**RIVER HAZARDS**

There are a number of types of hazard that are a concern for kayakers.

**Pins:** Where the kayak and/or kayaker are pinned, caught by a variety of methods.

1) **Vertical pins:** worst case scenario. If the water current is too strong the kayaker can be forced forward by the water pressure and breathing then becomes a concern. Figure 1.

2) **Semi-horizontal pins:** similar to vertical pins but not as steep a river grade. Water pressure can force the kayaker forward as well. Can also be life threatening.

3) **Layback pin:** Where the kayaker can not sit up and therefore are not able to release them from the kayak. Figure 2.

**Strainers:** These come in a variety of forms, all of which can trap kayakers:

- Trees over hanging riverbanks, especially hazardous on river bends (sometimes called sweepers) where the current flows under them, i.e. willow trees
- Trees washed down river and washed up in shallow areas, river bends, etc
- Tree root systems emerging into the river from washed out river banks

Figure 1. Vertical Pin

Figure 2. Layback Pin

Figure 3. Strainers and sweepers
Foot entrapment: Where a person tries to stand up in a river when the current is too strong. The riverbed entraps a foot and the water pressure pushes the swimmer downstream. If this pressure is too strong they will not be able to free themselves. Can be life threatening

Broaches: In shallow rapids or in rock gardens a kayak is pushed up against a rock at right angles to the current and the water pressure keeps it there.

Man made obstacles that are hazards to kayakers
• Weirs or low head dams.
• Objects used to control/ reinforce bank erosion
• Jet boats
• Fences close to the bank or partially under water
• Bridges with pillars in the flow
• Machinery dumped in the river

HAZARD MANAGEMENT

• AVOID STRAINERS
• DO NOT STAND UP IN MOVING WATER
• AVOID BROACHES AND PINS BY KEEPING STRAIGHT
• AVOID UNDERCUTS

Be prepared to portage.