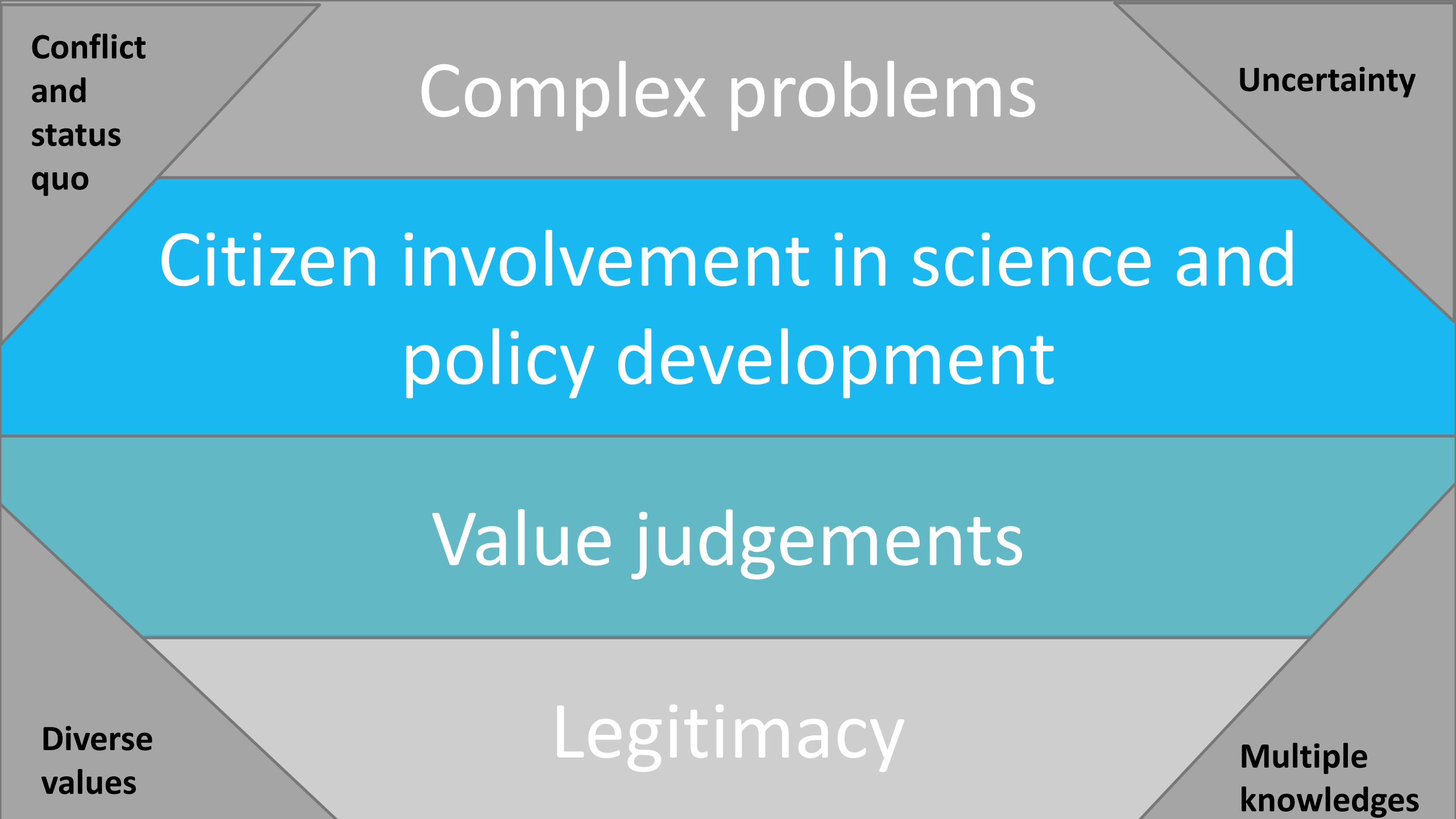
National Science Challenges

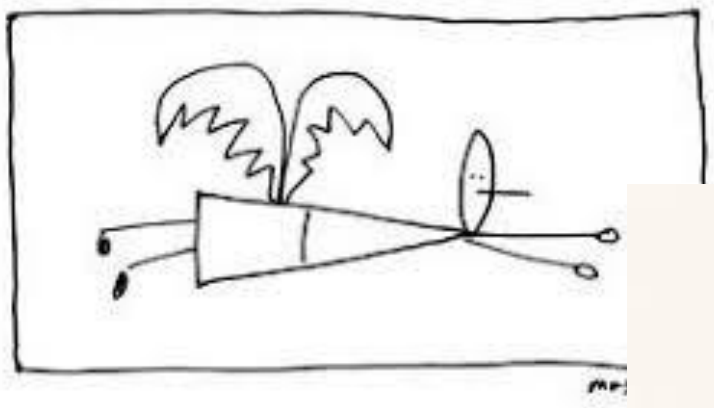
OUR LAND AND WATER

Toitū te Whenua, Toiora te Wai

Can the Integration and Implementation Science framework support better research for land and water policy?

