

Sink or swim: A radical overhaul to water policy-making approach in New Zealand. A case study of lake Te Waihora

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Kia ora from New Zealand





Sink or swim in Lake Te Waihora

What we'll cover today:

- Introduce lake Te Waihora
- Recent history
- New policy-making approach
- New science into policy approach
- A package of measures proposed and implementation





Agriculture in New Zealand

Key Statistics:

- 3.6m (NZ\$2.8bn)
- 0.6%
- 5.2m (NZ\$14.2bn)
- 52,000ha (128,500 acres)
- 29.8m
- NZ\$3.9bn
- NZ\$4.7bn
- 21.9m
- NZ\$2.4bn

Wines of New Zealand

Potatoes NEW ZEALAND

VACANCY NEW ZEALAND
APPLY NOW
Position Salary
Agriculture 1800...
Food Packer 2000...
 All Nationality Can Apply Free Visa & Ticket
 300 Males & Females

Key Stock Numbers (millions)

Year	Sheep	Cattle	Goats	Deer	Pigs	Birds
2014	29.8	6.7	6.5	3.7	3.7	0.9
2012	31.2	6.7	6.5	3.7	3.7	1.0



Lake Te Waihora





'Horrible' conditions at troubled lake as restoration project begins

CHARLIE MITCHELL
Last updated 20:07, October 2 2015

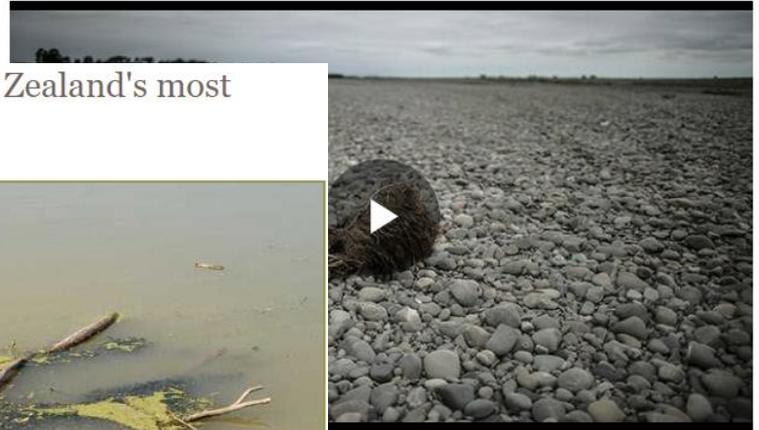


60
50
40
30
20

Cows are not blocked from wading into Lake Ellesmere, despite waterways.

'Just not good enough': Summer slow at polluted Canterbury river

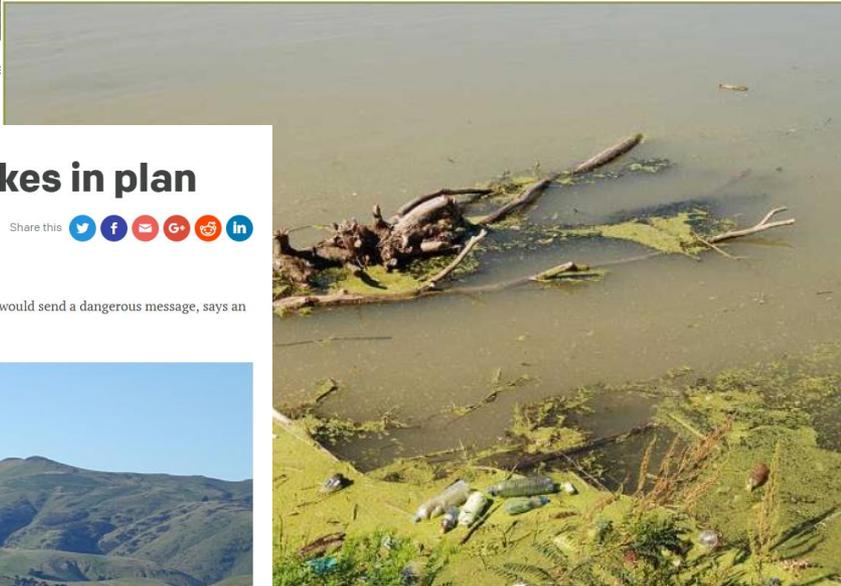
CHARLIE MITCHELL
Last updated 19:43, January 8 2017



