

SCOTT COLE

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EDUCATION

SWEDISH AGRICULTURAL UNIVERSITY, DEPT. OF FOREST ECONOMICS, Umeå 2012
PhD, Economics, Thesis on valuing environment for purpose of environmental compensation

UNIVERSITY OF UMEÅ, DEPT. OF ECONOMICS, Umeå, Sweden 2008
Masters in Economics. Thesis on environmental damage won "best green thesis" award

DUKE UNIVERSITY, NICHOLAS SCHOOL OF THE ENVIRONMENT, Durham, NC 1999
BA *with Honors*, Environmental Science & Policy / Economics Minor (3.53 GPA)

UNIVERSITY OF TASMANIA, Tasmania, Australia 1997
International Scholarship Recipient

EXPERIENCE

2006 – PRESENT

ENVIROECONOMICS SWEDEN, ÖSTERSUND, SWEDEN (www.eesweden.com)

Economist and Business Owner of Environmental and Economic Consulting Firm

Invited speaker at EU-China workshop on damage assessment (April 2014); Developing a Payment for Ecosystem Services (PES) project in Vietnam to improve management of mangrove forests (For *Swedish International Development Cooperation Agency*); Managed project to value welfare losses associated with a future oil spill in the Lofoten Islands, Norway (for the *Arctic Council*); Economist on research team examining loss of seagrass habitat in Sweden (for *FORMAS*); Co-authored report on creating markets for ecosystem services (for Swedish think-tank *FORESS*); Valued ecosystem services impacted by oil spills in the Baltic Sea (for *Swedish EPA*); Contributing author to REMEDE Toolkit on equivalency analysis (for the *European Commission*); Valued lost resources associated with river regulation (for Swedish hydroelectric industry); Contributor to environmental cost-benefit handbook (for *Swedish EPA*); Organized two environmental compensation conferences for authorities in Sweden.

2004 – 2005

NORTHWEST ECONOMIC ASSOCIATES (NOW: ENTRIX INC), VANCOUVER, WA
Economist, Environmental and Economic Consulting Firm (www.entrixx.com)

Assessed the economic value of beneficial uses for water right claims on behalf of Indian Tribes. Authored a report on recreational benefits and costs of a proposed wildlife refuge on an Indian Reservation. Coordinated the development of methods used in the economic analyses of species protection under the Endangered Species Act (ESA). Assisted in a statistical regression analysis of a nationwide health care survey to assess variables affecting health care costs.

1999 – 2004

INDUSTRIAL ECONOMICS, INC. (IEC), CAMBRIDGE, MA

Research Analyst, Environmental and Economic Consulting Firm (www.indecon.com)

Assisted Trustees in estimating and recovering natural resource damages from contaminated sites. Estimated economic impacts to the regulated community associated with designation of critical habitat for protected species; assessed benefits of species protection through consideration of benefits transfer approaches.

SKILLS

ArcGIS, statistical analysis (LIMDEP, R), Fluency in Swedish

SELECTED PUBLICATIONS

Authored:

Cole, S.G., and Per Moksnes. 2016. *Estimating policy-relevant values for ecosystem services provided by seagrass beds in Sweden*. Frontiers in Marine Science: Marine Affairs and Policy, Special issue: The Economics of Protected Marine Species: [URL link](#).

Cole, S.G., Ana P. Aponte, Linus Hasselström, Ulrika Stavlöt. 2014. *Developing Payment for Ecosystem Services: A synthesis of the approach and lessons-learned from a pilot project to protect mangrove forests in Vietnam*. FORES Study 2014:3. ISBN: 978-91-87379-21-5.

Cole, S.G., Linus Hasselström, Ana P. Aponte, Ulrika Stavlöt. 2013. *Evaluating alternative Payment for Ecosystem Services (PES) schemes for coastal wetlands and mangrove ecosystems in Mui Ca Mau National Park (MCMNP)*. Prepared for Vietnam Environment Ministry. 5 December 2013. (<http://fores.se/ekosystemtjnstler-i-vietnam>)

Cole, S.G. and E. Lie Dahl. 2013. Compensating white-tailed eagle mortality at the smøla wind-power plant using electrocution prevention measures. Wildlife Society Bulletin. Vol 37. Issue 1: 84–93, March.

Cole, S. G. 2013. Equity over efficiency: a problem of credibility in scaling resource-based compensation. Journal of Environmental Economics & Policy. Vol 2. Issue 1: 93-117.

Cole, Scott. 2013. Shared values background paper. Prepared for BalticSTERN in connection to the report The Baltic Sea – Our Common Treasure. Economics of Saving the Sea. March.

