FUNDAMENTALS OF SEA KAYAKING
CLASS SCHEDULE

<table>
<thead>
<tr>
<th>DATE/TIME</th>
<th>WHERE</th>
<th>WHAT TO BRING</th>
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</thead>
<tbody>
<tr>
<td>LAKE RESCUE</td>
<td>NWOC 2100 Westlake Ave. North</td>
<td>Synthetic top, bottom, sox For under a drysuit-polypro pile, capilene, etc.</td>
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<tr>
<td>Wednesday, 6:00-8:30pm</td>
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<td>Booties supplied</td>
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<tr>
<td>LAKE SESSION</td>
<td>NWOC 2100 Westlake Ave. North</td>
<td>Same as above bring lunch, or there’s a Deli upstairs</td>
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<td>Thursday, 6:00-8:30pm</td>
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<td>Lunch, spare warm clothes, see more below...</td>
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<tr>
<td>LAKE SESSION (AM) And CURRENT LECTURE (PM)</td>
<td>NWOC 2100 Westlake Ave. North</td>
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<td>Saturday 9am-1:30</td>
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<tr>
<td>DAY TRIP-</td>
<td>DECEPTION PASS AREA Meet at put-in 9:45am Off water 3:00-3:30</td>
<td>Lunch, spare</td>
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<tr>
<td>Sunday, leave Seattle 8am Return by 6pm</td>
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<td>warm clothes, see more below...</td>
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IMPORTANT: To park at Deception Pass you will need a Discover Pass. Passes are $10 for a day or $30 for a year. There is also a Boat Launch fee you can pay at the launch site. To purchase or for more information: http://discoverpass.wa.gov/

For under a drysuit: On top, wear polypro, pile, wool or a synthetic sweater, and synthetic underwear/pants-polypro, capilene, pile. Under your booties or boots, wear synthetic or wool socks. They help keep your feet much warmer.
- If you wear glasses, wear a retainer strap—we sell all kinds, including floating models
- Sunglasses, sunscreen and lip protector
- Baseball caps are good for reducing reflective glare or keeping the rain out of your face
- Bring your lunch and water and other goodies in a day pack or small bag

For the outing on Sunday, the instructors will haul NWOC kayaks and equipment, students will meet at the put-in, usually at 9:45am. The exact place and time will be determined at the navigation lecture on Saturday.

SUGGESTED READING MATERIAL
You will benefit from reading a bit before your class. It will answer some basic questions, and raise a few more. These and many more are available at NWOC

SEA KAYAKING ILLUSTRATED by John Robison, or THE COMPLETE BOOK OF SEA KAYAKING Derek Hutchinson. Lots of good, basic kayaking info, including strokes, rescues, navigation, currents, etc. FUNDAMENTALS OF KAYAK NAVIGATION by David Burch. If you want to learn about navigation, this book is for you. He covers navigating in fog, darkness, traffic, how to predict and handle currents, and much more.

NorthWest Outdoor Center 2100 Westlake Ave N Suite 1 Seattle, Wa 98109
206-281-9694 800-683-0637 mail@nwoc.com www.nwoc.com
COURSE CONTENT

LAKE SESSION 1: RESCUES AND BEGINNING BRACING SESSION
- Explanation of rescues and rescue gear: PFD, Pump, Paddle Float, and Sling
- Boat Tilt, Bow Rescue
- Wet Exit (falling over and getting out of your boat)
- Self Rescue
- Assisted Rescue
- Bracing Strokes to prevent capsize
- Draw stroke to assist in Rescues

LAKE SESSIONS 2 & 3
Learn and practice:
- Forward stroke, back (stop) stroke
- Sweep Strokes, forward and reverse
Review and Practice:
- Low Brace, sculling low brace
- High brace, static and sweeping
- Draw stroke, regular and sculling
- Rescues

LECTURE
Introduction to Currents:
- The difference between Tides and Currents
- Current Tables and Guides
- How to find and figure the current information for your destinations
- How to figure currents for any time of day
- How to figure the Time and Duration of Slack
- Wind/waves against the current
- Paddling into the current using eddies
- Crossing the Current 3 different ways
- Dangerous current phenomena and their avoidance, i.e. Tide Rips, Whirlpools, Overfalls, Eddies

SUNDAY DAY TRIP
Time to put it all together! Your basic, enjoyable saltwater day-trip, with some current activity and practice. Under controlled conditions, we’ll spend time going against the current, crossing the current, riding with the current, and putting your new current prediction skills to use. We’ll also have time for some flatwater sightseeing and rescue practice.

TOTAL FOR FULL PACKAGE INCLUDING TAX: $332.60
Deposits for classes are refundable up until 14 days before the start of the class.

NorthWest Outdoor Center 2100 Westlake Ave N Suite 1 Seattle, Wa 98109
206-281-9694  800-683-0637  mail@nwoc.com  www.nwoc.com
Since we can't cover everything about kayaking, and you won't retain everything that you hear in class, here are some great reference books and videos to refresh your memory, and add further knowledge.

**NAVIGATION AND SEAMANSHIP**

**SEA KAYAKING ILLUSTRATED: A VISUAL GUIDE TO BETTER KAYAKING** Great illustrations for all the kayaking skills you need. Robison, John

**COMPLETE BOOK OF SEA KAYAKING** Great info from an experienced salt. Hutchinson, Derek

**FUNDAMENTALS OF KAYAK NAVIGATION** The bible of kayak navigation Burch, David

**MORE DEEP TROUBLE** Accounts of kayak accidents at sea, what went wrong, and how to avoid them.

**CURRENT AND TIDE INFO**
Visit www.nwoc.com/levels for a link to a free Tide & Current program, and a site where you can look them up online, US and Canada.

**CAPTAIN JACK’S TIDE AND CURRENT ALMANAC** Tide and current tables for the year. Covers Puget Sound, Hood Canal, and the San Juan Islands.

**CURRENT ATLAS, JUAN DE FUCA STRAIT TO STRAIT OF GEORGIA** Canadian Hydrographic Service
This atlas gives hourly, graphic representation of current patterns.

**Waggoners TABLES** for above current atlas - tells what charts to use for each hour and place.

**Coast Pilots** Published by NOAA, are full of local info on navigation, inc currents & tides, weather, prominent features, dangers, routes to take, small-craft facilities, etc. http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm

**DESTINATION BOOKS**

**KAYAKING PUGET SOUND, THE SAN JUANS, AND GULF ISLANDS** Great info for kayakers on 45 NW trips. Washburn, Randel

**LAKE WASHINGTON, LAKE SAMMAMISH & LAKE UNION** This little map by SeaTrails gives all the launch sites, hazards, distances, and bicycle trails from Lake Union to Lake Sammamish.