IAN MCGREGOR/Stuff.co.nz

Clean-up for Lake Ellesmere, New Zealand's most polluted Lake

By Laura Brown - 26 Aug 2011 19:26:0 GMT



NEW ZEALAND / ENVIRONMENT

Plea to include polluted lakes in plan

4:51 pm on 2 May 2016

Share this

Belinda McCammon, South Island Bureau Chief
[@BelMcCammon](#) belinda.mccammon@radionz.co.nz

Leaving two polluted Canterbury lakes out of a government plan on water quality would send a dangerous message, says an environmental expert.





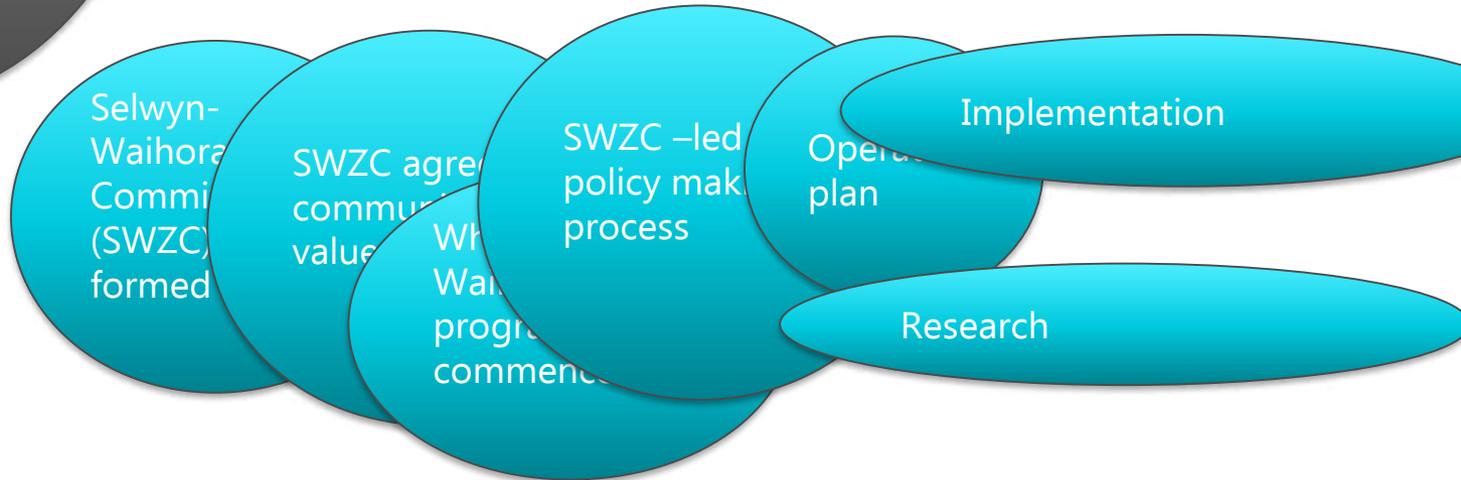
2008

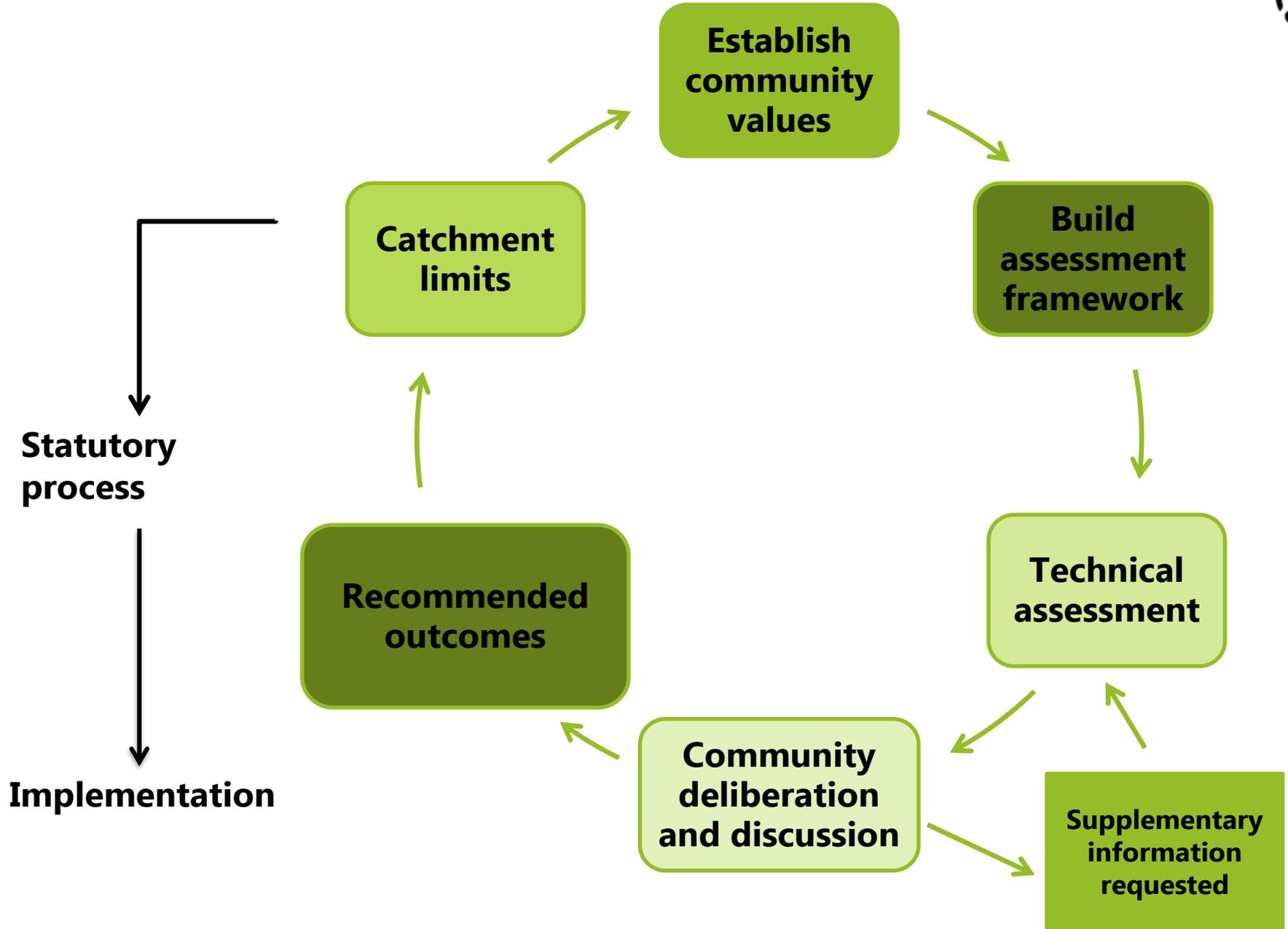
2010

2012

2014

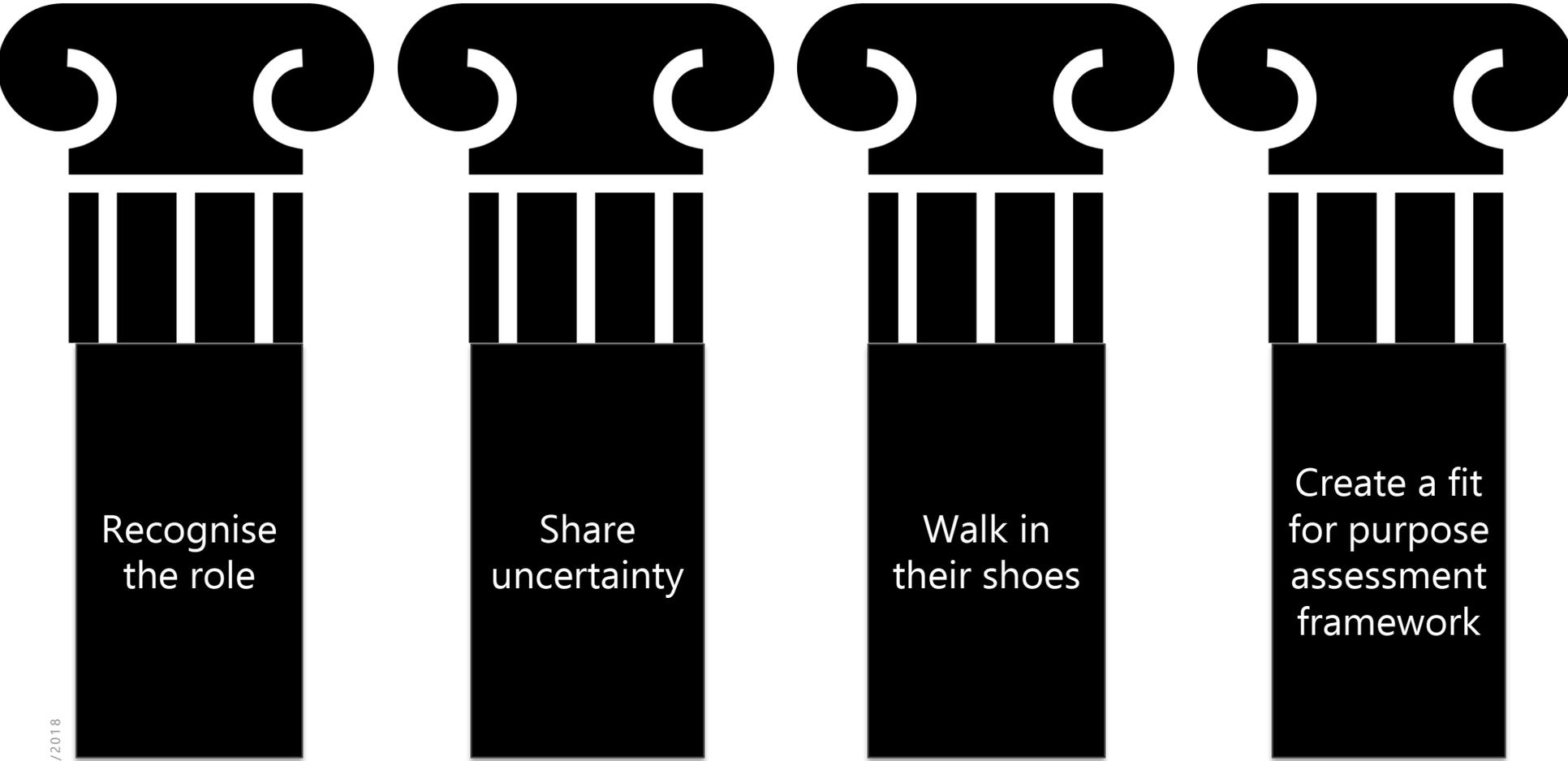
2016







Changing role of scientists





Package of measures

Lake rehabilitation:

- Lake-level and opening management
- 50% reduction in lake-bed legacy
- Restore macrophyte bed
- Lake-margin and floating wetlands

Farming at significantly better than good management practice (GMP):

- Agricultural nitrogen limits
- Reduce catchment phosphorus load by 50%

Water allocation to deliver ecological and cultural flows:

- New takes prohibited
- Allocated volumes reduced
- Water transfers restricted

Use water from alpine rivers for:

