

BUZZWORDS OR BREAKTHROUGHS?

**ASSESSING THE NEW
LANGUAGE OF CONSERVATION
IN U.S. LAW AND POLICY—IS IT
ECOLOGICAL JABBERWOCKY OR
SOMETHING REAL?**

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**RMLA
Conference
2014
Dunedin Centre
New Zealand**

OUTLINE

- Structure of US conservation law
- Orientation to the key concepts and holistic idea
- Challenges of converting them into law to apply
- Description of how far each key concept has infiltrated the law
- Assessment of the overall difference the trend has made
- Prediction of where the trend is headed
- Overarching conclusions and predictions

US CONSERVATION LAW

- No comprehensive national conservation regime (e.g., RMA)
- Federal programs:
 - Regulatory (Endangered Species Act; Clean Water Act section 404)
 - Public lands (National Forest Management Act; Wilderness Act)
 - Extraction v. Precreation v. Preservation
 - Intergovernmental Planning (Coastal Zone Management Act)
 - Incentives (Farm Bill programs)
 - Assessment (National Environmental Policy Act)
 - Funding (ESA section 6)
- State regimes run the gamut in terms of duplication the federal model, or leaving out parts
- Local regimes are focused on parks & recreation and promoting open space/agricultural preservation through land use regulation

THE UPSHOT FOR INTEGRATING NEW IDEAS INTO CONSERVATION LAW

- Federal legislative inertia has left the innovation work to agencies
- Easy to insert a new concept into a program here and there
 - Particularly public lands laws where agency mandates are broad
 - More difficult in regulatory regimes such as ESA
- Hard to achieve adoption across a cohesive, comprehensive national scale
- Swings in White House have led to policy pendulum
 - But some concepts appear to be bipartisan

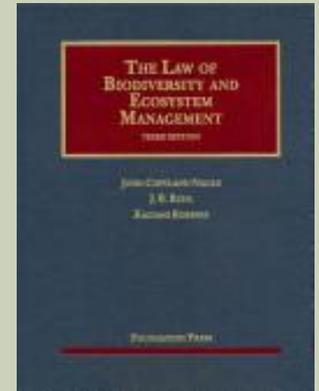
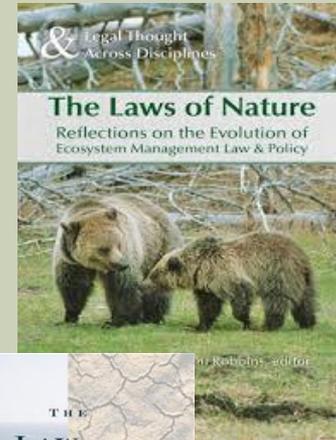
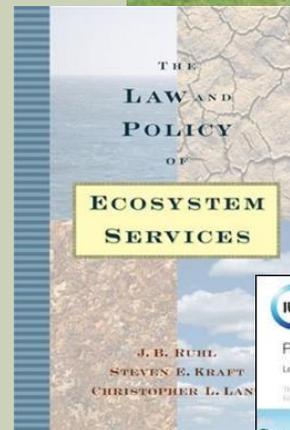
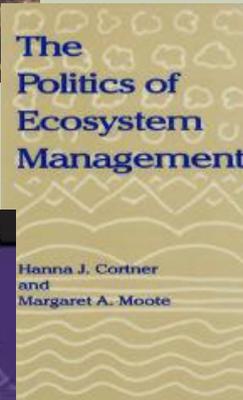
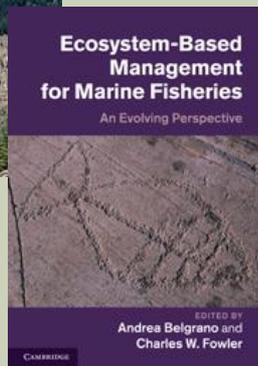
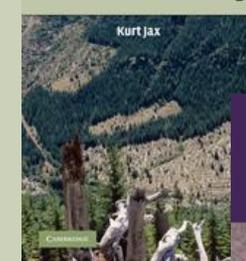
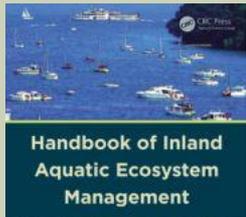
UNDERPINNINGS OF THE NEW CONSERVATION LANGUAGE

- Since 1980, the science of conservation has undergone rapid and fundamental change as the stable equilibrium model of ecosystems gave way to the dynamic model of ecosystems as complex adaptive systems
- The “stationarity is dead” concept – that climate change will disrupt the relatively stable “envelope of variability” within which dynamic ecosystems evolve – further challenged the theory of conservation, making conventional preservationist objectives less viable
- Thus conservation must “ride” with the dynamic nature of ecosystems *and* with the emerging “no-analog” environment within which ecosystem dynamics play out
- **QUERY:** How has any of this made its way into law and policy?

