

Pages 30-31 in Gary K. Meffe, C. Ronald Carroll, eds., *Principles of Conservation Biology*. Sunderland, MA: Sinauer Associates, 1994.

ESSAY 2A

Our Duties to Endangered Species

Holmes Rolston III, Colorado State University

Few persons doubt that we have obligations *concerning* endangered species, because persons are helped or hurt by the condition of their environment, which includes a wealth of wild species, currently under alarming threat of extinction. Whether humans have duties directly *to* endangered species is a deeper question, important in both ethics and conservation biology, in both practice and theory. Many believe that we do. The U.N. *World Charter for Nature* states, "Every form of life is unique, warranting respect regardless of its worth to man." The *Biodiversity Convention* affirms "the intrinsic value of biological diversity." Both documents are signed by well over a hundred nations. A rationale that centers on species' worth to persons is anthropocentric; a rationale that includes their intrinsic and ecosystem values is naturalistic.

Many endangered species have no resource value, nor are they particularly important for the usual humanistic reasons: scientific study, recreation, ecosystem stability and so on. Is there any reason to save such "worthless" species? A well-developed environmental ethics argues that species are good in their own right, whether or not they are "good" for anything. The duties-to-persons-only line of argument leaves deeper reasons untouched; such justification is not fully moral and is funda-

mentally exploitive and self-serving on the part of humans, even if subtly so. Ethics has never been very convincing when pleaded as enlightened self-interest (that one ought always to do what is in one's intelligent self-interest).

An account of duties to species makes claims at two levels; one is about facts (a scientific issue, about species); the other is about values (an ethical issue, involving duties). Sometimes, species can seem simply made up, since taxonomists regularly revise species designations and routinely put after a species the name of the "author" who, they say "erected" the taxon. If a species is only a category or class, boundary lines may be arbitrarily drawn, and the species is nothing more than a convenient grouping of its members, an artifact of taxonomists. No one proposes duties to genera, families, orders, or phyla; biologists concede that these do not exist in nature.

On a more realistic account, a biological species is a living historical form, propagated in individual organisms, that flows dynamically over generations. A species is a coherent, ongoing, dynamic lineage expressed in organisms, encoded in gene flow. In this sense, species are objectively there—found, not made, by taxonomists. Species are real historical entities, interbreeding populations. By contrast, fam-

ilies, orders, and genera are not levels at which biological reproduction takes place. Far from being arbitrary, species are the real survival units.

This claim—that there are specific forms of life historically maintained over time—does not seem fictional, but rather is as certain as anything else we believe about the empirical world, even though at times scientists revise the theories and taxa with which they map these forms. Species are not so much like lines of latitude and longitude as like mountains and rivers, phenomena objectively there to be mapped. The edges of such natural kinds will sometimes be fuzzy and to some extent discretionary (see Chapter 3). One species will slide into another over evolutionary time. But it does not follow from the fact that speciation is sometimes in progress that species are merely made up, rather than found as evolutionary lines.

At the level of values and duties, an environmental ethics finds that such species are good kinds, and that humans ought not, without overriding justification, cause their extinction. A consideration of species offers a biologically based counterexample to the focus on individuals—typically sentient and usually persons—so characteristic of Western ethics. In an evolutionary ecosystem, it is not mere individuality that counts. The individ-

ual represents, or re-presents anew, a species in each subsequent generation. It is a token of an entity, and the entity is more important than the token.

Though species are not moral agents, a biological identity—a kind of value—is here defended. The dignity resides in the dynamic form; the individual inherits this, exemplifies it, and passes it on. The possession of a biological identity reasserted genetically over time is as characteristic of the species as of the individual. Respecting that identity generates duties to species.

The species is a bigger event than the individual, although species are always exemplified in individuals. Biological conservation goes on at this level too, and, really, this level is the more appropriate one for moral concern, a more comprehensive survival unit than the organism. When an individual dies, another one replaces it. Tracking its environment over time, the species is conserved and modified. With extinction, this stops. Extinction shuts down the generative processes in a kind of superkilling. It kills forms (species) beyond individuals. It kills collectively, not just distributively. To kill a particular plant is to stop a life of a few years or decades, while other lives of such kind continue unabated; to eliminate a particular species is to shut down a story of many millennia, and leave no future possibilities.

Because a species lacks moral agency, reflective self-awareness, sentience, or organic individuality, some hold that species-level processes cannot count morally. But each ongoing species represents a form of life, and these forms are, on the whole, good kinds. Such speciation has achieved all the planetary richness of life. All ethicists say that in *Homo sapiens* one species has appeared that not only exists but ought to exist. A naturalistic ethic refuses to say this exclusively of one late-coming,

highly developed form, but extends this duty more broadly to the other species—though not with equal intensity over them all, in view of varied levels of development.

The wrong that humans are doing, or allowing to happen through carelessness, is stopping the historical gene flow in which the vitality of life lies. A shutdown of the life stream is the most destructive event possible. Humans ought not to play the role of murderers. The duty to species can be overridden, for example, with pests or disease organisms. But a *prima facie* duty stands nevertheless. What is wrong with human-caused extinction is not just the loss of human resources, but the loss of biotic sources. The question is not: What is this rare plant or animal good for? But: What good is here? Not: Is this species good for my kind, *Homo sapiens*? But: Is *Rhododendron chapmanii* a good of its kind, a good kind? To care about a plant or animal species is to be quite nonanthropocentric and objective about botanical and zoological processes that take place independently of human preferences.

Increasingly, we humans have a vital role in whether these stories continue. The duties that such power generates no longer attach simply to individuals or persons, but are emerging duties to specific forms of life. The species line is the more fundamental living system, the whole, of which individual organisms are the essential parts. The species too has its integrity, its individuality, and it is more important to protect this than to protect individual integrity. The appropriate survival unit is the appropriate level of moral concern.

A species is what it is, inseparable from the environmental niche into which it fits. Particular species may not be essential in the sense that the ecosystem can survive the loss of individual species without adverse effect. But habi-

tats are essential to species, and an endangered species typically means an endangered habitat. Integrity of the species fits into integrity of the ecosystem. Endangered species conservation must be ecosystem-oriented. It is not preservation of *species* that we wish, but the preservation of *species in the system*. It is not merely *what* they are, but *where* they are that we must value correctly.

It might seem that for humans to terminate species now and again is quite natural. Species go extinct all the time. But there are important theoretical and practical differences between natural and anthropogenic extinctions. In natural extinction, a species dies when it has become unfit in its habitat, and other species appear in its place. Such extinction is normal turnover. Though harmful to a species, extinction in nature is seldom an evil in the system. It is rather the key to tomorrow. The species is employed in, but abandoned to, the larger historical evolution of life. By contrast, artificial extinction shuts down tomorrow because it shuts down speciation. One opens doors, the other closes them. Humans generate and regenerate nothing; they only dead-end these lines. Relevant differences make the two as morally distinct as death by natural causes is from murder.

On the scale of evolutionary time, humans appear late and suddenly. Even more lately and suddenly they increase the extinction rate dramatically. What is offensive in such conduct is not merely senseless loss of resources, but the maelstrom of killing and insensitivity to forms of life. What is required is not prudence, but principled responsibility to the biospheric earth. Only the human species contains moral agents, but conscience ought not be used to exempt every other form of life from consideration, with the resulting paradox that the sole moral species acts only in its collective self-interest toward all the rest.