

Conservation and the Myth of Consensus

M. NILS PETERSON,* MARKUS J. PETERSON,† AND TARLA RAI PETERSON‡

*Department of Fisheries and Wildlife, Michigan State University, 13 Natural Resources Building, East Lansing, MI 48824-1222, U.S.A., email peter529@msu.edu

†Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX 77843-2258, U.S.A.

‡Department of Communication, University of Utah, Salt Lake City, UT 84112-0491, U.S.A.

Abstract: *Environmental policy makers are embracing consensus-based approaches to environmental decision making in an attempt to enhance public participation in conservation and facilitate the potentially incompatible goals of environmental protection and economic growth. Although such approaches may produce positive results in immediate spatial and temporal contexts and under some forms of governance, their overuse has potentially dangerous implications for conservation within many democratic societies. We suggest that environmental decision making rooted in consensus theory leads to the dilution of socially powerful conservation metaphors and legitimizes current power relationships rooted in unsustainable social constructions of reality. We also suggest an argumentative model of environmental decision making rooted in ecology will facilitate progressive environmental policy by placing the environmental agenda on firmer epistemological ground and legitimizing challenges to current power hegemonies that dictate unsustainable practices.*

Key Words: democracy, environmental conflict, social construction, sustainable development

Conservación y el Mito del Consenso

Resumen: *Los políticos ambientales están adoptando estrategias basadas en consensos para la toma de decisiones ambientales en un intento por incrementar la participación del público en la conservación y facilitar las potencialmente incompatibles metas de la protección y el crecimiento económico. Aunque tales estrategias pueden producir resultados positivos en contextos espaciales y temporales inmediatos y bajo algunas formas de gobierno, su uso excesivo tiene implicaciones potencialmente peligrosas para la conservación dentro de muchas sociedades democráticas. Sugerimos que la toma de decisiones ambientales con base en la teoría del consenso conduce a la dilución de metáforas de conservación socialmente poderosas y legitima las actuales relaciones de poder basadas en construcciones sociales de la realidad no sustentables. Finalmente, sugerimos que un modelo argumentativo de la toma de decisiones ambientales basado en ecología facilitará la política ambiental progresiva al colocar a la agenda ambiental sobre terreno epistemológico firme y legitimar retos a los poderes hegemónicos actuales que dictan prácticas no sustentables.*

Palabras Clave: conflicto ambiental, construcción social, democracia, desarrollo sustentable

Introduction

Two of the most influential conservation essays of the twentieth century identify democracy as both root cause and potential solution for our environmental woes. Hardin's (1968) solution to overpopulation was mutually agreed-upon coercion, achieved through the democratic process. Before White (1967:1204) implicated Christian-

ity as a root cause of humanity's war on nature, he wrote, "our ecologic crisis is the product of an emerging, entirely novel, democratic culture. The issue is whether a democratized world can survive its own implications." Ironically, critical analyses of these essays largely ignored the importance of democracy in dictating the success of conservation initiatives. Although neither essay changed the way democracy was practiced in regard to environmental

issues, mutually agreed-upon coercion, with varying degrees of mutual agreement, has been the status quo for environmental decision making. From at least the presidency of Theodore Roosevelt until relatively recently, U.S. environmental policy has been rooted in conflict, argumentation, and negotiation (Peterson 2004).

The shift from conflict to consensus models for environmental decision making gained rapid momentum during the late 1980s. This change was facilitated by the meteoric rise of sustainable development. The nexus between consensus models and sustainable development allowed them to ride the collective surge of publicity and policy support (Aguirre 2002:101) arising from the Brundtland Report (World Commission on Environment and Development 1987) and the United Nations Conference on Environment and Development in 1992. Sustainable development's focus on local conditions, diversity, participation, and locally produced development strengthened this link (Kothari 1990; de la Court 1992; Peterson 1997), particularly because consensus is more readily attainable at smaller, local scales.

