

ECO-JUSTICE

Ecology and Environmental Justice: Developing an ESA Agenda

The collection of *Linking Ecology and Environmental Justice* papers demonstrates how both the science of ecology and the life of the ecologist relate to environmental justice (EJ) and advance the ultimate goal of incorporating EJ into the traditional research paradigm of ecology. This 2006 Annual Meeting symposium clarified the need for ecologists to have a working knowledge of EJ issues, as well as understanding how EJ pertains to their field. In this paper we discuss the growing awareness of EJ within ESA over the past 12 years, with particular attention to historical trends. We conclude by proposing strategies to surmount barriers and further develop the ESA agenda.

History of environmental justice within ESA

This symposium furthers ESA members' efforts over the past dozen years to engage EJ issues through working groups and ESA publications, Annual Meeting scientific and educational sessions, and in discussions, workshops and field trips. A brief synopsis of the history of EJ within ESA follows.

Environmental justice was first highlighted within the ESA 1993 Women and Minorities in Ecology Report (WAMIE I). The report concluded "that the ESA, in order to show the relevance of ecology to our diverse society, must reach out to achieve a broader racial and ethnic diversity of ecologists by linking with social and EJ movements at the grassroots level in order to recruit and retain minority involvement in the field," (Bentley et al. 1993:29). One major outcome is the successful development of the Strategies in Ecology Education, Development, and Sustainability (SEEDS) program, which engages undergraduate minority students in fostering diverse people for a diverse science. WAMIE I called for explicit grassroots links with EJ movements, but these have yet to develop.

In recent years, a number of ESA activities have heightened attention to EJ and related concerns. A decade after WAMIE I, a task force charged to review ESA progress devoted a substantial section to EJ in their report: Women and Minorities in Ecology (WAMIE II) (Ortega et al. 2006:29–31). They noted the importance of forming partnerships with organizations engaged in EJ. The authors also urged collaboration with community-based organizations when planning ecological studies or undertaking ecological restoration in urban ecosystems. Among their recommendations is that ESA recognize both the science of EJ research and need for support, that ESA endorse relevant proposals and that an EJ task force be furthered through budget and staff support.

Simultaneously with the development of these documents, an EJ task force of ESA members (chaired by Jablonski), supported by a 2004–2005 ESA Governing Board planning grant, explored how to advance the role of ecology and ecologists in EJ. The task force reviewed the goals of ESA's *Ecological Visions*, the recommendations of WAMIE II, and the history of ESA's EJ activities. The ESA mission statement was examined with particular focus on how to best raise the public's level of awareness of the importance of ecological science and to ensure the appropriate use of ecological science in environmental decision-making by enhancing communication between the ecological community and policy-makers.

The task force contacted as many key organizations and community leaders engaged in EJ as resources permitted, and invited their feedback. We found no single, unifying national organization that comprehensively addressed EJ issues. Most individuals directly involved with grassroots EJ efforts acknowledged that scientists were rarely involved with their efforts, recognized the need for sound ecological science information, and welcomed the active role of ecologists.

Annual Meeting events pertaining to EJ were initially supported or sponsored predominantly by the ESA sections of Education, Urban Ecosystem Ecology, and Traditional Ecological Knowledge. An increasing number of members are seeing connections of EJ with their work as evidenced by sessions at recent meetings on Gulf Coast Hurricanes, which vividly illustrated how the poor are most vulnerable to degradation of natural resources, loss of ecosystem services and natural disasters. Sessions included Ecology and poverty alleviation: Bringing ecological knowledge to the forefront of development goals; and the Millennium Ecosystem Assessment symposia that discussed local community inclusion and the role of ecology in policy decisions.

Contribution of Linking Ecology and Environmental Justice Symposium to the ESA agenda

Each participant described areas of connection to their field, and ways in which the scientific research agenda can address EJ concerns. The scientific process dimensions include the fields of ecology that are represented, the ways that research is conducted and shared, and the questions that are addressed. Fields represented included agroecology, applied ecology, biodiversity, climate change, conservation, ecological theory, natural resources, restoration ecology, tropical ecology, and urban ecosystems, as well as the bridging arenas of human health and risk analysis.

Authors showed how ecological theory is often inextricably linked to or can be applied to EJ issues. Steward Pickett, Mary Cadenasso and Christopher Boone discussed equitable distribution of ecosystem services and consideration of disturbance regimes in urban planning. John Vandermeer and Ivette Perfecto showed how conservation of tropical biodiversity is linked to the socio-political movements of small farmers who include ecological principles in their social justice work of land reform. Ann Bartuska and Lynne Westphal demonstrated the relationship between human health and ecosystem health, and that joint consideration could lead to a healthier funding future for our ecological work. Kristin Shrader-Frechette cautioned against dichotomies such as EJ vs. environmental health, which perpetuate injustice, and promoted use of risk assessment to show how ecological degradation is often an early-warning system for human health threats.

