

Biocultural Ecology: Exploring the Social Construction of the Southern Appalachian Ecosystem

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ABSTRACT: The idea of a Southern Appalachian Ecosystem is now so much a part of our everyday language that many of the people who talk, write, and make decisions about the place are unaware of the long and complicated history behind the idea. One primary purpose of this case study was to demonstrate how the Southern Appalachian Ecosystem has been socially constructed and reified as a scientific fact in contemporary environmental discourse. In addition, we discuss the implications of this particular sense of place for biodiversity, land use, and community development. Ultimately, our goal is to help establish a common ground between the infinite number of competing visions that are possible and plausible for this one unique place. We do so primarily by advocating a more biocultural worldview—a view of the world that seeks to transcend the dichotomous categories of nature and culture perpetuated by modern, western thought. Our intention is to contribute to the creation of not merely a sustainable but a truly desirable postmodern future of human ecosystems rich in biocultural diversity.

Ecología Biocultural: Explorando la Construcción Social del Ecosistema de los Apalaches del Sur

RESUMEN: La idea del Ecosistema de los Apalaches del Sur es parte del lenguaje diario de muchas de las personas que hablan, escriben, y toman decisiones sobre el lugar pero la mayoría desconoce la larga y complicada historia detrás de esta idea. El propósito primario de este estudio fue demostrar como se construyó socialmente el Ecosistema de los Apalaches del Sur y se transformó en un hecho científico en el discurso ambiental contemporáneo. Además discutimos la implicancias de este lugar particular para la biodiversidad, el uso de la tierra y el desarrollo de la comunidad. Por último, nuestro objetivo es ayudar a establecer un consenso entre las infinitas visiones que son posibles y plausible para este lugar único. Lo haremos primariamente apoyando una visión más biocultural – una visión del mundo que pretende trascender las categorías dicotómicas de naturaleza y cultura perpetuada por el pensamiento moderno de occidente. Nuestra intención es contribuir a la creación de futuros ecosistemas humanos ricos en diversidad biocultural no sólo sustentables, sino verdaderamente deseables.

Index terms: cultured naturalness, human ecosystems, public ecology, sense of place, Southern Appalachians

As argued by its earliest advocates the Appalachian movement was a plan to establish a great National Park. As advocated by Secretary Wilson and the forest Service it was a scheme to establish a series of National Forests with the three-fold objective of timber conservation, water regulation, and recreation grounds, with other incidental benefits. As finally authorized by Congress the plan is a project to protect the headwaters of navigable rivers, with other benefits to be considered as incidental. As the undertaking actually works out on the ground it is a movement to remake the Appalachians, transform the unfortunate social and industrial conditions which have long prevailed there, and set the region to performing the function for which it was clearly intended. Stream protection, forest conservation, human recreation, and social welfare are the important elements in the plan.

—William L. Hall (1914)

INTRODUCTION

The Southern Appalachian Ecosystem (SAE), USA, is generally thought of as a fact. A growing body of environmental discourse makes reference to this place (e.g., Boone and Aplet 1994, Peine 1999, Nash 1999, Ricketts et al. 1999, Davis 2000, Irwin et al. 2002). Yet despite its recent prominence and current appeal, the

phrase "Southern Appalachian Ecosystem" does not reference one specific region. No clear, undisputed boundaries and core area define the ecosystem such that it is easily identified either on a map or on the ground. The SAE is not a distinct physical location and specific set of environmental conditions, rather, it is a socially constructed reality (Evernden 1992, Greider and Garkovich 1994).

The Southern Appalachian Ecosystem, like all ecosystems (Golley 1993, Keller and Golley 2000), is an idea that exists in the collective conscious of a loose coalition of concerned but diverse stakeholders. Global biodiversity science, international environmental politics, regional economic development, and local community identity are a few of the many interests with a stake in the ecosystem. The socially constructed reality of the SAE is currently a strong consensus that has been negotiated and defined by promoters, albeit according to various and changing criteria. In recent years, the reification of the SAE has been so successful that this particular sense of place is no longer novel nor highly controversial.

