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FITZROY BASIN: WATER QUALITY IMPROVEMENT PLAN

Megan Star, Terry Beutel, Kev McCosker, Peggy Schrobback, Rov Ellis, Tom Coughlin, John Rolfe

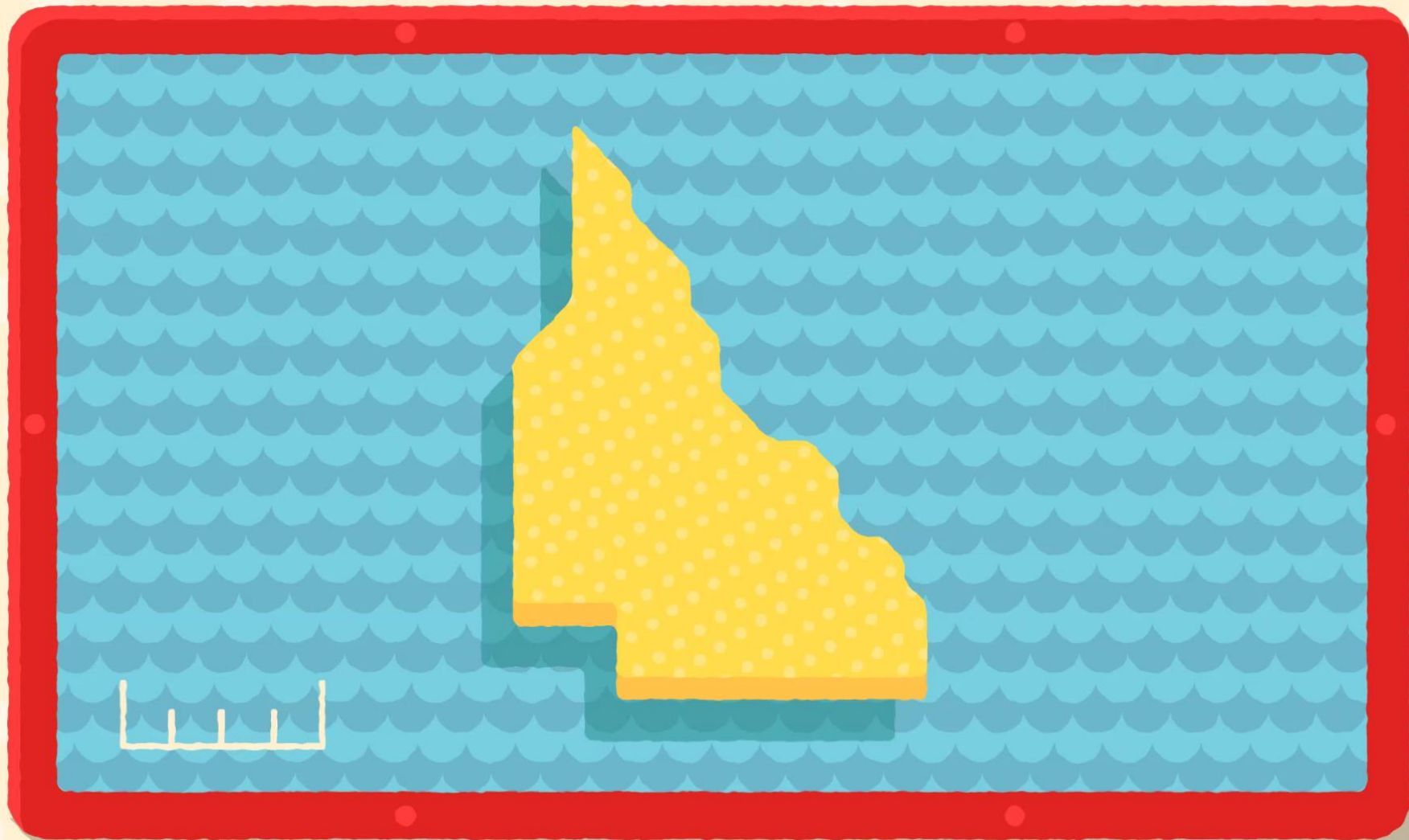
Contributed presentation at the 60th AARES Annual Conference,
Canberra, ACT, 2-5 February 2016

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A herd of cattle, including several brown and white cows, stands in a dry, dusty field. The background shows a line of trees and hills under a bright blue sky with scattered white clouds. The text is overlaid on the upper portion of the image.

