

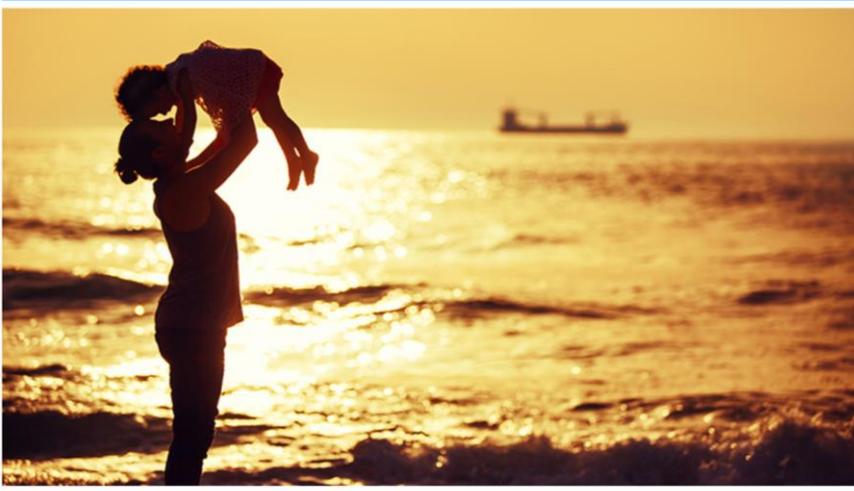
Navigating marine social-ecological systems: Enabling collaboration on cumulative effects

Kate Davies, Karen Fisher, Gemma Couzens, Melissa Foley, Kelly Bingham, Nathan Capper, Roa Crease, June Cahill, Linda Faulkner, Judi Hewitt, Mary Livingston, Carolyn Lundquist, Dave Lundquist, Catherine Iorns Magallanes, Harry Mikaere, Steve Urlich

Sustainable Seas Conference 5 – 7 November 2018

Co-design in practice

Navigating marine social-ecological systems



Our aim is to identify and/or improve our understanding of institutional, social and cultural factors that need to be incorporated into ecosystem-based management for it to be successfully used to manage Aotearoa New Zealand's marine resources.

Project leader: Karen Fisher, University of Auckland

Navigating the implementation impasse - enabling interagency collaboration on cumulative effects (innovation fund)



Managing the cumulative effects from natural events and human activities is one of the most urgent and complex problems facing our coastal and marine ecosystems. The many agencies responsible for managing these spaces are working together to address this challenge.

Project leader: Kate Davies, NIWA

Project partners



Department of Conservation
Te Papa Atawhai



I AM **SUSTAINABILITY**. I AM OPPORTUNITY. I AM THE FUTURE.
AQUACULTURE NEW ZEALAND.



National Science Challenges

SUSTAINABLE SEAS

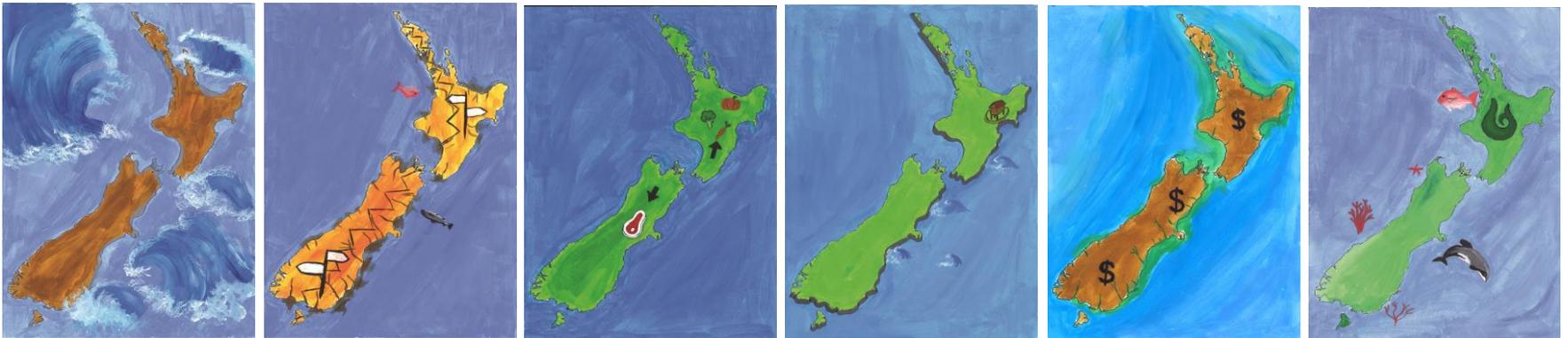
Ko ngā moana whakauka

Common approach needed

Cumulative effects are the effects of stressors that overlap in space and/or time.

