

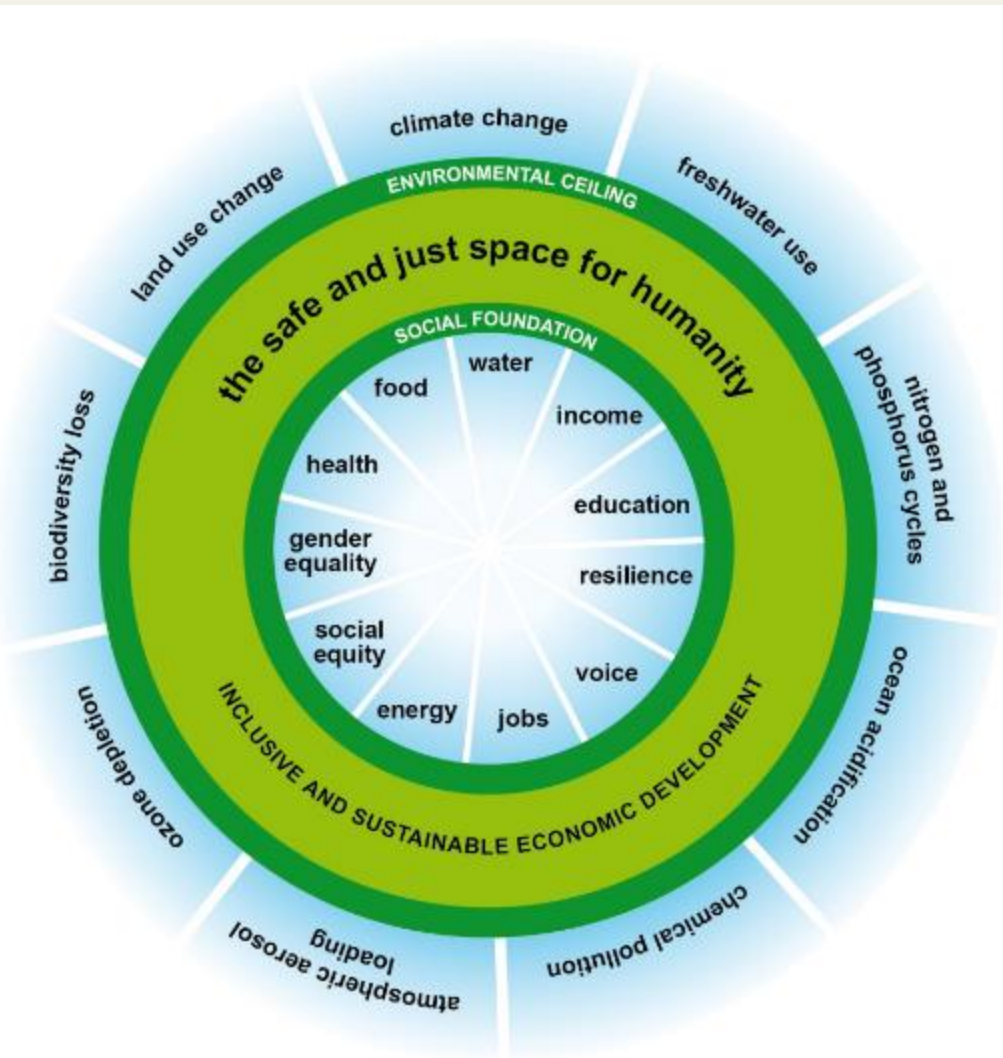
Ecosystem Stewardship: A Framework for Managing Ecosystem Resilience and Human Well-Being

A Resilience Framework for Conservation
in a Rapidly Changing Arctic

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Narrow window of opportunity to redefine society's relationship with nature at local-to-global-scales

The sustainability and integrity of ecosystems and human society are both essential goals for stewardship. Neither can be achieved without the other.