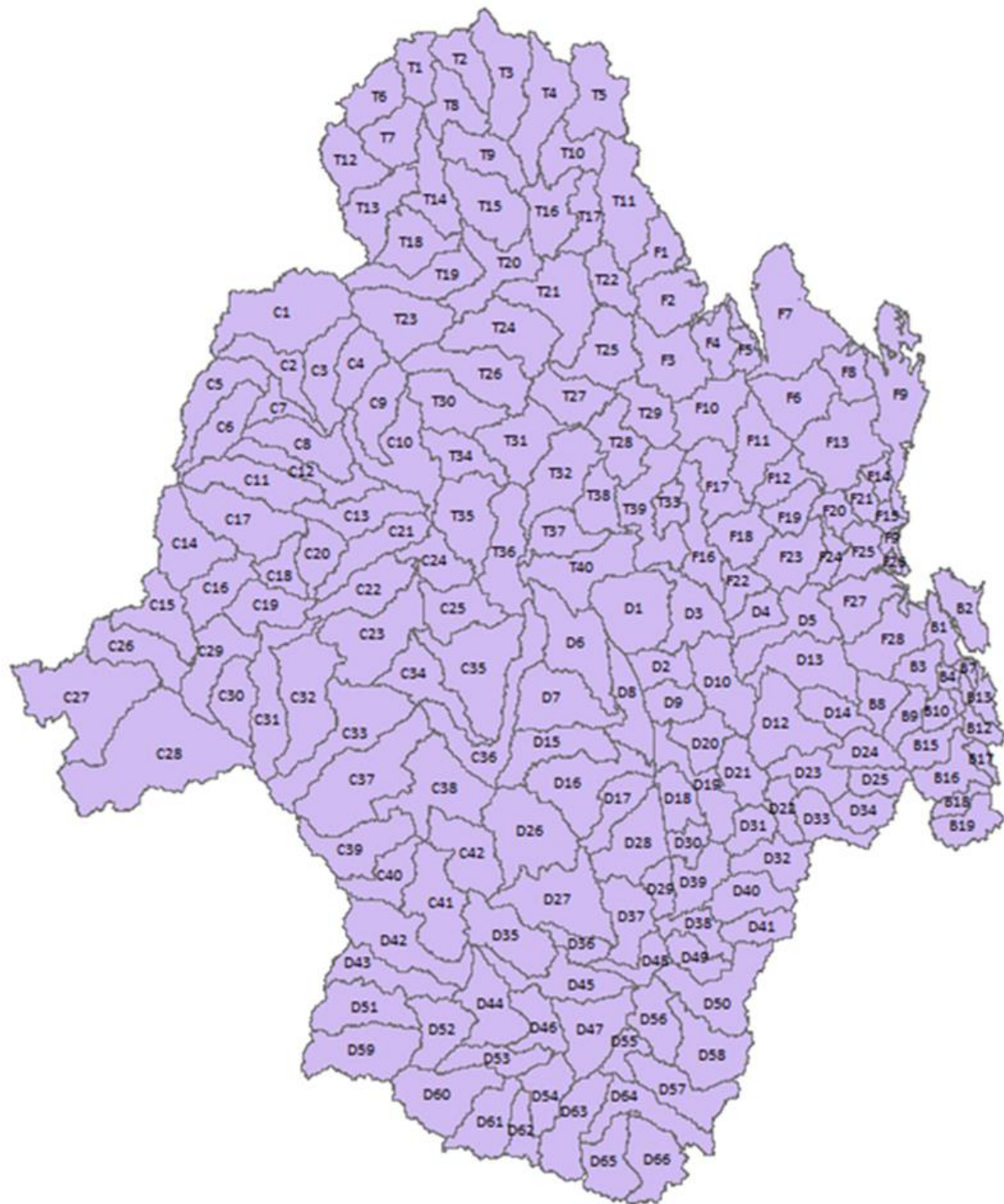
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FITZROY BASIN
**WATER QUALITY
IMPROVEMENT PLAN**

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Tom Coughlin, John Rolfe



Past NRM programs

- Focused on inputs not achieving outcomes
- Lack of biophysical integration
- “Vegemiting” funds
- Policy mechanism not suiting