PROGRESSION OF NEW CONCEPTS: PHASE I

- **Ecosystem Management**: Ecosystems are complex adaptive systems requiring large-scale management scopes and authorities
- **Adaptive Management**: As complex adaptive systems, ecosystems require an adaptive, structured, iterative management decision-making method
- **Ecosystem Services and Natural Capital**: Beyond protecting intrinsic and eco-centric values, ecosystem management can be designed to facilitate and optimize the delivery of important service functions to human populations, especially those not easily traded in markets

THE SCIENCE ↔ LAW DYNAMIC



J.D./Ph.D.
Program in Environmental Science and Policy
KICKOFF LECTURE AND RECEPTION

Monday
JANUARY 28, 2013
5:00 PM Lecture
"Science and Law for the Anthropocene"
Followed by reception

UM School of Law
4th Floor Faculty Meeting Room

Guest Speaker: Dale Jamieson
Dr. Jamieson is the Director of Environmental Studies at New York University, where he is also Professor of Environmental Studies and Philosophy and affiliated Professor of Law.

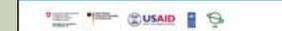
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IUCN
the ecosystem group

Payments for Ecosystem Service
Legal and Institutional Frameworks

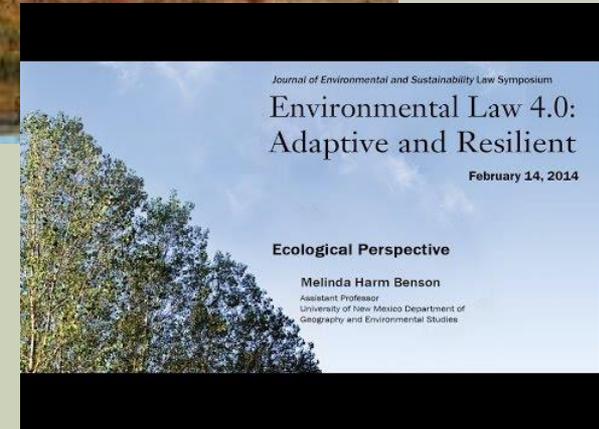
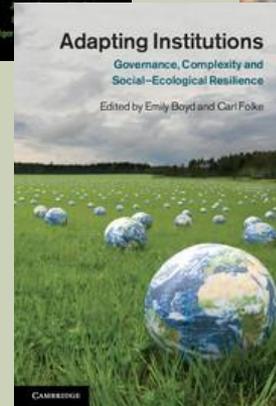
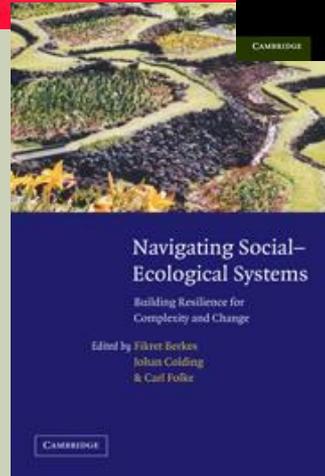
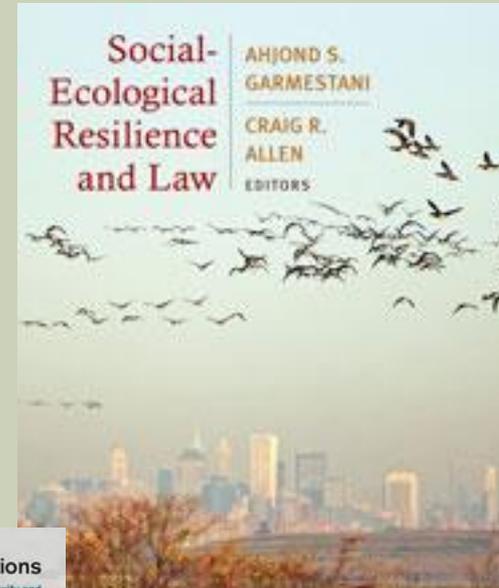
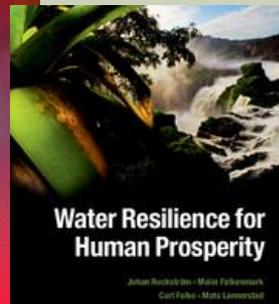
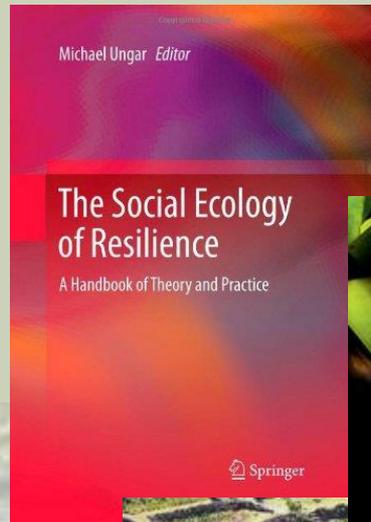
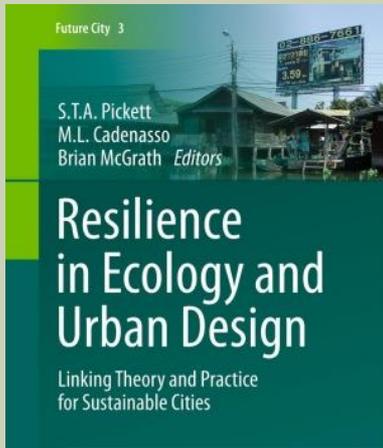
Thomas Greiner
Editor