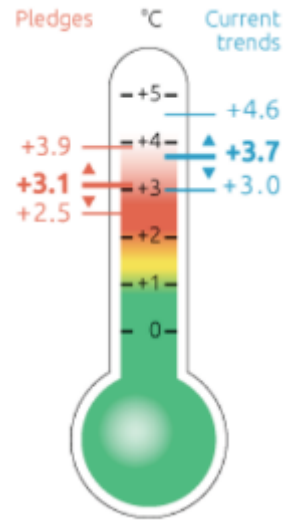




“Return to previous Arctic conditions is unlikely.” Arctic Report Card

Without a framework that integrates ecological, cultural, and economic dimensions of the Arctic, there is little guidance as to how to balance the risks and opportunities of rapid arctic change.

Globally, by 2100:



climateactiontracker.org



Stewardship is a framework that guides society to shape trajectories of ecological and societal change

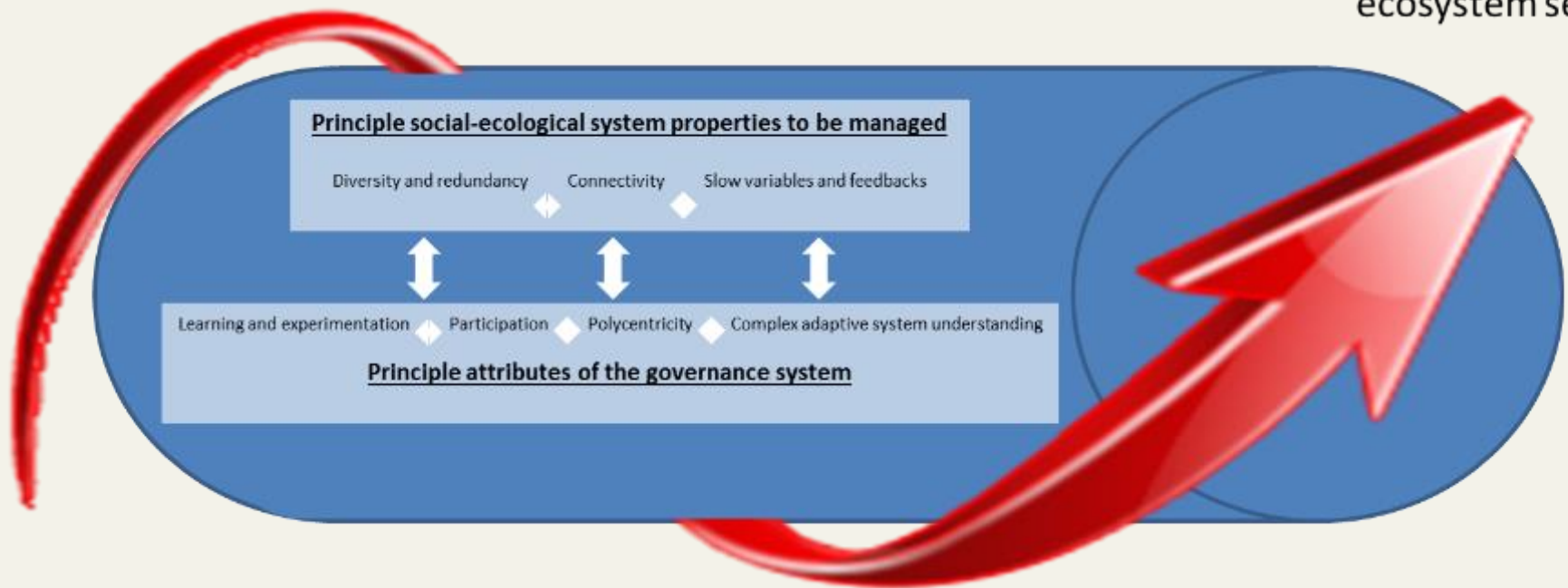
“It’s not about managing the resource, it’s about managing ourselves within the resource”



