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Letters

Allowing extinction: should we let species go?

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We are grateful to Bottrill *et al.* [1] for revisiting the concept of triage in conservation biology. They argue for the use of triage when allocating resources to competing conservation demands. Contrary to simply being an efficient approach, however, we feel that application of triage has the potential to mimic carnage of the 19th century battlefields from which the practice arose [2]. Under medical triage, the most injured soldiers were allowed to die when medical resources ran short. Similarly, the model of Bottrill *et al.* would allow some species and ecosystems to be lost when conservation resources are scarce. This practice would have tremendous philosophical and functional consequences that should be widely debated.

Allowing extinction is contrary to the fundamental concepts in conservation biology—that species have inherent value and that extinction is unacceptable [3–5]. The founder of modern conservation, Aldo Leopold, succinctly stated that ‘the first rule of an intelligent tinkerer is to keep all the pieces’ [3]. Under a conservation triage paradigm, however, biologists would assign values to species based on the economics of their recovery. Species and systems requiring costly programs would be deemed ‘inefficient’ and therefore allowed to pass into extinction. Further, if governments that fund conservation tighten the purse strings, conservation biologists using a triage approach would have to respond by assigning more species and systems to the ever-enlarging extinction pile.

A change in the philosophical stance of conservation biologists could spread well beyond the ivory tower in which triage approaches are debated. If conservationists sanction extinction in the name of efficiency, what would stop others from justifying extinctions based on interests contrary to conservation? Some would surely argue that efficiency calculations should include the impacts on corporate profits of conservation programs that hinder resource extraction. Their efficiency models might then prescribe additional

extinctions when recovery interferes with economic progress. Many politicians are responsible for promoting economic growth, and for setting conservation policy. Those policymakers might have difficulty selecting between the extinction-bound species identified by efficiency-minded conservation biologists and species selected by corporate profiteers hindered by conservation programs.

We agree with Bottrill *et al.* that there is a need for efficient distribution of conservation resources, but we disagree that resource allocation models should include extinction as an acceptable outcome for ecosystems or species falling at the ‘inefficient’ end of the spectrum. Rather, conservation biologists who are ‘squeamish’ about extinction should consider the long-term influences of their decisions and continue to allocate resources to monitoring and recovery of all species and systems. We must always retain hope for breakthroughs that could lead to recovery, even if only minimal resources are dedicated to the direst situations. Advances are a product of initiative and discovery, which cannot occur without investment. Lessons from previously imperiled species that might have been let go under a triage paradigm, including the black-footed ferret (*Mustela nigripes*), Mauritius kestrel (*Falco punctatus*) and red-cockaded woodpecker (*Picoides borealis*), speak to the idea of hope.

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