**CHARTS**
Check out the Sea Trails Marine Maps - they have current info, courses and distances for many routes, and they are waterproof!
NOAA publishes charts, and has a free catalog at chart stores or online. Private firms print waterproof versions of some with the govt info. We carry many of those in stock.

**CHART # 1: NAUTICAL CHART SYMBOLS AND ABBREVIATIONS** tells you what the funny symbols on the charts mean - available online:
http://www.nauticalcharts.noaa.gov/mcd/chartno1.htm

**PUBLIC BEACHES & LAUNCHES**
The site for NW access points:
http://www.paddling.net/launches/

**SEA TRAILS MARINE MAPS**- lots of areas, from Seattle to Barkely Sound

**KAYAK & CANOE CLUBS**
www.wwta.org/home/clubs-and-outfitters/
Sea Kayaking can be a safe and rewarding activity if common sense prevails and certain precautions are taken. Before you put to sea for a paddle, check that you have the following:

**EQUIPMENT CHECKLIST**

**TEN ESSENTIALS:**
- Compass
- Proper Clothing
- Extra Food
- Waterproof Flashlight
- Fire Starter
- First Aid Kit (including moleskin and tape)
- Sunglasses
- Pocket Knife
- Maps
- Waterproof Matches and Container

**BOATING GEAR:**
- Secure Buoyancy, bulkheads or bags fore and aft
- Sound Hull, Deck, and Spraycover
- Lifejacket and whistle
- Flares, on your person
- Bilge Pump
- Self-rescue Paddle Float
- Tow line
- Good Paddle and a Spare, on deck
- Wet or Drysuit
- Rain Gear, Hat, and Spare Clothing in a dry bag
- Chart and current and/or tide info
- Sunblock, lip block

Without wishing to alarm anyone, we want to make it clear that sea kayaking is an activity that always demands sound judgment and caution, no matter how experienced you or your companions are.

THE GREATEST SINGLE DANGER TO SEA KAYAKERS IS HYPOTHERMIA! COLD WATER KILLS! WEAR YOUR WET/DRYSUIT. LEARN ABOUT HYPOTHERMIA!

**EFFECT OF WATER TEMP ON THE BODY**

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File a float plan with a friend, so that someone will know where to look for you if you are overdue. Start gradually in moderate weather, close to shore, with an experienced companion.

**SOME OF THE HAZARDS**

**WIND**
Avoid paddling in whitecaps until you thoroughly appreciate their effect. Wind can:
- upset a kayak
- make turning difficult
- create unmanageable waves
- prevent you from holding course
- slow you down

**FOG**
can result in sudden and total disorientation.

**CURRENT**
You will encounter two types of currents on the sea:
- tidal currents in tight waterways
- ocean currents between offshore islands

Strong currents can aggravate conditions caused by adverse weather, particularly when current and wind are opposing. They can also cause difficult eddy and wave conditions even on utterly still days.

**PRECAUTIONS:**
1. Read your chart to identify danger points
2. Calculate Slack Time and cross when currents are slowest
3. Paddle in currents under controlled conditions to learn how you and your boat handle them.

**PEOPLE HAZARDS**
Power boats, tugboats, ships—never try to pass in front of one, or between a tug and what it is towing. Make yourself visible, but never assume right-of-way, or that they can see you!

**LAKE PADDLING**
Except for tides, large lakes pose most of the difficulties and dangers of the sea. Wavelengths are shorter, and the water is cold Fall-Spring.
LEARNING TO SEA KAYAK

OUR MARINE ENVIRONMENT
Our inland waters provide us with a unique paddling environment. The Olympic Peninsula and Vancouver Island provide us with shelter from the open ocean, so that surf is rare (except for ship wakes and storm conditions). In exchange for this protection, we must learn how to deal with the currents caused by the narrow channels through which the sea must flow, as it enters the Strait of Juan de Fuca and heads south to Olympia, and north through the San Juans to the Strait of Georgia. It is essentially a river that changes direction twice a day.

In order to become proficient, there are certain skills that must be learned and practiced:

- Paddling & Rescue Skills
- Navigation Skills
- Survival Skills

HOW NWOC CAN HELP YOU DEVELOP YOUR SKILLS
NWOC offers several ways to enhance your paddling skills and awareness:

- Classes
- Day Trips
- Rentals on Lake Union

FUNDAMENTALS OF SEA KAYAKING CLASS
offers the basic building blocks for safe kayaking on the inland waters: paddling and rescue techniques, current, wind and wave phenomena. On our day trip, we go to a place there is current so we can learn to work with, across, and against current, in a safe, supervised class setting.

DEEPWATER RESCUE/BRACING CLASS
We feel that everyone should know, and practice, rescuing themselves and others. In this class you learn how to fall over, exit your boat, and get yourself back in. You also learn how to perform assisted rescues, and how to stop yourself from flipping by using your paddle as a brace. Besides raising your skill level, this class will also raise your level of confidence, and lower your fear and apprehension of the unknown. While not as fancy as the Eskimo Roll, knowing how to rescue yourself is important if you fail to roll. Most sea kayakers do not capsize often enough to rely solely on their roll, due to lack of practice in actual conditions.

SURVIVAL SKILLS
When paddling in wilderness situations, it is best to know how to administer aid on the spot, and have the means to contact outside help. First Aid and CPR classes, available through the Red Cross, Mountaineers, etc., and how to avoid and treat HYPOTHERMIA are a must. Signal flares and VHF radios are good for summoning help, but do not make you any safer—they only help you when things have gotten out of hand.

SURF TECHNIQUES
If you plan to explore the outer coast, want to improve your skills, or just plain want to have fun, this is the class for you. Learning how to leave and land on the beach through surf sharpens your bracing skills, improves your overall boat control tremendously, and gives you more confidence on the water. We practice on a gently sloping, rockless beach, where flipping usually means standing up, collecting your gear, and following your boat into the beach. This class is for those with basic bracing and rescue skills, and wish to elevate their skills to a new level. This is the most fun way (besides river kayaking) to improve your skills that we know of.

WHITEWATER FEVER
In order to make your paddling skills more instinctive, it is necessary to practice them under a certain amount of duress. Paddling on calm water does not prepare you for the open ocean, or the currents of our inland waters. In our river class, you will learn how to deal with currents, eddies, and waves on easy rivers, where your bracing will become instinctive due to constant use. The ESKIMO ROLL CLASS is also included here. Learning to right your boat without exiting is a handy skill, in rivers and the surf. Even if you never quite learn to roll, it will improve your bracing and overall comfort level.