However, people who are concerned about the future of the SAE, and ecosystems generally, should be critically aware that this implicit consensus is a fragile agreement, at best a social contract in need of constant upkeep. Ecosystems and other socially constructed realities require maintenance on the part of people who care. To sustain the SAE as a place worthy of scientific and political attention, concerned stakeholders must be willing to steward the idea and the sense of place at least as much as they are willing to engage in active management of the land itself. This paper contributes to this effort by describing some of the history, philosophy, science, and politics behind the social construction of the SAE.

Many of the people who talk, write, and make decisions about the Southern Appalachian Ecosystem are unaware of the long and complicated history behind the idea. Therefore, one primary purpose of this case study is to demonstrate how the idea of a SAE has been socially constructed and reified as a scientific fact in contemporary environmental discourse. In addition, we will discuss the implications of this particular sense of place for biodiversity, land use, and community development.² Ultimately, our goal is to help establish a common ground between the infinite number of competing visions that are possible and plausible for this one unique place. The unique socio-economic, cultural, and biophysical characteristics of

Southern Appalachia have been described in great detail for several centuries, but it is only within recent decades that a coherent vision of the region as a discrete "biogeocultural" ecosystem has come into play (emphasis added) (Gregg 1999, Hinnote 1999).

METHODS

The research methods for this study fall into three principal categories: (1) ethnographic, participant-observation: public meetings, workshops, and community events; (2) interview: formal and informal interviews and focus groups with key stakeholders; and (3) document survey: academic, gray, and popular literature, historical sources, internet websites, archives and related information databases. Analysis and interpretation of this empirical data has occurred iteratively and is best described as interdisciplinary discourse analysis (e.g., Takacs 1996, Peterson 1997). Potter and Wetherell (1987) provide an overview of standard discourse analytic techniques. Primary source material and original empirical data support the claims made in this study. This "evidence" appears throughout the paper in the form of direct quotations and paraphrased text. The general findings of this specific case study should be of interest to people involved in the history, science, politics, and management of ecosystems and similar landscapes throughout the United States and around the planet. This audience includes cultural geographers, landscape ecologists, environmental historians, conservation biologists, and a variety of other stakeholders including professional decision makers and local citizens. Related studies in other contested terrains include those by Dizard (1994), Senecah (1996), and Terrie (1997).

HISTORY OF "SOUTHERN APPALACHIA" AS A SOCIO-ECONOMIC LANDSCAPE

That areas can be carved into parcels as many different ways as there are persons to do the carving is not surprising, since there are an almost infinite number of criteria upon which to base a regionalization. The criteria used, of course, depend on

the purpose of the regionalization. Thus, the boundary lines we create might enclose areas that are somewhat homogeneous in terms of culture, physiography, climate, agriculture, or planning jurisdiction. In short, a region is a mental construct: an area that has been bounded in accordance with the goals of those delimiting the region. In a sense, regions do not have truth—they only have utility.

—Raitz and Ulack (1991)

Over the years, Appalachia has been defined according to the needs and desires of many different people, and it remains a contested terrain today. "Appalachia's boundaries have been drawn so many times by so many different hands that it is futile to look for a 'correct' definition of the region" (Whisnant 1994). "The naming and redefining of Appalachia appears to have no end. . . . Clearly there is no ultimate definition, only delineations that serve particular social, political, organizational, or academic interests" (Walls 1977). Historically, the region known as "Appalachia" has been defined according to the distinctive attributes of its biophysical and cultural conditions (Ergood and Kuhre 1991). Early biocultural descriptions of the region date to the sixteenth century when European explorers first produced maps and written accounts of the unique places and people they "discovered" (Walls 1977).