Cole, Scott. 2013. Del IV, Kapitel 3 Resursekvivalens. Published in Kriström, Bengt and Mona Bonta Bergman. 2013. [Samhällsekonomiska analyser av miljöprojekt - en vägledning](#) (Guidance document for socioeconomic analysis of environmental projects). Prepared for the Swedish Environmental Protection Agency. March.

Cole, Scott. 2013. Del II, Kapitel 4. Fallstudie Vindkraft. Published in Kriström, Bengt and Mona Bonta Bergman. 2013. [Samhällsekonomiska analyser av miljöprojekt - en vägledning](#) (Guidance document for socioeconomic analysis of environmental projects). Prepared for the Swedish Environmental Protection Agency. March.

Cole, Scott. 2011. *Environmental compensation is not for the birds: An opinion from an environmental economist*. Journal of Restoration Ecology. March. 19:2

Cole, Scott, 2005. *Racing under the Midnight Sun: Explore Sweden Airborn Expedition Race*. Published in Jamison, Neal, Maureen Moslow-Benway, and Nic Stover. The Thrill of Victory, the Agony of My Feet. Breakaway Books, Halcottsville, New York.

Cole, Scott, 1999. *Common Ground: Seeking objective foundations for environmental conservation in a society of disparate values*. The Commons. Duke University's Environmental Magazine. No. 2. Spring

Co-authored or Assisted:

Cole, Scott, and Fredrik Gisselman. 2016. *Samhällsekonomisk värdering av strandfodringsåtgärder för Havsbaden, Ängelholm (A socioeconomic valuation of beach nourishment in Ängelholm, Southern Sweden)*. Produced for SWECO Consulting. February.

Cole, Scott, and Gerda Kinell, Tore Söderqvist, Cecilia Håkansson, Linus Hasselström, Sergei Izmalkov, Eirik Mikkelsen, Maria Noring, Audun Sandberg, Eric Sjöberg, Åsa Soutukorva, Frida Franzén-Yulia Khaleeva. In press. *Arctic Games: An analytical framework for identifying options for sustainable natural resource governance*. *The Polar Journal*. [URL](#)

Enetjärn, Anders, Scott Cole, Matleena Kniivilä, Svein Erik Hårklau, Linus Hasselström, Tryggve Sigurdson, Johan Lindberg. 2015. *Key conditions for increased and cost-effective application of environmental compensation*. Prepared for the Nordic Council of Ministers. Aug 2015. (www.norden.org)

Cole, S.C., S. Izmalkov & E. Sjöberg. In press. Games in the Arctic. Applying game theory insights to Arctic challenges. *Polar Research*. 2014

Cole, Scott and Linus Hasselström. 2013. *Oil spill Management Background Paper*. Prepared for BalticSTERN in connection to the report *The Baltic Sea – Our Common Treasure. Economics of Saving the Sea*. March.

Soutukorva, Åsa, Kajsa Johansson, Linus Hasselström, Scott Cole, Hans Remvig. 2013. *Sambällsekonomisk analys av myggproblemets kostnader (Socioeconomic analysis of the costs of nuisance mosquitoes)*. Prepared for Länsstyrelsen Gävleborg. January.

Cole, Scott and Linus Hasselström. 2012. *Valuing marine ecosystem services affected by oil spills in the Baltic Sea and the Northeast Atlantic*. Report prepared for the Swedish Environmental Protection Agency and Swedish Agency for Marine and Water Management. January.

Enveco Environmental Economics Consultancy, EnviroEconomics Sweden, and IVL Swedish Environmental Research Institute. 2012. *An ecosystem service approach for analyzing marine human activities in Sweden: A synthesis for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive*. Prepared for the Swedish Agency for Marine and Water Management, Göteborg. Report 2012:8. ISBN 978-91-87025-08-2

Cole, Scott, Linus Hasselström, Fanny Engkvist, and Tore Söderqvist. 2012. *Using markets to supply ecosystem services – How to make it happen?* FORES Study 2012-3. ISBN: 978-91-979505-6-5

Söderqvist, Tore, Linus Hasselström, Åsa Soutukorva, Scott Cole, and Mikael Malmaeus. 2012. *An ecosystem service approach for analyzing marine human activities in Sweden: A synthesis for the Economic and Social Analysis of the Initial Assessment of the Marine Strategy Framework Directive*. Summary of comprehensive economic analysis for Swedish Environmental Protection Agency and Swedish Agency for Marine and Water Management.