Melissa Robson-Williams, Manaaki Whenua,
Bruce Small, AgResearch
Roger Robson-Williams, Plant and Food Research


Conflict and status quo
Complex problems
Uncertainty
Citizen involvement in science and policy development
Value judgements
Diverse values
Legitimacy
Multiple knowledges

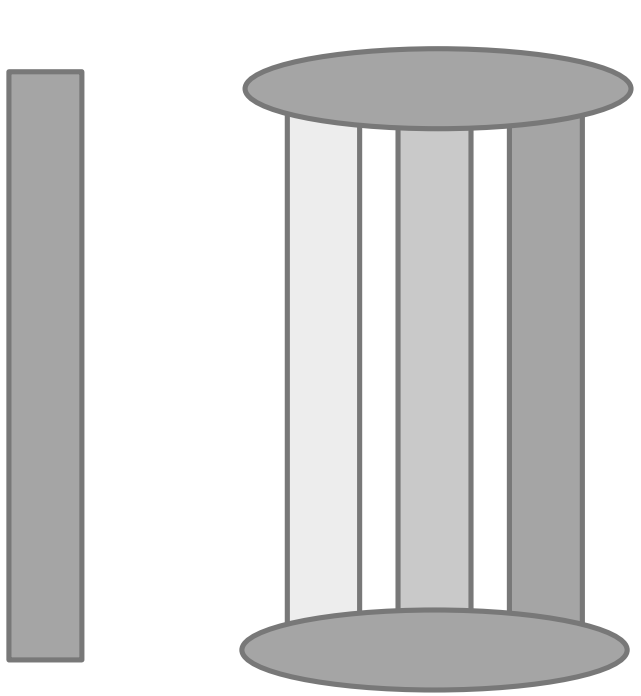



FLYING BY THE SEAT OF YOUR PANTS.
Meaning: "To proceed or work by feel or instinct without formal guidelines or experience."


FLYING BY THE SEAT OF MY PANTS.

