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## Toward a More “Reflexive Environmentalism”: Ecological Knowledge and Advocacy in the Crown of the Continent Ecosystem

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*“Ecology” has taken on diverse roles and significances in academia, society, and the environmental movement. While there has been strong academic interest in the critique of “science,” this reflexivity has not necessarily permeated all dimensions of the North American environmental movement, particularly those groups or individuals who are associated with “preservation” or wild spaces conservation. This article examines a case study where the regional environmental movement is transitioning from traditional “wilderness” advocacy to a more socially and ecologically integrated environmentalism. My purposes are to (1) describe current environmentalists’ use of “environmental” knowledges, (2) examine the rationale for invoking ecological knowledge claims, and (3) assess the challenges that necessitate greater social–biophysical knowledge integration in this region’s environmental activism. I argue for the development of a more reflexive environmentalism that incorporates diverse knowledges and discourses in order to more completely represent “environmental issues” and the potentialities for social, political, and economic change.*

**Keywords** Crown of the Continent, ecology, environment, environmentalism, wilderness, Y2Y

Ecology can suggest many different meanings in environmental management, advocacy, and research contexts. Haila and Levins (1988) consider this often conflated concept and describe four possible incarnations of “ecology”: (1) ecology the nature, (2) ecology the science, (3) ecology the idea, and (4) ecology the (political) movement. As “ecology” has taken on diverse roles and significances in academia, society, and the environmental movement, the potential applications (and misapplications) of ecological/biological data and theories are numerous. Neil Everden (1992, 15) reflects that ecology has become an “institutional shaman that can be induced to pronounce natural whatever we wish to espouse.”

Realization of the potential use of scientific knowledges for truth-making and power-enhancing ends has initiated a call for greater reflexivity in making knowledge claims and spurred a wealth of critiques of “science,” notably from researchers in

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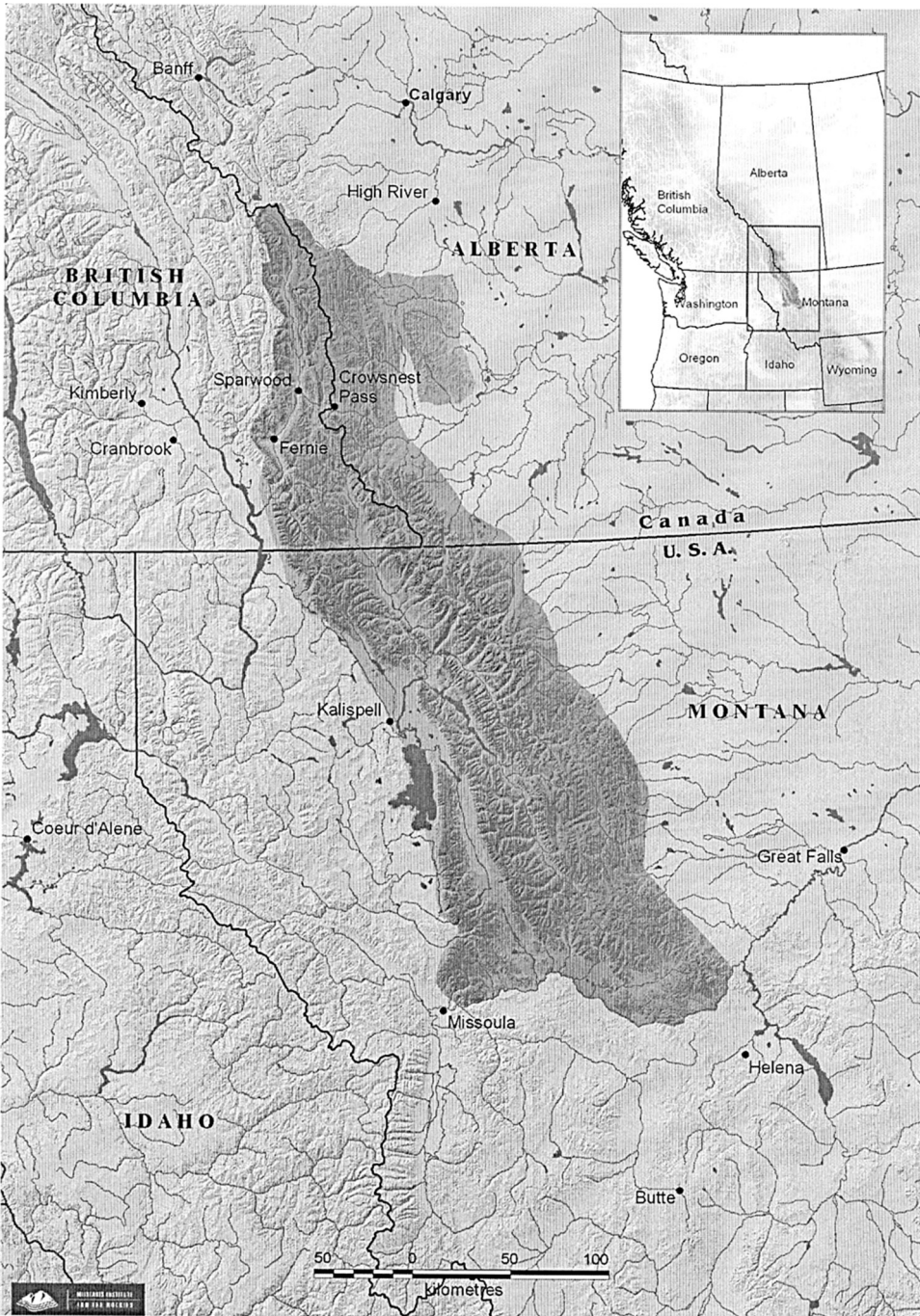
science and technology studies and from sociologists of scientific knowledges (see, e.g., Latour and Woolgar 1986; Haraway 1992; Pickering 1992; Feyerabrand 1993; Wynne 1996). The questioning of scientific expertise has extended beyond academic debate. Increasing public distrust of scientific/technological knowledges has been identified with regard to the assessment of risk in resource use choice (e.g., Beck 1995; Adam 1998; Berglund 1999). Furthermore, there has been increased interest in the utility and importance of lay knowledges for descriptions of the “environment” and policy choices (e.g., Wynne 1996; Clark and Murdoch 1997).