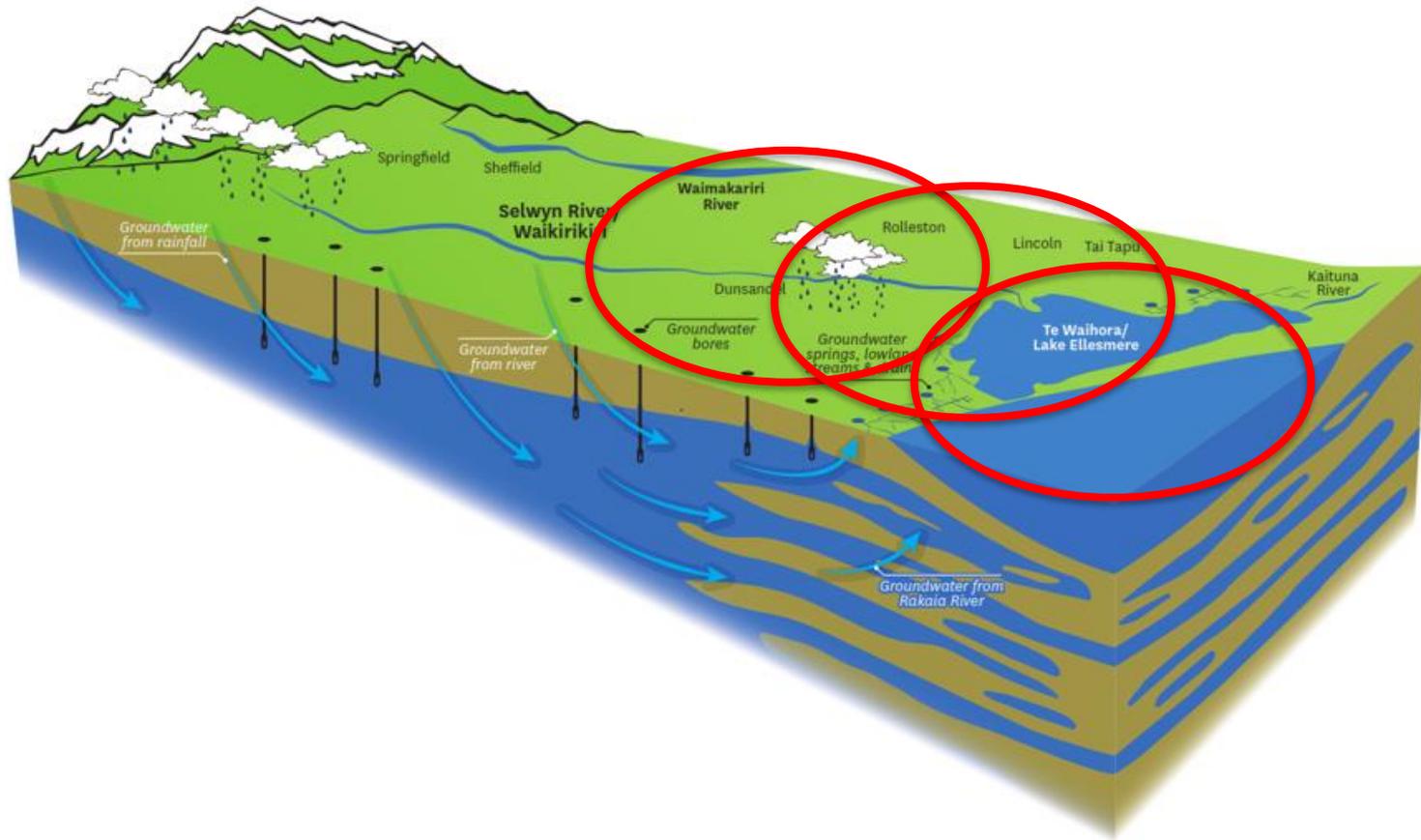
- New irrigation
- Replacing groundwater takes
- Augmenting lowland stream flows

Manage catchment recognising its cultural importance to Ngai Tahu:

- Cultural landscape zone
- Employ cultural land management advisers
- Cultural values in Farm Environment Plans



Package of measures and implementation





In a nutshell.....

Key parts of the story so far:

- Focus on community values
- Participatory policy making
- Science-informed not science-led
- Package of measures
- Emphasis on implementation



Thank you to the 'Our Land and Water' National Science Challenge for supporting the research on this case study