The transition was further facilitated in the United States by presidential support for the process of habitat conservation plans (HCPs). The possible fungibility of economic and social capital engaged the attention of administrators and managers—extending to U.S. presidents—who sought less-costly alternatives to traditional privatization, command and control, and subsidy-based approaches to natural resource management. In the 1992 presidential race, George H.W. Bush called for amending the Endangered Species Act to give more weight to economic concerns, whereas Bill Clinton promised to move the country beyond a false choice between environmental protection and economic growth. The ensuing Clinton administration used the HCP process to achieve the necessary flexibility to attempt to fulfill this pledge (Doremus 1999). Implicit within this promise was reconciliation of the fundamental schism among property rights, development, and environmental protection on private lands (Peterson et al. 2002). The HCP process was used “selectively” and “experimentally” for the first 10 years of its existence (Shoenbaum & Rosenberg 1996:564), but its potential to transcend the dichotomy between environmental protection and economic growth and property rights probably encouraged overuse in recent years. The 14 permits issued prior to the 1992 presidential race pale in comparison to the 425 approved as of July 2003 (U.S. Fish and Wildlife Service 2003).

As is typical for fashionable notions experiencing a collective surge, consensus models are ill defined. They generally purport to engender “win-win” outcomes, educate participants, and foster a sense of community. They also have a variety of labels including community-based conservation (Western & Wright 1994), comanagement (Chase et al. 2000), collaborative resource management (Wondolleck & Yaffee 2000), and community-based ini-

tatives (Brunner et al. 2002). Although each consensus model defines success independently, all share varying degrees of commitment to mutual agreement as an end goal. Without that unifying concept, consensus devolves into a meaningless term that includes activities ranging from public relations campaigns to public hearings.

Apathy and/or ignorance often receive the blame for humanity's failure to address quantified declines in biodiversity and ecosystem and biospheric function (Ehrlich 2003; Freyfogle 2003; Orr 2003). Although this blame is well placed, the movement to centralize consensus-based approaches in environmental decision making further reinforces both apathy about and ignorance of conservation issues. Ironically, about the time consensus was gaining momentum among environmental practitioners, its conceptual weaknesses were being thoroughly deconstructed by social theorists (Russman 1987; Tukey 1988; Hikins 1989). The theoretical debate about consensus theory and its philosophical antecedents is by no means over, but its implications are decidedly unfavorable for conservation in political contexts such as the United States. Here we outline the theoretical underpinnings for consensus, describe potentially dangerous implications of its application, and suggest potential advantages accrued by retaining an argument-based model grounded in ecology as a fundamental component of environmental decision making.

Consensus Theory

Consensus processes are philosophically rooted in social constructionism (Hikins 1989). From a constructionist perspective, the existence of any “reality” independent of human values, symbols, and meanings is questioned (Scott 1967; Hikins 1989). Therefore, meaning is created rhetorically and becomes reality when accepted by consensus in a community. Different communities will inevitably reach consensus on different meanings, thus creating different realities. From this perspective, no reality constrains decision making other than consensus among community members (Hikins 1989).

An approach to environmental decision making rooted in this epistemology seems intuitively irresponsible and has been used to legitimize existing patterns of environmental degradation. For instance, the dubious claim that sustainable development can occur indefinitely alongside current economic growth patterns (Czeck 2000; Gowdy 2000) is valid only if reality is socially constructed so as to ignore both ecological research and practical experience. The fundamental premise of HCPs—that development can occur without impairing biodiversity conservation—relies on the same assumptions (Redford & Richter 1999). Although consensus processes do not necessarily result in support of the status quo, they do tend in that direction.

Unfavorable Conservation Implications of Consensus Theory

Management by consensus is dangerous because the attempt to placate everyone risks the attenuation of any impetus for change and reifies the status quo. Because consensus implies agreement, such processes are especially vulnerable to stalemate by veto of a single group. Further, although many consensus conveners and facilitators affirmatively attempt to expand the diversity of people involved in public processes and create an environment that promotes egalitarian participation, such processes necessarily occur within existing political structures, where some groups have more power than others (Mouffe 2000). These groups have the advantage in shaping group consensus so as to favor continuation of existing hierarchical relationships.

