YouthSafe Outdoors

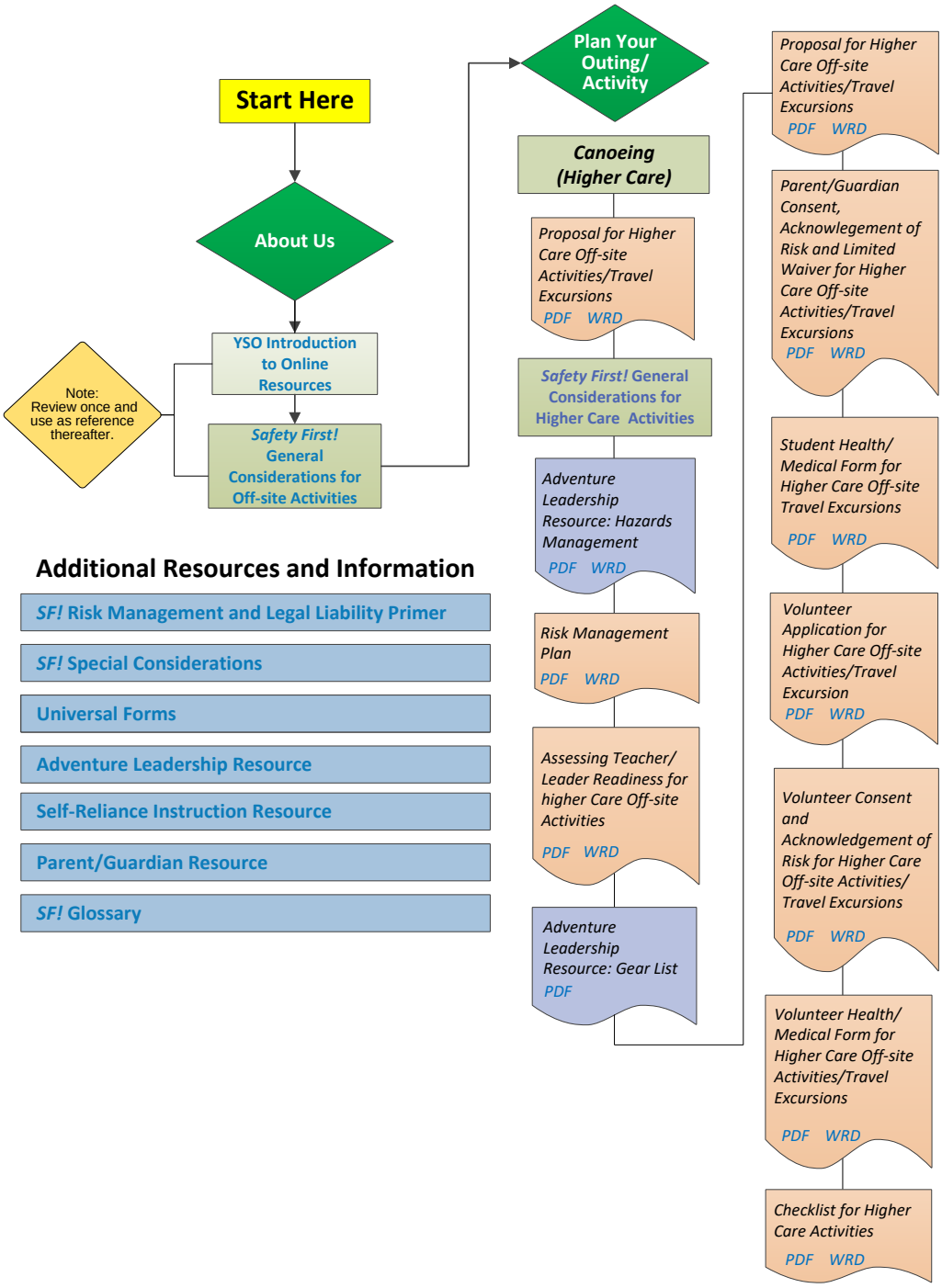
Canoeing (Higher Risk)

Day Tripping (Higher Care) Grade 4+
Overnight Grade 5+
Extended Tripping Grade 7+

Flow Chart, Steps to Success, and Safety Guidelines

Click on the hyperlink at the bottom of the column that best describes the context of the Canoeing activity that you are planning .