Targeted Neighbourhood catchments =

$$\text{loads (t per ha)} \frac{(N.Cover \times N.Mgt \times N.Del)}{N.Costs}$$

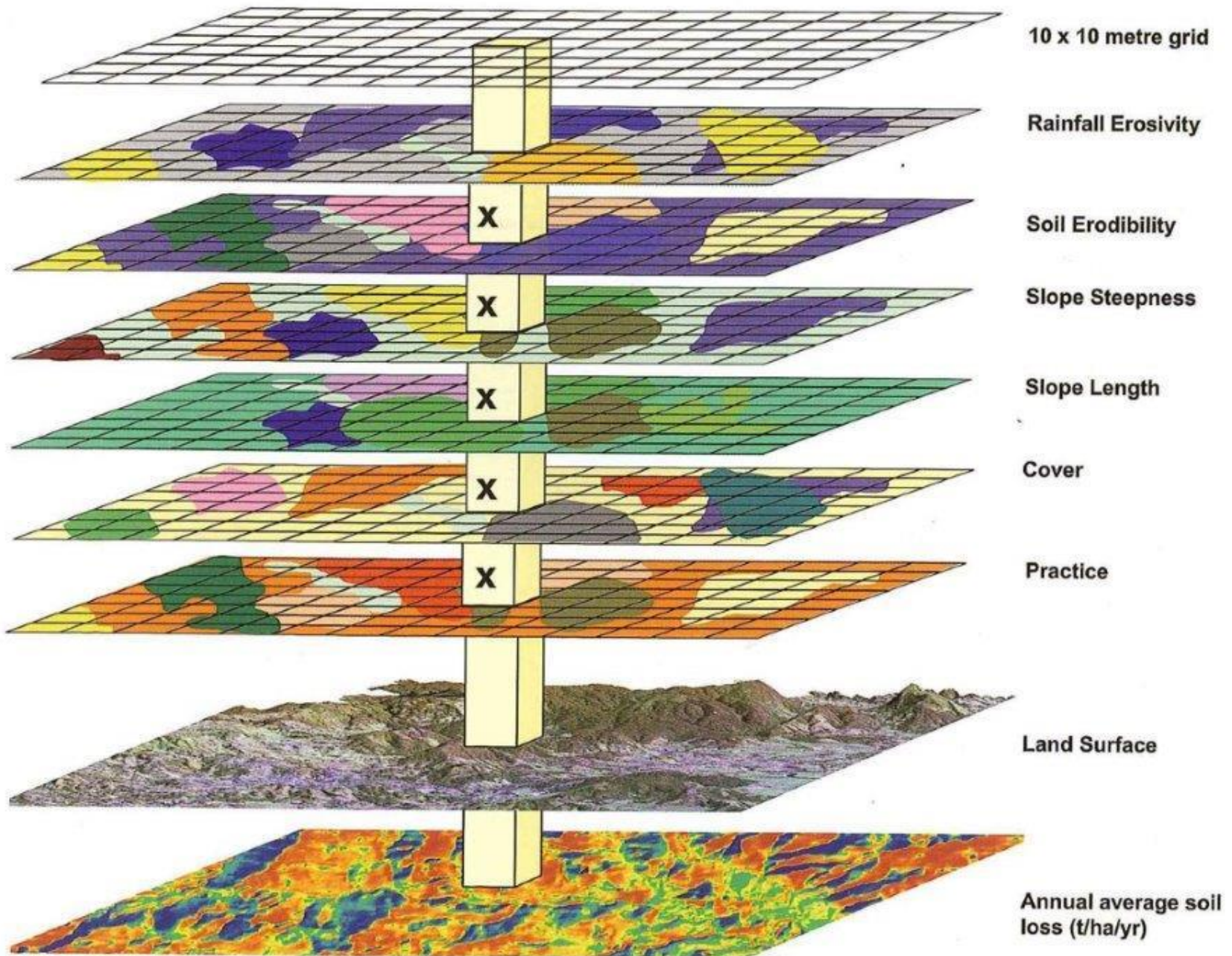