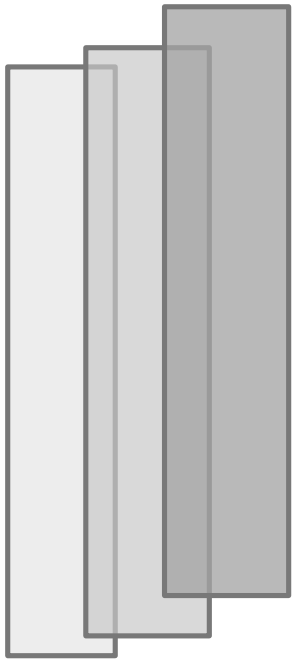

fly by the seat
of your pants

3 types of integrated research

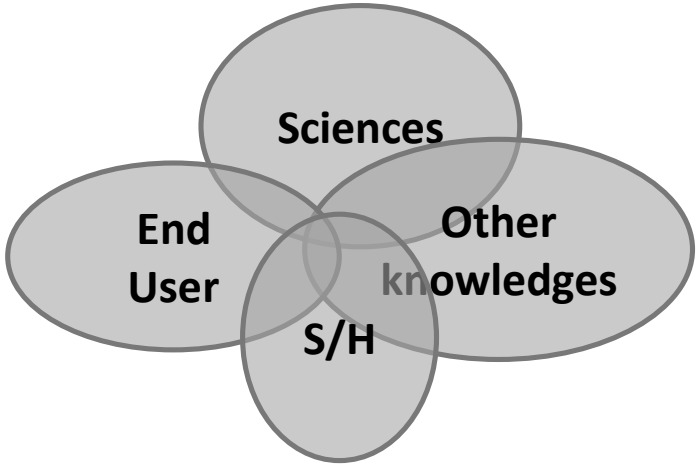


Monodisciplinary

Multidisciplinary

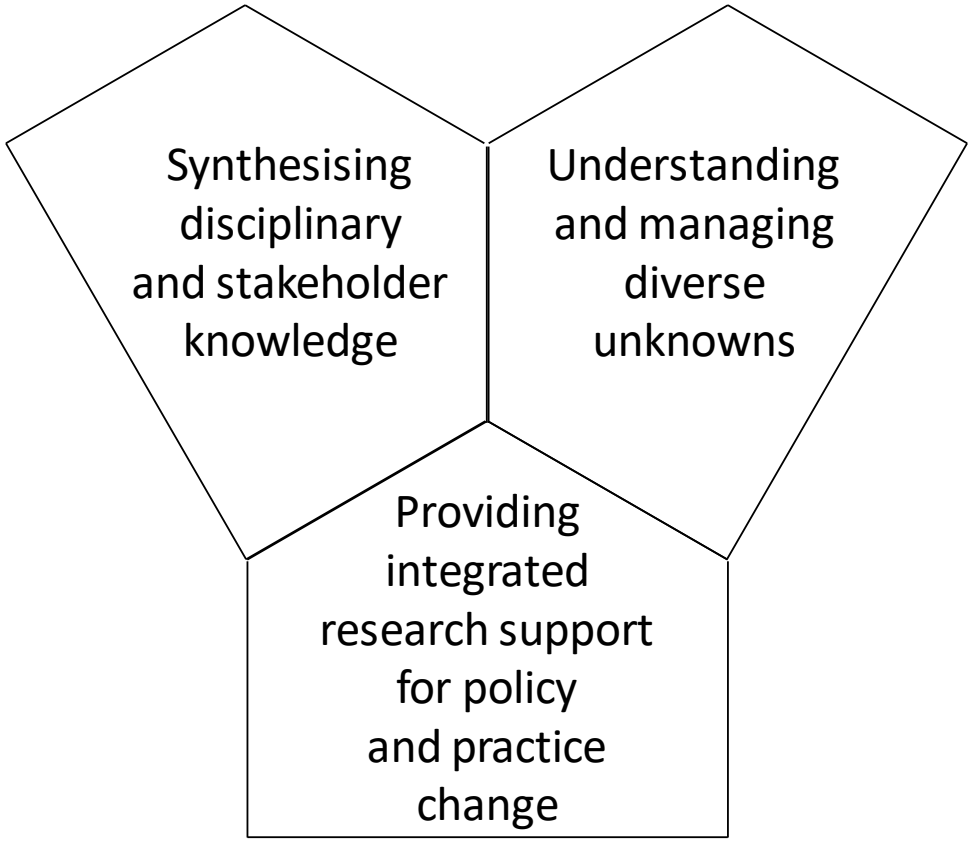


Interdisciplinary



Transdisciplinary

Integration and Implementation Science framework (Bammer, 2013)



Q1 For what and for whom?

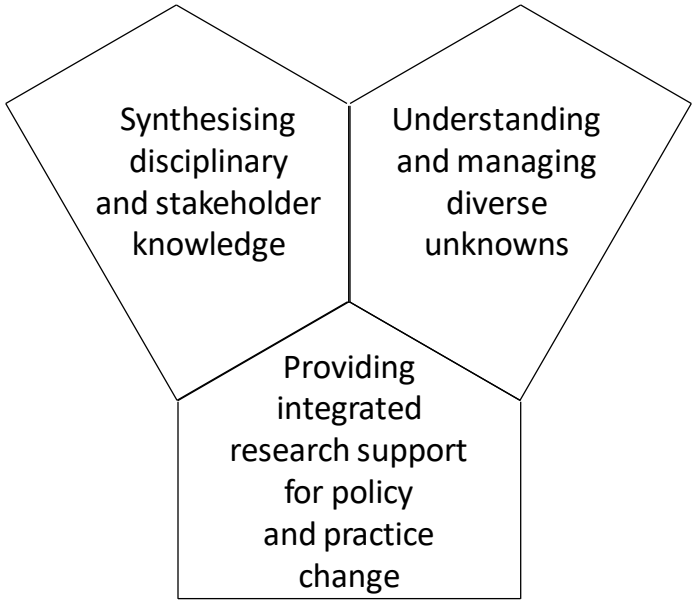
Q2 What is needed?

Q3 How?

Q4 Context?

Q5 Outcomes?

Integration and Implementation Science framework



Q1. What was the synthesis of disciplinary and stakeholder knowledge, managing unknowns and providing integrated research support aiming to achieve and who is intended to benefit?

Q2. Which disciplinary and stakeholder knowledge, unknowns and target audiences were considered?

Q3. How was the disciplinary and stakeholder knowledge synthesised, unknowns understood and managed, research support provided, by whom, and when?

Q4. What circumstances influenced the synthesis of disciplinary and stakeholder, the management of unknowns and the provision of integrated research support knowledge?

