



# The New Zealand Sustainability Dashboard

## Online sustainability assessment and reporting tools to achieve quality water outcomes in a low regulation political environment

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# Authors

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# Four objectives

- 🌀 Highlight key points of the NZ Sustainability Dashboard
- 🌀 Explain why NZ agriculture is so similar and very different to Europe
- 🌀 Illustrate why the Dashboard can help NZ with its current water quality issues
- 🌀 Highlights from an analysis of the NZ Wine sustainability program

# NZ Sustainability Dashboard

- 🌀 Government funded project - 6 years
- 🌀 NZ\$11 million / €6.5m
- 🌀 Primary industries
- 🌀 Highly interdisciplinary
- 🌀 Aim: develop a sustainability assessment and reporting tool at the farm scale
- 🌀 An online 'dashboard' for both data collection and presentation





Demo site

Home

Data Entry

Reports

TestUserOrchard

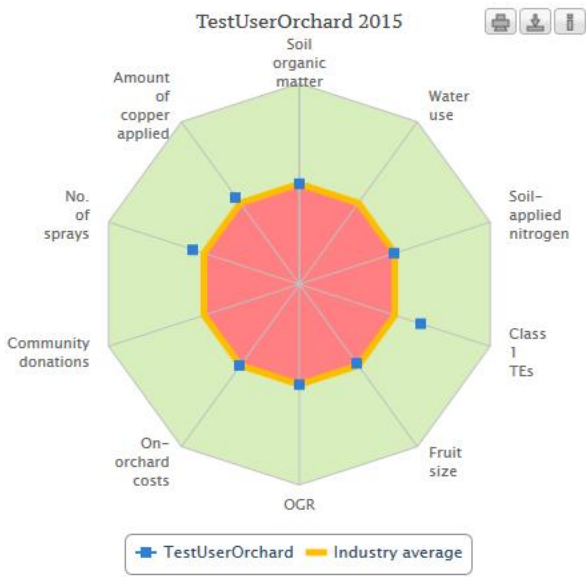
Logout

# Welcome to the Kiwifruit Sustainability Dashboard

This tool will allow you to monitor, report and benchmark key performance indicators relating to sustainability.

It is being developed as part of the [New Zealand Sustainability Dashboard project](#), funded by MBIE and supported by a number of kiwifruit partners (shown below).

Click [here](#) for notes on entering data in the data entry section.



