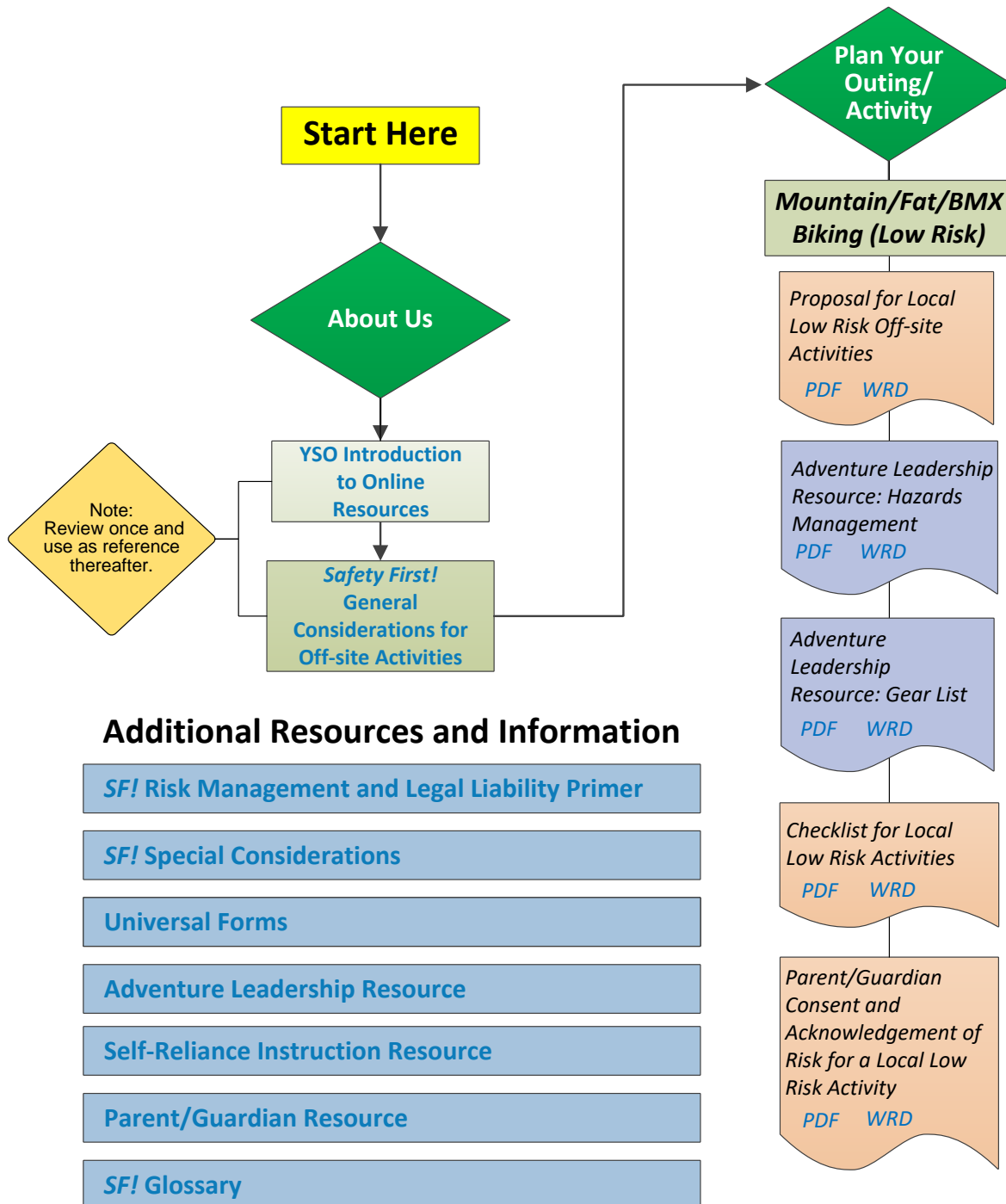


## Mountain/Fat/BMX Biking (Normal Risk)

Higher Care
<p><b>Criteria:</b></p> <ul style="list-style-type: none"><li>• Complex terrain: multiple junctions, steep, rough terrain;</li><li>• Semi-remote to remote: out of the community (e.g., provincial park, wilderness river);</li><li>• Higher inherent risk in the activity; skill and/or speed involved</li><li>• Lack of clear boundaries for activity: one could be lost for more than an hour;</li><li>• Long duration: typically (but not always) a half-day to many days duration;</li><li>• Far from support services: far from buildings and/or vehicles;</li><li>• Not close to emergency services: more than 20 minutes from EMS arrival on-site;</li><li>• Specific leadership training required: some specific technical and leadership training indicated;</li><li>• Significant preparation time of students: more than an hour of student prep needed.</li></ul>

## Mountain/Fat/BMX Biking (Normal Risk)



# Safety Guidelines

## Mountain/Fat/BMX Biking (Normal Risk)

Most youth in Canada have a bike and the type of bike ridden would most often be categorized as a type of mountain bike. Many communities in BC have trails incorporated that are best explored and played on with mountain bikes. So, mountain biking is a highly accessible activity that offers lifelong participation, opportunities to get out into nature, excellent fitness benefits and a lot of fun.

