

Duke Environmental Law & Policy Forum

Volume X

Fall 1999

Number 1

EDITOR'S NOTE*

The *Duke Environmental Law & Policy Forum* is pleased to present papers from the Fourth Annual Cummings Colloquium on Environmental Law. The Cummings Colloquium was established in 1995 through a generous gift in honor of Jasper L. Cummings, Jr., a respected attorney from Raleigh, North Carolina. Each year, the Colloquium brings together scholars and practitioners of law, public policy, economics, and many other disciplines to discuss the most challenging contemporary environmental issues. The First Cummings Colloquium, held in April 1996, addressed the emerging non-equilibrium paradigm in ecology and its significance to environmental law and policy.¹ The Second Annual Cummings Colloquium, held in November 1996, examined the growing importance of comparative risk analysis as a tool for making environmental policy decisions.² The Third Colloquium, held in March 1998, investigated environmental politics to determine whether public choice theory adequately explains the emergence of environmental law and whether normatively desirable environmental law requires fundamental reform of the political system.³ The Fourth Annual Cummings Colloquium, "Global Markets for Global Commons: Will Property Rights Protect the Planet?," is presented in this issue. The Fifth Annual Colloquium

* Salvador K. Karottki, Editor-in-Chief, *Duke Environmental Law and Policy Forum*; Cummings Fellow in Environmental Law, 1999; candidate for Juris Doctorate and Master of Science in Mechanical Engineering degrees, May 2000. This note is also available at <<http://www.law.duke.edu/journals/10DELPFKarottki>>.

1. See Colloquy, *Beyond the Balance of Nature: Environmental Law Faces the New Ecology*, 7 DUKE ENVTL. L. & POL'Y F. 1 (1996).

2. See Colloquy, *Risk in the Republic: Comparative Risk Analysis and Public Policy*, 8 DUKE ENVTL. L. & POL'Y F. 1 (1997).

3. See Colloquy, *The Rents of Nature: Special Interests and the Puzzle of Environmental Legislation*, 9 DUKE ENVTL. L. & POL'Y F. 1 (1998).

on Environmental Law & Institutions,⁴ “Sustainable Governance: The Institutional Side of Sustainable Development,” to be held on April 27-28, 2000, will explore the role that governments, in addition to business firms, play in environmental sustainability.

The Fourth Annual Cummings Colloquium was held on April 30 and May 1, 1999, at the Washington Duke Inn and Duke University School of Law.⁵ The Colloquium was opened by Norm Christensen, Dean of Duke University’s Nicholas School of the Environment (NSOE); Pamela Gann, Dean of Duke University School of Law; and Jonathan Baert Wiener, Professor at Duke Law School and NSOE as well as Director of the Cummings Colloquia.

The keynote address was delivered by Nobel laureate Douglass C. North. Professor North spoke on the challenges of devising global institutions in the presence of uncertainty.⁶ He cautioned the Colloquium participants that many aspects of the world in which we live are non-ergodic;⁷ thus, those who seek to design effective institutions

4. The title of the Colloquium will be revised to incorporate its recent focus on institutions.

5. The Fourth Annual Cummings Colloquium was sponsored by Duke University School of Law, Duke University Nicholas School of the Environment, the Jasper L. Cummings, Jr. Fund, and the Office of the Provost at Duke University. Additional support was provided by the *Duke Environmental Law and Policy Forum* and the Duke Environmental Law Society. Professor Jonathan Baert Wiener, who holds appointments in both the Law School and the Nicholas School of the Environment, serves as director of the Colloquia. He is assisted each year by Cummings Fellows selected from the student body for their achievements and promise in the field of environmental law. The Cummings Fellows for 1999 were Salvador K. Karottki '00, joint degree student in the Duke University School of Law and Graduate School, and Peter A. Tomasi '01, joint degree student in the Duke University School of Law and Nicholas School of the Environment. The Fourth Annual Cummings Colloquium would also not have been a success without the guidance and assistance provided by Juliann Tenney, Director of Strategic Initiatives at Duke Law School; Patti Meyer, Coordinator of Strategic Initiatives at Duke Law School; and Kurt Meletzke, Office of External Relations.

6. Douglass C. North, *Dealing with a Non-Ergodic World: Institutional Economics, Property Rights, and the Global Environment*, 10 DUKE ENVTL. L. & POL'Y F. 1 (1999).

7. *See id.* at 1-3. The term “ergodic” is not in many dictionaries; however, there are definitions available in scientific texts and online. For example, *Science News Online* has the following definition for “ergodic:”

Ergodic: A term from statistical mathematics referring to a system that, after a sufficiently long time of wandering from one state to another, returns to states similar to previous ones. That a system being studied is ergodic is a standard assumption in modern dynamics, statistical mechanics, and atomic theory.

Science News Online, *Ergodic — A Definition* (last modified May 30, 2000) <http://www.sciencenews.org/sn_arch/10_5_96/Ergodic.htm>. The assumption is often made that a formal system under study is ergodic, and this assumption makes scientific inquiry possible. When in-

to battle global environmental problems need to tread carefully. Professor North then fielded questions from Colloquium attendees; this session was moderated by Michael C. Munger, Professor of Political Science at Duke University.

The first panel focused on applying lessons from the theory of communal property systems and from institutional change at the local level to institutional evolution at the global level. This panel was moderated by Robert O. Keohane, James B. Duke Professor of Political Science at Duke University, with joint appointments in the Department of Political Science and NSOE. Carol M. Rose, Professor of Law and Organization at Yale University, presented her paper⁸ comparing common property regimes (CPRs) and tradable environmental allowance (TEA) systems. Then, Bruce Yandle, Professor of Economics and Legal Studies at Clemson University, presented his paper on global institutional change and the possible evolution of private property rights at the international level.⁹ These presentations were followed by comments from Margaret McKean, Professor of Political Science at Duke University, and Donald T. Hornstein, Reef Ivey II Professor of Law at the University of North Carolina School of Law.

