth in a kayak to give a little added stiffness. Kayaks constructed from kevlar are very, very tough. Because the fiber itself is so flexible, the kayak will absorb a serious impact and spring back. A collision with a rock that would hole a fiberglass or carbon boat might result in only cracked gelcoat on a Kevlar kayak. Kevlar fibers are very tough, and difficult to sand or cut, so repairs are slightly more difficult than fiberglass. Kevlar boats cost \$2,000-\$3,500. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

KNOT - A measure of speed equal to one nautical mile (6076 feet) per hour. A fastening made by interweaving rope to form a stopper, to enclose or bind an object, to form a loop or a noose, to tie a small rope to an object, or to tie the ends of two small ropes together. .

L...

LEEWARD - The direction away from the wind. Opposite of windward.

LEEWAY - The sideways movement of the boat caused by either wind or current.

LINE - Rope and cordage used aboard a vessel.

N...

NAUTICAL MILE - One minute of latitude; approximately 6076 feet - about 1/8 longer than the statute mile of 5280 feet.

NAVIGATION - The art and science of conducting a boat safely from one point to another.

P...

PERSONAL FLOTATION DEVICE (PFD) - PFD is official terminology for life jacket. When properly used, the PFD will support a person in the water. Available in several sizes and types.

PIER - A loading/landing platform extending at an angle from the shore.

PILOTING - Navigation by use of visible references, the depth of the water, etc.

PLASTIC - Plastic sea kayaks are generally tough, damage-resistant, durable, affordable, and often heavy. Most kayak manufacturers produce their entry-level kayaks in plastic, since it is the most affordable kayak construction material. However, some manufacturers produce higher-performance designs in plastic. These

boats are prized by advanced paddlers who paddle in the surf zone or near rocky shores and sea caves. Plastic kayaks are most often made from rotomolded polyethylene (PE.) Variations include crosslinked, superlinear, or blowmolded polyethylene. Rotomolding is a process where polyethylene pellets are fed into a heated kayak mold, and the whole mold is spun and tilted in several directions to distribute the plastic evenly. Crosslinked and superlinear polyethylenes have a slightly different chemical structure than normal, which result in stiffer, and sometimes lighter plastic kayaks. Blowmolding uses the same polyethylene as rotomolding, but a blob of molten polyethylene is injected with hot air into a cold mold. When the blob contacts the cold mold, it cools rapidly and the plastic takes on a harder, stiffer finish. To get acceptable stiffness, plastic boats need to have thicker walls than their composite kin, and are resultingly heavier. PE is much cheaper than fiberglass, carbon fiber, Kevlar fiber, and composite resins, so the resulting boats are also cheaper. Plastic kayaks are highly durable, and will survive impacts with rocks or when dropped that would fracture a composite kayak. Plastic is susceptible to damage from dragging on hard surfaces, just as other kayak construction materials, but will stand up to a lot longer period of abuse than the others. While it can sustain a great deal of abuse and neglect, it is a difficult material to repair. Plastic is also susceptible to distortion due to heat or being tied down too tightly on a roof rack, so keep your boat out of the sun, away from the heater, and use good cradles that don't focus the rack pressure into a small dent-causing area. Plastic kayaks cost from \$600-1,800. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

PORT - The left side of a boat looking forward. A harbor.

Q...

QUARTERING SEA - Sea coming on a boat's quarter.

R ...

RIGGING - The general term for all the lines of a vessel.

ROPE - In general, cordage as it is purchased at the store. When it comes aboard a vessel and is put to use, it becomes a line.

ROTOMOLDED – see **PLASTIC**

RUDDER - A vertical plate or board for steering a boat.

RUNNING LIGHTS - Lights required to be shown on boats underway between sundown and sunup.

S...

SHEET BEND - A knot used to join two ropes. Functionally different from a square knot in that it can be used between lines of different diameters.

SHIP - A larger vessel usually used for ocean travel. A vessel able to carry a "boat" on board.