**Mountain biking** to the use of mountain bikes for riding or touring on less developed trails that typically require some degree of maneuvering through and around obstacles such as narrowly spaced trees, rocks, roots, mud, streams, steep hills, etc.

**BMX biking** refers to riding small-wheeled bicycles, with use similar to that done on mountain bikes or in BMX (typically short course of dirt hills) or skateboard facilities. BMX does not involve overnight or longer outings.

**Fat biking** refers to riding bikes with wide tires made for traversing soft surfaces like sand and snow without bogging down. Fat biking is not a very accessible activity to most youth currently, but they may be available for rent from a store or resort and because they open up an entire new season for riding (winter), including learning skills and attitudes that may contribute to non-motorized winter commuting and recreation, have been included here.

## 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 colliding with another person or with a fixed object;
- Injury or delay related to ill-fitting equipment or clothing, equipment malfunction, failure to use the equipment properly or becoming tangled in apparatus;
- Injuries related to the physical demands of the activity and/or lack of activity skill;
- Acute or overuse injuries/conditions;
- Weather changes creating adverse conditions;
- Hypothermia, frostbite or other cold injuries due to insufficient clothing;
- Loss of manual dexterity in hands during cold and wet weather;
- Illness related to poor hygiene;
- Injuries related to interactions with animals in the environment;
- Psychological injury due to anxiety or embarrassment (e.g., re: body size or shape, lack of fitness or skill);
- Other risks normally associated with the activity and environment.

## Mountain Biking/Fat Biking/BMX Biking On-site Instruction:

### Teacher/Leader Readiness

- The teacher/leader must be competent to organize the biking activity; to demonstrate, instruct and supervise it; and to effect rescue and emergency procedures as necessary.
- The teachers/leaders must be aware of and respect cycling related legislation in the province, as it relates to the cycling activity and environment.
- Training may be secured through Cycling Canada, Sprockids or other appropriate sources.
- All teachers/leaders and accompanying supervisors on bikes should be comfortable on the type of bike and in the environment selected.
- If going off-site more than .5 km from the school, at least one supervisor should have some skill in basic bicycle repair and maintenance.
- If going more than .5 km from the school, at least one supervisor should have first aid training, the level dependent upon the time/distance from EMS (refer to *First Aid in General Considerations*).

### Location

- An appropriate area/trail must be selected for the grade/age and ability of the students.
- Ensure that mountain biking or fat biking is permitted in any park or protected area to be used.
- Cycling with students under grade 4 should be on-site or on another low risk, well-controlled site or route; avoiding roads shared with motor vehicle traffic as much as practicable.
- Many communities have bike skills parks that offer a variety of challenges to help students master techniques that will transfer to trail riding. These are excellent venues to use for instructional classes.
- If considering using a skatepark as an instructional venue, ensure bikes are permitted in the park beforehand and that the group will not be mixing with skaters during the class session. There are some issues related to biking in concrete skate parks. One problem is that bike pedals sometimes jamming onto ledges and coping of apparatus or the base surface during falls, chipping it and rendering it unsafe for skateboarding. Second, bike tires bring dirt and debris into the park which can affect the safety of the surface for skateboarders (big bike wheels vs. small hard urethane wheels on boards). Flow in the park is also affected as riders and skaters often use different lines so won't always anticipate each other. A related issue is that bikes move faster around the park with little or no noise, while skaters wheels make noise; therefore cyclists can judge where a skater is and where they are going, by sound, but not vice versa. Collisions can occur.
- BMX biking is often done in a designated BMX bike park, which is typically comprised of a dirt surface loop trail with a drop down at the start and bumps the riders must negotiate as they ride the loop.

- Select on-site instruction stations carefully in terms of natural boundaries (or set out pylons or other indicators). Consider ground surface and pedestrian or other traffic.