After lunch, the second panel, moderated by Jonathan Wiener, addressed the application of local experience with privatization and private property rights to the global context. Terry L. Anderson, Professor of Economics at Montana State University and Executive Director of the Political Economy Research Center (PERC),¹⁰ presented

volved in the enterprise of science or daily life, individuals assume that nature is reliable and works in the same way, time after time; they assume that the world is ergodic.

However, if the behavior of a system is incomprehensible, then the system is non-ergodic. See Principia Cybernetica Web, *Non-Ergodic* (last modified Nov. 13, 1998) <<http://pespmc1.vub.ac.be/ASC/Non-Ergodic.html>>. A system may be incomprehensible because there is no repetition of observed states, e.g., there are only unique transient states, or because the system lacks stabilities, e.g., when transition probabilities are so variable that there are not enough observations available to ascertain them. See *id.* Evolution and social processes involving structural changes are inherently non-ergodic. See *id.* To understand such non-ergodic behavior requires either reference to the underlying organization of a system or the study of large sample systems of the same kind. See *id.*

8. Carol M. Rose, *Expanding the Choices for the Global Commons: Comparing Newfangled Tradable Allowance Schemes to Old-Fashioned Common Property Regimes*, 10 DUKE ENVTL. L. & POL'Y F. 45 (1999).

9. Bruce Yandle, *Grasping for the Heavens: 3-D Property Rights and the Global Commons*, 10 DUKE ENVTL. L. & POL'Y F. 13 (1999).

10. Professor Anderson is also the Martin and Illie Anderson Senior Fellow at the Hoover Institution at Stanford University.

his paper¹¹ concerning whether effective property rights could be created under international law and whether such rights should be created top-down or bottom-up. His paper was co-authored by J. Bishop Grewell, Research Associate at PERC. Then, Daniel H. Cole, M. Dale Palmer Professor of Law at Indiana University School of Law (Indianapolis), introduced his paper¹² outlining four propositions about property rights and concluding that property rights may have limited utility for international environmental protection. These presentations were followed by a spirited discussion in which V. Kerry Smith, Professor of Environmental Economics at Duke University, and Catherine A. Admay, Lecturing Fellow at Duke University School of Law, as well as other Colloquium attendees commented on the papers.

After having discussed the applicability of local property rights solutions to the global commons, the second day of the Colloquium examined the construction of effective international environmental agreements and integrating an international emissions trading system into the current structure for world trade. The third panel focused on constructing effective international agreements to combat global climate change and examined the Kyoto Protocol in light of current thinking in international relations. This panel was moderated by Christopher H. Schroeder, Professor at Duke University School of Law. Scott Barrett, Professor at the Paul H. Nitze School of Advanced Studies at Johns Hopkins University, presented his paper¹³ on the lessons that the Prisoners' Dilemma (PD) offers to international negotiators. Then, David G. Victor, Senior Fellow in Science and Technology at the Council on Foreign Relations, introduced his paper¹⁴ examining the record of compliance with and enforcement of international environmental agreements. He ultimately concluded that a system promoting development of new energy technologies is much more likely to reduce the threat of global warming than emissions trading systems. These presentations were followed by comments

11. Terry L. Anderson & J. Bishop Grewell, *Property Rights Solutions for the Global Commons: Bottom-Up or Top-Down?*, 10 DUKE ENVTL. L. & POL'Y F. 73 (1999).

12. Daniel H. Cole, *Clearing the Air: Four Propositions about Property Rights and Environmental Protection*, 10 DUKE ENVTL. L. & POL'Y F. 103 (1999).

13. Scott Barrett, *International Cooperation and the International Commons*, 10 DUKE ENVTL. L. & POL'Y F. 131 (1999).

14. David G. Victor, *Enforcing International Law: Implications for an Effective Global Warming Regime*, 10 DUKE ENVTL. L. & POL'Y F. 147 (1999).

from Robert Keohane and Carol A. Mansfield, Assistant Professor of Environmental Economics at NSOE.

The fourth panel, moderated by Jonathan Wiener, discussed how to make global environmental markets work, given current national and international legal systems. Annie Petsonk, International Counsel for the Environmental Defense Fund (EDF),¹⁵ presented her paper¹⁶ on integrating environmental market commodities into the world trading order. Then, Barbara Connolly, Assistant Professor of Political Science at Tufts University, made a presentation regarding integrating emissions trading into national and local legal/social systems. These presentations were followed by comments from Randall A. Kramer, Professor of Resource and Environmental Economics at NSOE, and Stephen M. Wallenstein, Executive Director of the Global Capital Markets Center at Duke University.

After lunch, the final session, moderated by Jonathan Wiener, was an extended, open discussion by Colloquium participants at Duke University School of Law. The discussion addressed issues raised during the Colloquium and topics for future inquiry.

The *Duke Environmental Law & Policy Forum* thanks all of the participants in the Fourth Annual Cummings Colloquium. It is an honor to have such excellent minds and knowledgeable scholars address an issue of such import in our forum.

15. The Environmental Defense Fund has since shortened its name to Environmental Defense.

16. Annie Petsonk, *The Kyoto Protocol and the WTO: Integrating Greenhouse Gas Emissions Allowance Trading into the Global Marketplace*, 10 DUKE ENVTL. L. & POL'Y F. 185 (1999).