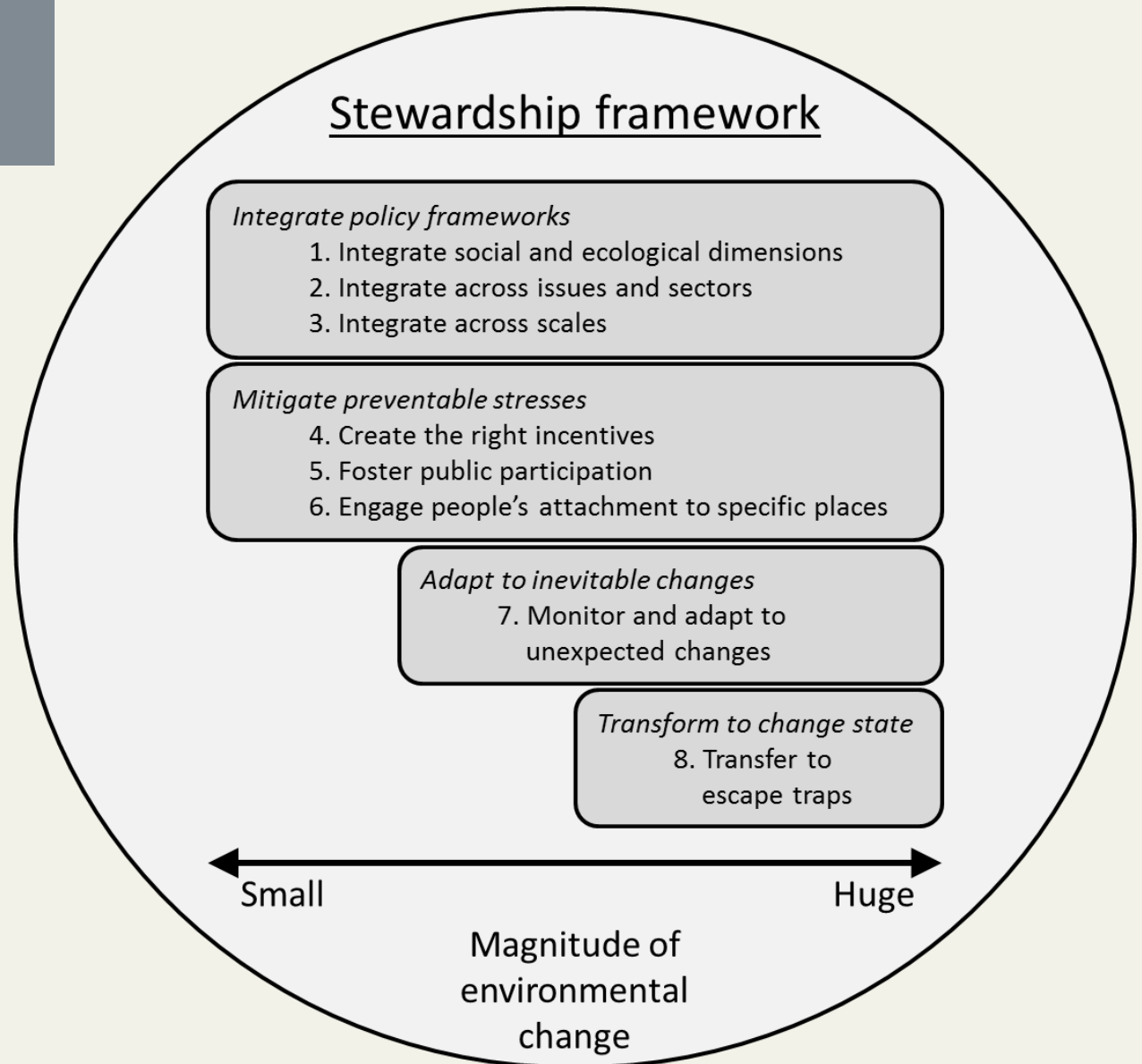
Need to acknowledge finite limits to the flow of ecosystem services that ecosystems provide and that these limits fundamentally constrain human choices for a sustainable future.