PROGRESSION OF NEW CONCEPTS: PHASE II

- **Ecological Resilience**: Ecosystems can take on alternative states, or regimes; resilience of one regime reflects the magnitude of disturbance that triggers a shift to an alternative regime
- **Social-Ecological System (SES)**: Social systems, also complex adaptive systems, and ecosystems are locked in a co-evolving relationship one metric of which is resilience
- **Adaptive Governance**: All of these concepts are components of a broader theory of governing for resilience of the normatively desired SES

THE SCIENCE ↔ LAW DYNAMIC



THE HOLISTIC IDEA

We are trying to develop adaptive governance institutions to adaptively manage, at ecosystem scales, the resilience, natural capital, and ecosystem services profiles of social-ecological systems

TURNING THIS INTO LAW TO APPLY

■ Promise

- Bottom-up science percolates into agency policy then into law
- Phase I (as discussed later) has made significant gains
- Phase II is showing the same proliferation in science
- We don't have a choice—the old model won't work in the era of climate change

■ Problems

- No federal legislative reform since 1990, and none likely soon
- American federalism complicates multi-scalar initiatives
- Fragmented environmental and natural resources legal regimes
- Public lands/private lands divide
- Property rights and entrenched interests
- Conventional administrative law and “front-end” decision making
- Funding constraints
- Open-ended concepts

PUSHBACK

- **The Libertarian/Neoliberal Critique**
 - Disruption of property rights
 - Inflation of environmental values
 - Agencies will have too much discretion
 - Weapon of choice: Cost-Benefit Analysis in the White House OIRA
- **The Radical/Critical Studies Critique**
 - Disruption of property rights
 - These are neoliberal tools for commoditizing nature
 - Agencies will have too much discretion
 - Weapon of choice: The Endangered Species Act and NEPA in the courts
- **The Centrist Critique**
 - Don't rock the boat
 - This imposes new sets of tradeoffs we are not used to
 - This requires rebalancing of settled institutional power
 - Agencies will have too much discretion
 - Weapon of choice: Inertia

ASIDE: WHAT ABOUT SUSTAINABILITY AND THE PRECAUTIONARY PRINCIPLE?

- Hard to define in law to apply
 - But try defining resilience!
- Sustainability has baggage in the conservation context
 - Multiple use/sustained yield
- Both are politically toxic on the big stage
 - Sustainability associated by conservatives with Internationalism (Agenda 21)
 - Sustainability associated by environmentalists with development
 - PP runs counter to cost-benefit analysis Type I Error avoidance traditions of American regulatory system
- Workaround: The same objectives can be packed into EM/AM/ESS/ER/SES/AG

**HOW HAVE THE KEY
CONCEPTS FARED IN US
LAW AND POLICY?**

ECOSYSTEM MANAGEMENT

FIRMLY ENTRENCHED, FOR PUBLIC LANDS

- Grumbine's 1994 article, *What Is Ecosystem Management?* synthesized EM literature
- Embraced in Vice President Al Gore's Regulatory Reinvention Project
 - Ordered federal agencies to outline how to implement EM under their authorities
 - GAO and CRS assessed agency progress in 1994
- Showed up relatively early in federal legislation
 - 1998 Tropical Forest Agreement Fund legislation
- Easily adopted under federal land management planning statutes
 - Multiple Use/Sustained Yield authority is flexible and open-ended
 - All major land management agencies have adopted EM approach
- Harder to wedge into media-specific pollution control and single-focus statutes
 - Clean Water Act pollution limits (TMDLs)
 - ESA listings
- More controversial when applied to private lands

ADAPTIVE MANAGEMENT

DESIRED, BUT STALLED AT “A/M LITE”?

