AERE NEWSLETTER

Association of Environmental and Resource Economists (AERE) *Vol. 30, No. 1* *May 2010*

FROM THE PRESIDENT…

Now that the spring semester is over (at least for many of us) and we look ahead to the summer, I want to take this opportunity to bring everyone up to date on AERE-related news and exciting things to come. Here is a recap and a preview.

AERE Election and Upcoming By-laws Vote

In the election last fall, AERE elected several new members to the Board. First and foremost, Cathy Kling (Iowa State University) was elected to be the next AERE President. This year Cathy serves on the Board as President-elect. I will pass the baton to her on January 1, 2011, just in time for the AERE Board meeting in Denver. We also elected a new Vice President, Vic Adamowicz (University of Alberta), who started his two-year term in January of this year. In addition, Chris Costello (UC-Santa Barbara) and Paul Ferraro (Georgia State University) were both elected to three-year terms on the Board. Thanks to all of them for their willingness to serve. I also want to thank those who ran but were not elected. As I've said before, we had a great slate of candidates and it is a shame we could not elect them all! Many thanks also to our out-going vice president, Laura Taylor, and Board members Larry Goulder and Carol McAusland, for their dedication and service over the past few years.

The October 2010 ballot will include a vote on a by-laws change which was approved by the board at its January 2010 Board Meeting. The proposed change is designed to correct an inconsistency in the AERE By-Laws regarding Board membership. With this change, the Past-President would serve for only one year, stepping down when the President-elect comes onto the Board. This will ensure that the Board always consists of eleven voting members. (Under the current By-Laws, the number fluctuates between eleven and twelve.)

Finally, as you know, for the first time, the October election was held electronically. As far as we know, everything went very smoothly, so you can expect future elections to be conducted this way as well, thereby saving both money and trees.

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AERE Awards

At the AERE Luncheon in Atlanta this past January, several awards were given to honor outstanding contributions to our field. The most notable of these were the AERE Fellow awards. The **2009 AERE Fellows** were Richard Carson (UC-San Diego), Charlie Kolstad (UC-Santa Barbara), and Rob Stavins (Harvard). I know I speak for the entire membership in thanking these three individuals for their significant and sustained contributions both to the profession as a whole and to AERE. If you weren't able to attend the luncheon, you can go to the AERE website to read the luncheon statements that summarize those contributions (http://www.aere.org/honors/). The AERE Fellows are selected by the AERE Board from nominations submitted by AERE members. As always, I urge you to consider nominating individuals (e.g., colleagues, collaborators, mentors) who you think are deserving of this important recognition. Information about nominations appears on p. 8.

A second award presented at the luncheon was the new award for the best recent *JEEM* paper. This award is designed to honor an outstanding recent research contribution published in *JEEM*. Last year the Board voted to name this new award the ***Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the Journal of Environmental Economics and Management***, in honor of the significant role that Ralph d'Arge and Allen Kneese played as founders of AERE. The first award went to Ryan M. Kellogg (University of Michigan) and Hendrik G. Wolff (University of Washington) for their paper "Daylight Time and Energy: Evidence From an Australian Experiment," which appeared in the November 2008 issue of *JEEM*. Congratulations to Ryan and Hendrik for this well-deserved recognition! (See p. 7 for further details.) And thanks to the committee that selected the 2009 recipient(s): Chuck Mason (Editor of *JEEM*), Arik Levinson (an Associate Editor of *JEEM*), and Spencer Banzhaf (Georgia State University), who served as the AERE representative). Nominations for this award can come from either the general AERE membership or the *JEEM* editorial staff. So if you read a paper in *JEEM* that you find particularly innovative or insightful, please consider nominating it for this award (see p. 9).

The final award presented at the Luncheon was the ***Publication of Enduring Quality*** Award. It is with some awkwardness that I report that this year, I received the award for my paper "Uncertainty and Incentives for Nonpoint Pollution Control," which was published in *JEEM* back in 1988. I assure you this was not an "inside job!" I was very surprised (and, of course, honored) to receive this recognition. (Additional details are on page 6.) The selection committee was Douglass Shaw, chair (Texas A&M), Cathy Kling (Iowa State), and Ray Palmquist (North Carolina State University). Both personally and on behalf of AERE, I want to thank the members of the committee for their work.

New Format for AERE Luncheon

As you know, the AERE Awards have historically been presented at the annual AERE luncheon at the ASSA meetings. However, with the decision to expand the AERE Workshop into a full-blown AERE Summer Conference (see details below), it seems appropriate to move the AERE Awards Ceremony, as well as the AERE business meeting (including all the various reports) to the summer conference. As a result, starting in 2011, the awards will now be presented at an award ceremony at the summer conference. We will continue to have the annual AERE luncheon at the ASSA meetings but the program for the luncheon will no longer include the AERE business meeting and awards ceremony. Instead, it will simply include announcements and a new (short!) AERE Fellows Talk. This talk is intended to be an opportunity for a previously elected fellow to briefly share some of his or her past experiences, reflections, or research with other AERE members. The objective is to have a much shorter program to allow more time for those attending the luncheon to socialize and interact with other members. (In recent years, the luncheon program has been so full, which means quite long, that members have not had much time for this.)

The decision to move the AERE Awards Ceremony to the summer conference means that the deadlines for award nominations have been changed. The new deadlines have been pushed back to November 1, 2010 (see details on pp. 8 and 9) so there is still plenty of time to submit nominations for all of the awards.

New AERE Summer Conference

Please mark your calendars to attend the first AERE Summer Conference which will be held on June 9-10, 2011 in Seattle, Washington. The best way to describe the conference is as an expansion of the old AERE Workshop to include concurrent sessions on a broader set of topics. The conference is being organized by a committee consisting of Laura Taylor (NCSU), Max Auffhammer (UC-Berkeley), and representatives of the workshop's sponsors (Norman Meade from NOAA, Marca Weinberg from USDA/ERS, John Charbonneau from the U.S. Fish and Wildlife Service, and a representative from the U.S. EPA).

The AERE Workshop always focused on a single topic and all selected and invited presentations at the

workshop were on that theme. While there are many benefits from such a format, the focus on a single topic has limited or precluded participation by AERE members not working directly in that area. In addition, while AERE sponsors sessions at various other meetings (and will continue to do so), there is no single venue for a broad cross-section of AERE members to come together in a single meeting to interact and share research. For the last few years, the Board has been considering the idea of having a single summer conference for this purpose, and, at its January meeting, the Board approved a proposal to do so. However, since we didn't want to lose the benefits of the workshop format, the proposal that the Board approved included elements of both the workshop and a more general conference.

In an attempt to combine the best of both worlds, the format for the summer conference will include both "themed" and open sessions. The themed sessions will all focus on a single topic, comparable to the AERE Workshop, and will include both selected and invited presentations (with travel support and honoraria for presenters). The open sessions would be comparable to selected paper sessions at other meetings, where an individual session would include papers on a similar topic, but there would be no over-arching theme across these sessions. (Presenters at the open sessions would not receive travel support.) More information about the theme chosen for the 2011 conference and the call for papers for the open sessions at the conference will be sent to all members sometime in the fall.

We are hoping for a strong turnout at the first conference in Seattle next summer. We recognize that expanding the AERE Workshop to be a more general conference involves some uncertainty (for example, about attendance, given limited travel budgets and potential competition with other meetings) and some Board members expressed concern about this. But our hope is that the opportunity to come together for a dedicated period of time as a community of environmental and resource economists will generate sufficient attendance to make the summer conference a success. Many members have expressed an interest in having such a meeting and we feel it will provide a new and exciting benefit from AERE membership. There are certainly other field-specific and regional associations that hold a separate meeting for their membership and participate in larger meetings such as the ASSA meeting. The hope is that we will be successful doing this as well. Nonetheless, we are moving cautiously to minimize financial risk. We should learn a lot from our first conference, which will obviously be useful in planning for future years.

Upcoming World Congress

I hope that you have all already registered for the 4th World Congress of Environmental and Resource Economists (www.wcere2010.org), which will be held in Montréal next month (June 28-July 2). The initial registration deadline was May 7 but it is still possible to register late. The organizing committee has done a great job of planning this event. With over 1700 abstracts submitted from around the world, the program committee faced a difficult task in selecting papers for inclusion on the program. The detailed program will be available by the end of May. In addition to selected papers, the program includes keynote addresses by Daron Acemoglu (Massachusetts Institute of Technology), Richard Schmalensee (MIT), Simon Levin (Princeton University), and Jean Tirole (University of Toulouse). Social events include a welcome reception, a general reception at the Montréal Science Center, and a dinner at Windsor Station, one of Montréal's historic landmarks. The Congress also overlaps with the Montréal Jazz Festival so it should be an exciting time all around.

Other AERE-Sponsored Sessions

In addition to the World Congress this summer and the new AERE Summer Conference next summer, AERE will continue to sponsor sessions at its other venues. These include the meetings of the Allied Social Science Associations (ASSA), the Agricultural & Applied Economics Association (AAEA), the Southern Economic Association (SEA), and occasionally the Western Economic Association International (WEAI). Details for submitting papers for these sessions are always posted on the AERE webpage. This means that there are now more opportunities than ever for AERE members to share their work with others both within and outside our field.

Two questions that have been raised are whether there are enough good papers to fill all these slots, and whether people can, or simply will, submit the same paper to multiple venues, leading to too much duplication. With regard to the first question, there never seems to be an issue with filling the ASSA slots, and the large number of submissions to the World Congress (despite a hefty registration fee) suggests that there is a sizable pool of people looking for an opportunity to present at a "centralized" meeting like our new summer conference. As for the other venues, individuals tend to submit papers for sessions at these meetings when they have a particular connection to or interest in the sponsoring organization and this is likely to continue in the future. Nonetheless, if we see a reduction in submissions for any of these meetings, we may need to adjust the number of sessions we sponsor there. As for the second

question about duplication, we don't anticipate a major problem with this, since with numerous sessions at a variety of venues, the likelihood that a majority of the audience in any given session would have heard some paper presented elsewhere seems small.

New AERE Management

By now, many of you have probably already had an opportunity to experience the new AERE web-based membership management system. This is a reflection of the new AERE management structure. As you may recall, our contract for administrative services with EDI, Inc. was set to expire this past January and it was not renewed. The services that EDI used to provide are now being provided by VanDer Management, a small association management firm based in the D.C. area. The firm is run by Lynn Van Norstrand and Susanne Dieper. We are very pleased to have Lynn and Susanne as part of the AERE management team. Marilyn Voigt continues to serve as our Executive Director, and Lynn and Susanne provide administrative support focused primarily on membership services, financial accounting, and event and webpage support.

As part of this move to a new management regime, VanDer Management and Marilyn worked very hard to set up the new web-based membership management system available from Avectra (www.avectra.com). The new system allows members to join, renew, and manage their membership profiles on-line. (Please see the easy instructions on p.10 to update your personal profile.) This should increase both member services and administrative efficiency. (In the past, membership information that was provided through our website was still processed manually by EDI.) While membership management was our primary motivation for moving to Avectra, over time we will be looking to use the software for other administrative tasks as well, including registration for AERE events such as the annual luncheon and summer meeting.

AERE and *JEEM*

We continue to try to find a mutually satisfactory relationship between AERE and Elsevier, the publisher of *JEEM*. *JEEM* is the "official" journal of AERE, but it is somewhat unclear (to both the Board and Elsevier) exactly what that means, especially now that AERE memberships and *JEEM* subscriptions have been decoupled (meaning that membership in AERE is no longer tied to a *JEEM* subscription). Under our current arrangement, AERE identifies and vets an editor for *JEEM*, and AERE members provide much of the manuscript reviewing; in exchange, Elsevier offers discounted *JEEM* subscriptions to AERE members. However, both Elsevier and the Board are asking questions about what we get from our relationship. This past year very few AERE members purchased the discounted subscriptions, which disappointed Elsevier since they did not generate the revenue from AERE-based subscriptions that they had anticipated. On the flip side, the Board has raised the question of what AERE receives for the services it provides to *JEEM* (and hence Elsevier). It is clear that some associations (e.g, the Agricultural & Applied Economics Association (AAEA)) generate considerable profit from the journals they own (e.g., *AJAE*). Yet, because AERE does not own *JEEM* (Elsevier does), we generate no income from it. Some people have suggested that AERE should start its own journal rather than continue its relationship with Elsevier. The Board met with our Elsevier representative at its January Board meeting to discuss these questions. While there was no resolution at that meeting, I think both sides came away with a better understanding of the other side's view.

One thing is clear: the publishing world has changed drastically over the past decade since our last *JEEM* contract was signed, on both the demand and the supply sides. In light of this, it seems to be an appropriate time to revisit our arrangement with Elsevier and see if we can come to an agreement that both sides view as mutually beneficial. Now is a particularly opportune time for this, since Chuck Mason is stepping down as *JEEM* editor and we are looking for a replacement for him. Thus, we will be working over the next few months to either resolve our differences with Elsevier or explore other avenues for publication of scholarly work in our field.

REEP

The *Review of Environmental Economics and Policy* (*REEP*) notified me recently that *REEP* is now included in the Social Sciences Citation Index, the multidisciplinary index to the journal literature of the social sciences and will receive a 2009 Impact Factor. This is wonderful news. ISI puts journals through a rigorous acceptance process and rarely accepts a title that is so young. Being accepted is a true testament to the high level of content that is being published in REEP. The 2009 impact factors will be released in the summer of 2010.

In Closing

As you can see from the above, there are some significant changes underway at AERE. The aim is to better serve the membership and we are always looking for ways to do that. Sometimes that means taking some risks (for example, in launching the new AERE Summer Meeting) without knowing exactly how things will turn out. But that is how AERE was founded over thirty years

ago. That was obviously a risk that paid off and we hope the same is true for some of the changes currently underway.

I think the biggest issue that needs to be resolved over the next several months is our contract with Elsevier. I will begin working on this in earnest within the next few weeks. If anyone has any thoughts on this, please share them with me or a member of the Board. The more input we have as this process unfolds, the better.