Q5. How would you assess the methods used for synthesis of disciplinary and stakeholder knowledge, understanding and management of unknowns and provision of integrated research support?

Case studies

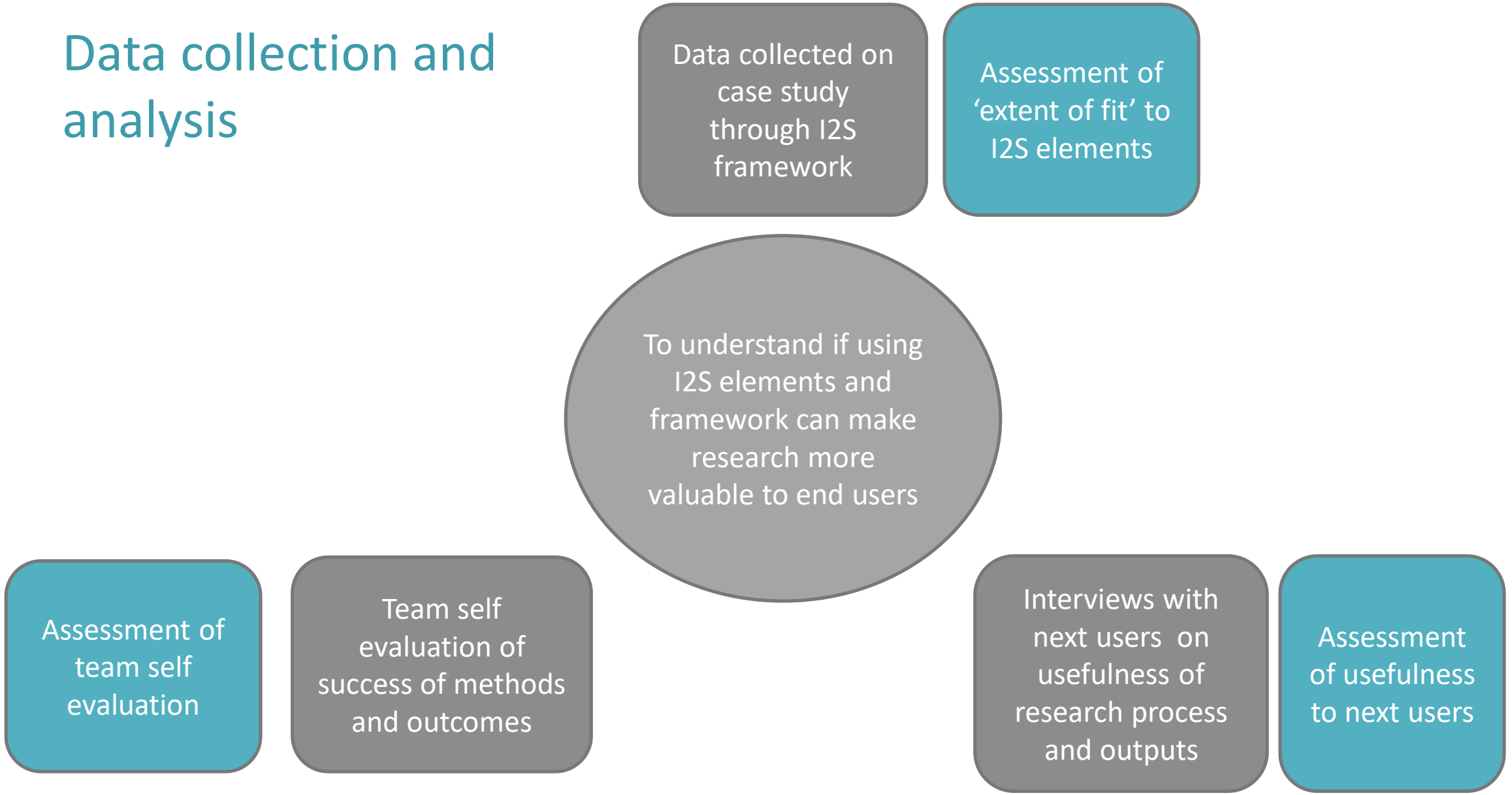
Seven case studies:

(Primary Innovation programme, Limit setting Selwyn-Waihora, Nutrient Management (Forages for Reduced Nitrate), Matrix of Good Management, Heifer rearing, Log segregation, Water use efficiency)

Hypothesis

The more elements of the I2S framework that are considered, the more useful and usable the research will be considered by next users