However, increased reflexivity toward the applications and validity of scientific knowledges has not necessarily permeated all dimensions of the North American environmental movement, particularly those groups or individuals who are associated with “preservation” or wild spaces conservation (e.g., Haila and Levins 1988; Hagen 1992; Cronon 1995). From the beginnings of the environmental movement, many individuals and organizations have appropriated ecology (as a scientific knowledge) to support their advocated values for “nature” and the “environment” (Bowler 1993; Budiansky 1995; Eder 1996). Yet there is a growing literature on the need to examine both the biophysical and the sociological dimensions of environmental concerns (e.g., Kellert 1994; Grumbine 1997; Yaffee 1997). Reflecting this broader awareness, Thiele (1999, xix) suggests that a “fourth wave” vision of environmentalism is developing that recognizes that the “successful protection of nature depends on the opportunity for humans everywhere to safeguard their lives and livelihoods.” As such, environmentalism is becoming more fully a movement where ecological and social issues intertwine (Gottlieb 2001). In Thiele’s view, the preceding era (“third wave”) of environmentalism was the process of mainstreaming environmental awareness in American life; now the challenge is “coevolution”—the “effort to integrate humankind into natural systems” (31). However, the fourth wave is by no means homogeneous. As a social movement, environmentalism remains eclectic in strategies, values, visions, and tactics; some groups or individuals might even reject the notion of integrated social–biophysical systems.

In this article, I examine a case study of the Crown of the Continent Ecosystem (COCE), where the regional environmental movement can be described as beginning the process of embodying a socially and ecologically integrated vision of environmentalism. The purposes of this work are to (1) describe current environmentalists’ use of “environmental” knowledges, (2) examine the rationale for invoking ecological knowledge claims, and (3) assess the challenges that necessitate greater social–biophysical knowledge integration in this region’s wilderness advocacy efforts. Particularly, I consider which aspects of COCE environmentalism evidence the “fourth wave” transition. This article seeks to clarify both “why” many environmentalists in the COCE still strongly utilize ecological knowledges and “why” it is essential for them to broaden their knowledge and discourse repertoire to embrace a socially and biophysically integrated conceptualization of the “environment” and “environmental issues.” I argue for the development of a more reflexive environmentalism that incorporates diverse knowledges and discourses in order to more completely represent “environmental issues” and the potentialities for social, political, and economic change.

### **The Case Study**

The Crown of the Continent Ecosystem (COCE) is an international transboundary area of the Rocky Mountains that surrounds Glacier National Park (USA) and



**FIGURE 1** Crown of the Continent Ecosystem. Reprinted with permission from the Miistakis Institute for the Rockies.

Waterton Lakes National Park (Canada) (Figure 1). On a macro level, the COCE is ecologically cohesive, but fractionalized by at least 17 different public land management jurisdictions (for more detail, see Pedynowski 2003). The region is largely

rural with timber, cattle ranching, coal mining, and tourism economies (Flathead Transboundary Network 1999). Due to its ecological cohesion, and common “transboundary” land and resource issues, the COCE has been described as a “greater ecosystem” (e.g., Grumbine 1990) by some who live and work in the region. Several issues have been identified as deserving of greater-ecosystem-scale management and cooperation, including migratory wildlife, water quality, resource extraction impacts, and increased recreational demands (Willcox 1998; Flathead Transboundary Network 1999). Numerous environmental nongovernment organizations (ENGOS) have focused efforts on the international, large spatio-temporal scale concerns in the COCE, many working within the network of the Yellowstone to Yukon Conservation Initiative (Y2Y).<sup>1</sup>

Three features of the COCE environmental activism prompted its selection as an appropriate case study: (1) The region has a long history of environmental activism, particularly in proximity to Glacier and Waterton Lakes National Parks; (2) prominent protected areas and relatively remote public land have created a particular set of “wilderness”-oriented issues to consider; and (3) growing residential and tourist populations are creating varied demands on the landscape and conflicts over usage. The COCE has both a historical context of more “traditional” wilderness activism and a contemporary context of issues that necessitate holistic strategies to address; thus, it is a likely “transition” zone of approaches to environmentalism. Furthermore, the large spatio-temporal qualities of greater ecosystem issues make it difficult to isolate biophysical and human–social systems interrelationships and impacts on the landscape (e.g., Clark and Zaunbrecher 1987; Grumbine 1990).

## Methods and Methodology

Field research was conducted in the international transboundary region from spring 2000 to fall 2001. Primary data sources include 66 semi-structured interviews (Table 1), analytical review of major ENGO publications, and historical investigation of the development of greater-ecosystem-scale conservation initiatives in the COCE. Qualitative analysis of interview transcripts and documents was conducted through open coding procedures and discourse analysis.