Finally, on behalf of AERE, I want to thank our six Institututional and 32 University 2010 members (as well as individual AERE members who helped secure the memberships). See p. 11 for a complete listing of these valued contributors. Institutional/University support is critical to the continued success of AERE. If your institution or university is already on the list, thank you! If not, it is not too late to join. This is a great way for institutions and universities to help advance work in our field and, in exchange, receive some valued benefits. See the details on p. 10. We'd welcome any help in trying to expand this important source of support (for more information, go to http://www.aere.org/membership)

I hope everyone has a wonderful summer. Given the evidence on the mental health benefits of "green exercise" (see Barton and Pretty, *Environ. Sci. Technol.* 44(10), 2010), we could all probably use some time in the outdoors!

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AERE NEWS

AERE FELLOWS 2009

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Harvard University

Click on each name above for the text of award presentations.

AERE PUBLICATION OF ENDURING QUALITY AWARD 2009

The selection committee for the Publication of Enduring Quality Award for this year included Douglass Shaw, chair (Texas A&M University), Cathy Kling (Iowa State University), and Ray Palmquist (North Carolina State University). After much careful deliberation, the committee selected the winning paper for 2009. The **2009 Award** was given to Kathleen Segerson (University of Connecticut) for:

"Uncertainty and Incentives for Nonpoint Pollution Control," ***Journal of Environmental Economics and Management,*** **15(1988): 87-98.**

This award was presented at the AERE Annual Luncheon Meeting in Atlanta, Georgia on January 4, 2010. The following remarks were given by Cathy Kling:

I am pleased to present the 2009 award for the Publication of Enduring Quality to Kathleen Segerson for her 1988 paper, "Uncertainty and Incentives for Nonpoint Pollution Control," which was published in the Journal of Environmental Economics and Management, Volume 15: 87-98.

When first notified, Dr. Segerson refused the award, for fear of conflict of interest concerns considering that she is currently AERE president. The committee gave her a revise and resubmit. We insisted she accept—this is not the first time this paper has been nominated and, given that there are no AERE bylaws restricting the recipient of this award, it seemed mightily unfair that she should be penalized for her public service.

As to the importance of the paper, according to the EPA, nonpoint source pollution continues to be the largest remaining source of water quality problems in the nation and is an issue that economists have struggled with for many years. Dr. Segerson's paper was the first to incorporate the fundamental characteristics of nonpoint source pollution into a formal theoretical model to study efficient tax schemes, specifically recognizing that individual emissions and abatement levels cannot be observed or easily monitored. Because the effect of emissions on ambient concentrations is uncertain due to weather and other random variables, the tie between ambient concentrations and individual emissions from any single polluter cannot be established. Therefore, abatement efforts need to be viewed as shifting the probability distribution rather than being deterministic.

Using these characteristics, Dr. Segerson modeled and derived the conditions for efficient tax and subsidy schemes in both the short and long run. Her research finds the initially somewhat counterintuitive result that with multiple polluters under risk, the optimal tax or subsidy has each polluter paying the full marginal benefit of a reduction in ambient pollution. This result and the modeling structure she developed have contributed to improved understanding of the efficient design of policies to address nonpoint source pollution.

Evidence of the substantive impact that this paper has had within our profession is the 134 citations listed in the Web of Science. Please join me in thanking Dr. Segerson for this excellent contribution to our discipline.

AERE BEST *JEEM* PAPER 2009

The Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the *Journal of Environmental Economics and Management*

Ryan M. Kellogg and Hendrik G. Wolff, "Daylight Time and Energy: Evidence From an Australian Experiment," vol. 56 (3), 2008.

The authors, Ryan Kellogg (University of Michigan) and Hendrik Wolff (University of Washington), challenge a perceived wisdom going back to Benjamin Franklin–that shifting the clock can save energy. Based on this conventional wisdom, several countries have sought to extend Daylight Savings Time (DST) in an effort to reduce energy demand and hence slow the release of greenhouse gases. However, whether, or to what extent, this will actually reduce energy use is an empirical question. The paper shows that in one prominent case, it did not. Using a unique quasi-experiment in which part of Australia extended DST because of the summer Olympics in Sydney, the authors conduct a novel analysis of the effect of DST on electricity demand. Their results show that the extension of DST reduced electricity demand in the evening but increased demand in the morning, thereby yielding no overall net reduction. The implication is that the U.S. experiment, and California's proposed extension, are unlikely to be effective means of reducing energy use As such, this paper offers clear and important policy implications.

See photo on the AERE Web.

AERE AT THE AAEA/CAES/WAEA

Registration and information about the joint annual meeting of the Agricultural & Applied Economics Association (AAEA), the Canadian Agricultural Economics Society (CAES), and the Western Agricultural Economics Association WAEA in Denver, Colorado on July 25 - 27, 2010 is available on the AAEA home page at: www.aaea.org. **Wednesday, June 22, 2010**, is the deadline for early registration. See the AERE Sessions on p. 15.

JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT (*JEEM*)

Managing Editorship of *JEEM*

After completing his five-year term as managing editor of *JEEM*, Chuck Mason will be stepping down from this position. The AERE Board has begun the search for a new managing editor. It is hoped that the new editor's term will begin officially on January 1, 2011.

This announcement seeks proposals from individuals interested in assuming the responsibility of managing editor. Although *JEEM* has been edited by a single managing editor with help from many co-editors, this search will not rule out, *a priori*, proposals from individuals who may wish to serve as an editorial team. In such cases, the coordinating arrangement must be spelled out carefully in the proposal. It is also possible that the AERE Board will require one individual on the team to be designated as lead editor.

Proposals should include:

- Curriculum vita(s) of proposed editor(s), including evidence of substantive participation in and contributions to the discipline of environmental and resource economics;
- Detailed information on how the editorial tasks will be organized and accomplished;
- Information on the other commitments of the individual(s) and the time that the individual(s) can commit to the editorial task;
- Evidence that the institution(s) of the proposed editor(s) will support, at the minimum, release time and space requirements needed for the editorship. Information on any additional resources that can be provided by the institution would be useful but not required;
- Any future plans that may bear on the usual five-year term that is currently expected.

Proposals should be sent by e-mail to the AERE President:

Kathleen Segerson
kathleen.segerson@uconn.edu
Subject Line: JEEM Editor

Proposals must be received by **June 1, 2010** to receive full consideration. Please direct any questions about the position to Kathy Segerson by e-mail (kathleen.segerson@uconn.edu) or phone (860-486-4567).

AERE SUMMER CONFERENCE

AERE is pleased to announce the first annual AERE Summer Conference to be held **June 9 and 10, 2011** in Seattle, Washington. The Summer Conference will be held annually between world congresses. It will expand upon, and replace, the traditional AERE Workshop held in past years. The AERE Workshop has been a great success through the years by providing a small group of members an intimate atmosphere in which to present research focused on one topic area.

Thanks to continued generous support by the National Oceanic Atmospheric Administration, the U.S. Department of Agriculture, Economic Research Service, the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency, the new AERE Conference will retain some features of the AERE Workshop. One track of sessions will have a specific theme, keeping tradition with the workshop. The keynote address of the conference will focus on that theme. However, the expanded format will have parallel sessions drawn from an open-call for papers, much like the call for papers for the world congress. This new expanded format will provide the membership an opportunity to participate in a conference showcasing the current research of all AERE members. In addition, the AERE board meeting and awards program will be held at the annual conference, although AERE will continue to sponsor a luncheon at the ASSA winter meetings. The organizers for the 2011 Summer Conference are Laura Taylor (NCSU) and Max Auffhammer (Berkeley). A formal call for papers will be issued this fall, which will announce the chosen theme, exciting social program and more specific details on the venue. Any comments or suggestions can be sent to:

Max (Auffhammer@berkeley.edu) or
Laura (lotaylor@ncsu.edu).

We look forward to seeing you in Montreal and Seattle!

Max Auffhammer
Laura Taylor

NOMINATIONS FOR AERE BOARD MEMBERS

This year, AERE members will vote for two new members of the Board of Directors who will serve for three years beginning in January 2011. The nominations are being handled by a committee chaired by AERE Vice President Vic Adamowicz (of Alberta University) and elections will occur in the fall of 2010. See the end of this newsletter for the list of current AERE Officers and Board members.

Nominations may also be made by the membership through petitions, each of which contains signatures of 5% of the association's members who are then in good standing. Such petitions should be sent to arrive at the AERE Secretary's (Sarah Stafford) address no later than **August 1, 2010**.

Vic Adamowicz
Department of Rural Economics
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Edmonton, AB T6G 2H1
Canada
Email: vic.adamowicz@ualberta.ca

AERE FELLOWS 2010 CALL FOR NOMINATIONS

This program recognizes outstanding contributions to the field by members of the association. Details are given below.

Criteria: Awardees will have demonstrated a significant contribution to the advancement of the profession of environmental and resource economics. A candidate must be living at the time of nomination and be a current member of the association or have been a member for at least ten years (not necessarily continuously).

Nomination Process: Any member of AERE can nominate a candidate for Fellow. A nomination packet should include a vita of the nominee, three letters of support, and a two-page nomination letter outlining what contributions the individual has made that warrant the award. In addition, members of the AERE Board of Directors can consider candidates that have not been otherwise nominated that they feel are especially worthy.

Selection Process: Nomination packages are to be submitted **by November 1, 2010,** to:

Dr. Kathleen Segerson
Department of Economics
University of Connecticut
Storrs, CT 06269-1063
kathleen.segerson@uconn.edu
Subject Line: AERE Fellow Nomination

The president will distribute copies to each of the Board members who will select newly appointed Fellows from the set of nominations. Announcements of the new Fellows will be made formally at the annual AERE luncheon; newly elected Fellows will be notified ahead of time to provide ample time for travel arrangements. In future years, a separate Fellows Committee may be impaneled to aid in the initial screening of candidates.

Maximum Number of Awards: Three for 2010

AERE Fellows 2009
Richard T. Carson
Charles D. Kolstad
Robert N. Stavins

AERE Fellows 2008
Thomas Crocker
A. Myrick Freeman III
Alan Randall

AERE Fellows 2007
Daniel W. Bromley
Gardner M. Brown, Jr.
Charles W. (Chuck) Howe
Kenneth E. (Ted) McConnell
Kathleen Segerson
David Zilberman

AERE Fellows 2006
Richard C. Bishop
Nancy E. Bockstael
Ronald G. Cummings
Anthony (Tony) C. Fisher
Geoffrey M. Heal
Clifford S. (Cliff) Russell

Inaugural AERE Fellows 2005
Maureen L. Cropper
W. Michael Hanemann
Karl-Göran Mäler
Wallace E. Oates
V. Kerry Smith
Tom Tietenberg

AERE PUBLICATION OF ENDURING QUALITY AWARD 2010 CALL FOR NOMINATIONS

The AERE Board of Directors will present the annual award (to co-authors if appropriate) for a publication of enduring quality that appeared at least five years prior to the year of the award. The 2010 award will be announced at the annual AERE luncheon meeting in June 2011 in Seattle, Washington. Nominated works are to be evaluated on their seminal nature and enduring value. Place and type of publication are unrestricted but posthumous awards will not be given. Nominees may include individuals who are not members of AERE.

Evaluation of nominated works and final selection for the 2010 award will be undertaken by a committee chaired by Ray Palmquist.

Nomination packages should consist of four copies each of a cover letter, a document supporting the nomination, and the publication itself. The supporting document (not to exceed three pages) should include quantitative as well as qualitative information (e.g., number of citations or copies printed). Nominations should be sent to arrive no later than **November 1, 2010.** This is an important award for AERE and for the recipients. Please give serious consideration to nominating a publication and to observing the submission requirements.

Dr. Ray Palmquist
Dept of Economics
North Carolina State University
Raleigh, NC 27695
palmquist@ncsu.edu
Subject Line: AERE PEQ Award

AERE AWARD FOR BEST *JEEM* PAPER 2010

CALL FOR NOMINATIONS

AERE instituted a new award in 2009, the "Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the *Journal of Environmental Economics and Management*," to recognize an exemplary research paper published in *JEEM* during the past year. The award will be given annually and announced at the AERE Summer Conference.

Criteria: Any article published in the July 2009 through May 2010 issues of *JEEM* is eligible for this

award. There is no requirement that the author(s) be a member of AERE.

Nomination Process: Any current member of AERE can nominate an article for this award. The nomination should be submitted in a letter that briefly describes why the nominator believes the paper is deserving of this award. Letters of nomination should be submitted by **November 1, 2010** to:

Professor Charles Mason
Department of Economics and Finance
University of Wyoming
Laramie, WY 82071
bambuzlr@uwyo.edu
Subject Line: Best JEEM Paper

Selection Process: The winner of the award will be selected by a three-person selection committee comprised of the editor of *JEEM*, one associate editor of *JEEM*, and one AERE representative. The winner(s) will be notified **by February 1, 2011**.

AERE MEMBERSHIP STATUS IN 2010

Not sure if your dues have been paid and that your membership is current? Just check the AERE Membership Page (http://www.aere.org/membership) under "2010 AERE Members List" to see if your name is there. Since AERE membership runs on the calendar year, we are still accepting renewals and applications for this year—anyone joining now will receive the 2010 back issues of *REEP*.

If you are a 2010 member but haven't logged on to the new database yet, please do so at

1) http://www.aere.org/
2) Click "Member Log-In." You will find this highlighted on the upper right hand side of the screen.
3) Type in your primary email address and your password. The first time you log in you will be prompted to change your password. Type in **Password1**. This is case sensitive. Once you have selected a new password, please write it down in a safe place.
4) To view your file, on the navigation bar, click on "My Information'
5) To edit your information, click on 'Edit Information.'

UNIVERSITY AND INSTITUTIONAL MEMBERSHIP PROGRAM

The AERE Officers and Board of Directors invite colleges, universities, and university research centers to become University Members of AERE and research institutions, nonprofit organizations, government agencies, and corporations to become Institutional Members of AERE.

Intellectual entrepreneurship is a distinguishing characteristic of AERE. Equally important, AERE research activities also display a remarkable degree of involvement with other disciplines because the issues require it. But the dues of its individual members are not sufficient to support the growing needs of the organization. AERE needs the help of organizations involved in the same fields of interest to help with its programs and outreach to students and young professionals in both the U.S. and overseas. In addition, financial support will help with the increasing costs of managing membership services including the membership database, journal subscriptions, and workshop and annual meeting registrations among other association costs.

