TASMAN RIVER PREDATOR CONTROL PROJECT

Specific objectives over 5 years

(1) increase annual fledging success of hatched chicks of river birds by 10%

(2) reduce annual adult river bird mortality by 10%

(3) increase populations of river birds at an annual growth rate of ~5-10%

(4) enhance populations of selected lizard and invertebrate species

(5) ensure predator control does not negatively impact on native floristic values

Rationale for controlling predators

Predators are controlling native fauna populations

↓

Which predators are responsible largely unknown

↓

Control of most/all predator species will increase fauna populations

Overall goal

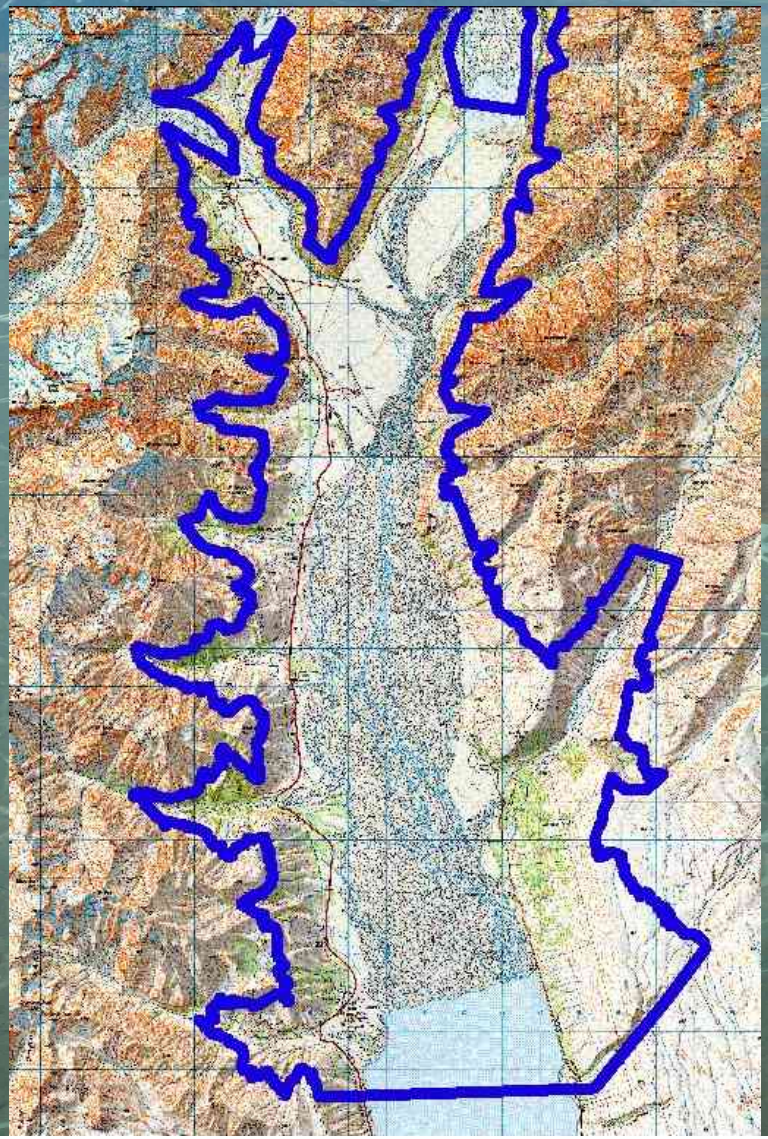
To maintain functioning braided river valley ecosystems by limiting the impact of exotic species