### Interview Sources

There is a great diversity amongst the many ENGOS active in the COCE, as well as considerable variety in ethical and action orientation *within* groups. Some organizations are disposed to advocacy, while other groups, such as land trusts and “neutral” information disseminators, do not advance a particular environmental public policy position. Furthermore, some organizations concentrate on local issues

**TABLE 1** Interview Sources

Group	Number
Environmentalist (advocacy ENGO)	15
Environmentalist (land trust)	5
Environmentalist (information/neutral)	3
Public land manager	25
Municipal politicians	6
Other (planners, residents, etc.)	8

while others have a broader focus. For this study, at least one environmentalist from every ENGO with a large-scale regional or international emphasis in their work was selected in order to construct a sample of individuals oriented toward large spatial scale wilderness or wildlife conservation in the COCE. These self-described environmentalists were interviewed for a duration of 1–2 hours. As all interviewees were leaders of their respective organizations, I consider individuals’ perspectives to reflect personal attitudes as well as to be indicative, to some extent, of the orientation of their organization.

To meet the larger goals of this research (analysis of the development of international ecosystem management and understanding of the greater ecosystem concept), 25 public land/resource managers with an interest in, or responsibility for, transboundary issues and management were interviewed from land/resource agencies in the Alberta and British Columbia provincial governments, Montana state government, Canadian federal government, and U.S. federal government. All interviews were in person and approximately 1–2.5 hours in length. Specifically of relevance to this work, managers were questioned on their perceptions of ENGO activism and their experience with different knowledges in environmental decision making in the region. Additionally, locally elected politicians, municipal planners, and local academics were interviewed in person to provide community-based perspectives on environmentalism in the region.

All interviews were conducted in a semistructured format in order to be “open enough for unanticipated value judgments and unorthodox world views, but structured enough to permit comparisons amongst respondents and obedience to the discipline of a ‘more detached and abstracted understanding’” (J. Hochschild, cited in Thiele 1999, 231). Interview guides included general, consistently worded questions that were repeated in every interview as well as questions specific to an interviewee’s jurisdiction or personal expertise.

### ***Data Analysis***

All in-person interviews were transcribed. Interview transcripts and field notes were qualitatively analyzed in four steps: (1) open coding to identify ideas, themes, and concerns, (2) identification of general categories and subcategories of issues/needs/obstacles, (3) summarization of the interview using those categories with subheadings and specific details, stories, or examples related by the interviewee, and (4) comparison and linking categories within and between interviews (see Crang 1997; Robinson 1998; Kitchin and Tate 2000). In order to avoid simply transferring the categories imposed upon the interviewee by my questions into the structure of my analysis, I emphasized the examination of stories, examples, and issues of conflict/concern from throughout the entire interview exchange (e.g., Baker 1997). The interpretation of the use of different knowledges and perceptions of environmentalism was a combination of (1) what interviewees told me (their values) in response to specific questions on these topics and (2) my own evaluation (derived from other interviews, literature, experience, etc.) of responses elicited by other questions in the interview. Thus, interpretation and coding was an “iterative process” (Crang 1997, 188).

In addition to a thematic analysis of the interviews, I examined discourse in order to understand “the way versions of the world, of society, events and inner psychological worlds are produced” (Potter 1997, 146). Specifically, I focused on how interviewees (1) related environmental values and knowledge claims, (2)

characterized ecological-social issues of concern, and (3) described ideas about (idealized or current) human and nonhuman relationships.

### **Environmental Knowledges in the COCE**

Through open-ended questions, and interrogation of specific initiatives, the environmentalists interviewed in the COCE were asked to describe the role(s) of scientific information or knowledge in their work and discuss how it was applied in their organizations. In response to these questions, *all* interviewees shared stories and related their work to ecological/biological knowledges, such as wildlife biology, hydrology, plant sciences, forestry, etc. A solid majority of individuals strongly asserted that ecology, conservation biology, and information from the “natural” sciences substantiated their arguments or, to use the expression of one environmentalist, “constituted the backbone” of advocacy efforts. To illustrate, an environmentalist working on transboundary issues in the COCE affirmed that

We live in this natural world. We damn well better figure it out and rely on people who are doing good work in figuring it out. So at this point, I am seeing [ecological] science as the only one that is really trying to understand natural systems and I see that as the bedrock for the earth.

Her perspective was shared by several other environmentalists who specifically asserted that ecological science has a role, or in one individual’s perspective, “a responsibility,” to describe biophysical processes and the “needs of wildlife.”

Two recent works on transboundary environmental issues, recently published by (advocacy-oriented) ENGOs in the COCE, further reflect the perspectives on knowledge and the advocacy strategies suggested by the interview data above. *Conserving an International Treasure: The Transboundary Flathead* (Flathead Transboundary Network 2001) and a draft *State of the Crown of the Continent Ecosystem* (Flathead Transboundary Network 1999) both include sections on human history and interactions with the biophysical environment. Yet, for both publications, the peer-reviewed, published references were exclusively from biological or physical science journals.<sup>2</sup> Personal communications in these works (total of 45) were primarily with government or academic biologists and public land managers; only 10 local residents and 3 industrial employees were also cited. These choices of knowledge sources suggest that more traditional wildlife- or wild land-centered concerns still dominate the published descriptions of the COCE, but that integration of the human dimensions of the region are beginning to influence the presentation of issues.

While there was clear emphasis upon biophysical sciences from all interviewees, a number of individuals additionally mentioned cognizance or use of political science, sociology, economics, or other social sciences in their organization’s endeavors. Examining the relationship between knowledge sources and organizational strategies sheds some light on what may motivate an ENGO’s acceptance of a vision of environmentalism that is conscious of the cultural and ecological dimensions of environmental issues. Those interviewees from organizations that interact with local citizens on a regular basis, in particular the land trusts, stated that they regularly incorporated or emphasized “social” (and local) knowledges in their work, while individuals from ENGOs that relied upon more removed strategies (e.g., policy advocacy, general information dissemination, or presentations to “eco-friendly”

public interest groups) were in the group of interviewees that heavily relied upon biophysical sciences. This correlation suggests that the perceived audience for an ENGO’s message or advocacy influences how individuals in the organization use knowledge claims about the environment and present their issues of concern. As environmentalists’ in the COCE diversify their strategies, such as by addressing private land conservation through land trusts, or through providing “neutral” information services to unify data frameworks, knowledge sources/claims also diversify to meet new messaging needs.

