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Why the Environment Needs National Service

Brian R. Trelstad

“Houston, we have a problem. . . .”

On July 20, 1969, when “man” landed on the Moon, the United States achieved a remarkable scientific and technological breakthrough. “One small step for . . . man; one giant leap for mankind”; Neil Armstrong’s voice crackled through Mission Control to the millions around the globe who were watching that moment, transfixed by their television sets. Everyone was watching. Everyone that is, but my mother—and the handful of other mothers around the globe who were giving birth at the same moment—to people like me, a generation of moon children.

Ushered into the promise of new technological solutions to environmental problems, my generation has been buffeted by continuing environmental crises. Professor Timothy Duane of the City and Regional Planning program at Berkeley, who lectures on the emergence of the current regulatory regime in the context of the success of our space exploration programs, has directed our attention to Love Canal, the spontaneous combustion of the Cuyahoga River, the oil embargo of 1973 and consequent failure to develop an adequate public transportation response to a potential natural resource shortage, Three Mile Island, the Exxon Valdez spill, and environmental racism, to name a few. Our nation’s inability to tackle environmental problems has brought us to the point where the environmental questions are less of an issue than the mechanistic framework we use to approach these problems. In short, it is as if we are radioing to our own “Houston,” our environmental control and command center, “we have a problem.” We are stuck in a positivist approach to environmental problem solving when we need a new and more integrated approach that respects the interdependence of values, knowledge, and the environment.¹

This article argues first that the environmental movement needs to recognize the strengths and weakness of science in environmental policymaking;

second, that although we need not reject science, we must explore new ways of problem solving, including but not limited to national service; and third, that we need to keep the environment integral to all national service programs and all efforts of civic revitalization. By drawing on my own personal experiences in the environmental service field, I underscore the role that young people can play in the American environmental and national service movements, particularly by challenging our orthodox thinking with creative and diverse solutions to long-standing problems. The process of building a constituency of young people who understand environmental problems at the community level may turn out to be more important than the scientific advancements that we also need to reverse our present and unsustainable course.

The Limits of Science in Environmental Policy

Very rarely in debates about environmentalism do people look to the past. All too often, we are riveted on the present crisis and can only hope for future scientific advances that will solve our current problems. Before writing about the limits to science, I think it important to describe some of the essential events of the last century that have led us to where we are today.

In 1893, Frederick Jackson Turner pronounced the close of the American frontier. Without the possibility of further expansion (and exploitation) westward, the leadership of our country realized the need to manage our natural resources more efficiently. The creation of the Forest Service (in 1879, reorganized in 1900) and the National Park Service (1916) during the Progressive Era established these agencies as scientific managers of our nation's resources. "Conservation, above all, was a scientific movement and its role in history arises from the implications of science and technology in modern society," wrote Samuel Hays in establishing how the history of the conservation movement was distinct from the contemporary moral overtones that had begun to be associated with the term "conservation" in the early 1960s.² Aldo Leopold, if not the father of modern environmentalism then certainly part of its pantheon, was a distinguished scientist who began to weave ethical considerations into his writing, but he could not replace the primacy of science with ethics as the framework for resolving the nation's increasing environmental problems.³ The environmental regulations and agencies that emerged from the 1960s and early 1970s, including the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Endangered Species Act, all put inordinate faith in the ability of science to define, regulate, and solve environmental problems.

A quarter of a century later, it is clear that this approach has limits. The problem is not with science *per se*, but with a scientific approach that transforms one tool (among many) into the framework for decision making, a framework that precludes morality or politics from entering into the discussion about the right decision or the "truth." Arthur Maass argues that this "scientific elitism" has characterized the conservation movement through the

1960s, with broader discretion over decisions placed in the hands of experts and out of the reach of lay people, including elected representatives.⁴ Scientific dogmatism controls decisions by limiting those who have access and imposes “scientific solutions” on society. Dogmatic science is the methodology of the Army Corps of Engineers (and their century of scientifically precise, but failed, flood management strategies), tobacco companies, and authoritarian regimes. As David Orr writes, “The problem with scientific fundamentalism is that it is not scientific enough. It is rather a narrow-gauge view of things that is ironically unscientific, which is to say, unscientific, about science itself and the larger social, political, economic, and ecological conditions that permit science to flourish in the first place.”⁵

The problem, simply stated, is not with the power of science, but when it becomes the science of power. When the freedom of scientific inquiry is transformed into the rigidity of scientific planning, and when inductive and descriptive science creates deductive and prescriptive policies, we run the risk of placing too much stock in universal rules of science that may not apply in every environment or social context. The beauty of the natural sciences is that atomism (separating distinct pieces from the whole for better understanding) and mechanism (identifying direct causal relationships) work well in closed systems, but our environmental problems exist at the nexus of open and interconnected economic, natural, and social systems. The natural sciences have a certain predictability and replicability that the social sciences—those with “physics envy,” including economics, political science, and sociology—simply do not have. When science leaves the lab and enters the realm of policy, it needs to do so not as the dominant approach but cognizant of both its limits and of the broader values that guide society.

