Landscape Ecology and Wildlife Habitat Evaluation:

CRITICAL INFORMATION for Ecological Risk Assessment, Land-Use Management Activities, and Biodiversity Enhancement Practices

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Foreword

This publication, *Landscape Ecology and Wildlife Habitat Evaluation: Critical Information for Ecological Risk Assessment, Land-Use Management Activities, and Biodiversity Enhancement*, contains selected papers presented at the symposium of the same name held in Kansas City, Missouri, on 7–9 April 2003. The symposium was sponsored by Committee E-47 on Biological Effects and Environmental Fate. The symposium chairmen and co-editors were Lawrence Kapustka, Hector Galbraith, Matthew Luxon, and Gregory Biddinger.
Contents

OVERVIEW

SESSION I

Selecting a Suite of Ecological Indicators for Resource Management—
VIRGINIA H. DALE, PATRICK J. MULHOLLAND, LISA M. OLSEN, JACK W. FEMINELLA,
KELLY O. MALONEY, DAVID C. WHITE, AARON PEACOCK, AND THOMAS FOSTER 3

Integrating Mineral Development and Biodiversity Conservation into Regional
Land-Use Planning—DAVID G. RICHARDS 18

SESSION II

Estimating Functional Connectivity of Wildlife Habitat and Its Relevance to
Ecological Risk Assessment—ALAN R. JOHNSON, CRAIG R. ALLEN, AND
KRISTI A. N. SIMPSON 41

Hierarchical Scales in Landscape Responses by Forest Birds—GERALD J. NIEMI,
JOANN M. HANOWSKI, NICK DANZ, ROBERT HOWE, MALCOLM JONES, JAMES LIND,
AND DAVID M. MLADENOFF 56

Type, Scale, and Adaptive Narrative: Keeping Models of Salmon, Toxicology
and Risk Alive to the World—RONALD J. MCCORMICK, AMANDA J. ZELLMER,
AND TIMOTHY F. H. ALLEN 69

Population Dynamics in Spatially and Temporally Variable Habitats—
MARK C. ANDERSEN 84

Quantitative Habitat Analysis: A New Tool for the Integration of Modeling,
Planning, and Management of Natural Resources—LAURA K. MARSH AND
TIMOTHY HAARMANN 94

Predicting Biodiversity Potential Using a Modified Layers of Habitat Model—
LAWRENCE A. KAPUSTKA, HECTOR GALBRAITH, MATT LUXON, JOAN M. YOCUM,
AND WILLIAM J. ADAMS 107
Habitat Ranking System for the Threatened Preble's Meadow Jumping Mouse (Zapus hudsonius preblei) in Eastern Colorado—THOMAS R. RYON, MIKE J. BONAR, KIRSTA L. SHERFF-NORRIS, AND ROBERT A. SCHORR

Development of HSI Models to Evaluate Risks to Riparian Wildlife Habitat from Climate Change and Urban Sprawl—HECTOR GALBRAITH, JEFF PRICE, MARK DIXON, AND JULIE STROMBERG

Application of Habitat Suitability Index Values to Modify Exposure Estimates in Characterizing Ecological Risk—LAWRENCE A. KAPUSTKA, HECTOR GALBRAITH, MATT LUXON, JOAN M. YOCUM, AND WILLIAM J. ADAMS

Sunflower Depredation and Avicide Use: A Case Study Focused on DRC-1339 and Risks to Non-Target Birds in North Dakota and South Dakota—GREG LINDER, ELIZABETH HARRAHY, LYNNE JOHNSON, LARRY GAMBLE, KEVIN JOHNSON, JOY GOBER, AND STEPHANIE JONES

GIS-Based Localization of Impaired Benthic Communities in Chesapeake Bay: Associations with Indicators of Anthropogenic Stress—BENJAMIN L. PRESTON

Estimating Receptor Sensitivity to Spatial Proximity of Emissions Sources—VLADIMIR P. RESHETIN

SESSION III

Toward an Ecological Framework for Assessing Risk to Vertebrate Populations from Brine and Petroleum Spills in Exploration and Production Sites—REBECCA A. EFROYMSON, TINA M. CARLSEN, HENRIETTE I. JAGER, TANYA KOSTOVA, ERIC A. CARR, WILLIAM W. HARGROVE, JAMES KERCHER, AND TOM L. ASHWOOD

Risk-Trace: Software for Spatially Explicit Exposure Assessment—IGOR LINKOV, ALEXANDRE GREBENKOV, ANATOLI ANDRIZHIEVSKI, ALEXEI LOUKASHEVICH, AND ALEXANDER TRIFONOV

Incorporating Spatial Data into Ecological Risk Assessments: The Spatially Explicit Exposure Module (SEEM) for ARAMS—W. T. WICKWIRE, CHARLES A. MENZIE, DMITRIY BURMISTROV, AND BRUCE K. HOPE

Approaches to Spatially-Explicit, Multi-Stressor Ecological Exposure Estimation—BRUCE K. HOPE

INDEX
Overview

This book contains a collection of papers that were derived from papers presented at a symposium on Landscape Ecology and Wildlife Habitat Evaluation: Critical Information for Ecological Risk Assessment, Land-Use Management Activities, and Biodiversity Enhancement Practices that was held 7–9 April 2003 in Kansas City, Missouri. The purpose of the symposium was to bring together scientists with diverse interests in landscape ecology, ecological risk assessment, and environmental management. It was designed to explore contemporary knowledge of theoretical and applied ecology, especially embodied in landscape ecology and population dynamics, especially as they relate to characterizing environmental risks to wildlife and requirements of environmental managers addressing current situations and predicting consequences of actions.

Land-use patterns have been described as the most critical aspect affecting wildlife populations and regional biodiversity. Environmental contamination by chemicals often ranks fairly low in terms of factors limiting wildlife populations. Regulatory and legislative efforts have begun to promote “brownfield development” as an alternative to expansion into uncontaminated areas and with less stringent cleanup standards. Indeed, until recently, many areas which have low to moderate levels of chemical contamination were nevertheless subjected to intrusive remediation efforts; the consequence being substantial destruction of existing wildlife habitat and low potential for enhancing better quality habitat at the affected site. Nevertheless, current practices in Ecological Risk Assessment generally do a poor job of considering biological and physical factors as most focus entirely or nearly so on chemical effects. Therefore, the essential tool used to characterize sites does poorly in weighing the merits of alternative remediation options.

The opening session of the symposium provided three perspectives that drew upon the applied discipline of landscape ecology, approaches used to characterize wildlife habitat, and challenges of environmental management of biological resources from a global corporate perspective. The series of papers that followed, explored theoretical aspects of landscape ecology, population dynamics affected by landscape conditions, and tools and approaches in various stages of development that can be used in assessing environmental risks over different temporal and spatial scales. Finally, several presentations covered real-world applications of different tools and approaches.
The symposium was sponsored by the ASTM Committee E47 on Biological Effects and Environmental Fate. Financial assistance was provided by the American Chemistry Council and the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Health Effects Research Program. The Subcommittee E47.02 on Terrestrial Assessment and Toxicology anticipates development of two or more Standard Guides covering materials covered in this symposium.

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