RENTALS AND SALES
NWOC rents many different models of single and double sea kayaks. If you are looking to buy, it is a good idea to rent several and compare their performance and comfort. With our hourly rentals, you can try several kayaks back to back, to give yourself a feel for the relative performance and comfort of each one. Call to reserve specific boats. During the week, during the day, is the best time, as most of the boats are available.

ORGANIZED PADDLING TRIPS
Until you learn more, and build your confidence and skills to the point where you can safely explore on your own, it is best to go on trips with more experienced paddlers, either friends you trust, paddle clubs, or commercial outfitters. This is a good way to learn different areas, and the vagaries of the sea environment with people who (hopefully!) will not put you in over your head.

KAYAK & CANOE CLUBS
(See www.wwta.org/trip_planning/clubs/ for more)
Washington Kayak Club- Whitewater and Sea Kayaking trips, some classes and pool sessions. 433-1983 www.washingtonkayakclub.org
Seattle Sea Kayak Club- Sea Kayak trips. www.seattlekayak.org
Mountaineers- www.mountaineers.org 425.303.0611
North Sound Sea Kayaking Assoc 425.303.0611 Everett
Port Orchard Paddle Club 2398 Jefferson Av SE,Port Orchard 98366
Paddle Trails Canoe Club, www.paddletrails.com 206-444-4313
Lesbian and Gay Sea Kayakers 1202 Pike #896 Seattle 98112-3934
Baidarka Historical Society PO Box 5454 Bellingham, Wa 98227
Whatcom Assoc of Kayak Enthusiasts (WAKE) PO Box 1952 Bellingham, Wa 98227 360.647.2531
TRIP PLANNING

WHERE SHOULD WE GO?

There are many areas to kayak in the NW. Where you go depends on the skill level of the paddlers who are going. Who goes depends on the skills required for the particular trip. There is a huge difference between paddling a quiet bay, and exploring the outer coast of Washington or BC.

WHAT IS THE FOCUS OF THE TRIP?

- intimate exploration of a small area?
- overnight to a marine park?
- enduro paddle, Pt A to Pt B?
- open or rough water exploration?

This will determine the skills necessary for the trip. It is important to use sound judgment when matching a person’s skills to a particular trip.

- Plan the duration, length, and difficulty according to the weakest paddler’s abilities. What is easy for an experienced paddler can be quite demanding and dangerous for one with less experience.
- Paddle with compatible paddlers, or be prepared to accommodate the paddling styles of others.
- Go with someone who knows the area; or, if you have enough experience, check charts, guide books, Coast Pilot, Current Tables, etc, to decide if the trip is within everyone’s abilities.
- The leaders must have the guts to require that all paddlers meet the skill and equipment requirements in order to ensure a safe and enjoyable trip for all.

NECESSARY SKILLS

Paddling on a large body of water requires more skill than poking around a small, protected lake. Most guided trips are geared for the beginner, but make sure you ask when you sign up. As you begin to venture out on your own or with friends, clubs, etc, onto more open water, it is important that at the very least, you have the following skills:

You should know how to
- rescue yourself and others
- control your boat with and without the rudder
- avoid dangerous situations
- stay put when the conditions warrant it

If you are going to be on the coast, you must know how to negotiate surf. This requires practice, because the surf zone is particularly dangerous. You must know how to time your entry and exit through the surf zone, and how to brace when you need to. Also be aware that landing spots are few and far between, and without proper planning, you can be in for a long paddle on an open coast, with no place to land. In other words, don’t take any trip lightly.

KNOW WHERE YOU ARE GOING!

Navigation requires a few basics:
1. Know where you are
2. Know where you are going
3. Know your average speed
4. Know how to plot and follow a compass course
5. Know how to use the tide & Current tables for the area
6. Know the wind & weather tendencies for the area

- Nautical charts, and knowing how to use them, help with these basics.
- Figure the current and tide info for the area, and
- Bring it with you!
- Know how to use, and carry, a compass. Pre-plotting course bearings on your chart saves a lot of time in case fog or darkness descend upon you.
- Know the weather patterns for the area, esp. regarding wind conditions, and carry a weather radio to keep updated.
- Identify potential danger spots, and how to avoid.
- Plan escape routes in case conditions become too severe.

NAVIGATION GEAR CHECKLIST

TAKE WITH YOU:

- Nautical Charts (large and small scale)
- Topographical Maps (if appropriate)
- Chart Case
- Compass (deck and/or hand bearing)
- Dividers
- Parallel Rule
- Watch
- Pencil and eraser, grease pen

Pertinent sections of:
- Tide Tables
- Current Tables
- Coast Pilot or Sailing Directions
- Light List
- Special Current guides, if available
- Guide Books, preferably written by kayakers

- Weather radio or VHF, Cell Phone
- Binoculars
- Flashlight
- Whistle
- GPS for logging your travels and entertainment while underway
HYPOTHERMIA
is the lowering of the core body temperature. If allowed to drop too far, the body cannot generate enough heat on its own to rewarm. Immersion in cold water robs your body of heat 25 times faster than air.

SYMPTOMS:
- INTENSE Shivering - Loss of coordination
- Slurred speech - Confused mental state

Shivering is the body's way of fine-tuning it's temperature. Light shivering does not necessarily mean you are hypothermic. If it becomes more violent, and is accompanied by loss of coordination, slow and labored movements, mild confusion, and inability to walk a 30' line properly, the person is in the early stages of hypothermia. These symptoms become more severe as the victim's temp drops further, until unconsciousness, and usually heart failure, occur.

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TREATMENT
The best treatment of hypothermia is prevention. Once a person becomes severely hypothermic, it is impossible to rewarm them in the field. Get them to emergency care pronto! For early hypothermia, you can add heat to the body core by applying warm packs to the groin, neck, and armpit areas; by disrobing the victim and a volunteer and placing them in a sleeping bag together so that the victim can use some of the volunteer's heat (although this is extremely slow and inefficient).

PREVENTION
- Drink fluids before & during activity
- Stay in reasonably good condition
- Dress properly - Eat properly before your trip
- Rest during your trip - Avoid exhaustion!
- Eat adequately to replenish energy stores during your trip

PROPER DRESS
Proper thermal protection is needed to prevent, or at least slow, rapid heat loss. After 10-15 minutes of immersion, most people lose the use of their hands, arms, and legs due to the lack of blood being pumped to the extremities. This makes any kind of rescue procedure difficult if not impossible.

- Dress for the water temp, not the air!
- Gore-Tex drysuits are comfortable even when it's warm out. You can always wet the outside of the suit to cool off.
- Wetsuits, w/paddling jacket or dry top, are flexible outfits for warmer or marginal conditions, but never as comfortable or warm as a Goretex drysuit.

