

## **Response from Lant, Ruhl, and Kraft**

Authors: Lant, Christopher L., Ruhl, J. B., and Kraft, Steven E.

Source: BioScience, 59(2) : 102

Published By: American Institute of Biological Sciences

URL: <https://doi.org/10.1525/bio.2009.59.2.21>

---

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](http://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

serving but irrational ideas that harm society—a case of negative externality. Caplan (2007) has found that voters have systematic biases that do not cancel out as simple random errors would. This leads to systematically bad policies. The same kind of analysis of self-interest and positive and negative externalities applies to politicians (who promise and enact policies that are popular instead of optimal), bureaucrats, and lobbyists.

Thus, Lant and colleagues want to address the externalities of commercial markets by creating a system that is also plagued by externalities. Political institutions will solve some problems, worsen others, and create new ones. Whether they work better or worse overall than traditional voluntary markets is an open, empirical question.

I agree with Lant and colleagues that some free-market mechanisms help to internalize externalities. As they discuss in more detail, a mechanism that may work at the local level is property bundling. Externalities and inefficiency arise when the spatial scale of environmental effects is larger than the size of properties. One way to internalize externalities is to increase the size of properties or to have lands potentially linked by externalities owned by a single individual, firm, or community. Property law should indeed evolve to facilitate forms of ownership that better deal with new environmental challenges.

MARCELINO FUENTES

Marcelino Fuentes (e-mail: [marcelinofuentes@gmail.com](mailto:marcelinofuentes@gmail.com)) is with the Facultad de Ciencias, Universidade da Coruña, in Spain

## References cited

- Caplan B. 2007. *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*. Princeton (New Jersey): Princeton University Press.
- Lant CL, Ruhl JB, Kraft SE. 2008. The tragedy of ecosystem services. *BioScience* 58: 969–974.
- doi:10.1525/bio.2009.59.2.20

## Response from Lant, Ruhl, and Kraft

Professor Fuentes raises a number of interesting points in response to our Forum article titled “The Tragedy of Ecosystem

Services” (Lant et al. 2008), in which we present three approaches for dealing with the underprovision of ecosystem services: (1) the evolution of property rights, (2) reforming economic incentives, and (3) the development of ecosystem service districts. Addressing the second and especially the third remedy, Professor Fuentes argues, on the basis of Caplan (2007), that democratic political processes suffer from the “rational irrationality” of voters, derived from their lack of incentive to be informed on political issues and the systematic bias in the information they do use.

Caplan’s thesis, however, is only one of many perspectives of voter behavior. Granted, voters and politicians today generally have a limited understanding of ecosystem services. That said, when scientists creatively engage voters and politicians—as they could do more effectively in demonstrating, for example, that lost wetlands could have significantly mitigated the storm-surge damages of \$85 billion or more from Hurricanes Katrina and Rita (Colgan and Adkins 2006) and the \$12 billion to \$16 billion in property damages from the 1993 Mississippi floods (Galloway 1995)—constituencies can develop to protect and enhance such ecosystem services. What voters perceive as rational, in other words, is not beyond the influence of new information effectively presented about the connection between the environment and their pocketbooks.

Where circumstances allow, we agree that the difficult work of constructing markets does provide advantages, including a measure of economic rationality for both providers and beneficiaries of ecosystem services that voters and politicians sometimes lack (see Forest Trends et al. 2008, Willamette Partnership 2008, Wunder et al. 2008), but there are many instances in which the public sector is the most appropriate ecosystem service provider. We also agree with Professor Fuentes’s suggestion that increasing the size of private or public property holdings can lead to political inequalities, but the evolution of property rights cannot be left out of the picture. Developing common property institutions, ecosystem service easements, and other institutional designs for new property configurations embracing ecosystem services are worth exploring.

Ultimately, however, and despite its flaws, actively engaging the political process in the importance of ecosystem services to human welfare is necessary, if the externalities envisioned by Professor Fuentes are not to result in the accelerating degradation of natural capital and the consequent loss of ecosystem services. Constructed markets and new theories of property rights are not sustainable if they do not enjoy legitimacy in the political realm.

CHRISTOPHER L. LANT

J. B. RUHL

STEVEN E. KRAFT

Christopher L. Lant (e-mail: [clant@siu.edu](mailto:clant@siu.edu)) is with the Department of Geography and Environmental Resources, and Steven E. Kraft is with the Department of Agribusiness Economics, at Southern Illinois University. J. B. Ruhl is with the College of Law at Florida State University.

## References cited

- Caplan B. 2007. *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*. Princeton (New Jersey): Princeton University Press.
- Colgan CS, Adkins J. 2006. Hurricane damage to the ocean economy in the U.S. gulf region in 2005. *Monthly Labor Review* 129 (8): 76–78.
- Forest Trends, Katoomba Group, and United Nations Economic Programme. 2008. *Payments for Ecosystem Services: Getting Started—a Primer*. Nairobi (Kenya): Forest Trends, Katoomba Group, and United Nations Economic Programme. (28 December 2008; [www.unep.org/pdf/PaymentsForEcosystemServices\\_en.pdf](http://www.unep.org/pdf/PaymentsForEcosystemServices_en.pdf))
- Galloway GE Jr. 1995. Learning from the Mississippi flood of 1993: Impacts, management issues, and areas for research. Paper presented at the U.S.-Italy Research Workshop on the Hydro-meteorology, Impacts, and Management of Extreme Floods; November 1995, Perugia, Italy. (28 December 2008; [www.engr.colostate.edu/~jsalas/us-italy/papers/12galloway.pdf](http://www.engr.colostate.edu/~jsalas/us-italy/papers/12galloway.pdf))
- Lant CL, Ruhl JB, Kraft SE. 2008. The tragedy of ecosystem services. *BioScience* 58: 969–974.
- Willamette Partnership. 2008. *Increasing the Pace, Expanding the Scope, and Improving the Effectiveness of Conservation*. [Extensive web materials on the mechanics of setting up a market in ecosystem services.] (28 December 2008; [www.willamettepartnership.org/](http://www.willamettepartnership.org/))
- Wunder S, Engel S, Pagiola S. 2008. Taking stock: A comparative analysis of payments for environmental services programs in developed and developing countries. *Ecological Economics* 65: 834–852.

doi:10.1025/bio.2009.59.2.21