

INTEGRATING ENVIRONMENTAL AND AGRICULTURAL POLICY: A NORTH AMERICAN PERSPECTIVE

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ABSTRACT

Environmental policy and management in North America increasingly are rooted in an ecosystem management philosophy that emphasizes integration of ecological, economic, and social factors. This integrative orientation implies agriculture should be considered in ecosystem management solutions, but often this is not the case. Agricultural policies typically seek to maintain independent ownership units while environmental policies increasingly strive to foster interdependence among ownerships. This paper argues that these apparently conflicting policy goals might be reconciled without sacrificing the integrity of individual farms and ranches if policy initiatives are designed to maintain a dynamic tension between basic human needs to maintain territories and to form communities.

KEYWORDS

Ecosystem management; collaboration; watershed planning; environmental policy; agricultural policy.

INTRODUCTION

Environmental policy and management in North America increasingly are rooted in an ecosystem management philosophy that emphasizes integration of ecological, economic, and social factors (Kessler, 1992; LaJeunesse et al., 1995). Different authors describe ecosystem management in different ways, but nearly all descriptions emphasize a holistic approach to biological conservation at multiple spatial and temporal scales, explicit acknowledgement that management goals must be driven by social values including (but not limited to) protecting ecological processes, and development of administrative procedures that facilitate adaptive management and multi-constituency collaboration (Grumbine, 1994; Lackey, 1997).

We might expect that if ecosystem management strategies account for social values and desired conditions at landscape or larger scales, they should incorporate agricultural uses as a matter of course. Yet in North America this often is not the case. Unlike in Europe, where traditional practices such as coppicing are often incorporated into natural area management (Green, 1989), North America's protected areas typically exclude agricultural uses including livestock grazing. Some agricultural policies promote environmentally desirable practices, e.g., the Conservation Reserve Program (CRP) which encourages U.S. farmers to restore perennial grasses to highly erodible croplands, but others tend to foster overuse of fossil fuels and chemicals as well as the consolidation of properties under corporate and/or absentee ownerships. Agricultural and environmental interests often find themselves in conflict, particularly over the management of livestock in western North America. Both agriculture and environment suffer as a result.

This paper examines reasons why integration of environmental and agricultural policy has been slow to occur, and offers suggestions on how to foster rather than hinder such integration. Because policy is the purview of institutions that necessarily differ among nations, the specific ideas offered here will best fit my own country: the United States. However, viewed more generally they should represent issues and opportunities common to nations where agricultural land is largely in private ownership, sparsely populated relative to other regions, and valued by urban majorities partly for reasons other than production of food and fiber. Examples will be drawn largely from the rangelands of the interior western U.S., where the predominant

agricultural use is livestock production. I argue that solutions to the integration problem will come from attempts to balance protection of common well-being, which typically drives environmental policy, with the sustenance of economic units, which forms the basis for agricultural policy. These solutions will entail institutional reform that encourages collaborative, rather than competitive, solutions to conflicts over uses and values of landscapes.

THE TERRITORY/COMMUNITY DICHOTOMY

One of the most basic problems in western societies is to find a proper balance between two fundamental but contrasting human needs: (1) to protect a territory in which one can achieve personal and group well-being; and (2) to cooperate with others to achieve a harmonious community. Political parties in most democracies array themselves along a spectrum defined by whether they tend to place more weight on benefits that accrue to individuals or to society at large. In natural resource management, policy debates are likewise dominated by arguments over private rights and public goods: Should protected areas be established if it means forgoing opportunities to develop mineral wealth? To what extent can governments force industries to reduce pollution impacts if doing so threatens corporate profits? Is it acceptable to restrict public-land grazing permits to protect wildlife or riparian resources if individual ranches could not survive on reduced forage allocations?

Societies exist to maintain social order, and a fundamental purpose of social order is to provide means for maintaining territorial integrity. In modern society, territorial defense rarely means forcibly expelling intruders, but rather is exhibited through defenders' efforts to control what happens in claimed space (Sack, 1983). Control may be exercised through the laws or regulations specific to a state or province; requirements of a contract or special-use permit; or in the unwritten rules (norms) that govern everyday personal relationships. For example, a sheepgrower may at various times defend his or her property and livelihood by suing a neighbor who illegally diverts a water source; purchasing supplemental feed from a neighbor; or making friends with the new bank loan officer in town.