Low Risk	Higher Care
Criteria: • Local, confined venue (e.g., municipal pool, pond) • Generally of short duration (less than 3 hours) • Low inherent risk in the activity • Clear boundaries for activity • Near support services: e.g., buildings or vehicles accessible • Close to emergency services: less than 20 minutes from EMS arrival on-site • Teachers/leaders do not need significant specialized training to implement the guidelines • Minimal preparation of students required; less than an hour	**Criteria:** • Substantial body of water (e.g., lake, river) • Semi-remote to remote location: out of the community (e.g., river, wilderness lake) • May be of longer duration (more than 3 hours) • Higher inherent risk in the activity; (e.g., Grade 2 river) • Lack of clear boundaries for activity • Potentially far from support services: buildings and/or vehicles not immediately accessible • Not close to emergency services: more than 20 minutes from EMS arrival on-site • Teachers/leaders need specific training in the activity to conduct it safely • Students need significant preparation; more than an hour



Additional Resources and Information

- *SF!* Risk Management and Legal Liability Primer
- *SF!* Special Considerations
- Universal Forms
- Adventure Leadership Resource
- Self-Reliance Instruction Resource
- Parent/Guardian Resource
- *SF!* Glossary

Safety Guidelines

Canoeing Higher Risk

BC offers some of the finest paddling opportunities in the world. Exploring the province, and/or other parts of Canada by small craft (canoe, voyageur canoe, kayak, raft, etc.) is a tremendous way to learn about and come to appreciate, understand and care about our natural and cultural heritage. While there are unique inherent risks associated with water travel, these risks are largely manageable by adhering to the general and specific guidelines shared herein.

Known Potential Risks

- Injuries related to motor vehicle incidents en route to and from activity area;
- Becoming lost or separated from the group or the group becoming split up;
- Injuries related to slips, trips, and falls in the program area or en-route to/from it;
- Injuries related to capsize of craft or falling out of craft (e.g., due to hazards such as high or low water levels, strong currents, cross currents, weirs, shoals, dead heads, rocky shorelines or other factors);
- Injuries related to collisions with movable (e.g., other boats) or immovable (e.g., rock, bridge abutment) objects;
- Injuries related to equipment (poor fit, improper adjustment, malfunction, or becoming tangled in apparatus; e.g., foot snag in bailer cord);
- Injuries related to lifting, carrying, walking with, or putting down the craft and/or packs;
- Motion sickness when on large wavy bodies of water (lakes, ocean);
- Drowning or near drowning;
- Injuries related to the physical demands of the activity and/or lack of activity skill;
- Other injuries (e.g., blisters, sprains, strains; acute or overuse injuries/conditions);
- Weather changes creating adverse conditions (e.g., cold, wind, precipitation);
- Hypothermia due to remaining in cool/cold water too long or due to insufficient clothing;
- Loss of manual dexterity in hands during cold and wet weather;
- Hyperthermia (e.g., overheating) due to insufficient hydration, overdressing and/or overexertion;
- Illness related to poor personal hygiene, or failure to purify drinking water;
- Allergic reactions to natural substances (e.g., wasp or bee stings or jelly fish stings in ocean);
- Injuries related to encounters with animals and plants in the environment;
- Psychological injury due to anxiety or embarrassment (e.g., re: lack of skill, body image);
- Complications of an injury/illness related to remoteness and time to emergency services; and
- Other risks normally associated with participation in the activity and environment.

Common Risk Mitigation Strategies

Canoeing Day Tripping (Higher Care):