To become a 2010 **University Member** of AERE, a contribution of $350 is required. With this contribution, colleges and universities:

- may designate one person to receive a 2010 individual membership in AERE (which includes an electronic subscription to *REEP*, the bi-annual *AERE Newsletter*, and a reduced fee for submitting an article to *JEEM*);
- are entitled to a sponsorship listing on the AERE Web page (www.AERE.org) and in the *AERE Newsletter* and *JEEM*;
- will receive one free advertisement on the AERE Web page and in the *AERE Newsletter* for the calendar year (a savings of $250).

To become a 2010 **Institutional Member** of AERE, a contribution of $1,000 is required. With this contribution, institutions receive the above benefits plus:

- two nontransferable tickets for institution staff to the annual AERE luncheon and business meeting in Denver, Colorado on January 7, 2010;
- receive recognition at the annual AERE luncheon and business meeting.

2010 INSTITUTIONAL AND UNIVERSITY MEMBERS OF AERE

Institutional Members

Industrial Economics, Inc.

Resources for the Future

RTI International

Stratus Consulting, Inc.

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Appalachian State University
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Centre Interuniversitaire de Recherché en Économie Quantitative (CIREQ)
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Colorado State University
Department of Agricultural and Resource Economics

Duke University
Nicholas School of the Environment and Earth Sciences

The George Washington University
Institute for International Economics Policy

Georgia State University
Department of Economics

The Harvard Environmental Economics Program (HEEP)

Indiana University
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Iowa State University
Department of Economics

Massachusetts Institute of Technology
Department of Economics

Montana State University (Pending)
Department of Agricultural Economics & Economics

North Carolina State University
Center for Environmental and Resource Economic Policy

Oregon State University
Department of Agriculture & Resource Economics

University of Alberta
Department of Rural Economics

University of California, Berkeley
Department of Agriculture & Resource Economics

University of California, San Diego
Department of Economics

University of Central Florida
Department of Economics

University of Connecticut
Department of Agricultural & Resource Economics

University of Delaware
College of Marine Studies

University of Gothenburg
Department of Economics

University of Illinois at Urbana-Champaign
Department of Agricultural and Consumer Economics

University of Maine
Department of Economics

University of Maryland, College Park
Department of Agricultural and Resource Economics

University of Michigan
Erb Institute for Global Sustainable Enterprise

University of Minnesota
Department of Applied Economics

University of Oregon
Department of Economics

University of Tennessee
Department of Economics

University of Washington
Department of Economics

University of Wyoming
Department of Economics and Finance

Virginia Tech
Department of Agricultural and Applied Economics

Yale University
School of Forestry and Environmental Studies

CALLS FOR PAPERS

AERE NEWSLETTER

The *AERE Newsletter* is soliciting essays about natural resource and environmental economics issues of general interest to the membership. These essays can be relatively short (6-10 double spaced pages) and address a topic that does not fit into the traditional journal outlet. There is currently no backlog, so your essay would likely be published in the following *AERE Newsletter*. Marilyn Voigt and I need your essay in February for the May issue and August for the November issue. If you wish to float an idea by me, feel free to contact me.

John Loomis
***AERE* Newsletter Co-Editor**
jloomis@lamar.colostate.edu
Telephone: 970-491-2485

12th ANNUAL BIOECON CONFERENCE
BIOdiversity and Economics for CONservation

"From the Wealth of Nations to the Wealth of Nature: Rethinking Economic Growth"
Centro Culturale Don Orione Artigianelli
Venice, Italy
September 26-28, 2010

hosted by Fondazione Eni Enrico Mattei (FEEM) in association with Conservation International (CI) and the United Nations Environmental Programme (UNEP)

The Conference targets researchers, environmental professionals, international organizations and policy-makers who are interested in working towards a better, more effective stewardship of natural capital.

The central theme will focus on the identification of the most effective and efficient instruments for biodiversity conservation, such as auctions of biodiversity conservation contracts, payment-for-services contracts, taxes, tradable permits, voluntary mechanisms and straightforward command and control measures. Special attention will be given to the role of public bodies/NGOs in the creation of innovative mechanisms for the delivery of ecosystem benefits and in promoting the participation of a wider range of economic agents (business/families/local communities) in biodiversity conservation. We will also focus on policy reforms in specific sectors, including agriculture, urban planning and green buildings, fisheries, forests, industry, renewable energy, waste management and water, tourism and transport, focusing on the roles of each in green economic development.

In addition, particular attention will paid to analyses of the impacts and dependencies of different businesses on biodiversity and ecosystems, and the potential contributions of corporations to a more resource-efficient economy. The role of biodiversity as an employment generator will also be addressed. Finally, we will take a close look the beneficiaries of biodiversity and ecosystem services, exploring the potential use of these resources for poverty alleviation, and with examples of successful policies to this end.

We invite submission of papers particularly addressing the following themes: 1) assessment of the effectiveness and efficiency of biodiversity conservation instruments, taking into account spatial considerations and/or governance settings; 2) the development of new, incentive-based instruments to conserve biodiversity and ecosystem services; 3) the determination of ecosystem services opportunities for business and management, with particular emphasis on the potential for minimizing corporate risk with respect to these services; 4) the potential contribution of businesses to the implementation of more ecosystem services-based economic development; 5) application of ecosystem services assessment and valuation methodologies in the public, private and non-governmental settings; 6) innovative, participatory, economic valuation methods of biodiversity and their social implications; 7) assessment and valuation of marine and coastal ecosystems and their contribution to human livelihoods; 8) the role of property rights in the provision of ecosystem services and employment opportunities for local communities; 9) the role of local community members in the creation and enforcement of norms and regulations that lead to successful and sustainable economic governance models; 10) the role of forestry in poverty alleviation and in supporting human livelihoods in developing countries; and 11) macroeconomic indicators/national accounting systems adjusted to include the values of provision, flows and benefits of ecosystem services, and ultimately human well-being (i.e., Genuine Progress Indicator, Index of Sustainable Economic Welfare, GDP of the poor, etc.)

We are particularly interested in papers documenting practical applications, experiences and case studies in the above themes. Theoretical contributions are, of course, welcome, but priority will be given to more

applied work: in particular, papers that emerge from partnerships between civil society and research organizations, with a view to the identification and analysis of locally owned and locally developed solutions that can prevent and/or resolve tensions arising from existing and new methods of natural resource use. Similarly, papers that present policies described above that have been successfully implemented in national or sub-national contexts and that show results are encouraged. We also welcome empirical research in the emerging fields of economic valuation of tangible and intangible cultural heritage benefits, and the role of intercultural dialogue in the promotion of regional sustainable development.

The Conference will cover two days. Leading international environmental economists will present their latest research in two plenary sessions. Two specially-focused round table panel discussions are also scheduled

1. Bringing science to action: insights from conservation practitioners, chaired by Conservation International

2. Innovative participatory methods on valuation: a social take on biodiversity values, chaired by the United Nations Environmental Programme.

The Conference will open with an evening reception at the Centro Culturale Don Orione Artigianelli on September 26th. Conference sessions will commence on the morning of September 27th and end on the afternoon of September 28th. A Conference dinner will be organised on the evening of September 27th. Lunches and refreshments will also be provided.

Paper submissions

Papers submitted for presentation will be evaluated by the Conference Programme Committee. Electronic copies (in WORD or PDF format) should be sent to Silvia Bertolin (silvia.bertolin@feem.it) **no later than May 28, 2010**. Acceptance of papers will be provided via email in late June 2010.

Scholarships

The Conference Program Committee will provide 10 grants to researchers coming from developing countries to participate in the conference. Grants will include accommodation, round-trip airfare, and the full-conference registration fee. These grants are available through the generosity of the Conference Partners.

To be considered for a Conference scholarship, applicants must submit a paper and attach a letter from their institution or supervisor that establishes financial need, and send it to Silvia Bertolin (silvia.bertolin@feem.it) **by May 28, 2010**. Applicants will be notified of their acceptance prior to the Conference.

Further information about the Conference will be posted on the BIOECON website at :
http://www.bioecon.ucl.ac.uk/.

Sustainable Systems and Energy Management at the Regional Level: Comparative Approaches

Call for Chapter Proposals

A book edited by Dr. Marco Tortora
University of Florence, Italy

To be published by IGI Global:
http://www.igi-global.com/requests/details.asp?ID=843

Introduction

In our time scholars, depending upon their field, do not always take a systemic and comparative look at energy and environmental issues, especially at the regional and national levels. Doing this from a triple perspective framework can help different disciplines communicate and be helpful for managers, politicians, and all those stakeholders involved in energy and environment systems. Starting from the concept of sustainability and energy management policies, this book will adopt a systemic, comparative and multidimensional perspective to develop an understanding of the possible relationships between the energy and environment fields, and what kind of impacts and effects they have on different sectors and actors. T*hree areas and their possible connections will be studied: regulation systems, facilitation policies, and communication policies*. Therefore, this book sets out to explore the concept of sustainable systems with the aim to discuss, rather than to answer, the overall question of how it is possible, in a global world, for a regional system, to be environmental sustainable and energy efficient in a long term and how this impacts on the choices, strategies and behaviors of managers, politicians, and citizens.

Objective of the Book

This book will aim to provide an interdisciplinary look at all the possible multiple relationships which exist between energy and the environment. Relevant theoretical frameworks and the latest empirical research

findings in the three areas will be welcomed. It will be written for researchers, professionals and all those stakeholders who want to improve their understanding of the following three areas: impacts of regulation policies; market-facilitations policies; communication models and policies.

Target Audience

This book will be beneficial to scholars, professionals, managers and others working in organizations, corporations, institutions interested in a deeper understanding of the possible multiple and multidimensional relationships between sustainable systems, energy and the environment. Moreover, the book will provide insights and support policy makers concerned with energy management policies at different scales and in different fields.

Recommended topics include, but are not limited to, the following areas:

- Globalization of environmental issues and regional and local responsiveness
- Sustainable strategies of public and private actors in regional and national markets
- Regulation of energy markets and regional competitiveness
- Sustainable businesses and regional competitiveness, competition between places and the role of policies and regulations
- The use of renewable resources in sustainable systems: opportunities for producers and consumers
- Fiscal policies (e.g. customs duties, excise duties, international trade) and their effects on producers and final users
- Role of research and development and technological innovation in public and private areas
- Communication as tool or as social responsiveness and knowledge of citizens
- Sustainable businesses and strategies, promotional activities, CSR, educational programs, sustainable communication policies, actions of divulgation and education

Submission Procedure

Researchers and practitioners are invited to submit *on or before* ***June 15, 2010***, a 2-3 page chapter proposal clearly explaining the mission and concerns of his or her proposed chapter. Authors of accepted proposals will be notified by ***June 30, 2010*** about the status of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by ***September 1, 2010***. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

Publisher

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), publisher of the "Information Science Reference" (formerly Idea Group Reference), "Medical Information Science Reference," and "IGI Publishing" imprints. For additional information regarding the publisher, please visit www.igi-global.com. This publication is anticipated to be released in 2011.

Important Dates:

June 15, 2010: Proposal Submission Deadline
June 30, 2010: Notification of Acceptance
September 1, 2010: Full Chapter Submission
October 31, 2010: Review Result Returned
January 15, 2011: Final Chapter Submission
February 15, 2011: Final deadline

Inquiries and submissions can be forwarded ***electronically*** *(Word document) or by* ***mail*** *to:*

Dr. Marco Tortora
Department of Economic Sciences
University of Florence
Tel.: +39 055 2658365 • Fax: +39 055 2658124
E-mail: marco.tortora@gmail.com

CONFERENCES, MEETINGS AND WORKSHOPS

JOINT ANNUAL MEETING

AGRICULTURAL & APPLED ECONOMICS ASSOCIATION (AAEA)

CANADIAN AGRICULTURAL ECONMONICS SOCIETY (CAES)

WESTERN AGRICULTURAL ECONOMICS ASSOCIATION (WAEA)

July 25-27 2010
Denver, Colorado

AERE SESSIONS

***designates presenter**

Session A: Advances in Nonmarket Valuation

Subject Code: Environmental and Nonmarket Valuation

Session Summary: Considers both conceptual and empirical topics of concern in the area of non-market valuation. Fundamental issues are considered regarding the choice of functional-form specification and the treatment of preference uncertainty. Papers also investigate the use of sales versus appraised land values for hedonic estimates of farmland and alternative ways of presenting ecological information in stated-preference surveys.

Moderator: Joseph A. Herriges, Iowa State University (jaherrig@iastate.edu)

Presentation Title: Model Uncertainty and Recreation Demand
Author(s): Babatunde O. Abidoye,* Iowa State University (babidoye@iastate.edu), Joseph A. Herriges
Discussant: Shan Ma

Presentation Title: Capturing Preference Uncertainty Using Elicited Choice Probabilities
Author(s): Subhra Bhattacharjee,* Iowa State University (subhra@iastate.edu), Joseph A. Herriges, Catherine L. Kling
Discussant: Robert J. Johnston

Presentation Title: Hedonic Valuation of Farmland Using Sale Prices Versus Appraised Values
Author(s): Shan Ma,* Michigan State University (mashan1@msu.edu),Scott M. Swinton
Discussant: Babatunde O. Abidoye

Presentation Title: Indices of Biotic Integrity in Stated Preference Valuation of Aquatic Ecosystem Services
Author(s): Robert J. Johnston,* Clark University (rjohnston@clarku.edu), Eric T. Schultz, Kathleen Segerson, Elena Y. Besedin
Discussant: Subhra Bhattacharjee

Session B: Conservation and Ecosystem Services

Subject Code: Environmental and Nonmarket Valuation

Session Summary: The complexity of ecosystem science presents consumers and planners with an unfamiliar yet important suite of nonmarket goods. This session includes theoretical and empirical research on the economics of conservation. The first paper examines how providing ecological information influences willingness to pay for ecological restoration. The second paper empirically analyzes the effectiveness of payments for ecosystem services to prevent deforestation and contrasts payments with traditional regulation. The third paper furthers the literature on reserve site selection by modeling the endogeneity of land prices in a dynamic setting. The last paper addresses interpretations of optimal stopping problems in resource economics.