As early as the sixteenth century, Mercator's "Map of the World" and other cartographic images included symbolic representations of this mountainous region (Walls 1977). Strictly physiographic descriptions of the Southern Appalachian Ecosystem emerged in the mid-nineteenth century (Raitz and Ulack 1991). The Southern Appalachian Botanical Club formed and published the first issue of its journal *Castanea* in 1936. At that time, the club defined their region of interest as follows: "The name Southern Appalachian, as herein understood, comprises all of the upland region south of the limits of Pleistocene glaciation, hence including southern Pennsylvania, western Maryland, and parts or

all of the States of West Virginia, Ohio, Kentucky, Virginia, North Carolina, South Carolina, Tennessee, Alabama, and Georgia" (see *Castanea* 1(2): 23). This is one of the earliest instances where biological scientists seem to agree on a distinct and coherent "Southern" Appalachian region. By the late nineteenth and early twentieth centuries, Appalachia had been divided into more precise and useful subregions (e.g., basic east-west physiographic regions include Plateau, Ridge and Valley, Blue Ridge, and Piedmont). It was not long before utilitarian interests came to overshadow other aspects of Appalachian geography and the mountainous terrain was gradually turned into a landscape on which economic development schemes were painted (Whisnant 1994, Davis 2000).

By the late nineteenth century, socio-economic characteristics dominated public understanding of Southern Appalachia. In fact, some scholars argue that Appalachia, and Southern Appalachia in particular, was first discovered as recently as the late 1800s when numerous authors and artists created short stories and sketches depicting the unique conditions of mountain life (Branch and Philippon 1988, Shapiro 1991). These "impressionistic accounts" focused on depressed socioeconomic conditions and described Southern Appalachia as "a discrete region, in but not of America" (Shapiro 1991). The feuding, moonshine, and other forms of lawless disorder emphasized in these popular stories and subsequent media portrayals set Southern Appalachia apart from the rest of a rapidly modernizing America. The emerging public image of Southern Appalachia reached a low point with descriptions of the region as a "retarded frontier" and primitive remnant of an earlier age (Vincent [1989] in Walls and Billings 1991). Weaver (1996) documents how this caricature was exploited for the political purposes of first ignoring and later devaluing the individuals, families, and entire communities displaced by establishment of the Great Smoky National Park. It is from under the burden of this nineteenth-century mythology that the people of Southern Appalachia have worked to identify themselves as a valuable component of contemporary American society.

The acute and prolonged poverty faced by individuals, families, and entire communities throughout Appalachia is an object of concern for people within and outside the region. Many theories explain Appalachia's depressed socio-economic condition (Ergood and Kuhre 1991). One theory attributes it to exploitation of natural resources by outside interests that export the region's wealth before it circulates through local economy. Development programs that ignore the specter of absentee ownership and wealth exportation while attempting to "improve" the social conditions in Appalachia are criticized as naïve, flawed, misguided, self-serving, even corrupt efforts on the part of "outsiders" to "modernize the mountaineers" (Whisnant 1994).

In the twenty-first century, however, economic conditions in Southern Appalachia have improved such that many in the current generation are concerned with somewhat different issues. According to the Southern Appalachian Assessment conducted in 1996:

Job growth in the SAE is faster than in several other regions and the nation as a whole. Unemployment and poverty rates are lower than in many other regions. Rural unemployment rates are lower than in every other region of the country except for the Midwest and the Plains. The population is growing fairly rapidly, largely due to immigrants attracted by the region's rural mystique, rich history, expanding and diverse economy, and range of environmental amenities and outdoor recreation opportunities. (Jones et al. 1999)

As socio-economic conditions improve, the Southern Appalachian region faces a new set of concerns. In particular, biodiversity loss, invasive exotic species, forest fragmentation, acid deposition, and other forms of environmental degradation are major political issues rapidly displacing poverty on the region's list of priority concerns (Peine 1999, Nash 1999, Irwin et al. 2002).

THE SOUTHERN APPALACHIAN ECOSYSTEM AS A BIODIVERSITY HOTSPOT

The destruction of primary forests is well documented with a 95–98 percent loss in the continental United States. The Appalachian region is no exception. Before European settlement, the majority of this region was covered with closed-canopy deciduous forests, but today just over 50 percent remains forested and much of that is poor quality regrowth Many of these second- and third-growth stands bear little to no resemblance to the original forest cover. Intensive strip mining, fragmentation, deep mining, timbering and pollution have scarred much of Appalachia's forests. This region is considered critically threatened and at the top of the list of globally significant forest ecoregions (Ricketts et al. 1999).