Teacher/Leader Readiness

- The teacher/leader must be competent to organize the canoeing activity; to demonstrate, instruct and supervise it; and to effect rescue and emergency procedures as necessary. The more remote and/or longer the boating activity is to be, the more knowledge, skill, fitness and experience the leader must have.
- The teacher/leader and assistants must be capable swimmers, able to manage themselves confidently in the water in the selected environment while wearing a PFD. At a minimum they must each be able to successfully complete a survival swim test (roll into the water, tread 1 min., swim 50 m. any style while wearing a PFD and no goggles).
- If craft are to be transported by trailer to and from the water, the individual driving the tow vehicle must have sufficient experience and skill to manage these tasks safely.
- The teacher/leader must be comfortable and capable on and near the type of water intended to paddle; whether pond, lake, river or ocean. Those competencies include but are not limited to: reading local winds and weather and making accurate short-term forecasts; reading the water, interpreting and responding to hazards; and navigating accurately in the area; executing rescues of self, and others; and using the communications system to engage in necessary communications.
- All assistant leaders must be competent boaters, capable of supporting the group and effecting/helping effect appropriate rescues in the type of water anticipated.
- Training may be secured through Recreational Canoeing Association of BC, Paddle Canada, Canoe/Kayak BC or other appropriate sources.
- The leader should be familiar with Transport Canada regulations for the vessel(s) in use with regard to operator certification. Such certifications depend upon whether the craft in use is designated a commercial or pleasure craft. Refer to www.boatingsafety.ca
- Water temperature is a critical factor in risk level calculation. It is important that all leaders and students are sufficiently prepared and skilled to get out of the water quickly (e.g. within 10 minutes). Cold water is debilitating. Most individuals have difficulty rescuing themselves out of frigid waters, let alone another person(s), and children are incapacitated far more quickly. Lakes and rivers in BC can be very cold, even in summer.
- The teacher/leader or a designate must have sufficient first aid training, the level dependent on the time and distance to Emergency Medical Services (See *First Aid* in *General Considerations for Higher Care Activities*).

Location

- Guidelines related to travel by bus or walking to/from a site are covered in *Travel to/from Off-site Destinations* in the *General Considerations*. If travelling by a means other than bus or walking, see *Transportation* in *Special Considerations*.
- Identify a safe, allowable way to transport equipment considering the safety of the students and minimal potential for damage to the equipment. (e.g., paddles may not be permitted in the cabin of a school bus and need to betransported in a lower luggage hold - which not all buses have). Address any such issues when booking.
- Up to three students can be assigned to each canoe.
- When selecting an appropriate teaching site/route for a boating activity, consider:
    - the temperature of air (including wind chills) and water,
    - length of time a participant(s) may spend in the water if a boat is upset,
    - rate at which the water is moving (if a river, stream, or ocean current),
    - ease of access to/egress from site or watercourse,
    - the time of flood/slack/and ebb tides and their level of change (if on the ocean) by consulting tide and current tables, and
    - the skill/experience level of the students.
- Non-established waterfronts should be researched before swimming or practicing boat rescues. Look for submerged branches, large rocks or other objects, swiftly moving water on bends in rivers, shallow water, etc.
- When selecting a river travel route, consider gradient and grade of the water (consult maps, guidebooks, local area officials, paddling associations and clubs, etc.).
- When selecting a river travel route subject to change in classification based on flow rate, consult the Environment Canada Water Office. See www.wateroffice.ec.gc.ca
- Consider potential implications if a watercourse is subject to sudden and/or significant fluctuations in volume (e.g., impact of dams, storms, diurnal, seasonal or tidal variations).
- There must be sufficient craft and leaders on the water with a group to provide rescue.
- Consider the frequency/length and terrain (e.g., steep, potentially muddy) of any portages expected (impacting packing methods for hauling gear and timelines).
- Postpone paddling if there are indications of dangerous weather (e.g., lightning, storm activity, high wave conditions, or a strong off-shore or very gusty wind - particularly on shallow lakes, wide rivers or the sea).
- Open crossings of large bodies of water are discouraged; groups should generally be kept within 80 meters of a shoreline.
- All paddling in diminished conditions should be done near shore unless doing so would increase risk (e.g., strong on-shore winds with a rocky shoreline).
- At the end of each trip, and upon changing watercourses, wash any mud, algae or plant fragments from boats, paddles and feet to avoid transmitting any plant or animal pest species to previously uninfected places.