Moderator: David C. Finnoff, University of Wyoming (Finnoff@uwyo.edu)

Presentation Title: The Effects of Ecological Information Provision on Preferences for Ecosystem Restoration
Author(s): Yohei Mitani,* University of Colorado (mitani@colorado.edu)
Discussant: Kathy Baylis

Presentation Title: The Role of Payment for Environmental Services Versus Regulation in Preventing Deforestation: A Case Study of the Monarch Butterfly Conservation Fund
Author(s): Kathy Baylis,* University of Illinois Urbana-Champaign (baylis@illinois.edu), Jordi Honey-Roses, Isabel Ramirez-Ramirez
Discussant: Yohei Mitani

Presentation Title: Does Ignoring Dynamic Price Effects In Reserve Design Models Lead to Suboptimal

Reserves? A Two-Period Linear Integer Site Selection Model
Author(s): Sahan Dissanayake,* University of Illinois Urbana-Champaign (sdissan2@illlinois.edu), Hayri Önal
Discussant: Graham A. Davis

Presentation Title: The Economics of Optimal Stopping
Author(s): Graham A. Davis,* Colorado School of Mines (gdavis@mines.edu), Robert D. Cairns
Discussant: Sahan Dissanayake

Session C: Advances in Renewable Resource Economics and Management

Subject Code: Natural Resource Economics

Session Summary: Illustrates current trends in renewable resource economics including the spatial dimensions of resources, the possibility of self-governance, and the links between renewable and nonrenewable resources. The first paper explores the need for spatially heterogeneous regulation of ground water pumping with an application to Nebraska. The second paper uses program evaluation to test whether self-management of Korean coastal fisheries benefits individual fishermen. The third paper examines how renewable energy capacity constraints affect non-renewable resource use and resulting GHG emissions.

Moderator: Craig Bond, Colorado State University (Craig.Bond@colostate.edu)

Presentation Title: The Regulation of a Spatial and Dynamic Externality: Tradable Ground-Water Permits for the Protection of Instream Flows
Author(s): Yusuke Kuwayama* University of Illinois Urbana-Champaign (ykuwaya2@illinois.edu), Nicholas Brozović
Discussant: TBD

Presentation Title: Does Self Management in Fisheries Enhance Profitability? Examination of Korea's Coastal Fisheries
Author(s): Hirotsugu Uchida,* University of Rhode Island (uchida@uri.edu), Emi Uchida, Jung-Sam Lee, Jeong-Gon Ryu, Dae-Young Kim
Discussant: Min Wang

Presentation Title: Impacts of Renewable Resource R&D: The Role of Capacity Constraints
Author(s): Min Wang,* Iowa State University (wangmin@iastate.edu), Jinhua Zhao
Discussant: Hirotsugu Uchida

Session D: Issues in Climate Change and Biofuels

Subject Code: Resource & Environmental Policy Analysis

Session Summary: Addresses issues in climate change with emphasis on the interaction with agriculture and biofuels. The first paper explores the effects of biofuels on food prices using general equilibrium. The second paper examines how capacity constraints affect the price path of oil when the availability of renewable fuel sources imply that a larger share should be extracted immediately. The third paper examines the link between carbon prices, conversion of cropland into forests, and crop prices in a rational expectations framework. The fourth paper tests whether Nigerian families use migration to hedge against income shocks from weather-induced agricultural profit variability.

Moderator: David Zilberman, University of California Berkeley (zilber11@berkeley.edu)

Presentation Title: Interactions Between Food Prices, Energy Markets, and Biofuel Policies: A General Equilibrium Analysis.
Author(s): Christian Langpap, Oregon State University (Christian.langpap@oregonstate.edu), JunJie Wu*
Discussant: Jerome Dumortier

Presentation Title: The Green Paradox and the Capacity Building Decision
Author(s): Marc Gronwald,* Institute for Economic Research (gronwald@ifo.de), Markus Zimmer
Discussant: Valerie Mueller

Presentation Title: Agricultural Production in the Context of Rational Expectations and Greenhouse Gas Policies
Author(s): Jerome Dumortier,* Iowa State University (jrfd@iastate.edu)
Discussant: JunJie Wu

Presentation Title: Migratory Responses to Climate Change in Northern Nigeria
Author(s): Valerie Mueller,* International Food Policy Research Institute (v.mueller@cgiar.org), Andrew Dillon, Sheu Salau
Discussant: Marc Gronwald

Session E: Pollution Control and Voluntary Programs

Subject Code: Resource & Environmental Policy Analysis

Session Summary: Includes papers that focus on pollution control through voluntary programs. Specific topics covered include the following: environmentally friendly technical change in small and medium sized firms from an innovation systems perspective; mechanisms to promote greater compliance with ambient levels of pollution; participation in and effectiveness of EPA's 33/50 program to reduce toxics emissions; and the effectiveness of such programs for inducing adoption of environmental technology.

Moderator: Madhu Khanna, University of Illinois Urbana-Champaign (khanna1@uiuc.edu)

Presentation Title: From Innovation System Perspective: Environmentally Friendly Technical Change and Small and Medium Sized Enterprises
Author(s): Pinar C. Geylani,* Duquesne University (geylanip@duq.edu), Bahar C. Erbas
Discussant: Gregory Colson

Presentation Title: Multiple Receptor Ambient Monitoring and Firm Compliance With Environmental Taxes Under Budget and Target Driven Regulatory Emissions
Author(s): Gregory Colson,* University of Georgia (gcolson@uga.edu), Luisa Menapace
Discussant: Pinar C. Geylani

Presentation Title: Impact of EPA's Voluntary Pollution Prevention 33/50 Program on Facility Participation and Emissions
Author(s): Martina Vidovic,* Rollins College (mvidovic@rollins.edu), Neha Khanna
Discussant: Xiang Bi

Presentation Title: Spatial Determinants of Pollultion Prevention: Role of Mandatory Regulations and Voluntary Program Participation
Author(s): Xiang Bi,* University of Illinois Urbana-Champaign (xiangbi2@illinois.edu), Madhu Khanna
Discussant: Martina Vidovic

Session F: Topics in Environmental Economics

Subject Code: Resource & Environmental Policy Analysis

Session Summary: Addresses both theoretical and applied issues in environmental economics. The first paper theoretically models trade in waste between the developed and developing world. The second paper uses a panel data set of recycling rates in Japan to test the effect of newly introduced unit-based pricing schemes. The third paper uses a cross-section of firms to estimate what characteristics increased the probability to participate in a voluntary electricity demand management program. The fourth paper uses a panel data set to establish the relationship between ozone exposure and livestock mortality rates, which is required to set the optimal secondary standard for ozone.

Moderator: Sean Cash, University of Wisconsin (scash@wisc.edu)

Presentation Title: Estimating the Sustainability of Unit-Based Pricing Using Panel Data: Household Waste Reduction and Promotion of Sorting Recyclables
Author(s): Takehiro Usui,* Soka University (usui@soka.ac.jp)
Discussant: Shunsuke Managi

Presentation Title: Determinants of Trade in Recyclable Wastes Between Developing and Developed Countries
Author(s):, Shunsuke Managi,* Yokohama National University (managi.s@gmail.edu), Keisaku Higashida
Discussant: Takehiro Usui

Presentation Title: Business Participation in Electricity Demand Management Programs
Author(s): J. Mark Leonard,* University of Nebraska Omaha (mleonard@unomaha.edu), Christopher Decker
Discussant: Nicholas Z. Muller

Presentation Title: The Impact of Ozone Air Pollution On Livestock Mortality in the United States
Author(s): Nicholas Z. Muller,* Middlebury College (nmuller@middlebury.edu)
Discussant: J. Mark Leonard

Session G: AAEA Centennial: Environmental and Resource Economics

Subject Code: Natural Resource Economics, Environmental and Nonmarket Valuation, Resource & Environmental Policy Analysis

Session Summary: This session celebrates the 100th anniversary of the AAEA by showcasing the many contributions of agricultural economists and agricultural economics to the field of environmental and resource economics. The first paper reviews topics at the interface of agricultural economics and natural resource economics, including land management, adoption of conservation technologies, institutions for water resource allocation, management of pests and livestock diseases, and valuation of and policies to promote biodiversity conservation. The second paper reviews topics at the interface of agricultural economics and environmental economics, including nonmarket valuation, incentive design, and joint determination.

Moderator: Charles F. Mason, University of Wyoming (Bambuzlr@uwyo.edu)

Presentation Title: Natural Resource Economics and Conservation: Contributions of Agricultural Economics and Agricultural Economists
Author(s): Erik Lichtenberg, James Shortle, James Wilen, and David Zilberman,* University of California, Berkeley (zilber11@berkeley.edu)
Discussant: Kenneth E. McConnell, University of Maryland, College Park (tmcconnell@arec.umd.edu)

Presentation Title: Environmental Economics: How Agricultural Economists Helped Advance the Field
Author(s): Catherine L. Kling,* Iowa State University (ckling@iastate.edu), Kathleen Segerson, and Jason F. Shogren
Discussant: John Loomis, Colorado State University (jloomis@lamar.colostate.edu)

THE FOURTH WORLD CONGRESS OF ENVIRONMENTAL AND RESOURCE ECONOMISTS

June 28-July 2, 2010
Université du Québec à Montréal (UQAM)
Montreal, Canada

More than 1700 submissions were received for the WCERE, which was much more than expected (both the previous world congress in Kyoto and the 2009 annual EAERE conference in Amsterdam had around 1000 submissions). Our referees were prepared to referee more papers than they were originally asked to do. We are very grateful to all of them for their efforts.

We accepted 852 papers, with presenters from 50 different countries. We hope all presenters can actually attend the conference. A significant number of presenters from developing countries will benefit from stipends to cover travel and accommodation costs thanks to generous support from the International Development Research Centre (IDRC) Canada, the South Asian Network for Development and Environmental Economics (SANDEE), the Economy and Environment Program for Southeast Asia (EEPSEA), and the Beijer institute of ecological economics. The latter institute will also organize a pre-conference course for researchers from developing countries.

The scientific program features keynote lectures, special sessions, contributed sessions and a poster session. The full conference program will be finalized by the end of May.

Please consult the website for the most recent information on the details of the program. The Local Organizing Committee is doing its best to make this conference a great event from the social points of view as well. We hope to see many of you in Montreal.

http://www.wcere2010.org/

Gérard Gaudet, Université de Montréal
Pierre Lasserre, Université du Québec à Montréal
Sjak Smulders, Tilburg University
Co-chairs of the Scientific Committee

ASSOCIATION FOR PUBLIC POLICY ANALYSIS AND MANAGEMENT (APPAM)

Making Fair and Effective Policy in Difficult Times

November 4-6, 2010
Hyatt Regency Hotel
Boston, Massachusetts

APPAM's Annual Fall Research Conference is a gathering of leaders within the policy analysis and management field. It has become the preeminent venue for the presentation and discussion of applied public policy and management research, attracting more than 1000 participants for over 160 sessions across three days of meetings each year. The Program Committee will organize an agenda that spans the interests and background of APPAM members across all issues areas and methodologies. Noteworthy highlights of the 2010 conference will include the lecture by the recipient of the David N. Kershaw Award and Prize, the invited symposia, the Presidential Address, the Poster Session Luncheon, and the Opening Night Reception.

APPAM especially is seeking increased conference participation from among policymakers at all levels of government and other practitioners who are directly involved in the areas of emphasis within the Fall Research Conference. APPAM is committed to including a diversity of perspectives on all sessions.

Papers delivered at the 2010 Fall Conference may be eligible for these two awards presented through APPAM:

Award for Research in Comparative Policy Analysis: This award will recognize a paper delivered at the 2010 conference for excellence in comparative methods of policy and management research. For more information, please click here.

Poster Session Award: Pending approval by the APPAM Policy Council, three poster sessions presented at the 2010 conference will receive specially designed ribbons and otherwise recognized by APPAM for the quality of the research and presentations. For more information, please click here.

For all 2010 Fall Research Conference information including the schedule of events, registration, hotel reservations and travel planning, please go to: **https://www.appam.org/conferences/fall/boston2010/index.asp**

4th ATLANTIC WORKSHOP ON ENERGY AND ENVIRONMENTAL ECONOMICS: GREEN TAX REFORMS

July 8-9, 2010
A Taxa, Galicia, Spain

The 4th Atlantic Workshop on Energy and Environmental Economics is a biannual scientific meeting organized by rede, in collaboration with Energy for Economics. This year's workshop is devoted to Green Tax Reforms. The workshop will be of interest to researchers, policymakers and other agents interested in the economic aspects of energy and environmental issues.

Conference Website: http://www.rede.uvigo.es/toxa/

CAMP RESOURCES XVII

June 24 - 25, 2010
Blockade-Runner Beach Resort
Wilmington, North Carolina

Camp Resources is being held earlier this year—in late June rather than August as in past years. This change has been made so international participants in the Fourth World Congress (being held June 28 to July 2, 2010 in Montreal, Canada) can include attendance at Camp Resources XVII in their travel plans.

Participants and those attending Camp Resources XVII are in for a special treat. The Blockade-Runner Beach Resort is on the Wrightsville Beach ocean front, and guests will be able to walk out the back door of the Hotel directly into the beautiful Atlantic Ocean. A block of rooms has been reserved for us at the rate of $129.00, plus taxes, per night for Wednesday and Thursday evenings, June 22 and 23, 2010. In addition, for those who want to arrive early and enjoy all the amenities of a first-class,ocean-front beach resort during the peak season, there will be a limited number of rooms available earlier in the week at our special rate of $129.00, plus taxes, per night. Also, for those who want to stay over for the weekend there are a limited number of rooms available at a special discounted weekend rate. For nights outside our block of rooms for Wednesday and Thursday evenings (June 22 and June 23) reservations need to be made as early as practicable.

