Fall 1998

Review of *The Science of Conservation Planning: Habitat Conservation under the Endangered Species Act* by Reed F. Noss, Michael A. O'Connell, and Dennis D. Murphy

Craig A. Davis
Platte River Whooping Crane Trust, Wood River, Nebraska, craig.a.davis@okstate.edu

The Science of Conservation Planning: Habitat Conservation under the Endangered Species Act. Reed F. Noss, Michael A. O'Connell, and Dennis D. Murphy. Washington, DC: Island Press, 1997. xvii+246 pp. Figures, tables, references, index. $25.00 paper (ISBN 1-55963-567-3).

The Science of Conservation Planning is a well-written book that proclaims the need for rigorous science in habitat conservation planning. I found it particularly relevant in light of the push for developing more habitat conservation plans (HCPs) to mitigate habitat losses for endangered species. The authors' considerable experience in developing and evaluating HCPs is evident in their thorough evaluation of the entire habitat conservation planning process and in their science-based recommendations for improving habitat conservation planning.

The first and second chapters briefly discuss the history of HCPs and their development from the early single-species plans to more recent ones encompassing multiple species and ecosystems. The authors note in the preface that these chapters are aimed at readers with limited knowledge of HCPs and may best be skimmed by those already seriously involved with such plans. Although I tend to agree, I believe we must know where we came from to understand where we are going; consequently all readers, I think, would benefit from these chapters.

The third chapter deals with several criticisms of how science is applied in HCPs, I think, many having emerged from public discussions. The authors attempt to address these criticisms by examining their impetus as well as what needs to be done to improve science-based HCPs. Readers will find the authors' responses a bit simplistic at times, but overall they provide a common sense approach to HCPs often missing from such discussions.

The fourth chapter reviews the principles of conservation biology as related to habitat-based conservation planning. The authors begin by discussing various philosophical principles related to ecology, conservation biology, and experimental design. This is meant to serve as a guide to help those involved with HCPs understand several problems associated with

dealing with complex ecosystems, poor data sets, and one's own set of values. The remainder of the chapter, dealing with the actual process of developing an HCP through the use of conservation biology principles, covers topics such as population viability analysis, habitat fragmentation, genetic diversity, and island biogeography. References are recent, providing the reader with an up-to-date review of many of the principles of conservation biology.

The fifth and sixth chapters, for me the best in the book, discuss how we should assess HCPs and what guidelines and frameworks a scientifically rigorous HCP requires. The authors emphasize the importance of taking an adaptive management approach to assessment. They also use several case studies to show how the guidelines and principles discussed throughout the volume can be used effectively in planning HCPs, although following these guidelines is no guarantee for success, as a few of their case studies show. The final chapter summarizes some of the major points in the preceding chapters and provides recommendations for all parties involved with HCPs.

Overall, *The Science of Conservation Planning* is an effective book that meets its goal of providing clear guidelines for applying defensible and rigorous science to conservation planning. It has a lot to offer anyone remotely interested or intimately involved in habitat conservation planning.

Craig A. Davis, *Avian Ecologist, Platte River Whooping Crane Trust, Wood River, Nebraska.*