Fish monitoring in the Ohau Channel 2007-2103 and trout movement between lakes Rotorua and Rotoiti

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Presentation to the BOPRC Rotorua Lakes Anglers Meeting,

13 Apr 2015, Rotorua

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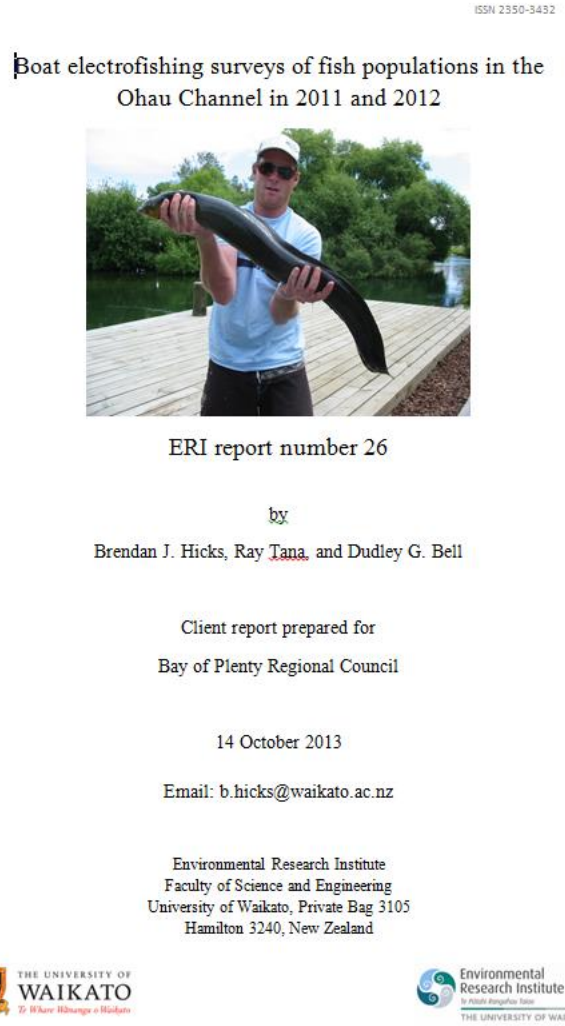
Fishing 2011-2012 – combined report

- Fishing since 2007
- CBER reports 66, 97, 112, 124

http://www.waikato.ac.nz/eri/research/publications/cber-reports

- ERI report 26
- Now available at:

http://www.waikato.ac.nz/eri/research/publications/_nocache



ISSN 2350-3432

Boat electrofishing surveys of fish populations in the Ohau Channel in 2011 and 2012

ERI report number 26

by

Brendan J. Hicks, Ray Tana, and Dudley G. Bell

Client report prepared for

Bay of Plenty Regional Council

14 October 2013

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Fishing 2013

- 27 Nov 2013

http://www.waikato.ac.nz/eri/research/publications/_nocache

Fred Whata

Longfin eel, 1.035 m, 3.6 kg

New motor

Consequences for goldfish

ISSN 2350-3432

Boat electrofishing survey of fish abundance in the Ohau Channel, Rotorua, in 2013

