

ENDANGERED SPECIES

Technical Bulletin Reprint

Wildland Management Center
School of Natural Resources
The University of Michigan

Why Save Endangered Species: An Ethical Perspective

by Steve Brown, Paul Larmer, Amy Thomas and Scott Wall

Many arguments attempt to explain why we should save species from extinction, and this publication has served as a forum for some of these discussions. The *Technical Bulletin* provides information on the gathering of biological data and their use in the political process of preserving endangered species. But at the foundation of these issues is the problem of assigning values to endangered species. All our actions to save species ultimately rest on our perception of their value.

There are two fundamentally distinct types of values. Extrinsic values are placed on something that is useful for some human purpose. For example, a tool is valuable because it enables us to complete a job, but is of little worth until it is employed. A pragmatic view of species preservation rests on arguments of their extrinsic value to us in maintaining ecosystem stability, supplying food or medicine, or even as objects of aesthetic pleasure.

On the other hand, intrinsic values are assigned without reference to an outside purpose. The basis of any human moral community is the shared notion that people are intrinsically valuable and should be respected, even if doing so is of no immediate gain to others. When people support an animal welfare group, they may do so because it makes them feel good, but it can be argued that the basis of this good feeling is an acknowledgement of the inherent value of other organisms — their 'right' to a life free of suffering. Species preservationists similarly recognize the right of a species to continued existence in the wild.

The Recovery Planning process is

basically a biological one, for the Recovery Team is legally constrained to consider only the biological data relevant to determining whether a species is endangered and what should be done to protect and preserve it. The reality of species preservation, however, is that funding decisions are based on many other criteria. The species which receive the strongest protection are the vertebrates with which we are most familiar. Many endangered invertebrates and plants get far less attention from both the general public and administrators of endangered species programs. Simply being listed as endangered or threatened is no guarantee that actions will be taken to preserve a species. Often, appropriate recommendations for protection are made in Recovery Plans and given little further thought.

The Endangered Species Act assumes that all species have equal intrinsic value, but it is not implemented according to this philosophy

Why should this be so? Clearly, the species to which we assign a higher value are given more attention and protection. California Condors (*Gymnogyps californianus*) and Grizzly Bears (*Ursus arctos horribilus*) have little economic value to us, so we must be assigning them intrinsic value. The Endangered Species Act assumes that

all species have equal intrinsic value, but it is not implemented according to this philosophy. Debates over saving endangered species usually leave undiscussed the role of our values and the attitudes behind them. Our perspective on species preservation depends in large part on how we view ourselves in relation to the natural environment.

Humans' Role in Nature

Most of us realize that we are completely dependent on the resources of the earth for survival. Natural systems provide our air, water, soil, and food, and our technology merely rearranges naturally occurring materials. Our awareness of our interrelatedness to natural systems has been heightened by ecological descriptions of the complex interactions between physical and biological elements of the biosphere. The evolutionary perspective of *Homo sapiens* as a transient step in the primate line, a species like any other, has also forced us to see ourselves as part of the natural order.

It is an unavoidable fact that humans as a species behave according to biological principles in the environment. We compete with other species for space and resources, and human presence in the environment too often forces poorer competitors to extinction. According to the Competitive Exclusion Principle, no more than one species can occupy any given niche; because we are able to adapt to very diverse habitats and fill many niches, our ecological impact is greater than that of any other species; we seem

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to be biologically outside of the natural order.

Perhaps the most compelling argument for humanity's separation from nature is the one which Rene Descartes reduced to five words, "I think, therefore I am." *Homo sapiens* may be the only self-conscious species, the only one which has developed a symbolic language for the contemplation of mathematics, morality, and its own place in the universe. Human culture differs (we assume) from the organizations of other social animals in that its purpose is not merely to perpetuate the most adaptive genes. Our conscious ability to make decisions and consider the impact of our behavior is, as far as we know, unique on earth.

What are the ethical consequences of considering ourselves within or outside of nature? We might suppose that if we see ourselves as a part of the natural world we will recognize intrinsic value to all species because of our

kinship and therefore treat them with respect, taking from the earth only what we need to survive. Conversely, if we consider ourselves separate from nature, we may view other species as having only extrinsic value, and we may exploit them because they have no value unless they are used by us.

Neither ethics nor ecology, however, lend themselves to simple analysis.

One complication is that nature is not benign. Predators, competitors, glaciations, and vulcanism have caused extinction of species for two billion years. If we view ourselves as a natural species, we may believe that human impacts on the environment and human-caused extinctions are merely part of a continuing 'natural' process — a process that could easily lead to our own extinction. This attitude, though based on a 'natural' view of humanity, assigns very little intrinsic value to anything.

