Stream Ecology

Structure and Function of Running Waters – 2nd edition

Stream Ecology: Structure and Function of Running Waters is designed to serve as a textbook for advanced undergraduate and graduate students, and as a reference source for specialists in stream ecology and related fields. The Second Edition is thoroughly updated and expanded to incorporate significant advances in our understanding of environmental factors, biological interactions, and ecosystem processes, and how these vary with hydrological, geomorphological, and landscape setting.

The broad diversity of running waters – from torrential mountain brooks, to large, lowland rivers, to great river systems whose basins occupy sub-continents – makes river ecosystems appear overwhelming complex. A central theme of this book is that although the settings are often unique, the processes at work in running waters are general and increasingly well understood. Even as our scientific understanding of stream ecosystems rapidly advances, the pressures arising from diverse human activities continue to threaten the health of rivers worldwide.

This book presents vital new findings concerning human impacts, and the advances in pollution control, flow management, restoration, and conservation planning that point to practical solutions.

Contents:

1. An Introduction to Fluvial Ecosystems.
2. Streamflow.
3. Fluvial Geomorphology.
4. Streamwater Chemistry.
5. The Abiotic Environment.
6. Primary Producers.
7. Detrital Energy Sources.
8. Trophic Relationships.
9. Species interactions.
10. Lotic Communities.
11. Nutrient Dynamics.
12. Stream Ecosystem Metabolism.
13. Human Impacts.

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