Dilution of Socially Powerful Metaphors

The story of sustainable development demonstrates the fate of powerful conservation metaphors when subjected to consensus theory. For a time it appeared that virtually everyone agreed with the goal of sustainability, something conservation biologists advocated in an attempt to encourage careful use of natural resources (Leopold 1949; Allen & Hoekstra 1993). With the publication of *Our Common Future* (World Commission on Environment and Development 1987), which linked sustainability to development and intergenerational and international equity, the idea gained massive public currency. An explosion in academic publications utilizing the term soon followed (Aguirre 2002). This surge represented a societal shift legitimated by science that capitalized on residual uncertainty inherent to the famous definition of sustainable development—development meeting “the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 1987; Lélé & Norgaard 1996).

Within the paradigm of consensus theory, each “community” embracing sustainable development could create its own reality for the concept. For example, both academics and policy makers vigorously endorsed sustainable development, although they had no shared definition for the concept (Aguirre 2002). Those initially committed to the notion vociferously petitioned for interpretations springing from their own ethical perspective. With no requirement to make values and politics explicit, conservationists often unknowingly rooted the concept in their personal moral sentiments (Lélé & Norgaard 1996). Multiple meanings with multiple implicit value assumptions evolved (Peterson 1997). Power interests, in addition to academicians, joined in the attempt to co-opt the meaning and use of the term (Aguirre 2002). For example, business-as-usual interests have “colonized” sustainable

development for use in marketing campaigns designed to convince the public that “green consumption” would do away with environmental problems associated with the status quo (Stauber 1994; Woollard & Ostry 2000). This melee led to an array of perspectives toward sustainable development rooted in vastly different values and beliefs.

Many advocates of sustainable development discarded the concept when the implicit, morally monistic ethics defining sustainable development were revealed. One can imagine the negative response of biocentric interests when they discovered that sustainable development was “code for perpetual growth. . . force-fed to the world community by the global corporate-political-media network” (Willers 1994:1146). Deep ecologists rejected the Brundtland version of sustainable development for its implicit anthropocentric tendencies (Jacob 1994), and Callicott and Mumford (1997) were quick to reject anthropocentric versions of sustainable development in favor of “ecosystem sustainability.” Ironically, efforts to isolate a single meaning for sustainable development in a world of diverse social constructions of reality rendered the term meaningless. When the implicitly conflicting value-based assumptions of competing views of sustainable development (Jacob 1994; Lélé & Norgaard 1996) and the failure of the paradigm to meet the expectations of each perspective became apparent, it fell from grace among ecologists nearly as rapidly as it had become popular (Aguirre 2002). Currently, proponents of industrialization, globalization, and development are the primary group interested in conservation issues that has not distanced itself from the term (Gunningham et al. 2003).

Environmental Costs of Legitimizing Current Social Constructions of Reality

The emphasis on win-win outcomes in consensus-based models for environmental decision making is problematic in part because we achieve the illusion of objectivity and universal reason only by bracketing or masking conflicts among participating groups and individuals. We thus treat as truth that which could just as easily be understood as hegemony. As Mouffe (2000) contends, the illusion of consensus is fatal to democracy because a healthy democratic process requires recognition of differing interests and the recognition that open conflict about differing interests is legitimate.

Moreover, social unanimity can only maintain existing hierarchies—currently economic growth and efficiency (Czech 2000)—it cannot change them (Mouffe 1993; Mouffe 2000). When change requires social unanimity, one dissenting group or individual can veto any decision, and in liberal democracies dissent is virtually guaranteed. Moreover, those who currently hold the reins of power rarely are willing to give it up. They are also typically willing and able to hold out for their perspective because they have access to more resources (Ivie 2002; Mouffe

1993). For this reason, dominant elites generally prefer consensus-based approaches over those based on argumentation.