On the other hand, even if we set ourselves apart from nature by virtue of our rationality and our ability to manipulate the environment, we can still exercise our unique self-consciousness and choose not to overexploit the earth's resources. Whether this decision is based on the economic value of species to us or on their value for their own sake profoundly affects our efforts at species preservation.

Morality, Religion, and Endangered Species

Christopher Stone has argued that the history of moral sanctions as legal obligations shows a progressive development toward considering the intrinsic worth of other beings. He cites the development of children's and women's rights in the last century as evidence of expanding moral concern. Whenever arguments were made that rights should be extended to those who did not have them, such as children or animals, there was a tendency to find the proposal somewhat ludicrous. Stone argues that this is because "until the rightless thing receives its rights, we cannot see it as anything but a **thing** for the use of 'us' — those who are holding rights at the time" (*Should Trees have Standing? Toward Legal Rights for Natural Objects*, (New York: Avon, 1975)).

Most arguments for the preservation

of endangered species rest on their actual or potential usefulness to human beings, either economic or aesthetic. It is invaluable in our efforts to preserve species to accept their value, their right to exist, as independent of direct human benefit. Some would argue that this is impossible, because humans make ethical systems and ascribe values, and values cannot therefore be truly intrinsic to anything but humans. But while ethics may be a human invention, it is not uncommon for us to ascribe value to those who cannot directly be involved in its formulation, like the very young or the mentally retarded. The crucial point is that while endangered species may not be moral agents, they may nevertheless have intrinsic value which requires us to preserve them even if they do not seem valuable for specific human ends.

Belief in a supreme Creator fundamentally alters our perception of our place in the natural order. Because Western religious perspectives impinge directly or indirectly on environmental ethics (as well as on government policy), it is important to consider the Judeo-Christian attitude toward nature. According to this tradition, the essence of humanity transcends that of nature. As God's creation from the dust of the earth, we are on the same level as all the other species of the earth. However, because we are made in the spiritual image of God, we are endowed with free will (the capacity for choice), and are therefore the only truly moral part of creation.

Some have argued that this belief in human transcendence has caused us to treat the earth without respect and has led to environmental degradation. While this may be partially true, there is ample evidence in the Judeo-Christian tradition for a more harmonious relationship between humans and nature. For example, in Genesis, God created the earth and saw that it was good, endowing it with intrinsic value, and put humans in the Garden of Eden to "dress and keep it" (Genesis 2:15). The Hebrew word for keep, *shamar*, means "to hedge about, guard, protect, attend to" (**Strong's Concordance**). It is the

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Panda Relations Warming at the National Zoo

by Steve Burdick

It's breeding season again for the giant pandas in residence at the National Zoo in Washington, D.C. Each spring zoo officials and panda enthusiasts focus their attention on Ling-Ling and Hsing-Hsing, the only breeding pair of giant pandas in the United States on permanent display, in hopes of a successful mating. Two near successes in recent years and the apparent improvement in the two panda's relationship have elicited cautiously optimistic predictions from zoo officials this year.

Ling-Ling and Hsing-Hsing (pronounced "shing-shing") were brought to the United States as a gift from China during a warming of relations between the two countries early in 1972. As an exchange, the United States gave China a young pair of musk oxen. Ling-Ling and Hsing-Hsing arrived to a hastily prepared exhibit at the National Zoo on April 16, 1972. Their given names translate as "darling little girl" for Ling-Ling, and "shining star" for Hsing-Hsing. Since reaching breeding maturity in 1976, their once-a-year sex life has been the focus of keen interest and anthropomorphic projections.

The National Zoo had only three weeks to convert a former hooved animal exhibit into what is now the panda's home. Renovations continued after the pandas took up residence. According to Mike Morgan of the National Zoo's Public Affairs Office, between two and three million people visit the panda exhibit every year.

The exhibit features educational graphics depicting their native habitat, and the significance of the gift of the pandas to the U.S. In addition, a panda skull is on display, pointing out their unique chewing ability as it relates to their staple diet of bamboo. A display of bamboo plants is also featured.

Last year, volunteers built a playground area out of heavy timbers, which not only encouraged exercise, but also appears to have warmed their generally frosty relationship. "They've been spending much more time with each other, playing all over the furniture" observed Devra Kleiman, the zoo's director of animal programs, in a recent UPI article. "She's flirting!"

