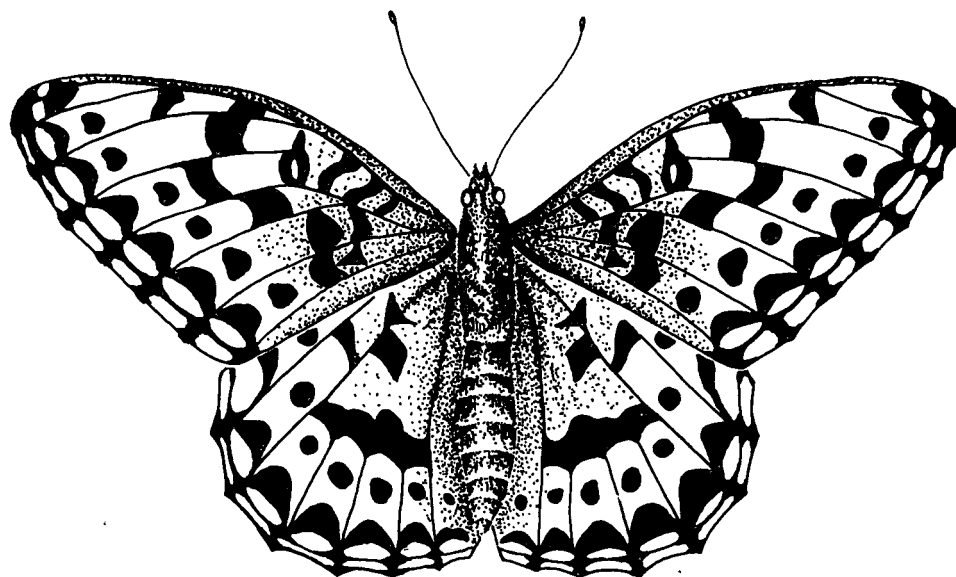
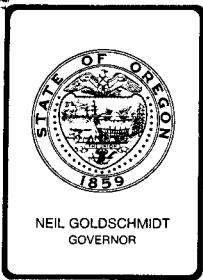

**RARE, THREATENED
AND ENDANGERED PLANTS
AND ANIMALS OF OREGON**



BZ 44

**OREGON
NATURAL HERITAGE
DATA BASE**

MAY, 1989



The Natural Heritage Advisory Council

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LAND BOARD

April 24, 1989

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Governor

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1205 N.W. 25th Avenue
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Secretary of State

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The State Land Board appreciates the effort put forth by The Nature Conservancy for the Oregon Natural Heritage Advisory Council and all those involved in assembling and producing the Oregon Natural Heritage Data Base.

This publication will provide an invaluable service to the public in identifying the status of rare, threatened and endangered plants and animals, and for use in facilitating research and monitoring efforts.

Thank you for your hard work and professional analysis.

Sincerely,

Neil Goldschmidt
Governor

Barbara Roberts
Secretary of State

Anthony Meeker
State Treasurer

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Cover Illustration: Oregon silverspot butterfly (*Speyeria zerene hippolyta*) by Blake F. Hankins

INTRODUCTION

Extinction is a natural process. Today, however, plant and animal species are disappearing world-wide at an accelerated pace. Based on current trends, half of the species on earth will be extinct within the next 100 years. The major cause of this phenomenon is large-scale destruction of native habitats, which has increased since European settlement began in the mid 1800's - in Oregon and throughout the New World.

Once lost, a species can never be recovered, and there is no way of knowing how useful it may have been. We do know that human beings and many of their industries depend on plant and animal products. About fifty percent of all pharmaceuticals have a natural component as an active ingredient, yet less than one percent of the world's species have been chemically analyzed and tested. Many invertebrates and plants contain undescribed and highly functional compounds. *Limnanthes floccosa* subsp. *grandiflora*, or woolly meadow-foam, a rare plant that grows in southwest Oregon, has been recently found to produce a hybrid with the more common member of the genus, *Limnanthes alba*. This hybrid grows well in the poorly drained soils of the Willamette Valley and produces a valuable oil used for soaps, plastic and rubber production. In addition, the new hybrid meadow-foam does not require the field burning necessary for other crops. This species, and many other Oregon natives, will be lost without intervention. The purpose of this book is to provide land managers, owners and interested parties with a list of those species in Oregon which are in greatest jeopardy.