Human factors highlighted at the symposium pertained to diversifying our research approach and including concerns and participation of the EJ-affected community in choosing and addressing research questions. Participatory or community-based research involves the local community in the research process. Several authors called

on us to reflect on our values and invited choices of service to society, inclusivity and a fuller curiosity (Henry Howe, Doug Boucher). Kristin Schrader-Frechette proposed the implementation of the professional practice of a two-track curriculum vita that, by identifying publications from both professional journals and the popular press, would ensure that ecologists attend to the community implications of our research.

A related 2006 ESA Meeting session on ecology and poverty alleviation organized by Fabrice De Clerck, Cristina Rumbaitis del Rio, and Jane Carter Ingram highlighted the distinct role of ecologists in “painting the big picture” in the alleviation of global poverty, since the poor are highly dependent on natural resources for survival. They stated that the tradition of elucidating complex systems and relationships and working across scales and disciplines enables ecologists to tackle the similarly complex, multifaceted problems of poverty reduction.

The 2004 *ESA Ecological Visions* report proposed an action to “work with diverse public, nonprofit and religious organizations to better integrate ecological knowledge into their relevant outreach and public education campaigns.” (Palmer et al. 2004:15). We will need to confront the cultural biases we may hold as ecologists that can prevent us from entering into dialogue and then partnership with the diversity of other communities whether it be by academic field (e.g., social sciences), race, or faith tradition. The EJ movement arose out of the civil rights movement among African American Baptists, and religious organizations, as moral advocates of justice, are often where environmental justice-affected communities gather and organize. The *Visions* acknowledged that religious groups are linking values to an ethos of environmental stewardship, and require the integration of contemporary and rigorous ecological knowledge into this movement.

Next steps for ESA—linking ecology and environmental justice

This symposium and set of papers was one of several initiatives developed following recommendations presented by the environmental justice task force to the ESA Governing Board and Council in August 2005 (Jablonski et al. 2005).

To accomplish the mission of the Ecological Society of America, the Environmental Justice (EJ) task force recommends that ESA recognize that:

- 1) All ESA members should understand the relationship between ecology and EJ, and
- 2) ESA and its members should work to address EJ issues.

In order to achieve these goals, the EJ task force recommends that ESA:

- 1) Develop a strategy to engage ESA members in EJ activities through:
 - a. educating members in EJ principles by producing an ESA Position Paper
 - b. identifying ESA members with expertise and interest relevant to EJ

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- c. assisting ecologists in identifying the EJ-relevant dimensions of their field
 - 2) Obtain sufficient resources for sustained and staffed effort by:
 - a. committing funds for staff and budget support
 - b. participating in opportunities for external funding
 - 3) Encourage interactions with organizations engaged in EJ issues by:
 - a. collaboration with other professional organizations
 - b. involvement in major environmental projects (e.g., UN decade on education for sustainable development)

The *Linking Ecology and Environmental Justice* symposium and a review of our progress over the past decade in addressing EJ suggests our need to develop strategies that will continue to help ESA members conduct science useful in decision-making through incorporation of societal concerns and community issues, and confront barriers between ecologists and EJ practitioners as well as the barriers that ecologists hold within ourselves.

In addition to the recommendations already cited in the report of the EJ task force, ways to advance relationships between ecology and EJ include encouraging ESA initiatives that will advance the role of ecologists in EJ, surveying ESA members who have participated in EJ activities to identify perceived barriers and opportunities, and launching an ESA member section on EJ and ecology.

The journey ahead invites us to build upon the strength of the inclusive thinking and diversity that is inherent in our field and to seize the opportunities presented to us in our communities. As our symposium presenters have done, we can look for the win-win solutions where our assets and interests as scientists can best be of service to societal needs. We can engender hope by telling the story of our successes, and support each other in future plans. We must continue to name the barriers and confront the constraints that prevent us from applying ecological knowledge to societal challenges of environmental injustice. In the words of Mahatma Gandhi, "Become the change you want to see." Embarking upon such a vision at service to society will help recapture, rekindle, and courageously fulfill the dream that led us to dedicate ourselves to the field of ecology and will attract younger, diverse members to the field of ecology. All this will ensure that ecologists are contributing the relevant ecological knowledge and perspective to address environmental injustice in our society, and are an integral part of how EJ defines itself as a field in the years ahead.

Acknowledgments

This article represents a summary of concluding remarks for the *Linking Ecology and Environmental Justice* symposium at the 2006 ESA Annual Meeting in Memphis, Tennessee. Organizers: George Middendorf (Howard University), Charlie Nilon (University of Missouri-Columbia), and Leanne Jablonski (Marianist Environmental Education Center). The authors are grateful for the travel grant support from the University of Dayton.

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