

Summary - Water Center Monthly Panel Discussion

Valuing Ecosystem Services in the Anthropocene: Research Needs and Diverse Approaches

Event Time: 3:30 – 4:45 p.m., Thursday, December 1, 2016

Location: Great Lakes Room (4th Floor) Palmer Commons, 100 Washtenaw Ave, Ann Arbor, MI

This panel discussion was co-hosted by the U-M Water Center and the Cooperative Institute for Limnology and Ecosystems Research.

Introduction

Nature provides society with a wide variety of goods and services that are essential to human health, prosperity, and long-term sustainability. While it is now widely recognized that ecosystem services need to be accounted for when making management decisions involving natural resources, methods for quantifying these are still in their infancy.

This seminar included short presentations that highlight diverse perspectives on how to measure the ecosystem goods and services provided by water resources. A panel discussion followed about practical information needs and research opportunities.

Brad Cardinale

Professor of Aquatic Ecology, School of Natural Resources and Environment

Email: bradcard@umich.edu

Brad Cardinale outlined current conceptual models, scientific approaches and research needs within the emerging study of ecosystem services.

A few recommended resources include:

- The International Science-Policy Platform on Biodiversity and Ecosystem Services.
<http://www.ipbes.net/>
- The Natural Capital Project: <http://www.naturalcapitalproject.org/>
- Memorandum for Executive Departments and Agencies on Incorporating Ecosystem Services into Federal Decision Making (Oct. 7, 2015). Available at:
<http://naturalcapitalcoalition.org/wp-content/uploads/2016/07/m-16-01.pdf>
- Costanza, R. et al. 1997. The value of the world's ecosystem services and natural capital. *Nature* 387 (15): 253–260.
- Vitousek, P. et al. 1997. Human domination of earth's ecosystems. *Science* 277 (5325): 494-499.
- Book: *The World According to Pimm, A Scientist Audits the Earth*. Stuart L. Pimm. McGraw Hill, New York, 2001. 303 pp.
- Postel et al. 1996. Human Appropriation of Renewable Fresh Water. *Science* (271): 785-788.

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Michael Moore

Professor of Environmental Economics, School of Natural Resources and Environment

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Michael Moore shared several examples of how he is estimating the economic value of lake water quality and offered some general advice for researchers and practitioners hoping to integrate the fields of economics and ecology.

A few recommended resources include:

- The Economics of Ecosystems and Biodiversity (TEEB), which has a section devoted to Natural Capital Accounting and Valuation of Ecosystem Services. <http://www.teebweb.org/areas-of-work/advancing-natural-capital-accounting/>
- Ecosystem Marketplace. <http://www.ecosystemmarketplace.com/>
- Book - Valuing Ecosystem Services published by The National Academies Press. <https://www.nap.edu/catalog/11139/valuing-ecosystem-services-toward-better-environmental-decision-making>

Peter Adriaens

Professor, College of Engineering and Ross School of Business

Email: adriaens@umich.edu

Peter Adriaens described how he is helping companies assess their exposure to water-related risks and explained how risk analysis can be used to demonstrate the value of healthy water resources and promote investments in sustainable practices.

A few recommended resources include:

- Equarius Risk Analytics: www.equariusrisk.com
- Ceres Water Investor Handbook: <https://www.ceres.org/issues/water/water-and-esg-risk>
- Larson et al. 2012. Mitigating Corporate Water Risk: Financial Market Tools and Supply Management Strategies. Ross School of Business Working Paper No. 1178. Available at: <http://ssrn.com/abstract=2159370>
- Adriaens et al. 2014. Bridging Physical and Financial Business Water Risk: Watervar and Waterbeta Metrics for Equity and Portfolio Risk Assessment. Ross School of Business Working Paper No. 1237. Available at: <http://ssrn.com/abstract=2445580>

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Kathryn Buckner

President, Council of Great Lakes Industries

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Kathryn Buckner kicked-off the panel discussion with comments on potential opportunities for using an ecosystem services framework with industry partners. For example, can the business case for water stewardship be improved if ecosystem services were better accounted for in cost-benefit analyses?

A few recommended resources include:

These resources offer a business perspective on natural capital/ecosystem services:

- The New Business Imperative: Valuing Natural Capital (Corporate EcoForum and The Nature Conservancy, 2012) available at: <http://www.corporateecoforum.com/valuingnaturalcapital/offline/download.pdf>
- Corporate Ecosystem Valuation: Building the Business Case (World Business Council for Sustainable Development, October 2009), available at: <http://wbcsdpublications.org/project/corporate-ecosystem-valuation-building-the-business-case/>
- Guide to Corporate Ecosystem Valuation (World Business Council for Sustainable Development, April 2011) available at www.wbcsd.org/contentwbc/download/573/6341
- The Natural Capital Protocol (Natural Capital Coalition) <http://naturalcapitalcoalition.org/protocol/>