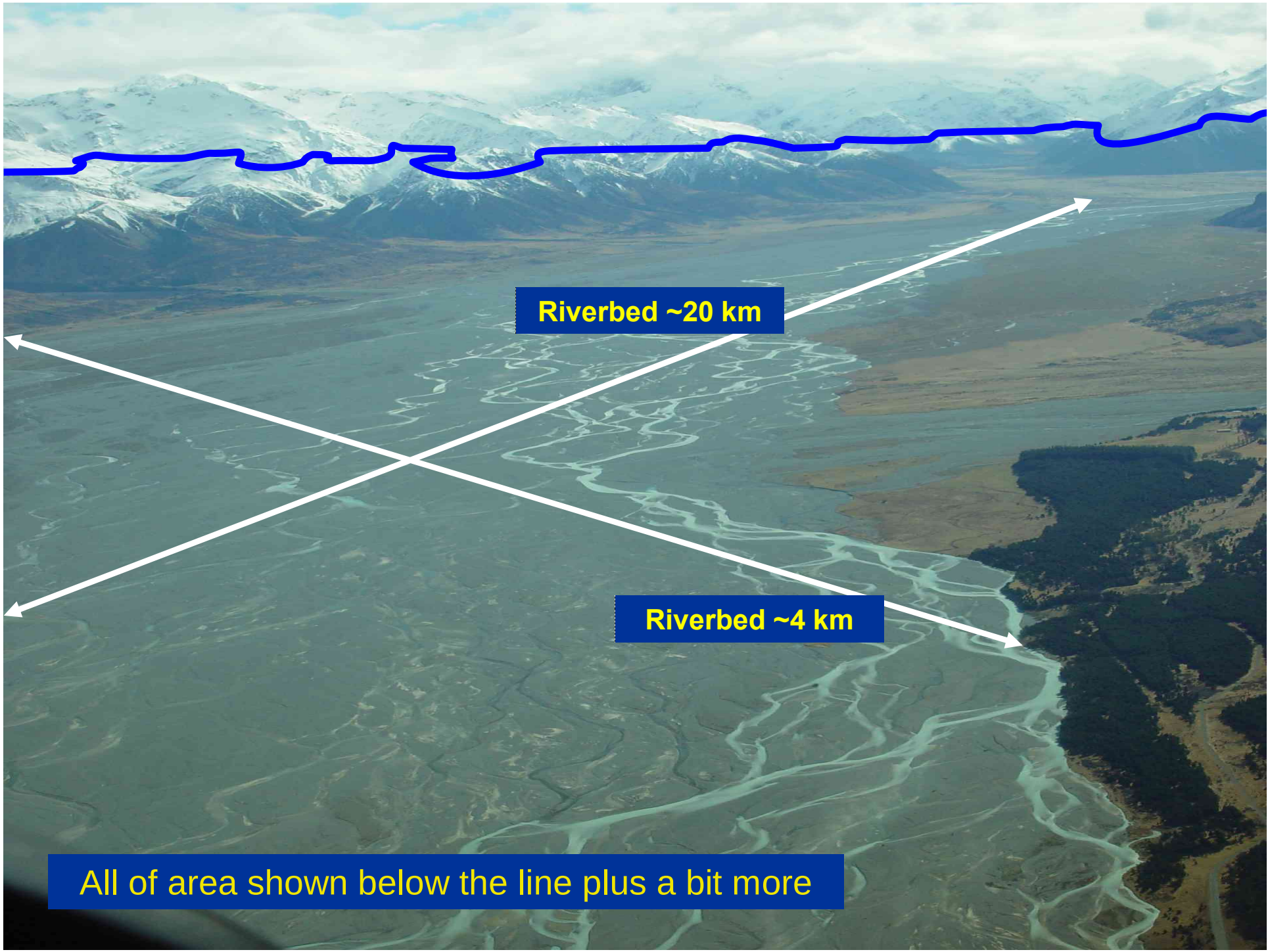
Goal for predator control

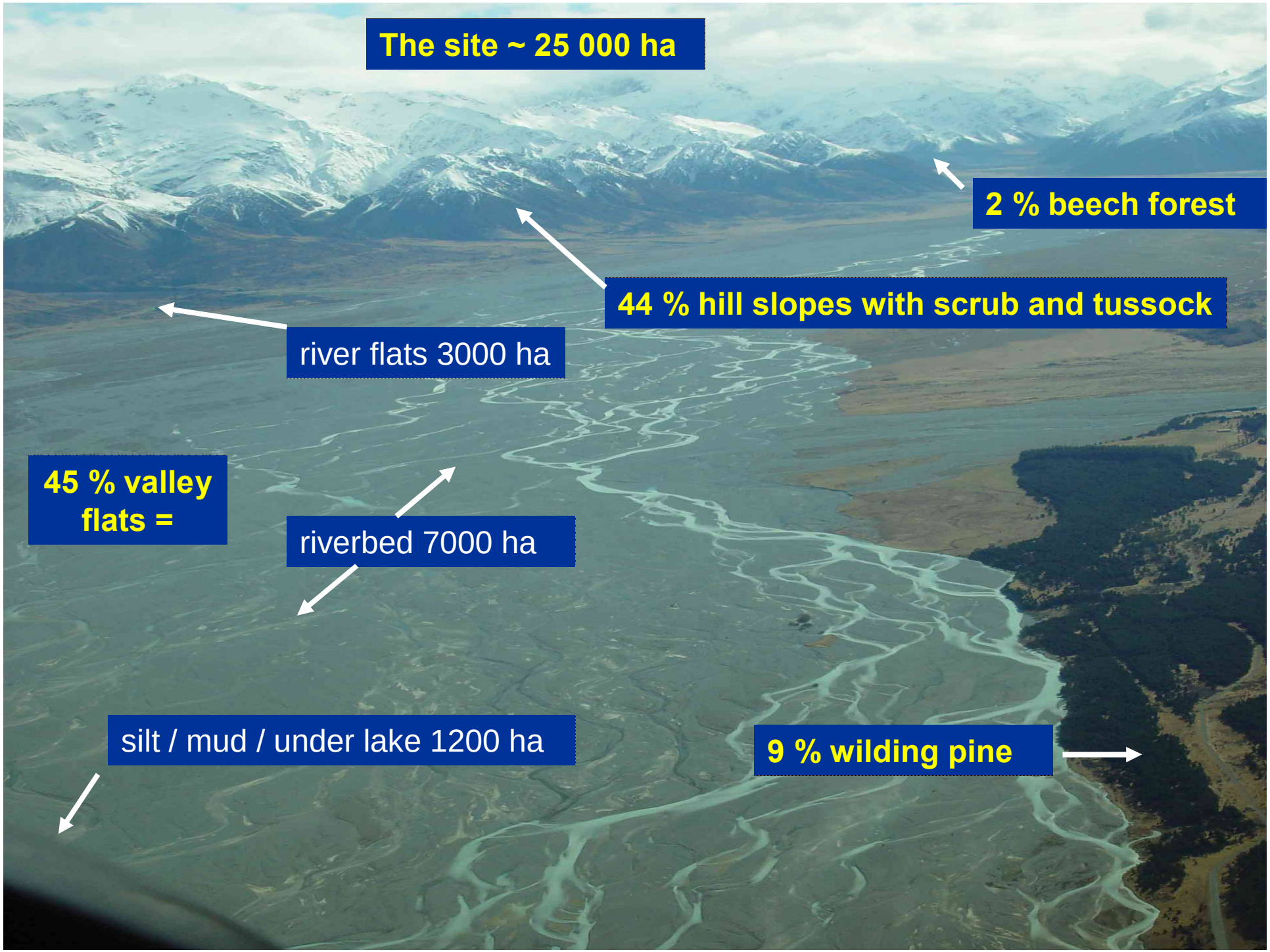
To reduce predation rates to a level where native species are thriving