Data collection and analysis



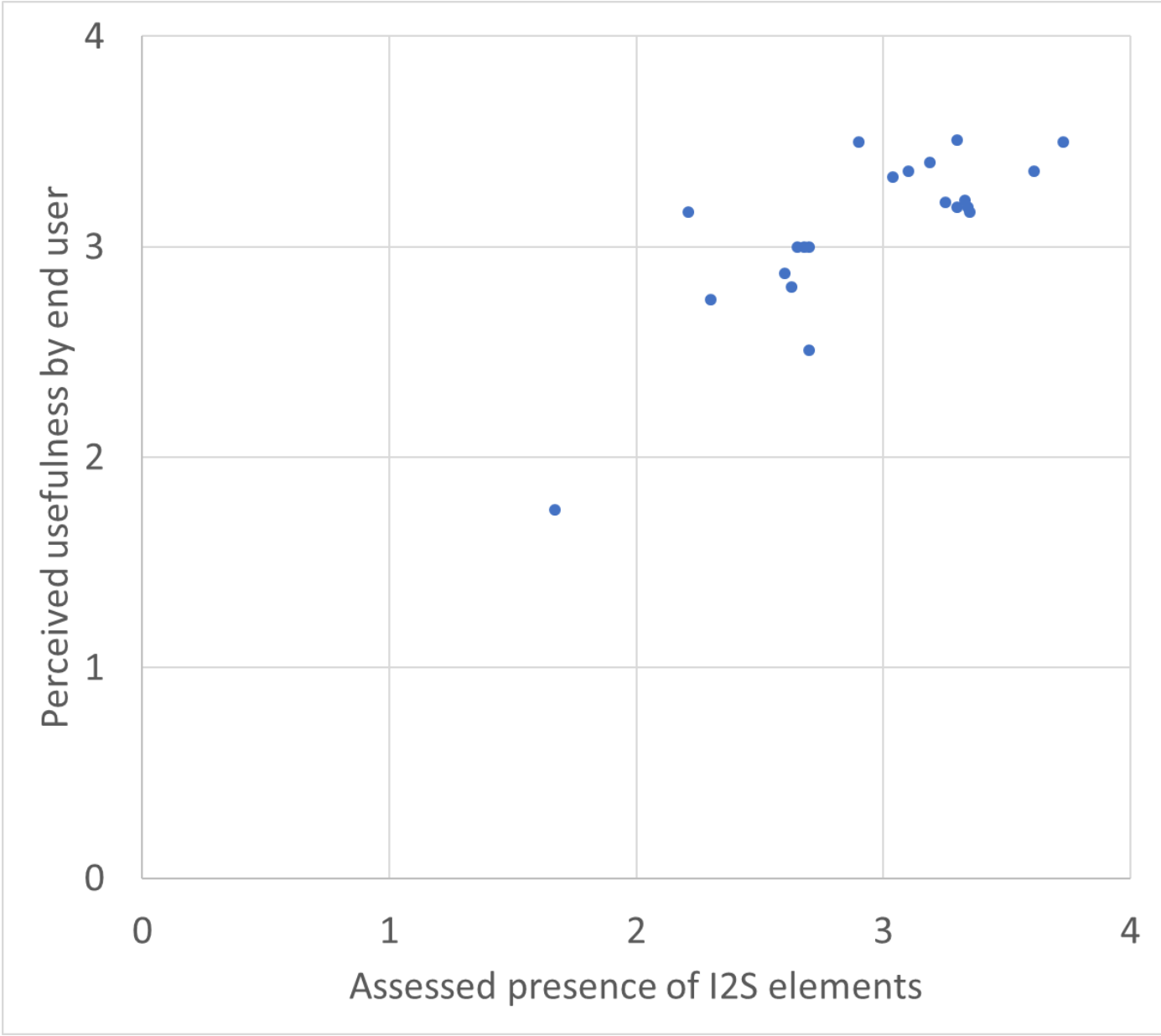
Results

Strong correlation (0.79) between the presence of I2S elements in the case study and the perceived usefulness by next users.

Strong correlation across all domains

Significant at .05

Results strongly suggest that using these I2S elements makes the research more useful and usable to a range of end users



Next steps

Further assessment of effectiveness of case studies*:

- Usable products
- Enhanced capacity
- Network effects
- Broad structural changes

Source: Wiek et al., 2014*

In a nutshell

The research for freshwater policy and practice change can be complex

The way we do integrated research makes a difference to how useful and usable it is to those that use it

The I2S framework is useful for guiding and supporting effective integrated research

National SCIENCE Challenges

OUR LAND AND WATER

Toitū te Whenua, Toiora te Wai

Thank you

Also thank you to OLW for supporting this research and other Collaboration Lab colleagues for their assistance