The work of Y2Y deserves particular analysis as it is arguably one of North America’s foremost ENGO leaders in large-scale landscape conservation as well as an influence upon many other ENGOs in the COCE through its communication network, working groups, and grant dissemination program. Established in the mid 1990s as an ENGO committed to the social–biophysical integration of environmental issues, the organization’s stated mission is to facilitate the coexistence of “natural and human communities” in the Rocky Mountains (Yellowstone to Yukon Conservation Initiative 2002). However, the content of its major ecoregional information atlas and the direction of its research efforts suggest that Y2Y’s efforts are still in the process of reaching the integrated goals of its vision. *A Sense of Place* (Harvey 1998) was produced by Y2Y to provide an “atlas of the issues, attitudes, and resources in the Yellowstone to Yukon ecoregion” (subtitle). *A Sense of Place* contains “a physical overview,” a section on the “conservation, species, and natural processes,” and a section on “conservation approaches.” A fourth section on “human influences and trends” describes (negative) human impacts and threats to the region’s flora and fauna without any economic, historical, or cultural overview to accompany the three sections oriented to biophysical conservation. Furthermore, Y2Y’s science program nominally includes “social science research” as one of its objectives, but the research foci, to date, have been on biological/ecological topics (see Mahr, Soule, and Herrero 1999).

While the research and information programs are still in development, Y2Y’s most recent community and ENGO outreach initiatives evidence its commitment to socially and ecologically informed advocacy strategies. Y2Y has sponsored workshops on Market Incentives for Conservation (2001), Local Conservation through Community Mapping (2002), and Understanding Western Canada’s Changing Economy (2002), as well as meetings with native groups throughout the area to discuss traditional ecological knowledges. Y2Y has also partnered with other ENGOs to produce two publications on communities and economics in western Canada and the Yellowstone to Yukon ecoregion (i.e., Rasker and Alexander 1998; Gailus 2000) and has introduced a 3-year project to assess communication needs and strategies for conservation. With leadership in these areas, Y2Y’s strategies are clearly evolving to embrace both the emerging large scale vision of “continental conservation” (e.g., Soule and Terborgh 1999) and the challenges of a socially–biophysically integrated environmentalism that reaches diverse public audiences.

### **Characterizing Ecological–Social Issues and the “Environment”**

In the last section, I introduced an analysis of the knowledge sources/claims invoked by environmentalists in the COCE, noting the emphasis on biophysical sciences and the introduction of more socially conscious advocacy into region, particularly through nonadvocacy ENGO strategies to conserve wild spaces. In this section, I analyze in more detail *how* COCE environmentalists construct the “environment”

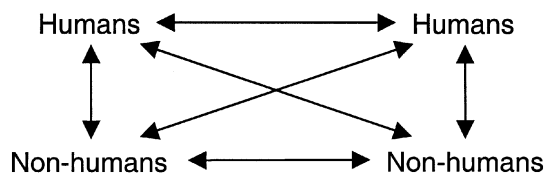


through their emphases upon particular knowledge claims, and the respective implications for communicating the complexity of “environmental issues.”

When environmentalists in the COCE discussed their goals and their perception of environmental threats, there were two notable, consistent features of the discourses of nearly all interviewees with advocacy–ENGO affiliations. First, when individuals described the “natural” places that they were endeavoring to protect, they described specific wildlife species, specific qualities of the landscape, or specific locations. For example, phrases such as “stable populations of grizzly bears,” a “treasure of wildlife,” “movements of elk herds,” “intact benches of pine [trees],” “water quality in the Flathead [River],” and “connectivity across the Continental Divide” were used to identify their concerns in the COCE. Interviewees also repeatedly referred to the protection of the wilderness quality of places, such as the “Castle wilderness,” “the Flathead valley,” and the “eastern slopes” of the Rockies, to articulate their goals. Second, in most discussions, the impacts on wildlife or “wild places” were emphasized; only four individuals specifically mentioned deleterious consequences for human populations, either locally or more remotely. This tendency reflects the emphasis upon biophysical knowledges discussed earlier; if the environmentalists’ understanding of the environment is primarily filtered through the lens of ecology and knowledges that emphasize nonhuman nature, then those impacts will be most evident.

Conceptual emphasis on “places” or “objects” suggests that the materiality of the “environment” takes precedence in the construction of environmental issues by many environmentalists working in the COCE. Caldwell (1990, 5, original emphasis) ascribes a “general tendency to identify the *environment* with *things*—including forces—whereas the term actually signifies *relationships*.” When “things” or materiality is emphasized, the dynamic qualities of the biophysical world are marginalized since the important *connections and interactions* between humans and nonhumans are neglected. The “abuse” of the environment, conceived as an object, actually occurs through “abusive” relationships (De-Shalit 2000).