Fejes, Jonas, Scott Cole, and Linus Hasselström. 2011. *The REMEDE Project: A Useful Framework for Assessing Non-Market Damages from Oil Spills?* Proceedings of the International Oil Spill Conference, Portland, Oregon, USA, May.

Ozdemiroglu, E., Kriström, B., Cole, S., Riera, P. & Borrego, D. A. 2009. *Environmental Liability Directive and the use of economics in compensation, offsets and habitat banking*. In: Proceedings of UK Network for Environmental Economists, London, England, March.

Lipton, J., K. LeJeune, J. Calewaert, E. Ozdemiroglu. 2008. *Toolkit for Performing Resource Equivalency Analysis to Assess and Scale Environmental Damage in the European Union*. Produced by the Resource Equivalency Methods for Assessing Environmental Damage in the EU (REMEDE) Team for the European Commission. September. (www.envliability.eu) Contributing authors: David Chapman, Jonathan Cox, Scott Cole, Pere Riera, Edward Brans.

Cole, S and B. Kriström. 2008. *Discounting*. Annex 5 in REMEDE Toolkit (Lipton et al 2008).

Cole, S and B. Kriström. 2008. *Economic theory of environmental compensation*. Annex 4 in REMEDE Toolkit (Lipton et al 2008).

Cole, Scott and Mike Taylor, 2005. *Economics of Wildlife and Waterfowl Habitat Enhancement, Duck Valley Indian Reservation*, report to the U.S. Department of Justice and Bureau of Indian Affairs, prepared by Northwest Economic Associates, April.

Fox, Alan and Scott Cole, 2005. *Estimating Regional Economic Impact of Restrictive Harvests – An application of IMPLAN to the Endangered Species Act*. Presented by Scott Cole at the Western Forest Economists Meeting, Wemme, OR, May 3.

Northwest Economic Associates, 2005. *Economic Analysis of Critical Habitat Designation for Three Populations of Bull Trout: Coastal-Puget Sound, Jarbidge River, Saint Mary-Belly River*. Under contract to Industrial Economics, Inc. prepared for U.S. Fish and Wildlife Service, Division of Economics, April.

Industrial Economics, Inc., 2001. *Economic Analysis of Critical Habitat Designation for the Monterey Spineflower*, Prepared for the U.S. Fish and Wildlife Service, Division of Economics, May.

Independent Theses

Cole, Scott. 2012. *Environmental Compensation is not for the Birds: Assessing social welfare impacts of resource-based environmental compensation*. Ph.D. Thesis, Department of Forest Economics, SLU Umeå. May (<http://pub.epsilon.slu.se/8874/>). ISBN 978-91-576-7665-8. Advisor: Prof. Bengt Kriström.

Cole, Scott. 2010. *Environmental compensation using Resource Equivalency Analysis (REA) and Habitat Equivalency Analysis (HEA): is it just for the birds?*. Licentiate Thesis, Department of Forest Economics, SLU Umeå. May (<http://pub.epsilon.slu.se/2281/>). ISBN 978-9186197-78-0. Advisor: Prof. Bengt Kriström.

Cole, Scott. 2008. *Assessing Public Preferences for Climate Policy Measures: A Choice Experiment Assessment*. Independent Masters Level Thesis, Umeå University, Department of Economics. Umeå Economic Studies Series No. 767. Third place winner of the "Green Thesis Award" in Sweden (Grön Uppsatstävling). Advisor: Prof. Runar Brännlund.

Cole, Scott. 2006. *Public Compensation for Environmental Damage: An application of the Environmental Liability Directive in Helsingborg, Sweden*. Independent Thesis (Level C Uppsats), Umeå University, Department of Economics. Advisor: Thomas Broberg, PhD. Candidate. Received the highest "Pass with distinction" grade.

Cole, Scott, 1999. *The Benefits of a Unique Public-Private Partnership to Conserve Florida Panther Habitat on Private Lands in Southeast Florida*. Senior Honor Thesis – Duke University, Nicholas School of the Environment. Advisor: Dr. Marie Lynn Miranda.

Presented:

Cole, Scott. 2015. *Gothenburg Marine Conf.* Invited Presentation, Workshop on Environmental Damage Assessment, CAEP. 20 April 2015. Beijing, China.

Cole, Scott. 2015. *Gothenburg Marine Conf.* Invited Presentation, Workshop on Marine Restoration. 3 February 2015. Gothenburg, Sweden.

Cole, Scott (with Per Moksnes). 2013. *Valuation of Ecosystem services provided by seagrass beds in Sweden.* Presented at CERF Conference, San Diego, California. 4 November.