Yet while territorial defense motivates many common human behaviors, people constantly transcend the limits of territory in the interest of community well-being. Indeed, the entire idea of *society*, a system of structures and institutions that outlines relationships between individuals and groups, rests on the assumption that it is beneficial to share resources that lie within individually defended territories. Interestingly, the same social structures and institutions that serve to maintain territories also may encourage cooperation between territorial entities. Legal institutions that help landowners maintain territories also encourage cooperation between landowners by establishing and enforcing contracts, which essentially are agreements about how much territorial control each party will cede to the other(s) in order to achieve mutually beneficial objectives.

Extralegal institutions such as social norms also set rules for cooperation. For example, in a study of cattle trespass disputes among California ranchers, Ellickson (1991) found that informal norms of community typically override immediate self-interest. If shared fences or other facilities needed repairs, ranchers did minor work themselves as needed and invoked a norm of proportionality to handle larger projects. To resolve trespass disputes, injured parties generally

put up with minor damage or, if damage was heavy or persistent, used informal controls such as negative gossip or a tit-for-tat “borrowing” of the offending party’s property to maintain control. Laws served largely to “invigorate” social control among neighbors and to fill in gaps where informal control mechanisms may fail, such as when non-agricultural parties became involved (e.g., if drivers from nearby towns struck a cow on the highway).

POLICY CONSEQUENCES OF THE TERRITORY/ COMMUNITY DICHOTOMY

Agricultural policy in North America tends to have territorial maintenance as a primary goal, sometimes at the expense of community. Largely this is because our land policies were developed to address a problem of surplus rather than of scarcity: the allocation of arable land that was readily available in the expansionist 19th century. The tone of agricultural policy early in U.S. history was set by Thomas Jefferson, the nation’s third president, who believed his new nation would thrive only if its people were virtuous, hard-working and economically independent. “Cultivators of the earth,” he wrote, “are the most valuable citizens of all ... the most vigorous, the most independent, the most virtuous, and they are tied to their country, and wedded to its liberty and interests by the most lasting bonds” (Koch and Peden, 1943, p. 729). Consequently Jefferson and subsequent leaders pushed for a national policy that made land easily available to those who would cultivate it. Although the days of the homesteaders are long gone, U.S. agricultural policy still supports territorial maintenance, as can be seen in the structure and purposes of the U.S. Department of Agriculture (USDA). The department has an office in virtually every county — several thousand in all — because lawmakers have insisted that farmers and ranchers gain ready access to USDA services. Those services have included processing of paperwork for crop support and other payments, underwriting loans for homes and land acquisition, and giving technical assistance intended to increase profitability — all of which serve to maintain territories for individual agricultural producers. Also in each county can be found an Extension office — cooperative ventures between the USDA, counties, and state universities — which also serve as clearinghouses for information that typically is related to food and fiber production. Even USDA agencies with environmental mandates, such as the Natural Resources Conservation Service (NRCS), serve mainly to provide money or technical assistance and cannot enforce protection of soil or water resources except by withholding payments to producers who fail to provide previously agreed-upon environmental safeguards.

In contrast, environmental policy tends to maintain community, sometimes at the expense of territory. Governments tend to enact environmental policies only in response to perceived scarcity of socially desirable goods. For example, the U.S. national forests were “reserved” from farming and extractive uses in the late 19th century to secure favorable water flows and ensure a continuous supply of timber for society as a whole, after extensive “cut-and-run” logging led to short-term timber supply shortfalls and extensive damage to riverways. National parks similarly were set aside to provide all citizens with shared access to scenic resources. Over time, additions been made to the list of scarce common goods that are protected, as a matter of national policy, from adverse consequences of human activities: wildlife, air and water quality, wild and scenic rivers, endangered plants and invertebrates, ecosystem processes, and so on. However, the agencies responsible for protection usually are not scattered throughout all counties, but instead are located adjacent to public lands or concentrated in national and state capitals. Rather than foster relationships with ranchers and other rural residents, agency policies have tended to foster an aloofness of natural resource

professionals in order to prevent co-optation by local interests (Brunson and Kennedy, 1995). While the same agencies also provide technical assistance to landowners, this function is less well known and not available from every agency office, particularly those in the most rural communities.