—AFRC (2001)

Despite the extensive resource extraction that has occurred throughout Appalachia (e.g., mountain top removal and other methods of coal mining, modern commercial agriculture in the valley lowlands, and repeat clearcutting of forests), the region remains in a predominantly "natural" condition. Although "[m]any of these second- and third-growth stands bear little to no resemblance to the original forest cover. . . . This region is considered critically threatened and at the top of the list of globally significant forest ecoregions [Ricketts et al. 1999]" (AFRC 2001). The uniquely forested mountains of the SAE, while by no means a pristine wilderness, still make significant contributions to global biodiversity. "The Southern Appalachian Ecosystem is a unique resource because of its rich genetic, species, community and landscape diversity" (U.S. Geological Survey 2002). For example, some scientists claim that the ecosystem is but one of only 12 remaining areas in the lower 48 states that is large enough and intact enough to maintain viable populations of large vertebrates (Salwasser et al. 1987, Salwasser 1988).

In response to these and related environmental concerns, a diversity of citizen activists, ecological scientists, and natural resource professionals have joined forces in an international effort to promote and protect the ecological integrity of the Southern Appalachian region. This coalition is developing systematic conservation strategies under the framework of ecosystem management to avoid some of the failures of previous "piecemeal and reactionary attempts" (ARC 1998 a,b).

Many ecosystem management strategies encourage decision makers to consider their actions within the context of ever larger scales of ecological space and evolutionary time. However, stakeholders should be mindful that when a specific place is conceptualized in this manner, its unique particulars (including the humans who call it home) become increasingly abstract as they are simplified and categorized to fit within a theoretical model of the larger region. Thus, as Southern Appalachia is reconceptualized in terms of biodiversity science and ecosystem management, the region may become privileged for its "natural" (e.g., biological and ecological) qualities to the exclusion of the social and cultural dimensions of the region. As with other threatened ecosystems, descriptions of Southern Appalachia that emphasize "biologically diverse flora and fauna," "remnants of old-growth forest," "rare and endangered species," and "air and water quality" tend to ignore the significance of human culture. Likewise, management priorities within the ecologicistic discourse often emphasize the negative impact of human presence (via recreation, tourism, residential development, etc.) on the "natural" ecosystem (Robertson and Hull 2001a).

This revisioning of Southern Appalachia through the ecologicistic discourse of biodiversity science and ecosystem management is an increasingly popular reconceptualization that is taking place in many localities throughout the world (e.g., Ricketts et al. 1999). "Ecologism" describes the occurrence of literature, art, and popular culture that reflects an ecological way of thinking (e.g., Hayward 1994). At the extreme, ecologism is a worldview that

promotes wilderness, or dehumanized nature, as an ideal environmental condition and preferred form of environmental quality. For example, contemporary natural resource professionals, including scientists, are often predisposed to see the places they manage and study through an ecological lens where the value of biodiversity tends to eclipse cultural history (e.g., Redford and Stearman 1993, Sellars 1997, Takas 1996).

Global biodiversity assessments, such as those conducted by World Wildlife Fund (WWF), characterize the Southern Appalachian Ecosystem as a globally significant ecoregion because of its biodiversity values (Ricketts et al. 1999). WWF recognizes the Appalachian/Blue Ridge Forests ecoregion and the adjacent Appalachian Mixed Mesophytic Forests ecoregion as representing "one of the world's richest temperate broadleaf forests" (Ricketts et al. 1999). In fact, the entire Southern Appalachian region is classified by WWF as one of a few "Class I: Globally outstanding ecoregions requiring immediate protection of remaining habitat and extensive restoration" (Ricketts et al. 1999). With five national forests, two national parks, and related "natural" areas at its core, it is easy to see how people have come to appreciate the Southern Appalachian region as a distinct and unique ecosystem in need of coordinated management and protection. Nevertheless, stakeholders and decision makers need to be aware of the implications posed by this bias.