ERI Report Number 47

by

Brendan J. Hicks, Dudley G. Bell, and Raymond Tana

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29 October 2014

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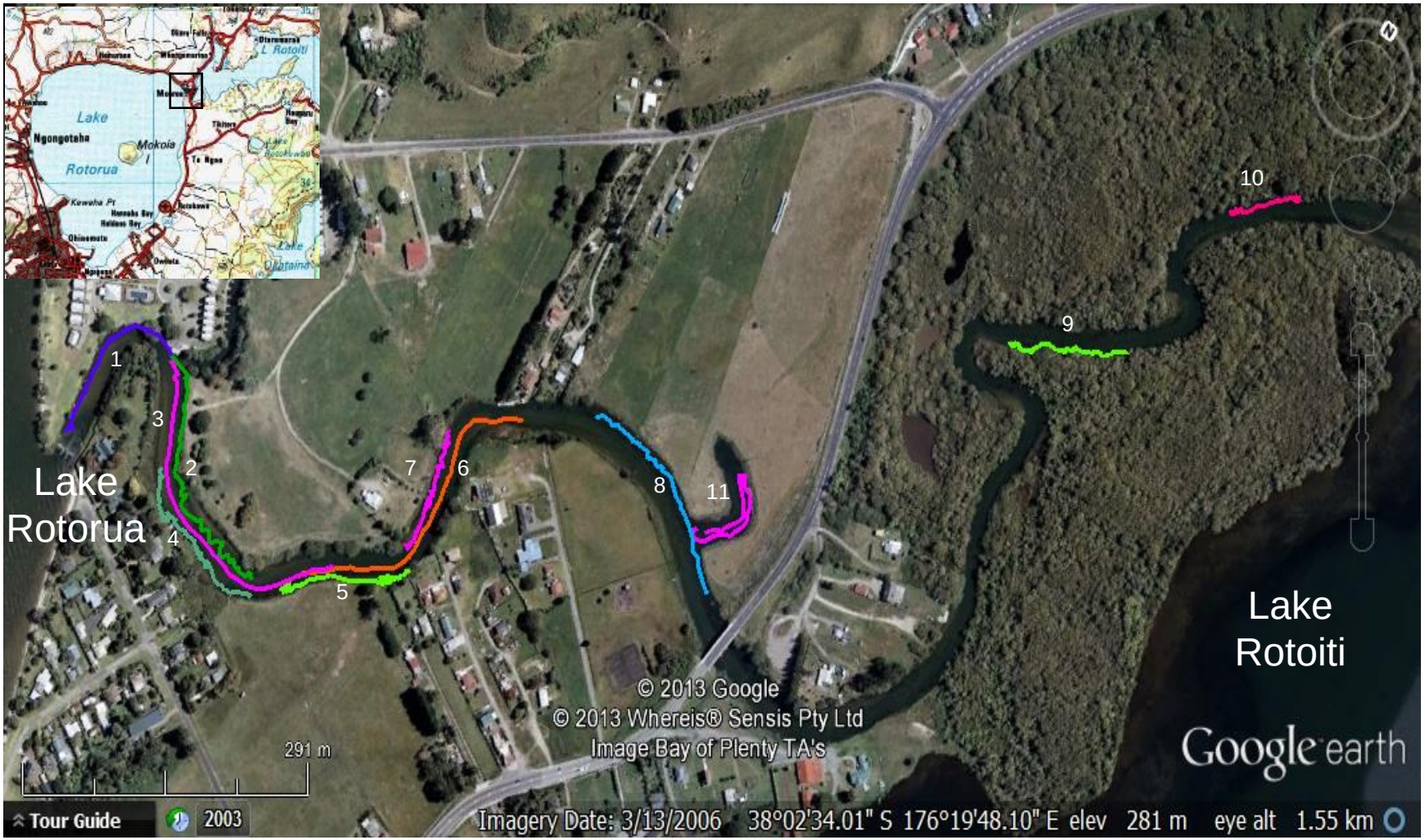
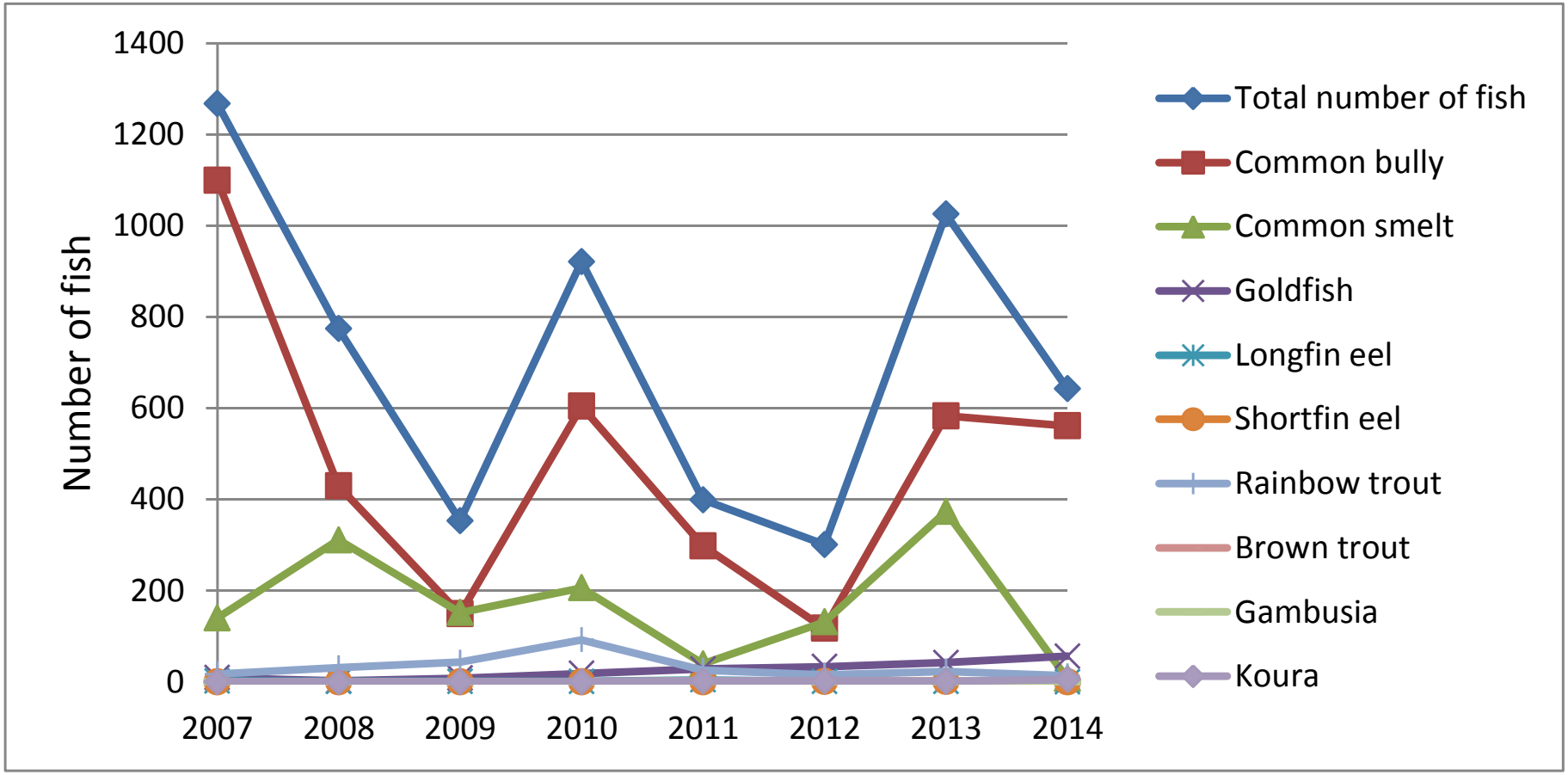
Fishing sites 2013



