Loss Control Insights

Road Safety and Flood Risks for Drivers and Pedestrians

The last month has seen an increased focus on flooding and the risks of heavy rains, fast flowing rivers and floods have been discussed on several forums. The following are a few more facts about flood risks and advise how all our road users can protect themselves from harm on the roads.

Danger of flowing water over roads and low water bridges

We need to be aware of the following facts:

- **Flowing water applies pressure to contact areas. The higher the speed the higher is the pressure.**
- **When the side of the body of a vehicle makes contact with the water the force increases rapidly but the water now also acts on the underside of the vehicle as well and starts to lift it. It is now able to float like as ship. The weight of the vehicle will not be able to hold it on the road. Every cubic meter of space in a vehicle can lift one ton.**
- **Be careful, two feet s of water can float a car. Only vehicles that are open and let the water through will behave differently.**
- **Establish the body area of the vehicle and its mass. From this calculate the how deep will the vehicle sink in the water before it floats. For a truck that is 27 feet long and 8 feet wide and with a mass of 12 ton it will float at a level of 11/2 feet above the body base and be able to float down the river.**

Danger of standing water

- **Standing water does not exert side pressure but will also lift the vehicle and float it. Then it will be impossible to move it forward.**

Speeding vehicles and aquaplaning

- **When vehicles are moving fast over a layer of water the vehicle can start to aquaplane. If the tires are worn, it is easier to happen. Under these conditions an untrained driver may easily loose control over the vehicle.**

Floods and Debris

- **When rivers are overflowing their banks the flow of water will cause light objects like trees to float. This could block the flow of water at obstructions and channels the water and cause rapids to form. Avoid these rapids.**
- **Every river has a catchment area. When it starts to rain at the top of the catchment area and the storm is moving along with the flow of the river the water in the river it is going to build up. It will start to avalanche on its way to the sea. This front wave will be full of debris (like trees plants and other floating material.) This will also happen when a dam wall breaks. The higher the water drop the faster it will run.**

Destruction of surfaces and structures

- **The might of the water is very destructive, walls may fall over and road surfaces may be carved away. It may appear solid. It also forms the places where vortexes may form that**
- **will suck objects to the bottom. Stay away from eddy currents.**

Low water bridges.

- **Low water bridges are designed without rails, as it will collect some excessive amount of debris. The small pillars sticking out are designed to give the driver of the vehicle an indication of the height of the water over the bridge surface. If you can't see the small pillars do not attempt to cross the bridge. If there is a causeway underneath the bridge do not attempt to cross the bridge if there is water flowing over it. The extent of the damage to the bridge can not be seen due to the muddy water and the water is flowing at a higher speed over the bridge.**

Protecting from dangers and saving your phone.

- **Avoid flooded areas at night. To try your luck at night time makes your chance for survival very slim. No one can see you as it normally raining as well, you can't see in these conditions and you normally become very disorientated.**
- **When your body is exposed to some cold temperatures, which is a shock to your system, it goes into survival mode and cut the blood flow to the limbs. It goes into shaking mode to generate heat and you feel horrible due to the adrenaline overdose. Treat yourself for shock, meaning, calm down, relax and start to warm up the body gradually. Normally another person's body heat helps in emergencies. A fire will also help.**
- **The cause of death is normally drowning. At all costs keep the airways open. That means keep your face downstream.**
- **Your cellular phone can be the biggest help to save you if you are still alive. If you have the chance, wrap it in a plastic bag and save it in your underpants or in your bra. Try to ensure that it do not get wet.**

What to do if you can't swim:

It remains best to avoid water if you can't swim. If you cannot avoid getting in the water - there are a few things to keep in mind:

- **Do not try to stand in fast flowing water. Should a foot become trapped in the rocks the river will force you over usually in a face down position, try to always face up stream if you are forced to stand in fast flowing water.**
- **Make yourself as light as possible, remove your heavy boots, the dark muddy water will make you float higher. Stay away from white foaming aerated water, it is soft and you will sink deeper into the water. Keep your lungs inflated.**
- **Try to get into a back-float on your back with your feet in front of you and your head up facing down river. Make use of the water rushing past you to push you up. Keep your back at 45 degrees with the water. With your elbows out, and hands down 45 degree you take up a 'Lazy boy' position. This will give you the maximum lift and keep your head above water.**

RIvers usually flows fastest in the middle and by maintaining a slight angle to the flow the river will steer you to the side. By opening and closing your hands you can steer yourself to the inside bend of the river where you will be washed out on the sand. The closed hand will feel more water force. With this you have used the least amount of energy and are able to use the force of the water that is around you. This will calm you and you will stay in control.

Stay away from rocks and vegetation. Rocks normally injure you easily and the river may raise more and the vegetation may keep entrap you as the water flow through it. The flow will be slower on the inside of a bend in the river. Go for the white sand. There is also wood for fire. In the wild be careful for crocodiles, as these banks are also their resting area. If you find that the water is slowing down and your head is getting lower into the water try to move your closed hands in and out, all on your back, lifting and pushing you to the shore. Don't drown on your way, please arrive alive!