However, several environmentalists did frame their discussion in terms of the relationships, between humans, nonhumans, and the biophysical landscape, which overlap, coincide, and often, conflict. In Figure 2, I illustrate such a conceptualization of the “environment” where humans and nonhumans are loci in a series of relationships with each other. For example, one individual discussed how both humans and wildlife require forest ecosystems. Another described the deleterious impacts that human demands for energy have both on wildlife (e.g., road building, habitat fragmentation, etc.) and upon human populations (e.g., air pollution, global climate change). In each of the cases, *both* humans and nonhumans were understood as actors on the landscape and their futures were mutually considered. Insightfully, one environmentalist (from a land trust) reflected on the (dis)connection between advocacy efforts and how much of the public perceives



**FIGURE 2** A relational view of the “environment.”

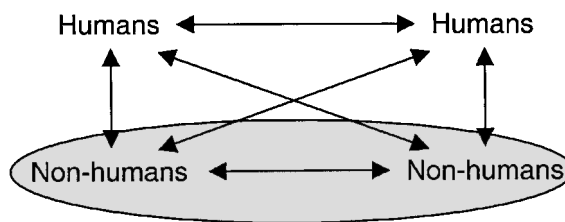
“nature.” In her words, “folks sometimes don’t make the connection to why places are significant.” She elaborated that activists often lack the tangible, immediate examples that would enable resource users to better understand their roles in (or alternatively, their relationship to) the processes of environmental degradation.

The limitations of framing environmental issues only in “ecological” terms has been noted by several authors; their concerns can inform many environmentalists’ approaches in the COCE. Clark (1993, 518) uses the term “bounded rationality” to describe a tendency for “the numbers of factors considered in problem definition” to be reduced to “a subset of the factors that may or may not turn out to be important” in the lived world. If nature–culture boundaries are drawn around environmental dilemmas, it is possible to ignore that “the environmental crisis is as much a social phenomenon as a physical one” (Evernden 1992, 7). Figure 3 illustrates the many dimensions of the “environment” that the environmentalists in the COCE can exclude if they rely principally upon knowledge claims from the biophysical sciences to inform their strategies and messaging; however, as I noted earlier, some individuals and organizations have already begun to implicitly adopt the more complete model in Figure 2.

My contention here is not that the ecological/biological scientific knowledges are unimportant or improper tools with which to represent biophysical processes and the “environment.” Though ecological/biological knowledges are insightful, they are only partially descriptive of the concerns and influences (social, political, economic, etc.) that act on environmental management decision making (see Grumbine 1997; Yaffee 1997; Jordan and Gilbert 1999).

**(Still) “Getting Back to the Wrong Wilderness”?**

The preceding sections have discussed many environmentalists’ reliance on biophysical knowledge claims to describe the “environment” and the conceptual limitations of using a restricted suite of knowledges to illustrate the impacts of land and resource use choices on both human and nonhuman inhabitants of the COCE. While some individuals demonstrated their commitment to a socially–biophysically integrated vision of environmentalism, a solid majority of the interviewees, particularly those affiliated with advocacy-oriented ENGOs, indicated that they still relied on a default position of “wild spaces” conservation, with emphasis on ecosystem integrity, wildlife, and biocentric values. In the words of William Cronon (1995, 69), many still seem to be “getting back to the wrong wilderness.” Despite the widespread recognition of the importance of the socioeconomic dimensions to environmental concerns, and the clear missions of ENGOs such as Y2Y, why is this still occurring? In this section, I examine some explanations for the COCE environmentalists’ emphasis on knowledge sources/claims from the biophysical sciences.



**FIGURE 3** The “environment” traditionally studied in ecology.

Both research in the COCE and other authors' works evidence the heavy use of "ecology" and scientific knowledges in environmentalists' discourse, particularly among the wilderness preservation or wild spaces proponents of the environmental movement (e.g., Bowler 1993; Eder 1996; Harre, Brockmeier, and Muhlhausler 1999). There are clear historical roots to this predilection, as the North American environmental movement developed from the integration of environmental science and environmental values (Paehlke 1989). Environmental discourses have historically made high rhetorical use of science and often have adopted scientific vocabularies outside of their original context (Benton and Short 1999; Harre, Brockmeier, and Muhlhausler 1999). Earlier, I noted such a case where "ecology" can signify a movement to accord human society with "ecological ideals" as well as a scientific discipline (e.g., Haila and Levins 1988). Thus, for several decades, (advocacy-oriented) environmentalism and ecology developed on parallel, and occasionally intertwined, conceptual and ethical paths. It is only more recently that this ecological emphasis has been criticized as alienating environmentalists from the larger social and political dimensions of "environmental issues" (e.g., Dowie 1995; Gottlieb 2001).

From another perspective, the interviewees' reliance on ecological knowledges suggests that many consider "natural sciences" to have the authority to describe the COCE and justify action on behalf of nonhuman nature. Over a third of environmentalists stated that the perception of information as credible (by their respective audiences, e.g., the public, industry, or decision makers) is a significant concern in their work. One interviewee asserted that ecological information "gives some underpinning" to his position and support for the claim that

"I'm right and maybe I'm right and maybe you are not." For myself and I think a lot of my allies in my work, we like to know, we like to have the confidence, must have the confidence that the advocacy that we are doing is based on proper construction of how things work. That's where the science plays.

He is making both an epistemological claim for the knowledge that he uses and a declaration of "truth" for his perspective by tying it to scientific knowledge. The use of "science" for the justification of values can be traced to historical perceptions of scientific "objectivity," which provides an authoritative account of "reality" (Caldwell 1990; Lee 1993). While it is not clear from the short excerpt just given, this environmentalist's entire discourse invoked ecological and biological science as the "underpinning" of "how things work" and, implicitly, of what aspects of the "environment" should be valued. Reflecting the entanglement of science, objectivity, ethics, and nature, the "argument over values" in conservation and environmental management contexts "still has more than a trace of the objective-subjective debate" (Petulla 1980, 12). I suggest that to many environmentalists in the COCE, ecology the science is the most obvious ("objective") knowledge source to describe the condition of "nature" and offer analyses of human impacts on the wild spaces and wildlife, and thus to substantiate their arguments for species and landscape protection.

