# Lake Rotorua catchment boundary: current work



GNS SCIENCE TE PŪ AO

Paul White (GNS Science), Kit Rutherford (NIWA)

#### We'll be covering:

- Need for a boundary policy purposes
- Project outline
- Current progress

#### Caution.

Please note: all maps and flow estimates in this presentation are works-in-progress. Therefore: 1) the maps are illustrative only; 2) the lines on these maps should not be used for any purpose; 3) flow estimates may change with further analysis; and 4) EBOP, GNS Science and NIWA accept no responsibility for any use of these maps or flow estimates.

#### **Project outline**

**Proposal gone to EBOP:** 

Task 1: Surface catchment boundary definition
Task 2: Review elements of the groundwater catchment boundary
Task 3: Calculate flow statistics in streams relevant to the groundwater boundary
Task 4: Define groundwater catchment areas
Task 5: Report compilation and review

### Project outline



Boundary is a mix of surface (blue) and groundwater (green/black)

#### Surface catchment boundary assessment

- Aim to check plots of four boundary estimates
- these may be inconsistent



Phase7\_overlay\_dis\_Ln test

ala Robina cathmeet boundary defeed by surface cathmeet lan Robina cathmeet boundary defeed by hin "15% groundwater cathmeet" Ba Robina cathmeet boundary defeed by hin "15% groundwater cathmeet" OC cathmeets Inge cathmeets LSBI care cathmeets LSBI

0		30		60				120 Meter
	- I	1	T		1	1	1	

\* Three boundaries are shown in the plot; the fourth boundary is overplotted by another



### Surface catchment boundary assessment

## Aim to check plots of four boundary estimates

- these may be consistent





0 30 60 120 Meter

# Task 3. Surface flows and uncertainty

Site	Date range	Mean (m³/s)	Median (m³/s)	95% confidence level (m <sup>3</sup> /s)	95% confidence level range (m <sup>3</sup> /s)
Ohau	1/1/1975 to 29/12/2012	16.5	16.1	0.08	16.42 to 16.58
Hamurana	17/11/1975 to 9/07/2012	2.8	2.9	0.03	2.77 to 2.83