

# APPENDICES

## APPENDIX 1: TERRITORIALITY AND AGE AT FIRST BREEDING FOR O.N.E KIWI 2002-2012

Gender	Age of territoriality (years)	Age of first breeding (years)	Cohort	Outcome or Current age (years)
<b>male (pair 1)</b>	<b>1.25</b>	<b>2.8</b>	<b>2002/03</b>	<b>2 rotten eggs</b>
<b>male (pair 3)</b>	<b>2.55</b>	<b>5.4</b>	<b>2002/03</b>	<b>1 chick</b>
<b>female (pair 1)</b>	<b>1.7</b>	<b>2.8</b>	<b>2002/03</b>	<b>2 rotten eggs</b>
<b>female (pair 2) *</b>	<b>unknown</b>	<b>4.5</b>	<b>2002/03</b>	<b>1 infertile egg</b>
<b>female*</b>	<b>unknown</b>	<b>3.5</b>	<b>2002/03</b>	<b>1 chick</b>
male	1.25	Lost transmitter (tx)	2002/03	Dropped tx at 4.5
<b>female*</b>	<b>1.38</b>	<b>3.9</b>	<b>2003/04</b>	<b>1 broken egg</b>
<b>male</b>	<b>1.32</b>	<b>4</b>	<b>2003/04</b>	<b>1 broken egg</b>
<b>male</b>	<b>1.63</b>	<b>4.98</b>	<b>2003/04</b>	<b>1 dead chick</b>
male	1.86	Not yet	2003/04	8.6
<b>female</b>	<b>1.6</b>	<b>Lost tx</b>	<b>2003/04</b>	<b>Dropped tx at 2.5</b>
male	0.86	Lost tx	2003/04	Dropped tx at 4
<i>male</i>	<i>1.7</i>	<i>Dead</i>	<i>2003/04</i>	<i>Drowned at 2.2</i>
<i>female</i>	<i>1.65</i>	<i>Dead</i>	<i>2003/04</i>	<i>Killed by ferret at 4.4</i>
<i>male</i>	<i>3.65</i>	<i>Dead</i>	<i>2003/04</i>	<i>Killed by ferret at 6.1</i>
<i>male</i>	<i>1.25</i>	<i>Dead</i>	<i>2003/04</i>	<i>Killed by ferret at 6.3</i>
<b>male</b>	<b>1.91</b>	<b>3.97</b>	<b>2004/05</b>	<b>Unknown, egg shells</b>
<b>female</b>	<b>2.49</b>	<b>4.29</b>	<b>2004/05</b>	<b>Found gravid</b>
<b>female (pair3) *</b>	<b>unknown</b>	<b>3.79</b>	<b>2004/05</b>	<b>unknown</b>
<b>female</b>	<b>1.35</b>	<b>unknown</b>	<b>2004/05</b>	<b>unknown</b>
male	0.5(release age)	Not yet	2004/05	7.53
male	0.9	Lost tx	2004/05	Dropped tx at 2.8
<i>male</i>	<i>0.5 (release age)</i>	<i>Dead</i>	<i>2004/05</i>	<i>Killed by ferret at 5.1</i>
<i>male</i>	<i>1.45</i>	<i>Dead</i>	<i>2004/05</i>	<i>Killed by ferret at 5.1</i>
<b>male</b>	<b>3.94</b>	<b>4.64</b>	<b>2005/06</b>	<b>2 good eggs</b>
<b>Male (pair 4)</b>	<b>2.01</b>	<b>4.83</b>	<b>2005/06</b>	<b>2 unfertile eggs</b>
<i>male</i>	<i>0.99</i>	<i>Dead</i>	<i>2005/06</i>	<i>Killed by ferret at 5.3</i>
<b>female</b>	<b>Not sure yet</b>	<b>not yet</b>	<b>2009/10</b>	<b>2.7</b>
<b>female</b>	<b>Not sure yet</b>	<b>not yet</b>	<b>2009/10</b>	<b>2.4</b>
<b>female</b>	<b>Not sure yet</b>	<b>not yet</b>	<b>2009/10</b>	<b>2.3</b>
<b>male</b>	<b>Not sure yet</b>	<b>not yet</b>	<b>2009/10</b>	<b>2.5</b>

Where exact date is not known, midpoint between when the bird was not settled/not breeding and the date on which the bird was found settled/breeding, was used, if visits were 15 or fewer days apart. Where the interval exceeds 15 days, the date after 40% of interval between visits has elapsed was used.