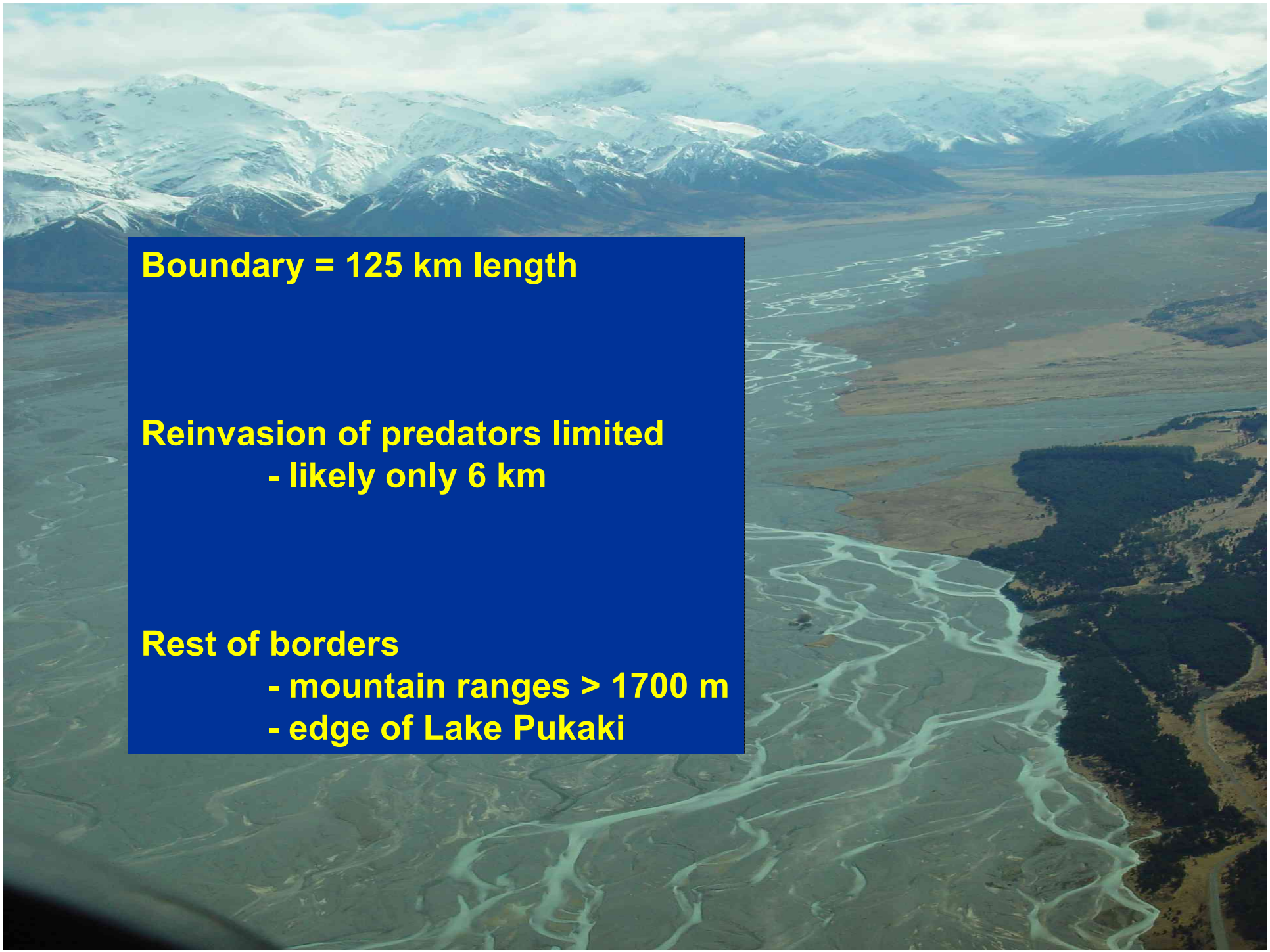
The site

All of Tasman Valley up to the 1000m contour




Riverbed ~20 km
Riverbed ~4 km
All of area shown below the line plus a bit more


The site ~ 25 000 ha
2 % beech forest
44 % hill slopes with scrub and tussock
river flats 3000 ha
45 % valley flats =
riverbed 7000 ha
silt / mud / under lake 1200 ha
9 % wilding pine

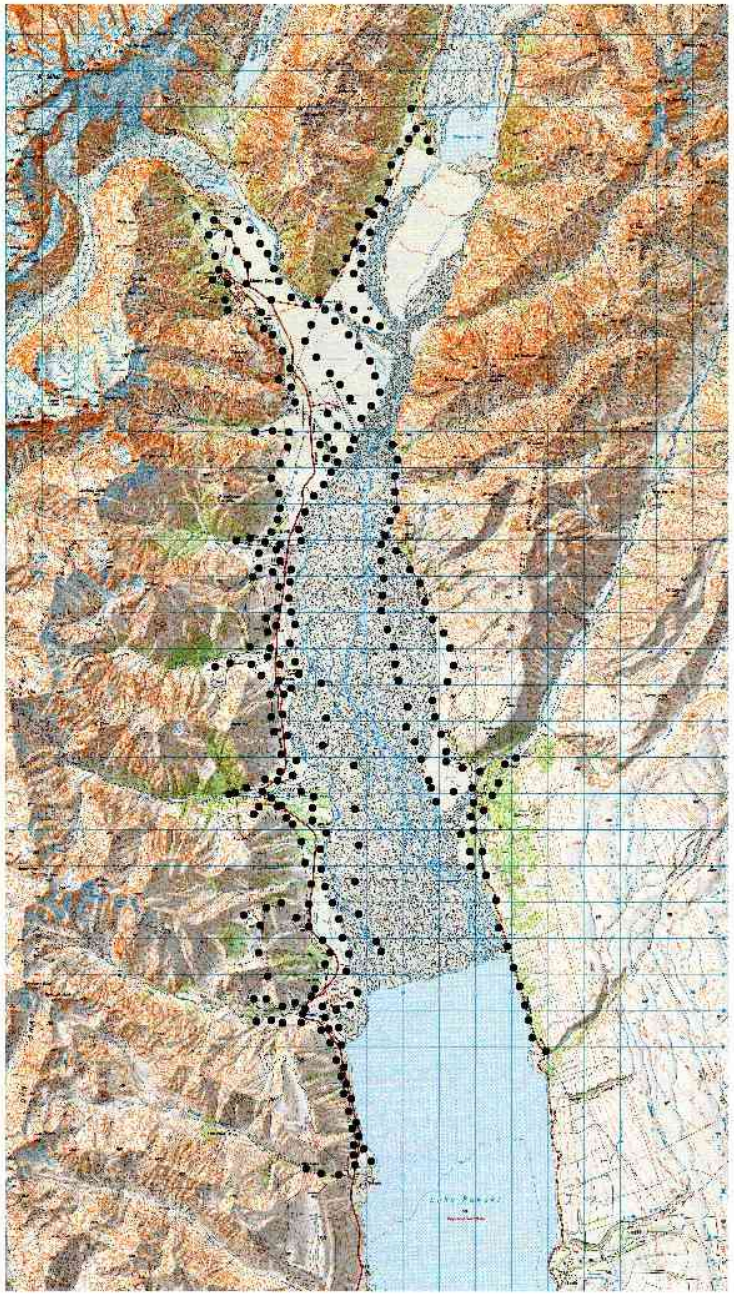

Boundary = 125 km length
Reinvasion of predators limited
- likely only 6 km
Rest of borders
- mountain ranges > 1700 m
- edge of Lake Pukaki