Equipment

The following equipment suggestions meet or exceed the Transport Canada, Office of Boating Safety minimum standards and recommendations. Standards and regulations change periodically and it is the responsibility of vessel operators to comply with current standards. It would be prudent to consult the office or website for current information before planning any boating activities. Go to www.boatingsafety.ca

- Craft should be checked for leaks, broken seats, etc. and paddles for cracks and splinters.
- If transporting boats to and from usage site, ensure that they are properly secured on a trailer (with safety chain in place and functioning lights) or well-lashed on a secure rooftop carrier.
- Do not exceed the weight load or capacity for the craft used.
- Correct fitting, Transport Canada/Canadian Coast Guard/Fisheries and Oceans Canada (or any combination of the above) approved PFDs/life jackets must be worn properly and done up at all times by all group members while on/in the water. Select bright (orange, yellow or red) PFDs for visibility. Lifejackets have the added advantage of turning the wearer onto his or her back, even if unconscious, while PFDs will not do this.
- Students under 36.3 kg (80 lbs.) should wear PFDs that include a large collar for head support, buckled waist belt or elastic gathering, a buckled crotch strap that prevents the PFD from slipping over the student's head, and reflective tape.
- PFDs should be pre-use checked to ensure they are in appropriate condition (e.g., buoyant, straps/buckles/zippers work, straps well-attached). Clean dirty PFDs with mild soap and water, dry in open air, and use appropriately (e.g., not to kneel on or as a boat fender).
- Be aware that inflatable PFDs are not approved for anyone under 16 years of age or under 36.3 kg (80 lbs.), on a personal watercraft or for whitewater paddling activities.
- A sound-signalling device is required equipment onboard each craft. Attaching a pea-less whistle to each participant's PFD is an ideal way to achieve this requirement. Alternatively, each craft would need to be outfitted with a compressed gas horn or electric horn.

In addition:

- Teachers/leaders should each have a knife attached to their PFD in the event someone gets tangled in ropes or cords, sweepers, etc.
- There must be a bailing device in each craft (e.g., bailer in canoe, multiple-paddler craft, sponge in kayak, bilge pump in sea kayak or any of the above craft). Bailers must hold at least 750 ml (0.2 gallon) and be made of plastic or metal. A 4-litre jug, well washed out and with lid on with the bottom cut off works well. Cut at an angle up toward the handle so it works as a scoop.
- There must be a 15 m (minimum) length of buoyant rope (single piece vs. several shorter pieces tied together) in good condition attached to and accessible in the craft or (preferably bagged, but at least coiled and held together with an elastic/bungee, so it doesn't pose a foot entrapment hazard).
- If on the ocean and/or if paddling anywhere at dawn or dusk, a watertight flashlight or navigation lights are strongly recommended and required in a craft over 6 m long.

- An extra paddle per three tandem canoes or six solo kayaks, one spare per multiple paddler craft or raft.
- Ensure the first aid kit is waterproofed.
- Appropriate, properly sized and fitted helmets should be used when paddling on rocky streams or rivers of Grade 2 or above.
- If in a boat over 6 meters or any craft that has potential to be more than one nautical mile from shore, carry a watertight flashlight/headlamp and Transport Canada approved flares (Type A (parachute), B (red star shells) or C (hand flares).
- Small craft used for racing and training for racing do not need to have all of the safety equipment listed above if they have a fully equipped safety boat. Consult Transport Canada guidelines.
- A wetsuit, drysuit or appropriate clothing layers, including a dry change(s) (packed in waterproof bag/container) and good rain gear (tops and bottoms) should be worn or carried by all leaders and students traveling in small craft. Wetsuits or drysuits should be considered when the combined air and water temperatures are less than 15° Celsius, if on a river rated at Grade 2 or above or on extended open water trips. Children have a larger surface area/volume ratio and smaller overall mass than adults and, therefore, are more susceptible to hypothermia.
- Appropriate lightweight and securely fastened footwear (e.g., runners, neoprene booties) should be worn to protect the feet from rocky river bottoms or on ocean trips where there are barnacles. Rubber boots are fine for flat water paddling in all but kayaks.
- Glasses should be strapped/tied on or have a float attached.
- All teachers/leaders should have rescue throw bags or coiled ropes, fastened to the boat and be well versed in their use.
- Have adequate floatation or watertight bulkheads to prevent craft from filling and sinking.

Instruction

Water Safety and Rescue Skills

- Self-rescues into dry and/or swamped canoes should be discussed and, weather and water conditions permitting, actually practiced.
- T-rescue and/or towing rescue procedures may be taught and practiced as appropriate (weather and water conditions permitting).
- If river paddling, students must be taught emergency procedures relevant to a tip (their own or another boat).
- When paddling rivers, students should be taught how to avoid foot entrapment (i.e., float with feet up near the surface until it's shallow enough to stand safely).
- If river paddling, students should be told how to catch and hold onto a throwbag or throw rope when being rescued.