\*Not continuously monitored

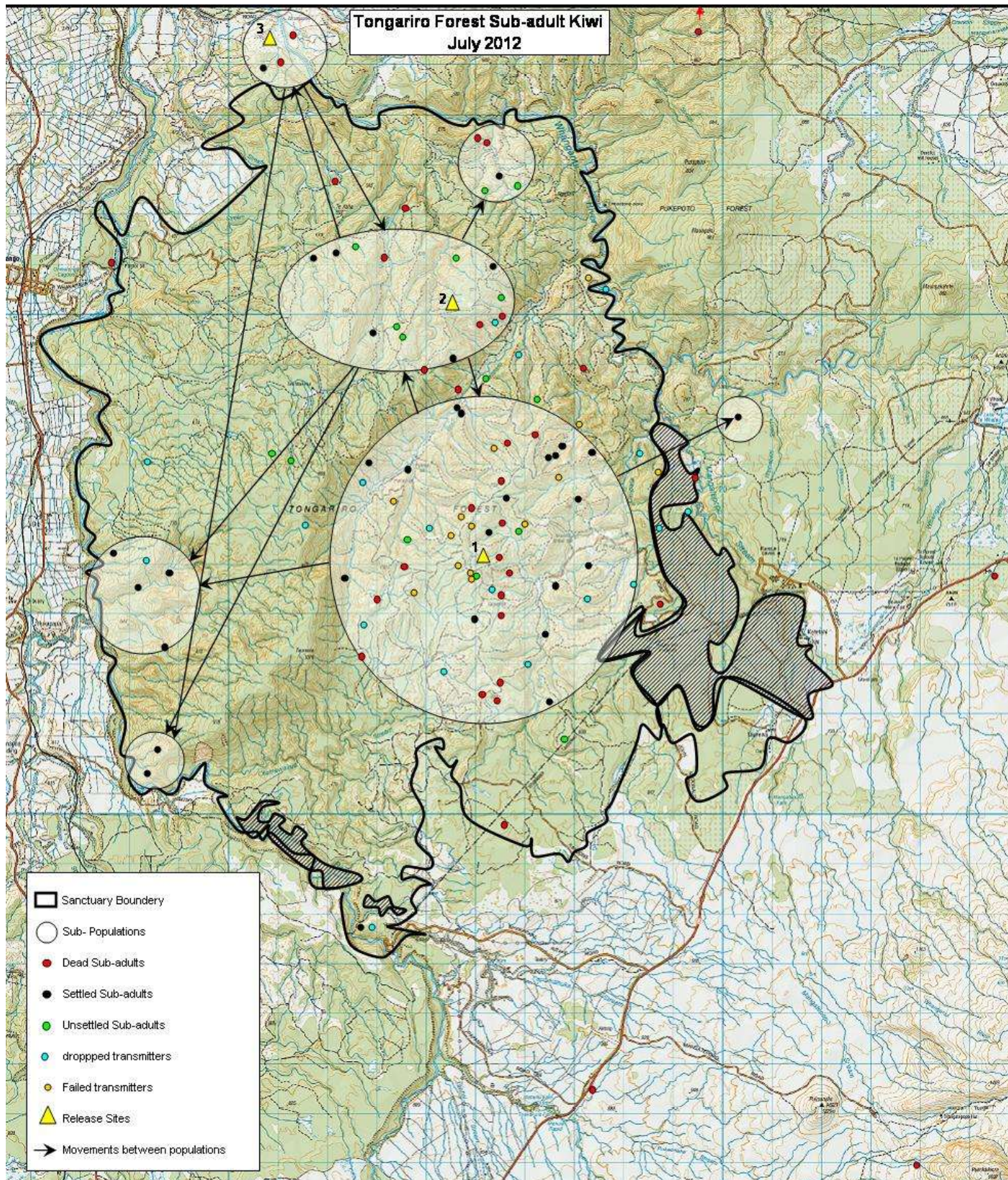
APPENDIX 2: TERRITORIALITY AND AGE AT FIRST BREEDING FOR WILD HATCHED KIWI 2001-2012