SHOAL - An offshore hazard to navigation at a depth of 16 fathoms (30 meters or 96 feet) or less, composed of unconsolidated material.

SKIN-ON-FRAME - Skin-on-frame, or SOF boats include both rigid-framed kayaks and foldable kayaks (see below). Traditional Aleut and Inuit kayaks were sealskin over driftwood frames lashed together with animal ligaments. Modern skin-on-frame kayaks are very inexpensive if you build it yourself, lightweight, flexible, fairly durable, and quite pleasing to the eye. Frames are generally made of wood that is glued, lashed, or doweled together, or aluminum tubing lashed together. Skins can be made of canvas, nylon, or polyester, and waterproofed with urethanes, Hypalon, or even house paint! SOF fans feel that their boats have better handling in big, choppy waves, since the frames flex slightly and give with the water, rather than forcing the water to move like a rigid-hulled boat would. A handmade skin-on-frame kayak can be had for \$150-300 using your hands, or \$1,000-3,000 if built by the hands of an expert craftsman. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

SQUALL - A sudden, violent wind often accompanied by rain.

SQUARE KNOT - A knot used to join two lines of similar size. Also called a reef knot.

STARBOARD - The right side of a boat when looking forward.

STERN - The after part (back) of the boat.

STERN LINE - A docking line leading away from the stern.

STOW - To pack or store away; especially, to pack in an orderly, compact manner.

SWAMP - To fill with water, but not settle to the bottom.

T...

TIDE - The periodic rise and fall of water level in the oceans.

TRIM - Fore and aft balance of a boat.

TRUE NORTH POLE - The north end of the earth's axis. Also called North Geographic Pole. The direction indicated by 000° (or 360°) on the true compass rose.

TRUE WIND - The actual direction from which the wind is blowing.

V...

V BOTTOM - A hull with the bottom section in the shape of a "V."

VARIATION - The angular difference between the magnetic meridian and the geographic meridian at a particular location.

VHF RADIO - A very high frequency electronic communications and direction finding system.

W...

WAKE - Moving waves, track or path that a boat leaves behind when moving across the waters.

WATERLINE - A line painted on a hull which shows the point to which a boat sinks when it is properly trimmed.

WAY - Movement of a vessel through the water, such as headway, sternway, or leeway.

WHARF - A man-made structure bonding the edge of a dock and built along or at an angle to the shoreline, used for loading, unloading, or tying up vessels.

WINDWARD - Toward the direction from which the wind is coming. Opposite of leeward.

WOODEN KAYAKS - Wooden kayaks are lightweight, relatively durable, very inexpensive or extremely expensive, and drop-dead gorgeous! Wooden kayaks are built with either marine plywood panels glued together ("Stitch and glue"), or edge-glued softwoods ("Strip-built.") Once the hull shape is defined, they are protected inside and out by one or several layers of epoxy resin and fiberglass. The epoxy and fiberglass disappear when wet, resulting in a beautiful, glossy wood finish. Stitch and glue kayaks can take from 60-120 hours to build, and "Strippers" will require 150-350+ hours. Most wooden kayaks are made by "backyard builders" and can be fabricated for as little as \$200 by scrounging your own materials, to nearly \$800 for a full-featured kit. Showroom-quality kayaks built by expert craftspeople can cost as much as \$4,000-\$6,000. (definition by Shawn Baker, http://www.useakayak.org/boat_constuction.html)

All definitions (except as noted) are from the Coast Guard Boating Safety website at:

<http://www.uscgboating.org/glossary.htm>

TIDE & CURRENT BOOK INSTRUCTIONS

TIDES

1. Look up tides for date of interest in the Seattle tides section starting on page 24
 - a. The listings show the time and height above (or below) mean sea level (MSL)
 - b. Make note of the times surrounding and during the intended paddle as well as the associated heights.
2. Refer back to the tidal differences section for Seattle starting on page 5.
 - a. Find the location nearest the paddle route. The table is arranged roughly from north to south.
 - b. Note the time and height correction factors for both the high water and low water for the station of interest
 - c. The time corrections are formatted as follows: +/- h.mm. + indicates that you add time and – indicates that you subtract time. For example +0.31 would indicate that you should add 31 minutes to the time listed for the high or low tide of interest.
 - d. The height corrections are to be multiplied with the Seattle tide height of interest. For example *1.19 would indicate that you should multiply the tide height by 1.19.
3. Apply the applicable time and height correction factors to the Seattle tide of interest to get the predicted times and heights of the high and low tides of interest along the paddling route.