Feedback

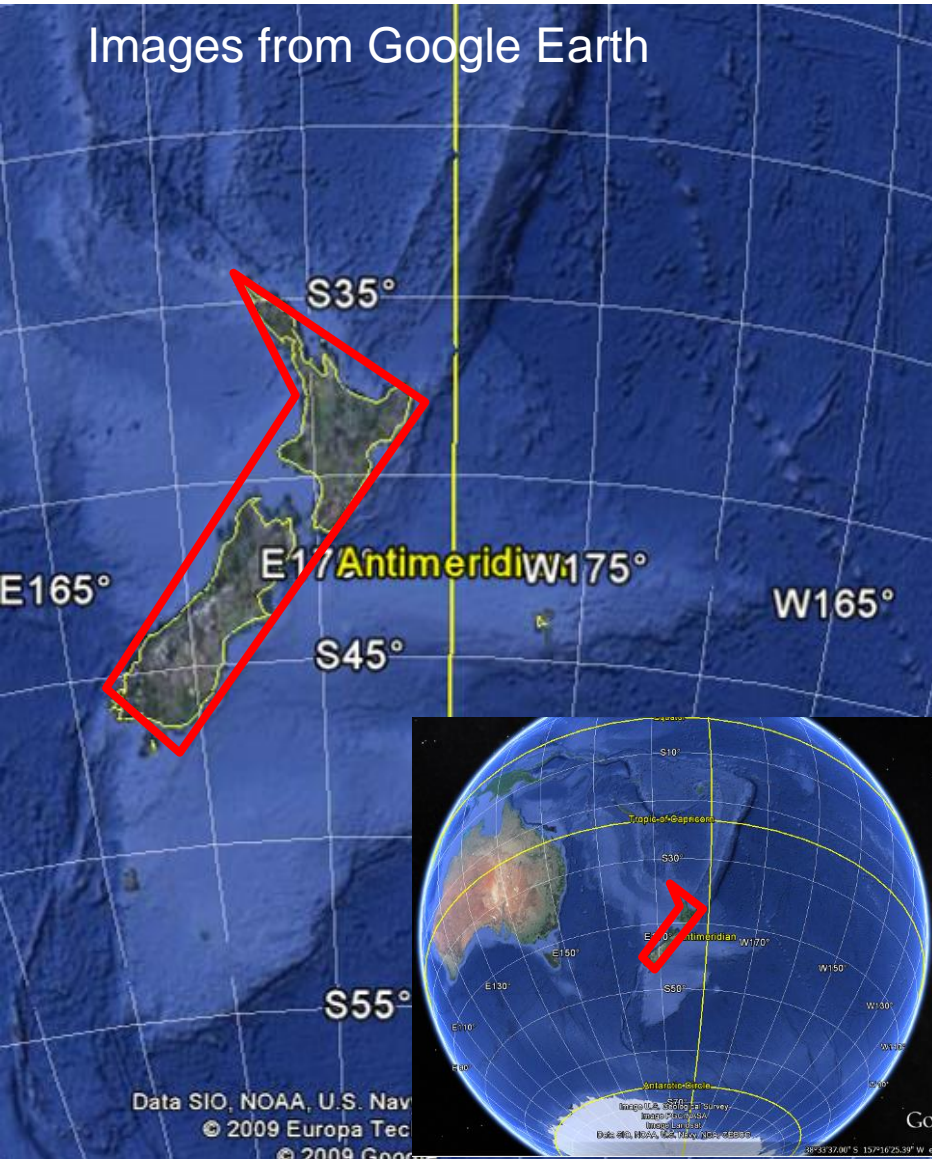
# The Dashboard and Land & Water

- 🌀 The Dashboard's function is to help producers and processors measure their sustainability footprint
- 🌀 This can then help them reduce their environmental impacts, such as on land & water
- 🌀 There are very few alternatives to achieve this in New Zealand



# New Zealand - geography + climate

Images from Google Earth



# New Zealand & Agriculture

- 🌀 4.6 million people, 17 people / km<sup>2</sup>
  - 🌀 UK = 267, Netherlands = 500, Austria = 104
- 🌀 NZ produces enough food for 30 million people
- 🌀 Agriculture is ~6% of GDP
- 🌀 Agriculture is ~55% of exports
- 🌀 Nearly **ZERO** subsidies

