

KEEP IT CLEAN!
**PREVENTING STORMWATER
POLLUTION AND PROTECTING
OUR WATERWAYS**



WHERE DOES THE RAIN WATER GO?



Bush

50% into soil
40% back to air
10% to streams

15% into soil
30% back to air
55% stormwater



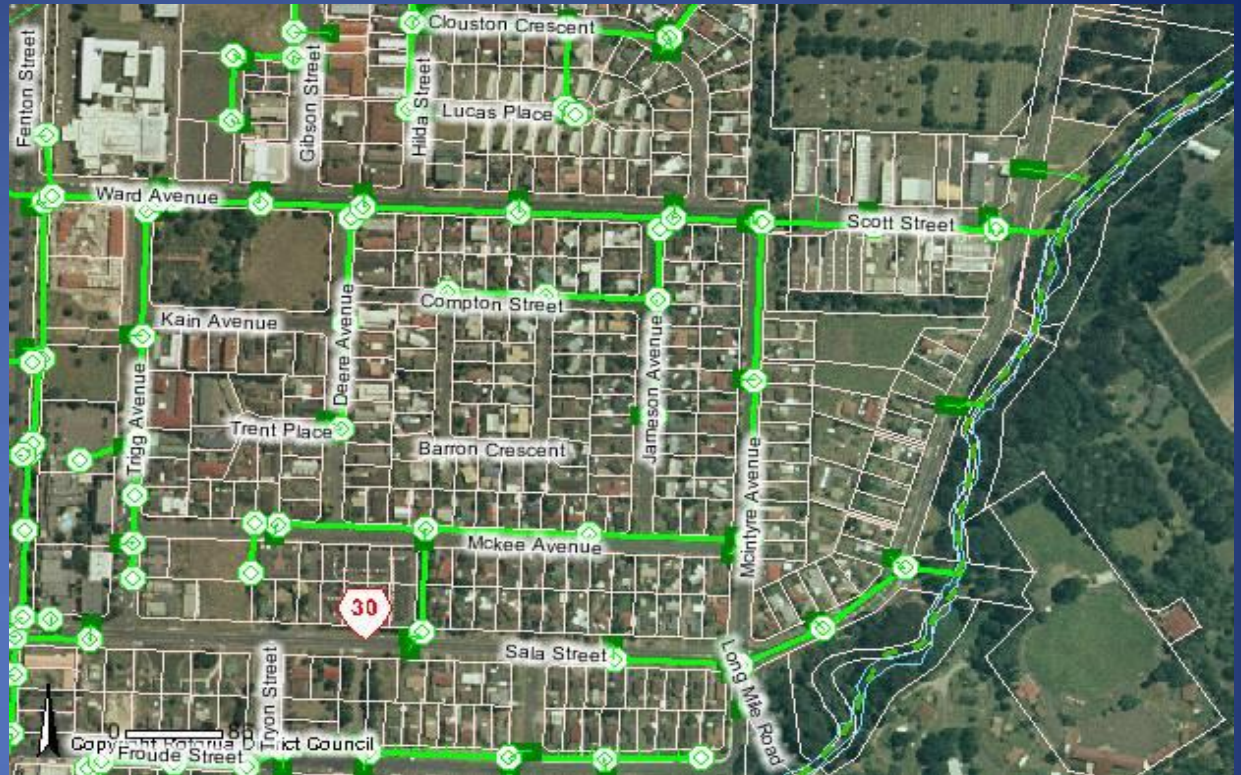
City

CATCHMENTS

- Generally, catchments are either rural or urban.
- RLC only looks after discharges to urban catchments
- Urban catchments contain many landuses such as:
 - Residential/Housing
 - Industrial
 - Reserves/Playing fields/Playgrounds
 - Commercial (CBD, Central Mall, Shopping Centres)
- Each landuse has different impacts on the streams in terms of what can be discharged from them.



HOW DOES IT GET TO OUR STREAMS AND LAKES?



- Kerb and channel
- Cesspits
- Manholes
- Piped drains
- Open drains
- Streams
- Council has Reticulated approx. 320 km of storm water drainage;
- this drainage system has approx 5,357 inlets and outlets, the outlets discharge into streams and the Lake.
- Rain water washes contaminants off the land (pollution) into this drainage system so;

WHAT IS THE MAIN PROBLEM?