There are clear reasons to explain environmentalists' use of ecological knowledges to support their ethical, political, and social prescriptions: credibility, authority, the historical "culture" of the environmental movement, and access to knowledge sources that are clearly relevant to the condition of nonhuman nature.

However, despite the potential for power and authority to be gained from the “scientific” arguments used in environmental advocacy, in the next section I provide evidence that the ecology-dominated discourses and tactics of environmentalists in the COCE were often perceived negatively by government land/resource managers and other area residents. After exploring these challenges, I further discuss the impetus for environmentalists in the COCE to develop more socially–biophysically integrated discourses and constructions of the “environment” at stake.

### **A Survey of Perspectives on Transboundary Environmentalism in the COCE**

Given the size of the COCE, and the scope of interest groups and resource users in the greater ecosystem, it was not possible to sample the full scope of environmental interest groups and resource users in the transboundary region. The perspectives presented in this section are derived from interviews with municipal politicians, long-time residents, and government land/resource managers who live and work in the COCE (Table 1). Particularly, the majority of the 25 public land managers that I interviewed regularly interacted with both environmentalists and local communities; their discussions demonstrated strong sensitivity to the perception of environmental advocacy and messaging, both in their agency and with regard to the local public. Clearly, more detailed research will reveal the nuances of particular conflicts in the region, such as wilderness advocacy versus motorized recreation interests. The evidence given next offers a general survey of key issues repeatedly identified by interviewees that impact the perception of, and receptivity to, the work of transboundary or internationally oriented ENGOs in the COCE (see Table 2).

#### ***Perceived Threat to Human Livelihoods***

Over half of environmentalists and a third of public land managers in the COCE reported that public suspicions of “greater ecosystems,” or any transboundary environmental venture, are currently high in the COCE. Interviewees from land trusts, ENGOs that regularly work directly with the public, said that they do not refer to the Yellowstone to Yukon ecoregion or the COCE in their work because of the frequently negative public connotations of these constructs. Several interviewees’ perspectives, as well as evidence in local media (see Burns 2002), suggest that these fears are based in portions of local populations who perceive the goals of greater-ecosystem-scale or international-scale conservation as threats to human livelihoods and socio-economic values for the landscape. Two U.S. county commissioners and one Canadian reeve in the COCE echoed these sentiments. One Canadian reeve felt

**TABLE 2** Survey of Perceptions of Environmentalism in the COCE

- 
- Fears and suspicions concerning the “ecological” or wildlife-oriented motives of large-scale ENGO initiatives
  - Adversarial or nonconstructive advocacy tactics that alienate resource user groups
  - Consistently negative messaging about human impacts and use of the landscape
  - Concern over inclusion and compatibility of indigenous resource uses/values
  - Manipulation of scientific research
  - Ineffectiveness of advocacy that relies on ecological research that is subjugated to political, economic, and social values in decision-making processes
-

that the COCE had been manipulated by “both sides of the environmental issue to be the battering ram or the sacred cow or the worst thing that could happen. All industry will die if it is recognized. Or all animals will die if isn’t.” Two county commissioners in Montana voiced suspicions about environmentalists’ “real” plans for Y2Y and one wondered “what all is being done under that disguise.” Likely in response to this atmosphere, interviewees from *every* land/resource jurisdiction in the transboundary region, with the exception of Waterton Lakes National Park, pointedly or quietly disavowed any affiliation with Y2Y. One manager summarized that, in his view, large-scale environmental initiatives were “often promoted as we are going to have animals everywhere and ignore the matrix of private land owners and their values.”

### ***Adversarial Tactics and Negative Messaging***

In addition to expressions of general fears associated with the large-scale “environmental” initiatives, several local politicians more specifically described the tactics of advocacy-oriented ENGOs in the COCE to be “ineffective,” “damaging to their communities,” or apparently “unconcerned with the welfare [of local residents].”<sup>3</sup> Five of the six municipal interviewees viewed their experiences with ENGOs as adversarial and failing to promote solutions to resource use/access controversies.<sup>4</sup> State, federal, and tribal land/resource managers also shared concerns that resonated with these municipal leaders’ views. In the United States, a majority of federal and state land/resource managers expressed frustration with ENGOs’ use of litigation to advance causes; two interviewees described the resulting atmosphere as an “all-or-nothing” situation that generated opposition to environmentalists’ goals because both government officials and local residents felt threatened. Several other managers (Canadian and U.S.) felt that the impact of ENGO campaigns was limited because their efforts were perceived as constantly negative by the local population, such as “you can’t go here” or “you can’t do this.” Overall, three federal and provincial managers reported positive experiences with the advocacy efforts of ENGOs, but two of these interviewees additionally noted that particular individuals in the organizations facilitated these constructive relationships.

### ***Lack of Sensitivity to Indigenous Cultural Values***

The tribal land managers interviewed in the COCE also voiced concerns about working with environmentalists in the region.<sup>5</sup> While a limited number of ENGOs may be developing relationships with indigenous groups (e.g., Y2Y, National Parks and Conservation Association), the tribal land/resource managers stated a general reluctance to work with environmentalists because of their differences in ethical frameworks and perspectives on the use of cultural/ecological resources. Specifically, all of these interviewees were concerned about exclusion from traditional lands and restrictions on their access to wildlife and plants for cultural uses.