Ivie (2004) specifies that, “democratic dissent in a period of war or crisis is as alarming to the purveyors of prevailing opinion as it is critical to a nation’s political welfare.” Reliance on consensus processes not only jeopardizes democracy in general, it jeopardizes conservation specifically by legitimizing existing hegemonic configurations of power and precluding resistance against dominant elites. It artificially reduces power relationships to superficial conflicts of interest, presumably reconcilable through mutual good will. Using such an approach, dogma associated with private property rights, the so-called free market, or unavoidable globalization becomes reality. For example, the perception that globalization is driven exclusively by technological aspects of the information revolution results because consensus-based approaches allow us to exclude leftist views from politics (Mouffe 2000). Although concentration of media ownership exacerbates this tendency in the United States, the realities of political power ensure a similar pattern in other liberal democracies (Herman & Chomsky 2002).

Despite the fact that leftist perspectives enjoy greater prominence in Western Europe than in the United States, they remain firmly alternative. Without debate about its political dimensions, government practices that encourage or discourage it, and how those practices accommodate both large international corporations and small businesses, the particular contours of globalization are naturalized. In the absence of such debate, existing hierarchies become uncontested reality rather than outgrowths of a neoliberal economic goal. This reality then has serious implications for sustainable environmental policy. Likewise, reliance on consensus-based approaches to policy formation precludes public debate about the sustainability of any conservation practice. Current environmental policy is not producing anything remotely sustainable, from an ecological perspective, and will not unless the current power structure can be challenged to incorporate new information on the consequences of human action.

Argument-Based Model

An approach to public participation grounded in argument offers a useful alternative to the illusion perpetuated by consensus theory. When ecosystems are defined to include material reality that is not socially constructed, policy by consensus is not an option until the systems in question are explicated by science and understood by society. Science alone is unlikely to provide the answer for any policy question, however, because the hypothetico-deductive scientific method suggests reality only by methodically eliminating alternatives (Murphy &

Noon 1991), not by proving truths. Further, although the scientific method provides an excellent basis for determining what is or is not, it offers little guidance in deciding what should be done.

Ecosystem management requires decisions that will affect every individual’s quality of life and standard of living and the future of the human species. These decisions cannot wait for some hypothetical future when the polity is sufficiently disciplined to yield a traditionally rational agreement based on science. Making environmental policy decisions without soliciting public input results in unacceptably high transaction costs and a growing divide between an apathetic public and the environment (Daniels & Walker 2001). A decision-making model that emphasizes argumentation rather than consensus provides a practical means for involving the public in environmental policy without giving up on science.

Mouffe (2000) argues that the goal of politics in liberal democracies, such as those found in Western Europe and the United States, is to create unity through conflict. From this perspective, participants identify opponents as legitimate adversaries endowed with the same rights afforded to friends. This does not extend to condoning the adversary’s policy preferences, however. By maintaining a productive tension between cooperation and competition, and not privileging consensus, argumentation can decrease the potential for transforming adversaries into enemies. This conception of public deliberation places a premium on communication strategies that are situated, partial, ambiguous, and tenuous (Ivie 2002)—they are addressed to people who may choose to ignore, deliberately misinterpret, or struggle with the message. This bias toward a mode of participation that privileges dissonance ironically promotes the values of tolerance and integration by directing attention toward the problem of how people in political communities might transcend themselves sufficiently to observe their own foibles even while acting strategically toward one another—that is, how they might act with maximum consciousness by rounding out their individual perspectives through verbal sparring. Thus, a perspective grounded in argument offers a realistic means of negotiating the politics of opposing identities and interests that confront one another in environmental policy deliberations.