Contaminants
from pollution
caused by
everyday life!

Keep it clean

*Do not allow polluted waste water
from these activities to enter
our stormwater drains...*



- ◆ DO stop discharge
into drains
- ◆ DO dispose of
polluted waste water
properly



For more information contact:
Pollution Control Officers
ph 07 548 4199



LANDUSE IMPACTS

What type of landuse activities can impact on our stormwater?

- Industrial
 - Concrete cutting
 - Truck washing
 - Automotive oil spills
 - earthworks
- Commercial – CBD, Shopping Centres?
 - Litter
 - Carparks
- Reserves
 - Use of fertiliser on parks
- Residential
 - Car-washing on driveways
 - Gardening/lawnclippings/leaves in kerb channel

What urban causes contribute to this?



- Dirty Stormwater
 - Sediment discharge
 - Washing waste water
 - Dumping rubbish into drains
 - Natural vegetation discharged to waterways

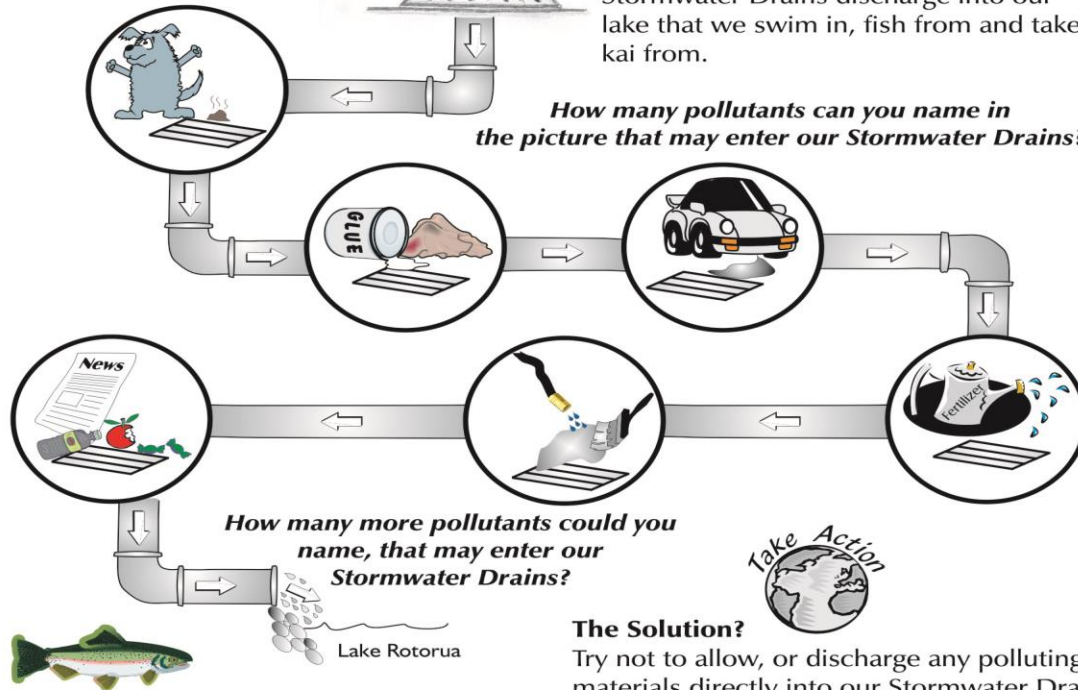
**SEE THE FOLLOWING
EXAMPLES**

LOOK OUT IT'S GOING TO RAIN....

Have you ever noticed how everything looks cleaner after a heavy rainstorm? That's because the rain washes away the rubbish and pollution on the ground.



Some of this polluting material is easy to see and stop. The more serious polluting materials that may come from our use of chemicals to help keep our homes and workplaces tidy and clean, cannot be seen without special equipment. We can all play a part in helping to control what we allow to be discharged and washed into our Stormwater Drains - after all, our Stormwater Drains discharge into our lake that we swim in, fish from and take kai from.



The Solution?