### ***Manipulation of Scientific Research***

Several authors have discussed how advocates in the environmental movement attribute power and values to ecological information when they construct arguments for environmental “protection” or conservation (see Bowler 1993; Eder 1996; Berglund 1998). Consciously and unconsciously, some environmentalists remove scientific information from its descriptive and hypothetical context and invoke it as an argument for a set of values (Harre, Brockmeier, and Muhlhausler 1999). Though

often savvy about *using* scientific data and interpretations, it is questionable to what extent environmentalists in the COCE truly understand scientific methods and critically assess the studies and theories that they utilize in advocacy.

Nearly two-thirds of the environmentalists interviewed cited recent research or particular researchers to support their goals or policy prescriptions. However, only two individuals illustrated their perspectives with peer-reviewed academic journal articles. The remaining interviewees did not reference any particular studies, authors, or research when describing “ecological needs” and the consequences of human land/resource use decisions. A reflective Canadian environmentalist commented that “the word science is thrown around a lot” by his peers but

Truthfully, I don’t think that people have really thought about, what does that mean? What constitutes science? And the upshot of that is that the science is sort of like a black box. And there is sort of an assumption that it will answer the questions. Or allow us to make this case or that case. . . . There is sort of, on one hand, an ignorance of science, on the other, this sort of blind faith that science is the answer, without realizing how difficult it is to collect good data that points out the case.

Although scientific data, interpretations, and theories have limits to their certainty and predictability, and those should be explicitly stated by researchers, the users of such information can choose to neglect these bounds and apply their personal interpretations to support specific claims (see also Barnthouse et al. 1984; Lemons 1998).

The misuse of ecological/biological knowledges by some can undermine the credibility of science over a much broader scale. An individual from the Flathead Basin Commission in northwest Montana observed that “One of the biggest hammers that political trouble-makers use is junk science.” An actual ecological study may not in fact be “junk,” but its misrepresentation by some individuals casts doubt on its more defensible claims or undermines the credibility of all research. A conservation biologist and land manager in the COCE also expressed frustration at “using the grizzly bear as an inappropriate club” in advocacy campaigns because

you devalue grizzly conservation and you create this false choice between grizzly bears and people. We don’t want people around here, we want grizzly bears around here. It starts to sound elitist, it starts to sound exclusivist, and you start to break down the possible coalitions of support that you have if you argued more honestly.

While the grizzly bear, a prime example of “charismatic megafauna,” might be a powerful metaphor for environmental advocacy, dangers abound in making it, or any other iconic wildlife, the predominant focus of conservation efforts. Possibilities include the neglect or devaluation of other species, misrepresentation of grizzly bear conservation goals, and the limitation of the values embodied in advocacy efforts. Though undeveloped or unroaded “wild lands” that benefit the bears have high ecological and wildlife values, they also are valued in ways that make them attractive to individuals who do not subscribe to a biocentric ethical framework (e.g., Cronon 1995).

### ***Subjugation of Scientific Data and Analysis in Decision Making***

In order to understand how knowledges, values, and “science” were accounted for in environmental management policy and practice in the COCE, I asked 25 land managers involved in transboundary or large-scale environmental management in the COCE to discuss their experiences with the use of scientific information. Specifically, individuals were asked:

- What role does scientific information have in your work?
- Do you think that scientific information is taken into account when it is available?

In the ensuing discussions, three-quarters of land managers replied that ecological and biological scientific information was frequently subjugated to other drivers (social, political, economic) in a decision-making context. Several specifically emphasized the value-laden arena in which ecological/biological data is used and arbitrated with conflicting social, political, economic, and ecological values.

Half of the managers expressed a desire for “science” to form a basic level for decision making, though, as noted already, three-quarters recognized that this was not the actual situation. In their own voices, the next three quotes from land/resource managers capture this conflicting situation in environmental management.

Certainly, we as managers like to base any kind of decisions on good science. Then we start entering into all kinds of political roles and, um, it’s a whole [sic] ’nother gambit. Oftentimes, we may have good information. Throw it on the table and say, “This is what we would like to do. We want to do this.” Good science will be thrown out . . . where it is not clearly defined in regulation and law, it falls to a political process. [Native land manager]

You know, [ecological knowledge] is just one piece of the puzzle when a major decision is being made. There are political considerations, a lot of opinions that get thrown in, it is part of the picture . . . managers are often more agreeable in making what might be very difficult in terms of politics or other concerns if there is good scientific information available. [U.S. land manager]

If we aren’t looking at social and economic factors, political ones are somewhat unpredictable, you are fooling yourself. You are only getting a very small part of the picture. I have some opinions about the social climate in Alberta. If it came down to a toss up between ecological values and economic values, um, economics would win every time. [Canadian land manager]

The viewpoints expressed in Canada and the United States, as well as by Native land/resource managers, were broadly similar, though varying in specifics. Two significant issues with regard to the impact of scientific information on decision making and policy formulation were repeatedly raised by over a third of the managers interviewed.

First, interviewees described the limits to scientific certainty and the frequent lack of clear “answers” to a management choice. Similarly, managers indicated that

contradictory studies can be used to discredit ecological data and interpretations at its weak points. It is possible for interest groups to discredit scientific assertions through the “junk science” argument discussed earlier, or by claiming that the study was not specific enough to the situation. Second, individuals related that a lack of research or information creates a “vacuum” that can be readily filled by political influences. One individual stated that “science doesn’t make decisions. Science is just information. It is still the value judgments made by the community. . . . The decision is still based on the value judgment.” These responses indicate the diversity of values that must be arbitrated in any land/resource use decision-making process and suggest that ecological knowledge sources/claims only capture a fraction of them.