Target Species

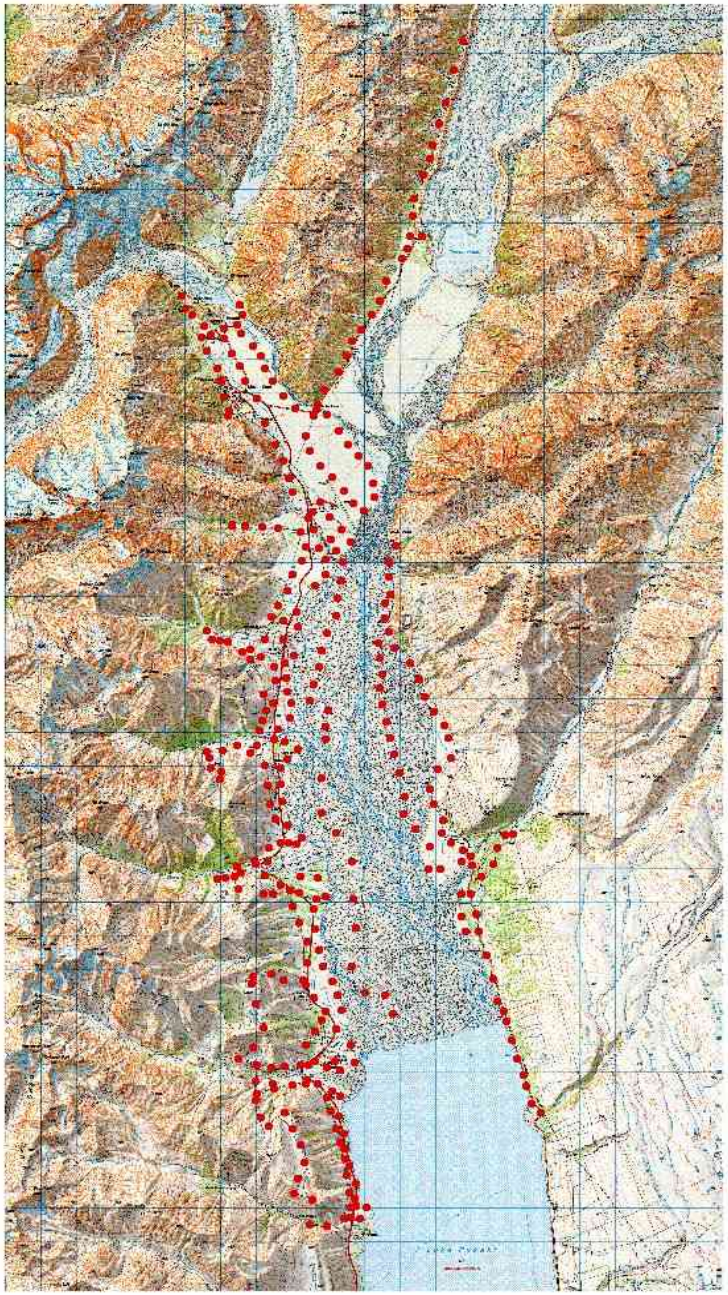
- Cat, stoat, ferret, weasel, rats, hedgehogs, possums – not mice
- Opportunistic black-backed gull control
- No harrier control (by agreement with run-holder)
- No falcon control

Aim is sustainable levels of control, all year round, over many years and repeatable methods for other sites

Trap maps



Fenn traps (294 sites)



DOC 250 traps (320 sites)

Total number of traps and trap nights

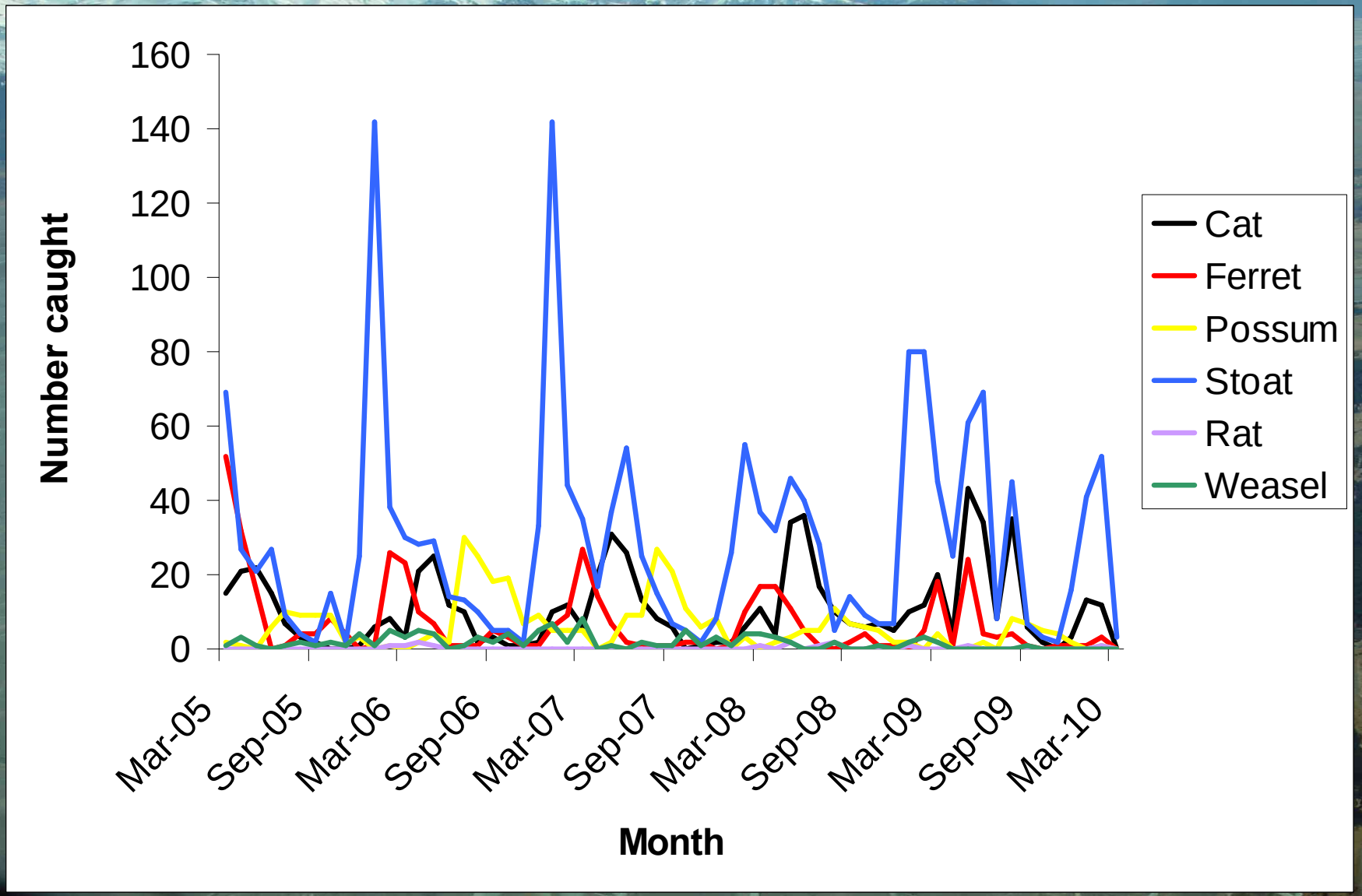
294	Fenns
320	DOC 250s
235	Conibear traps
425	Victor leg-hold