Ecosystem services are co-produced by ecosystems and societies – they develop together, so they need to be managed together, according to informed societal choices.

Resilient supply of desired bundles of ecosystem services



Guiding principles

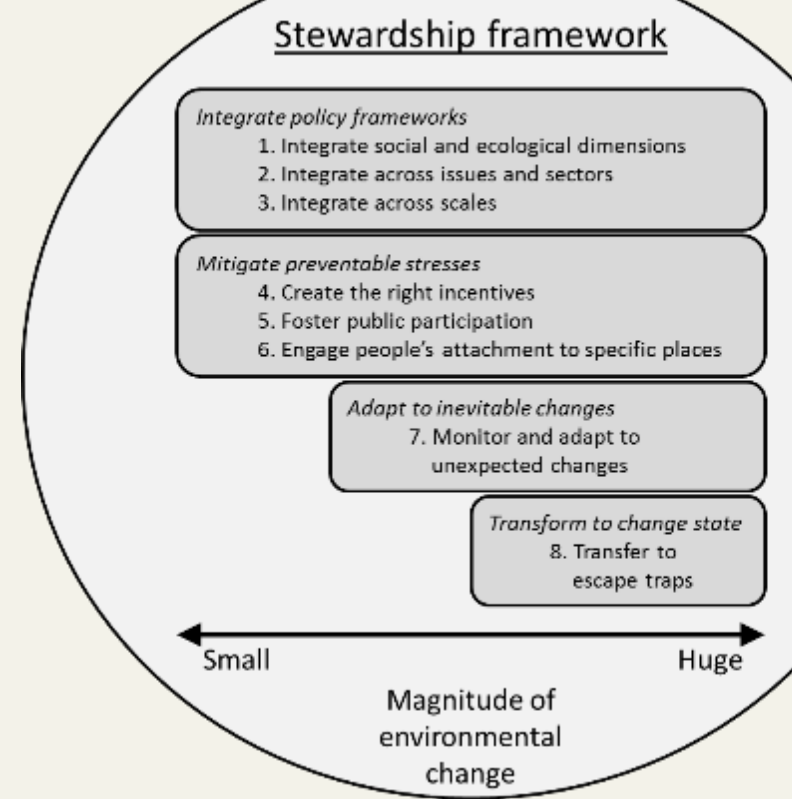


Characteristic	Classical Management for Conservation	Ecosystem-based Management	Ecosystem Stewardship
Reference point	Historic condition	Historic and current condition	Pathways of change
Central goal	Species protection	Conservation of ecosystem structure and function to maintain ecosystem services	Sustain social-ecological systems and resilience of ecosystem services by fostering diversity
Predominant approach	Maintain species, populations, and habitats	Integrated management of human activities	Manage stabilizing and amplifying feedbacks
Role of uncertainty	Reduce uncertainty before taking action	Reduce uncertainty yet act in its presence	Embrace uncertainty: Maximize flexibility to adapt to an uncertain future
Role of resource manager(s)	Decision maker who sets course for sustainable management of species, populations, and habitats	Decision maker who sets course for sustainable management of ecosystems and their components	Coordinated facilitators at multiple scales who engage stakeholder groups to respond to and shape social-ecological change and nurture resilience
Response to disturbance	Minimize disturbance probability and impacts	Minimize disturbance probability and impacts	Disturbance cycles used to provide windows of opportunity
Resources of primary concern	Species, populations, and habitats	Ecosystem structure and function	Biodiversity, human well-being, and adaptive capacity

Opportunities for stewardship - policies and institutions

Stewardship by individuals and households

- ✓ Environmental citizenship
- ✓ Cultural integrity, links between social and ecological dimension
- ✓ Sense of place