Gender	Age of territoriality (years)	Age of first breeding (years)	Cohort	Outcome or Current age (years)
male	1	3.43	2001/02	2 chicks
male (pair 2)	2.21	5.25	2001/02	1 infertile egg
male	2.43	6.59	2001/02	2 chicks
male	0.74	3	2006/07	1 chick + 1 embryonic death
male	1.93	2.94	2006/07	1 broken egg
female (pair 4) *	1.69	4.13	2006/07	2 unfertile eggs
female	2.25	2.8	2006/07	Found gravid
male	2.9	Lost tx	2006/07	Lost tx at 3.3
male	1.75	Lost tx	2006/07	Lost tx at 3
male	0.8	dead	2006/07	Died at 2.6
female	1.95	lost tx	2007/08	Lost tx at 2.9
female	1.88	Dead	2007/08	Died at 2.9
male	0.08	lost	2007/08	Disappeared at 3.1
male	0.69	1.93	2008/09	1 good egg
female	1.3	Not sure yet	2008/09	3.4
female	2.8	Not sure yet	2008/09	3.4
male	Not yet	Not yet	2010/11	1.56
male	Not yet	Not yet	2010/11	1.35
male	Not yet	Not yet	2011/12	<1
male	Not yet	Not yet	2011/12	<1
male	Not yet	Not yet	2011/12	<1
male	Not yet	Not yet	2011/12	<1
male	Not yet	Not yet	2011/12	<1
female	Not yet	Not yet	2011/12	<1
female	Not yet	Not yet	2011/12	<1
female	Not yet	Not yet	2011/12	<1
female	Not yet	Not yet	2011/12	<1
unknown	Not yet	Not yet	2011/12	<1

Where exact date is not known, midpoint between when the bird was not settled/not breeding and the date on which the bird was found settled/breeding, was used, if visits were 15 or fewer days apart. Where the interval exceeds 15 days, the date after 40% of interval between visits has elapsed was used.