Information Sources

These lists have been compiled using the most current information available on the distribution and abundance of plant and animal species native to Oregon. They have been prepared in part to assist public and private land managers and planners in determining which species are of special concern within their given management jurisdictions. They are also intended for use by amateur and professional botanists and zoologists to help focus their attention on those taxa most in need of field searches and data collection efforts. In 1987, the Oregon Legislature passed an Endangered Species Act which gives the Oregon Department of Agriculture (ODA) responsibility and jurisdiction over threatened and endangered plants. ODA has entered into a cooperative agreement with the United States Fish and Wildlife Service for the purpose of carrying out research and conservation programs on such plant species under the auspices of the federal Endangered Species Act. The Oregon Department of Fish and Wildlife has a similar program for threatened and endangered animals.

The Oregon Natural Heritage Data Base maintains a comprehensive computerized and manual data bank on Oregon's rare, threatened and endangered plants, animals and ecosystems. Site-specific information is available at the Data Base. Support for this system comes primarily from The Nature Conservancy and the many public agencies who have as a part of their goals and mandates, the identification and protection of sensitive species and their habitats. These agencies, together with the state's herbaria and museum collections, provide much of the information that makes up the Data Base.

Although this report is based on a large volume of information, it is by no means complete. Much is known about some species, very little about others. The Data Base welcomes additional information or suggestions on any of the taxa listed herein. Such information, as well as data requests should be directed to:

Oregon Natural Heritage Data Base
1205 N.W. 25th Avenue
Portland, Oregon 97210
(503) 229-5078

This publication will be updated every other year. Copies may be obtained at cost (\$4.00), from the Oregon Natural Heritage Data Base.

Outline

Species with legal status are included in a summary at the beginning of the animal and plant sections. The summaries contain the species federally listed or proposed to be listed by the U.S. Fish and Wildlife Service as Endangered or Threatened under the Endangered Species Act. Information on listed and proposed species was obtained from the U.S.D.I. Fish and Wildlife Service January 1, 1989 publication, *Endangered and Threatened Wildlife and Plants* (50 CFR 17.11 and 17.12).

The legal summary also contains candidates for listing under the Endangered Species Act. The animal candidates both vertebrates and invertebrates are from the January 6, 1989 Federal Register, Vol. 54, No. 4; the plants from the September 27, 1985 Federal Register, Vol. 50, No. 188. Animal species listed as Endangered or Threatened by the Oregon Department of Fish and Wildlife are also included in the legal status summary. These species were obtained from *The Oregon Nongame Wildlife Management Plan*, 1986. The Oregon Department of Fish & Wildlife Sensitive List was provided by that department's Non-Game Program.

All species in this book are classified into one of six categories:

List 1 contains taxa that are threatened with extinction or presumed to be extinct throughout their entire range. It is largely consistent with the listed and Category 1 and 2 species from the Federal Notice of Review on endangered and threatened wildlife and plants as published by the United States Fish and Wildlife Service. These species are in need of active protection measures to insure their survival.

List 2 contains taxa that are threatened with extirpation or presumed to be extirpated from the state of Oregon. These species are of concern when considering the floral and faunal diversity within Oregon's borders.

List 3 contains taxa that are limited in abundance and/or distribution in Oregon or throughout their range and which may or may not be currently stable. These species are not currently threatened with extinction or extirpation. However, their populations are in need of active monitoring, and all are candidates for List 1 or List 2 if serious declines are documented.

Review List contains species for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range.

Watch List contains species which are currently stable but which may become threatened in Oregon in the foreseeable future. These species currently do not need active management attention. However, they may need some type of continued monitoring.

Drop List contains all taxa deleted from any of the above lists after 1979.

Criteria and Definitions

Inclusion of any given taxon on these lists is based on several specific criteria. The most important factors are the total number of known, extant populations in Oregon and world-wide, and the degree to which they are potentially or actively threatened with destruction. Other criteria include the total number of populations believed to be extant in Oregon and world-wide, and the number of known populations considered to be securely protected. The taxonomic distinctness of each species has been considered also. Hybrids or questionable, undescribed species have not been included. Finally, the position of Oregon within the species total range (local endemic, regional endemic, or peripheral) has been considered as has its occurrence pattern and the tendency of the species to persist at a given locality.