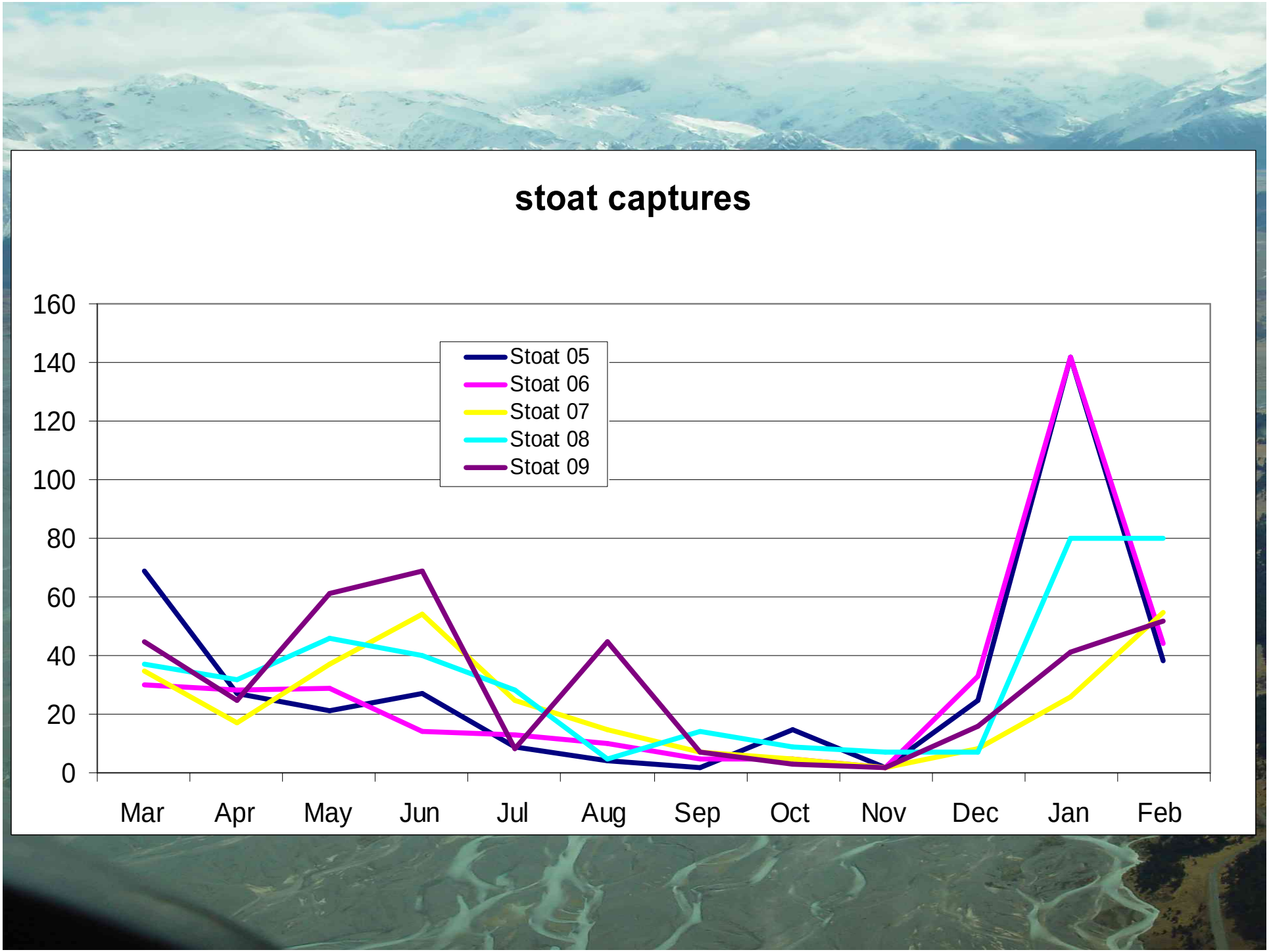
240 000	trap nights per year for kill traps
2800	trap nights per year for leg-holds