Accepting the existence of incompatible aspirations among members of an active democracy should foster interdisciplinary conversations about systemic approaches to developing scientifically informed and socially legitimate environmental policy. Public participation grounded in argument requires that society be sufficiently open to allow political competition yet sufficiently stable to render that competitive engagement safe. Although it does not directly alter the social hierarchies that have led to environmental degradation, it at least raises awareness of these structures through the dialogues it enables (Peterson 1997:171–185). Why focus our efforts

on achieving the improbable and possibly unwanted goals of monism in science and government, when an emphasis on negotiation (de Graaf et al. 1996) within democratic processes (Mouffe 2000) can explicate the implicit value judgments required for conservation to be successful, and simultaneously empower citizens to participate in the application of science to democracy? Within this argument-based model, environmental decision making reflects deliberation, debate, and conflict about both direct and indirect scientific observations of the physical world.

Conservation Implications

This essay is not intended to debate the philosophical roots of consensus theory, social constructionism, or ecology. In fact, a constructionist version of reality predicts current social responses to environmental degradation remarkably well. The introduction of virtually every scientific article, essay, and book describing sustainability, biodiversity, conservation, or environmental quality is replete with documented cases of anthropogenically induced extinctions, global warming, human starvation in developing countries, wetland loss, loss of entire hydrological cycles, soil loss, melting polar ice caps, holes in the ozone layer, acid rain, desertification, deforestation, and unprecedented global pollution. Yet the public does not act because, although these facts may be independently verified, the public has not socially constructed them as immediately salient realities.

Rather than suggesting that constructionism and consensus theory are flawed philosophically, we argue that they are flawed practically. The shift toward consensus in conservation planning will have deleterious environmental consequences if continued at its current rate. If social dominance alone constitutes reality, powerful conservation metaphors such as sustainable development will be colonized by proponents of the most powerful social construction of reality, and the conservation community will be rendered powerless to challenge the dominant economic growth and efficiency paradigm (Czech 2000) for decision making.

Argumentation, and the science-based deliberation it entails, places conservation on more firm epistemological ground than social constructionism and consensus because the aforementioned environmental problems are the best approximation of reality science has. A public-participation model grounded in ecology need not deny social impacts on the direction science takes, but it does suggest that, through the hypothetico-deductive method, we can iteratively improve the predictive capacity of theories and generate more sustainable environmental practices (Kitcher 2001). From this perspective, the knowledge in which environmental policy is rooted improves over time.

Conservation biology is struggling to quantify current declines in biospheric function and generate theories with predictive power about the outcome of human actions. But because science depends on testing alternative research hypotheses (Chamberlain 1890; Romesburg 1981), few ironclad, scientifically derived solutions to environmental problems will be achieved in a timely manner (Soulé 1986). Consensus-based approaches to environmental policy are necessary but insufficient to ensure the best decisions. Although socially constructed realities form a significant dimension of any policy, they cannot change material reality. Public participation approaches rooted in argument, rather than consensus, should urge all participants to understand agreements reached through the political process as temporary hegemonic configurations of power that are open to future dissent (Peterson 1997). This does not preclude seeking consensus in appropriate situations. Although argument- and consensus-based approaches can coexist, a fundamental difference that is critical to conservation management remains. An emphasis on argument legitimizes and facilitates change, whereas an emphasis on consensus further legitimizes continuity or stability.

When scientific information about an environmental issue has high predictive power and its application is relatively uncontested, we have no quarrel with consensus-based approaches. Acting as though these conditions exist when they do not, however, legitimizes further damage to the environment and increases apathy and cynicism among the public. Stakeholders who believe in the power of a public participation process to create consensus enter the process with inflated expectations, only to be disenchanted by the inexplicably contrary behavior of those with opposing views (Peterson et al. 2002). This leads to political cynicism about conservation, which further inflates public apathy and restrains progressive environmental policy (Ehrlich 2003; Freyfogle 2003; Orr 2003). Given that continued human existence is deeply intertwined with the entire biosphere, an enthusiasm for ecology may encourage us to discover that the challenge of a full public participation in environmental policy deliberation requires of its participants an eagerness to engage each other in serious debate, rather than retreating into consensus (Scott & Smith 1969). Our material existence, no less than our political life, depends increasingly on our competence to understand and nurture argumentative practices that enable democracy to survive its own implications.

