

Appendix 3.

Features of adaptive governance in North American water basins

1. Goals

- 1.1. Poly-Resilience Social Goals (resilience of multiple interconnected systems)
 - 1.1.a. Resilience of ecosystems, social systems, and institutions
 - 1.1.b. Public values and goals embrace and emphasize poly-resilience
 - 1.1.c. Changing public values and norms
 - 1.1.d. Resource management for ecosystem functions and processes
 - 1.1.e. Reframing problems and resource governance
 - 1.1.f. Integrated problem solving

2. Structure

- 2.1. Polycentric Governance Structure
- 2.2. Networked Structure
 - 2.2.a. Multi-stakeholder and multi-government networks
- 2.3. Modular Governance or Social Organization
- 2.4. Scaled Governance
 - 2.4.a. Governance scaled to problem and capacity
 - 2.4.b. Ecological scale = watershed or basin scale
 - 2.4.c. Nested scales
 - 2.4.d. Subsidiarity: scaling to smallest appropriate level
- 2.5. Public and Multi-Stakeholder Participation
- 2.6. Perceived Legitimacy (Public Acceptance) of Governance

3. Methods

- 3.1. Flexibility
 - 3.1.a. Development of adaptive capacity
 - 3.1.b. Embedded flexibility
 - 3.1.c. Experimentation
 - 3.1.d. Innovation
 - 3.1.e. Multiple strategies
 - 3.1.f. Multi-scenario planning
 - 3.1.g. Reframing problems and resource governance
 - 3.1.h. Adaptive management
- 3.2. Learning
 - 3.2.a. Assessment of systems for resilience
 - 3.2.b. Experimentation
 - 3.2.c. Monitoring
 - 3.2.d. Feedback loops
 - 3.2.e. Expert/scientific learning
 - 3.2.f. Public/social learning
 - 3.2.g. Adaptive management
- 3.3. Resource Management for Ecosystem Functions and Processes
 - 3.3.a. Assessment of systems for resilience

- 3.3.b. Conservation of key ecosystem features
- 3.3.c. Deliberate ecosystem transformation
- 3.3.d. Ecological restoration
- 3.3.e. Green infrastructure
- 3.3.f. Land use management
- 3.4. Integrated Problem Solving
- 3.5. Accountability
 - 3.5.a. Implementation and performance measures
 - 3.5.b. Regulation
 - 3.5.c. Law as a tool of accountability
 - 3.5.d. Tight or strong cross-system feedbacks [but not too tight]
- 4. Resources
 - 4.1. Socio-Political Capacity
 - 4.1.a. Collaboration, cooperation, trust, and social capital generally
 - 4.1.b. Communication
 - 4.1.c. Innovation (especially social and institutional innovation)
 - 4.1.d. Power
 - 4.2. Social Change
 - 4.2.a. Social mobilization and political action
 - 4.2.b. Public values and norms
 - 4.2.c. Government resources
 - 4.3. Use of Law and Institutions for Adaptation and Transformation
 - 4.3.a. Institutional Change
 - 4.3.a.i. As a trigger of other institutional changes
 - 4.3.a.ii. As adaptive capacity
 - 4.3.b. Law
 - 4.3.b.i. As a disturbance that stimulates adaptation and/or transformation
 - 4.3.b.ii. As authority to act
 - 4.3.b.iii. As a tool of accountability and transformation
 - 4.3.b.iv. Legal flexibility
 - 4.3.b.v. Legal reform and legal change