Leveraging the upcoming World Congress of Environmental and Resource Economists, this year's Camp will have a distinctively international flair. Our

hope is to bring outstanding graduate students, young professionals and faculty from around the world to Wilmington. We can reimburse travel costs up to $1000 for presenters coming from outside the U.S. In addition to several prominent environmental economists from North Carolina and throughout the U.S. who will be participating in this year's Camp Resources, we are fortunate to have outstanding international scholars Fredrik Carlsson and Thomas Sterner of Gothenburg University in Gothenburg, Sweden, and Riccardo Scarpa of the University of Waikato in Hamilton, New Zealand as our featured senior mentors to provide feedback to presenters. They will also present short overviews of their current research interests.

Contact: Jack Crawley (jack_crawley@ncsu.edu).
Conference Website:
http://www.ncsu.edu/cenrep/workshops/campresources2010.php

EAERE-FEEM-VIU EUROPEAN SUMMER SCHOOL

Climate Change Negotiations

July 4 – 10, 2010
Venice International University
Isola di San Servolo, Venice, Italy

This year's School is organized in partnership with ICCG. The theme of this Summer School is Climate Change Negotiations.

Pollution does not respect political boundaries. Classic examples of transboundary pollution include acid deposition, climate change, pollution of the North Sea or the Black Sea, and damage to the stratospheric ozone layer. Transboundary pollution can have regional effects on local ecosystems (e.g., acid deposition in a particular country) or worldwide impacts on global public goods (e.g., biodiversity loss due to climate change). Countries should work together to address these pollution problems – the responsibility for reducing the risks to local or global goods should be shared among the nations that benefit from the reduction. While countries do have a common interest to protect themselves, they may or may not be individually interested in abating pollution voluntarily at a socially optimal level. A country may thus free ride off the abatement efforts of other nations, because no one country can be prevented from enjoying the benefits of pollution risk reduction, regardless of whether or not it contributed to the abatement effort.

The purpose of the Summer School is to investigate some of the key issues emerging from the economic analysis of transboundary pollution, global public good problems, and environmental conflict. The focus will be on climate change as an important example of a worldwide environmental problem requiring global solutions.

EAERE-FEEM-VIU Website: http://www.feem-web.it/ess/ess10/01index.html

EAERE 18TH ANNUAL CONFERENCE

June 29 - July 2nd, 2011
Tor Vergata, Rome, Italy

EAERE 2011 will be held on the campus of the University of Rome Tor Vergata, June 29th to July 2nd. It will be organized jointly by the Department of Economics, Financial Studies and Quantitative Methods (SEFEMEQ) and the Faculty of Economics. The conference program will cover all areas of environmental and resource economics, ranging from topics prevailing in the general debate, such as climate change, Kyoto protocol, energy sources, ETS, to less publicized and very specialized subjects such as biodiversity loss, waste accumulation, toxic waste disposal, packaging reduction, adaptation to climate change. We expect around 700 participants from all over the world, engaged in environment related activities in various capacities - researchers, teachers, students, professionals, policymakers, managers. Special emphasis will be given to the interaction between the growing scientific knowledge on environmental issues and the economics and politics of sustainable human development.

Paper submission and early registration begins **November 15, 2010**. Deadline for submission of papers: **February 1, 2011**

Conference Website

INTERNATIONAL CONFERENCE ON ECO-EFFICIENCY

Modelling and Evaluation for Sustainability: Guiding Eco-Innovation and Consumption
June 9 - 11, 2010
Egmond aan Zee, The Netherlands

Increasing affluence and population growth will destroy the environment, will hit the poor, and will hit next generations, unless extreme, unprecedented improvements in eco-efficiency are realized, leading to decoupling of economic growth from environmental impact. De-growth, for the richest, will be an essential ingredient. The time frames involved start now. Fundamentally new technologies in production and consumption will however require decades for their full scale introduction, and we don't know them yet. How can we guide the right developments, based on best current knowledge, and how can we create the incentives for this key issue in long term sustainability?

The conference will set the stage on day one, with keynote speakers from all continents covering targets and strategies. On day two we will look into specific options for eco-efficiency improvements in core domains of sustainable development. On day three we will go into the intricacies of analysis and the schools involved. The day before the conference officially starts, there will be the possibility to take part in one of the available courses.

Conference Website: http://www.eco-efficiency-conf.org/

ERB INSTITUTE FOR GLOBAL SUSTAINABLE ENTERPRISE UNIVERSITY OF MICHIGAN

Informing Green Markets: The Roles of Industry, NGOs and Government

June 17-19, 2010
Ann Arbor, Michigan

The desire to "Go Green" has swept across society over the last few years. Thousands of products now market themselves based in part on environmental attributes. But there is surprisingly little consensus on what it will take to really make green markets work. Many people worry that the current proliferation of ecolabels is generating consumer confusion and is not making green purchasing easier. Research on nutritional labels suggests they have had little impact on American eating habits, and calls into question whether environmental labels can be effective. Environmental groups warn that many green claims are nothing more than greenwash. Can green markets work if buyers do not trust the information they are getting from sellers?

This workshop is designed to focus on the dynamic processes by which information in green markets emerges and evolves. It is designed to provoke a "deep dive" discussion into how green markets will develop in upcoming years, and the appropriate roles of government regulation, corporate environmental claims, and external evaluations by NGOs. Among the questions to be explored:

- What are the respective roles of purchasing agents for retailers and government, vis a vis ultimate consumers?
- What is the relative importance of green ratings for companies and green ratings for products?
- How can purchasers be assured of the credibility of the information they receive?
- Is product labeling a complement to or a substitute for government regulation?
- Does the recent proliferation of ecolabels improve the marketplace or merely confuse it?
- Is competition between ecolabels beneficial? Will market forces work to winnow down the number of ecolabels and harmonize those that remain?
- Is there a need for some organization, perhaps government, to bring order to the current chaos?

The conference is designed to stimulate dialogue between the private sector, the public sector, non-governmental organizations (NGOs), and academia. It will begin with lunch on Thursday, June 17, and conclude the afternoon of Saturday, June 19. Sessions on Thursday afternoon and Friday morning are geared more toward practitioner contributions, while those on Friday afternoon and Saturday are geared more towards helping academic researchers digest the practitioner contributions and shape the future research agenda.

Conference Website:
http://www.bus.umich.edu/Conferences/Ecolabel-Conference-Ann-Arbor-2010/ViewConference.aspx

INTERNATIONAL CONGRESS FOR CONSERVATION BIOLOGY (ICCB)

July 3 - 7, 2010
Shaw Conference Center
Edmonton, Canada

The Society for Conservation Biology International Congress for Conservation Biology (ICCB) is recognized as the most important international meeting for conservation professionals and students. ICCBs are a forum for addressing conservation challenges. They are the global venue for presenting and discussing new research and developments in conservation science and practice. Most importantly, they connect our global community of conservation professionals and serve as the major networking outlet for anyone interested in conservation. Attendance has increased 60% in the past six years, reaching 1600 at our 2007 meeting in South Africa.

The first ICCB was held in 1988 in Bozeman, Montana, USA. Since then, SCB Annual Meetings have been held in Africa, Australia, Europe, and North and South America. Plenary sessions are presented by conservation leaders and visionaries - speakers have included Richard Cowling, Gustavo Fonseca, Jeremy Jackson, Jane Lubchenco, Sir Robert May, and Michael Soulé, just to name a few. Each year the congress features numerous symposia, concurrent sessions, workshops, short courses and field trips. Past symposia have included such diverse topics as: the population biology of invasive species; global amphibian decline; how to integrate conservation research into policy; indigenous communities and conservation; comparing marine and terrestrial ecosystems–implications for conservation theory and practice; the application of top predator distribution to the design and efficacy of reserves; and real-world social and economic solutions to preserve biodiversity.

Our attendees are concerned with the science and practice of conserving biological diversity. The ICCB is always global in scope, bringing together conservation professionals and students from every sector of the field including the biological and social sciences, management, policy and planning. Attendees work for universities, government agencies, non-governmental organizations, private foundations and organizations and publications. They are scientists, students, managers, decision-makers, writers and other conservation professionals from throughout the world. Some come to present, others come for the incredible networking opportunities of the congress, so do not hesitate to come!

Conference Website:
http://www.conbio.org/activities/meetings/2010/

NORTHEAST AGRICULTURAL AND RESOURCE ECONOMICS ASSOCIATION (NAREA) ANNUAL MEETING

June 13 - 15, 2010
Trump Plaza Hotel and Casino
Atlantic City, New Jersey

NAREA is a professional association of agricultural and resource economists affiliated with the Agricultural & Applied Economics Association. While many members live and work in the Northeast U.S. and Maritime Provinces of Canada, the Association membership now includes agricultural and resource economists from all over the world. The Association publishes the *Agricultural and Resource Economics Review*. The purpose of NAREA is to stimulate and promote education and research on economic and social problems related to the production, marketing and consumption of agricultural products; natural resource use; the environment, and rural economic development; and the interrelation of the agricultural and rural sectors with the rest of the economy.

Immediately following the annual meeting, a post-conference workshop on ***Economics of Local Food Markets*** will also be held at the Trump Plaza.

NAREA Website: http://www.narea.org/2010/

SOUTHERN ECONOMIC ASSOCIATION (SEA)

80th Annual Meeting

November 20-22, 2010
Sheraton Atlanta
Atlanta, Georgia

AERE SESSIONS

*designates presenter

1. Fisheries

Session Chair: Craig E. Landry,
East Carolina University

"Decadal Economic Survey of the Recreational For-Hire Fishing Sector in the U.S. Gulf of Mexico"
Matthew A. Freeman*, Louisiana State University
Rex Caffey, Louisiana State University
Michelle Savolainen, Louisiana State University

"Measuring Angler Heterogeneity in the Demand for Summer Flounder"
Paul R. Hindsley*, Eckerd College
Brad Gentner, Gentner Consulting Group

"Oyster Demand Adjustments to Counter-Information and Source Treatments in Response to Vibrio Vulnificus"
Ash Morgan*, Appalachian State University
John C. Whitehead, Appalachian State University
Gregory Martin, Northern Kentucky University
William L. Huth, University of West Florida
Richard Sjolander, University of West Florida

"The Multi-Species Aspect of Spatially Explicit Bioeconomic Fishery Models"
Tess Stafford*, The University of Texas at Austin

2. Information and Voluntary Initiatives

Session Chair: Matthew A. Freeman
Louisiana State University

"From Innovation System Perspective: Environmental Friendly Technical Change and Small and Medium Sized Enterprises."
Pinar Geylani*, Duquesne University
Bahar Erbas, TOBB University of Economics and Technology

"Voluntary Abatement or Averting Behavior: A Nationwide Study of the Impacts of Smog Alerts"
Douglas S. Noonan*, Georgia Institute of Technology

"Impact of EPA's 33/50 Program on Facility Participation and Emissions"
Martina Vidovic, Rollins College
Neha Khanna*, Binghamton University

3. Natural Resource Management

Session Chair: Neha Khanna, Binghamton University

"Spatial Spillovers in Oil Production"
Andrew Balthrop*, Andrew Young School of Policy Studies, Georgia State University
Kurt E. Schnier, Georgia State University

"Optimal Wind Portfolios in Illinois"
Benjamin Chupp*, Illinois State University
Emily Hickey, Illinois State University
David Loomis, Illinois State University

"The Potential for Transboundary Water Resource Agreements: An application to the Kura-Araks River basin"
Marianna Khachaturyan*, University of Nebraska, Lincoln
Karina Schoengold, University of Nebraska, Lincoln

"On Capturing Foreign Oil Rents"
Octave Keutiben Njopmouo*, Université de Montréal

4. Environmental Valuation

Session Chair: Kurt E. Schnier,
Georgia State University

"Property Values and Flood Risk: What Happens to Risk Premiums over Time?"
Okmyung Bin*, East Carolina University
Craig E. Landry, East Carolina University

"Wind Turbines and Coastal Recreation Demand"
Craig E. Landry*, East Carolina University
Tom Allen, East Carolina University
Todd L. Cherry, Appalachian State University
John C. Whitehead, Appalachian State University

"Air Quality Valuation: A Meta-Analysis and Optimal Air Quality for Atlanta"
Douglas S. Noonan*, Georgia Institute of Technology

"Contingent Valuation and Circadian Rhythm"
John C. Whitehead*, Appalachian State University
David L. Dickinson, Appalachian State University

5. Fuel and Energy Conservation

Session Chair: Jill L. Caviglia-Harris
Salisbury University

"Pricing Automobile Fuel Economy: A New Hedonic Approach"
Takahiko Kiso*, University of Maryland, College Park

"Adopting Energy Saving Technology: Inertia or Incentives?"
Tanga McDaniel, Appalachian State University
Peter A. Groothuis*, Appalachian State University

"Tax Incentives and Hybrid Vehicle Demand"
Holly Monti*, The University of Texas at Austin

"Should We Reinvigorate the Retail Competition Debate?"
Tanga McDaniel*, Appalachian State University

6. Spatial Implications

Session Chair: Catherine S. Norman
The Johns Hopkins University

"Uncovering Clubs and Congestion Effects: Some Monte Carlo Evidence"
Arnab Bhattacharjee, University of St. Andrews
Robert L. Hicks, The College of William & Mary
Kurt E. Schnier*, Georgia State University

"Incorporating Amenity Driven Price Feedback Effects in Reserve Design Models"
Sahan Dissanayake*, University of Illinois
Hayri Onal, University of Illinois

"Agglomeration, Agricultural Development, and Deforestation in the Brazilian Amazon"
Simon Hall, Salisbury University
Jill L. Caviglia-Harris*, Salisbury University

"Protected Areas, Biodiversity Conservation and Poverty Alleviation"
Paul J. Ferraro*, Georgia State University
Merlin Mack Hanauer, Georgia State University
Katharine Sims, Amherst College

7. Environmental Policy

Session Chair: Paul J. Ferraro
Georgia State University

"Heterogeneous Harm vs Spatial Spillovers: Environmental Federalism and US Air Pollution"
Spencer Banzhaf*, Georgia State University
Benjamin Andrew Chupp, Illinois State University

"The Green Paradox and the Capacity Building Decision"
Mark Gronwald*, Institute for Economic Research
Marcus Zimmer, Institute for Economic Research