Tension between agricultural and environmental interests has arisen because many agricultural policies have unintended adverse consequences for natural environments. For example, agriculture in the western U.S. was made possible by the Reclamation Act of 1902, which led to construction of dams on most large rivers in the region (Wilkinson, 1992). The policy made it possible to farm and ranch profitably in the region, but it also irreversibly transformed river systems to the detriment of species and scenery. Similarly, as the U.S. became more dependent on foreign energy, officials sought to improve the trade imbalance by increasing agricultural exports. Policies that encouraged greater crop production led to serious reductions in fish and wildlife habitat as farmers drained wetlands that had supported immense duck populations, cleared woodlots and farmed from fencerow to fencerow rather than leaving bird and mammal habitat untouched, and increased inputs of chemical fertilizers that eventually found their way into streams and rivers (National Research Council, 1982).

Policies that support livestock grazing have come under intense attack from environmental activists. There is virulent opposition to U.S. predator control programs (e.g., Abbey et al., 1994), and milder but more widespread advocacy of major reductions in grazing on federal forest and rangelands (Brunson and Steel, 1994). Expressions of concern about grazing, which once came mainly from environmentalists, increasingly are heard from scientists concerned about the effects of grazing on biodiversity and natural systems, especially in riparian areas (e.g., Fleischer, 1994).

Some of the loudest criticism of North American agricultural policy comes from the “sustainable agriculture” movement, whose proponents criticize current policy as being both anti-environmental and anti-farmer. Wendell Berry, one of the movement’s best-known spokespersons, claims that modern mainstream agriculture emphasizes short-term gains in productivity and corporate profits despite “enormous ecological, economic, and human costs, which are bound eventually to damage its productivity” (Berry, 1996, pp. 229-230). Berry argues that U.S. agricultural policy encourages inputs of energy, machinery, and capital which not only are environmentally unsustainable, but are largely unavailable to family farmers, who are driven off the land by pressure to compete with large corporations.

Berry instead advocates resuscitation of what he calls “kindly use,” a kind of stewardship that grows out of intimate knowledge of the land. He believes industrial, production-oriented agriculture discourages such knowledge, and he further suggests that kindly use is antithetical to modern agriculture because it “is not ultimately an organizational or institutional solution” (Berry, 1996, p. 30). Ironically, however, renewed emphasis on local knowledge also is a tenet of ecosystem management. Despite Berry’s pessimism, North American environmental policy has slowly but surely been moving in that direction. Agricultural policy can and should follow suit.

THE “GREENING” OF AGRICULTURE

Agricultural policy *is* becoming more sensitive to environmental needs, albeit more slowly than environmental activists might wish. The Clean Water Act, first passed by the U.S. Congress in 1973, was expanded in 1987 to address nonpoint source pollution from farm and ranch runoff. As mentioned before, since 1985 the Conservation

Reserve Program has restored hundreds of thousands of acres of grassland, thereby protecting against soil erosion. Although the multi-million-dollar USDA research program leans heavily toward studies that benefit corporate interests and large producers, sustainable agriculture advocates benefit from the agency's Sustainable Agriculture Research and Education (SARE) program.

Measures to protect wetlands have greatly slowed the loss of prairie pothole habitats. The Grazing Lands Conservation Initiative — a joint effort of the Natural Resources Conservation Service, land grant universities, professional and producer organizations, and a few environmentalists — is working to enhance the quality and quantity of technical assistance available to farmers and ranchers wishing to apply conservation practices to their lands.

Meanwhile, environmental policy in North America has undergone considerable change in the last decade, partly because protectionist and regulatory approaches were not working. One reason for shifting to ecosystem management is a new recognition that our best ideas about ecosystems have been wrong before and will surely be wrong again. That means management must be adaptive rather than rooted in command-and-control approaches that are resistant to change (Holling and Meffe, 1996). Moreover, critical ecological processes occur at larger scales than can be protected through reserves (Knight and Landres, 1998), which means private landowners must be more involved in protective solutions. And new ways are needed for incorporating local views effectively, because traditional approaches have tended to exclude and alienate constituencies whose participation in environmentally sustainable solutions was crucial to their success (Burnside and Rasmussen, 1997).

For all those reasons, participation by agricultural producers and agencies is vital to the success of ecosystem management. So is the viability of agricultural production. Many scientists now believe that the subdivision of grasslands and rangelands into homesites poses a greater threat to ecosystems and biodiversity than does agriculture (Knight et al., 1995). The Nature Conservancy has begun to purchase and operate working ranches in an effort to sustain rangeland biodiversity as well as ranch economies (Clifford, 1995). One of the group's objectives is to help neighboring ranchers learn about and use sustainable grazing practices (Clifford, 1995). If that approach works, it is partly because ranchers increasingly want to test and adopt new methods of livestock management, as evidenced by the increased popularity of high-intensity/short-duration grazing systems, holistic resource management (Savory, 1985), and other innovations in ranch management.

