Boat electrofishing in the Ohau Channel 2014

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Fishing 2014 – ERI report 65

- Fishing since 2007 – 8 years now
- CBER reports

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

- ERI reports
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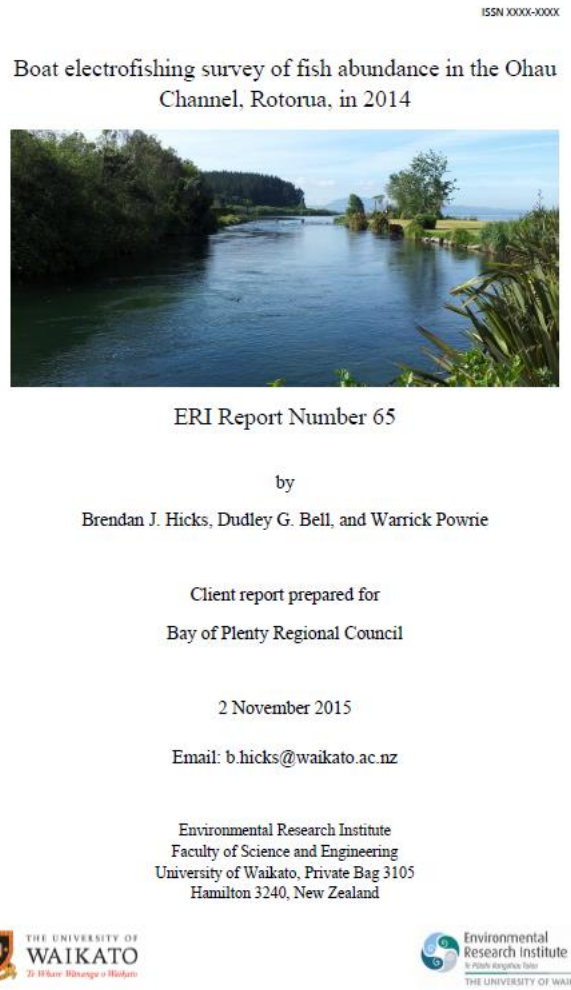
Series	Report number	Fishing year	Year published
CBER report	66	2007	2008
CBER report	97	2008	2009
CBER report	112	2009	2010
CBER report	124	2010	2011
ERI report	26	2011, 2012	2013
ERI report	47	2013	2014
ERI report	65	2014	2015



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Boat electrofishing survey of fish abundance in the Ohau Channel, Rotorua, in 2014

ERI Report Number 65

by

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Client report prepared for

Bay of Plenty Regional Council

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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 2.91 km at a total of 11 sites, 10 min shots
- Comprised 11,646 m^2 area (1.16 ha)
- Caught 642 fish (1,025 in 2013)
- Two native fish species - common bully, common smelt plus koura
- Three introduced species - rainbow trout, goldfish
- No eels in 2014