Endangered taxa are those which are in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range.

Threatened taxa are those likely to become endangered within the foreseeable future. For purposes of this list, foreseeable is defined as 5-15 years.

LE = Listed Endangered. Taxa listed by the U.S. Fish and Wildlife Service (USFWS) as Endangered under the Endangered Species Act (ESA), or by the Departments of Agriculture (ODA) and Fish and Wildlife (ODFW) of the state of Oregon under the Oregon Endangered Species Act of 1987 (OESA).

LT = Listed Threatened. Taxa listed by the USFWS, ODA, or ODFW as Threatened.

PE = Proposed Endangered. Taxa proposed by the USFWS to be listed as Endangered under the ESA or by ODFW or ODA under the OESA.

PT = Proposed Threatened. Taxa proposed by the USFWS to be listed as Threatened under the ESA, or by ODFW or ODA under the OESA.

C1 = Category 1 Candidate. Taxa for which the USFWS has sufficient information to support a proposal to list as Threatened or Endangered under the ESA.

C2 = Category 2 Candidate. USFWS candidates which need additional information in order to propose as Threatened or Endangered under the ESA.

C2* = Possibly Extinct Category 2 Candidate. An asterisk after a status indicates the taxon may be extinct.

3A = Extinct Taxa. Taxa for which the USFWS has persuasive evidence of extinction.

3B = Taxonomic problems. Taxa which do not meet the USFWS's definition of a "species".

3C = Taxa which have proven to be more abundant or widespread than previously believed and/or which have no identifiable threats.

Variation in Status

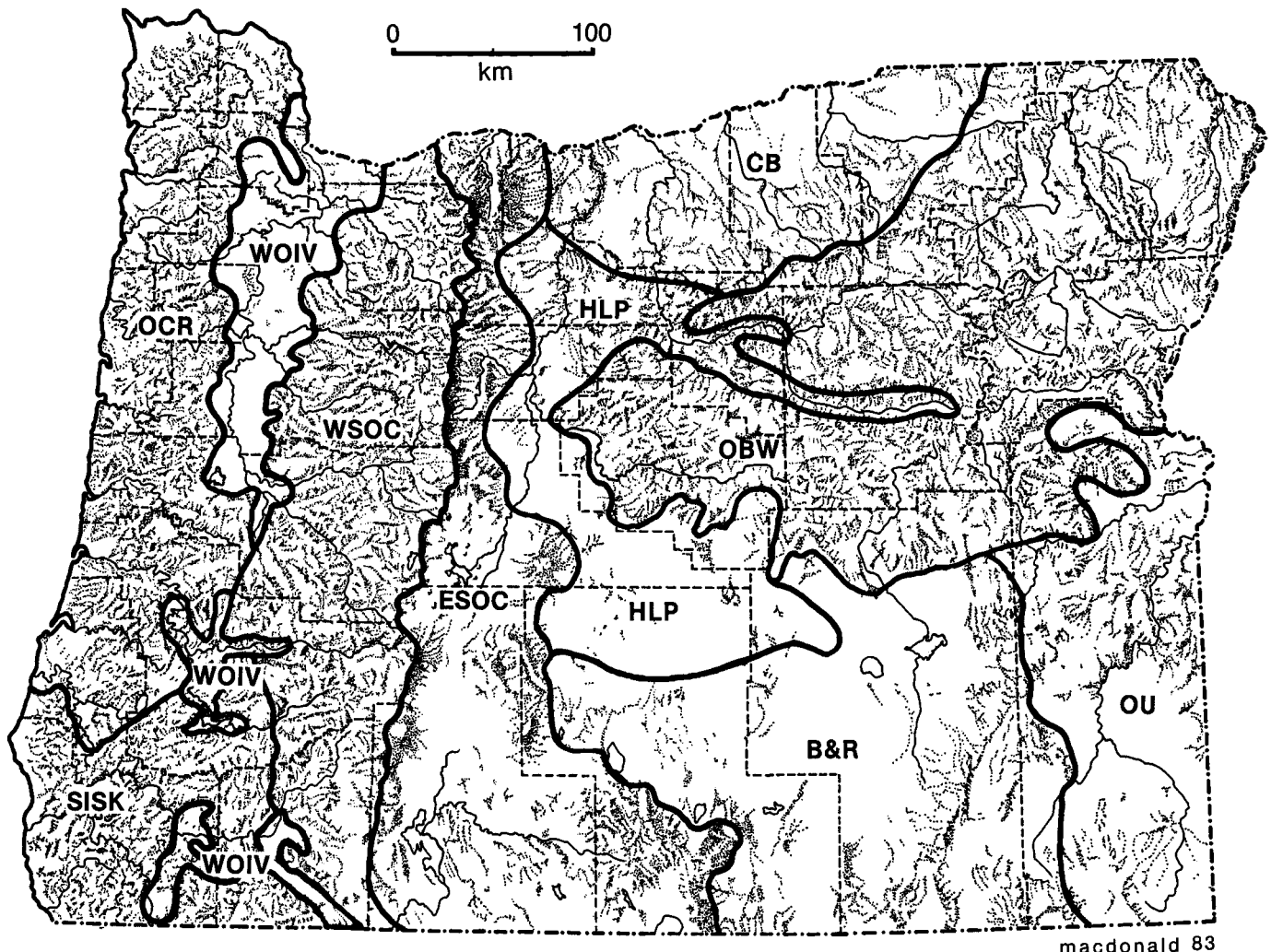
While the definitions of Endangered and Threatened are consistent throughout this book, there is some variation in the status of some plants or animals between the different agencies. This variation is largely due to honest differences in interpretation of available data, or occasionally from different philosophies regarding status determination. Most of the variation occurs when species are classified as Threatened by some agencies and Endangered in the Natural Heritage Data Base lists.