CURRENTS:

1. Look up the currents for the date of interest in the “Currents at the Narrows” section starting on page 48. This is the table used for all south sound paddles to the south of the Tacoma Narrows.
 - a. The listings show the slack times (minimum flow) and times and maximum currents for both ebbs (outgoing tides) and floods (incoming tides).
 - b. Make note of all the times and currents for the slacks and maximum currents before, after and during your planned paddle.
2. Refer back to the current differences table for the Narrows starting 2/3 of the way down page 8.
 - a. Find the location(s) along your paddle route. Once again the table is arranged generally from north to south.
 - b. The table shows the time corrections for minimum before flood (slack), flood, minimum before ebb (slack) and ebb. It also shows the speed ratios for both flood and ebb which are the correction factors for the current velocities.
 - c. As in the case of the tide time corrections the time corrections are in hours and minutes and are to be added or subtracted to the appropriate times at the Narrows.
 - d. The speed ratios are to be multiplied with the current speed at the Narrows. If the ratio shows “-”, no correction is to be applied.
3. Apply the applicable time and speed corrections to the Narrows current predictions to get the predicted times and current speeds at the location(s) of interest.
4. Unlike the tides, there often is more than one current location that must be checked along your intended route.
5. There is no speed correction for slack or minimum before either flood or ebb, just a time correction.
6. **IMPORTANT** – if the location(s) you are calculating current predictions for have a number in parentheses such as (5) next to the name, ensure that you look at the appropriate note to be found starting on page 10.

TIDE PREDICTION WORKSHEET

DATE: _____

STATION: _____

STATION CORRECTIONS		TIDE	
TIME		HEIGHT	
HIGH WATER	LOW WATER	HIGH WATER	LOW WATER
h.m	h.m	x ft.	x ft.

HIGH/LOW	TIME	HEIGHT	TIME CORR.	NEW TIME	HEIGHT CORR.	NEW HEIGHT

CURRENT PREDICTION WORKSHEET

DATE: _____

STATION: _____

STATION CORRECTIONS				CURRENT	
TIME				SPEED	
MIN BEFORE FL	FLOOD	MIN. BEFORE EBB	EBB	FLOOD	EBB
h.m	h.m	h.m	h.m	x kts	x kts

M / F / E	TIME	SPEED	TIME CORR.	NEW TIME	SPEED CORR.	NEW SPEED

Mountaineers Sea Kayakers Accomplishment Awards *Paddle Pins*

The Olympia Sea Kayak Committee invites interested, qualified paddlers from all mountaineer branches to pursue, achieve and be recognized for their kayaking accomplishments. Through the process of challenging one's own abilities and building skills through experience and practice, we hope to encourage the advancement of kayaking skills within our community.

This series of award incentives is to provide encouragement for leaders to schedule and lead trips throughout the many regions and waters of Washington, and to encourage participation by all club paddlers.