In Aotearoa NZ coastal and marine management involves:

- 25 statutes
- 14 agencies
- 7 spatial jurisdictions



Interagency collaboration



Ki uta ki tai – Mountains to seas



Tipa, G., Harmsworth, G., Williams, E., & Kitson, J. (2016). Integrating mātauranga Māori into freshwater management, planning and decision making. In P. Jellyman, T. Davie, C. Pearson & J. Harding (Eds.), *Advances in New Zealand Freshwater Science* (pp. 613-632).

Research methods

- Review of literature, legislation, case law
- Focus groups (19 FGs, 107 participants)
- Development of proposed CE management framework & principles
- Workshop to test framework & principles
- Adaptation of framework & principles

DPSIR model

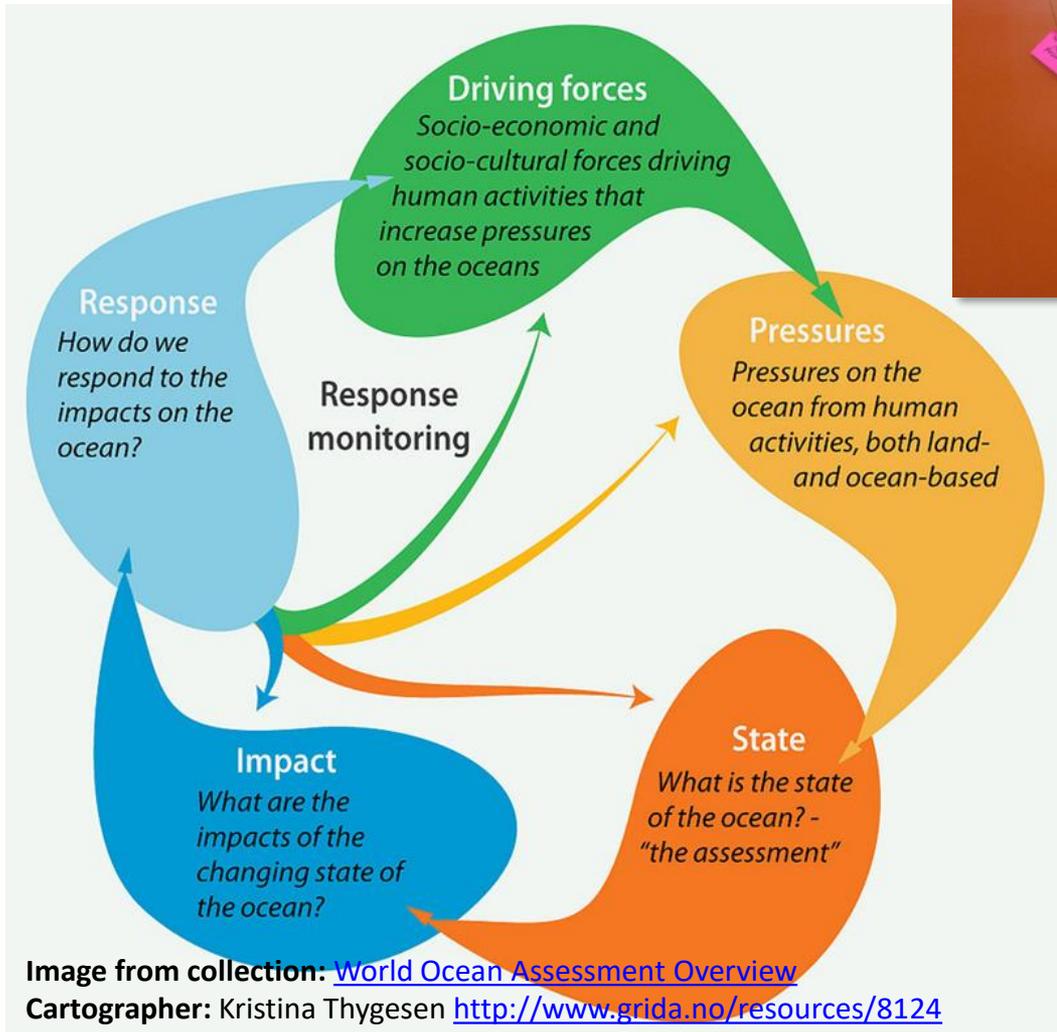


Image from collection: [World Ocean Assessment Overview](#)
Cartographer: Kristina Thygesen <http://www.grida.no/resources/8124>

Findings

Challenges:

- Political/Institutional Roadblocks
(e.g. fragmentation, inertia, legal frameworks)
- Reconciling Knowledges & Values
(e.g. conflicting rights & responsibilities, connecting evidence & policy, uncertainty)

Findings

Opportunities:

- **Crucial role of Māori/indigenous sovereignty**
- Systems-based approaches
- Limit setting has some role to play
- Mixed regulatory/non-regulatory approaches
- SSNSC Phase 2

The Aotearoa Cumulative Effects Framework (ACE)

- Provides a structure to help manage surprise
- A cross-scale framework for CE management
- Identifies goals, info needed, parameters
- Supports precautionary decision making
- DOES NOT outline how to do a CE assessment

The ACE Framework

Who should be involved?
What are the common goals?
What is the vision?

