

Owl Update

Ecology and Conservation of Owls.

Newton, I., R. Kavanagh, J. Olsen, and I. Taylor, editors. 2002. CSIRO Publishing, Collingwood, Victoria, Australia. 378 pp. (363 + xv). AU\$99.00 or ~U.S.\$68.00 (paperback). ISBN 0-643067949.

Owls are a focal point of conservation worldwide. Several, such as the Spotted Owl of North America and the Powerful Owl of Australia, require large amounts of forest with old-growth features, traits that make them vulnerable to logging and deforestation. Because many owls are top predators with large home ranges and demanding habitat requirements and are charismatic and photogenic, conservation planners often have used them as proxies for the forest ecosystems upon which they depend.

A large number of the world's owls are at risk to some degree. According to the World Conservation Union's (IUCN) 2003 Red List of Threatened Species, 27 (13%) of the 204 species of owls known to be alive today are in danger of extinction and another 20 (9.8%) are considered near-threatened. Also, because it is difficult to determine species limits in some groups of owls, an unknown number of species yet to be recognized formally also are likely in jeopardy (del Hoyo et al. 1999).

Because most owls are nocturnal and otherwise secretive, we know little about them, particularly when it comes to assessing their conservation status or the effects of habitat alterations. Lamentably, some owls may become extinct before we learn even the most rudimentary aspects of their life histories. On the other hand, there has been so much interest in others, such as the Spotted Owl, that they easily rank among the most intensively studied birds in the world. Yet even for these species, some have argued that we are only beginning to accumulate enough demographic data to develop effective conserva-

tion strategies (Verner 1992). Thus, it should come as no surprise that the situation for other owls, including the most endangered ones, is far worse. Our understanding of owls of the Southern Hemisphere in particular is woefully incomplete. However, this exceptional book makes significant strides toward rectifying that situation.

Ecology and Conservation of Owls is a well-edited and peer-reviewed collection of contributions by some of the world's leading owl researchers. The book is a product of the third international symposium on owls, which was held in Canberra, Australia, in 2000. It offers a tremendous amount of new information, especially on Australian owls, plus several insightful reviews of previous research covering a wide range of topics and species. Like any symposium volume, this one is not an exhaustive survey of current knowledge, but rather a compilation of papers presented at a meeting. Aside from being grouped together in one of the four general sections, which have no introductions, the contributions are independent of one another. It contains 32 papers organized into four parts: (1) population ecology; (2) distribution, habitat, and diet; (3) conservation and management; and (4) voice, structure, and taxonomy.

More than half of the papers pertain to owls of Australia, which for its size has relatively few species (nine) in only two genera, *Tyto* and *Ninox*. However, these species are surprisingly varied in appearance and behavior. Unfortunately, living on a continent with a relatively low human population density does not mean they are safe from threats. In fact, a number of Australia's owls are classified as vulnerable, threatened, or endangered by various state and federal agencies.

There are many notable papers in this book. In particular, I was impressed to see that several papers presented results from long-term studies, some of which involved massive volunteer efforts. Three intrinsic factors

are influential here: (1) many owls are nonmigratory and show strong site fidelity, so, once found, the birds and sometimes their nests are relatively easy to locate from year to year; (2) many owls use nest boxes, which makes capturing them and monitoring their nest success fairly straightforward; and, (3) owls have an allure, unlike that of many other groups of birds, that attracts and grips volunteers.

There is much to learn from this volume, which is packed with salient features and findings. Part 1, for instance, opens with a fine review of population limitation in holarctic owls by Ian Newton, the master of population limitation in birds in general. He points out that the main contribution of the study of holarctic owls to avian ecology has been in demonstrating the influence of food supply on every aspect of demography. Another paper, based on a 20-year study, shows that Barn Owls in southern Scotland occupy sites with the lowest amount of preferred foraging habitat, where their long-term breeding success also is lowest, just as often as sites with opposite characteristics. This is further evidence that it is not safe to assume that source habitats will be occupied at higher densities than sink habitats (Purcell & Verner 1998). For species such as the Barn Owl, which has declined over much of Europe and North America, this finding may have important conservation implications if the pattern is widespread.