Fishing sites 2014

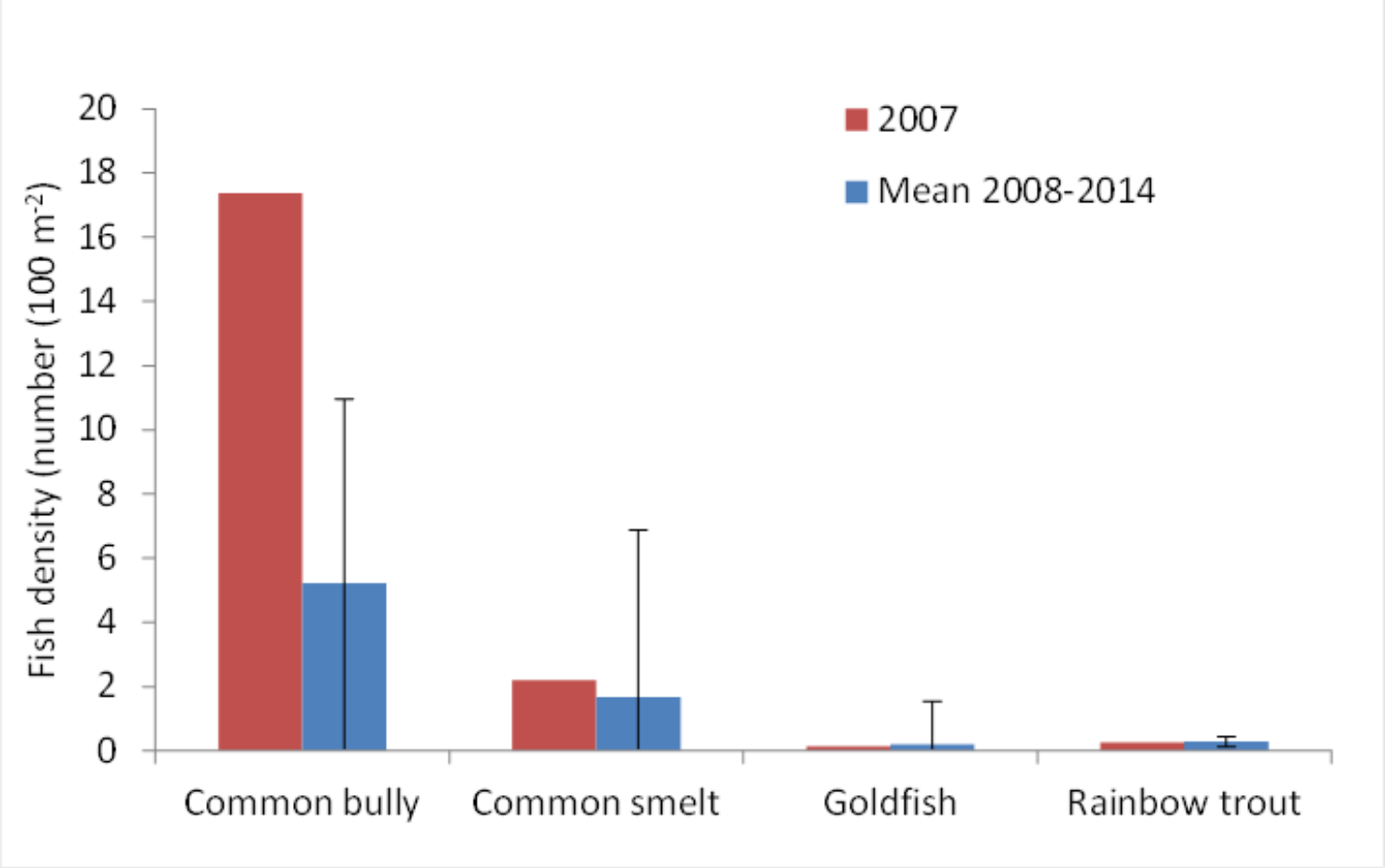
Fish numbers 2007-2014

- 2007 still the highest bully catch
- Goldfish numbers continue to increase
- Koura every year since 2011
- Smelt very low in 2014

Year	Density (individuals 100 m^{-2})									
	Total all species	Common bully	Common smelt	Goldfish	Longfin eel	Shortfin eel	Rainbow trout	Brown trout	Gambusia	Koura
2007	20.02	17.37	2.21	0.14	0.03	0.00	0.27	0.00	0.00	0.00
2008	9.52	5.27	3.82	0.02	0.01	0.00	0.38	0.00	0.00	0.00
2009	3.24	1.37	1.40	0.07	0.01	0.00	0.40	0.00	0.00	0.00
2010	6.60	4.33	1.48	0.13	0.01	0.00	0.66	0.00	0.00	0.00
2011	3.67	2.74	0.36	0.26	0.04	0.00	0.23	0.02	0.01	0.02
2012	2.08	0.81	0.90	0.23	0.01	0.01	0.10	0.01	0.00	0.01
2013	8.93	5.08	3.25	0.37	0.01	0.01	0.20	0.01	0.00	0.01
2014	5.51	4.81	0.06	0.48	0.00	0.00	0.11	0.00	0.00	0.04

Comparison of fish densities post-wall

- Wall closed June 2008, one pre-wall sample
- Bully density in 2007 > 1 SD + mean for Dec 2008 and later