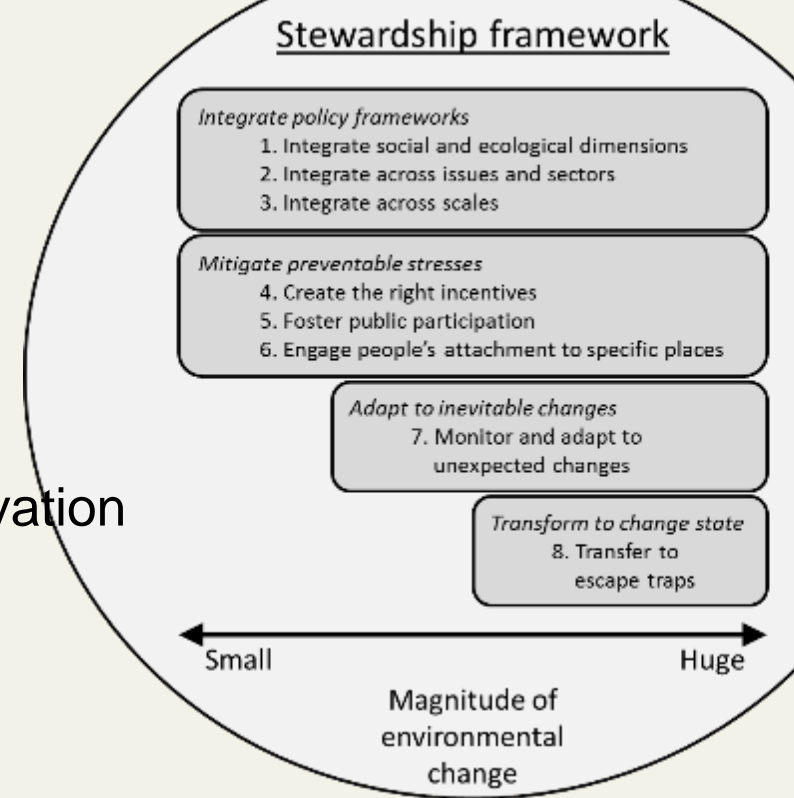


Opportunities for stewardship - policies and institutions

Stewardship by communities and regions

- Governance for stewardship and conservation

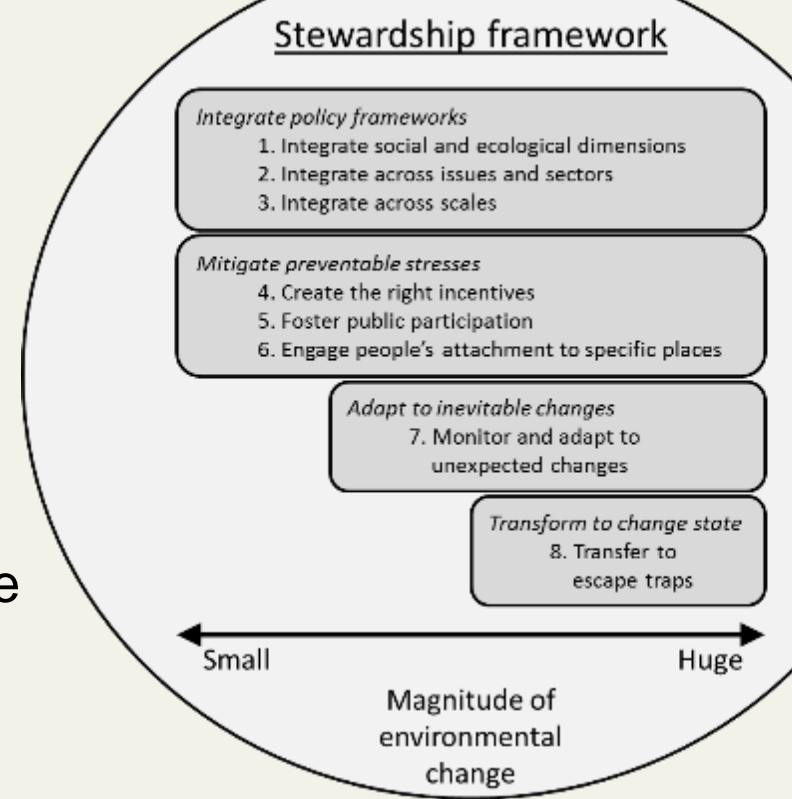
- ✓ Adaptive governance
 - Learning, participation, co-management, knowledge co-production, monitoring, experimentation
- ✓ Networking
 - Informal forms collaboration and governance
 - Recognising ways nature is valued
- ✓ Regulatory frameworks / un(der)-regulated use of the commons
 - Consultation, regulation without consultation, top-down implementation



