

Floods and waterway litter

What is a Flood?

Floods are a natural, reoccurring process that have historically shaped the landscape of South East Queensland. South East Queensland's sub-tropical climate makes it prone to weather that can cause flooding. Floods in our region are predominately caused by heavy rainfall, but may also be a result of swollen rivers or tidal surges.

There are two types of flooding that can occur:

- **Flash flooding** refers to water coming 'down' and involves intense rainfall, rapid rise of water levels and high flows of water moving through the catchment.
- **River flooding** refers to water coming 'up' and involves prolonged rainfall and slow rise of water levels.



Litter and debris deposited on the shoreline by the January 2011 flood

"Turtles like me can be injured or even die if they swallow, or become entangled in, litter."



How does rainwater move through a catchment?

Within a **natural, forested catchment**, most rain falls on hill slopes and vegetation. Vegetated hill slopes create minimal erosion. Vegetation stores the rain in soil, slowly releasing water over time which helps sustain flows of water during dry periods.

In a **highly modified catchment** such as a city or a town, the natural vegetation has been dramatically changed therefore hill slopes and catchments will react very differently. In these modified environments, impervious or hard surfaces such as roads, buildings and roofs reduce the amount of rainfall that can soak into the ground, causing more water to become runoff. This fast flowing movement of water carries large amounts of sediment and pollutants into stormwater drains and out into our waterways.

What is Litter?

Litter in our waterways is a serious pollution problem that affects our wildlife, aquatic habitats, water quality and the recreational use of our waterways.

Litter is almost any material that is disposed of incorrectly including; fast food wrappers and drink bottles dropped on the ground; cigarette butts thrown out of the car window; poorly secured material falling from a trailer and paint tipped down the drain. It is estimated that approximately 80% of all waterway litter originates from land based activities.



Pelican and Seabird Rescue

This pelican has been rescued and will undergo treatment to remove discarded fishing line from his beak

How does litter affect waterways?

Queensland has the highest amount of litter of all mainland states in Australia. After being washed into our creeks and rivers, discarded litter slowly makes its way to our oceans.

Waterway litter is extremely harmful to wildlife who become entangled or mistake litter for food resulting in injury or death. Waterway litter causes the death of at least 100,000 marine mammals including turtles, dugongs and whales as well as nearly one million seabirds worldwide each year. Aquatic habitats such as coral and seagrass beds are also damaged by litter. In addition, litter makes our waterways look dirty and unattractive which reduces recreational use and impacts tourism.



Healthy Waterways

Plastic bottles litter our waterways.

Healthy Waterways



Litter dropped on land can end up in stormwater drains where it is transported into waterways.

Floods and litter

When litter is dropped on land, rain and flood water carry it into stormwater drains which empty into creeks and rivers.

Once litter reaches our waterways, it is very difficult to remove. If the catchment has no vegetation to slow down flood water, the amount of litter and pollutants that enter our waterways significantly increases.



Litter impact facts

- Studies have found that 30-40% of sea turtles found dead in Moreton Bay have a significant amount of plastic litter in their stomach.
- 80% of litter in our waterways is made of plastic such as plastic bags, plastic water bottles and food wrappers. Most plastic objects never biodegrade, they just break down into smaller and smaller pieces.
- An estimated 4.5 trillion cigarette butts are littered every year (worldwide). Cigarette butts contain toxic chemicals which will start to leach out within an hour of contact with water.
- Liquid litter such as paint and household chemicals contain toxins that are hazardous to people and wildlife, and degrade water quality. Even when these products are diluted they should never be tipped down stormwater drains or dumped near waterways.



The Healthy Waterways Clean Up Program removes over 240,000 items of litter from our waterways each year.

Healthy Waterways

Healthy Waterways is a not-for-profit, non-government organisation working to protect and improve waterway health in SEQ. We facilitate careful planning and coordinated efforts among a network of member organisations from government, industry and the community.

Healthy Waterways Clean Up Program

The Healthy Waterways Clean Up Program collects over 240,000 items of floating litter from South East Queensland's waterways each year. The program, which has been operating for over 10 years, also aims to increase community understanding about the issue and impacts of waterway litter. The Healthy Waterways Clean Up Program recorded a 50% increase in the number of plastic water bottles collected from local waterways between 2007 and 2010.



Hugo looks at bits of plastic that were removed from the stomach of a dead turtle found in Moreton Bay.



What can you do?

Hugo's tips on how you can limit litter

1. Dispose of rubbish in a bin and ensure rubbish is secure
2. Use the three R rule: **reduce** your use of plastic, **reuse** items you may otherwise throw away and **recycle** as much as possible
3. Use a reusable water bottle instead of buying plastic water bottles
4. Smokers, put your cigarette butts in the bin
5. Pick up any litter you see and remind everyone to dispose of rubbish carefully
6. Report littering and illegal dumping via the Department of Environment and Resource Management's website
7. Carry a litter bag in your car or on your bicycle
8. Contact your local catchment group to organise a waterway litter cleanup day.



Healthy Waterways staff cleanup a local waterway on Clean Up Australia Day 2012

Healthy Waterways



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There are other fact sheets and educational resources available. For more information about the waterways of South East Queensland please visit the Healthy Waterways website.
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