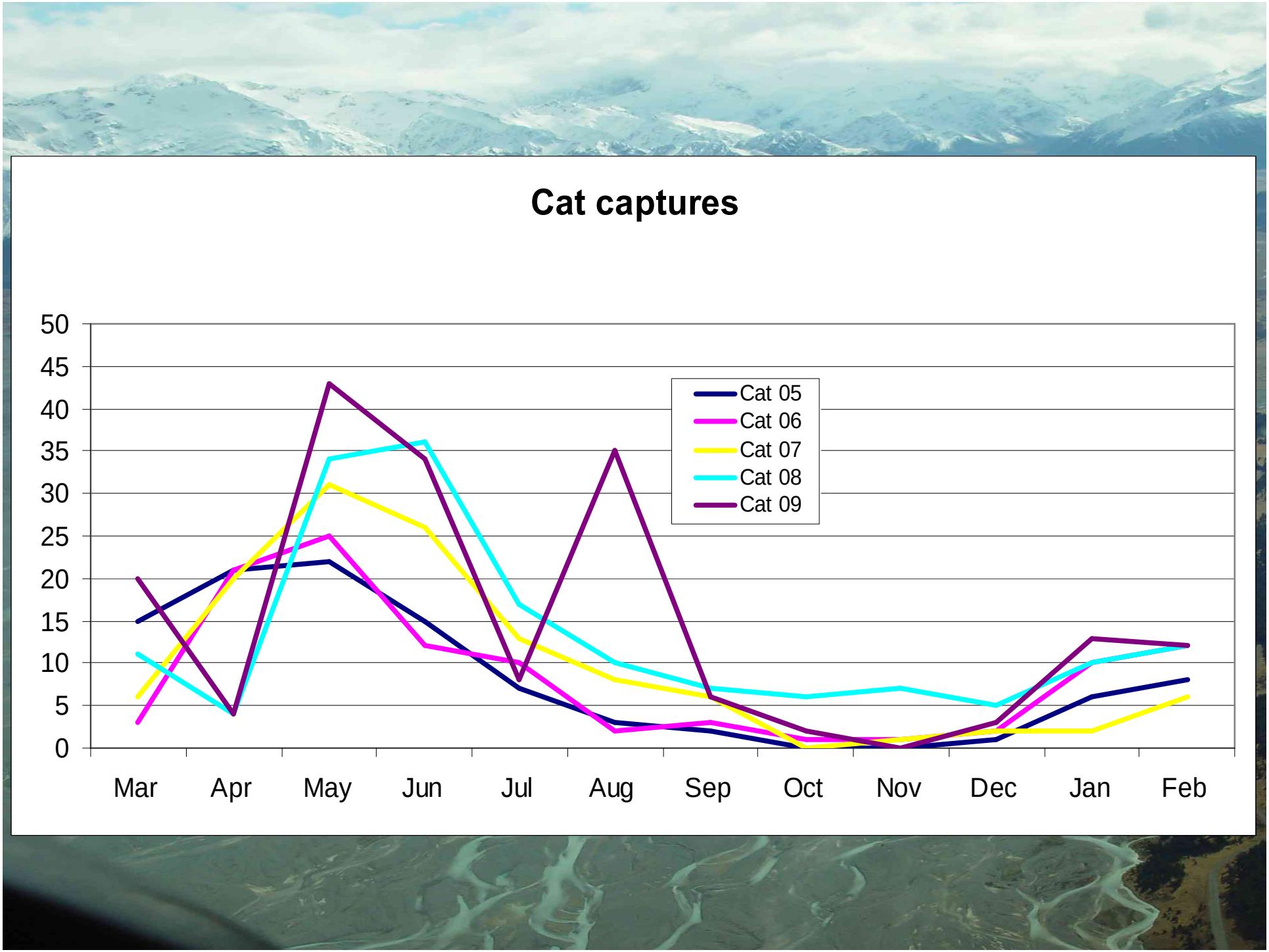
Target Captures (as at Feb 10)

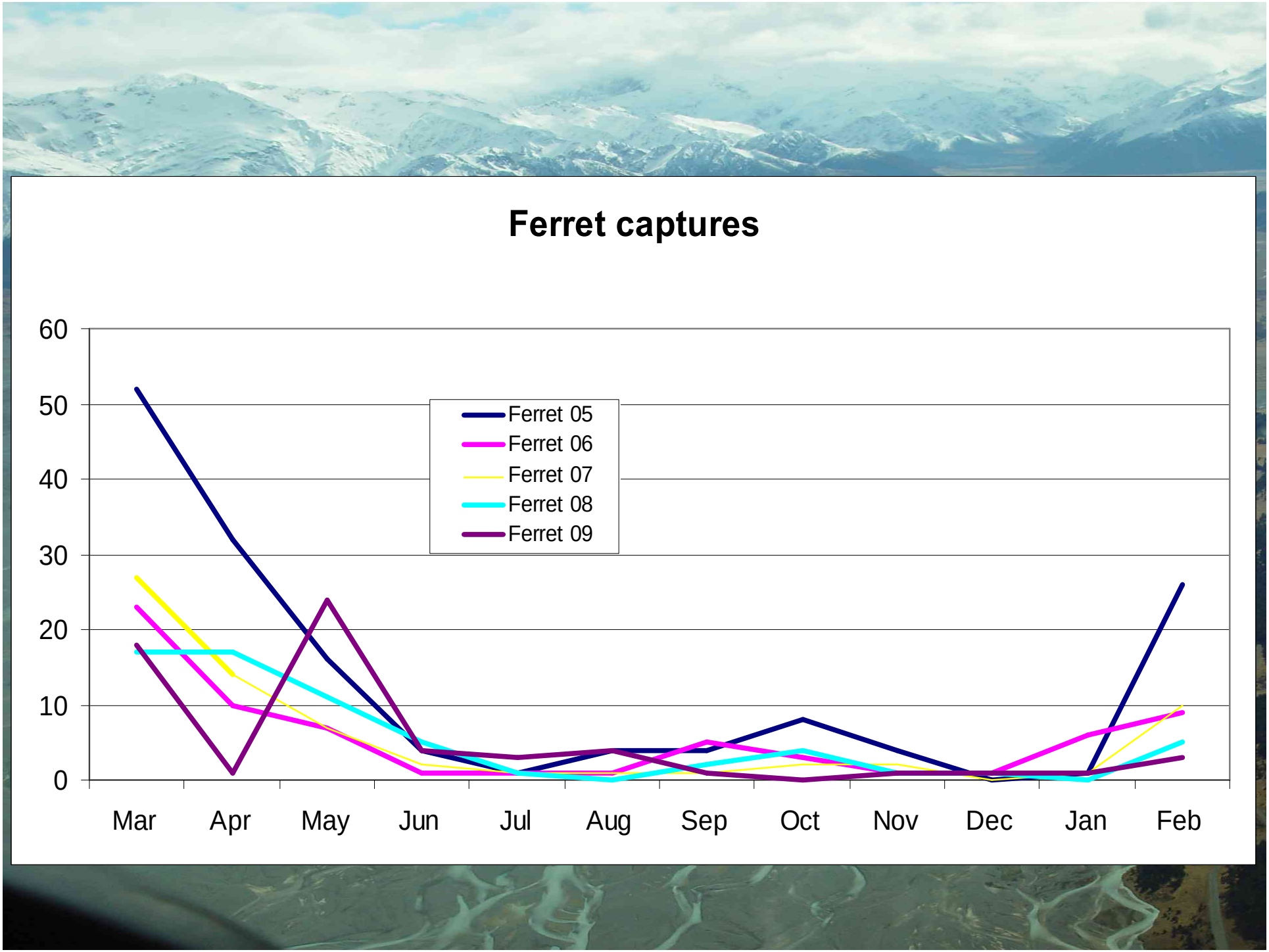
	Total 2010	Total since Mar 2005
Rat	2	16
Weasel	1	107
Possum	29	361
Cat	160	669
Ferret	43	413
Hedgehog	532	3388
Stoat	332	1799
GPS Cat	0	2
Total	**1099**	**6755**