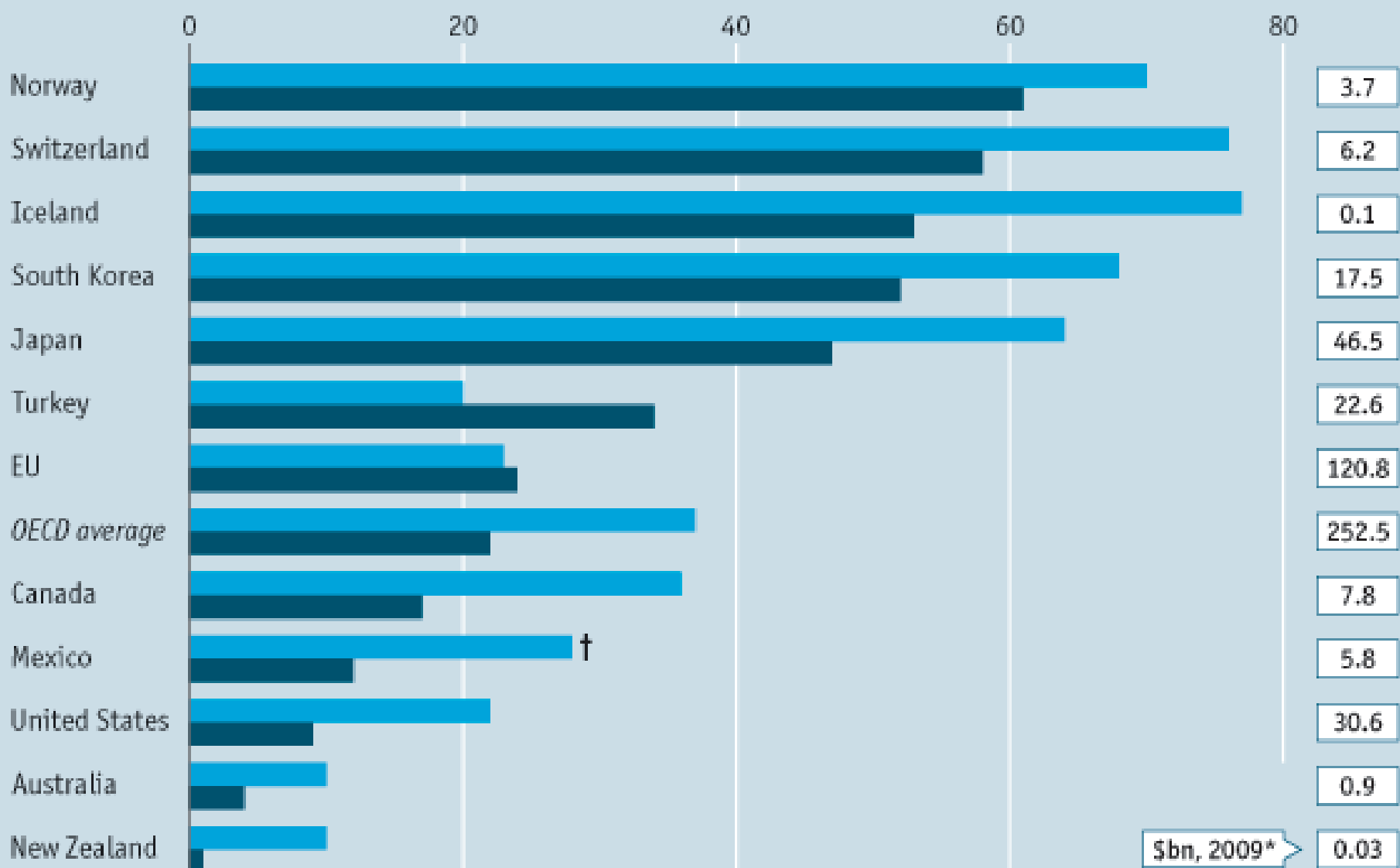




# Agricultural subsidies

Producer support, % of gross farm receipts

1986-88  
2007-09\*



Source: OECD

\*Provisional estimates †1991-93

# Water quality in NZ

- ❧ Low population density means there is a low overall impact on surface and ground water
- ❧ Where farming is possible it dominates the landscape
- ❧ The expansion and intensification of esp. dairy over ~15 years has created eutrophication in some water bodies



# Water quality in NZ

- 🌀 Farm systems vary from low intensity, hill, dry stock to intensive lowland dairying e.g. ave 2.5 up to 4 cows/ha
- 🌀 95% of livestock diet is from grazed pasture - greater potential for N&P loss to water
- 🌀 Nearly **ZERO** regulations - outside of std business regulation / laws