"Optimal Policy Instruments for Externality-Producing Durable Goods under Behavioral Anomalies"
Garth Heutel*, University of North Carolina at Greensboro

"Timing Climate Change: Managing Threshold Event Risk on the Way to a Steady State"
Catherine S. Norman*, The Johns Hopkins University

8. Empirical Analyses

Session Chair: Spencer Banzhaf
Georgia State University

"An Economic Analysis of the Use of Sediment Controls on Construction Sites"
Jamey Lowdermilk*, Clemson University
Charles Privette, Clemson University
Scott R. Templeton, Clemson University

"The Impact of Ozone Air Pollution on Livestock Mortality in the United States"
Nicholas Muller*, Middlebury College

"The Effects of Farm Subsidies on Farm Income Variability, Yields, and Climate Change"
Cephas Naanwaab*, Auburn University

"Economic Value of a Developer Incentive Program Designed to Encourage Voluntary Adoption of Residential Low Impact Best Management Practices to Improve Regional Water Quality"
Matthew Huber*, Clemson University
David B. Willis, Clemson University
John C. Hayes, Clemson University
Charles Privette, Clemson University

9. Residuals

Session Chair: Sahan Dissanayake
University of Illinois

"Game Theoretical Models of Effort and Lobbying in a Heterogeneous CPR Setting"
Matthew A. Freeman*, Louisiana State University
Christopher M. Anderson, University of Rhode Island

"Does Aid Lead to Greater Pollution: An Experimental Investigation on the Effects of Signaling"
Paul Chambers*, University of Central Missouri
Glenn Dutcher, Florida State University

"Estimation of the Long Run Elasticity - Household Waste Reduction and Promotion of Sorting Recyclables"
Takehiro Usui*, Soka University

"The Dependence Structure Between the European Emission Allowance Prices and other Financial Assets and Commodities - A Copula Analysis"
Janina Ketterer*, ifo Institute for Economic Research
Mark Gronwald, ifo Institute for Economic Research
Stefan Truck, Macquarie University

UNITAR-YALE CONFERENCE ON ENVIRONMENTAL GOVERNANCE AND DEMOCRACY

Strengthening Institutions to Address Climate Change and Advance a Green Economy

September 17 - 19, 2010
Yale University
New Haven, Connecticut

The 2nd Global Conference on Environmental Governance and Democracy will take place at Yale University, New Haven, Connecticut, USA from September 17-19, 2010 in the margins of the United Nations Millennium Development Goal Summit, September 20-22, New York. Focusing on the theme of *Strengthening Institutions to Address Climate Change and Advance a Green Economy*, the event will take stock of and examine the role of institutional structures and decision-making procedures in fostering (or impeding) low carbon and climate resilient development. Papers and discussions will cover various levels of governance (i.e., global, regional, transnational, national, sub-national, and local) as well as specialized governance topics, including governance of climate change science, financing and forestry. Anticipated outcomes of the conference include a research agenda and enhanced knowledge sharing to better understand the openness, transparency, accountability and effectiveness of institutions engaged in action to address climate change. The extended application deadline for submitting abstracts for proposed papers is **May 23, 2010**. Those wishing to attend as participants must express an interest by **June 15, 2010**.

About 150 participants with diverse backgrounds and affiliations from around the world are expected to participate in the conference. Given limited space, interested persons are invited to express an interest to participate in the conference by completing an online application by **June 15, 2010**. Applicants will be notified by mid-July 2010 if their application to participate has been accepted. Criteria for selection include regional coverage, ensuring a balance of scholars, policymakers and experts, and timely expression of interest. For information about the application process, please visit:
http://www.unitar.org/egp.

EPA Use of Ecological Nonmarket Valuation

By Matt Weber
U.S. Environmental Protection Agency

1. Introduction

This essay was motivated by a workshop at which numerous investigators presented advancements in nonmarket valuation[1]. Much of the research, and the workshop itself, was US Environmental Protection Agency (EPA) funded, and the typical expected application was environmental management decisions. This was one venue of many where such research is advanced. The breadth and depth of these studies led to an inquiry:

How does EPA use nonmarket valuation research?

The goal of this essay is to examine how EPA has used nonmarket valuation: to gain contextual background; to learn what has been useful; and to search for direction for continued valuation efforts. It was illuminating to read through the challenges EPA has faced in applying valuation research results for purposes related to rulemaking. It is hoped that the ensuing essay will be of interest to other researchers in the field, especially those intending that their work be useful for EPA purposes. This essay focuses on ecological valuation, to the exclusion of all health-related valuation information such as morbidity and mortality research, e.g., the monetized costs of illness and lives lost due to toxic exposures. In addition, only selected regulations over the past several years associated with the Clean Air Act (CAA) and Clean Water Act (CWA) were examined. These are relatively narrow bounds, and expanding the scope is planned in the future[2].

2. Background

This review involved regulatory support documents associated with the EPA Office of Air and Radiation, and the EPA Office of Water. There are triggers that require benefit estimates be submitted as part of what is referred to as the Regulatory Impact Analysis (RIA) component of developing major environmental regulations. Currently the most important trigger is Executive Order 12866. This Executive Order requires an economic assessment, including both quantitative and qualitative information, for regulations with an expected impact of $100 million or more per year on the national economy. Since nonmarket valuation results are expressed in dollar terms, these figures have been used in RIAs[3]. A second trigger is retrospective economic analyses of laws that are already in place. The CAA requires such an analysis every five years. Typically an RIA is only submitted along with a proposed rule when it is required, due to limited EPA resources and the work involved in preparing the economic analysis[4]. In prior times, new environmental regulations did not need to have formal economic analyses submitted as part of their review. Depending on one's perspective, RIAs might be seen as a hurdle limiting environmental regulations, or as a tool to demonstrate the importance of environmental protection. Regardless, now that such analyses are required for major rules, nonmarket ecological values can be included either as monetary estimates, or qualitatively discussed.

The current document that guides how EPA makes use of nonmarket valuation in RIAs is Circular A-4, written by the US Office of Management and Budget (OMB) in 2003[5]. As part of their management role, OMB has authored a series of best practices documents for conducting an RIA. An RIA is submitted to OMB as part of the review process for new regulations. The EPA has a document interpreting OMB guidance[6]. The OMB is the final reviewer of RIAs and has rejected economic analysis, necessitating resubmittal.

Two initial findings help contextualize this essay. First, while benefit estimates of nonmarket valuation do appear in regulatory documents, there was no direct evidence that economics drives environmental

[1] This particular workshop was the 2009 meeting of the Meta-Analysis of Economic Research (MAER) Network.

[2] Reader input is solicited in formulating the next research product.

[3] Even if the $100 million threshold is not crossed, an RIA may still be initiated since the final form of the rule is difficult to predict at the onset.

[4] For a discussion of the costs of preparing a RIA see: http://www.cbo.gov/doc.cfm?index=4015&type=0

[5] The circular can be found at: http://www.whitehouse.gov/OMB/Circulars/a004/a-4.pdf

[6] See http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0228C-07.pdf/$file/EE-0228C-07.pdf, and for an in-process update: http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0516-01.pdf/$file/EE-0516-01.pdf.

regulations and policies. In contrast to textbook economics, policy makers do not seem to explicitly "optimize" pollution levels by comparing costs and benefits, choosing the option with the greatest net benefit or the highest cost-benefit ratio. Second, it should be noted that the benefits focus of many RIAs is human health, and not ecological benefits. This was particularly true of the air quality RIAs reviewed. However nonmarket ecological benefits can be submitted as part of the regulatory process and this information is combined with further considerations, such as human health effects, and potential distributional impacts.

This is neither the first nor the most extensive review of EPA RIAs. An early example was titled EPA's Use of Benefit-Cost Analysis 1981-1986 (U.S. EPA, 1987). Later came Economic Analyses at EPA: Assessing Regulatory Impact (Morgenstern, 1997). Next was Regulatory Economic Analysis at EPA (Anderson and Kobrin, 2000). These three studies were the most extensive for their era, covering both costs and benefits, and both human health and ecological values. Iovanna and Griffiths (2006) critique several Clean Water Act RIAs. Harrington et al. (2009) make general RIA observations, viewing a few cases in great depth. There are retrospective analyses of costs and benefits of the CAA and CWA (see US EPA (2007) and Research Triangle Institute et al. (2000), respectively). This essay is designed to give a general overview of the issues and the state of valuation in RIAs, covering both the CAA and the CWA, including the most recent developments. The rule-by-rule summaries briefly describe how nonmarket valuation has been included in published RIAs for two of the major arenas in which EPA has authority: air and water. The documents reviewed were filed as part of continuing implementation of the CAA and CWA. A span of several years was captured to illustrate any progression in methods, but this is not an exhaustive representation. To economize space, the details, context, and qualitative discussion within the documents are neglected. Nearly every RIA includes a lengthy description of the uncertainties and incomplete portions of valuation estimates although that is not reproduced here. Links to further reading are given for each regulation.

3. Selected Clean Air Act Regulations

There are RIAs accompanying the National Ambient Air Quality Standards (NAAQS), a key component of the CAA. There are six NAAQSs set by EPA under CAA authority: carbon monoxide; lead; nitrogen dioxide; ozone; particulate matter; and sulfur dioxide. These standards are meant to be reviewed every five years (according to section 109(d) of the CAA), so new information is continuously being processed by teams of EPA personnel. A crucial point in understanding the role of economics in NAAQS rulings is that "primary standards" bar consideration of economic impacts and specifies the regulations be set based on human health alone. There is also a "secondary standard" meant to protect the public welfare. This distinction is summarized by these quotations from a recent RIA[7]:

> In setting primary ambient air quality standards, EPA's responsibility under the law is to establish standards that protect public health. The Clean Air Act ("Act") requires EPA, for each criteria pollutant, to set a standard that protects public health with "an adequate margin of safety." As interpreted by the Agency and the courts, the Act requires EPA to base this decision on health considerations; economic factors cannot be considered.
>
> Welfare effects as defined in section 302(h) [42 U.S.C. 7602(h)] include, but are not limited to, "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being."

When ecological nonmarket valuation appears in a NAAQS RIA it is associated with the secondary standard. Likewise, where cost information is included in an RIA it is stated to be for the purposes of public information. In practice the secondary standard is usually the same as the primary standard, although theoretically the secondary standard could be more stringent than the primary[8].

3.1 NAAQS For Particulate Matter

A stronger standard for fine particulate matter of diameter 2.5 micrometers and below (PM 2.5) was finalized in September 2006[9]. The only ecological nonmarket benefit quantified was visibility. Two categories of visibility were considered: residential and recreational. Recreational visibility is in reference to 156 large national parks and wilderness areas designated by the Clean Air Act (section 162(a)) as Class I areas for visibility protection[10]. Everyone in the U.S. was taken to have a value for these areas, but only regional residents

[7] See index at: http://www.epa.gov/ttnecas1/ria.html
[8] For current NAAQS standards see http://epa.gov/air/criteria.html.
[9] Ibid.
[10] For a map of these areas see http://www.epa.gov/ttn/oarpg/t1/fr_notices/classimp.gif , and for further description of the Class I areas see: http://www.epa.gov/visibility/maps.html

were taken to have a value for residential visibility. Valuation estimates for residential visibility were deemed unreliable, and were not used.

In a landmark study Chestnut and Rowe (1990) conducted a contingent valuation study in 1988 for 86 recreational Class I areas in the Southwest, Southeast, and in California. The study was done by showing participants a series of photographs both within and outside of the respondents' regions and eliciting their Willingness-To-Pay (WTP) for three marginal changes in visibility. That the Class I areas were called 'recreational' does not preclude nonuse values, the RIA noted WTP for visibility changes can be motivated through use values or nonuse values.

The RIA included a critical evaluation of the Chestnut and Rowe study. One point made was that the research is becoming dated. Second, survey respondents did not feel they were able to entirely separate their aesthetic value for the 'recreational' visibility improvements, from associations with residential visibility and health effects. Third, the temporal dimension of marginal improvements in visibility was not defined in the survey, so it was assumed that respondents' values apply to annual average visibility. Fourth, not all of the Class I areas for a particular region were listed on the map accompanying the survey so it is not clear whether to associate the WTP with all the areas, or just those mapped. Fifth, the study only covered a portion of the U.S.

The benefits of improved visibility due to the revised standard were estimated at $530 million per year, and $1,200 million per year for the alternative, more stringent standard (all figures in 1999$). In an appendix, benefit transfer extends the Chestnut and Rowe valuation estimates to the remaining Class I areas of the U.S., using preference calibration (see Smith et al., 2002 for method description). To extend utility function parameters a ratio was used of visitor-days for Class I areas in a region with WTP data, to visitor-days for Class I areas in a similar region lacking WTP data. A sensitivity analysis made use of the preference calibration, with the visibility value for all Class I areas estimated at $240 million per year, and $250 million per year for the alternative standard. These estimates did not appear in the main body of the RIA but would add almost 50% more visibility value.

3.2 NAAQS for Ozone

The most recent RIA for Ozone is dated March, 2008[11]. The visibility benefits of less ozone were estimated at $160 million per year (2006$), using the same methodology as the PM 2.5 RIA above. Visibility benefits are associated with particulate matter, however nitrogen dioxide is a precursor to ozone, and nitrogen dioxide is a precursor for particulates, thus reducing ozone through reducing nitrogen dioxide will also reduce particulates. Most of the benefits estimated are in the Southwest (61%), next are those in the Southeast (36%), and then California (3%). In January of 2010, the EPA proposed a reconsideration of the NAAQS for Ozone[12]. The ecological values were unchanged; the modifications were related to human health.

3.3 NAAQS for Lead

The EPA strengthened the lead standard on October 15, 2008[13]. There is no quantitative or qualitative discussion of ecological benefits; only health-related benefits are included.

3.4 NAAQS for Nitrogen Dioxide

On January 22, 2010 EPA published the final rule for nitrogen dioxide[14]. Although the lack of ecological benefit quantification was noted, there was an expanded qualitative discussion of ecological benefits. Reduced terrestrial and aquatic acidification, reduced aquatic and terrestrial enrichment, and improved visibility were the categories of ecological benefits discussed.

