

***Ecosystem Management:
Desperately Seeking a Paradigm***

Robert T. Lackey

*National Health and Environmental Effects Research Laboratory
United States Environmental Protection Agency
200 SW 35th Street
Corvallis, Oregon 97333*

Robert.Lackey@oregonstate.edu
(541) 737-0569

Citation: Lackey, Robert T. 1998. Ecosystem management: desperately seeking a paradigm. *Journal of Soil and Water Conservation*. 53(2): 92-94.

Available on the web:

<http://oregonstate.edu/dept/fw/lackey/RecentPublications.html>

Commentary

Ecosystem Management: Desperately Seeking a Paradigm¹

Robert T. Lackey²

Abstract

Two competing views of ecosystem management have emerged. One is that ecosystem management is another stage in the continual evolution of the basic management paradigm -- one that natural resource managers have followed in North America for a century. The other view is that ecosystem management reflects a shift to a different paradigm, one based on an alternative world view. The concept that stimulates such intense reactions and polarity has controversial tenets at its core, but it is not clear from much of the published debate what these tenets are. Stated or not, there are profound differences of opinion, but these differences are often difficult to separate from arguments over technical and operational details. The divisive issues in ecosystem management are not technical, scientific, or operational, but are moral and philosophical. There will continue to be ambiguity about what is meant when ecosystem management is discussed and debated, but the important differences are over values, priorities, and assumptions. My guess is that ecosystem management will be embraced by the bureaucracy as a policy marketing concept, but will be operationally defined separately as another step in the evolution of ecological policy. It will not be revolutionary in practice, rhetoric aside.

¹ Modified from a presentation given at the North American Forest Insect Work Conference: Forest Entomology, Vision 20:21, April 8 - 12, 1996, San Antonio, Texas. The comments and views expressed do not necessarily represent policy positions of the Environmental Protection Agency or any other organization.

² Dr. Lackey is Associate Director for Science, EPA Western Ecology Division, National Health and Environmental Effects Research Laboratory, Corvallis, Oregon. He is also Professor (Courtesy) of Fisheries and Professor (Adjunct) of Political Science at Oregon State University.

Introduction

Natural resource professionals and the general public hear a lot about ecosystem management -- what it means; what it should mean but doesn't; how it is an innocuous sounding slogan masking adoption of an ecocentric world view; how it is a repackaging of old, discredited approaches; how those raised with a patriarchal world view had better adjust to the political realities of the twenty-first century; how it is a religion hiding behind the cloak of science; how it is the harbinger of an ecological renaissance. Supporters (Grumbine, 1994) and critics (Fitzsimmons, 1996) argue their cases in the professional literature. Others argue that the concept is so complex that it is impossible to define (More, 1996). Advocates and critics jockey for the moral high ground, castigating those not sharing their views as uncaring, uninformed, and uncompromising.

Certainly anything that stimulates such intense reactions must have at its core fundamental, controversial tenets. But what are these tenets? Why all this strife over what might appear to outsiders as a debate over semantic nuances? The best analogy I can think of is the cult movie classic, *Desperately Seeking Susan*. Just as many of the characters in the movie were searching for meaning, many of us in natural resource disciplines, especially management, appear to be frantically searching for meaning, for tenets, for principles. Being imbued with the stoic traditions of our technocratic professions -- forestry, fisheries, wildlife, ecology, environmental science -- we search without visible distress, certainly without the desperation of the actors in the movie, but we *do* seek a paradigm for ecosystem management in the same way that the actors in the movie were searching, desperately and with great distress, for life's meaning.

To carry the movie analogy a bit further, what do we seek? We are searching not for life's meaning, but to answer a question: Is ecosystem management simply another stage in the evolution of our basic philosophy of natural resource management -- our management paradigm? Is it the same paradigm that society and natural resource professions have followed for a hundred years -- or, is it a shift to a totally different paradigm based on an alternative world view? In short, are we witnessing *evolution* or *revolution*?

We have the words: ecosystem management, ecosystem-based management, ecosystem health, ecosystem integrity, sustainability, biological diversity, and a myriad of other catchy phrases. But we seek a paradigm, not a thesaurus for political wordsmiths on a campaign trail. Or do we?

To some, ecosystem management is apparently little more than "holistic" management -- having more awareness of the interactions and interconnectedness within ecosystems -- considering sustainability over longer time frames -- weighing a broader spectrum of benefits to society -- better managing public lands -- involving all those affected by public decisions. Or, as the poster says: "*Ecosystem Management: Considering Everything.*" We would be hard pressed to find *anyone* who is against these things. In short, some argue that they mean little.