N. Cover residual ground cover data

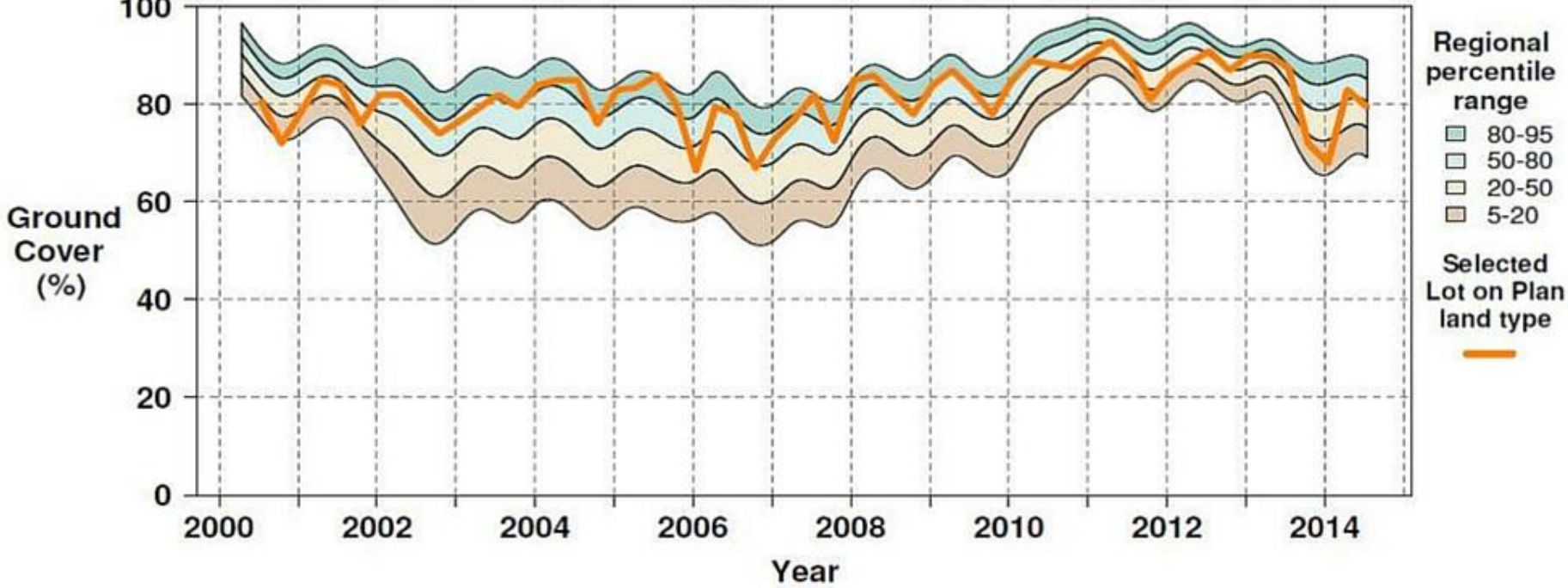
N.Mgt, the level of adoption for B

N.Del the delivery ratio

