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Conservation Assessment* by Robin A. Abell, David M. Olson, Eric
Dinerstein, Patrick T. Hurley, et al.**

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Freshwater Ecoregions of North America: A Conservation Assessment.

Robin A. Abell, David M. Olson, Eric Dinerstein, Patrick T. Hurley, et al. Washington, DC: Island Press, 2000. xxii + 319 pp. Maps, tables, figures, photos, references, appendixes, index. \$65.00 paper.

Defining ecoregions as “relatively large areas of land or water that contain a geographically distinct assemblage of natural communities,” this book documents the efforts of the World Wildlife Fund-United States to identify areas with aquatic habitats in the United States, Canada, and Mexico that support “globally outstanding biological diversity.” Public and private conservation groups can then focus their efforts on preserving the aquatic ecosystems of the most globally significant areas.

The book opens with its authors’ discussion of their use of a biological distinctiveness index, focusing on fish, mussels, and crayfish species, to delineate the ecoregions of North America. Much of the information used to evaluate and rank ecoregions is based on expert opinion. Environmental threats and the conservation status of each ecoregion are then evaluated. Finally, ecoregions that are highest priorities for conservation because of their global significance are identified. Ecoregion-based conservation approaches are advocated in the last chapter, the authors arguing that evaluation within an ecoregion should focus on distinct habitats, large examples of intact habitat, keystone habitats, and large-scale ecological phenomena (such as animal migration). This ecoregion-level assessment, however, should be initiated first in those ecoregions that have been identified as globally outstanding.

The book's seven chapters are collectively only 119 pages long. Most of the book (150 pages) is actually devoted to eight appendices that provide methodological specifics and detailed descriptions of North America's seventy-six ecoregions. There are also sixteen essays on the status of various kinds of aquatic ecosystems (such as western springs, California vernal pools, prairie potholes), groups of aquatic organisms (mussels, cryptic fish, crayfish, anadromous fish, for example), or general conservation issues (invasive species, hydroelectric dams). Because these essays seem arbitrarily inserted into the text, some chapters are difficult to follow. Most of the information about the status of ecoregions is presented through a series of colored maps that do present a large amount of data in an easily comprehensible way.

The Great Plains includes three or four ecoregions: "Upper Missouri"; "Middle Missouri"; "Southern Plains"; and possibly parts of the "Central Prairie." Most of the Great Plains ecoregions are classified as only nationally important, the lowest ranking an ecoregion can get, rating low on both the rare ecological or evolutionary phenomenon and the biological distinctiveness scales. Great Plains ecoregions, however, generally rank high on percentage of catchment altered, percent of surface water degraded, and percent of surface water altered. The likelihood of future threats is low, presumably because there is not much left to threaten. Overall, the region's conservation status is "vulnerable," an intermediate category, with "critical" and "endangered" ecoregions ranking higher and "relatively stable" and "relatively intact" ecoregions ranking lower. All eleven class I (globally outstanding) ecoregions are either in Mexico or the Southeastern United States.

The volume is part of an ongoing series intended to do a similar assessment of areas around the world. Using species diversity as the primary basis for such assessments, however, has many drawbacks. The most obvious problem is uneven information about the presence of species over large geographic areas such as a whole continent. The authors acknowledge, for example, encountering a lack of data for Mexico. Assessments, therefore, may be based on only a few groups of well-studied organisms. Aquatic invertebrates, for instance, had to be ignored because their distributions have not been adequately studied at a continental scale. Because of the well-known biodiversity gradient from north to south in the northern hemisphere, reliance on species diversity biases the results toward more southern ecoregions with larger numbers of species. The division of large river basins, like those of the Missouri and Mississippi, into multiple

ecoregions results in adjacent sections of the same river systems being classified differently.

Like politics, all conservation is ultimately local. For the same reason that most US citizens care more about local amenities like roads, schools, and recreational facilities than about those available to people in Africa or South America, they care more about the preservation and conservation of local natural areas than those in other parts of the country or the world. The fact that local natural areas may not be of global significance does not matter. They are the places where you can watch birds, take a hike in the woods, photograph native plant species, or go canoeing. Consequently, this expensive paperback book, which is aimed primarily at policy makers and bureaucrats in national and international conservation agencies, is far from an essential purchase for those interested in the preservation of aquatic ecosystems in the Great Plains. **Arnold van der Valk**, *Department of Botany, Iowa State University*.