## **Conclusions**

The concerns regarding the efforts of ENGOs in the COCE are multidimensional and cannot be resolved with a simple conceptual or strategic change as there is no single causal factor behind the perceptions and impact of environmentalism in the region. In this work, I specifically examined the use of different knowledge sources to illuminate one key facet of each of the challenges to ENGO efforts (Table 2). Interviewee data and analysis of the publications of the transboundary-focused environmentalists in the COCE indicate that many individuals and ENGOs in the region still heavily rely on knowledge claims from the biophysical sciences to support their arguments for landscape and wildlife conservation and use these particular discourses as part of their messaging and/or advocacy. However, an alternative or, more precisely, augmented approach to the characterization and discussion of environmental concerns is developing in the region, which reflects the trend toward the social–biophysical integration of environmental understandings and discourses (e.g., Grumbine 1997; Thiele 1999; Gottlieb 2001). This more “reflexive environmentalism,” which incorporates diverse knowledges and discourses, can more completely represent “environmental issues,” and consequently can reach a larger audience by articulating a greater diversity of values for the landscape and by demonstrating sensitivity to social, cultural, and economic concerns. Interview and documentary evidence indicate that the advocacy-oriented ENGOs have moved the least of all organizations in this direction. As such, an approach to environmental activism in the COCE that integrates both social and biophysical knowledges of the “environment” appears to be emerging first through the activity of ENGOs with nonadvocacy strategies, such as land trusts, and through relatively new organizations, such as Y2Y, rather than through clear, substantive changes in the discourse or tactics of the longer established wilderness advocacy organizations.

The survey of perceptions of environmental activism in the COCE discussed in the last section suggests that a vision of environmentalism aware that the success of its strategies is dependent upon “the opportunity for humans everywhere to safeguard their lives and livelihoods” (Thiele 1999, xix) can ameliorate many of the concerns and perceptions indicated by residents and managers in the COCE. The managers’ and municipal officials’ concerns were mostly directed towards advocacy-oriented ENGOs. As I noted earlier, interviewees from this faction of the COCE environmentalism demonstrated the most “traditional,” and in many respects limited, conceptualization of environmental issues. Thus, I suggest that these ENGOs face the greatest challenges to reform their strategies and discourses.

First, with regard to the fears associated with threats to local communities, and the perceived lack of concern for indigenous values, knowledge sources and claims



from the social sciences, as well as lay knowledges, can directly facilitate greater understanding of the biophysical–social issues at stake and communication of the connections between local values and ecosystem health. Second, such awareness of social dimensions of issues, and the ability to articulate advocacy strategies with regard to them, can help alleviate the perceptions of negative, adversarial, and restrictive messaging that numerous interviewees identified.

Response to the other concerns is more nuanced than simply a need to “add-in” socioeconomic discourses. With regard to the issues of research manipulation, environmentalists need not only use ecological research in a more integrated fashion—they must understand and articulate it accurately and completely in order to minimize misrepresentation and discreditation of research results. In this respect, a more critical and reflexive approach to “ecology” (both the science and the social values) is needed. It might follow that when the limitations of biophysical knowledges are apparent, the need to include more diverse knowledge sources to meet environmentalists’ objectives is also more obvious. With an understanding of these limitations, as well as an understanding of the multiple dimensions of environmental issues with which decision makers must contend, environmentalists are better prepared to address the challenge of “science” being subjugated to other social, political, and economic drivers. While ecological information on wildlife or ecosystems may suggest serious consequences if a particular action is taken, “environmental controversies have moral and political components that cannot be resolved by scientific inquiry” (Yearley 1995, 464). By including knowledges that have high standing among decision makers and the public—for example, local, economic, social etc.—environmentalists’ campaigns are availed of a much more rich value basis and constituency.

In addition to these benefits, I also have identified clear detriments if environmentalists forgo the inclusion of nonecological knowledges/values in their constructions of the “environment” and “environmental issues,” namely:

- Failure to challenge the assertions of other interests.
- Perpetuation of dichotomies (e.g., humans–nature, economy–environment).
- Missing the opportunity to frame a concern more holistically in order to involve a larger coalition of interests.

By relying on knowledge frameworks that do not integrate humans, ENGOs’ tactics can be perceived as exclusionary, hostile to human social needs, and, consequently, less effective in the reform or revision of environmental management policy and practices. While it is not possible, or even desirable, for environmentalists to avoid conflict or disagreement completely, a limited perspective on an “environmental reality” is perpetuated, to little advantage, by framing issues or proposing solutions in manners that exclude important actors. If the voice of nonhuman nature is left to a small suite of knowledges and their respective orators, then it is more likely to be lost or silenced in the clamor for power and influence over the future of human and nonhuman nature.

## Notes

1. The Yellowstone to Yukon ecoregion, the larger “continental ecosystem” of which the COCE is a part, includes the Rocky Mountain cordillera and associated ecosystems from approximately central-western Wyoming north through most of the Yukon Territory in Canada (e.g., Gadd 1998).

2. The references and personal contacts cited in these works are 37 and 297, respectively.

3. In each municipal jurisdiction, there is likely a wide range of views. I interviewed the reeve, mayor, or a county commissioner in each municipality in the transboundary region of the COCE. While this is a limited sample, the similarity of their views provide evidence for such sentiments to be more broadly present among their colleagues and constituencies.

4. The East Kootenay Environmental Society (EKES) was a notable exception to the locally negative perceptions of ENGOs. Another organization, the National Parks and Conservation Association (NPCA), also promotes a community-friendly platform with local social and economic concerns in northwest Montana. However, at the time of my research, NPCA’s emerging efforts were not yet well developed or known in the region. The sixth municipal politician worked with the East Kootenay Environmental Society and was positive in most regards about her experiences with this ENGO.

5. The land managers were from the Blackfeet, Confederated Salish–Kootenay, and Ktunaxa–Kinbasket nations.

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