N.Costs the cost for intervention incentives and opportunity cost

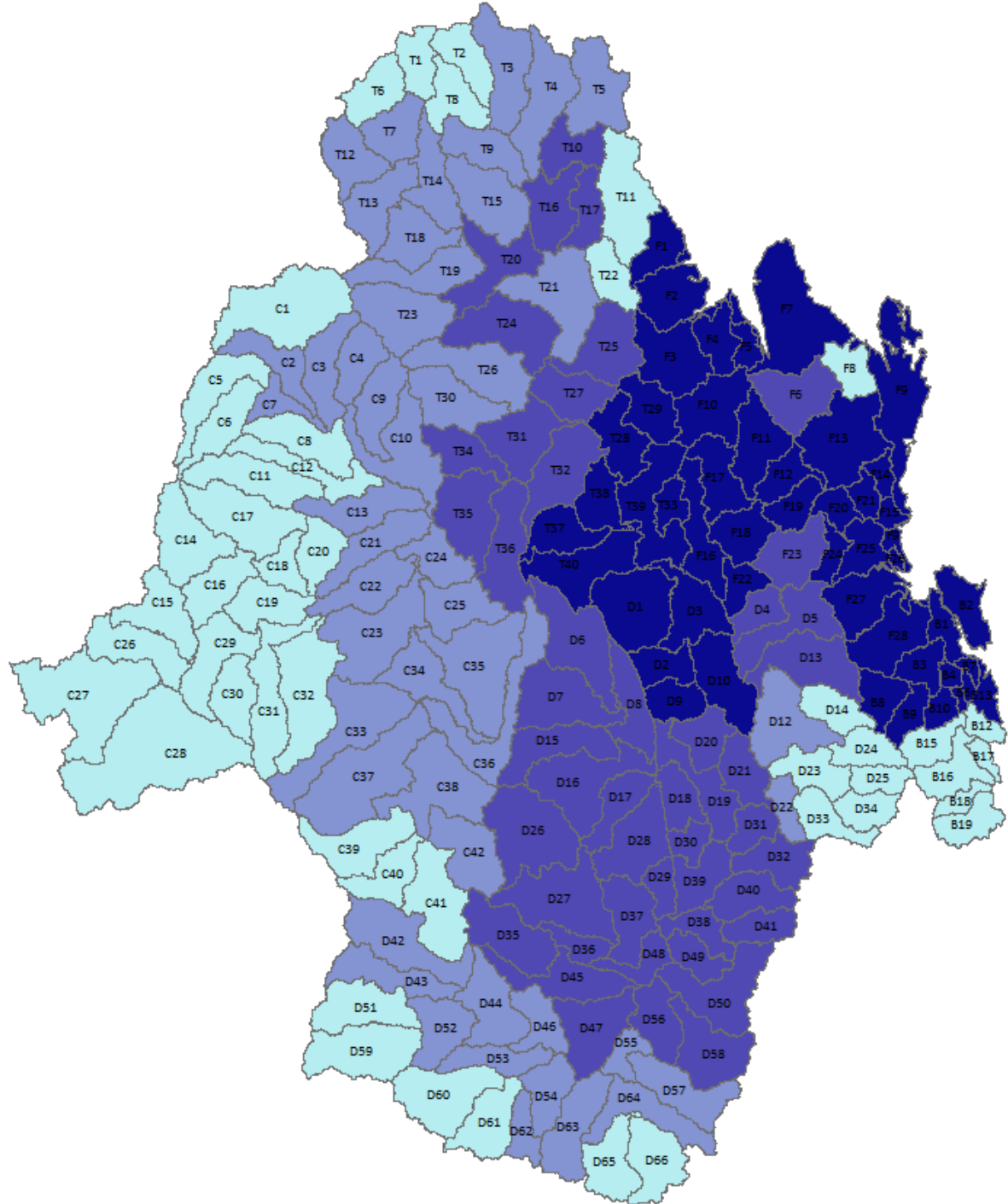
Data layers used in catchment water quality modelling





