Preface

Acknowledgements

This document is a product of the Pacific Northwest Ecosystem Research Consortium (PNW-ERC), a regional research consortium involving researchers at Oregon State University, the University of Oregon, the University of Washington and the U.S. Environmental Protection Agency supported under cooperative agreement CR824682 between the Environmental Protection Agency and the universities. The research of the Consortium intends to 1) create a regional context for interpreting trajectories of landscape and ecosystem change, 2) identify and understand critical ecological processes, and 3) develop approaches for evaluating outcomes of alternative future land and water use, management, and policy.

The Willamette River Basin Planning Atlas supports this endeavor by compiling, analyzing, and representing the best available information about critical natural and cultural factors influencing land and water use decisions. Once compiled, this information was used in a collaborative, citizen-led process to create a set of mapped depictions of plausible future configurations of land and water use for the basin in the year 2050. These alternative futures were then scientifically evaluated for their effects on important environmental and ecological processes. The primary purpose of this book is to convey this work and the resulting information. The content and scope of the Atlas are focused on these regional planning efforts and the data they require. It is intended to complement existing information by filling critical gaps. It was completed using both English and metric units of measure; for the benefit of readers, it is reported primarily in English units with metric conversion tables provided. All maps are presented in the Universal Transverse Mercator Zone 10 map projection and coordinate system using the 1927 North American Datum. Digital versions of information presented in this Atlas and metadata concerning each map's lineage are available on-line via the Internet at http://oregonstate.edu/dept/pnw-erc/ under the header Datasets and Data Access Page. Every effort has been made to achieve high quality in this atlas. However, various types and amounts of error are inherent in all maps. Map error and uncertainty are addressed in the Appendices.

This document is the product of many people's effort. More than 30 researchers conducted the work over a five-year period. They are listed alphabetically below.

PNW-ERC Researchers: Chip Andrus, Dynamac Corporation (DC); Mieko Aoki, Institute For A Sustainable Environment, University of Oregon (ISE/UO); Linda Ashkenas, Department of Fisheries and Wildlife, Oregon State University (DFW/OSU); Joan Baker, Project Officer U.S. Environmental Protection Agency (EPA); Peter Bayley (DFW/OSU); Patricia Berger Department of Bioresource Engineering, Oregon State University (DBE/OSU); John Bolte (DBE/OSU); Allan Branscomb (ISE/UO); Steve Cline (EPA); Warren Cohen, U.S.D.A. Forest Service (USFS); Hilary Dearborn (ISE/UO); David Diethelm (ISE/UO); David Dole, National Center For Environmental Economics, (EPA); Chris Enright (ISE/UO); Ted Ernst (DC); Sam Fernald, National Research Council; Michelle Gall, EcoNorthwest; Jorge Goicochea Duclos (ISE/UO); Stan Gregory, Principal Investigator OSU Component (DFW/OSU); Patti Haggerty, Indus Corporation (IC); Alan Herlihy (DFW/OSU); Andrew Holder (ISE/UO); David Hulse, Principal Investigator, UO Component, Department of Landscape Architecture (ISE/UO); Steven Jett (IC); Phil Kaufmann (EPA); Dixon Landers (EPA); Judith Li (DFW/OSU); Kit Larsen (ISE/UO); Paula Minear (DFW/OSU); Tom Moser (DC); Ernie Niemi, EcoNorthwest; Doug Oetter (USFS); Susan Payne (ISE/UO); Sue Pierson (IC); Maureen Raad (ISE/UO); David Richey (ISE/UO); Melissa Richmond (ISE/UO); Nathan Schumaker (EPA); Rich Sumner (EPA); John Van Sickle (EPA); Denis White (EPA); Ed Whitelaw, Department of Economics, UO; Jim Wigington (EPA); Kelly Wildman (DFW/OSU); Randy Wildman (DFW/OSU).

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Some thoughts on using this book: While we have endeavored to write this book in clear and accessible language, much of the content is technical and quantitative in nature. We use the chapter introductions as a summary overview of the contents of each chapter and of the role this content plays in connecting with earlier and later chapters. Readers may find it helpful to review the complete set of chapter introductions prior to delving more deeply into individual chapters. Beyond this, we have also made liberal use of cross-referencing among chapters where we thought it helpful. Our aim is clarity. We ask your understanding when we miss the mark. Additional information can be found on the PNW-ERC web site at http://oregonstate.edu/dept/pnw-erc/.

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List of Acronyms

ASCII	American Standard Code for Information Interchange
BLM	USDI Bureau of Land Management
C&I	Commercial and Industrial Land
CCD	Census County Division
CCI	Committee for Citizen Involvement
CFS	cubic feet per second
CON2050	Conservation 2050 scenario
CORS	Constantly Observed Reference System
DAS	Oregon Department of Administrative Services
DEM	Digital Elevation Model
DEV2050	Development 2050 scenario
DLCD	Oregon Department of Land Conservation and Development
DLG	Digital Line Graphs
DU	Dwelling Units
DVMT	Daily Vehicle Miles Traveled
EFU	Exclusive Farm Use
EPA	United States Environmental Protection Agency
EPT	Ephemeroptera (mayflies), Plecoptera (stoneflies), Trichoptera (caddisflies)
ERTS-1	Earth Research Technology Satellite
FS	USDA Forest Service
GIS	Geographic Information System
GLO	General Land Office
GPS	Global Positioning System
HSI	Habitat Suitability Index
HUC	Hydrologic Unit Code
IBI	Index of Biotic Integrity
ISTEA	Intermodal Surface Transportation Efficiency Act
LCDC	Oregon Land Conservation and Development Commission
LULC	Land Use/Land Cover
MGD	million gallons per day
mya	million years ago
MCD	Minor Civil Division
NGS	National Geodetic Survey
NSRS	National Spatial Reference System
O & C	Oregon and California (Railroad)
OCH	off channel habitats
ODOT	Oregon Department of Transportation
ONHP	Oregon Natural Heritage Program
OSU	Oregon State University
OWRD	Oregon Water Resources Department
PESVEG	Pre-EuroAmerican Scenario Vegetation map
PFWG	Possible Futures Working Group
PLS	Public Land Survey
PNW	Pacific Northwest
PNW-ERC	Pacific Northwest-Ecosystem Research Consortium
PT2050	Plan Trend 2050 scenario
TIGER	Topologically Integrated Geographic Encoding and Referencing system
TM	Thematic Mapper
TNC	The Nature Conservancy
UGB	Urban Growth Boundary
UO	University of Oregon
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USGS	United States Geological Survey
USPLS	United States Public Land Survey
WAB	Water Availability Basin
WINOE	Willamette Invertebrate Observed/Expected index
WRB	Willamette River Basin
WRI	Willamette Restoration Initiative
WVE	Willamette Valley Ecoregion
WVLF	Willamette Valley Livability Forum