For aquatic eutrophication, Kahn and Kemp (1985) was cited for a value of lost fishing harvest (commercial and nonmarket recreational) from eutrophication for a potential scenario in the Chesapeake Bay. Kaval and Loomis (2003) and the Fishing Hunting and Wildlife Associated Recreation Survey (FHWAR) (U.S. FWS and U.S. Census, 1993) were used to estimate the total value of saltwater recreational fishing from North Carolina to Massachusetts. Motorboating participation from Leeworthy and Wiley (2001) was combined with Kaval and Loomis (2003) to estimate the total value of coastal motorboating from North Carolina to Massachusetts. Other recreation visitation statistics from the National Survey on Recreation and the Environment (NSRE) (Interagency National Survey Consortium, 1999-2000) were cited such as birdwatching and non-

[11] See: http://www.epa.gov/ttnecas1/regdata/RIAs/452_R_08_003.pdf .
[12] See index at: http://www.epa.gov/ttn/ecas/ria.html
[13] See: http://www.epa.gov/ttnecas1/regdata/RIAs/finalpbria.pdf
[14] See Index at: http://www.epa.gov/ttn/ecas/ria.html

beach coastal visits. The report notes that marginal benefits attributable to the rule could not be estimated.

For terrestrial eutrophication, recreation statistics for California were used as a case study. Using FHWAR and Kaval and Loomis (2003) the total consumer surplus from fishing, hunting, and wildlife viewing away from home were estimated. The same sources and US Census population data were used to estimate annual benefit for California residents from hiking. Again, the report notes that marginal benefits attributable to the rule could not be estimated.

3.5 NAAQS for Sulfur Dioxide

The EPA proposed a revised standard for sulfur dioxide in November, 2009[15]. Only health benefits were quantified for the benefit-cost analysis. However like the final Nitrogen Dioxide RIA, it included a lengthy literature review and cited illustrative values.

First was a description of how terrestrial sulfur deposition affects ecosystem services of forests, and thus outdoor recreation. Loomis and Kaval (2003) consumer surplus values were combined with visitation statistics in Cordell et al. (2005), and FHWAR to yield total values for off-road driving, hunting, and wildlife viewing. Two forest protection surveys were cited, Kramer et al. (2003) and Jenkins et al. (2002). Fall color impacts were discussed with Spencer and Holecek (2007) and Brown (2002) cited for fall color visits. The report notes specific impacts on forests from the sulfur rule could not be isolated to allow the valuation step. Second there is a description of how terrestrial sulfur deposition affects aquatic systems and fish in particular. Kaval and Loomis (2003) was combined with FHWAR to estimate the total annual value of fishing in the northeast US. The report states that specific impacts on fish from the sulfur rule could not be quantified in order to complete the valuation. Third, impacts of sulfur on visibility are discussed, but again the report states that the marginal effect could not be isolated.

3.6 Secondary NAAQS for Oxides of Nitrogen and Oxides of Sulfur

For these pollutants EPA is considering a joint secondary standard to better account for welfare impacts. These two pollutants are being considered together due to their intertwined chemistry and environmental effects. The standards and RIAs are not yet complete but planning documents are available online, the Risk and Exposure Assessment (REA) in particular includes valuation information[16]. In the REA case study areas were used to investigate the value of reducing ecosystem effects of acidification and eutrophication. The economics chapters are quite extensive and are not done justice here, however a notable valuation estimate was done for improved recreational fishing in Adirondack lakes, by adapting the Random Utility Model of Montgomery and Needelman (1997). Fishability is determined by a critical threshold of Acid Neutralizing Capacity (ANC), which is in turn predicted with a natural science model. The net present value in 2010 dollars, out to year 2100 was estimated to be between $60.1 and $298.7 million, depending on the discount rate and critical ANC threshold used. Valuation results for extending the model to New York State were also reported, as was benefit transfer based on a valuation survey by Banzhaf et al. (2006).

4. Selected Clean Water Act Regulations

The CWA applies to all waters of the U.S. with a significant nexus to navigable waters. A strong focus of the CWA is Title III, which covers water quality standards and enforcement. There is a technology-based standards program which regulates point-source effluent discharges from more than fifty categories of facilities. There is also a water quality standards program, whereby States establish "designated use" standards for individual water bodies. Most of the regulations reviewed below are concerned with effluent discharges. Water quality regulations have some similarities with the air quality rules reviewed above, as well as key differences. Whereas CAA regulations usually focus on human health, CWA effluent regulations usually focus on ecology. The CWA does not cover drinking water per se, but rather conditions in surface waterbodies. Utilities are required to deliver water compliant with drinking water standards, covered under the separate Safe Drinking Water Act.

4.1 Economic Analysis of the Final Phase II Stormwater Rule

This report was released by EPA in October of 1999[17]. The rule is concerned with best management practices for controlling runoff from small municipalities and construction sites. Valuation was based on landmark research by Mitchell and Carson (1986) and their subsequent publication Carson and Mitchell (1993). Mitchell and Carson conducted a nationwide contingent valuation survey eliciting marginal values for water

[15] See: http://www.epa.gov/ttnecas1/regdata/RIAs/pso2full11-16-09.pdf.

[16] See index at: http://www.epa.gov/ttn/naaqs/standards/no2so2sec/index.html

[17] See index at: http://cfpub.epa.gov/npdes/docs.cfm?program_id=4&view=allnpdes&sort=name&amount=all

quality changes referenced to uses of "boatable", "fishable", "swimmable", and ultimately "drinkable". This progression is known as the water quality ladder (Ladder). The Ladder is based on Vaughan (1986), and is a composite multiplicative index based on five water quality parameters: fecal coliform; dissolved oxygen; biological oxygen demand; turbidity; and pH. Thus water quality can be represented as a single dimensionless index value. For each parameter there is a defined threshold level at which the water quality becomes sufficient for a given use, e.g. boating or fishing. Index values along the Ladder are associated with recreational activities, from boating, fishing, swimming, and ultimately water safe to drink[18]. These mirror common 'designated uses' States set for waterbodies.

Two approaches were used to estimate the benefits of water quality improvements from the rule: a national water quality model; and an alternative model relying on the national water quality assessment (pursuant to CWA 305(b)). The first approach used the National Water Pollution Control Assessment Model (NWPCAM) to predict water quality position along the Ladder. Baseline pollution loadings were compared with modeled loadings and improvements in water quality were valued using Carson and Mitchell. These values were aggregated based on Census estimates by state. The total benefits of the controls were estimated to be $1.63 billion per year (1998$). A sensitivity analysis assuming higher effectiveness of the controls yielded an additional $200 to $300 million in benefits per year.

The second approach relied on waterway impairment data within CWA 305(b) reports, a fundamentally different baseline data source. An effectiveness level for the regulation was assumed and Carson and Mitchell values were again applied. Since WTP values were not disaggregated for separate waterbody types (e.g. rivers vs. lakes vs. Great Lakes), EPA applied all of the value to separate categories in turn to establish a range of values, with benefit estimates from $120.2 million to $372.8 million per year. In addition the value of an assumed 80% reduction in beach closures is estimated at $2.1 million, using two meta-analyses (Walsh et al., 1990, and Freeman, 1993) for beach visit per-day values. Reduced impacts on small streams is estimated to be between $9.8 and $12.4 million, by extrapolating a survey by Paterson et al. (1993) in North Carolina, and parsing small stream value by estimating the percentage of water bodies that are first order streams from Keup (1985).

[18] Further background on the water quality ladder may be found in Mitchell and Carson, 1986, and Thurston et al., eds., esp. table 7.3.

4.2 Estimation of National Economic Benefits Using the National Water Pollution Control Assessment Model to Evaluate Regulatory Options for Concentrated Animal Feeding Operations

This document was released in December 2002[19]. The water quality benefits of two regulation scenarios were estimated. Two different valuation techniques were employed, the Ladder approach and an alternative six-parameter index. Using the Ladder method, benefits were $102 and $166 million for the two regulations, respectively. Using the alternative, benefits were $182 and $298 million for the two regulations, respectively (all values in 2001$).

Valuation for both methods relied on the NWPCAM and subsequent application of Carson and Mitchell (1993). However, the alternative approach allows more substitutability between parameters since there are no required threshold values for a given parameter for a certain use. For example, there may be a lot of total suspended solids which would disqualify the 'swimmable' use in the Ladder, but if dissolved oxygen levels are high enough to boost the aggregate index, the alternative approach could indicate the water is suitable for swimming.

4.3 Economic, Environmental, and Benefits Analysis of the Final Metal Products & Machinery Rule

This report was published in February 2003[20], with the target of reducing oily discharges from such facilities. Water quality from a sample of facilities established baseline pollutant levels in wastewater, and pollutant concentrations in receiving waters were modeled via dilution and mixing equations. Ambient Water Quality Criteria (AWQC)[21] thresholds for 114 pollutants harmful to aquatic life were used to gauge ecological impacts. Where AWQC exceedences were reduced, impacts on three categories of recreational activities were then valued: fishing; wildlife viewing; and boating. Studies that valued baseline values, and values associated with changes in water quality were assembled and averaged for each activity. The average percentage increase in value was then transferred. Participation rates for the activities were estimated from various national survey sources including the National Demand for Water-Based Recreation Survey (US EPA, 1994), and FHWAR. Only impacts on persons residing in counties abutting the improved reaches were considered, with participant

[19] See index at: http://yosemite.epa.gov/ee/epa/ria.nsf/vwRef/W.2002.11+B?OpenDocument

[20] See index at: http://epa.gov/guide/mpm/eeba/index.htm

[21] These water quality criteria are published by EPA, see http://www.epa.gov/waterscience/criteria/wqctable/

populations adjusted by the percentage of reach miles that improved within the county, to account for 1 mile being worth less than 10 miles. Total recreational use benefits per year were estimated to be between $382,000 and $1,574,000 (2001$). Nonuse values were estimated to be 1/2 of recreational use values, based on guidance in Carson and Mitchell (1993) and Fisher and Raucher (1984). Thus total ecological values were reported to be between $573,000 and $2,362,000.

An original Random Utility Model (RUM) was also developed for Ohio to supplement the benefit transfer estimates described above with original observed preference analysis. Recreation data were based on the National Demand for Water-Based Recreation Survey (US EPA, 1994), and destinations for fishing, wildlife viewing, boating, and swimming were mapped to model demand through travel cost. A small per trip-day increase in value was modeled when AWQC exceedences were reduced. Nonuse values were again estimated to be 1/2 of recreation benefits. Extrapolating the regional model to the state of Ohio yielded $376,000. The model was extrapolated to the Nation for sensitivity analysis purposes, yielding $4,216,000 in total ecological benefits (per year, 2001$).

4.4 Cooling Water Intake Structures – Clean Water Act 316(b) – Phase II: Existing Facilities

Cooling water intake structures (CWIS) have an impact on aquatic life as multiple species are killed through "impingement" and "entrainment" as an unintentional result of diverting water into electricity generating plants for cooling purposes. The ruling in 2004 proposed technologies to mitigate these impacts for large existing electricity generating plants[22].

Survey data regarding intake flow for over 500 facilities were used to estimate reductions in impingement and entrainment from the proposed ruling. The only nonmarket value quantified was recreational fishing. The value of losses in recreational fishing due to current CWIS practices is estimated at $189.4 million per year, and this loss is estimated to be reduced by $79.3 million per year under the proposed ruling (2002$). Original RUMs were developed for the Great Lakes and five coastal regions. Benefits predicted by the RUMs were $74.4 million. Benefit transfer of selected valuation studies was used to value the improvement for remaining inland areas, averaging values per additional fish caught, and including a forage species value despite a noted lack of literature. Estimated benefits for inland areas were $3.0 million.

Only use values for commercially and recreationally important species, 1.8% of the fish and shellfish species affected by the ruling, had quantified values in the economic analysis. A meta-analysis was included to investigate nonuse values, but value estimates were not carried out. Similarly, there was a lengthy section dedicated to threatened and endangered species but no value estimates were given in the context of the ruling.

Currently the ruling is suspended due to a lawsuit. For administration of section 316(b) of the CWA, the role of cost-benefit analysis was decided by the Supreme Court on April 1, 2009. The majority opinion was that EPA can choose to weigh costs and benefits in this instance, a reversal of a lower court decision.

4.5 Environmental Impact and Benefits Assessment for Final Effluent Guidelines and Standards for the Construction and Development Category

On December 1, 2009, EPA published new effluent limitations guidelines to control sediment and other pollutants in runoff from construction sites[23]. Four options for controlling effluent were modeled, with increasing stringency.

The USGS surface water quality model SPARROW was used to predict total suspended solids, used as a heuristic to predict changes in total nitrogen and total phosphorus. Ladder index changes were then calculated. Meta-analysis was used for the ecological valuation after Johnston et al. (2005), expanded to 45 underlying studies. Each study supplies one or more point estimates as well as implicit variables such as whether or not nonusers were queried, the survey method, the response rate, etc., which become variables for the meta-regression. A key variable was the 'before' and 'after' Ladder category. For the aggregation the authors assumed people only have values for water quality improvements in their home state. Estimated values were $210, $353, $413, and $361 for the four options (all per year in millions of 2008$).

5. Discussion & Conclusions

Perhaps the most surprising outcome was the realization of how few nonmarket ecological valuation studies are used by the EPA. From a naïve standpoint, it would seem that with thousands of published stated and revealed preference valuation studies, more of them would be reflected in EPA documents. The winnowing is simply due to very few of the studies applying at a

[22] See especially the Economic and Benefits Analysis, and the Regional Analysis. Links at: http://www.epa.gov/waterscience/316b/phase2/econbenefits/

[23] See index at: http://www.epa.gov/waterscience/guide/construction/

national scale. There has been a heavy reliance on two national-scope studies in particular, Chestnut and Rowe (1990) for valuing air quality visibility improvements, and Carson and Mitchell (1993) for valuing water quality improvements. However, at an agency level, EPA is continually working to improve benefit estimation techniques. Two recent, extensive EPA documents discuss ecological valuation challenges the agency faces and suggest a way forward, see the Ecological Benefits Assessment Strategic Plan (US EPA 2006), and Valuing the Protection of Ecological Systems and Services (EPA Science Advisory Board 2009). Furthermore, personal communication with individuals more familiar with EPA rulemaking made a collective drive for advancement clear, although agency time and resource constraints have been significant. There are also milestones evident in the RIA chronology that trend towards more sophisticated techniques.