More recently, however, another kind of science has played an equally important but contrasting role in environmental protection. What I loosely call “liberation science”—the rigorous science of the underdog in the face of unbending authority—has been the hallmark of some of the environmental movement’s most prominent watershed events in the last few decades. Consider Rachel Carson’s *Silent Spring*, which brought to the nation’s attention the problems with pesticides. In the face of a withering attack from industry, including challenges to her legitimacy as a scientist, Carson held firm and continued to reinforce her main points: that science had been removed from a larger public policy framework and that “science could be purchased and corrupted.”⁶ In the 1990s, the work of sociologist Robert Bullard has documented the persistent siting of toxic waste in low-income African American communities, adding scientific support to the grassroots environmental justice movement’s claims of environmental and social inequality.⁷

In a democratic process, liberation science can be used to challenge prevailing beliefs, question institutional authority, and offer viable alternatives to long-standing problems. This kind of science recognizes that the sciences, especially the social sciences, are not objective; rather they are caught in an undeniably subjective web of social institutions that allow rational inquiry

within an irrational context, one fraught with the accidents of history, the passion of disciplinary rivalry, and the whims of public interest. Recognizing the role of science in society as one tool among other political, economic, and moral methods of inquiry is important for the future of environmental protection.

Continued adherence to the model of dogmatic science, however, limits scientists and policymakers to making only marginal changes in a social and institutional framework that may be fundamentally flawed. The environmental movement today is still primarily characterized by a narrow scientific interpretation of environmental protection. But an emerging group of leaders, including some younger environmentalists, is working on the much broader and difficult challenge of weaving economic sustainability and social justice into the tapestry of environmental-quality issues. Without this moral recommitment to understanding these connections, we are in danger of simply rearranging the deck chairs on the *Titanic*. The key, however, is to use science—as one among all of the tools that we have at our disposal—in a way that moves us beyond meaningless holism to a more rigorous understanding of the integration of environment, development, and justice.

Why the Environment Needs National Service

Enter the concept of national service. Environmental service programs are rooted in the New Deal's Civilian Conservation Corps, which operated from 1933 through 1942 and employed over two million young men in building the infrastructure of our state and national parks. In the last fifty years, cycles of federal support for national service have provided successive generations with the opportunity to serve their country as stewards of the environment. The latest iteration of national service, the AmeriCorps program created in 1993 by the Clinton administration, features over six thousand young people serving in close to three hundred environmental service sites across the country. In addition to direct service activities, the programs offer varying levels of service learning, or a formal connection between the service experience and individual learning.

In contrast with the earlier versions of environmental service, where program priorities were established centrally by federal and state agencies (consistent with Maass's concept of scientific elitism), national service programs today are designed by communities in response to their self-identified needs. AmeriCorps (and a parallel wave of environmental service learning programs on college campuses) can help address some of the shortcomings in our current approach to environmental problem solving in three ways: first, by unleashing the energy and creativity of young people to approach and solve problems in unconventional ways; second, by allowing a diversity of approaches to flourish, rather than relying on a few best practices; and third, by building a constituency of young people who understand the causes of, and solutions to, environmental problems firsthand.

In my own experience with, and observations of, service learning projects, creative solutions that have defied seasoned experts often emerge because reasonably intelligent young people ask basic questions that fall slightly “outside the box.” As an undergraduate in college, the student environmental group I cochaired approached the director of the university’s physical plant to ask what could be done about campus energy consumption. After several meetings discussing the campus’s growing energy demand, and after batting around possible technical solutions to the problem, the students came up with a radical idea: publicize each dormitory’s energy consumption patterns and award prizes to the dorm that saves the most. With a modest budget of \$5,000 and the full support of the administration, the Ecolympics was born. Using existing data, we created a public information campaign that reached 95 percent of Harvard’s students and rewarded the most energy-efficient houses with free Ben & Jerry’s ice cream parties. Six months later, the university had saved 17 percent of its energy, and close to \$500,000. The model was successful enough to be exported (and adapted and improved) at about two dozen colleges across the country, but no more.

