

The economics of river restoration: Institutions and values

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TE HERENGA WAKA

Te Awa o Waikato
River Symposium
29 November 2023

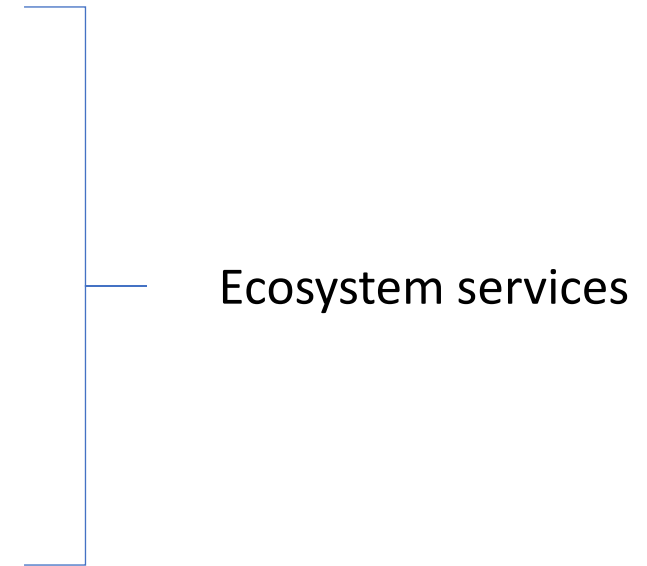


Economic value of river restoration

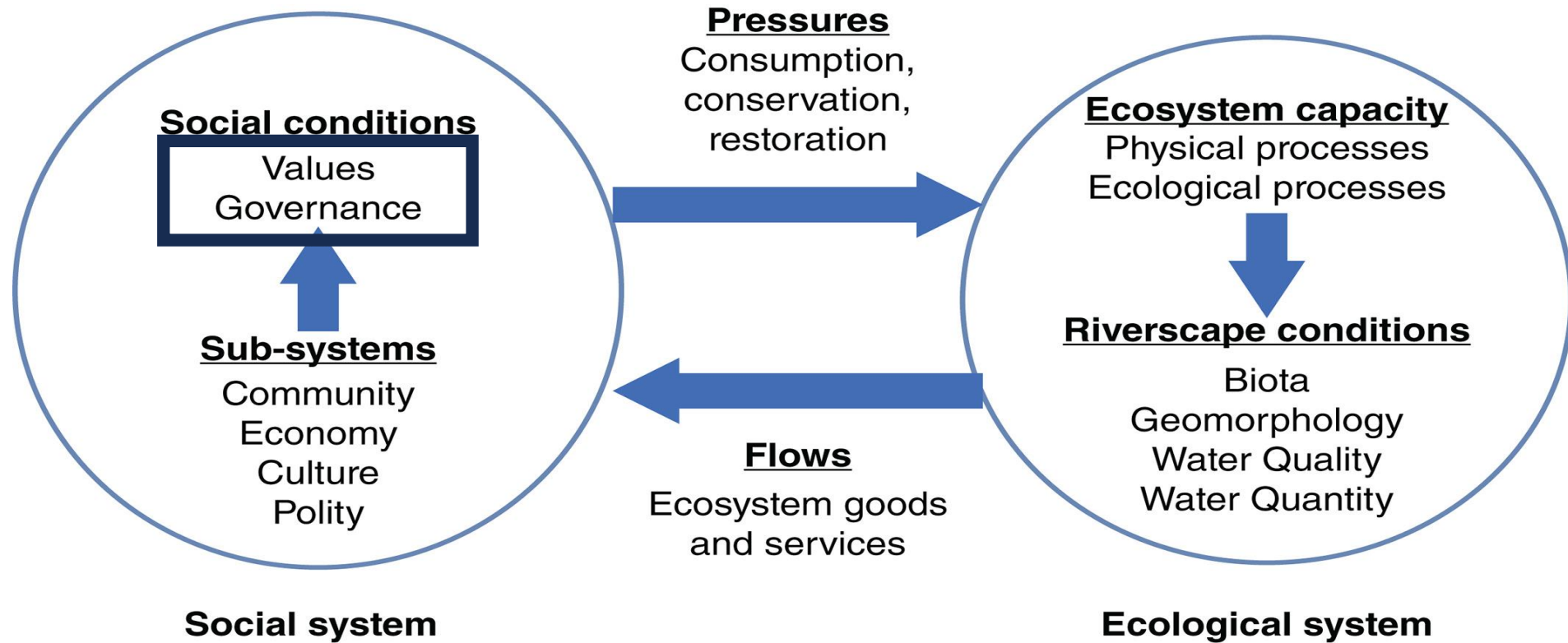
- The value of river restoration is well understood
- Globally the returns on investment from improving river health significantly outweighs the initial costs (Bergstrom and Loomis 2021)
- Nationally, riparian margin restoration has been estimated to generate net benefits of between NZ\$1.7 billion - \$5.2 billion/yr (Daigneault et al. 2017).

