

CONTENTS

Acknowledgments ix

CHAPTER ONE

Where Have All the Rivers Gone? 1

Why We Need Healthy Rivers 5

The Disruption of Natural Flows 13

Freshwater Life at Risk 26

A Conceptual View for Balancing Human and
Ecosystem Water Needs 36

CHAPTER TWO

How Much Water Does a River Need? 42

The Evolution of a New River Management Paradigm 45

Flow Prescriptions Aimed at Ecological Health 51

Setting Ecological Goals 59

Learning by Doing 63

Rebuilding a River's Natural Flow Patterns 67

Lessons from the Colorado Pikeminnow 74

CHAPTER THREE

The Policy Toolbox 79

Allocating Water for Ecosystem Support 80

South Africa Pioneers the Water "Reserve" 84

Australia Overhauls Water Policy and Tries a "Cap" 86

U.S. Policy Lacks Focus on Ecological Health 92

Economic Tools for Securing River Flows 112

Ethics in River Policy 117

CHAPTER FOUR

Down to the River 120

A Comeback Chance for the Missouri? 123

Restoring the Brisbane River of Australia's Gold Coast 132

Groundwater Pumping and the Future of the San Pedro 139

Flows for Shrimp in the Tropical Rio Espíritu Santo 146

Reducing Impacts of Federal Dams on Kentucky's Green River 151

Sharing the Waters of South Africa's Sabie River 157

CHAPTER FIVE

Building Blocks for Better River Governance 167

Capturing the Value of Ecosystem Services 169

Lessons from the World Commission on Dams 177

Bottom-Up Governance Gets a Try 182

River Basin Commissions Work "Outside the Box" 186

Sparks of Leadership 195

CHAPTER SIX

Epilogue: Can We Save Earth's Rivers? 199

Notes 205

Bibliography 227

About the Authors 241

Index 243