TOWARD A MORE BIOCULTURAL WORLDVIEW IN SOUTHERN APPALACHIA

[A] rather different perspective . . . emerges from the work of scholars and scientists who explore the history and sociology of the environment. Here the emphasis lies not with the notion of habitat as such but with concepts of landscape (land as understood in and through the human imagination, and shaped by human managerial activities). A landscape approach to biodiversity is justified by the frequency with which apparently pristine worlds, as yet little

explored by science, prove on further examination to yield ready evidence of long-term human involvement.

—Guyer and Richards (1996)

Obviously, there are many ways to understand and care for the Southern Appalachian region. Ecologism and ecosystem management for biodiversity conservation is one method. However, we must remain aware that any one approach provides only a partial experience of the landscape and a limited vision of the future. In this section we build upon the history of Southern Appalachia as a cultural landscape and the recent depiction of this region as a biodiversity hotspot in order to construct a more inclusive "biocultural" view of the Southern Appalachian Ecosystem.

Most simply, bioculturalism is a view of nature that embraces humans as active and integral components of the ecosystem (e.g., Heywood 1995, Berkes and Folke 1998). According to the biocultural worldview, people, their local communities and global economy, are an inextricable part of the environment and "natural" processes in the SAE. Bioculturalism is a view of the natural landscape that encourages stakeholders to recognize human society as an integral component of ecological systems and find ways for people to interact with and live sustainably in nature. Bioculturalism and the goal of healthy human ecosystems are increasingly accepted by the international conservation community, which has long recognized the limited effectiveness of conservation strategies that privilege biological diversity over cultural diversity (West and Brechin 1991, Droste et al. 1995, Ghimire and Pimbert 1997).

Ecosystems are environmentally, economically, and politically defined. Western environmental science, ecophilosophy, and nature writing have tended to ignore the historical fact that people are part of nature and natural ecosystem processes. Contemporary decision makers, however, can no longer afford to overlook the active, functional role of humans as an integral and creative component in ecological, evolutionary, and environmental change.

In the midst of today's fragmented ecosystems, invasive species, biotechnologies, and global climate changes, we need a renewed vision of nature, science, and environmental management, one that includes human culture.

Change is constant and wild nature is not nearly as stable as some might like it to be. The environmental conditions of our local and global ecosystems are in a continual state of flux (Botkin 1990, Heywood 1995). Therefore, it is ambiguous and potentially misleading to advocate the idea of a "natural state of nature" (i.e., biological and ecological integrity) (Cronon 1995, Callicott and Nelson 1998). In any given time and place, there are many equally possible and equally healthy environmental conditions; no one of these many possible natures is necessarily more "natural" than another (Hull and Robertson 2000). Nevertheless, many of the "scientific" constructs that we use to operationalize environmental quality arbitrarily define environmental quality in exclusive terms as the minimal presence or total absence of humans and human impacts (Robertson and Hull 2001b). Humans, however, and the environmental changes they introduce, do not necessarily degrade environmental quality. In some cases, human activity may even improve the diversity, stability, health, and overall quality of some ecosystems (Gomez-Pompa and Kaus 1992, Saberwal 1996, Pykälä 2000). Some U.S. forest scientists, for example, contend that a "managed" forest is "healthier" because human intervention controls insects, fire, and invasive species (e.g., O'Laughlin and Cook 2003). Therefore, what counts as environmental quality is largely a matter of perspective, relative to the scope of one's vision and aspiration for a given ecosystem.