Under Layer- Synthetic top, shorts and socks,
Middle Layer- Wetsuit, long legs, no arms (Farmer John)
Top Layer- Waterproof jacket, booties, hat, gloves

Synthetic clothing, like Pile, Polartec, or Capilene, does not hold water, will move it away from your body, & provide a layer(s) of insulation. By layering with thin, medium, and thick weights of synthetics, you can remain comfortable. Cotton retains moisture, getting wetter the longer you wear it.

WETSUITS
Good for short immersion times. Paddling wetsuits are not as thick as dive suits, making them more comfortable to paddle in, but offering less thermal protection. A wetsuit works by offering a layer of insulation, and also by warming a thin layer of water between your body and the suit. To make them effective, you must limit the amount of water that enters your suit. If you have a constant exchange of new water, your body is working hard to reheat each new batch, leaving less warmth for your body core. You can limit this exchange by making sure the suit is snug around the ankles, and by wearing a paddling jacket or drytop, with adequate insulated clothing (pile,etc) under the top. The drytop keeps almost all the water out, but allows less air exchange while paddling, causing overheating and perspiration. On cold days this is fine, but if you overheat easily, it doesn't take much exercise to work up a good sweat. There are Gore-Tex drytops and paddling jackets that do an excellent job of keeping you warm and dry, while allowing some of your body heat to escape. A paddling jacket with snug neck and wrist closures is next best, allowing more water, but offering more ventilation while paddling.

DRYSUITS
Drysuits are the outfit of choice for cold water/weather, or longer immersion times. People have survived long periods of drifting with these on. There are Gore-tex and other breathable drysuits that work really well. If you are doing lots of long crossings, or open ocean paddling with lots of surf entries/landings, especially in cool rainy weather, you should consider a drysuit. Get a relief zip!

FOOTWEAR
For many experienced paddlers, wetsuit booties are the best thing to wear while in the boat. Around camp, it is more comfortable to wear boots, sneakers, or sandals.

BOOTIES OR BOOTS made of neoprene are the footwear of choice for many paddlers. They are snug, provide insulation when your feet are wet, and give you more foot room in your kayak.

RUBBER BOOTS are handy for walking in mud flats, but have many drawbacks. They are cumbersome getting in and out of your boat, and are really useless when you are in the water. Many times, they must be removed before you can perform a rescue, if they haven't fallen off already. Use neoprene boots instead.

SANDALS work for some people, but do have their drawbacks. They are not as warm as booties, and do not offer any protection for the sides of your feet while walking over/ between sharp, barnacle-encrusted rocks. Wearing synthetic or waterproof socks make them much more useful.

SNEAKERS, REEF WALKERS, WATER DOGS ETC, work with socks under them, and offer varying degrees of protection and warmth.
When a kayaker capsizes and wet exits, it is imperative that they reenter their kayak as soon as possible. This will avoid extended immersion in cold water, which leads to HYPO-THERMIA, the lowering of the core body temperature. In order to prevent this life-threatening condition, it is necessary to have on the proper thermal protection, either a wetsuit or drysuit. Unless you are right next to shore, your chances of making it even a 1/4 mile are very slim. As you swim, you are losing body heat rapidly, and an uninsulated body cools at an alarming rate. With the SOLO RESCUE, you can rescue yourself when alone, or when others are too far away, or too preoccupied with their own survival.

1. Always make sure you have a paddle float and pump firmly attached to your boat!

2. When capsized, lean forward, grab your sprayskirt’s grabloop, pull it forward and up to release. If you are not already out of your boat, roll forward, pushing the boat off your legs like a pair of pants.

3. Once out of your kayak, make sure you have maintained contact with your boat and paddle. They can quickly escape in even a light breeze. If necessary, position yourself downwind of the kayak to prevent it from getting away. DO NOT GET BETWEEN YOUR KAYAK AND SHORE IN BREAKING SURF!

4. Right the kayak quickly to avoid scooping extra water. Remove the Paddle Float from its secure place and place it over one end of your paddle. When in place, wrap the buckle once around the shaft, and buckle it to prevent it from slipping off the blade. While attaching the float, maintain contact with the boat by slipping your arm up to the elbow under a rudder line, shock cord, etc.

5. Inflate the Float by turning the valves counter clockwise about 1/2 turn. You have enough air to inflate both at once, assuming you have 2 chambers. Inflate them till full, which will give you lots of floatation.

6. Attach the other end of the paddle to the boat, behind the cockpit, forming the outrigger. You should have some shock cord or line already there for this purpose. If not, you will need to hold the paddle to the coaming so it will remain perpendicular to the cockpit while reentering, then place the paddle across your lap while you attach your skirt and pump the water out.

7. Pull yourself up on the back deck, placing one hand on the paddle shaft, one on the cockpit. Get your feet on the surface, and swim up over the back deck, with your chest resting on the deck just behind the cockpit, facing the rear of the boat. Work your way back until you can get your legs into the boat. Slip in until your hips are over the seat; twist your body toward the paddle, changing hands on the shaft to maintain your weight toward the float; drop into the seat.

8. Leave the paddle float on until you have refitted your spray-skiit and pumped out your boat, always leaning your weight toward the float. When your boat is pumped dry, remove the paddle from the deck, remove the float, and deflate and stow the float. If necessary, leave the float partially inflated to prepare for a subsequent rescue.

**FOR SOLO AND ASSISTED RESCUES:**
**DO NOT PUMP OUT YOUR BOAT UNTILyou ARE BACK IN IT! (If it is hopelessly swamped, you may have to.)** The T-Rescue can be performed by your rescuer, or by yourself (with some practice) to remove most of the water.

**ASSISTED RESCUE**

When rescuing someone else, your job is to:
- **Maintain outward calm,** even if you don't feel that way!
- **Get to them as quickly as possible**
- **Hold their boat and paddle** while they reenter
- **Help them get their skirt back on,** and help them pump out their boat, if necessary
- **Don't let go of their boat** until it is dry and they are stable, both mentally and physically
- **If they don't have proper clothing on,** like a wetsuit or drysuit, get them to shore and into warm clothing as soon as possible. If you think they may be getting Hypothermic, get them to warm shelter, build a fire, get them into a sleeping bag with someone else. You must judge whether or not they are hypothermic- they will not be able to judge for themselves. Slurred speech, stumbling, awkward movements, inability to perform simple tasks, severe shivering are all signs of the onset of Hypothermia. If they have not been rewarmed, and the shivering stops, that means they have passed into deeper hypothermia, and must be treated gently, and brought to emergency help immediately!