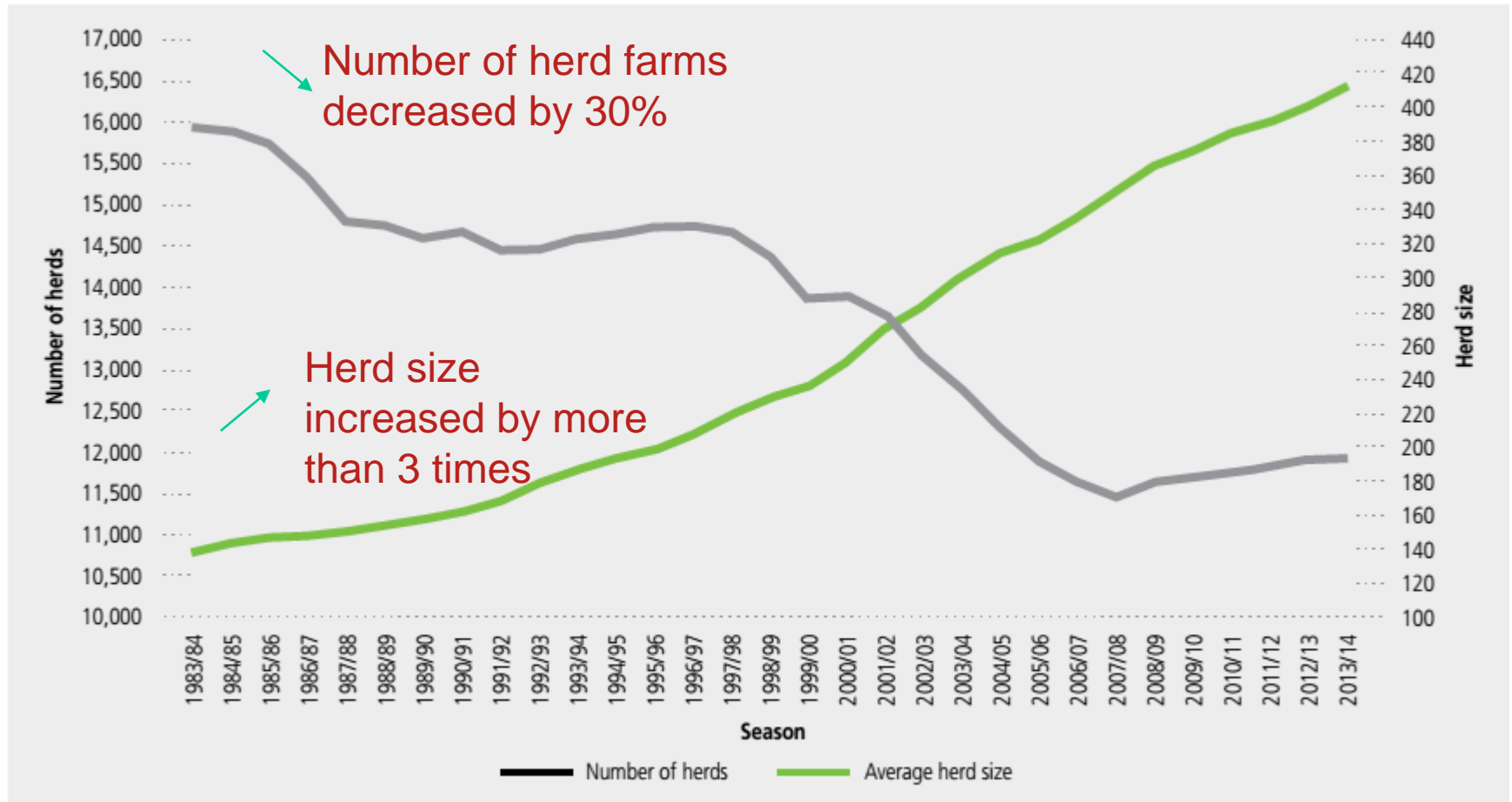


# NZ political landscape

- 🌀 Highly deregulated economy since the mid 80s
- 🌀 Govt. has practically no role in controlling farming beyond general business law
- 🌀 No specific environmental control of farming activities - until last few years
- 🌀 NZ cannot afford to subsidise its own exports
- 🌀 Economically difficult to subsidise environmental protection - subsidises exports



# Effects of deregulation



🌀 Average herd size is 413, 28% of herds > 500 cows, 600 herds > 1,000 cows

# Novel environmental regulation

- 🌀 Nutrient pollution of waterways only become a public issue in last 10-15 years
- 🌀 NZ now has the problem the EU addressed in the 1980s
- 🌀 In the last few years Regional Councils are starting to implement controls on farming
- 🌀 NZ is taking a bottom up, decentralised approach compared with the EU's top down, centralised approach



# EU <> NZ

- 🌀 EU = top down, centralised regulation
  - 🌀 Set by the EU
  - 🌀 Nitrates directive - stipulated max N applications
  - 🌀 One size fits no one?
- 🌀 NZ = bottom up, decentralised regulation
  - 🌀 Regional regulation
  - 🌀 Community based water quality standards
  - 🌀 Nutrient models determine farm-by-farm nutrient management within a catchment