## Equipment

- If personal equipment, parents/guardians can be tasked with checking or having a bike technician check the bike over and fit it to the student prior to student using it in the activity. Bicycle inspection should include, but not limited to:
  - working brakes,
  - inflated tires with adequate tread,
  - functioning gears (if relevant), and
  - secure headsets.
  - bicycle fit, including correct seat height and position, pedal position, and handlebar position.
- Parents/guardians are responsible for outfitting their child/ward with correctly fitting single use approved bicycle helmets for cycling activities (see *Protective Equipment for Physical Activities in Special Considerations*), unless the school has assumed this responsibility. Cycling helmets reduce head injuries by 85-88%, are inexpensive, accessible and required by law for all minors in most provinces. Teachers/leaders must **REQUIRE** or at least **STRONGLY ENCOURAGE** their use in all cycling activities and **REQUIRE** them for any riding on highways in BC or if students are to be riding in a bike park or skatepark.
- Teachers/leaders should check that students' helmet straps are properly adjusted and buckled and require students to keep them on at all times while riding.

### Proper Bike "Fit" for a Child or Beginner

- Sitting on the seat with hands on the handlebar, the rider should be able to place the balls of both feet on the ground.
  - Straddling the centre bar, the rider should be able to stand with both feet flat on the ground with anywhere from a 2.5 – 5 cm (1-2") clearance between the crotch and the bar for road bikes; 7.5—12.5 cm (3-5") clearance for mountain bikes and 5 – 10 cm (2-4") clearance for commuter, touring and kids' bikes depending on how aggressive the rider is.
  - The rider should be able to comfortably grasp the brakes and apply sufficient pressure to stop the bike.
- Recommend that a functioning bell or noisemaker be attached to each bike.
  - Use closed-toe, stable shoes for cycling (e.g., runners, approach shoes, cycling shoes).
  - Toe-clips or clipless pedals aid in cycling efficiency and in keeping the feet on the pedals, but riders who use them must know how to use them effectively and, more importantly, how to extricate themselves quickly if need be. Alternatively, if inadequate time and opportunity to learn to use these pedals safely, swap in flat pedals for the cycling activity.

- Clothing worn should be comfortable and appropriate for the weather. Light coloured or reflective clothing and helmets are more visible.
- Secure pant legs, as necessary (e.g., clips, elastics), to avoid snagging under chain.
- Tie shoelaces and secure loose clothing and long hair.
- No earphones or cell phones while riding.
- For BMX park riding or skatepark riding, leg and arm protective pads are recommended.

## Instruction

- Instruction may include, if/as relevant to the cycling activity, group and time available:
  - clothing and footwear for riding,
  - bike checks,
  - correct positioning on bicycle,
  - reading and obeying traffic signs and/or bike trail signs,
  - staying alert (inattention causes accidents),
  - how to signal and carry out turns safely,
  - if riding on a road, doing so in the same direction as the traffic (ride on the right),
  - how to maneuver the bike (e.g., riding up and down hills, cornering)
  - when to ride and when to walk (e.g., steep ups or steep downs, lifting bike over big logs),
  - learning to judge when to re-mount on an uphill or downhill vs. walking the bike to a flatter spot,
  - anticipating and responding to rough patches in the road/trail including standing water, mud, depressions, loose gravel, soft sand, ruts, etc.,
  - handling various obstacles on the trail including roots, rocks, small logs, tight turns between trees, etc.
  - riding single file, leaving enough space to be able to dodge obstacles without endangering others,
  - calling out obstacles and traffic for those behind,
  - passing others safely; calling out and passing on the left,
  - slowing and looking both ways before entering a trail junction,
  - riding in a predictable manner; looking around before swerving, turning or changing lanes and signaling where appropriate,
  - safe riding procedures for if in traffic, near parked vehicles and especially around buses and trucks,
  - staying alert and focused on the road and traffic including moving and non-moving obstacles, road conditions and weather conditions,
  - handling equipment failure like flat tires or breaking chains,
  - efficient cycling technique and gear use,
  - if in open terrain, handling gusting headwinds and crosswinds,

- dealing with wet riding surfaces (which can be slippery and can reduce brake function),
- being aware of snow or ice which can be a seasonal hazard on trails,
- basic bike maintenance (e.g., cleaning) and repair (e.g., changing a tire), and
- how to fall/put the bike down safely.
- The relevant rules of the *Motor Vehicle Act* must be adhered to if going on roadways, including group riding protocol.
- Students should be instructed to make eye contact with drivers and assume that they have not been seen until acknowledged.
- Rules of the trail for off-road cycling must be reviewed, if trail riding.
- With young or inexperienced riders, an initial riding pretest (safety emphasized) may be given before leaving the start area (e.g., starts, stops, turns, signals, communications).
- Racing should generally not be done, except where students have been trained how to race and demonstrated they can race safely and an appropriate site is used.

## Supervision

Ensure students are appropriately supervised (considering age, maturity and context). In addition to the guidelines in *Supervision* in the *General Considerations*, apply the following as appropriate:

- In the area supervision. On-site supervision when teaching new skills or if working with students under Grade 4.
- Students under grade four should be restricted to cycling on the schoolyard or adjacent park or well-defined learning environment.
- Larger groups of students (based on context; e.g., location, traffic, public) should be kept between a lead (supervisor at front) who sets the route and signals the turns and sweep (supervisor at rear) who helps ensure no one gets left behind.
- The lead and sweep should be in audible (and ideally, visual) range of each other.
- If the group gets too spread out, adjust the pace or urge dawdlers on.