Knowledge of dispersal is critical for understanding population dynamics and for planning appropriate conservation measures. So a paper on natal dispersal distances in owls in Finland, detailing the use of an incredibly robust data set, is particularly valuable. Researchers and volunteers checked more than 30,000 potential nest sites annually and banded nearly 200,000 owls over a period of about nine decades. Wow! Few studies can top that kind of effort. The author points out that because a safe and efficient method to catch breeding

adults of many open-nesting species has not been developed, data on those birds were insufficient for useful analysis. However, such capture methods have been used in North America for decades (e.g., Bloom 1987).

One of the most exciting events in recent ornithological history was the rediscovery of the Forest Owllet in central India in 1997, more than a century after the species was last detected. Thus, one of the most exciting papers in this volume reports the results of the first study of the ecology and behavior of this enigmatic gnome. The study provides critical data, but because this owl is rapidly losing habitat, more detailed investigations are urgently needed to determine its degree of endangerment, factors that limit its populations, and what measures to take to safeguard it from extinction.

In part 2, a paper on the Powerful Owl in Victoria, Australia, shows this species to be in many respects the ecological equivalent of the Spotted Owl. But because so much of its habitat has been altered in this region, managing this species requires a site-specific approach. The bird is distributed widely in the native box-ironbark forests that remain but at very low densities, apparently in response to low prey densities. Thus, management involves protecting and enhancing individual territories rather than large interconnecting habitat conservation areas. A study of the Barking Owl in Victoria reveals that this species strongly selects forest edges rather than interior habitats. Although human modification is largely responsible for the artificially rich edges, it also has apparently degraded the forest interior, resulting in reduced prey densities in those areas.

In part 3, an excellent review of the conservation and management of owls in southeastern Australia points out that an abundance of natural tree cavities in much of the country makes nest box schemes inappropriate. This, the author reasons, has contributed to the lack of studies of

the population dynamics and demography of any owl species in Australia. Thus, in contrast to the situation in Finland mentioned above, very few nests have ever been located for most species, and very few birds have ever been banded. This third section also includes the most eloquent and candid review of the Spotted Owl controversy I have ever seen. The author traces the owl's role in bringing about the change in management emphasis on federal lands from timber production to species conservation and forest health. The chapter also highlights the influence of the Spotted Owl on the rise of the modern environmental movement in North America. Part 4 includes a great review of the function and evolution of ear asymmetry. This paper's author offers convincing evidence that ear asymmetry in owls evolved independently at least five times.

The obligation of a book reviewer is to point out negative as well as positive points, but I found little to complain about. There are minor typographical errors here and there, as in any book. There are topics I would like to have seen covered—for example, something about owls in Queensland, Australia, where forests and woodlands are being cleared at a brisk pace. But the only real quibble I have is that, because the book was published in Australia and is expensive, it probably will not reach the bulk of the audience it deserves. For instance, the American Ornithologists' Union (AOU) Committee on Classification and Nomenclature overlooked a relevant paper in this volume when it was considering changes for its forty-fourth supplement (2003) to the AOU Check-list of North American Birds (R. Banks, personal communication). And I found the book at only one of the nine University of California campuses. In contrast, the proceedings from the previous international owl conference, which was held in Canada in 1997, were published as a U.S. Forest Service general technical report, which is available free on the

Internet. Nevertheless, those who are privileged to read this book will find it useful for understanding various aspects of owl ecology and management, identifying research needs, and defining conservation priorities.

Jeff N. Davis

Ecological Consulting Services, 30705 Pennyroyal Lane, Prather, CA 93651, U.S.A., email jndavis@netptc.net

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An Avian Success Story

Return of the Peregrine: a North American Saga of Tenacity and Teamwork. Cade, T. J., and W. Burnham, editors. 2003. The Peregrine Fund, Boise, ID. 394 pp. \$59.50 (hardcover). ISBN 0-9619839-3-0.

Peregrine Falcon (*Falco peregrinus*) restoration in North America is presented in *Return of the Peregrine* as the largest and most comprehensive endeavor to restore wild populations of an endangered species ever accomplished. And, indeed it is. This effort reveals itself as a major accomplishment when one considers that peregrines were extirpated from the eastern United States by 1964 and that 7000 peregrines were released over a 25-year period.

Return of the Peregrine is a multi-authored volume by scientists with a long-term involvement with Peregrine Falcons. It has 21 chapters but