Cole, Scott. 2013. *Evaluating alternative Payment for Ecosystem Services (PES) structures for mangrove ecosystems in Mui Ca Mau National Park (MCMNP).* Presented Vietnam's Mechanism of Payment for Coastal Ecosystem Services Workshop, Ca Mau, Vietnam. October.

Cole, Scott. 2013. *Environmental compensation – policy tool for valuing natural capital or a free ticket for developers?* (Ekologisk kompensation- styrmedel för värdering av naturkapital eller exploitörernas fribiljett?) Panel member discussant at seminar during Sweden's Almedalen political week, Gotland. 3 July.

Cole, Scott 2012. *Valuing marine ecosystem services affected by oil spills in the Baltic Sea and the Northeast Atlantic.* Report Presented for the Norwegian Coast Guard, Oslo, Norway. 11 January.

Cole, Scott. 2011. *Scaling resource-based compensation with Equivalency Analysis: Are we restricting social welfare?* Presented at the Society for Benefit Cost Analysis Annual Meeting, Washington, DC, October 21.

Cole, Scott. 2009-2012. *Ex post compensation for WTE impacts at the Smola Wind Farm: A application of Equivalency Analysis (EA).* Presented at Windpower and Wildlife Conference, Trondheim, Norway (May 2011); Raptor Research Foundation Conference, Fort Collins, Colorado (September 2010); and OffshoreWind 2009, Stockholm, Sweden (September 2009)

Cole, Scott. 2011. *Measuring society's welfare from environmental change -- What does money have to do with it?* Invited speaker at the Nordic Seagrass Network Workshop, Gothenburg, April.

Cole, Scott. 2011. *Trading loss for gain: What does an economist have to say about environmental compensation?* Organizer and speaker at two conferences on environmental compensation in Umeå (April) and Stockholm (October).

Cole, Scott. 2010. *Environmental compensation using Habitat Equivalency Analysis (HEA) & Resource Equivalency Analysis (REA): a non-monetary valuation approach.* Invited speaker at the Wadden Academy's "Towards a Trilateral Research Agenda" Symposium. Leeuwarden, The Netherlands. 8 December.

Cole, Scott. 2009. *PlusMinus project: A CBA handbook for environmental economists at the Swedish Environmental Protection Agency.* Presented at the Society for Benefit Cost Analysis annual meeting. Washington, DC, USA. 21 October.

Cole, Scott. 2009. *Providing compensatory restoration to offset impacts of land contamination - Applying the REMEDE Toolkit.* Invited speaker for the Network for Industrially Contaminated Land in Europe (NICOLE) annual meeting. Brussels, Belgium. 5 June.

Cole, Scott. 2009. *Environmental compensation within the Environmental Impact Assessment Process: How much is enough?* Invited lecturer for the Introduction to Environmental Impact Assessment Course, Swedish Environmental Impact Assessment Centre, SLU. Uppsala, Sweden. 20 April.

Cole, Scott. 2008/2009. *Environmental Compensation using the REMEDE Toolkit: How much is enough ? and Applying the REMEDE Toolkit: The H₂SO₄ acid spill in Helsingborg.* Invited speaker for the Network of EU Environmental Lawyers (NEEL) annual meeting, Prague, Czech Republic (7 April 2009); Invited speaker at the Conference on the Use of Resource Equivalency Methods for Remedying Environmental Damage Under Annex II, London, England (27 November 2008)

Cole, Scott. 2009. *Environmental compensation for wind power using Equivalency Analysis (EA)*. Invited lecturer for the Centrum för Vindbruk (Högskolan på Gotland). Strömsund, Sweden. 30 January.

Cole, Scott 2008. *Environmental Compensation using the REMEDE Toolkit: How much is enough?* Invited speaker at the Operators' Increased Environmental Liability Conference (Företagets utökad miljöansvar). Stockholm, Sweden. 26 August.

Cole, Scott 2008. *Climate Measures: What do People Prefer?* Masters Thesis presented at: Swedish Energy Authority (Energimyndigheten) in Stockholm 22 May; Swedish Business Center (Studieförbundet Näringsliv och Samhälle) in Stockholm 22 April; Green Thesis Competition (Grön Uppsatsävling) in Gothenborg, Sweden, 28 January 2009.

Cole, Scott 2008. *Cost Benefit Analysis of River Regulation in Sweden: A 3-year interdisciplinary project that aims to value instream flow*. Presented at the Instream Flows Symposium, Lacey, Washington, USA. June.