# Using the Dashboard to create change

- 🌀 NZ agriculture highly customer focused - no subsidies - open market
- 🌀 NZ Farmers are increasingly conscious of environmental issues
- 🌀 The Dashboard enables farmers to measure and demonstrate their environmental performance to customers, regulators (NZ + overseas) and NZ society





# Self-reflexive analysis of a NZ sustainability program

Case study - SWNZ

The 'Sustainable Winegrowing New Zealand' program

Aim

Identify success factors and barriers hindering sustainability program adoption

Method

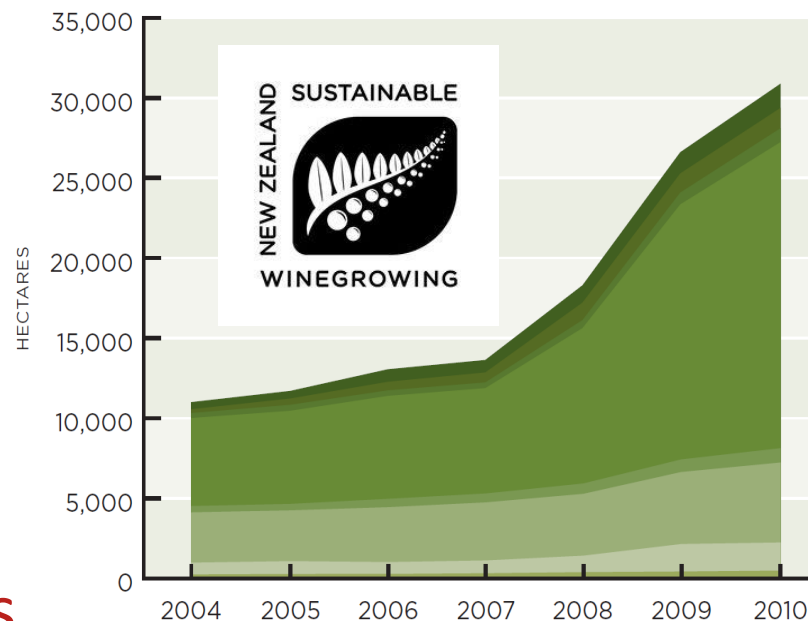
21 interviews with NZ industry stakeholder and experts



# Why studying Sustainable Winegrowing NZ?

- 🌀 Use sustainability assessment and reporting tools
- 🌀 Industry led sustainability program
- 🌀 Partner of the Dashboard
- 🌀 Successful
  - 94% of the winegrowing area certified to SWNZ
- 🌀 20 years old
  - Memories still fresh
  - Different development phases

SWNZ VINEYARD AREA HA 2004-2010



# Success factors

 Started small then grew gradually

Fit time, material and intellectual resources with achievable goals

- Started with 5 growers

 Rethought the strategy when adoption stagnate

- Reach the food chain level (e.g. winery)
- Develop a market rationale (e.g. premium price, distinctive identity on a high competitive market)
- Allow for different level of involvement
- Sustainability accreditation as mandatory to access to markets

# Success factors

- 🌀 Multi faceted definition of sustainability
- 🌀 External Audit
- 🌀 Monitoring
- 🌀 Offer tied service (benchmarking)
- 🌀 Dedicated staff for collecting and communicating scientific information, collecting feedback, answering questions, producing national and individual reports, auditing



# Potential barriers

- 🌀 Multi faceted definition of sustainability
- 🌀 Diversity of members profiles
- 🌀 Low usability of tools
- 🌀 Low relevance of reporting



# Conclusions

- 🌀 NZ agri-policy is nearly 'opposite' to the EU
- 🌀 Cant pay farmers to protect the environment including water quality
- 🌀 Have to use alternative tools
  - 🌀 Bottom up regulation - stick
  - 🌀 NZ Sustainability Dashboard - carrot
- 🌀 Self-reflexive analysis of SWNZ has clear lessons for improving the dashboard





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