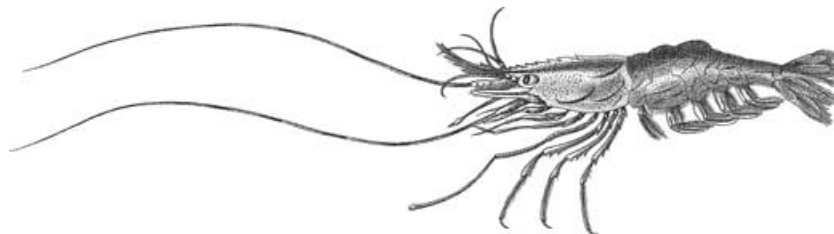
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Literature Cited

- Aguirre, B. E. 2002. "Sustainable development" as collective surge. *Social Science Quarterly* **83**:101-118.
- Allen, T. F. H., and T. W. Hoekstra. 1993. Toward a definition of sustainability. Pages 98-107 in W. W. Covington and L. F. DeBano, editors. *Sustainable ecological systems: implementing an ecological approach to land management*. Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.
- Brunner, R. D., C. H. Colburn, C. M. Cromley, R. A. Klein, and E. A. Olson. 2002. Finding common ground: governance and natural resources in the American West. Yale University Press, New Haven, Connecticut.
- Callicott, J. B., and K. Mumford. 1997. Ecological sustainability as a conservation concept. *Conservation Biology* **11**:32-40.
- Chamberlin, T. C. 1890. The method of multiple working hypotheses. *Science* **15**:92-96.
- Chase, L. C., T. M. Schusler, and D. J. Decker. 2000. Innovations in stakeholder involvement: what's the next step? *Wildlife Society Bulletin* **28**:208-217.
- Czech, B. 2000. Economic growth as the limiting factor for wildlife conservation. *Wildlife Society Bulletin* **28**:4-15.
- Daniels, S. E., and G. B. Walker. 2001. Working through environmental conflict: the collaborative learning approach. Praeger Publishers, Westport, Connecticut.
- de Graaf, H. J., C. J. M. Musters, and W. J. ter Keurs. 1996. Sustainable development looking for new strategies. *Ecological Economics* **16**:205-216.
- de la Court, T. 1992. Critique of the dominant development paradigm. *Development* **2**:42-46.
- Doremus, H. 1999. Preserving citizen participation in the era of reinvention: the Endangered Species Act example. *Ecology Law Quarterly* **25**:707-717.
- Ehrlich, P. R. 2003. Get off the train and walk. *Conservation Biology* **17**:352-353.
- Freyfogle, E. T. 2003. Conservation and the culture war. *Conservation Biology* **17**:354-355.
- Gowdy, J. M. 2000. Terms and concepts in ecological economics. *Wildlife Society Bulletin* **28**:26-33.
- Gunningham, N., R. A. Kagan, and D. Thornton. 2003. Shades of green: business, regulation, and environment. Stanford Law and Politics, Stanford, California.
- Hardin, G. 1968. The tragedy of the commons. *Science* **162**:1243-1248.
- Herman, E. S., and N. Chomsky. 2002. *Manufacturing consent: the political economy of the mass media*. Pantheon, New York.
- Hikins, J. A. 1989. Through the rhetorical looking-glass: consensus theory and fairy tales in the epistemology of communication. *Communication Studies* **40**:161-171.
- Ivie, R. L. 2002. Rhetorical deliberation and democratic politics in the here and now. *Rhetoric and Public Affairs* **5**:277-285.
- Ivie, R. L. 2004. Prologue to democratic dissent in America. *Javnost, The Public: Journal of the European Institute for Communication and Culture* **11**:19-36.
- Jacob, M. 1994. Sustainable development and deep ecology: an analysis of competing traditions. *Environmental Management* **18**:477-488.
- Kitcher, P. 2001. *Science, truth and democracy*. Oxford University Press, New York.
- Kothari, R. 1990. Environment, technology and ethics. Pages 27-35 in J. R. Engels and J. G. Engels, editors. *Ethics of the environment and development*. University of Arizona Press, Tucson.