Benefits of river restoration

- These benefits come in a range of forms:
 - Improved water quality
 - Improved flow regimes
 - Sediment reduction
 - Hydrologic connectivity
 - Regulation of water chemistry
 - Reduced extraction >> more water in the system
 - Biodiversity gains
 - ... and so on
- These changes can benefit the environment
- BUT they can also benefit people

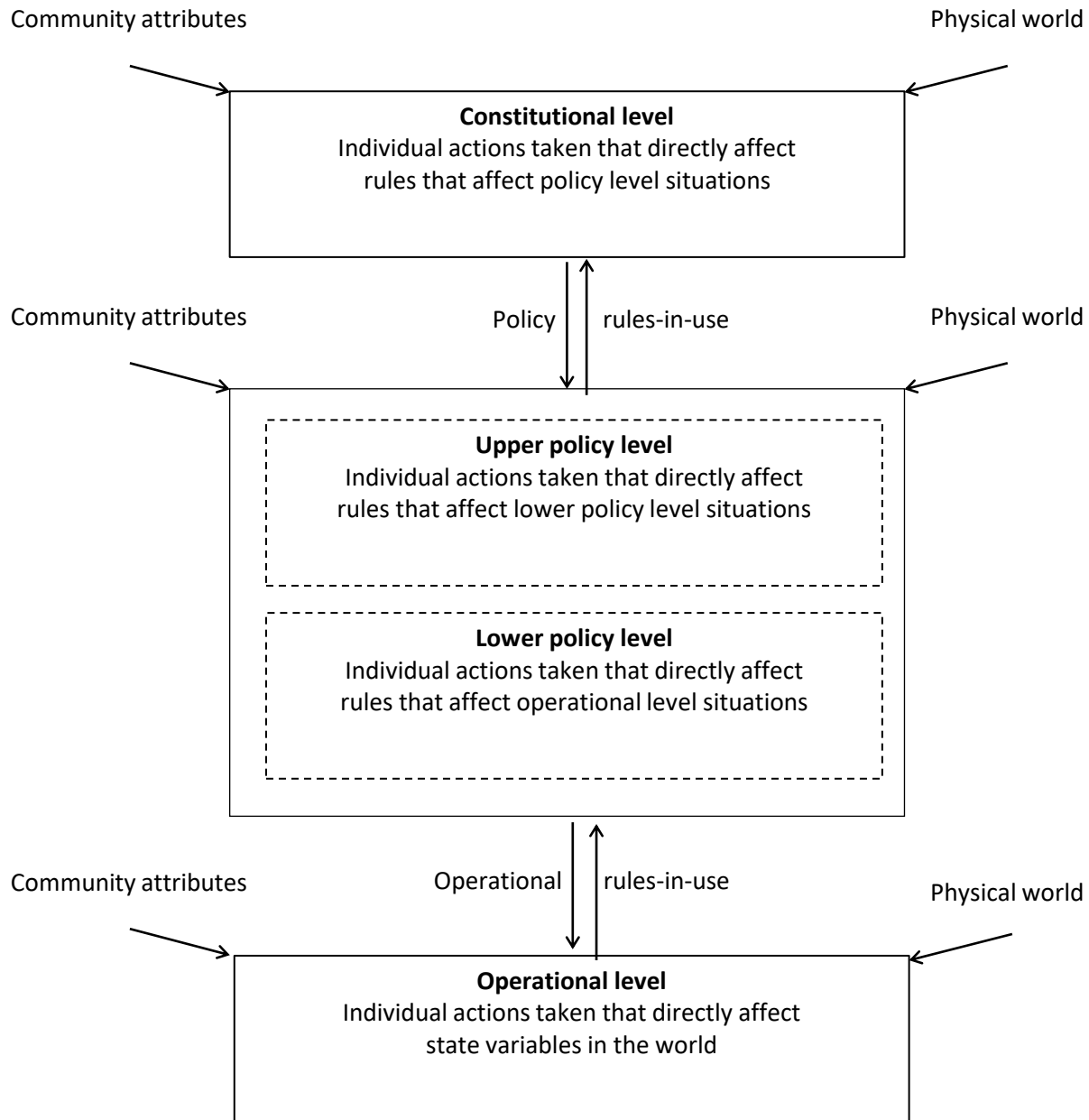


Rivers are social-ecological systems



Governance = institutions

- Social systems are constructed from rules a.k.a. institutions
- Institutions are the 'rules of the game' that shape human behaviour
>> institutions matter!!! (North 1990)
- For institutional arrangements to be effective rules must be aligned across scales (Ostrom 2005, Williamson 1999)



Māori rights and interests in water unresolved

New Zealand Legislation
<https://www.legislation.govt.nz> › latest › DLM235201