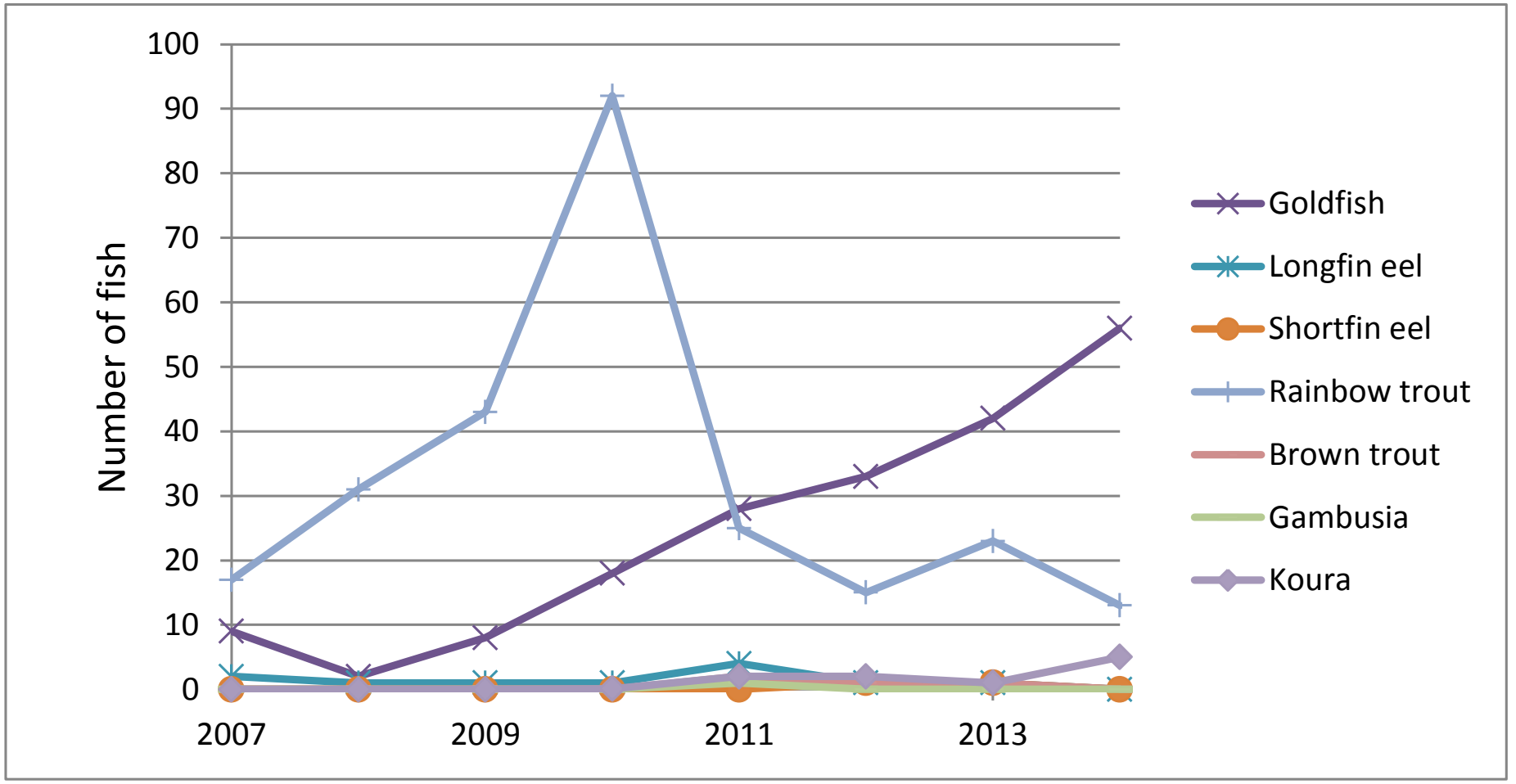
Objectives and results summary

- Aim to provide on-going monitoring of the fish communities and abundance in the Ohau Channel, especially fish species that are taonga to Maori (eels, goldfish, and koura).
- Length fished 2.82 km at a total of 11 sites, 10-12 min shots
- Comprised 11,484 m^2 area (1.15 ha)
- Caught 1,025 fish (301 in 2012, 391 in 2011)
- Four native fish species - common bully, common smelt, longfin eel, shortfin eels plus koura
- Three introduced species - rainbow trout, brown trout, goldfish
- 3 x no. of smelt in 2013 cf. 2012
- 5 x no. of bullies. Many more goldfish