Because many environmental conditions have existed and can exist, it is easy to see that people cannot identify one set of environmental conditions as being better than another without invoking some value system that answers the question "better for what purpose?" Nature, the environment, if left alone, will evolve, grow, and develop in unpredictable ways. Therefore, even if we plan wisely for the conditions we

desire, there is no guarantee that we can achieve our goals. Nevertheless, people and active management should be part of the equation (Di Castri and Younès 1996, Szaro and Johnston 1996). To say that humans by definition degrade environmental quality is an overly simplistic and highly pessimistic conclusion, one that is depressingly fatalistic in its consequences. Rather, we need to design ways of living that are meaningful and inspirational, not merely sustainable.

One place to look for further inspiration and direction is the innovative ideas of contemporary bioculturalists such as William Jordan (1994), Frederick Turner (1994), and Michael Pollan (1991, 2001). These three thought-provoking writers are among a growing contingent of biocultural activists who are designing creative approaches to the human-nature relationship based on the belief that humans can be artful agents of landscape change. "Sunflower forests," coevolution, and "the cultivation of a new American garden" are among these bioculturalists' ideas for a better, more democratic, sustainable, and desirable future.

Likewise, a small but growing number of environmental scientists have begun framing their questions in terms of "human ecosystems" (e.g., Pickett and McDonnell 1993, Pickett et al. 1997, Grimm et al. 2000) while others are discussing the idea of "public ecology" (Robertson and Hull 2001b, Luke 2001). Escobar (1999), Goodman and Leatherman (1998), and their colleagues explicitly argue for a biocultural synthesis. This theoretical approach to "the question of nature" would not only enfold human society within ecosystem concepts but would embrace a new political ecology of "hybrid natures" founded on principles such as interdisciplinarity and antiessentialism. For example, Haraway (1991), Beck (1992), and Redclift (2001) are breaking down essentialist constructs such as "human" and "nature" by advancing a new discourse of cyborgology, hybrids, and biotechnologies. Each of these perspectives represents novel biocultural approaches to understanding and constructing a desirable environmental future founded on healthy human ecosystems.

tems.

Evidence of bioculturalism in the Southern Appalachian Ecosystem is revealed in local residents' discourse of "cultured naturalness" (Hull et al. 2001), the literature of regional institutions (e.g., ARC 1998a, Peine 1999), and the recent policy of national-level institutions (e.g., U.S. Forest Service 2000). Each of these forums is fertile ground for the growth of a strong biocultural discourse of ecology in the Southern Appalachian region and related natural landscapes. Each of the stakeholders and the interests they represent has an important role to play in establishing bioculturalism as a valid and powerful new approach to the environment.

Many of the programs that have helped to socially construct and reify the Southern Appalachian Ecosystem do so from a perspective that recognizes the place of human culture in the natural landscape and the implications of natural resource management regimes for the socio-economic status of local communities. For example, long established institutions such as the U.S. Forest Service have a history of addressing local community needs (Sarvis 1993, 1994). Likewise, more recent programs such as the Southern Appalachian Biosphere Reserve, the Appalachian Forest Regional Center (AFRC), and The Nature Conservancy (TNC) (each of these programs is discussed in more detail below), appear to embrace a perspective of ecosystem management that is sensitive to the place of people in natural areas, especially the livelihoods of local residents. The Appalachian Forest Regional Center has expressed the following concerns:

Natural resources within the Appalachia region have continued to be exploited for short-term gains. Little to no regard has been given to the regeneration capacity of these natural resources, compromising their natural balance. The immediate environmental consequences include loss of habitat, loss of biological diversity, change in species composition, erosion, increase in the greenhouse effect and degraded water quality. *Long-term social implications include impacts on local populations such as loss of*

livelihood, impoverishment and loss of cultural diversity. (emphasis added) (AFRC 2001)

To address these issues AFRC is supporting community-based research to explore opportunities for sustainable forestry as a form of both economic development and ecological protection:

There are numerous areas of concern in which research can be focused. Emerging issues revolve around the need to establish specialty wood markets while value adding, expansion of non-timber forest product markets, the need to address the lack of private forest landowner incentives and outreach programs, investigating the potential for timber based cooperatives, and the concerns with the ecological health and associated economic stability of the Appalachian forest region. (AFRC 2001)

The Nature Conservancy's Forest Bank Project is a recently developed program that shares similar goals. The mission of The Forest Bank is "to work in partnership with private landowners to promote the economic productivity of working forests while protecting the ecological health and natural diversity of the landscapes in which they occur" (The Nature Conservancy 2002).