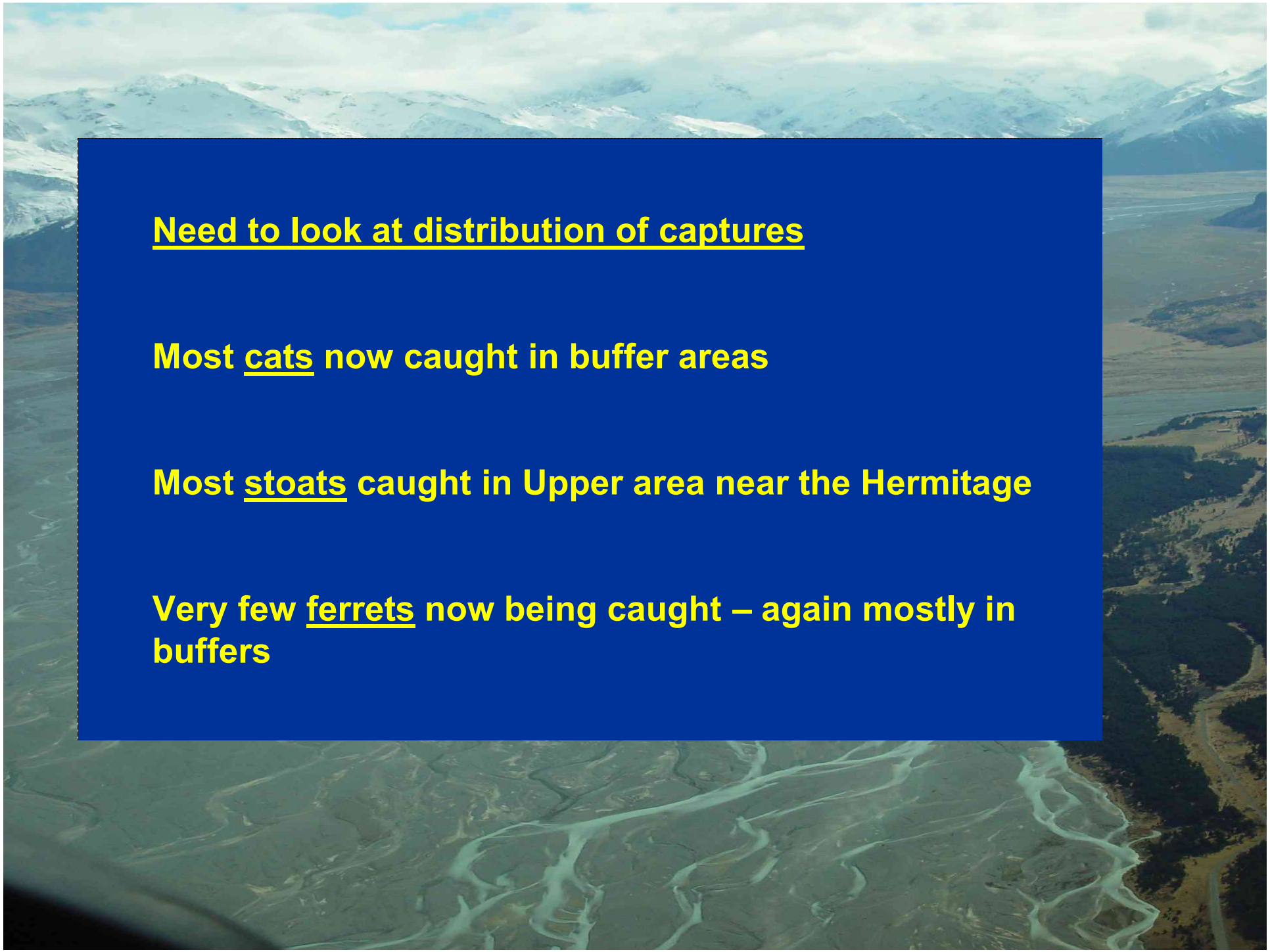
Total captures to date (hedgehogs not shown)




stoat captures
160
140
120
100
80
60
40
20
0
Stoat 05
Stoat 06
Stoat 07
Stoat 08
Stoat 09
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb


Cat captures
50
45
40
35
30
25
20
15
10
5
0
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Cat 05
Cat 06
Cat 07
Cat 08
Cat 09


Ferret captures
60
50
40
30
20
10
0
Ferret 05
Ferret 06
Ferret 07
Ferret 08
Ferret 09
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb



Need to look at distribution of captures

Most cats now caught in buffer areas

Most stoats caught in Upper area near the Hermitage

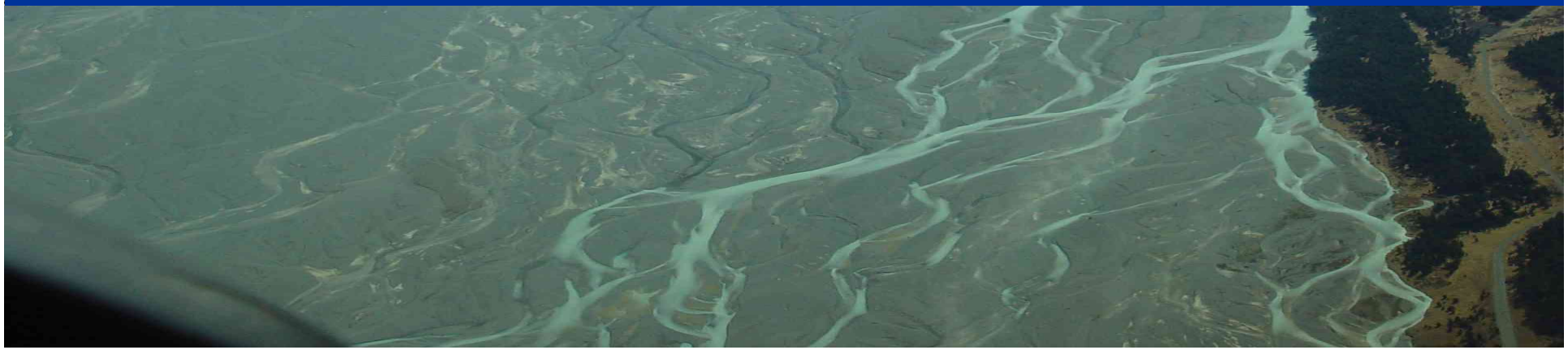
Very few ferrets now being caught – again mostly in buffers