- Early origins in Buzz Holling’s 1977 *Adaptive Environmental Assessment and Management*
- Projected with rise of EM as the necessary implementation method
- 1995 FWS Endangered Species Act HCP permit reforms integrated AM
- Now adopted in dozens of statutes, executive orders, and agency rules
 - 2003 NEPA Task Force report on NEPA reform
 - 2003 Corps Comprehensive Everglades Restoration Plan rules
 - 2004 Wildfire Institutes legislation
 - 2007 Water Resources Principles & Guidelines legislation
 - 2008 Corps/EPA compensatory Mitigation rule
 - 2009 Executive Order on Chesapeake Bay Protection and Restoration
 - 2010 Executive Order on National Policy for Oceans, Coasts, and Great Lakes
 - 2012 Forest Service Land and Resources Planning Rule
- Often abstractly defined, underfunded, and partially implemented, leading to “a/m lite” in practice

ECOSYSTEM SERVICES

MAINSTREAMED AND ABOUT TO SURGE AGAIN

- Broke onto the scene in 1997 with publications by Gretchen Daily and Bob Costanza
- ES picked up tremendous policy steam between 1997-2007
 - EPA Ecosystem Services Research Project
 - Millennium Ecosystem Assessment
- Reflected in several legal reforms beginning in 2008
 - 2008 Farm Bill
 - 2008 Corps/EPA Compensatory Mitigation Rule
 - 2012 Forest Service Land and Resources Planning Rule
- 2011 President's Council of Advisors on Science and Technology issued major report endorsing ES model
- A major White House policy initiative is reported to be imminent
- But the search for true markets continues
 - Florida Ranchlands ES Project come close
 - Some watershed ES payment systems
 - No true private markets

ECOLOGICAL RESILIENCE

GETTING SOME TRACTION AND ABOUT TO DEBUT

- Despite widespread pickup in ecological and social sciences, the ecological resilience concept has had no appearance in federal law
- However, it has appeared in some federal agency policies
 - E.g., ESA distinct population segments
- And climate change adaptation policy has quickly and pervasively adopted the “resilience” theme
 - September 22 Obama Executive Order on promoting climate resilience in international programs
 - September 24 EPA Administrator statement on Great Lakes Restoration Initiative to promote climate resilience
- A major White House initiative reportedly will be launched soon embracing ecological resilience (with ecosystem services)

SOCIAL-ECOLOGICAL SYSTEMS

NOBEL PRIZE, YES; LAW AND POLICY, NOT YET

**Despite widespread pickup in ecological and social sciences,
the SES concept has had no appearance in federal law**

ADAPTIVE GOVERNANCE

THE HOLY GRAIL

Despite widespread pickup in ecological and social sciences, the Adaptive Governance concept has had no appearance in federal law

CONCLUSIONS – WHERE ARE WE NOW?

- Ecosystem management has swept public land management agency law and policy
 - Has brought more order to the chaotic multiple use regimes
 - Has instilled a stronger science-policy link
- Adaptive management has been along for the EM ride, but has been harder to translate into practice beyond rudimentary implementation outside of ideal circumstances
 - Funding, culture, and administrative law are constraints
- Ecosystem services and ecological resilience appear to be fast becoming a magnet for federal policy initiatives
 - Pushback from far left and far right notwithstanding
 - Resonates with climate change policy initiatives
- Social-ecological systems and adaptive governance theories appear to be building as background policy concepts, but there is no visible uptake in law to apply as of yet

PREDICTIONS - WHERE IS THIS HEADED?

- Ecosystem management/adaptive management/ecosystem services trio will be further mainstreamed and embodied in hard law and policy to apply
- Ecosystem services will join with resilience to be the dominant metrics of conservation policy implementation
- Social-ecological system theory will begin to become an organizing principle for legitimizing conservation policy to a broader set of stakeholders
- Adaptive governance is more the emergent property of the above than a deliberate design project