Fish numbers 2007-2014

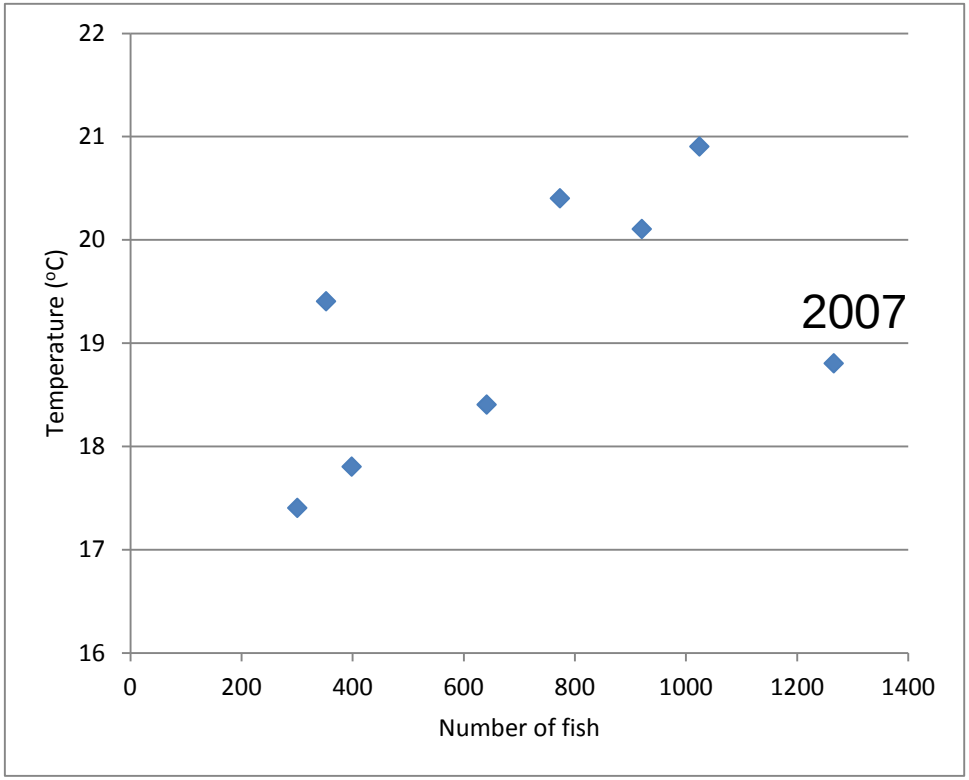


Fish numbers 2007-2013

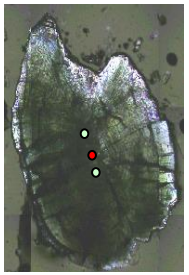


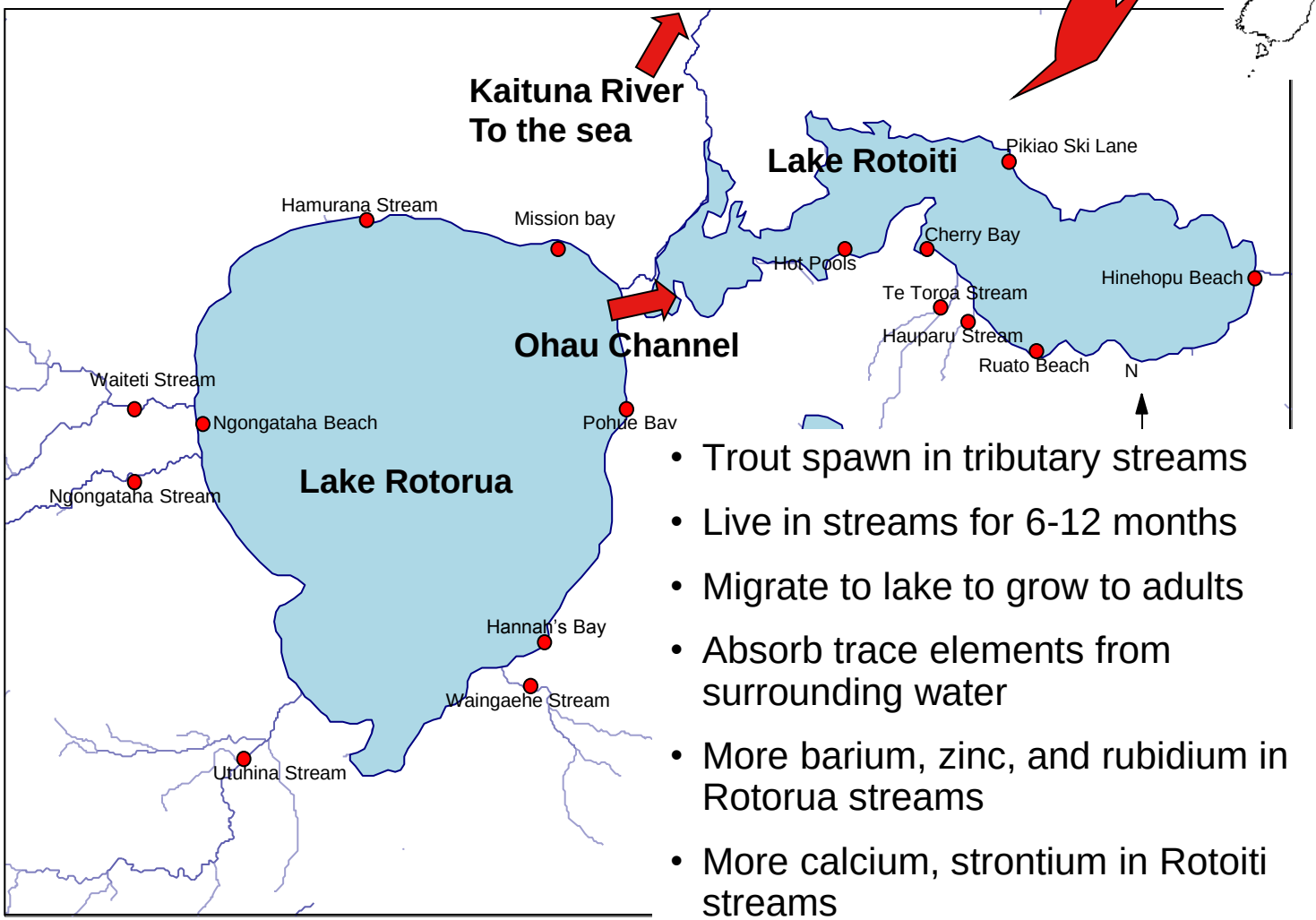
Water temperature and number of fish

- No trend in water clarity (effects efficiency of electrofishing)
- No trend in specific conductivity
- Temperature trend in fish abundance?