Opportunities for stewardship - policies and institutions

Stewardship by communities and regions

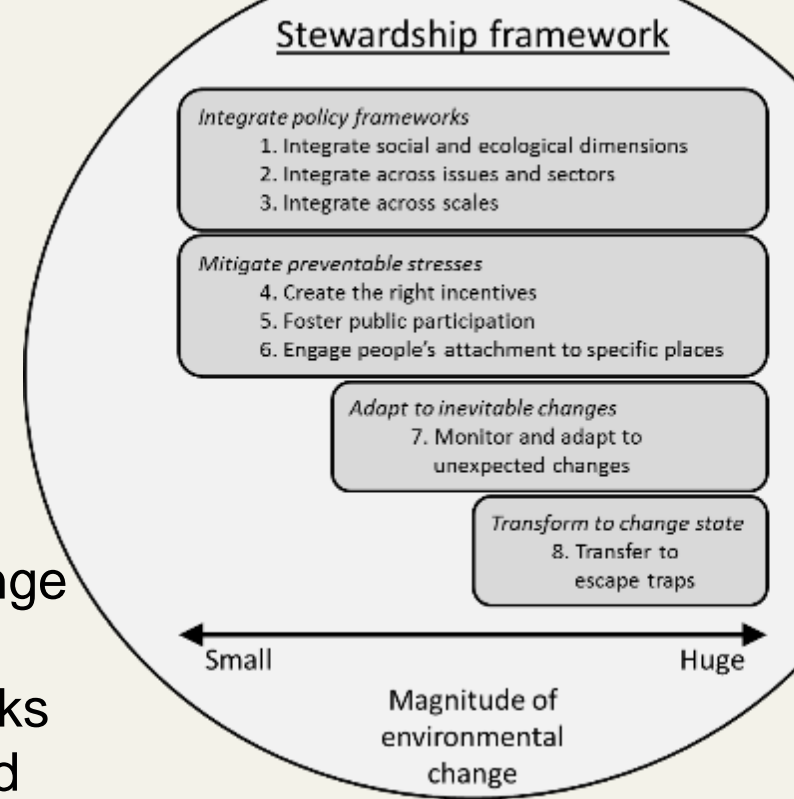
- Species and ecosystem conservation
 - ✓ Species threatened by rapid climate change
 - experimentation
 - ✓ Species threatened by habitat loss
 - Persistent Areas, adaptive population management fostering resilience
 - ✓ Ecosystems
 - Networks of protected areas, iterative integrated ecosystem assessments / adaptive ecosystem based management



Opportunities for stewardship - policies and institutions

National and international stewardship

- Mitigation to reduce rates of arctic change
- Arctic governance
 - ✓ Strengthening regulatory frameworks
 - Building trust among actors and policy legitimacy
 - Strengthen pro-active, precautionary elements
 - ✓ Cross-scale integration
 - Governance fit and scalability
 - Polycentric governance



Stewardship and ABA implementation

- GHG mitigation
- resilience and adaptation of biodiversity into development plans
- EBM
- Mainstreaming biodiversity
- mechanisms that safeguard biodiversity under changing conditions
- Value of traditional ecological knowledge for assessment, planning, and management





It always seems
impossible –
until it's done

Nelson Mandela