Perhaps the most powerful example of bioculturalism in Southern Appalachia is the Southern Appalachian Man and the Biosphere (SAMAB) program. In 1988, the Southern Appalachian cultural landscape was named a "regional biosphere reserve" as a cooperative agreement on the part of the United Nations and several state and federal agencies. In 1996, a Southern Appalachian Assessment (SAA), "a five-volume report produced by a team of natural resource specialists" and coordinated through the SAMAB Cooperative, was conducted to support regional ecosystem management and sustainable development efforts (SAMAB 1996, Randolph et al. 1999). While SAMAB and the SAA are undoubtedly byproducts of a largely ecologicistic discourse regarding global ec-

osystems management and biodiversity science, they also endorse an explicitly "biogeocultural" perspective regarding the interface of wild nature and human society in Southern Appalachia (Peine 1999).

Describing the Southern Appalachian Man and the Biosphere cooperative, Bruce Babbitt (1999) asserted: "In the southern Appalachians, quiet cooperation has truly paid off. There are no major environmental trainwrecks here between those concerned with protecting the environment and those representing economic development interests. . . . The lack of confrontation has allowed for the development of broad alliances that might not have otherwise so readily occurred."

This collaborative success is unusual considering the fact that disagreements regarding the appropriate role of humans in the natural landscape is one of the key factors polarizing discussions about environmental management (Ingerson 1994, Callicott et al. 1999). Obviously not everyone agrees with this optimistic view. For example, ecologists Paul Angermeier (pers. com.) argues that the collaborative success identified by Babbitt (1999) is rhetorical rather than actual. Angermeier contends that there have been no trainwrecks in the SAE because economic development is the only train on the tracks. On a related but different tack, a recent (1991) critique in the online magazine *eco-logic* <<http://www.mikeneu.com/eljul98.htm#sam>> makes the following contentions:

Private property is an endangered species in Appalachia. . . . Day by day, throughout the land, highly-paid professionals, funded by prestigious environmental organizations, wage war on individual freedom and private property rights in the name of "protecting the environment." Their efforts are said to be "local initiatives," which reflect the will of the people. In reality, their efforts are carefully planned, well-coordinated; generously funded by foundations, national environmental organizations, or by the federal government, and are expressly designed to exclude participation by real land own-

ers and real local citizens whose lives are directly affected.

While much of the ecosystem management discourse in the SAE is highly rhetorical, it behooves us to listen carefully to these concerns. Regional ecosystem management strategies are necessary to ensure that biodiversity and natural resources are sustained, but sustainable development strategies must also ensure a flow of the many other cultural, amenity, and economic benefits that local landscapes provide to communities in the region. Many people in local communities are more interested in issues of cultured naturalness than they are concerned about Big Wilderness, Big Business, or Big Brother.

In order for bioculturalism to continue to flourish as an effective conservation strategy in the SAE and related landscapes, stakeholders representing local, regional, and global interests must work to overcome the conceptual limitations imposed by the human-nature dichotomy and embrace humans as an integral, functional, and adaptive aspect of the natural landscape (Allen 1988, Haverkort and Millar 1994, Phillips 1998).

CONCLUSION

[T]he southern Appalachians can be characterized as a biogeographical region because of the ecosystem types, flora, fauna, climate, geology, and related characteristics... This large area is an appropriate "common ground" for cooperative management of many of the region's natural resources, because entire ecosystems can be treated, and more complete ranges of species can be included. Another advantage is that many people in the area feel the region is their "home," so they have a growing concern about what is happening to it.

—Gilbert (1988)

The Southern Appalachian Ecosystem is an increasingly popular concept in contemporary environmental science and politics. However, we should keep in mind

that this "ecosystem" will exist only as long as it remains a powerful concept in the minds of people who care. The social construction of the SAE, as both a discursive and a material reality, is the result of a loose coalition of local and international stakeholders concerned about the future of the region, its specific places, its mountains, forests, streams, wildlife, and the larger, global environment of which this landscape and its people are one small part.