It is hoped that the addition of this new furniture will encourage interactions and breeding behaviors in these normally solitary animals.

Ling-Ling and Hsing-Hsing are usually paired together in the large exhibit area for short periods in the morning about eight to ten weeks prior to the breeding season. As the breeding season approaches in mid-March, volunteers begin a periodic monitoring of their behaviors, and the exhibit is closed to the public until after successful matings. During this time TV monitors allow the public glimpses into the exhibit. The volunteers use a regimented check list to record behaviors such as pacing, calling and feeding, at 30 second intervals.

On March 19 last year, volunteers observed a successful mating, and on August 5, Ling-Ling delivered her second cub. Unfortunately it was stillborn, but Ling-Ling's maternal behaviors during this period have led officials to believe that she has the potential for being an excellent mother. She also gave birth in 1983 to a live cub, but it died after only three hours from pneumonia. Artificial insemination has been unsuccessfully attempted on three occasions on Ling-Ling, but limited data on panda breeding has

been a hindering factor.

Pandas have a peculiar gestation process which makes it difficult to gauge and monitor pregnancies. A panda pregnancy can last anywhere from 97 to 163 days. It is believed that a fertilized egg may not plant itself to the uterine wall for several days, or even weeks. This would account for the wide variance in pregnancy periods.

As more information is gathered about panda breeding and behaviors, it is hoped that successful captive breeding will provide hope for this endangered species. The Mexico City Zoo has been successful in producing two captive-born cubs in 1981 and 1983 from natural matings. In 1982, the Madrid Zoo successfully produced an artificially inseminated cub birth. All these cubs are still alive, and provide hope that captive breeding efforts will ensure the survival of the giant pandas.

Steve Burdick is a graduate student in graphic arts at the University of Michigan. He studied the panda for a course on the role of zoos in conservation.



Giant panda munches bamboo at the National Zoo.

Photo by Jessie Cohen, National Zoological Park

Ethics continued

same word used when God tells Abraham to "keep my Covenant" (Genesis 17:9), and the earth was no more Adam and Eve's to do with what they pleased than the Covenant was Abraham's. Both are solemn charges from God. *Shamar* also implies care and concern, because it is the same word used to describe God's care of His people (Psalm 25).

Whether or not we consider ourselves part of nature, it is clear that our actions and decisions have tremendous impact on all the species of the earth. It is certain, from any perspective, that we have dominion over the earth. If one believes that this dominion is ordained by God, it does not imply the right to tyranny, but rather the obligation of stewardship.

Conclusion

The issues discussed in this article are complex, and they raise more questions than they answer. Nevertheless, we believe that these issues must play a central role in the development of endangered species policy. Arguments for the preservation of species which are based only on their potential extrinsic value will always be weak because immediate economic benefits are more attractive than unquantifiable future benefits. As concerned environmentalists interested in preserving natural diversity, we should consider the synthesis of these biological, ethical, and religious perspectives for perserving en-

dangered species. While it is notoriously difficult to affect changes in values, the long-term preservation of natural systems will require our understanding of them both as necessary for our survival and as intrinsically valuable.

Steve Brown, Paul Larmer and Scott Wall are students at the School of Natural Resources. Amy Thomas is a biology student at the University of Michigan. They wrote this article in conjunction with a class on endangered species conservation.

Resources. . .

"The Roots of Life" is a new slide-tape show produced by World Wildlife-US and the Garden Club of America on plant conservation. This fifteen minute program looks at ways plants contribute to a healthy and productive planet. The show uses the spectacular, and often unique plants of Hawaii, Africa, Chile and the Mediterranean region to help illustrate the vital need to preserve our earth's flora. "The Roots of Life" is available on loan for \$3.00 (to cover postage) from WWF-US. Arrangements for a WWF-US staff member to speak to your organization on plant conservation can also be made. For more information on the slide-tape show and speaker arrangements, please contact Jane MacKnight, World Wildlife Fund-US, Plant Conservation Program, 1601 Connecticut Ave. NW, Washington, D.C. 20009 or telephone (202) 387-0800.

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If you know of groups or individuals who would possibly like a subscription to the *Technical Bulletin*, please send us their names and addresses so we can send them a free copy and an invitation to subscribe. Once again, thank you for your efforts on behalf of this publication.

On a different note, I would like to thank Rich Block for his dedication to this project. His enthusiasm and knowledge have helped to make my transition to this position a smooth one. I look forward to maintaining a strong tie with Rich as he moves on to the Kansas City Zoo.

Paul Larmer
Reprint Editor

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