Background

Different types of surfaces have different abilities to absorb rain into the ground.

Permeable surfaces are those which easily allow water to seep through them. For example: grass covered soil, bushland.

Impervious surfaces are those which do not allow water to seep through them, or only very very slowly, so most water runs off them.

For example: concrete, bitumen.

When people change the land, they often cover natural permeable surfaces with impervious surfaces. This increases the rate and amount of run-off.

Prior to European settlement, many areas of Australia were vegetated so water easily seeped into the soil. The plants also slowed the movement of water across the land surface.

In areas where cities were built, the land was covered with buildings, concrete and bitumen. Water flows over these artificial surfaces at a much faster rate than over vegetated surfaces and much less water is able to be absorbed into the soil.

Stormwater in urban areas collects pollutants from these concrete and bitumen surfaces and eventually carries them into rivers and the sea. Faster flowing water carries more pollutants than slower flowing run-off because the pollutants have not been able to settle out and be absorbed into the soil.

The increased run-off means that:

- Run-off travels much faster and picks up more pollutants.
- Urban waterways flood more quickly.
- Urban waterways erode more quickly now because they carry faster flowing water.