Introduction

The purpose of these projects is to document and quantify the influence of golf courses on people, other biological organisms, and environmental factors. The studies include research pertaining to the influence of golf courses on:

- Local soil and climate, pollutants that affect air quality, soil stabilization and watershed management, and noise modification
- Biological diversity of flora and fauna in urban and urban-agriculture fringe areas
- Psychological and physical well-being of people, and the importance of landscape aesthetics to humans

Spectrum Research, Inc.

Golf Course Management and Construction: Environmental Issues - Dr. James C. Balogh and Dr. William J. Walker

Golf Course Management and Construction: Environmental Issues was published by Lewis Publishers, Inc. in June 1992. The book presents a comprehensive summary and assessment of the technical and scientific research on the environmental effects of turfgrass management and, to a smaller extent, golf course construction. The book is intended as an introduction to the concepts of the non-point source environmental impacts of turfgrass management for turfgrass scientists and specialists, landscape and golf course architects, developers of turfgrass systems and golf courses, golf course superintendents, environmental scientists, and land use regulators.

The book is organized into eight chapters. The introduction provides an overview and historical perspective regarding turfgrass management and environmental quality. The second chapter discusses the relationship of turfgrass management to the critical issues of water resources. This chapter focuses on the issues of water use, water quality, soil and water conservation, and movement within the hydrological cycle. Chapters three and four provide a comprehensive scientific review and assessment of the literature regarding the environmental effects of nutrient and pest management practices. The fifth chapter provides an introduction to concepts necessary for development of integrated management systems for turfgrass. Chapter six covers the direct and indirect effects of golf course management and construction on wildlife and aquatic organisms. The seventh chapter is an introduction to the critical issues of conservation and protection of wetlands which has emerged as a critical environmental concern of the 1990's. Chapter eight contains tables of aquatic and terrestrial toxicity tests related to the effect of chemicals used for turfgrass management.

Each of the chapters includes a section on research and information needed to resolve the issues surrounding the positive and potentially adverse effects of turfgrass management. In less than one year *Golf Course Management and Construction: Environmental Issues* has sold nearly 2,000 copies. This comprehensive review has received numerous positive comments and is necessary reading for those heavily involved with the environmental issues confronting golf courses.

Texas A&M University

Quantification and Validation of the Beneficial Contributions of Golf Course Turfgrasses - Dr. James B. Beard and Dr. Robert L. Green

The value of most industries is measured by income derived from products or services. However, this is not entirely germane to a major portion of the diverse turfgrass industry. Rather, the value encompasses a range of beneficial contributions to our environment and quality-of-life that are not easily quantified in monetary terms. Thus, the objective of this study was to conduct a detailed assessment of the research literature to obtain a valid scientific base source of information documenting the benefits of turfgrasses.

Over 400 scientific references were identified, obtained, and assessed. Some were difficult to obtain as they were in obscure reports. Much time was spent in conducting over 170 personal phone calls with individuals involved in the actual research. In addition, much time was devoted to assessments of the scientific soundness of the research, including the experimental methodology, actual conduct of the experiments, and valid interpretation of the results. An extremely diverse range of technical subjects were addressed. Scientists knowledgeable in these individual specialties were contacted to confirm the validity of the research papers being considered for citation.

A total of 116 scientific papers were identified as most germane to the objectives of this project. The principle charge from the USGA Environmen-