BALANCING TERRITORY AND COMMUNITY IN PRACTICE

It is at the midpoint between agricultural and environmental policy — the “common ground” so many people seek these days — that we will balance the objectives of territorial self-interest and community well-being. Achieving this will require institutional reform that encourages collaborative rather than competitive solutions to conflicts over uses and values of grasslands and rangelands. However, before discussing the policy solutions, it will be useful to first discuss how balance might be achieved in practice.

A principal tenet of ecosystem management is that the appropriate scale for addressing ecological problems encompasses multiple ownerships, whose managers and operators must work together in collaborative partnerships. Perhaps nowhere is that happening more often than in the western rangelands. Collaborative partnerships have involved livestock operators in efforts to reintroduce fire to its natural

role in ecosystems, restore wildlife habitats and populations, rehabilitate streams and riparian areas, and achieve other stewardship goals while maintaining or even increasing livestock production (Dagget, 1995). In the sparsely populated state of Wyoming alone, some 70 Coordinated Resource Management groups have formed in which ranchers, agency managers, and others meet periodically to consider cooperative approaches to managing a landscape of mutual interest (Spearman, 1997).

It isn't always easy to make multi-owner partnerships work. Rural westerners tend to embrace a self-image of frontier independence. They may feel they must maintain territorial control over family ranch operations because to do otherwise might render meaningless their forebears' struggles to prosper on the land (Jorgensen, 1984). Partnership offers may be rejected if they appear to threaten territory — especially where there is both private and government ownership, as in most of the American West. Cooperation is possible only if public and private owners are willing to cede some control over their defended territories to the larger partnership, but federal managers sometimes resist yielding control to neighbors because of interpretations of legal mandates as well as a culture of professional expertise, while rural landowners may be equally resistant to sharing authority with agencies.

Nonetheless, other cultural patterns tend to reinforce communitarian values. It would have been impossible to settle western North America without a great deal of cooperation among settlers, as well as government assistance (dams, railroads, etc.). There is a history in agriculture of producers banding together to achieve management and marketing goals. While marketing cooperatives are less common in ranching than in dairy or crop production, ranchers are accustomed to cooperating on predator control, roundups, and other tasks.

Given these contrasting influences, we should not be surprised to find ambivalence toward cross-boundary stewardship among ranchers. A 1994 survey of Utah landowners found that 3 in 4 would give some consideration to joining a multi-owner partnership, but fewer than 25 percent were ready to do so right away; the rest would join only after observing a process elsewhere or if conditions were imposed on membership (Brunson et al., 1996b). Subsequent interviews of ranchers found a relatively low level of trust in federal officials but a belief that partnerships with agencies might be the only way to stave off legislative or judicial solutions imposed by outsiders (Brunson et al., 1996a). Some of the initial wariness may be disappearing: a more recent survey of members of eight collaborative partnerships found that a vast majority rated them as fair and effective, resulting in benefits to both land and landowners (Brunson and Richardson, 1997).

Legal sociologists have found that people are much more likely to accept decisions that result in reduced territorial control if they believe the adverse decision resulted from a “fair” process (Tyler, 1989). One way to foster perceptions of fairness is to ensure that everyone affected has a say in devising the rules by which it operates and the options for redress. In essence, then, successful collaborative processes are those where all participants are involved in determining landscape-level policy as well as management.

Another critical aspect of sustainable ecosystem management is finding the appropriate scale for partnerships. Dobrowolski and Thurow (1996) suggest that the watershed is the logical, natural scale for planning. Watersheds make reasonable units for ecological, economic, and social reasons in many geographic regions. The character and direction of many natural processes are determined by

stream and groundwater flows. Moreover, agricultural and non-farm areas in a watershed operate as a system of interacting components, connected in various ways: through the flow of agricultural products to consumers; the flow from ranch to town of riparian grazing impacts such as reduced water quality, increased water temperature, or localized spring flooding; the imposition of land-use restrictions on upstream landowners by more numerous urban residents; and so on.