Canoeing Skills

- Instruction/review of canoeing skills may include, as relevant:
    - lifts and carries,
    - launching from dock or beach as appropriate,
    - entry/exit from canoe,
    - body position and balance,
    - basic strokes and recovery braces,
    - basic maneuvers,
    - paddling on either side and at either end of the canoe,
    - switching paddling sides and synchronizing strokes, and communications in the boat.
- If it can be done safely, an "exploratory paddle" at the waterfront site is allowable before formal stroke and maneuver instruction.
- If canoeing on a river/stream of Grade 2 or above, students should first learn relevant basic river maneuvers (e.g., ferries, eddy turns, sideslips).
- The stern paddler should have a good grasp of basic steering, including use of the 'j' and stern sweep strokes. Students should be taught how to handle anticipatable wind and wave conditions, and currents and obstructions if on a river.
- The bow paddler should be taught how to scan the path ahead for obstacles, to communicate their presence to his or her partner, and how to initiate evasive action.

Canoe Tripping (Overnight/Extended): All of Canoeing Day Tripping above, plus the following:

Location

- Ensure that the reach to be paddled is free of major hazards such as dams or weirs or that the students are aware of these hazards, understand which side to get out at and have the skills to do so reliably with a good margin of safety.
- Teachers/leaders should generally not plan a school trip on a river above Grade 2 and only well-trained and prepared groups should be taken in rivers above Grade 1 (i.e., moving flatwater with no rapids). Consult the International River Classification System for more information on the interpretation of information related to the Grade of river reaches (sections or runs) and Class of specific rapids. Secure district approval and informed parental/guardian consent for any trips exceeding these river grade guidelines.
- On multi-day trips, consider impact of loaded boats (e.g., slower, less maneuverable) when selecting paddling routes.

Equipment

- Use appropriate waterproof canoe tripping bags/packs/jugs for clothing, sleeping gear, or double-wrap in plastic bags and then place in abrasion-resistant backpacks or duffels.

- If canoeing on Grade 2 or above rivers or streams, the canoes should be equipped with appropriate floatation (e.g., waterproof gear bags, air bag, foam, inner tube) installed to displace water and facilitate rescues.
- If overnighting, gear carried should be secured in the craft, with weight low and distributed side to side and bow to stern (as appropriate – e.g., generally leaving bow slightly higher for better tracking).

Instruction

- Ensure students have sufficient river reading and boat negotiation skills to avoid anticipatable hazards (e.g., rocks, holes, sweepers, logjams).
- Generally avoid open water crossings (lake or ocean), particularly if wind, surface chop, deadheads, and/or currents are unfavourable. Skirting the shore is usually preferable (within 80 meters). Instruct students re: what they are to do if their or another canoe(s) gets blown off-course and have a plan for retrieving them.
- Students should learn how to pack their canoe for appropriate weight distribution (e.g., keeping weight low, maintaining at least 15 cm of freeboard, and bow slightly higher than stern). All gear should be tied/clipped in.
- Conduct a lengthy portage much like a day hike, with a lead and sweep, buddy system, and drop points or regroupings at trail intersections if people may get lost. Use existing trails as much as possible.

Supervision

- In-the-area supervision.
- Ratio as per calculation, with additional competent leaders needed for larger groups negotiating more hazardous water (e.g., large open body of water; moving water).
- Where the physical fitness and/or technical canoeing skills of students vary, each boat should be heterogeneous (i.e., less capable paddlers partnered with more capable).
- In situations where rescuers will need to be highly effective and efficient, the teachers/leaders should avoid paddling with particularly weak paddlers in the group.

See *Camping* for other considerations.

Notes

1. If, when reviewing the guidelines above, terms and concepts presented are unfamiliar, this is a strong indicator that additional personal leadership preparation (e.g., a training course, reading) or contracting a qualified service provider is advisable.
2. This document is not intended as an instructional guide. The teacher will need to use other references to learn how to teach students the skills (e.g., how to brake when inline skating, how to do a diagonal stride when cross-country skiing).