When being rescued:
- **Remain calm** and go through your practiced rescue routine
- **Climb up on the rear deck,** with your chest behind the cockpit, just as for the Solo Rescue
- Once you are on top of your boat, place one hand on the rescuer's boat to prevent yourself from falling in between the boats
- **Don't let go of your rescuer** until you feel stable again

**IN ALL RESCUES,** prior practice is essential. Practice under controlled conditions, preferably in a sheltered bay, with the wind blowing toward shore. The time to learn is not while you are bobbing around in cold water. You will increase your chances for survival greatly by knowing what to do instinctively. Kayaking can be a safe and enjoyable sport, with little risk, when done in a prudent manner. Do not put yourself at risk in conditions that you are not prepared to deal with.
ASSISTED RESCUE

SOLO PADDLE FLOAT RESCUE
Tides are defined as the vertical movement of water, and current as the horizontal movement of water. Tides rise and fall, and currents flood and ebb. A flooding current flows toward shore and an ebbing current flows away from shore. For example, the continuous current in a river is an ebbing current. Tides and currents are caused primarily by the gravitational forces of the moon and the sun and the rotational effects of the moon’s orbit around the earth and the earth’s orbit around the sun. Since the moon is closer to the earth, its tide producing force is more than twice that of the sun's influence. When the sun and moon are at opposite ends, or on the same side of the earth (during new and full moon), the combined forces produce the greatest tides. Other factors such as barometric pressure, heat and wind contribute to tides and currents as well. For example, a continuous on shore wind has a tendency to raise the tide level and increase flooding currents. The meteorological effects on tides and currents can be quite dramatic during storms. Tide & Current tables do not consider any weather related factors or other non-predictable variables when making tide or current predictions.

HOW DO TIDES AND CURRENTS RELATE?
In general terms, a rising tide brings water onshore or into a bay causing a flooding current. When the tide has reached its maximum, there is a related period of slack water (slack before ebb). A falling tide takes water away from shore or out of the bay causing an ebbing current. When the tide is at its lowest point, a period of slack water occurs (slack before flood). It is important to note, however, that the times for high and low tides do not necessarily coincide with slack water times. Nor do the times of maximum flood or ebb always coincide with the greatest change in tide. Especially in locations where there are strong permanent currents such as rivers, the times for slack water may be quite different from that of the corresponding high or low tide.

NOAA and other agencies observe the tide and current at various stations throughout the world. Over a period of time, these observations are tabulated and reduced to a set of factors that, when summed, model the tide or current at that particular location. Each of these factors is called a harmonic constant, and is based on the sun or the moon. Stations that have harmonic constant data available are called harmonic stations.

If the tidal pattern is similar to a nearby station, time and height corrections are computed based on the nearby station. These stations are called secondary stations. Secondary stations usually have time and height corrections printed in the middle of most tide books.

CHART DATUM
Soundings (depths) on the charts are based on the 0 point (Chart Datum) of the tide. You add positive tides to, and subtract negative tides from, the soundings on the chart to get the actual depth. Since the zero point is lower during spring tides, there may be less water than you think at those times.

WHAT ABOUT TIDE BOOKS?
Tide books provide as much information as they can in a small amount of space. Some of the newer books include graphs of tide and current values to give you a clearer picture of how the predicted tide or current behaves. However, no tide book can depict every location in the NOAA tables as a graph or even as tabular predicted values. You still have to add or subtract time and height corrections to get the extreme values, and use more complex math or guess as to what the intermediate values are going to be.

With Tide & Current programs, you don’t need to do any computations. The program displays a graph for each day, so there is no guess work in knowing what the predicted values are. You can also print daily and monthly reports for locations you are interested in.

SOME NAVIGATION TIPS
Distance on a chart is measured in Nautical Miles. Speed is measured in Nautical Miles/hour, or knots.
1 Nautical Mile=6080’= 1.15 Statute miles

Charts are small pieces of the earth laid out flat for navigational purposes. Positions for any spot on earth can be located using latitude and longitude. Latitude is your location in degrees N or S of the equator; longitude is your location E or W of Greenwich, England. For example, Seattle is 48°N latitude, 122°W longitude.

For purposes of measurement, we can use the degrees and minutes of latitude on the left and right sides of the chart.

1° of Lat=60 NM
1°=60’ (=minutes)
1"=1NM=60" ("=seconds)
1"=.02NM, =100 feet
1Knot=100 ft./minute

Average paddling speeds: 2.5-4 knots
The longitude scale does not work for measuring distances.

When using a compass, keep in mind that charts are oriented to the True North Pole, where Santa lives, and not to Magnetic North, where your compass points. To find the difference, locate one of the Compass Roses on the chart. The Outer ring of the Rose is oriented toward True North, while the next inner compass is oriented to Magnetic North. Inside the Rose you will find the Variation, or difference between True and Magnetic North. The innermost rose is not used anymore.

<table>
<thead>
<tr>
<th>Speed</th>
<th>1/10 mile</th>
<th>Time/mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 knot</td>
<td>6 min</td>
<td>1 hr</td>
</tr>
<tr>
<td>2 knots</td>
<td>3 min</td>
<td>30 min</td>
</tr>
<tr>
<td>2.5 knots</td>
<td>2.4</td>
<td>24 min</td>
</tr>
<tr>
<td>3 knots</td>
<td>2</td>
<td>20 min</td>
</tr>
<tr>
<td>3.5 knots</td>
<td>1.7</td>
<td>17 min</td>
</tr>
<tr>
<td>4 knots</td>
<td>1.5</td>
<td>15 min</td>
</tr>
<tr>
<td>4.5 knots</td>
<td>1.3</td>
<td>13 min</td>
</tr>
</tbody>
</table>
CURRENTS

Currents relate to the horizontal movement of water, while tides measure the vertical component. As the water flows through the constricted channels, and around the islands, it acts much like current in a river would. Fortunately, there are current tables that tell us the direction and timing of the flows. They also tell us the times of Slack Water, when the speed of the current is weakest. There are generally 4 slacks and 4 current maximums each day, usually 2 ebbs and 2 floods.

In some areas, currents achieve velocities of 8 knots or more. It is important to know how to read the current tables. **Tide rips, eddies, and wave conditions** are much more pronounced during times of fast current. A current going with the wind will tend to reduce wave height, while a current opposing the wind and waves will steepen the waves, and lessen the distance (wavelength) between them, causing very rough conditions. Eddies or countercurrents tend to form on the downstream side of points, and in depressions in the shoreline. Eddies also form near shore in channels with fast currents, and where fast water flows into slow. The eddyline marks the edge of two currents moving in opposite directions. Whirlpools sometimes form there.