The suggested minimum supervisor to student ratios for off-site cycling are:

Student Grade	Number of Supervisors to Students
3	1:8 / 2:16
4 – 7	1:12 / 2:24
8 – 12	1:15 / 2:30

Where a 2:30 ratio is provided, the intent is to suggest that two supervisors can likely handle a full class of students. It is accepted that, in some cases, this might mean a few more than 30 students; class sizes vary. Adjust supervision ratio if/as necessary due to the presence of any special considerations.

## *Mountain Bike or Fat Bike Day Tripping; all of the above plus:*

### Teacher/Leader Readiness

- The teachers/leaders should be very cognizant of their own riding habits and consciously work to be good role models (e.g., wear helmets, use signals consistently, walk where students are expected to walk).
- If going off-site, at least one teacher/leader should be competent in basic bicycle repair and maintenance, with more skill required in this area for longer, more remote trips.

### Location

- Choose routes carefully in terms of the length, grade, road surfaces (paved, gravel, dirt), and consider the presence/frequency of traffic, complex intersections, and/or other hazards.
- Prior to initial use of an unfamiliar route, leader or designate should do a pre-ride to assess safety and suitability. Pre-travel of the route helps to secure an estimate of the time needed, trail conditions, hazards present, and appropriateness for the group.
- Plan trip distances conservatively, in the event of a mechanical breakdown or other problem. Cycling trips usually cover substantially more distance than walking/hiking outings, so it is easy to be quite far from home base.
- If riding to a trailhead, avoid riding on busy roads, especially if there is no cycle lane or paved shoulder.
- If riding on a road for part of the ride, at least the lead and sweep riders should be wearing clothing or safety vests that are brightly coloured or that have reflective tape to enhance visibility of the group to motorists. All riders should be encouraged to wear brightly coloured and/or reflective clothing.
- Headwinds can greatly affect pace. Consider direction of tour in relation to forecast and season and plan distances accordingly.

### Instruction

- If mountain or fat biking, instruct students about natural hazards present on or along the trail (e.g., rocks, tree roots, logs) and how to safely negotiate these. Attention should be given regarding when to ride and when to walk the bike.
- Students should be competent at selecting and shifting gears effectively in response to changes in incline before venturing onto hilly trails.
- If sharing the trail with other recreational users such as hikers and horse riders, ensure that riders are familiar with protocols for safety and courtesy (e.g., ride under control and at reasonable speed; make verbal/bell contact, especially if coming up behind someone; get off bikes, move off to side and stand still while horse groups pass).
- If riding in bear country, particularly where heavily wooded, avoid group spreading out along the trail excessively.



- Students should be competent at selecting and shifting gears effectively in response to changes in incline before venturing onto hilly trails.
- Inappropriate use of mountain bikes can destroy an area, especially during wet conditions, rendering the area dangerous for future riding. Avoid such impacts (e.g., walk across muddy areas, avoid locking up brakes and skidding the rear wheel, which can create erosion ruts).
- Protective eyewear should be worn at night or on trails where branches protrude.
- Participants should wear brightly coloured clothing when riding on trails or dirt roads in rural areas, particularly in hunting season.
- Because trail cyclists move significantly faster than hikers, be particularly cautious in bear country. Attach noisemakers to bikes or persons and/or talk or sing when in confined woods.
- Be particularly aware of how much farther biking can take a group than hiking. The group that ventures far into the backcountry must be very well-prepared and self-sufficient.
- Students should carry a small day pack or bike bag with a wind layer, rain gear, snacks and other items they may want or need.
- Instruct students to get themselves and all of their gear well off the road or trail when resting, having lunch, or stopping for any other reason.
- If sharing the trail with other recreational users (e.g., walkers/joggers, hikers, horse riders), ensure that cyclists are familiar with protocols for safety and courtesy (e.g., ride under control and at reasonable speed; make verbal/bell contact, especially if coming up behind someone; dismount, move off to side and stand still while horse groups pass).
- Because of convection effects, cyclists may dehydrate more quickly than hikers or others working at the same intensity. Students should be encouraged to carry water (on their bikes or persons), and to drink often (e.g., give reminders at break stops and model by drinking frequently).

## Supervision

- As above under Cycling Activity Instruction.
- Lead and sweep supervisors should carry communication equipment (e.g., cell phones, FRS, walkie-talkies) to facilitate communication between them, or create a relay system to pass messages up and back.

## 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).