Environmental Ethics Essay, Research Paper

The Ethical Basis for Ecosystem Management

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Ecosystem Management: The Human Dimension

Establishing an environmental ethic is of utmost concern to the human species to better comprehend our place in the world and our potentials for the future. In doing so, we must extend our thinking of rights and responsibilities. I believe we must incorporate not only a temporal component, but also a spatial understanding of the world as an organic biotic community and how consumption is a part of the natural order. Aldo Leopold believes that conservation ethics must be rooted in a determination: “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” I would like to start with Leopold’s statement, and further explore how the definitions of integrity, stability and beauty can be better understood given three corollary’s:

1. All organic entities must consume to survive – it is not only a right, but a responsibility

2. There are limited resources to be consumed by organic entities on the planet

3. The human species has the ability, through rational thought, to conserve ever-depleting resources

Leopold’s ethic attempts to extend what is of human, moral concern to include animals, ecosystems, and endangered species. How can this concern be expressed in today’s society? I see one problem with this argument in that there is little discussion about power and influence that is inherent in current definitions of rights. Therefore, I will introduce the notion that organic entities, those that depend on the consumption of energy for survival, must retain the right to consume resources to survive. Notions of right and wrong now have no standing – it is a fact that organic entities must consume to maintain life. I will turn to Callicott for some discussion of limits and to the Second Law of Thermodynamics as a moral decree to conservation. The resources for survival are diverse and limited, and we must explore more fully the components of a biotic community as a whole to explore our moral limits.

Community components

Organic entities exist (i.e. live) in an interdependent organic community. This viewpoint will examine components of the world which are necessary to maintain organic life. Biological entities are not the only things that require consumption in these organic communities: Fire consumes oxygen as well as organic entities, the atmosphere consumes radiation from the sun, water consumes through the removal of essential oxygen to those that require it, and the earth consumes through convection. The earth, itself, does nothing more than recycle energy. Inorganic earth, water and air are also methods of transportation within the consumption community.

Temporally, to better understand the interconnectedness with other entities we must look at humanities history through the ancestry of the land. Leopold described the rings on a fallen tree to show where, at different points in time, it may have been affected by other forces of consumption. We can see this in a ring that is charred black due to a fire over one hundred years ago, or where romantic lovers etched their names in its sturdy frame. However, when we examine things at the microscopic level, a rich picture emerges that relates our biological history with nature. Leopold writes of this through the Odyssey of “Particle X”:

In the flash of a century the rock decayed, and X was pulled out and up into a world of living things. He helped build a flower, which became an acorn, which fattened a deer which fed an Indian, all in a single year.

The human sensory methods of discovery tend to miss many relationships between organic entities. We tend to miss a lot of things when we are not actually living in nature as well. The modern market-driven consumer society is very different from the consumer community of the totality of organic entities on the earth – and quite possible less complex. We tend not only to consume resources, but technology allows us to build things that consume resources just in the production process itself. These, in turn, produce forms of energy that can then be consumed by human beings as a species.

Finite energy resources

Up until now, I have neglected the inorganic life that abounds on the planet. I will now turn to the Second Law of Thermodynamics which states that in any closed system, entropy is always increasing. Organic entities require energy for survival, and entropy, which is a measure of the amount of energy unavailable for work during a natural process, is constantly increasing. That is, the more we consume, the more waste is produced that is not available to organic entities to survive. Organic entities and communities do nothing more than recycle energy throughout the planet – from the flower, to the wolf, to the ocean. It is our consumption, in relation to the community as a whole, that we must keep in mind.

Community stability

The stability of the land is crucial to maintain the recycling of energy for living communities. We run into problems with the realization that energy can take on different forms, and those types available may not be able to be consumed by the individual entities that inhabit it. Reductions in the number of species, and their interdependent relationships, over time will result in unstable systems which can no longer recycle usable energy due to the lack of entities that can consume it. The human relevance here is that our actions, which are currently removing entire organic communities, will have dramatic effects on the stability of the organic community. Here, it is important to see that individuals contribute to and affect the stability of the community as a whole.

Community integrity

The integrity of the organic community is a difficult concept to address in an ever-changing natural world. I would like to relate it to the spatial component of interconnectedness between organic entities within and between the organic community. Here, organic entities are but a process within the recycling process of the earth as a whole. The individual components, aside from extremely damaging human events, will normally not put a dent in the community as a whole. The recycling processes of the community here include weather phenomena, natural land movements, and ocean sinks and these have little concern for the individual entities of the organic community. It is the integrity and interconnectedness of the whole that can be compromised most easily by human hands.

Community beauty

“The trend of evolution is to elaborate and diversify the land [sea and air] biota.” Dr. Leopold emphasizes the diversity of the landscape and its contribution to the beauty that exists there. It is this component that combines the abstract and rational thought in the human species. I believe the saying is beauty is in the eyes of the beholder. This is probably the most difficult points to discuss because of that. I don’t believe beauty can be subjected to the objective sciences of today, where it would just be thrown within the current institutional power structure. We must come to grips with our consumption patters, in relation to the amount of energy that is required for ourselves, and other entities, to exist. Callicott believed that the scope and rate of extinction could be used as well, by examining the rate of species extinction, and compare it with previous sources of information on the subject.

This diversification that Leopold discusses can allow us to frame beauty in an energy-consumption view. The human species, and its endless creation of energy consuming and transforming machines, has found ways to take away the rights of other organic entities to consume. We have removed not only energy sources for other organic entities, but have removed the entities altogether.

Ecological Education

Beyond the ethical prowess, and more importantly, we need to change how people think about the environment through education.

The citizen-conservationist needs an understanding of wildlife ecology not only to enable him (her) to function as a critic of sound policy, but to enable him (her) to derive maximum enjoyment from his (her) contacts with the land. The jig-saw puzzle of competitions and cooperations which constitute the wildlife community are inherently more interesting than mere acquaintance with its constituent species, for the same reason that a newspaper is inherently more interesting than a telephone directory.

It is only through this democratic education process that we can truly, as a consumer species, come together in moral environmental thought. The virtual realities available to us today only provide virtual experiences. Leopold believed experiential learning was the only way to overcome and to do this was to get out into nature and get first-hand experiences. “Schools and Universities need nearby pieces of land on which conservation problems and techniques can be shown, and researches performed.”

The Moral call

This process of consumption and waste production is repeated over and over until there is no energy, usable by organic entities, left. The human species is the only organic entity that can realize, through rational thought, this global process which will result in the end of organic life on this planet. Really, that is why this paper is being written! In essence, the amount of energy that can be consumed is finite, naturally decreasing, and only realized by the human species. It seems a fatalistic point of view, but in terms of human lifetimes, the end of usable resources may still be thousands of generations away.

A re-examination of the primary consumption entities of today are not even organic. They are mechanical devices, driven by a materialistic ethic, meant to transform energy into types that our species can then consume. Cars consume oil, power plants consume coal, and our packaging consumes trees. Not to mention all of the conversions directly to unusable energy, such as plastics or even the processes of material production itself. Of course, by removing the potential energy base for other organic entities, this can lead to instability in the organic community as a whole. Therefore, we must not ask too much of nature and conserve the limited resources of the life giving Earth.

Bibliography

Leopold, Aldo. 1937. Teaching wildlife conservation in public schools. Transactions of

the Wisconsin Academy of Sciences, Arts and Letters, Vol. 30, pp. 77-86.

Bibliography

Attached with Paper