Regarding air quality RIAs, a significant step is development of the secondary standard for oxides of nitrogen and oxides of sulfur. Traditionally, secondary standards are set equal to the primary standard with minimal additional analysis. An additional scientific step was taken by combining nitrogen and sulfur oxides in the REA document and subsequent policy analysis to establish the standard, in observance of the interconnections between those pollutants. Also, most recent RIAs for air pollutant rulemaking include far more qualitative description of nonmarket ecological benefits, with illustrative case study value citations. Benefit transfer has been utilized to extend visibility benefits from a subset, to all recreational Class I areas. Recently, there is the possibility of a secondary standard actually being more stringent than the primary for particulate matter. New urban visibility preference studies, a long-standing gap in quantifying visibility benefits, are a possibility as part of that pending update[24].

Water quality RIAs have also evolved. Most RIAs rely on Carson and Mitchell for valuation estimates, which in turn rely on the water quality Ladder concept. A single index to represent water quality has been criticized for being overly simplistic, implying too much substitutability between underlying water quality parameters, and for being inflexibly hierarchical in the ladder progression[25]. With support from EPA, in 2008 Viscusi et al. published what might be considered the next generation of water quality valuation research. The article breaks from the hierarchical ladder, instead using values of the percentage change in lake acres and stream miles with 'good' water quality within a 100 mile radius of the respondent. Water quality that is 'good' must satisfy three conditions based on EPA Water Quality Inventory data: aquatic life support; safe fish consumption; and primary contact recreation without illness. In addition, water quality modeling is being updated by the developing Hydrologic and Water Quality System (HAWQS). Extensive original Random Utility Models are being used to estimate recreation benefits, as in the Cooling Water rule. A progression in benefit transfer is also apparent, from simply averaging point value estimates in the Metals rule to the sophisticated meta-analysis in the Construction rule. Only survey studies are in the meta-analysis, allowing inclusion of nonuse values. Finally, an original survey tailored for purposes of the rule is planned as the CWIS process moves forward, which would be a first.

There is a significant challenge with improving valuation that is out of EPA hands. Even if EPA had sufficient lead time and sufficient resources to conduct original analyses for each RIA, there is a logistical barrier for new collections of public data, e.g. new stated preference studies. When federal resources are linked to public surveys, approval by OMB is required due to the Paperwork Reduction Act[26]. Thus, whereas a non-federal practitioner can relatively easily deploy a survey, when there is direct federal involvement (including specified funds) the OMB review process is long and approval is not guaranteed. This places EPA in a difficult position of seeking high quality relevant information to accompany RIAs, as mandated by Executive Order, and naturally wishing to shape that research to fits its needs, but not having control over the ability to pursue survey studies identified as important. For example, the Viscusi et al. effort, which had funding from the EPA Office of Water, was in review for several years.

While RIAs have progressed, some challenges are perennial. The two crucial steps are 1) defensible modeling of ecological changes brought about by regulations; and 2) defensible modeling of the societal values from those ecological changes. There were frequent statements in RIAs that some part of these steps could not be accomplished due to incomplete natural science or valuation understanding. A new EPA effort

[24] The recent document that describes how urban visibility preferences are significantly impacted even when primary particulate matter standards are met can be found at: http://www.epa.gov/ttn/naaqs/standards/pm/data/UFVADraftSept2009.pdf

[25] Additional discussion can be found in Magat et al. (2000)

[26] See: http://www.archives.gov/federal-register/laws/paperwork-reduction/

that may be able to help is the Ecosystem Services Research Program (ESRP)[27] involving hundreds of in-house scientists. The goal of the ESRP is precisely to link natural science research with human health and well-being using the ecosystem services lens, thus there is high potential relevance for RIAs. Given EPA's preponderance of natural scientists, ESRP efforts are likely to focus on step 1, recognizing that an integrated approach to bringing disciplines together is clearly the best way forward. An ongoing impediment has been uncertainty of the common ground – what exactly is it about the natural world, in all of its complexity, that people value? And, how close can ecologists come to modeling those things? Defining this elusive common ground would prioritize areas of mutual research focus, and greatly facilitate benefit transfer. The diversity of ways to value something like water quality, and the difficulty this raises for benefit transfer was described in a prior AERE Newsletter essay by EPA authors Lovell et al. (2004). A potential solution is focusing on "final ecosystem services" as proposed by Boyd and Banzhaf (2009), who provide a conceptual framework for identifying key environmental variables. The final services concept has been influential in the ESRP, and has been taken up as a paradigm to research improvements to a national stream monitoring program (see Ringold et al. 2009).

In conclusion, we have followed developments in the field of nonmarket ecological valuation by using EPA RIAs as a looking glass. An evolution of practice over the past several years is reflected. Research furthered by workshops such as that noted in the first paragraph of this essay are being used by EPA, with plenty of room remaining for further developments. The most useful studies are those with national applicability, although site specific studies are occasionally cited and can be folded into meta-analysis. National scale studies need not be valuation per se — witness oft-cited recreation surveys such as FHWAR and NSRE. Categorical valuation deficiencies remain, such as a lack of studies for low-order streams, at issue for an upcoming rule dealing with post-construction discharge management. There is also a paucity of information for less charismatic fish and wildlife, such as the aquatic species affected by 316(b). Such issues stray into the nonuse value realm more generally, where a variety of research questions remain.

[27] More information can be found at: http://www.epa.gov/ecology/index.htm

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References

Anderson, R.C., and P. Kobrin, by Robert C. Anderson and Paul Kobrin, Resource Consulting Associates, June 2000. Regulatory Economic Analysis at the EPA. Prepared under EPA Cooperative Agreement CR822795-01 http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/RegulatoryEconomicAnalysisAtEPA.html

Banzhaf, S., D. Burtraw, D. Evans, and A. Krupnick. 2006. "Valuation of Natural Resource Improvements in the Adirondacks." *Land Economics* 82:445-464.

Boyd, J., and S. Banzhaf. 2007. What Are Ecosystem Services? The Need For Standardized Environmental Accounting Units. Ecological Economics 63:616-626.

Brown, L.H. 2002. Profile of the Annual Fall Foliage Tourist in Vermont: Travel Year 2001. Report prepared for the Vermont Department of Tourism and Marketing and the Vermont Tourism Data Center in association with the University of Vermont, Burlington, VT.

Carson, R.T., and R.C. Mitchell. 1993. The Value of Clean Water: The Public's Willingness to Pay for Boatable, Fishable, and Swimmable Quality Water. Water Resources Research 29(7): 2445-2454. July.

Cordell, H.K., C.J. Betz, G. Green, and M. Owens. 2005. Off-Highway Vehicle Recreation in the United States, Regions and States: A National Report from the National Survey on Recreation and the Environment (NSRE). Prepared for the U.S. Department of Agriculture Forest Service, Southern Research Station, National OHV Policy and Implementation Teams, Athens, GA. Available on the Internet at http://www.fs.fed.us/recreation/programs/ohv/OHV_final_report.pdf.

Fisher, A. and R. Raucher. 1984. "Intrinsic Benefits of Improved Water Quality: Conceptual and Empirical Perspectives." In: Advances in Applied Microeconomics, Vol. 3, V.K. Smith, editor, JAI Press.

Freeman, A.M. 1993. The Economics of Valuing Marine Recreation Values: A Review of the Empirical Evidence. Bowdoin College Economics Working Paper 93–10.

Harrington, W., L. Heinzerling, and R.D. Morgenstern, eds. April, 2009. Resources For the Future report. http://www.rff.org/RFF/Documents/RFF-Rpt-ReformingRIA.pdf

Interagency National Survey Consortium, Coordinated by the USDA Forest Service, Recreation, Wilderness, and Demographics Trends Research Group, Athens, GA and the Human Dimensions Research Laboratory, University of Tennessee, Knoxville, TN. National Survey on Recreation and the Environment (NSRE): 2000-2002.

Iovanna, R., and C. Griffiths. 2006. Clean water, ecological benefits, and benefits transfer: A work in progress at the U.S. EPA. Ecological Economics 60: 473-482.

Jenkins, D.H., J. Sullivan, and G.S. Amacher. 2002. Valuing high altitude spruce-fir forest improvements: Importance of forest condition and recreation activity. Journal of Forest Economics 8:77–99.

Johnston, R., E. Besedin, R. Iovanna, C. Miller, R. Wardwell, and M. Ranson. 2005. Systematic variation in willingness to pay for aquatic resource improvements and implications for benefit transfer: a meta-analysis. Canadian Journal of Agricultural Economics 53, 221–248.

Kahn, J.R., and W.M. Kemp. 1985. "Economic Losses Associated with the Degradation of an Ecosystem: The Case of Submerged Aquatic Vegetation in Chesapeake Bay." Journal of Environmental Economics and Management 12:246-263.

Kaval, P., and J. Loomis. 2003. Updated Outdoor Recreation Use Values With Emphasis On National Park Recreation. Final Report October 2003, under Cooperative Agreement CA 1200-99-009, Project number IMDE-02-0070.

Kramer, A., T. Holmes, and M. Haefel. 2003. Contingent valuation of forest ecosystem protection. Pp. 303–320 in Forests in a Market Economy. Edited by E.O. Sills and K.L. Abt. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Keup, L.E. 1985. Flowing Water Resources. Journal of the American Water Resources Association 21(2): 291-296.

Leeworthy, V.R., and P.C. Wiley. 2001. Current Participation Patterns in Marine Recreation. Silver Spring, MD: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Special Projects. November. http://www.naturetourismplanning.com/pdfs/NSRE_2.pdf.

Lovell, S., S. Newbold, N. Owens, and T.J. Wyatt. 2004. How Academic Economists Can Improve Benefit Transfers at EPA. Association of Environmental and Resource Economists Newsletter 24(2).

Magat, W.A., J. Huber, K. Viscusi, and J. Bell. 2000. Journal of Risk and Uncertainty, 21:1, 7-43.

Mitchell, R.C., and R.T. Carson. 1986. The Use of Contingent Valuation Data for Benefit/Cost Analysis in Water Pollution Control. CR-810224-02. Prepared for U.S. EPA, Office of Policy Planning and Evaluation. Washington, DC. http://yosemite1.epa.gov/ee/epa/eerm.nsf/vwRepNumLookup/EE-0150?OpenDocument

Montgomery, M. and M. Needelman. 1997. "The Welfare Effects of Toxic Contamination in Freshwater Fish." Land Economics 73(2):211-223.

Morgenstern, Richard D. ed., Economic Analyses at EPA Assessing Regulatory Impact, Washington, DC: Resources for the Future, 1997.

Paterson, R.G., M.I. Luger, R.J. Burby, E.J. Kaiser, H.R. Malcom, and A.C. Beard. 1993. Costs and Benefits of Urban Erosion and Sediment Control: The North Carolina Experience. Environmental Management. 17(2): 167–178.

Research Triangle Institute, Tetra Tech, Inc., and Industrial Economics, Inc. January, 2000. EPA Contract Number 68-C6-0021 6600-4. A Benefits Assessment of Water Pollution Control Programs Since 1972: Part 1, The Benefits of Point Source Controls for Conventional Pollutants in Rivers and Streams Final Report http://www.epa.gov/waterscience/economics/assessment.pdf

Ringold, P.L., J. Boyd, D. Landers, and M. Weber. Report from the Workshop on Indicators of Final Ecosystem Services for Streams. Meeting Date: July 13 to 16, 2009, EPA/600/R-09/137. 56 p. http://www.epa.gov/nheerl/arm/streameco/index.html

Smith, V.K., G. van Houtven and S.K. Pattanayak, 2002. Benefit Transfer via Preference Calibration: Prudential Algebra for Policy, Land Economics 78, 132–152.

Spencer, D.M., and D.F. Holecek. 2007. Basic characteristics of the fall tourism market. Tourism Management 28:491–504.

Thurston, H., M. Heberling, A. Schrecongost, 2009. Environmental Economics for Watershed Restoration. CRC Press, Boca Raton, FL

U.S. Environmental Protection Agency. 1987. EPA's Use of Benefit-Cost Analysis 1981-1986, Office of Policy Planning and Evaluation, Washington DC, EPA-230-05-87-028. http://yosemite.epa.gov/ee/epa/eed.nsf/Webpages/EPAUseOfBenefitCostAnalysis.html

U.S. Environmental Protection Agency. 1994. National Demand for Water-Based Recreation Survey. Washington, D.C.: Office of Policy Evaluation and Information.

U.S. Environmental Protection Agency. 2006. Ecological Benefits Assessment Strategic Plan. EPA-240-R-06-001. Office of theAdministrator, Washington, DC. http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/EcologBenefitsPlan.html

U.S. Environmental Protection Agency, 2007. The Benefits and Costs of the Clean Air Act, 1970 to 1990. http://www.epa.gov/oar/sect812/copy.html

U.S. Environmental Protection Agency Science Advisory Board. 2009. Valuing the Protection of Ecological Systems and Services. EPA-SAB-09-012. Office of the Administrator, Washington, DC. http://yosemite.epa.gov/sab.

U.S. Fish and Wildlife Service (USFWS). 1996, & 2006 update. National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Fish and Wildlife Service and Bureau of the Census.

Vaughan, William J. 1986. The Water Quality Ladder. Included as Appendix B in Mitchell, R.C., and R.T. Carson. 1986. The Use of Contingent Valuation Data for Benefit/Cost Analysis in Water Pollution Control. CR-810224-02. Prepared for the U.S. Environmental Protection Agency, Office of Policy, Planning, and Evaluation. Washington, DC.

Viscusi, W.K., J. Huber, and J. Bell. 2008. The Economic Value of Water Quality. Environmental and Resource Economics 41:169-187.

Walsh, Richard G, Donn M. Johnson, and John R. McKean. 1990. Nonmarket Values from Two Decades of Research on Recreation Demand, Advances in Applied Microeconomics. Volume 5, pp. 167–193.

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