1. Record Nr. UNINA9910826594903321

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Titolo	Riparia : ecology, conservation, and management of streamside communities / / Robert J. Naiman, Henri Decamps, Michael E. McClain ; with a foreword by Gene E. Likens
Pubbl/distr/stampa	Amsterdam ; ; Oxford, : Elsevier Academic, 2005
ISBN	1-280-96149-X 9786610961498 0-08-047068-8
Edizione	[1st ed.]
Descrizione fisica	1 online resource (445 p.)
Altri autori (Persone)	DecampsH (Henri) McClainMichael E
Disciplina	577.68
Soggetti	Riparian areas - Management Riparian ecology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 357-413) and index.
Nota di contenuto	Foreword; Preface; 1 Introduction; Overview; Purpose; Hydrological Context; Ecological Context; Landscape Context; Cultural Setting; Rationale for Riparian Ecology; Setting the Stage; 2 Catchments and the Physical Template; Overview; Purpose; Catchments and Hierarchical Patterns of Geomorphic Features; Catchment Form and Channel Networks; Catchment History; Hierarchical Patterns of Geomorphic Features in Catchments; Geomorphic Processes and Process Domains; Headwater Erosion; Channel Processes; Floodplain and Channel Interactions; Hydrologic Connectivity and Surface Water-Groundwater Exchange Surface Connectivity and FloodingThe Dynamics of the Linked Surface-Subsurface Hydrologic System; Conclusions; 3 Riparian Typology; Overview; Purpose; The Historical Context; Theoretical Basis for Classification; Application of Ecological Information; Inventory; Classification; Emerging Classification Concepts; Geomorphic Classification; Hierarchical Classification; Rosgen's Classification; Geomorphic Characterization (Aspect I); Morphologic Description (Aspect II); The Process Domain Concept; The Hydrogeomorphic

Approach; Biotic Classification; Soils; Plants; Wildlife
Treating Complexity and Heterogeneity in Classification SystemsAttributes of an Enduring Classification System; Conclusions; 4 Structural Patterns; Overview; Purpose; Life History Strategies; Morphological and Physiological Adaptations of Riparian Plants; Reproductive Strategies; Distribution, Structure, and Abundance; Identification of Riparian Zones Based on Soils and Vegetation Type; Biophysical Characteristics of Riparian Soils; Organic Matter; Moisture; Fauna; General Distributions of Aboveground and Belowground Communities; Lateral Zonation; Longitudinal Zonation
Successional and Seasonal Community PatternsVegetative Succession; Faunal Succession; Density, Basal Area, and Biomass; Biological Diversity; Diversity Theory and Measurement; Vegetative Diversity; Site and Catchment Patterns; Refuges; Factors Controlling Species Richness; Faunal Diversity; Diversity of Soil Organisms; Aboveground Fauna Diversity; 5 Biotic Functions of Riparia; Overview; Purpose; Water Use and Flux; Nutrient Fluxes; Overview of Cycles and Processes; Production Ecology; Growth and Metabolism of Riparian Trees; Timing of Growth and Rates of Net Primary Production; Litterfall
Mortality RatesRoot Production; Decomposition Dynamics; Principles of Decomposition Dynamics; Litter Quality; Exogenous Nutrient Supply; Temperature; Oxygen Tension; Nutrient Dynamics During Decay; Factors Controlling Immobilization of Nitrogen; Initial Litter Quality; Exogenous Nutrient Supply; Anaerobic Decay; Temperature; Mechanisms of Nitrogen Immobilization; Nitrogen Accumulation in Microbial Biomass; Nitrogen Accumulation in By-Products of Microbial Activity; Decomposition of Riparian Litter; Information Fluxes; Microclimate; Conclusions
6 Biophysical Connectivity and Riparian Functions

Sommario/riassunto

This book describes the underlying water conditions and geologies that support viable riparia, illustrates the ecological characteristics of riparia, and discusses how riparia are used by human cultures as well as how riparia can be used to sustain environmental quality. In recent years riparian management has been widely implemented as a means of improving fisheries, water quality, and habitat for endangered species. This book provides the basic knowledge necessary to implement successful, long-term management and rehabilitation programs.* Treats riparian patterns & processes in a ho