\*Not continuously monitored

APPENDIX 3: MAPS SHOWING SUB ADULT KIWI LOCATIONS IN TONGARIRO FOREST KIWI SANCTUARY



APPENDIX 5: KIWI CHICK SUMMARY

Egg I.D.	Estimated hatch date	Wild hatch / ONE	First Recorded Weight (g)	Date of Tx on	Last recorded weight (g)	Date of last recorded weight	Outcome	Date of Outcome	Estimated or true date of outcome	Age at outcome (days)
Fo4	16-Sep-11	ONE	293	30-Sep-11	1250	18-Jun-12	reached sub-adult status	17-Mar-12	17-Mar-12	183
Lg18	20-Sep-11	ONE	262	05-Oct-11	770	1-Mar-12	reached sub-adult status	21-Mar-12	21-Mar-12	183
Rk5	29-Sep-11	ONE	354	15-Oct-11	1100	13-Apr-12	reached sub-adult status	30-Mar-12	30-Mar-12	183
Hr1	2-Oct-11	ONE	360	20-Oct-11	1380	30-May-12	reached sub-adult status	02-Apr-12	02-Apr-12	183
Hr2	5-Oct-11	ONE	311	20-Oct-11	800	11-Jan-12	DEAD, mustelid predation	08-Feb-12	31-Jan-12	118
Lg19	7-Oct-11	ONE	314	20-Oct-11	1230	13-Jun-12	reached sub-adult status	07-Apr-12	07-Apr-12	183
Pp13	13-Oct-11	ONE	278	27-Oct-11	420	22-Nov-11	DEAD, mustelid predation	19-Dec-12	19-Dec-11	67
Tai11	13-Oct-11	ONE	268	29-Jun-12	1060	12-Jun-12	reached sub-adult status	13-Apr-12	13-Apr-12	183
Rk6	18-Oct-11	ONE	296	03-Nov-11	350	23-Nov-11	DEAD, unknown - possible pig scavenge	13-Dec-11	06-Dec-11	49
Tai12	1-Nov-11	ONE	340	22-Nov-11	930	4-Apr-12	reached sub-adult status	02-May-12	02-May-12	183
Gu4	7-Nov-11	ONE	337	22-Nov-11	915	24-May-12	reached sub-adult status	08-May-12	08-May-12	183
Gu5	18-Nov-11	ONE	300	02-Dec-11	520	20-Jan-12	DEAD, mustelid predation - likely stoat	07-Feb-12	31-Jan-12	74
Lg20	2-Jan-12	ONE	352	18-Jan-12	840	13-Jul-12	reached sub-adult status	03-Jun-12	03-Jun-12	153
Hr3	15-Jan-12	ONE	365	01-Feb-12	930	9-Jul-12	reached sub-adult status	16-Jun-12	16-Jun-12	153
Pm4	17-Jan-12	ONE	274	08-Feb-12	274	08-Feb-12	DEAD, misadventure - entanglement	22-Feb-12	15-Feb-12	29
Lg21	21-Jan-12	ONE	388	14-Feb-12	388	14-Feb-12	DEAD, possible avian predation or scavenge	01-Mar-12	23-Feb-12	33
Hr4	28-Jan-12	ONE	273	14-Feb-12	390	08-Mar-12	DEAD, mustelid predation - likely stoat	03-Apr-12	03-Apr-12	66
Pp15	14-Feb-12	ONE	345	06-Mar-12	345	14-Feb-12	DEAD, mustelid predation	11-Apr-12	05-Apr-12	51
Mx28	17-Feb-12	ONE	380	14-Mar-12	380	14-Mar-12	DEAD, mustelid predation	03-May-12	21-Apr-12	64
Tai13	18-Feb-12	ONE	386	14-Mar-12	386	14-Mar-12	DEAD, unknown cause	04-Apr-12	27-Mar-12	38
Dn3	29-Feb-12	WH	330	14-Mar-12	760	18-Jul-12	ALIVE < 183 days old			153*
Dn4	7-Mar-12	WH	240	14-Mar-12	280	23-Apr-12	DEAD, mustelid predation - likely stoat	12-May-12	03-May-12	57
Tew7	18-Apr-12	WH	260	02-May-12	260	02-May-12	DEAD, misadventure	25-May-12	10-Jun-12	53
Lg22	15-Apr-12	ONE	420	04-May-12	420	04-May-12	DEAD, misadventure	22-May-12	21-May-12	36
Lg23	08-May-12	ONE	414	01-Jun-12	414	01-Jun-12	DEAD, misadventure	13-Jun-12	10-Jun-12	33

\*Dn3 Age at 31/07/12

**APPENDIX 4: A COMPARISON OF KIWI CHICK OUTCOMES AND KAPLAN-MEIER SURVIVAL ESTIMATES FOR THE SIX BREEDING SEASONS, 2005-2012\***

	2005-2006	2006-2007	2007-2008	2008-2009	2010-2011	2011-2012
	Pre - 1080	Immediately Post 1080	1 Year Post 1080	2 years Post 1080	Pre - 1080	Immediately Post 1080
<b>Total Number Monitored</b>	11	21	19	23	25	25
Survival to sub-adult status >183 days	1	12	5	5	5	10
Alive (currently <183 days)	0	0	0	0	0	1
Deaths - predation	6	7	4	15	16	7
Deaths - Natural / misadventure	1	0	3	2	1	7
Dropped transmitter	1	2	5	0	3	0
Transmitter failure	1	0	2	1	0	0
Removed from forest due to injury	1	0	0	0	0	0
<b>Kaplan-Meier Survival Estimate (95% Confidence Intervals)</b>	<b>0.267</b> (0.048 - 0.563)	<b>0.690</b> (0.435 - 0.848)	<b>0.589</b> (0.320 - 0.782)	<b>0.215</b> (0.077 - 0.398)	<b>0.188</b> (0.066 - 0.356)	<b>0.440</b> (0.245-0.619)

*\*Data from the 2009/10 season is not included as chicks were crèched in Warrenheip, a 16ha predator proof fenced area of bush near Cambridge, Waikato*