**FINDING CURRENT INFO FOR YOUR DESTINATION USING CURRENT TABLES:**
1. Look at your chart and find the main current station closest to your destination-main stations are listed in the Table of Contents in the current tables.
2. Look in Table 2 of Current Tables, and find the main station in center column.
3. Under main station, look for secondary stations at or near your destination(s).
4. If your destination is not listed there, look for the next closest main station and check table 2 again (steps 2&3) until you find the right station. You can also just look down the left hand column until you find your destination, then look to the center to find which main station you need.
5. Write down Secondary Station Corrections for SWBF, FLOOD, SBWE, EBB; and the Speed Ratios and directions in Degrees True for Flood and Ebb.
   (You can write this info on the worksheet)
6. Write Main Station daily predictions from Table 1.
7. Apply Table 2 corrections to main station prediction and write in secondary station section of worksheet.
8. Mark the locations of the secondary stations on our chart, and the direction of ebb and flood.

TIDES

The sea rises and falls with the tide. The need to know how high a tide will be can become painfully apparent to the unwary paddler who awakens to the sound of water lapping at the tent door, or one who watches their kayak drift away, because they forgot to secure it, or their gear, on high ground. It also comes in handy when paddling in shallow areas, like river deltas, that can dry up and leave you with a long slog through knee-deep mud, dragging your kayak behind you.

**60/90 Rule For Currents**

The current tables tell you the times of slack, times of Max speeds, and the max speeds. To find out what is happening between the slack and max, you can use the rule of 3rds. Let's assume, for this example, that the currents look like this:

- **SW 12:00** Max 3:00 pm 6.0E SW 6 pm Max 9pm 5.0 F

Take the amount of time in between max and slack for when you will be in the area; Divide that by 3. In this case, it would be 60 minutes. This is your interval for the thirds.

SW 12:00 + 60 mins= 1pm + 60 mins=2pm +60 mins=3pm.

From the slack water, the current increases to 60% of max in the 1st 3rd, to 90% in the 2nd 3rd, and to max in the final 3rd. This would look like:

- 12:00 SW=0 current
- 1pm: 60% of 6.0= 3.6 knots Ebb
- 2pm: 90% of 6.0= 5.4 knots Ebb
- 3pm: 100% = 6.0 knots Ebb
- 4pm: 90% of 6.0= 5.4 knots Ebb
- 5pm: 60% of 6.0= 3.6 knots Ebb
- 6pm SW=0 current

The 60/90 rule is a more conservative approach than the 50/90 rule, which can be used for most of the sound. When you are dealing with fast current areas, like Deception pass, 60/90 is a closer approximation. You can use it everywhere, however, and still be assured that the currents will be no faster than what you expect, assuming you have no strong winds or wave action to complicate matters.

If you are in the current for the entire duration of the cycle (SW to SW), your average drifting speed, assuming you are going with the current, and there is no wind, would be 63% of the maximum.

**Duration of Slack: The Slow Water Rule**

When making a crossing, you will be paddling at a right angle to the current, which means you will be pushed to the right or left of your course. Doing so at Slack water will eliminate this sideward movement. This will also lessen the chance of being caught in tide rips caused by the collision of current against opposing wind/waves. It also helps when paddling through a pass. The duration of slack is not hard to figure. The harder part is getting there in time so you don't miss it. To figure the duration of slack, we will use this example:

Max 10am 3.0F SW 1pm Max 3pm 6.0 E

How long will the slack water last? By dividing the Max speeds into 60, we get the amount of time the water is moving at less than 1/2 knot, before and after the SW: 60/90=20 min, 60/6=10 min. This tells us that there will be 20 minutes of slow water before the SW at 1pm, and 10 minutes of slow water after for a total of 30 minutes of slow water, beginning at approximately 20 minutes before the SW. Since the SW actually may occur up to 30-45 minutes earlier than predicted, it is always a good idea to get there early.
**THREE STROKES AND YOUR OUT!**

The biggest roadblock to learning proper paddling technique is that some instructors and students insist that it be more complicated than it really is. I have also looked for the secret that would make me an expert paddler. What I have found is that the more I work on economy of motion, the better my paddling becomes. What is it that we expect our strokes to do for us?

- Forward and backward propulsion
- Turning
- Sideways movement
- Provide Support

**Forward Stroke:** By varying the angle and depth of the blade, this one basic motion covers at least three of our stated objectives:

With a **vertical blade**, we have your basic forward stroke for propulsion. The more horizontal the shaft, the more support you get out of it.

Place your paddle next to the bow of the boat, **Angle the top of the blade back 30º-45º, push it straight out in a big arc**, and you have a turning stroke called the Forward Sweep. **Angle the top of the blade back 60º-80º, push it straight out in a big arc**, and you have a sweeping High Brace for support.

**Back Stroke:** Again, by varying the angle and depth of the blade this one basic motion covers at least three of our stated objectives:

When paddling backwards, keep the shaft horizontal, and extend it away from the boat. Use the back of the blade.

Place your paddle next to the stern of the boat, **angle the top of the blade forward 30º-45º, push it straight out in a big arc**, and you have a turning stroke called the Reverse Sweep. **Angle the top of the blade forward 60º-80º, push it straight out in a big arc**, and you have a sweeping Low Brace for support.

To **Rudder** place your vertical blade parallel to your stern, and move it in and out for steering.

A forward or back stoke can be changed to a sweeping High or Low Brace by simply changing the angle of the blade, and extending it further out to the side. In essence, every stroke is a potential High or Low Brace.

**Draw Strokes** give us sideways movement of the boat. In the classic draw, the shaft is vertical and extended out to the side, and drawn in to the side of the boat- not inherently stable. The stroke can be modified to offer a lot more stability by **Sculling** it back and forth.

**Advanced Strokes** are combinations of the above strokes, seamlessly linked to provide the desired boat movement. To move your boat sideways while going forward, you could combine draws to the bow with half forward strokes, to avoid rocks, other boaters, etc.

With time and proper technique, anyone can develop a paddling style that is smooth, efficient, and stable. Once one understands the basic building blocks of a proper paddle stroke, things will start to become clearer even as the walls between the different strokes begin to crumble.

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**WIND AND THE PADDLER**

Wind and kayaking go hand in hand on many levels. Ask any non-paddler who has been victimized at a party by an avid kayaker’s seemingly endless store of near-misses and religious experiences—they’ll tell you that at the first sign that a full-blown gale is developing, turn and head for safe harbor. On a more practical level for the paddler, wind and its effects comes in all shapes and sizes. When practicing in strong winds, make sure it will blow you to shore if anything happens. Practicing in small surf is best for overall boat control practice.