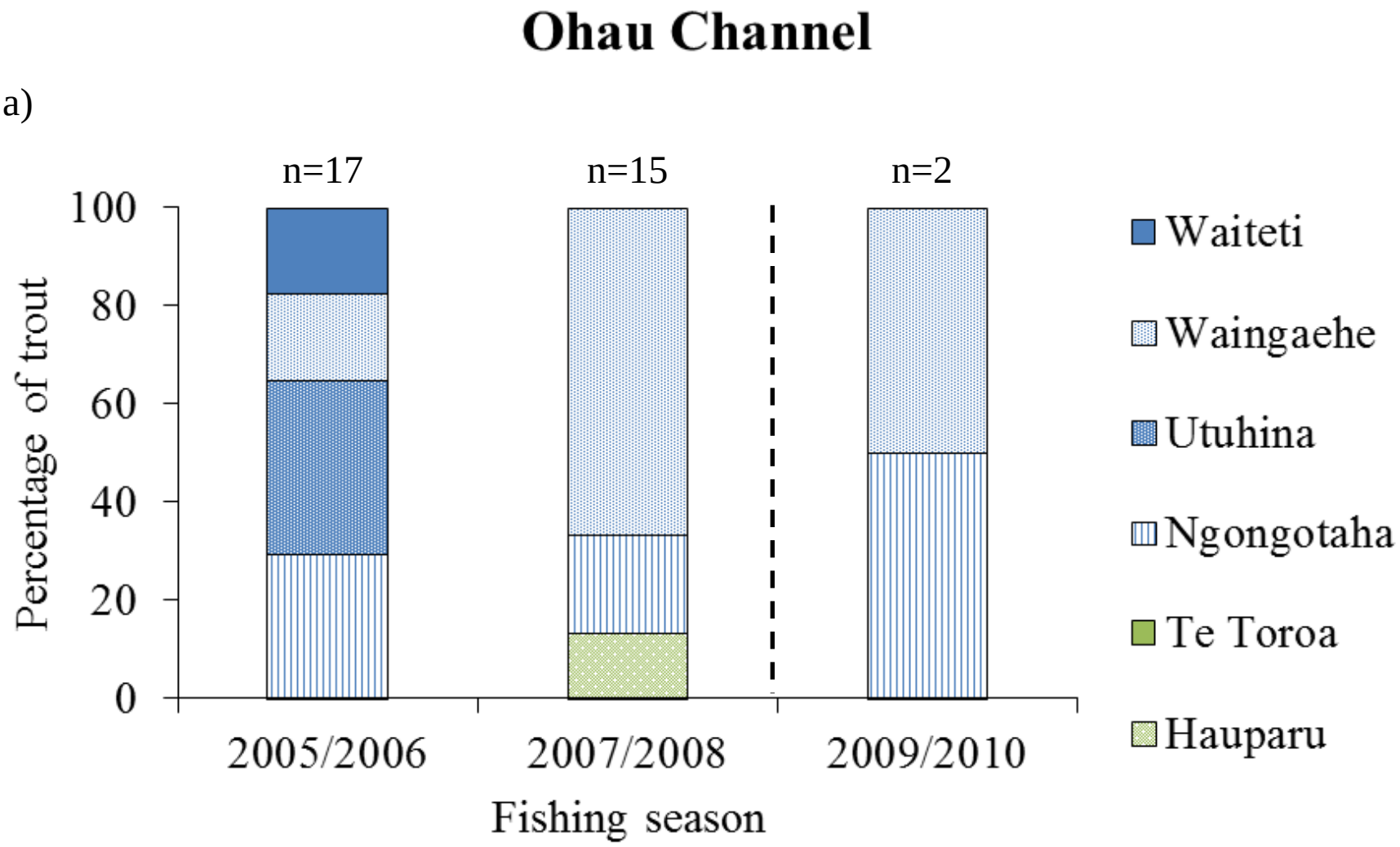


Trout spawning



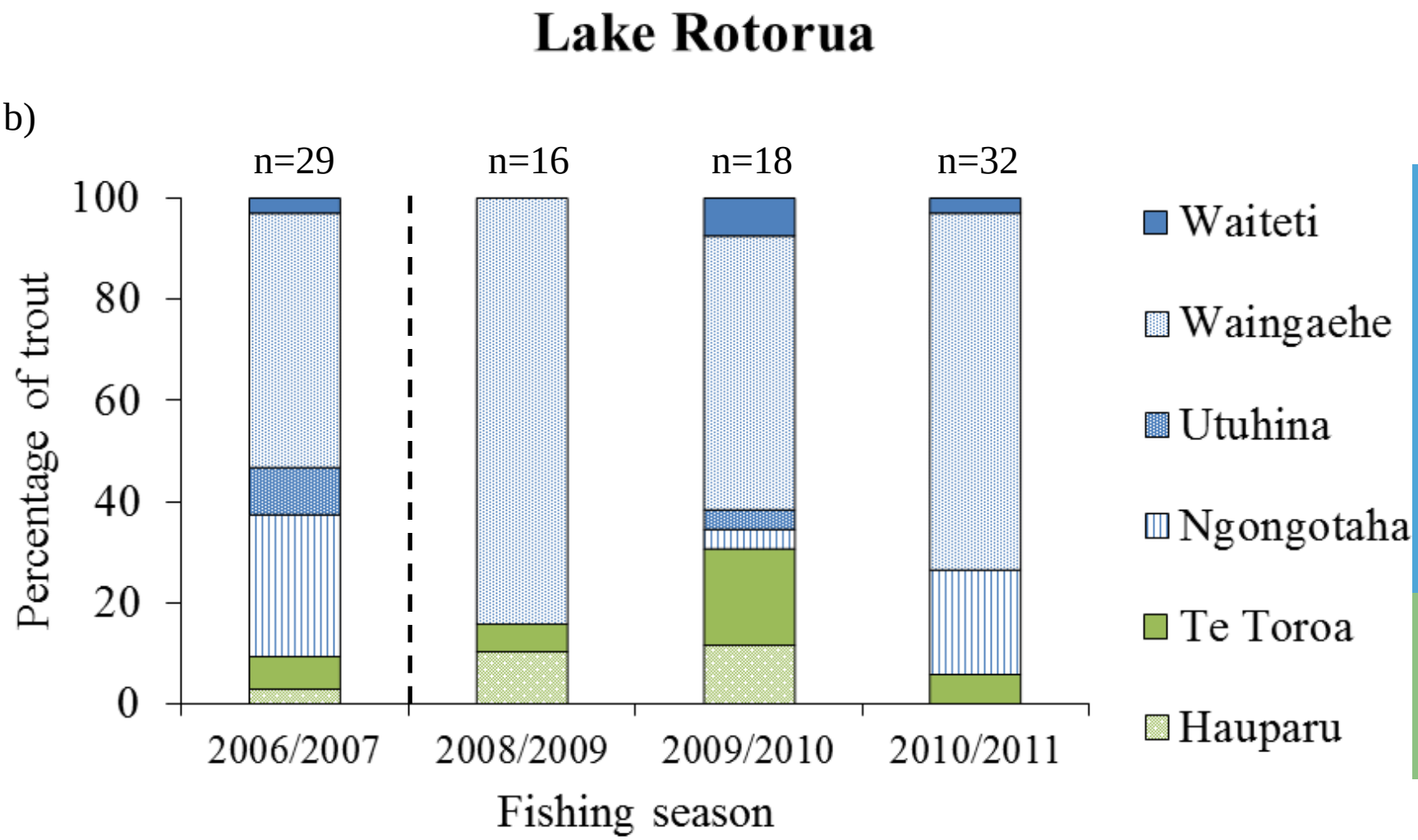


- Trout spawn in tributary streams
- Live in streams for 6-12 months
- Migrate to lake to grow to adults
- Absorb trace elements from surrounding water
- More barium, zinc, and rubidium in Rotorua streams
- More calcium, strontium in Rotoiti streams



