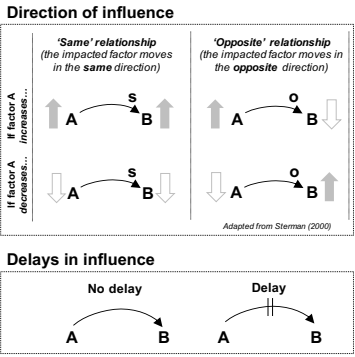


Causal Loop Mapping Pilot: a whānau perspective for Te Tai-o-Aorere ki Mohua

Thanks to the whānau who helped develop this causal loop map: Fred Te Miha, Poneke Rene, Anaru Stephens and Anaru Luke.



Please note that this pilot causal loop map does not detract from, or seek to substitute in any form, the distinct cultural values and perspectives of whānau, hapū, and iwi of Te Tau Ihu o Te Waka a Māui (the prow of the waka of Māui).

How causal loop maps work:

Causal loop diagrams seek to articulate the inter-connections between factors, with a particular focus on **circular causality**. Or where causality loops back around on itself to either reinforce or balance on itself.

In **reinforcing loops** ('R' labels), change spirals in the same direction, reinforcing the original direction of change in a variable.

In **balancing loops** ('B' labels), change balances or cancels itself out, encouraging or dampening the original direction of change in a variable in the opposite direction.

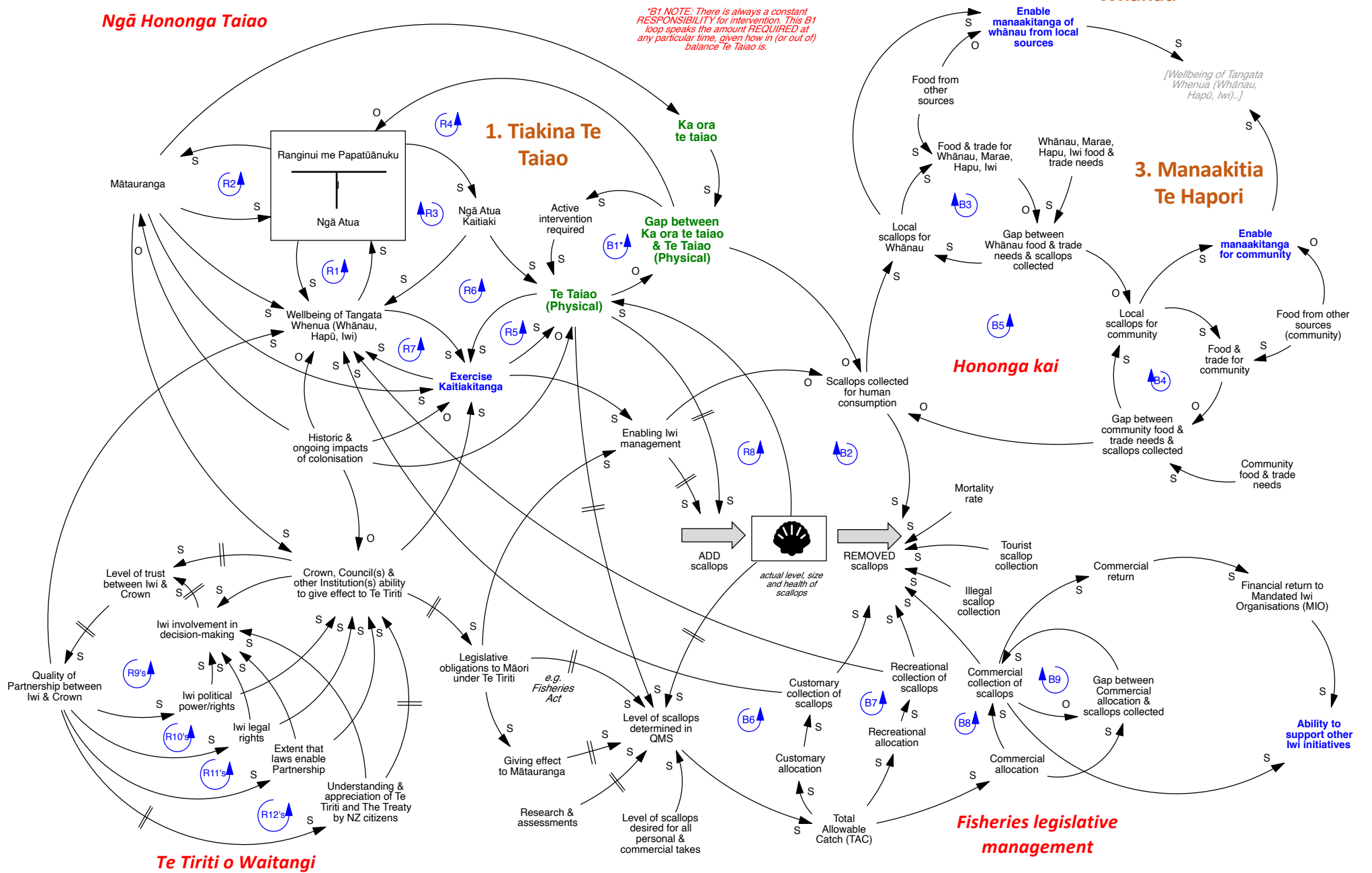
Using causal loop maps to explore possible futures:

The map articulates inter-related influences as feedback loops. This can be used to support kōrero about possible alternative futures.

During kōrero, use the causal loop map to explore:

- What current undesirable trends do you want to see improve in the future?
- What feedback loops are linked to these or drive them?
- What action can be taken to influence these feedback loops (strengthen or weaken them) to change those trends?

Ngā Hononga Taiao



2. Manaakitia Te Whānau

3. Manaakitia Te Hapori

Ngā Hononga Taiao (red title):

- Uphold and nurture the interconnected spiritual and physical relationships of Ranginui me Papatūānuku, Ngā Atua, te Taiao (the natural world), and Tāngata Whenua.
- Tino rangatiratanga and mana moana/mana whenua provide the authority for kaitiakitanga to be exercised.

Tiakina te Taiao (orange title):

- Respect and nurture te Taiao in accordance with kawa and tikanga.

Hononga kai (red title):

- Provision of scallops/kaimoana as a fundamental tāngata whenua value, right and practice.
- Uphold the mauri of Te Tai-o-Aorere ki Mohua.
- Exercise kaitiakitanga, manaakitanga, and decision-making to maintain a healthy and sustainable supply of scallops/kaimoana.

Manaakitia te whānau (orange title):

- Scallops/kaimoana to support other whānau, marae, hapū, iwi and manuhiri wellbeing.

Manaakitia te hapori (orange title):

- Scallops/kaimoana to support the wellbeing of the wider community.

Te Tiriti o Waitangi (red title):

- Tino rangatiratanga guarantees full self-governance, self-management, and self-determination.
- Shared partnership and responsibility for co-governing and co-managing te Taiao.
- Barriers: intergenerational and ongoing impacts of colonisation and institutional racism.
- Co-governance/co-management within Te Tiriti frameworks needed to help project te Taiao.

Fisheries legislative management (red title):

- Depicts Māori fishing rights and interests including the Deed of Settlement.
- Need for mātauranga Māori to inform fisheries management.
- Quota Management System commercial fishing allocation limits perceived negatively.
- Barriers to participation that minimise local governance and management.
- Recreational fishing includes those who are fishing with limited or no understanding of the kawa and tikanga of the rohe moana.

A brief explanation of the causal loop map:

This pilot is supplementary to an initial pilot to explore the use of causal loop mapping in Ecosystem Based Management (EBM). The initial pilot focused on the interconnected factors related to the state of the scallop fishery in Golden Bay and Tasman Bay. That pilot is summarised in the Sustainable Seas report: *Piloting the use of Systems Mapping in the Sustainable Seas National Science Challenge* (Connolly, JD, 2019).

What is going on in the diagram?:

The diagram has **four areas (red titles)**. These are Ngā Hononga Taiao; Hononga kai; Te Tiriti o Waitangi; and Fisheries legislative management. **Customary practices (orange titles)** are woven throughout these. These are summarised as bullet points from the accompanying Sustainable Seas report: *Piloting the use of Systems Mapping in the Sustainable Seas National Science Challenge: Causal Loop Mapping Pilot – a whānau perspective for Te Tai-o-Aorere ki Mohua* (Connolly, JD, May, K, Stafford, K, 2024).