

PREFACE

RESTORING BIOLOGICAL COMMUNITIES OF THE GRAND CALUMET RIVER WATERSHED

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When the Chicago District of the U.S. Army Corps of Engineers approached me about writing a section of the dredging plan for the Grand Calumet River, I was pleased to hear that some efforts were being made to clean up this system. The Grand Calumet River has often been cited as one of the most polluted waterways of its type in the Midwest. To remove safely the years of accumulated toxic materials alone would be a formidable task, but the State of Indiana and local communities had additional plans. They hoped we could contribute ideas for restoring the ecology of the river habitat as much as possible. With this task in mind, I began developing restoration options for the river basin to be included with the dredging project. As I considered the ecology of the basin, however, I recognized that the river system operates within its watershed, and the riverine ecosystem depends on the riparian areas and habitats that surround it. Being an aquatic scientist, I had little acquaintance with the terrestrial habitats associated with the river. Luckily I knew a charismatic naturalist, Paul Labus, who had thought a lot about restoring the watershed. Paul's enthusiasm about improving and renewing the Calumet area was inspiring. Paul easily convinced me that we had to attend to both the prides and problems of the entire watershed: natural wetlands, forests, and grasslands; degraded sediments; undesirable exotics; lost habitats; and lost processes such as fire and flooding. As attractive as this whole-

system approach was, we did not have the breadth of knowledge to write such a generalized, integrated plan. We knew enough specialists that had the collective knowledge to apply this approach; and thus we formed the team of individuals that wrote the plan essentially presented in this special issue. Each individual was chosen because of his or her broad understanding of the subject matter, experience with the Calumet Region, and commitment to restoring the watershed. I am deeply grateful for the contributions of their valuable time and considerable expertise.

This special issue in many ways may be considered a monograph of the plants, animals, and habitats of the Grand Calumet River watershed. Because many of the same elements exist throughout northwest Indiana, it generally describes the ecology of the Calumet Region. We begin the issue with a paper describing the geological and historical setting of the region. The biological papers are phylogenetically arranged: plants, macroinvertebrates, fish, herpetofauna, birds, and mammals. The final paper summarizes the recommendations of the individual authors and also reports the collaborated recommendations that resulted from a one-day conference of the authors. At this meeting we distilled the final recommendations, finding consensus or compromise in conflicting approaches.

I hope that we have accomplished a number of objectives with this special issue. First, I

hope that we have provided an extensive ecological inventory and description of the Grand Calumet watershed and to some extent, the Calumet Region. I also hope that we have imparted a better sense of the valuable, interconnected, and vulnerable nature of the area. The watershed's environmental richness and complexity is contrasted with the industrialization and urban development that have critically isolated it and decreased its ecological resiliency and stability. Finally, I hope that this document demonstrates the potential for habitat and community restoration and the importance of this formidable but worthy task.

Northwest Indiana has areas with some of the highest biological diversity in the nation that have somehow remained despite the loss of habitat and natural processes, the introduction of invasive species, and environmental degradation. Information, good planning, timeliness, and commitment are essential for the ultimate goal of saving this natural treasure. We hope that this contribution, in some way, furthers that goal.

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3 June 2002