Try not to allow, or discharge any polluting materials directly into our Stormwater Drains, or enable the rain to wash any pollutants into the drains. Rotorua City has Stormwater grates with alloy trout symbols to help remind us that these Stormwater grates lead straight into our Lake.



For more information contact:
Pollution Control Officer
Engineers Department
Ph (07) 348 4199

Protecting Our Lakes

Preventing pollution from...

Exterior Cleaning Waste

Many pollutants are involved in exterior cleaning trades. The mobile nature of this trade put it at great risk of polluting our waterways



- *DO put down sandbags or the like to direct run-off to the grass where it can soak in.*
- *DO disconnect downpipes as they go to the stormwater system*
- *DO sweep up any leftover sediments after drying*



It is very inexpensive and quick to protect yourself or your business from polluting our lakes, streams and waterways.

REMEMBER THAT POLLUTION CAN LEAD TO AN INSTANT \$1000 FINE...

JUST MAKING AN EFFORT WILL SAVE TIME, MONEY, AND THE ENVIRONMENT



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Pollution Control Officers
Phone: (07) 348 4199
Email: PollutionControl@rdc.govt.nz



Water blasting cleaning.
Make sure the waste water is going onto a grass area

Sewage Overflows are another problem



These mainly occur in the urban area.

Main causes:

- Fat from kitchen wastes
- Rubbish put down drains & manholes

Call RDC ASAP

Motor Vehicle accidents



UTUHINA STREAM

- One of Rotorua's major streams – drains approximately 33% of Rotorua's urban area
- Otamatea and Mangakakahi Streams drain into the Utuhina



Utuhina Stream

DATA SETS

Accuracy of property boundaries +/- 0.2m - 0.3m in urban areas and up to +/- 30m in rural areas. Property boundaries, legal descriptions and legal areas sourced from LINZ.

Aerial Imagery

1:1000 data set from 2016, XY accuracy +/- 0.5m.
1:2000 data set from 2016, XY accuracy +/- 0.5m.
Printed Date: 30-May-2018

GeyserView represents Council's most up to date compiled and published data. Council does not warrant the accuracy of the information represented by this map.
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0 500 97 1,139 9Meters



Rotorua Lakes Council

LOWER UTUHINA STREAM AND ITS STORMWATER INFRASTRUCTURE/ NETWORK

- RBHS Study area
- Landuses?
- What landuses are in this area that may impact on the stream?
- Eg - Residential



WHAT RULES AND REGULATIONS CONTROL WHAT GOES INTO OUR STORMWATER

- Regional Water and Land Plan (BOPRC)
 - Resource Consents for Stormwater Discharge – Comprehensive Resource Consents
 - -eg Mamaku, Tarawera, Okareka,
 - Rotorua Urban Area Comprehensive Consent (amalgamation of lots of smaller discharge consents) – currently being processed
 - Applied to and granted by BOPRC
 - Water quality guidelines (ANZECC Guidelines)
 - Sediment
 - Heavy Metals
 - Nutrients (Nitrogen, Phosphorus)
 - Temperature
 - Biological Metrics (MCI – Macro Invertebrate Index)
- Water Services and Trade Wastes Bylaw

RECREATIONAL WATER

- BOPRC carry this out each year from Oct-April

Sampling is carried for compliance in relation to the Microbiological Water Quality Guidelines for Marine and Freshwater Recreation areas. These guidelines look at the health hazard when water is used for recreational activities such as swimming and other high contact water sports. In these activities there is a reasonable risk that water will be swallowed, inhaled or come in contact with ears, nasal passages, mucus membrane or cuts in the skin allowing pathogens to enter the body.

The Fresh water indicator is E.coli.

The following limits : Acceptable level: no single sample greater than 260 E.coli /100ml

Action Level: single sample greater than 550 E.coli /100ml

BOPRC Website



Public Health Website

Lakes (Rotorua and Taupo districts) recreational water health warnings

Health Warning	Public Health Advice	Reason	Area
Temporary	Avoid recreational water contact	Elevated levels of bacterial contamination	Ngongotaha Stream
Temporary, issued 2 December 2016, still current	Avoid recreational water contact	Elevated levels of bacterial contamination	Utuhina Stream
Temporary, issued 9 November 2017, still current	Avoid recreational water contact	Algal bloom	Lake Rotoehu