So how does the wind affect the kayak and paddler? **Wind/Waves Against the Current** The further the wind blows across the water (fetch) the bigger the waves are. The current flowing the opposite direction pushes the waves closer together, making them steeper, sometimes causing them to break. As the speed of the current or wind increases, the seas become more chaotic. This can result in areas of big swell and/or breaking waves, one form of tide rips.

**Solution:** You should anticipate and avoid these conditions, or have excellent bracing/rescue skills when venturing into areas with strong tidal currents.

**Paddling Into the Wind** Many times, the easiest. Your boat is easy to control, and the wind makes you feel like you are moving faster than you really are. Once the wind speed approaches 15 knots, whitecaps begin to appear, and the pressure of the wind on your paddle and body make the going much harder. Still, it may be easier than paddling across or downwind.

**Solutions:** Look for protection from the wind. In strong headwinds, a feathered paddle offers much less resistance to the wind.

**Paddling Downwind, straight or at an angle**- can be easy in a gentle breeze. As the wind increases and waves get bigger, boat handling becomes more difficult. As the boat comes down the face of the wave, the stern gets pushed around, leaving the kayaker sideways, or broached, to the wave. Correcting for this requires lots of effort, and can be very tiring and frustrating for the inexperienced and the veteran paddler.

**Solutions:** To counteract the broaching, tilt the boat to the side your are turning toward and do a sweep stroke on that side. Rudders help in moderate situations, but lose effectiveness with larger waves. If those methods are ineffective, use a rudder stroke when on the face of the wave, followed by a sweep stroke to try and keep on course. Back paddling on the face of the wave, and slowing your boat speed way down allows better control.

**Paddling across the Wind (in beam seas)**- Here again, the wind/wave action wants to push your stern downwind faster than the bow. This results in weathercocking, or turning up into the wind.

**Solutions:** When Paddling across a wind, tilt the upstream edge toward the wind, and if necessary, do a forward sweep on that side. Extend the paddle on the upwind side for more leverage. Rudders help in moderate conditions. One can also ferry across the wind. By pointing upwind of your destination, you paddle at an angle to the wind/waves, balancing your forward speed and the effect of the wind so that you cross laterally, rather than perpendicular to the wind.
Kayaker's TLC

Most new kayakers are convinced that leaning their boats is an utterly foolish notion. Why would anyone jeopardize their hairstyle by tilting their boat? Tilting, Leaning, Carving, and Edging are important parts of kayak technique.

WHAT'S THE DIFFERENCE?

When someone tells you to lean, it almost always refers to tilting, or edging, your boat, not your body. When your body is squarely over the centerline of the boat, you are stable. When you lean your body out over the side, you had better be bracing or rolling, 'cause you soon will be. There are times when a good body lean will save you. If a big, steep wave is breaking on your side, sometimes no matter how much you lean your boat, the wave will slap your body over. You can save yourself by throwing your body into the wave, dunking your head underwater, and bringing the boat almost all the way over on top of you. When the wave breaks, it will then right your boat, bringing you back up with it.

SO HOW DO I LEAN/TILT/EDGE?

In order to do any form of the above, it is necessary to have good contact with your boat in three areas: the knees/thighs, the feet, and the seat. You lean your boat by pulling up on one leg, and tilting the opposite hip down. If you are not comfortably tight in these areas, you will find yourself falling around in your boat, instead of acquiring the desired lean.

-Feet: You need solid footbraces to push against, so you can raise the boat with your legs.
-Seat: If you don’t have a backband/seatback, you will push yourself off the back of the seat. Enough padding is necessary on the inside and outside of the seat so that your hips don’t slide, and the seat doesn’t fall to the low side when you lean.
-Knees/thighs: You need to have sufficient purchase with your knees so that you can raise the boat. Padding underneath the deck helps cushion, and adds grip.

PRACTICE

To see how leaning can mean several different things, all with different outcomes, sit in your boat on warm water and try these exercises, either with a paddle, the side of a pool, or the bow of a friends boat:

- Keeping your body vertical, lift your left leg, push down on your right hip. The boat tilts to the right, with bottom showing on the lef.
- Lean your body out over the side of the boat. When you start to capsize, snap your head down toward the water and bring your knee toward your head as you brace. This will roll the boat back under you.
- Tilt your boat by leaning just your head and shoulders. Notice how your hips actually tilt the boat away from your head/upper body lean!
- Lean your body out over the side again, but this time try to bring your head up first.

Don't Just Sit There- Rotate!

Body rotation is a key element to proper paddling technique. Rotation uses your large torso muscles to perform most of the work, takes the pressure off of your smaller arm muscles, and protects your shoulders from dislocation by keeping them inline with your torso, not extended behind.

When you plant your paddle to start a forward stroke, rotate into the stroke. For example, if you are paddling on the right, extend your right arm and shoulder as far forward as you can reach, and twist your torso to the left until its is about a 45° angle to the keeline. While doing the stroke, you uncoil your torso, keeping your arms straight and rotating until you are actually twisted to the right to 45°. Stop when your top hand reaches the centerline of the boat for a low angle stroke. With a high angle stroke, your top hand will cross in front of your face, so the blade can come out by your hip. While uncoiling, push on the foot on the side you are stroking on to help propel the boat forward. You are now in position for a forward stroke on the left, i.e. you are coiled to the right, and ready to uncoil to the left. Remember: Toe To Hip, 45° to 45°.

For the forward sweeps you coil and uncoil the same way, except that you push the paddle out in a big arc straight out from the side of the boat to get the turning momentum. While uncoiling, you are also pushing the boat with your legs. This means your torso is going one way, while your legs go the other. It might help to imagine you are planting your paddle in wet cement, and are using your paddle as a stationery pole while you move the boat with your torso and legs. If you look at the blade all the way through your sweep strokes, you will have to rotate-you should be looking at the stern of the boat after a forward sweep, and at the start of a reverse sweep. During your everyday paddling, you can back off the exaggerated motion until conditions require a little more oomph to your strokes.

Reverse sweeps benefit greatly from torso rotation. Twist all the way to the side until your shoulders are parallel to the side of the boat. Extend your back blade as far to the stern as possible, but keep your elbow slightly bent. If you do not rotate for this stroke, you will be reaching back behind you with your shoulder in a very precarious position. As in the forward sweep, uncoil your body and move the boat with your legs as well. For the backstroke, rotate until your front hand is at the centerline of the boat, then uncoil. Keeping your arms straight in the backstroke while you rotate your torso keeps the paddle out to the side in a nice, stable position, and spares your biceps unnecessary overuse.