The limited spread of the Ecolympics illustrates my second point: creativity generates a diversity of new approaches, posing innovative solutions to old problems. I learned the hard way that a single best practice or a deductive model that fits all situations is inadequate for the complexity of problems we face in the multiplicity of communities we live in. When I first started to work at the Center for National Service and the Environment (the national training and technical assistance center for environmental service programs), I wanted to find the two or three environmental service activities that had universal value in every community. I was looking for the “silver bullets” that could make an irrefutable difference wherever they were adopted. I wanted to find a community garden design such that whatever community you worked in, creating a garden would transform a vacant lot into an urban oasis, displacing drug dealers, improving social interaction, and enhancing the environment.

The universal best practices continue to elude me. What I found instead were three dozen programs working on community gardens in as many cities, each with different goals, procedures, and partnerships. I also found a dozen corps working with the forest service on twelve unique projects, two dozen watershed restoration projects, ten lead abatement projects, and so on. After grasping that people were not doing the same thing and that they were not looking for the answer from on high, I realized that instead of a single model to apply in every case, we need more examples of success stories for other communities to draw upon in diverse situations.

The value of having unique approaches to environmental problems goes beyond simply improving the way we protect the environment of our communities. Unique approaches designed in the community, often led by young people, build a constituency for environmental protection that recognizes the limits of command-and-control regulation and understands the complexity

and nuance of community-based solutions. Environmental historian Donald Worster writes that the “promotion of democracy, defined as the dispersal of power into as many hands as possible, is a direct and necessary, though perhaps not sufficient, means to achieve ecological stability.”⁸ That dispersal of power requires that enough capable hands exist who understand the environment and its relationship to our communities; it requires a generation of AmeriCorps graduates who have grappled with the integrated nature of environmental problems. This constituency of environmentally literate young people will be able to navigate the complex web of community dialogue, scientific information, policy questions, and moral choices that our country will face over the next several decades.

Why National Service Needs the Environment

If we accept the idea that service should be at the heart of environmental protection, then we must also accept the argument that the environment must be at the heart of service. While national service programs seek to “build stronger communities,” they fail to realize the fundamental role that the environment plays in defining communities. In a brief literature review of some of the best service learning curricula that I have come across, I was disappointed at how marginal the environment was in the civic lessons being taught. The environment is treated as one narrow political constituency, rather than a central factor in framing the history, economics, and culture of a community. For example, the Close Up Foundation’s Action for Citizenship Today, one of the most well-respected teacher’s guides to civic education (and used by hundreds of national service programs), makes only oblique references to the environment. John McKnight’s community-asset mapping technique leaves very little room for identifying environmental assets as defining elements of a community’s “capital.” These and other service learning methodologies presuppose that every American community has emerged from a homogenous plane of green trees, blue skies, and fields of golden wheat.

This belief in an undifferentiated landscape does a disservice to students and young people who really want to understand how their communities work and what it takes to “rebuild” them. Our service learning and civic curricula are in danger of becoming as narrow and compartmentalized as the rigid framework of the dogmatic social and natural sciences described above. Without change, our future will have political scientists writing civics textbooks, natural scientists developing environmental studies, and a cadre of service learning “professionals” developing narrow and specialized service programs that fail to integrate fundamentally interconnected ideas. The future of the environmental and national service movements lies in recognizing that our communities and the environment are far too complex to be reduced to simple models or a handful of single-issue case studies.

By starting with the environment, national service programs can understand how communities are situated at the nexus of overlapping natural, social, and economic systems. By using the many tools that we have—be they science or creative young minds—to develop new approaches to our long-standing environmental problems, the environmental and national service movements may join forces to help us recast our natural resource policies in a way that respects the interconnection between science and society, values and the environment.

Notes

1. Norgaard, R. B. "Beyond Materialism: A Coevolutionary Reinterpretation of the Environmental Crisis." *Review of Social Economy*, 1995, 53, 475–492.
2. Hays, S. *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement 1890–1920*. Cambridge, Mass.: Harvard University Press, 1959, pp. 1–2.
3. Leopold's land ethic is briefly stated: "A thing is right when it tends to promote the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." *A Sand County Almanac*. New York: Oxford University Press, 1987, p. 225.
4. Maass, A. "Conservation." In *International Encyclopedia of the Social Sciences*. Vol. 3. New York: Free Press, 1968, p. 272.
5. Orr, D. *Earth in Mind*. Washington, D.C.: Island Press, 1994, p. 45.
6. Gottlieb, R. *Forcing the Spring: The Transformation of the American Environmental Movement*. Washington, D.C.: Island Press, 1993, p. 86.
7. Bullard, R. *Dumping in Dixie*. Boulder, Colo.: Westview Press, 1990.
8. Cited in Grumbine, R. E. *Ghost Bears: Exploring the Biodiversity Crisis*. Washington, D.C.: Island Press, 1994.

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