- Lélé, S., and R. B. Norgaard. 1996. Sustainability and the scientist's burden. *Conservation Biology* **10**:354-365.
- Leopold, A. 1949. *A sand county almanac and sketches here and there*. Oxford University Press, London.
- Mouffe, C. 1993. *The return of the political*. Verso, London.
- Mouffe, C. 2000. *The democratic paradox*. Verso, London.
- Murphy, D. D., and B. D. Noon. 1991. Coping with uncertainty in wildlife biology. *Journal of Wildlife Management* **55**:773-782.
- Orr, D. W. 2003. Walking north on a southbound train. *Conservation Biology* **17**:348-351.
- Peterson, M. N., T. R. Peterson, M. J. Peterson, R. R. Lopez, and N. J. Silvy. 2002. Cultural conflict and the endangered Florida Key deer. *Journal of Wildlife Management* **66**:947-968.
- Peterson, T. R. 1997. *Sharing the earth: the rhetoric of sustainable development*. University of South Carolina Press, Columbia, South Carolina.
- Peterson, T. R., editor. 2004. *Presidential rhetoric encounters ecology*. Texas A&M University Press, College Station.
- Redford, K. H., and B. D. Richter. 1999. Conservation of biodiversity in a world of use. *Conservation Biology* **13**:1246-1256.
- Romesburg, H. C. 1981. Wildlife science: gaining reliable knowledge. *Journal of Wildlife Management* **45**:293-313.
- Russman, T. A. 1987. *A prospectus for the triumph of realism*. Mercer University Press, Macon, Georgia.
- Scott, R. L. 1967. On viewing rhetoric as epistemic. *Central States Speech Journal* **18**:9-17.
- Scott, R. L., and D. K. Smith. 1969. Rhetoric of confrontation. *Quarterly Journal of Speech* **55**:1-8.
- Shoenbaum, T. J., and R. H. Rosenburg. 1996. *Environmental policy law: problems, cases, and readings*. Foundation Press, Westbury, New York.
- Soulé, M. E. 1986. Conservation biology and the "real world." Pages 1-12 in M. E. Soulé, editor. *Conservation biology: the science of scarcity and diversity*. Sinauer Associates, Sunderland, Massachusetts.
- Stauber, J. C. 1994. Going... going... green! *PR Watch* **1**:1-3.
- Tukey, D. 1988. Toward a spiritual critique of intersubjectivist rhetoric. *Journal of Communication and Religion* **10**:1-8.
- U.S. Fish and Wildlife Service (USFWS). 2003. Conservation plans and agreements database. USFWS, Washington, D.C. Available from http://ecos.fws.gov/conserv_plans/public.jsp (accessed July 2003).
- Western, D., and R. M. Wright, editors. 1994. *Natural connections: perspectives in community-based conservation*. Island Press, Washington, D.C.
- White, L. 1967. The historical roots of our ecologic crisis. *Science* **155**:1203-1207.
- Willers, B. 1994. Sustainable development: a new world deception. *Conservation Biology* **8**:1146-1148.
- Wondolleck, J. M., and S. L. Yaffee. 2000. *Making collaboration work: lessons from innovation in natural resource management*. Island Press, Washington, D.C.
- Woollard, R. G., and A. S. Ostry, editors. 2000. *Fatal consumption: rethinking sustainable development*. University of British Columbia Press, Vancouver, British Columbia.
- World Commission on Environment and Development. 1987. *Our common future*. Oxford University Press, Oxford, United Kingdom.



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