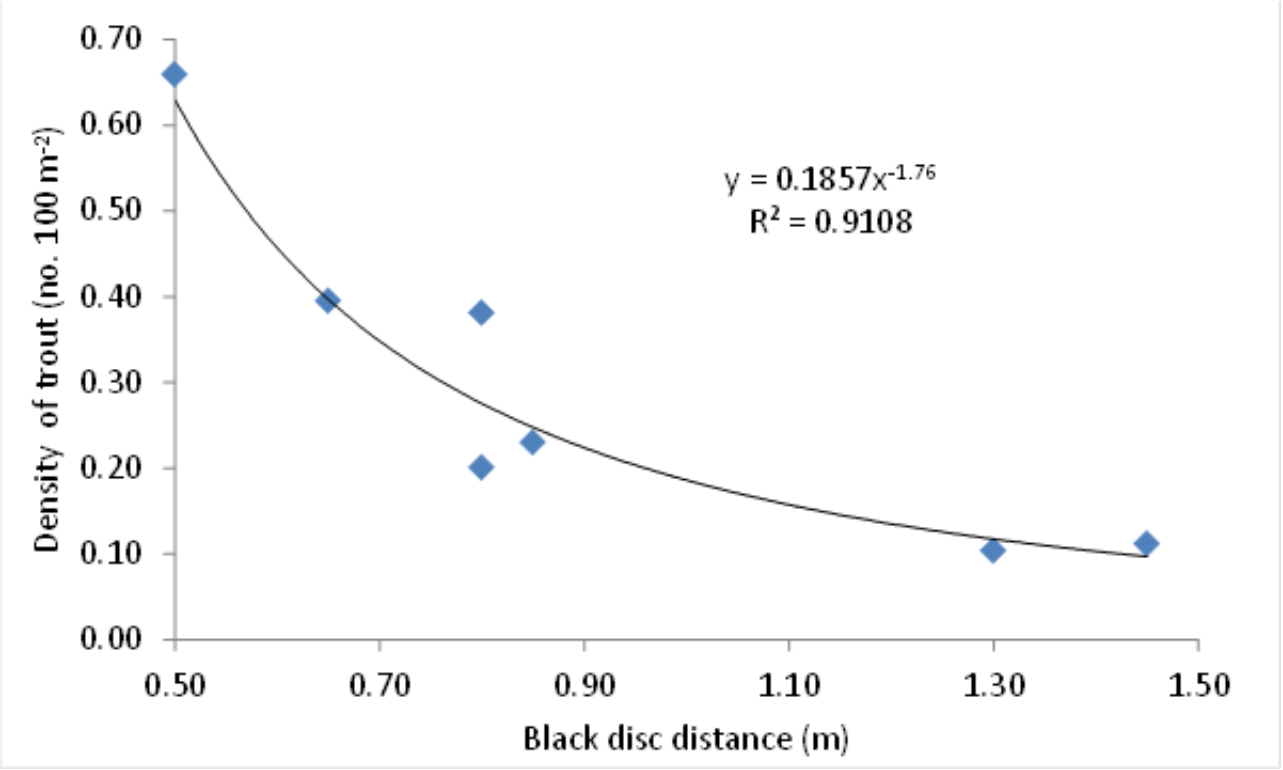
Physical conditions in the Ohau Channel

- Water temperatures 17.4-20.4^{o}C
- Spec conductivity 169-193 µS cm^{-1}
- Black disc 0.50-2.00 – 2014 clearest since 2007

Date	Time (h NZDT)	Water temperature (^{o}C)	Ambient conductivity (µS cm^{-1})	Specific conductivity (µS cm^{-1})	Black disc distance (m)
13-Dec-07	1015	18.8	159.3	180.9	2.00
11-Dec-08	1030	20.4	167.8	183.7	0.80
7-Dec-09	1045	19.4	172.4	193.4	0.65
7-Dec-10	1100	20.1	169.7	187.4	0.50
5-Dec-11	1030	17.8	148.5	173.5	0.85
4-Dec-12	0900	17.4	144.1	169.4	1.30
27-Nov-13	1100	20.9	169.3	183.5	0.80
9-Dec-14	1030	18.4	163.0	184.2	1.45

Rainbow trout density and BDD

- Rainbow trout density inversely related to black disc distance
- Nonlinear power relationship – 2007 data excluded
- Decrease visibility should reduce fish catch, incl. trout
- Increased phytoplankton (decr. BDD) leads to increased food for trout



Acknowledgments

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