Dashed line = Wall installation

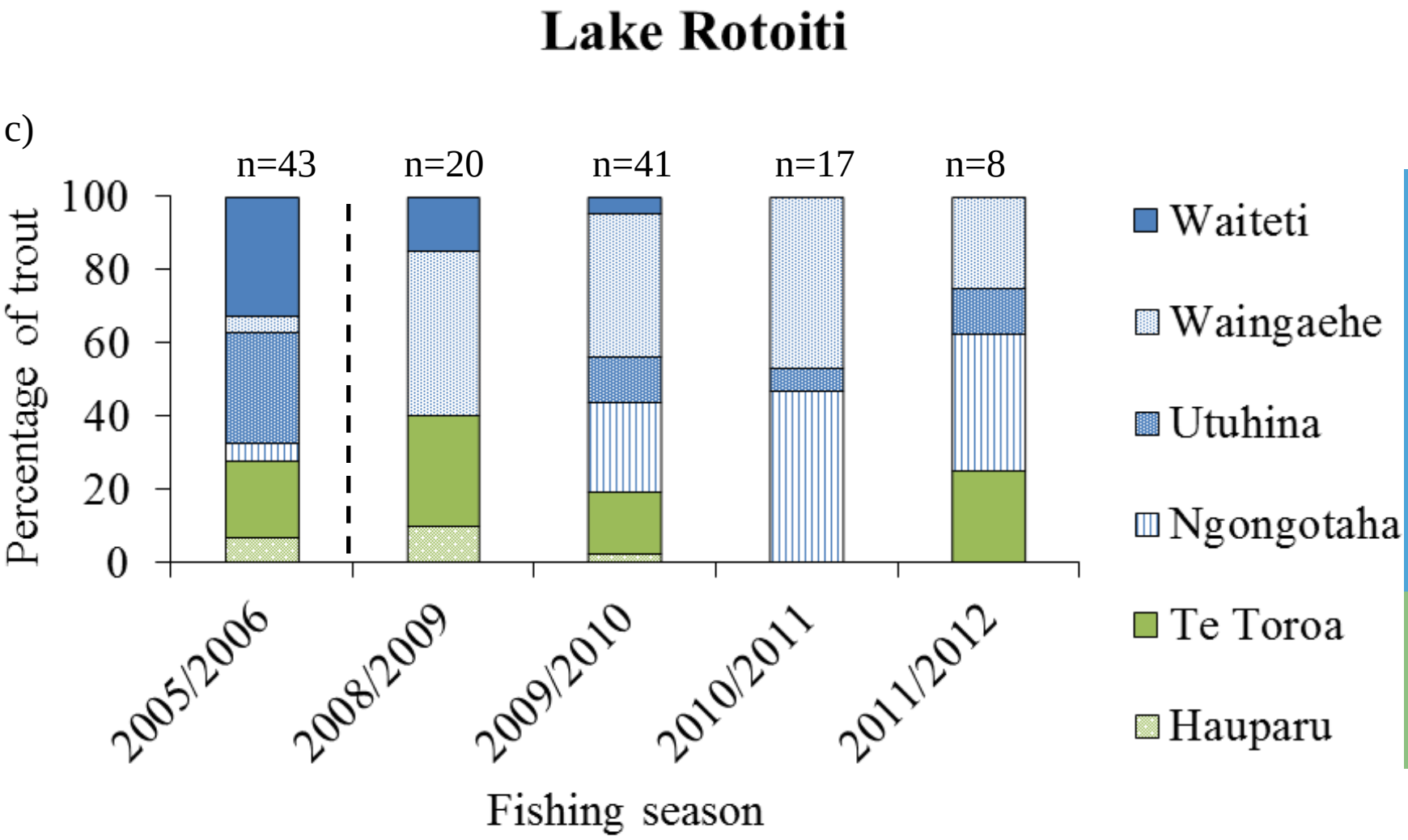
Rotoiti Rotorua



Rotorua

Rotoiti

Dashed line = Wall installation



Dashed line = Wall installation

Rotoiti Rotorua

Conclusions

- Proportion of trout originating from Lake Rotoiti is variable
- Based on recent samples, trout are still migrating from Lake Rotorua to Lake Rotoiti
- About 80% of Rotoiti adult trout came from Rotorua