Resource Management Act 1991

A resource consent is neither real nor personal property. (2). Except as expressly provided otherwise in the conditions of a consent,— (a).

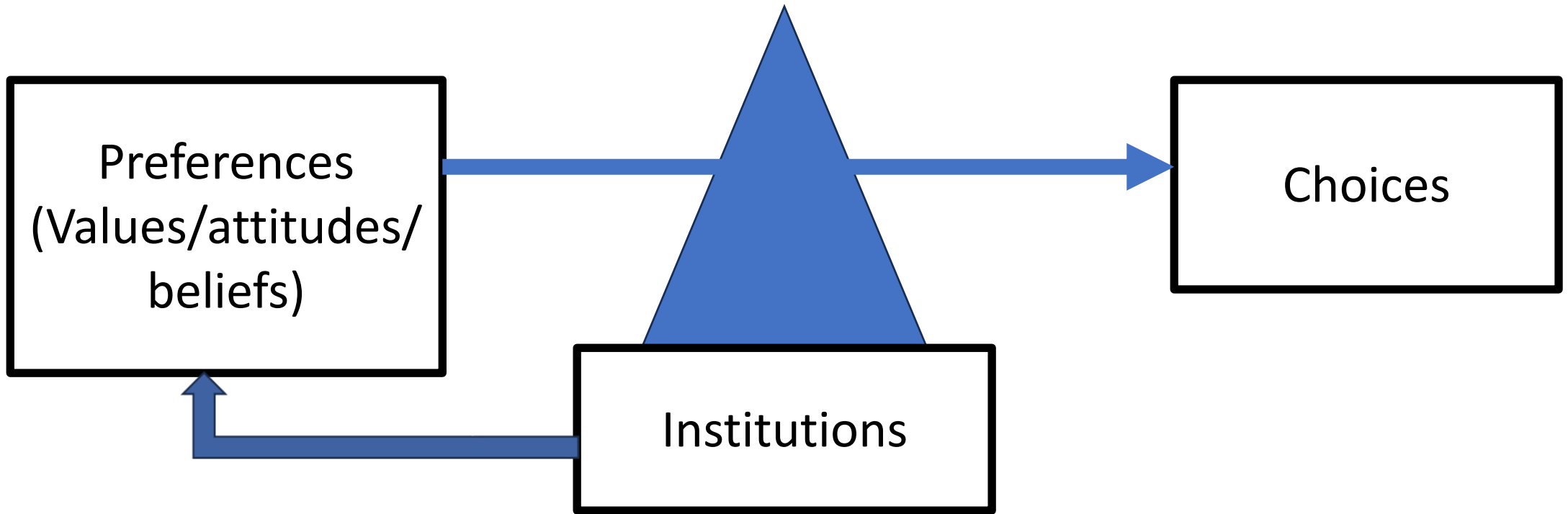


Water trading clubs

Source: Talbot-Jones and Saglam (2023)

Source: Adapted from Ostrom (2005) and Talbot-Jones and Bennett (2022)

Values



Values change in action



Example of values/attitude change



Opportunities for future change

Looking to the future

- River systems are social-ecological systems
- Aligning rules across scales is critical to achieve effective governance outcomes
- Long-term changes in preferences/values/attitudes stimulated by institutional change across scales could help deliver wellbeing improvements for the environment and communities

Thank you.

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