



Rangitata BRAID Update

To maintain and increase braided river bird populations, especially of wrybill and black fronted tern and increase our understanding of predator management through the application of predator control within an adaptive management framework.

WEED CONTROL

- **An essential component in preserving habitat**
- **Catchment based –6,102 ha treated in 2016**
- **2016 \$147,000 but was above annual planned control costs and average expenditure**
- **Long history of woody weed control**
- **Multi weed focus. Broom, Russell lupin, gorse, vipers bugloss, false tamarisk, crack and grey willow, verbacium, conifers, briar**
- **Upper Rangitata Landcare Group**
- **Multi agency (LINZ, Ecan, DOC, District Councils) approach DOC project managing**
- **New threats still emerging**



Predator Control

- Multiple predator targets- mustelids, cats, rats, hedgehogs, possum, black backed gulls
- Multiple trap and pest control design required. Connibears, Fenns, Timms, Legholds, toxins, shooting.
- Based on advice from Dept of Conservations Braided Riverbed Specialist Group
- Techniques utilised from other sites (chiefly Tasman)
- Strong interagency and community support
- Adaptive Management

Traps on island near 100% density

traps on island at 50% density

Boat / kayak crossing point

Boat / kayak cross

Trapping Results 2015-16 breeding season

[illegible]

Monitoring

Wrybill

mark /monitor pairs and chicks



- hatch success
- productivity

Black Fronted Tern

Colony nest marking / monitoring and chick counts



- hatch success
- productivity
- nest outcome (fate)

	2008	2009	2010	2013	2015-16
Number of nests monitored	48	83	84	43	56
Number of pairs followed	0	10	37	30	32 (+1 followed without bands = 33)
% nests preyed on	10 (n=31)	14 (n=56)	25 (n=72)	12	10 (n=50)
% nests flooded	26 (n=31)	3.6 (n=56)	1.4 (n=72)	63	6 (n=50)
% nests unhatched (eg infertile or deserted)	6.5 (n=31)	5.4 (n=56)	4.2 (n=72)	5.5	4 (n=50)
% nests outcome unknown	35 (n=48)	33 (n=83)	14 (n=84)	0	11 (n=56)
No. of eggs hatched	15 - 23	32 - 65	69 - 87	19	72
Hatching success	0.39 - 0.55 (n=31)	0.45 - 0.79 (n=56)	0.58 - 0.71 (n=72)	0.26	0.73 (n = 55)
Fledgling success	unknown	unknown	0.19– 0.23 (15-18 fledglings)	0.37	0.31 – 0.35 (22 –25 fledglings)
Productivity**	unknown	unknown	0.21 – 0.25 (n = 72)	0.23 (n=30)	0.58 – 0.66(n=38) 0.67 – 0.76(n=33)

Black Fronted Tern nest breakdown

Upper River 84 nests

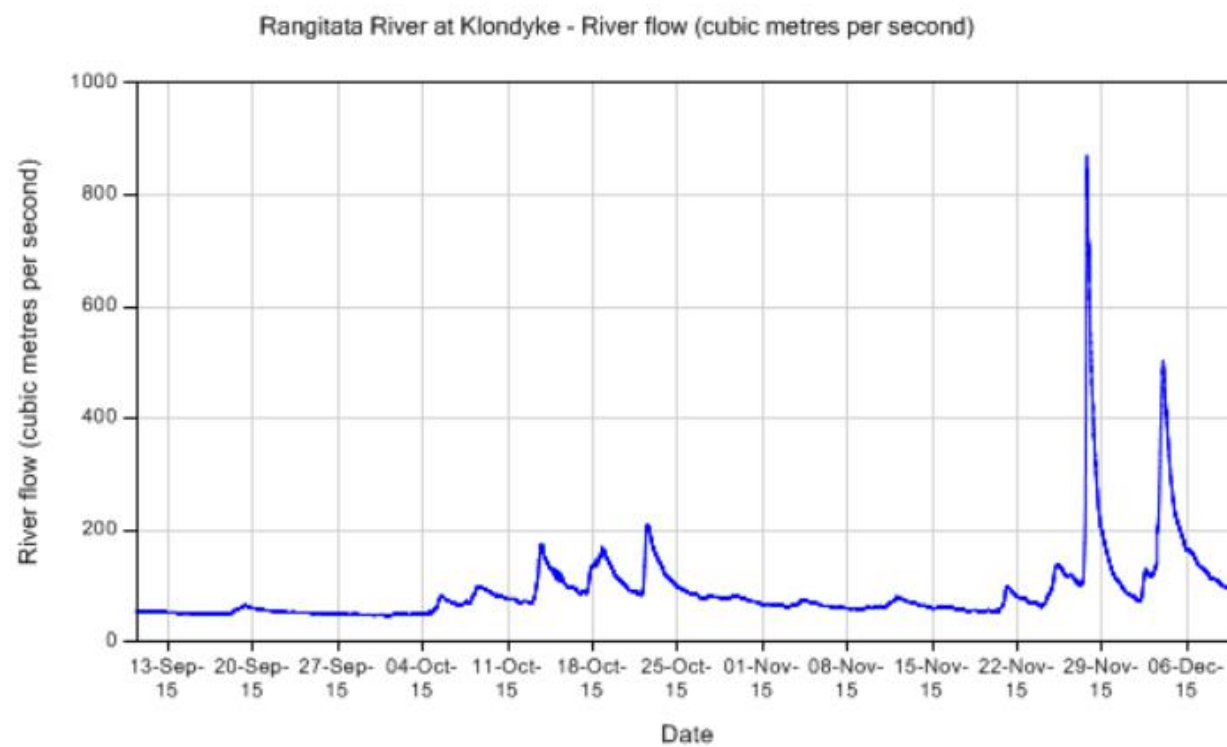
- Unknown 13
- Fledged 0
- Chick(s) 29
- Predation 0
- Flood 32
- Abandoned 7
- Failed 2
- Infertile 1

Lower River 93 nests

- Unknown 14
- Fledged 0
- Chicks 5
- Predation 10
- Flood 41
- Abandoned 19
- Failed 0
- Infertile 0
- Human disturb 4



Rangitata River at Klondyke



Camera Monitoring

Black Fronted Tern Nests



- All 9 monitored nests were washed through on 28th Nov flood
- Some intriguing footage
- Chicks appear to be fed a progression of small fish, earthworms and then skinks.
- No predations detected
- In itself can't provide total picture as chicks wander off the nest as they develop













Ltl Acorn



062°F

017°C

11/27/2015 15:27:35





Ltl Acorn



064°F

018°C

11/27/2015 17:40:42



Learnings

- Productivity changes of BFT and wrybill will require several years of monitoring to confirm due to seasonal variability
- 2016 was a good season for wrybill productivity on the Upper Rangitata with productivity approaching a sustainable population requirement
- 2016 was the second year in a row that no monitored BFT nests produced fledged chicks in the Upper Rangitata, this season due primarily to flooding -however the previous seasons high rate of predator induced mortality was absent

Thanks

- Ecan, LINZ, DOC, U Rangitata Landcare Group
- Peter Langlands, Wendy Sullivan and John Craig for historical productivity data for the Rangitata
- Dave Anderson Predator Control Report
- Liz Gunning Weed Control Report
- Paul Gasson –co ordination
- Braided Riverbed Specialist Group
- Tasman Project Team
- Everyone I've missed!