Current Levels of Best Management 13-14

% land manager	Hillslope	Stream bank	Gully
Fitzroy	22%	35%	20%





Time



Property size



Sediment load

COSTS



cost of FTE & op

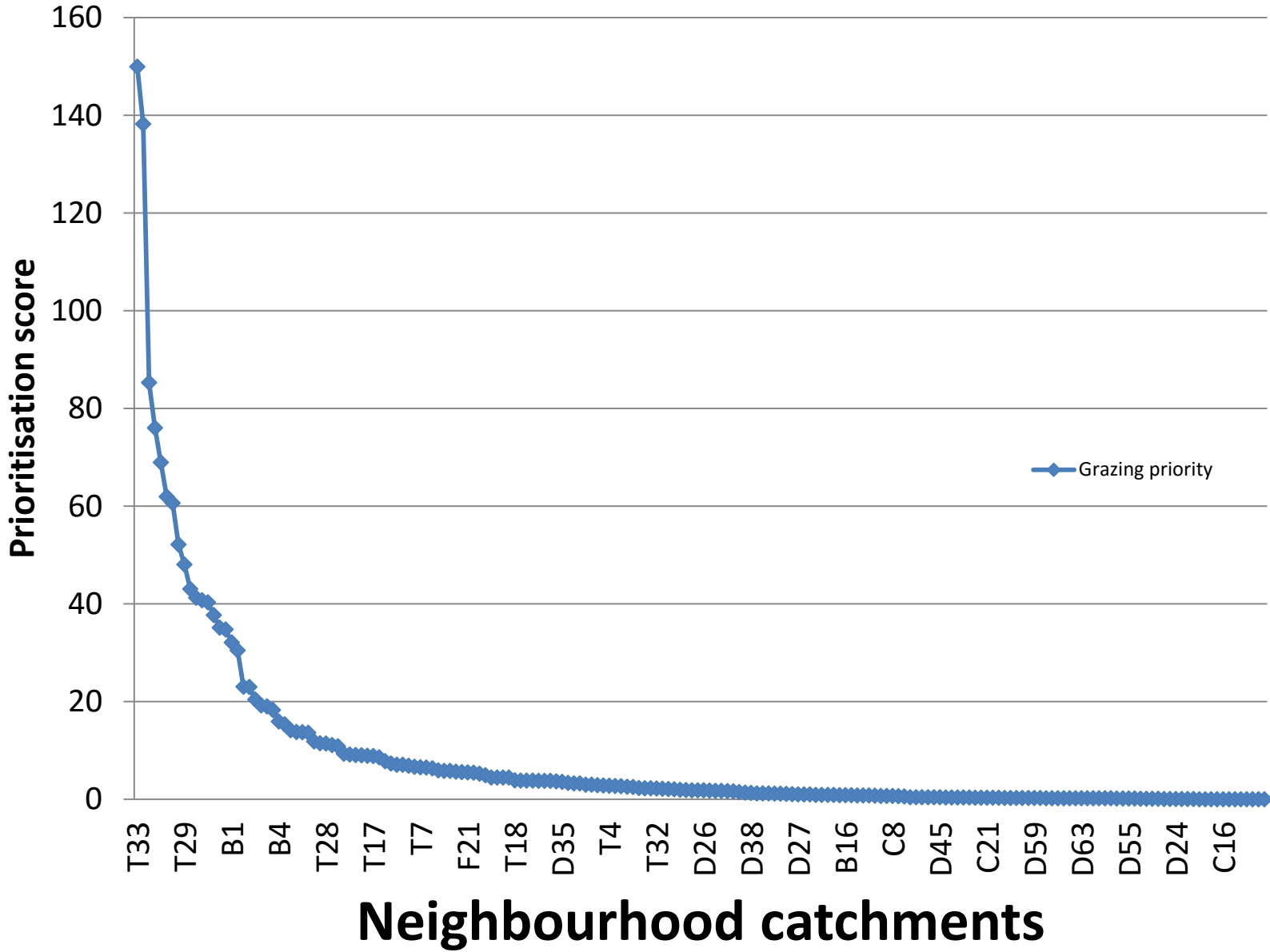


Remediation



landholder

NC	Sediment loads (t/ha)	N. ground cover	N. Best management practice	N. cost	Export delivery ratio	Grazing priority
T33	475.66	0.45	0.61	0.39	0.45	149.98
F15	375.38	0.81	0.09	0.20	1.00	138.20
B2	199.27	1.00	0.11	0.25	1.00	85.29
F5	242.39	0.69	0.21	0.46	1.00	76.05
F25	3278.22	0.69	0.02	0.62	0.95	68.96
F1	435.54	0.70	0.07	0.35	0.99	61.91
F17	918.65	0.64	0.10	0.45	0.48	60.63
B13	334.98	0.76	0.07	0.32	0.94	52.16
T29	374.87	0.56	0.33	0.56	0.39	48.07
B9	269.80	0.50	0.16	0.44	0.90	43.02
F3	319.32	0.51	0.11	0.43	0.94	41.26
F20	854.58	0.57	0.06	0.53	0.79	40.72
B8	334.05	0.51	0.08	0.28	0.86	40.32
F4	313.32	0.58	0.10	0.46	0.98	37.71
T22	50.05	0.50	0.82	0.18	0.31	35.14
F11	517.28	0.51	0.09	0.36	0.55	34.76
B1	328.97	0.76	0.05	0.36	1.00	32.10
F6	234.68	0.64	0.09	0.42	0.95	30.44
F12	949.72	0.53	0.04	0.59	0.76	23.01



Future work

- Integrate land condition to estimate costs
- Temporal periods
- Mechanisms – Mutual exclusivity
- Landholder heterogeneity