The draw stroke requires rotation until you are facing the side you are drawing toward. Once again, this protects your shoulder, and puts your paddle in the most efficient position for the stroke. It allows you to get your paddle vertical, and out over the side of the boat where it will do you the most good. Keep your top hand still, with the back of your forearm in front of your forehead.
As most paddlers take their first strokes, the one thing that is in all their minds is “If this boat flips over, will I be able to get out?” Capsizing any craft is an exciting proposition. In a kayak it becomes a little more interesting because the paddler is inside their craft, with a sprayskirt covering the only exit. Depending on how tightly one has outfitted their boat, it could require some effort to perform the wet exit. In any case, before one ventures out in a kayak, it is imperative that the paddler test the fit of the sprayskirt, ensuring that it will release when necessary. Also check to see if the thigh braces, hip padding, or backband pose obstacles to a swift exit.

The fit of the sprayskirt should be fine-tuned for your boat. Some have adjustable shock cord, so you can make it tighter or looser depending on your needs. Most fiberglass kayaks have a wide coaming lip, which is great for holding the skirt on, but can make it more difficult to get off. Most plastic boats have a much thinner coaming lip, so that most skirts will come off easily with a little bit of help. If one is looking for a more secure, water-tight fit for their skirt, neoprene sprayskirts with sewn-on shock cord are excellent. However, if the skirt is not sized properly, on fiberglass boats these can be extremely difficult to remove when performing a wet exit.

Practice your wet exit, and whenever you get into a boat, especially one that is new to you, put on your skirt and remove it while you are still upright to find out exactly how much effort it takes to get it off. This will give you greater peace of mind while you are out enjoying your local waterways.

With a properly chosen skirt, and some practice at removing it while upside down, exiting the kayak should be a relatively simple matter. When exiting a capsized kayak (the wet exit), one should lean forward, grasp the sprayskirt’s grab loop with one hand, while keeping the other hand on the paddle. If it is a really tight fit, you may have to use both hands to get it off. Once you have hold of the grab loop, push it forward and up until it clears the coaming, then straight up until the sides are clear. At this point, you can roll forward to come out, or push the boat off your legs like a pair of pants. What you want to avoid doing in this situation is leaning back and twisting. Most beginners believe that if they lean back, they will be able to breathe. Not! Leaning back will push your legs up against the deck, and twisting can cause your legs or feet to get tangled up in the boat. If you forgot to leave your skirt’s grab loop out, you will be wishing you had not trimmed your nails recently as you claw at your skirt to get it off. Other ways to remove it are to pull your knees to the center and push up with them, or grab the sides of the skirt and try to work it off there (it is much looser on the sides than the front). You could also reach in through the waist and push it off from underneath. These methods are a poor substitute for having a proper-fitting skirt, and a grab loop that is accessible and will not pull off when you need it.

WE ALL WEAR SKIRTS HERE

In order to truly enjoy, or at least survive, the surf zone, one must practice bracing under pressure. Evaluating your progress can be a mystery without the help of a competent instructor. There are a few things to keep in mind as you are preparing for yet another wet exit in the zone.

1. Wave/Kayak Dynamics
2. Control Factors
3. Beginning Practice
4. What Happened?

**WAVE/KAYAK DYNAMICS** are very simple: the wave and the kayak on the wave are both moving towards shore, THE WATER IS NOT MOVING. The wave is shoving your kayak across the top of the water towards the beach (hopefully). Therefore, in relation to the kayak, the water is flowing from the beach out to sea. The first thing to learn about current is TILT YOUR KAYAK (not necessarily your body) AWAY FROM THE ONCOMING CURRENT. In this case, you must tilt the kayak away from the beach, and toward the wave. That way, you skip across the water, instead of catching the shoreside edge, and tripping over “current” moving off the beach. Tilting your kayak means presenting the bottom of the kayak towards, or “mooning” the beach.

**CONTROL** in the zone requires awareness of the waves and their patterns, good and timely bracing, and the above-mentioned mooning. Low braces, high braces, and a good rudder stroke are your friends while on a wave.

**PRACTICE: WEAR A HELMET!** Practice is best on a flat, gently sloping beach devoid of rocks, with a small break, where swimming would not be a major endeavor. Paddle out to just inside the closest break where it is deep enough that you won’t hit your head on the sand. Resist the urge to power out through the break just yet. Turn your boat sideways and let the waves break on, or just before they get to you. Moon the beach, and brace on the wave.

**EVALUATING** yourself gets easier after a few swims. Pay attention to HOW you (and others) flip:

- **FAST** and towards shore
- **SLOW** and away from shore
- **FAST**- you didn’t moon enough, or too late, and you tripped over your shoreside edge. In big, steep waves, the break can slap you over when it hits your body, no matter how much you moon. Here, bury your head in the breaking wave while you brace and bring the boat almost upside down. When the wave breaks, it will right your boat.
- **SLOW**- you mooned too much, your paddle was not in a flat bracing position, or you went over the top of the wave and got caught with too much lean and no brace on the backside.

**Common mistakes:**
- Using a high brace on a small wave: Use low braces unless the waves are steep and over your head.
- Brace is too close to the boat: Extend it a bit for more leverage/support.
- Paddle is vertical: This is a Downward stroke, not a backstroke

Expect to be scared, frustrated, and then elated when it all comes together. The perseverance will make you a better paddler.
FLOAT PLAN
PLAN AHEAD FOR EMERGENCIES!
Before each excursion, fill out this Float Plan and leave it with a reliable friend or neighbor. Have that person contact the Coast Guard at (206) 217-6000 if you do not return or check in as scheduled. BE SURE TO CONTACT THAT PERSON when you return or your plan changes.

DATE/S OF TRIP: ___________________________
KAYAKER’S NAME: ___________________________
(Age, Address, Phone#, Description, Health & Experience Level)
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
BOAT DESCRIPTION(S): ________________________________________________
____________________________________________________________________
SURVIVAL EQUIPMENT: (COLORS IF APPLICABLE)
PFD____________ MARKER/DYE?________
WET/DRY SUIT?________ STROBE LIGHT?________
FLARES?_________ MIRROR?________
SMOKE SIGNAL?______ WHISTLE?________(Legally required in WA)
HORN?_________ EXTRA FOOD/WATER?________

COMMUNICATION/POSITIONING GEAR:
VHF RADIO (CALL SIGN) _______________
CELLULAR PHONE # _______________
GPS UNIT _______________

COMPANIONS: (Name, Age, Phone #)
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

TRIP EXPECTATIONS:
DEPARTING FROM: ______________________________________ETD__________
DESTINATION: _______________________________________ETA__________
RETURNING NO LATER THAN:______________________________________________
VEHICLE LOCATION: ___________________________________________________
LICENSE AND DESCRIPTION ____________________________________________

U.S. COAST GUARD (206) 217-6000