POLICY APPROACHES TO BALANCING TERRITORY AND COMMUNITY

Most existing grazing land partnerships are voluntary efforts that persist partly because of the energy and persistence of innovative ranchers and agency managers. Federal land managers are required by current policy to seek ecosystem management solutions, but private owners are not required to cooperate. A few jurisdictions (e.g., Wyoming, Arizona) have established policies or are considering legislation that would promote collaboration, but most do not.

Policy mechanisms for promoting ecosystem protection are likely to involve some combination of education, incentives, and/or regulations (Lippke and Oliver, 1993). At one end of the policy spectrum are initiatives that rely solely on educational efforts by state Extension agents or the U.S. Department of Agriculture. At the other end are uniform legal restrictions. Between are incentives which can range from breaks on income, property, or estate taxes to cost-sharing programs to conservation easements (Kelson and Lilieholm, 1996). A recent study of private landowners in 11 states found that respondents preferred ecosystem protection initiatives that offered tax breaks for voluntary protection as well as free technical assistance for landowners. There was moderate support for direct-payment programs, and relatively little support for regulations or transfers of development rights (Brunson et al., 1996b).

If a watershed is the appropriate unit for protection, one problem that confronts would-be collaborators is that political institutions rarely fall within watershed boundaries. States, provinces, counties, and municipalities have territories established through historical forces that rarely include ecological integrity. New jurisdictions may need to be established for the purpose of ecosystem management. Already this is happening in some areas, as in Wyoming with its CRM areas and Oregon with its watershed councils. However, since most of us are understandably leery of adding new layers of administrative jurisdiction to our lives, it may be useful to strictly limit the scope of collaborative partnership authority and to impose “sunset” rules which call for dissolution of partnerships unless renewed by a majority of those living within the watershed.

Economic analysis shows that many benefits of ecosystem protection — biodiversity, tourism, aesthetics, etc. — accrue mostly to society rather than to the rural landowners who must make investments to achieve them (Daniels, 1993). Conversely agricultural producers often can externalize costs of unsound practice (e.g., excess soil erosion and runoff) so that the incentive for environmentally sound resource management is weakened (Buttel and Swanson, 1986). Stewardship ideals may be sufficient motivation for some landowners, but truly widespread adoption of environmentally friendly practices is unlikely without some sort of incentive. We can expect stockgrowers to favor management options that they believe will increase the benefits associated with protection while minimizing the costs. Thus the authority given to partnership jurisdictions should include the ability to offer financial or other incentives — e.g., by taxing downstream landowners in order to create a fund that would subsidize upstream improvements that could protect riparian areas or water quality.

Finally, a policy that balances territory and community must offer disincentives for seeking non-collaborative solutions to problems. Currently the U.S. legal system offers many alternatives to negotiated solutions: administrative appeals, lawsuits, punitive ordinances directed at political foes, and more. While it is unlikely in modern democracies that a policy could be enacted which eliminates the ability to sue, it may be possible to create rules for watershed partnerships that require aggrieved parties to seek negotiated solutions to problems as a first resort, and create financial disincentives (e.g., large filing fees for court cases) for non-negotiated solutions.

CONCLUSION

We live in a territorial society. Humans maintain many territories at once, seeking to control the spaces within those boundaries and to defend claims based on legal authority, emotional attachment, and economic necessity. While the existence of these territories complicates the task of protecting ecosystems which invariably transcend human boundaries, they exist because societies cannot function without them. Collaborative efforts will be futile if they seek to eliminate such boundaries.

Instead they should be designed to acknowledge the existence of territories, to recognize the various mechanisms of defense that territorial claimants employ, and to accommodate the need for those claimants to maintain a comfortable level of territorial control. To borrow a term from conservation biology, we should strive for “permeability” of boundaries, maintaining the integrity of discrete territories while allowing free passage of information as well as ecosystem components. And information flows must be two-way: not merely “educating the public” about the benefits of whatever protective measure is being proposed, but also offering opportunities for affected parties to help each other understand the ecological, economic, and social factors that lead to differences of opinion.

As range and grassland managers, we strive for management that sustains rangeland ecosystems. Box (1995) has suggested redefining range management as “manipulation of rangeland ecosystems to repair past damage, provide for societal needs from those systems, and to keep options open for future generations” (p. 84). This is a laudable goal for both grasslands and rangelands. Yet agriculture is only sustainable if profitable. A sustainable policy will protect landowners’ investments, thus helping them maintain territory, even as it protects and restores ecosystems desired by the larger community.

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