We have discussed at least three different social constructions of the Southern Appalachian Ecosystem: the ecosystem as (1) a socio-economic landscape, (2) a biodiversity hotspot, and (3) a biocultural region. Each of these discourses has specific implications for how people interact with the land. In the socio-economic landscape of Southern Appalachia, nonlocal, colonial-minded capitalists have tended to exploit the natural resources for personal and nationalistic gains. As a biodiversity hotspot, the ecosystem is managed to preserve and maintain rare and endangered species and ecological processes that are considered of value to the global environment. In the discourse of bioculturalism, the SAE is of value to local communities and global society for the distinct environmental conditions that make this cultural landscape a unique and desirable place for humans to live on Earth.

Regardless of the preferred discourse, describing Southern Appalachia as a distinct "ecosystem" is a reification that has been influenced by socio-cultural factors at least as much as it is a reflection of the biophysical conditions of the local environment. This paper is based on the social constructivist premise that landscapes such as the Southern Appalachian Ecosystem, are not simply "out there," shaped by the wind and the rain; rather, they are constructed, discursively and materially, by people who care, albeit in different ways, about the future of the place. This social constructivist approach to environmental studies applies to both popular and scientific understandings of the world in which we live (Evernden 1992, Greider and Garkovich 1994).

"Appalachia," "Southern Appalachia," and, most especially, the "Southern Appalachian Ecosystem" are discursive and material realities that have been socially constructed and gradually reified in the minds and work of Americans. Popular understandings of these terms and the places they represent are the outcome of a long and complex history of biocultural interactions. Prior to the late twentieth century, the Southern Appalachian Ecosystem did not exist; scientists, politicians, developers, authorities, and local residents had yet to discover it as a unified entity with a coherent sense of place. Granted, the physiography and biodiversity of Appalachia have long been in place, but the ecosystem *per se* had yet to be identified. In a manner of speaking, the forest had not been seen for the trees. In this paper, we have demonstrated that the delineation and description of Southern Appalachia as a distinct ecosystem is a reification that has been influenced by socio-cultural factors at least as much as it is a reflection of any existing physiographic or biological conditions of the environment.

Natural resource professionals, public ecologists, and civic environmentalists, through their language, science, history, and other stories, actively create and facilitate the shaping of new visions for the landscape and the environmental conditions of our common future (Western et al. 1994, Shutkin 2000, Agrawal and Gibson 2001). Landscape architects, environmental planners, natural resource managers, citizen activists, and others—through the concepts they use to measure environmental quality, the management practices they develop, and the policy goals they negotiate—shape the environmental conditions of places like the Southern Appalachian Ecosystem (Irwin 1995, Beatley and Manning 1997, Fischer 2000). Ultimately, this landscape, and many other places like it, is an emergent work, a "living fine art," a "land that could be."³ Applied environmental professionals, public ecologists, and civic environmentalists are the painters, sculptors, and curators of our common future.

ACKNOWLEDGMENTS

We would like to thank Paul Angermeier, Mark Barrow, Tim Luke, Patrick Miller, and the *Natural Areas Journal* Editorial Board for constructive comments that helped us to improve the manuscript. This work was supported, in part, by a cooperative research agreement with the USDA Forest Service North Central Experiment Station.

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ENDNOTES

¹ SAE serves as an acronym for both the Southern Appalachian Ecosystem and the Southern Appalachian Ecoregion. In some cases SAE the ecosystem and SAE the ecoregion refer to the same geographical area (e.g., Jones et al. 1999), but this may not always be the case.

² The theoretical approach for this paper is largely influenced by "social constructivist" perspectives in the field of science studies (e.g., Golinski 1998, Helford 2000).

³ I thank Ted Harris, of the 500-Year Forest Foundation, for introducing the idea of "landscapes as living fine art."

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