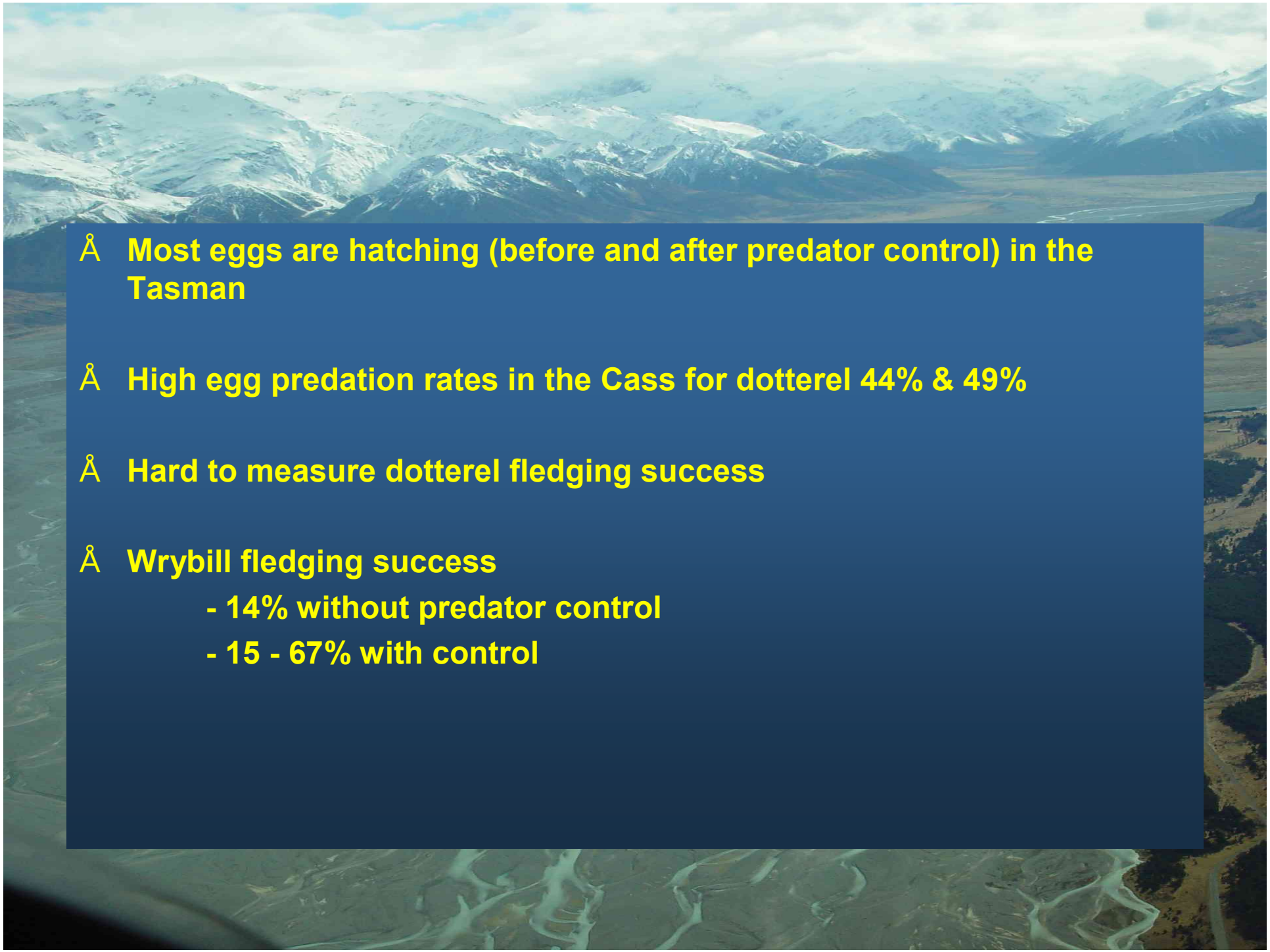
Outcome Monitoring

Over 6 seasons – first year no predator control

Comparative data from the Cass for last two seasons

	Hatching success %	Fledging success %
Banded dotterel (n = 172)	71-97	n/a
Cass 2008 and 2009 (n = 46)	21-43	n/a
Wrybill (n = 126)	73-100	14-67
Cass 2008 and 2009 (n = 40)	79-80	14-50





- Most eggs are hatching (before and after predator control) in the Tasman
- High egg predation rates in the Cass for dotterel 44% & 49%
- Hard to measure dotterel fledging success
- Wrybill fledging success
  - 14% without predator control
  - 15 - 67% with control

Tasman River survey data

Species	1992	1993	1994	2004	2005	2006	2007	2008	2009
Banded dotterel	599	572	523	837	569	778	858	847	743
Wrybill	151	128	120	86	99	32	111	143	156
Black-fronted tern	110	175	79	217	121	47	92	101	143
Black-billed gull	25	8	7	32	7	10	37	5	6
Black stilt	5	1	1	2	8	9	15	15	32
Hybrid stilt	9	1	1	8	9	4	10	4	1
Pied stilt	21	12	18	17	54	12	9	2	-
SIPO	76	59	46	100	61	86	69	64	52
Caspian tern	2	2	2	0	3	0	0	0	3
Black-backed gull	537	608	609	258	151	95	154	127	243
	1535	1566	1406	1557	1082	1073	1355	1308	1379

Also doing some other outcome monitoring

- Passerine surveys
- Lizards and wetas

- Currently in the process of analysing and writing up the data
- Project is continuing in the foreseeable future
- Will look at trends in spatial distribution of captures and trap type and make changes to set-up and hopefully improve efficiency
- Anticipate use of new technology (Henry traps and PAPP toxin) and increased use of predator (cat) dog