Vision &
Goals

What knowledge & information?
What values?
What pressures?
What resources?
What legislation & governance?
What state of the ecosystem?
What power?

Context

Enabling collaborative management of cumulative effects

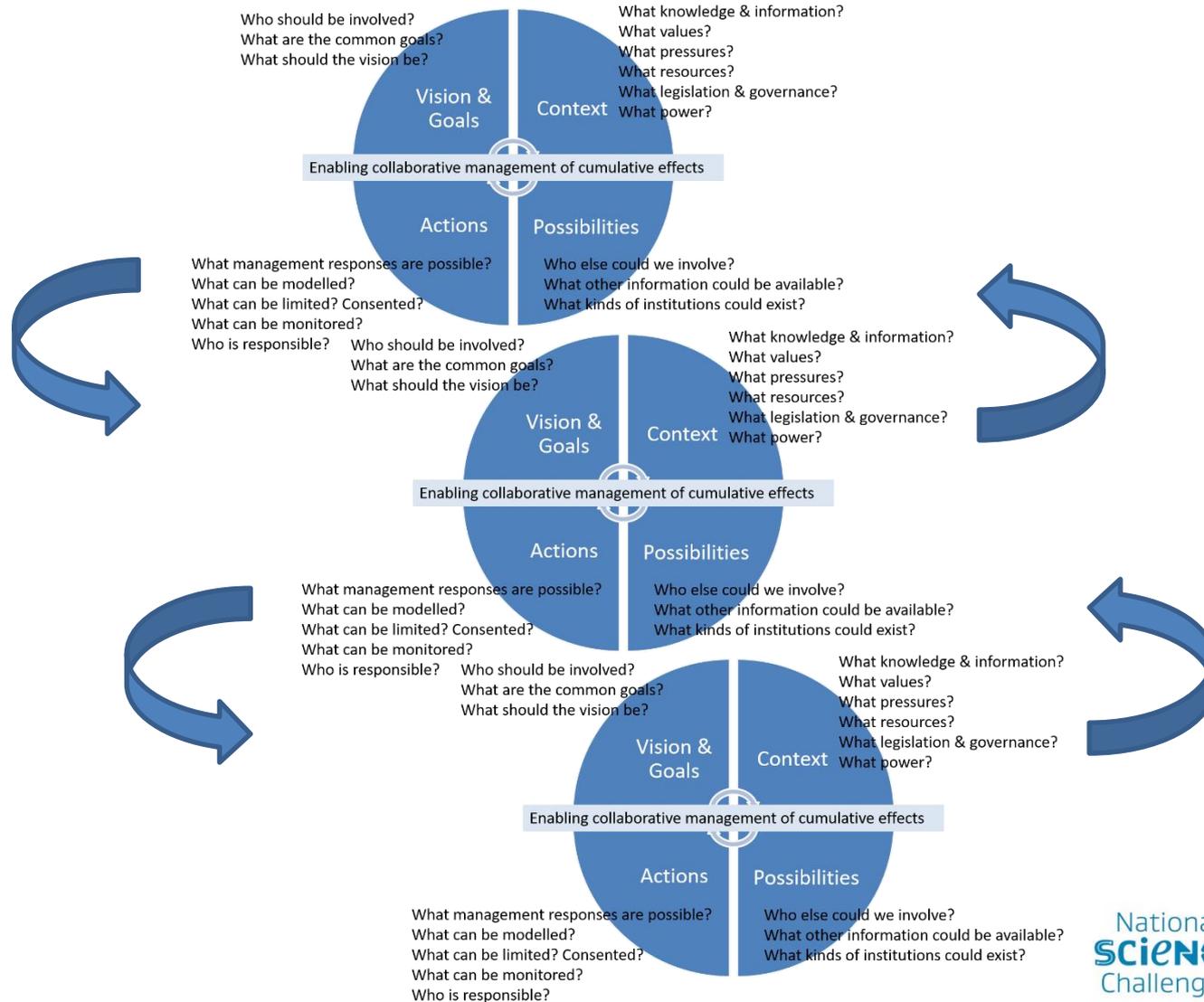
Actions

Possibilities

What management responses are possible?
What can be modelled?
What can be limited? Consented?
What can be monitored?
Who is responsible?
What have we learned?
How do we adapt?

Who else could we involve?
What other information could be available?
What kinds of institutions could exist?
What are the potential/external stressors?

Testing the ACE Framework – 3/12/18



Reporting back on cumulative effects

Preliminary Report on Cumulative Effects Management and Governance in Aotearoa New Zealand



Contributors

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Ngā mihi nui