What we often hear about ecosystem management from professional natural resource managers is an *evolution* of the management paradigm long dominant in "modern" society. We may argue vociferously over the benefits of fish in the creel or the nebulous quality outdoor experience, defend Christmas tree farms or ancient forests, debate the importance afforded biologic or genetic diversity, consider endemic species more important than exotic ones, or minimize the influence of man's activities. *But* the management paradigm is the same. There *is* change, but the change is incremental, and adjustment is relatively easy for bureaucracies and the public. A few of the big losers may whine or even scream, but that is nothing new in implementing public policy.

This is *evolutionary* change. It is anthropocentric, utilitarian. *All* benefits, tangible and intangible, measurable and unmeasurable, present and future, flow to humans. Rights are intrinsic to humans. Consideration will be given to other animals and plants, but there are no intrinsic benefits *except* ultimately to humans. As a society, we *may* choose to preserve *all* biological diversity, protect *all* gene pools, and set aside vast tracts of land that few even visit, but the *benefits* of these decisions flow to humans, whether those benefits are tangible or intangible (Lackey, 1995; Wagner, 1996).

The *other* world view is dramatically different. It is the stuff of *revolution*. Perhaps that is why in some circles ecosystem management has been met with such ferocious resistance. The view is not evolutionary but is a fundamental paradigm shift. Are we acolytes of a new religious vision? The demand is for justice -- *ecological* justice. Like any revolutionary concept, it *is* unsettling.

In this view, the modern, linear, engineering, anthropocentric perspective is wrong. It is immoral. It has caused many of our problems. We must reject the arrogance that humans should "manage" ecosystems. In this view, we must, as professional natural resource scientists and managers, adopt a new paradigm -- discard our role as *sycophants* of a discredited industrial order. The demand is not for modification of our policies, but to ask fundamentally different questions.

Do animals and plants have rights? Who are we, as one species, to ask such a question? Of course they have rights! If we are to "manage," it ought to be to maintain the planet in a state where *all* plant and animal species, *if not individuals*, can survive. A profession, forest management, that tacitly condones killing trees to supply paper cups for double tall lattes? The elitism to assume that we have the right to "manage"? *Speciesism at its worst!*

Whose property is this? Is the concept of ownership even relevant? How can one species *own* another? Why should some humans be permitted to impose their destructive will on other species? It is bad enough that we have some animals in slavery, *pets and livestock*, but must we dominate the planet? Do we manage to maximize benefits to society? No, we make decisions as members of the biotic community. Justice. We demand *ecological* justice.

Options

It's a tough sell to convince anyone that *this* paradigm change is evolutionary -- it is not! You might argue from a philosophical position that the whole concept of "rights" is anthropocentric. In fact, the concept of "biocentric" is entirely a human construct. Such arguments aside, adoption of a biocentric world view would be a paradigm shift and it scares many people.

So what is happening within our natural resources management professions? For those who support the evolutionary view of ecosystem management, there are two obvious choices:

First, ban or outlaw it. Call it un-American. Not a very practical or effective approach. Call it subversive (and many do). In some of its formulations, ecosystem management *is* radical change, the full social implications of which are seldom appreciated; or

Second, (and this is the more sophisticated approach), *co-opt* it. Embrace the words but not the philosophy. In short, finesse the issue away. This is what bureaucracies are often accused of: ignore the divisive questions and try to implement policy by slogan. As the head of a major agency that adopted ecosystem management recently said: "*I promise you that I can justify anything you want to do by saying it is ecosystem management. Not that I don't think it is a good idea. I applaud it. But right now it's incredibly nebulous.*" (as quoted in Fitzsimmons, 1996). Perhaps a bit cynical and bureaucratically self-serving -- or refreshingly honest?

To help answer the question -- evolution or revolution -- we need look at the use of certain key *words* or *phrases*.

A key word to listen for is "health." Health is a noble word. Health is good. Sickness is bad. Healthy describes a lifestyle you want for your kids. *Unhealthy* is something to be avoided.

Ecological health is a favorite of the management, anthropocentric world view --- the view that ecosystem management is *evolutionary change*. You will hear: "*Our agency is in favor of ecological health --- we make decisions toward this end.*" Never mind that health is a value judgment, a political judgment --- we are all in favor of health. How many people champion sickness?

Individuals that see ecosystem management as a *revolutionary* concept have another world view and would not feel comfortable with this value-dependent view of health. What is better is "natural," and natural is unaffected by man (or only slightly by man with a very light footprint). Health is being co-opted as a concept. Watch for "health" to slip undefined into discussions of ecosystem management (Lackey, 1998).

Look also for the word "management." Here we have a single word that exposes a world view -- a paradigm. *Revolutionary* ecosystem "managers" chafe under the rubric. To *manage* implies stewardship which implies an *anthropocentric* world view. If we are merely one of many species, how can we be so bold as to presume to manage the others?