REQUIREMENTS COMMON TO EACH OF THE "PADDLE PINS"

- Shall be advertised in the Mountaineer Go Guide and open to any qualified Mountaineer paddler.
- Rescheduling due to weather or other parameters is acceptable. Paddlers registered for the original trip should be encouraged to participate on the rescheduled day.
- Shall have at least three participants including leader.
- Must be a current Mountaineer member.
- Must have passed the basic course or been granted an equivalency rating.
- It is recommended that participants paddle within one SK rating of their previous experience. Details of the Sea Kayak (SK) rating system can be found in the Mountaineers Kayak Leadership Manual, or check with the trip leader.
- Those pursuing an award must keep their own records, including date, leader, and branch listing the trip, a list of all other participants, and a brief report of the trip.
- To receive your award and be recognized at your branch's annual banquet, you must submit documentation using the official paddle pin form to the Olympia Kayak Awards Coordinator by September 30. Check the Olympia Sea Kayaking section of the "Go Guide", or the Olympia Mountaineers website for the name and address of the coordinator.
- No trip paddled prior to January of 2003 will count towards achievement of these awards.

Criteria is defined for the following categories:

Seven Islands
Seven Inlets
Riptides and Rapids

South Sound Islands



To earn the South Sound Islands paddle pin one must circumnavigate the listed islands south of the Tacoma Narrows. A circumnavigation is defined as the act of paddling around the intended island while continuously keeping only the intended island to your starboard or port, whichever may apply. You may maintain any distance from the shore as long as no other landmass comes between your boat and the island being circumnavigated. The island pair of Stretch and Reach Islands must be circumnavigated in a figure eight, “8” fashion. This pin could be achieved without exceeding an SKII+ rating

(“+”=crossings up to 1 nm & currents >1 knot/<2knots). If Hartstene Island, the largest of the South Sound Islands were paddled in a two day camping trip, no circumnavigation would require more than 13 nm of paddling in one day.

Squaxin Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Anderson Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Stretch and Reach Islands Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

McNeil Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Fox Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Ketron Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Hartstene Island Date _____ Leader _____ Branch _____
 Participants _____
 Comments _____

Once completed - Return this original document to the Olympia awards coordinator and keep a copy for your records.

South Sound Inlets



To earn the South Sound Inlets Award each of the seven trips must include paddling at least seven miles of unrepeated shoreline within the inlet. Miles paddled while crossing from shore to shore does not count towards the minimum seven miles of shoreline. This award could be achieved without exceeding an SKII+ rating (“+”=crossings up to 1 nm & currents >1 knot/<2 knots), or a 10 NM total paddle distance. Though not required, we encourage you to include exploration of the innermost tidal areas as part of your trip. The practice of car shuttling is allowed. +

Budd Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Carr Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Case Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Eld Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Hammersly Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Henderson Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Totten Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include 7 NM of uninterrupted, non-repeated shoreline.

Once completed - Return this original document to the Olympia awards coordinator and keep a copy for your records.

Riptides and Rapids



Trips included in this award are all rated at SK IV or above. Only very skilled and experienced paddlers should attempt to achieve this award. Participants should have a reliable roll, excellent bracing skills, recent practice in self- and assisted-rescues, and well rehearsed towing skills. The ability and strength required to punch out through a surf zone is required on several of the trips. Paddlers should be prepared to spend several hours in their boat, as landing may be impossible or not allowed. On open coast trips, participants should be prepared for overnight camping, even if planned as a day trip.

Tacoma Narrows Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include Toliva Shoal and Point Defiance.

Deception Pass Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must include circumnavigation of Deception and Pass Islands.

Admiralty Inlet Date _____ Leader _____ Branch _____
Participants _____
Comments _____
To include Admiralty Head, Point Wilson, and Point Partridge.

Crescent Beach to Lyre River Date _____ Leader _____ Branch _____
Participants _____
Comments _____

Makah Bay to Shi Shi Date _____ Leader _____ Branch _____
Participants _____
Comments _____
An overnight trip is acceptable.

Westhaven to Point Brown Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Must launch and return through surf. Round trip or shuttle OK. May start at either end.

Ilwaco to North Head Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Round trip or shuttle to Long Beach OK. May start at either end.

Anacortes to Friday Harbor Date _____ Leader _____ Branch _____
Participants _____
Comments _____
Route must be via Cattle Pass. Return by ferry OK.

Once completed - Return this original document to the Olympia awards coordinator and keep a copy for your records.