MAPS AND DISTRIBUTION INFORMATION

Distribution Information is included on the lists in the format: Physiographic Province; County; State (and/or Canadian Province). Out-of-state distribution information is only included for plant species on Lists 1 and 3, which are usually Oregon or regional endemics. If the species is wide ranging or occurs in many states, only adjacent states with occurrences will be listed; a plus (+) will be added to indicate others. For the most part, the Physiographic Province, County and State distribution is based on both historic and current information. Any additional input on distribution will be incorporated in future updates.

Physiographic Province occurrences for each species is keyed to the base map below. This map divides the state into ten distinct biomes based on geologic and vegetative patterns. It is modified from the 1973 publication *Natural Vegetation of Oregon and Washington* by Franklin and Dyrness. The provinces are OCR=Oregon Coast Range, WOIV=Western Oregon Interior Valleys, SISK=Siskiyou Mountains, WSOC=West Side and Crest, Oregon Cascades, ESOC=East Side Oregon Cascades, OBW=Ochoco, Blue and Willowa Mountains, B&R=Basin and Range, HLP=High Lava Plains, OU=Owyhee Uplands, and CB=Columbia Basin.

Physiographic Provinces of Oregon:



MAPS AND DISTRIBUTION INFORMATION (cont.)

County distribution is keyed to the base map on the bottom half of this page. The abbreviations are made from the first four letters of each county name. The county names are: Baker, Benton, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Grant, Harney, Hood River, Jackson, Jefferson, Josephine, Klamath, Lake, Lane, Lincoln, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Washington, Wheeler, Yamhill. The county information included is based on data in our Threatened and Endangered Species Databases. Please notify us of mistakes or omissions.

State and Canadian Province distribution is included on the plant lists primarily to alert botanists to the distribution of these rare, threatened, and endangered taxa in adjacent states. The distribution for the more wide ranging species in states not adjacent to Oregon is primarily based on published information and is not necessarily complete. The two-letter postal abbreviation is used to identify states and are as follows: WA=Washington, ID=Idaho, NV=Nevada, and CA=California. Only four Canadian provinces were included in the lists: BC=British Columbia, ALB=Alberta, SASK=Saskatchewan, and ONT=Ontario.

County Names

