Shortcomings of multispecies and ecosystem approaches to species recovery

J. Alan Clark[1] and Erik Harvey[2]

[1]Department of Biology, Box 351800, University of Washington, Seattle, WA 98195-1800, USA, < alanc@u.washington.edu. >. [2]Arizona State University, Department of Biology, Tempe, AZ 85287-1501, USA.

Governmental agencies are relying increasingly on multispecies or ecosystem approaches to biodiversity protection and recovery. We sought to determine whether this shift away from the traditional single-species approach is providing tangible benefits to recovery planning. Some advocates of this shift assert that ecosystem protection effectively protects the species within them and promotes increased cost-effectiveness. Others conclude that, ultimately, the single-species approach will fail because it quickly exhausts available time, money, societal patience, and scientific knowledge. To assess differences in these approaches to recovery planning, we evaluated recovery plans developed under the U.S. Endangered Species Act using a pre-existing recovery plan database. In an earlier analysis of this database, we found that species from single-species plans were four times more likely to be improving in status than species from multispecies or ecosystem plans. In this study we explored this disturbing difference between these approaches to recovery planning in more depth.

We found that, in the U.S., the use of multispecies recovery plans is increasing over time. By 1998, nearly 56% of all species with recovery plans were covered within multispecies plans. On a per species basis, multispecies plans were shorter, enumerated fewer recovery tasks, were less likely to incorporate adaptive management, demonstrated less biological understanding, and were revised less often. In many cases, threats between species within multispecies plans were no more similar than among randomly selected groups of species from separate plans. By nearly all measures, single-species recovery plans provided a better foundation for recovery efforts. While multispecies and ecosystem recovery planning have potential to improve both the efficiency and outcome of recovery efforts, these benefits are not being realized. We recommend that resource agencies reevaluate their use of multispecies and ecosystem approaches to recovery planning to be certain that perceived efficiency gains are not gotten at the expense of individual species' survival.