Evolutionary ecosystem managers would respond, at least if they were into straight talk, with: "Get a life -- even aboriginal populations used animals and plants. They 'managed' as we do, only there were fewer of them and their standard of living was not as high. Besides, do you want to go back to human mortalities of 50% before age 5?" Well, most of us aren't that direct, so you will not likely hear such views here.

The word "sustainability" is also a giveaway word. Evolutionary ecosystem managers love this term nearly as much as ecological health. Why? Because it conveys a different meaning to every listener. Who can be against sustainability? Not many speakers here have argued for *unsustainability*! Revolutionary ecosystem managers would say that if you are making the right, the moral decisions, sustainability *happens*. You don't manage for it; it is a by-product.

There are other words -- holistic, biodiversity, ecological integrity -- that are favorites in discussions of ecosystem management. They flesh out the dialog without adding substance because they are rarely defined clearly; they serve little function other than to mask our lack of consensus, our lack of even a *coherent* debate. Who knows what they mean in the debate over ecosystem management? *The point is . . . no one does!*

Where does all this leave us in natural resources management? There *will* continue to be a lot of ambiguity as to exactly what people *do* mean when they invoke ecosystem management. There are profound . . . *and legitimate* . . . differences of opinion, but it is often difficult to separate these differences from the rhetoric. Let's not delude ourselves into thinking that in at least some formulations of ecosystem management there are big winners -- and big losers. Let's not fall prey to the bureaucratic expedience of simply defining ecosystem management as what we do with public lands we manage, be it national and state forests, wildlife refuges, or national and state parks. This is too easy a cop-out!

The divisive issues in ecosystem management are not technical; they are moral and philosophical. We argue about the importance of biological diversity for ecosystem stability or perhaps as a source of a future cure for ovarian cancer, but the real debate is over the morality of extirpating species or gene pools. Satellites and seines, DNA probes and dip nets, electrophoresis and electrofishing -- natural resource scientists, with all our glorious technical gadgets, will be no more relevant to resolving the moral issues in ecosystem management than are physicians in resolving the morality of abortion. *These are not scientific questions!*

What will happen to the concept and practice of ecosystem management? My guess is that it will be embraced by the bureaucracy and become yet another step in the evolution of public policy. It will *not* be revolutionary. Few representatives from government or commerce will come to meetings of natural resource professionals and fail to enthusiastically support ecosystem management. It will mean a continuation of the trend toward placing greater weight on nonconsumptive societal benefits -- environmental quality if you will -- a trend that should not surprise any of us.

Perhaps we will be like the actors in the movie, give up on searching for meaning and get on with our lives. But, the underlying moral philosophy that spawned the emergence of ecosystem management as a fresh, potentially radical concept will *not* disappear. Shards of this philosophy can be found in the "animal rights" theology, the "small is beautiful" philosophy, and the "community-based green movement." Whatever the direction, it is a safe bet that future issues in natural management will be no less divisive and challenging than those we now face.

Literature Cited

Fitzsimmons, Allan K. 1996. Sound policy or smoke and mirrors: does ecosystem management make sense? *Water Resources Bulletin*. 32(2): 217 - 227.

Grumbine, R. Edward. 1994. What is ecosystem management? *Conservation Biology*. 8(1): 27 - 38.

Lackey, Robert T. 1995. Ecosystem management: implications for fisheries management. *Renewable Resources Journal*. 13(4): 11 - 13.

Lackey, Robert T. 1998. Seven pillars of ecosystem management. *Landscape and Urban Planning*. 40(1-3): 21-30.

More, Thomas A. 1996. Forestry's fuzzy concepts: an examination of ecosystem management. *Journal of Forestry*. 94(8): 19 - 23.

Wagner, Frederic H. 1996. Principles for the conservation of wild living resources: another perspective. *Ecological Applications*. 6(2): 365 - 367.

Author's Bio

Dr. Robert T. Lackey, senior fisheries biologist at the U.S. Environmental Protection Agency's research laboratory in Corvallis, Oregon, is also courtesy professor of fisheries science and adjunct professor of political science at Oregon State University. Since his first fisheries job more than four decades ago mucking out raceways in a trout hatchery, he has dealt with a range of natural resource issues from positions in government and academia. His professional work has involved many areas of natural resource management and he has written 100 scientific and technical journal articles. His current professional focus is providing policy-relevant science to help inform ongoing salmon policy discussions. Dr. Lackey also has long been active in natural resources education, having taught at five North American universities. He continues to regularly teach a graduate course in ecological policy at Oregon State University and was a 1999-2000 Fulbright Scholar at the University of Northern British Columbia. A Canadian by birth, Dr. Lackey holds a Doctor of Philosophy degree in Fisheries and Wildlife Science from Colorado State University, where he was selected as the 2001 Honored Alumnus from the College of Natural Resources. He is a Certified Fisheries Scientist and a Fellow in the American Institute of Fishery Research Biologists.
