FOUNDATIONS FOR VISUAL PROJECT ANALYSIS

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FOREWORD

The foundations of visual project analysis lie within the aesthetics of the landscape. Concentrating on visual dimensions to the exclusion of our other perceptions is an attempt to simplify the complexities of aesthetics, and at the same time recognize that we are primarily visual animals. Dwelling on the visual also allows this particular book to serve its intended purpose of providing a practical means of predicting and controlling the impacts of change within our surroundings. It may also be timely to say that we know more about the visual landscape than we know of its aesthetics. Through visual investigation, we peck away at some of the dilemmas of aesthetics.

Considering the length of time we have been trifling with the American-European landscape, there has been a concurrent history of nature appreciation. Thoreau and Muir expressed some of this appreciation in the nineteenth century, helping to identify a segment of landscape aesthetics. Marsh also foresaw that we needed to conserve this heritage. In the twentieth century, ecologists Leopold and Dasmann continued the tradition of appreciation by discovering only how landscape values may emerge from ecological insight but that good land stewardship—the development of a land ethic—is essential to landscape conservation. The practice of landscape architecture before and during the present century has retained a principle of creating a sensitive relationship with the surrounding landscape, but that concept has not been widely expressed beyond the profession and its works.
By the time of the Lyndon Johnson administration, it appeared legitimate for the Federal government to be concerned with the quality of the landscape. There was earlier evidence of that concern, but it was obscure. The White House Conference on Natural Beauty seemed to be based on an innate feeling—shared by many—that the landscape's beauty and its state of health was important to the quality of life. During the mid-1960s, research was beginning on the visual landscape; it involved a surprisingly diverse group of disciplines in both academic institutions and design-planning-management agencies. The National Environmental Policy Act of 1969 (NEPA) followed, with a broad concern for landscape resources and their contribution to our aesthetic satisfaction. State enactments of environmental protection legislation helped spread an awareness of landscape values beyond the bounds of Federal jurisdictions. NEPA built in the requirement for public hearings, and the environmental thrust of the 1970s brought the voice of public participation into conservation issues. Also during the 1970s, the U.S. Forest Service's policy on visual landscape management came into being and was followed by somewhat similar policies adopted by the Bureau of Land Management. The Soil Conservation Service also developed a strategy for rural landscape conservation. The Federal land management policies, public support of landscape protection, and contemporary practice—both public and private—of the environmental design arts all contribute to a sympathetic atmosphere for the appearance of Foundations for Visual Project Analysis. The emergence of the concept that the landscape is a visual resource with aesthetic values has been built on a variably continuous but intermittent stream of historic insights, events, attitudes, legal acts, management policies, and research.

The present state of visual resources analysis and related landscape management methodology is that of a temporary plateau. The field is relatively well known, but it consists of rather disjointed parts and pieces. Management strategies now in place, as in National Forest lands, are subject to improvement from empirical applications and research.

Visual resources research is fragmented now and has been ever since its fairly recent beginnings. This condition reflects the many different disciplines that have had a hand in it; these include social scientists, economists, psychologists, geographers, geologists, hydrologists, engineers, landscape architects, environmental planners, foresters and others. With such a diversity of approaches, it is not surprising that there is as Jay Appleton notes, a "theoretical vacuum" surrounding the research endeavor. Modest financial support has fostered small projects and single disciplines, not multidisciplinary teams that would be desirable for coordinative results. A split has resulted from two different backgrounds and intents: professional design people seeking physical problem solutions and academics looking for basic knowledge about landscape values and peoples' perceptions. Visual resource management schemes have been based
on assumptions made before research validations could be accomplished. Research does move at a slower pace than do design and management decisions. Fortunately, we are beginning to see the strengths of research, participation, and professional insight being brought together. This book is a significant contribution to the unification of those different strengths.

What can be said for the future needs of visual resource analysis? What does it need to become? Perhaps it is good to state that the landscape is a distressingly complex phenomenon and that research will slowly and painfully assemble seemingly simple answers. As an aesthetic conception, the landscape is a philosophical object, and yet design, planning, management, and use make pragmatic demands of it. Many attributes of the landscape can be quantitatively measured, which is desirable for analysis; at the same time much of visual analysis must be done qualitatively. It is ridiculous to expect that we will ever have wholly quantitative answers to landscape quality questions. There must also be room left for qualitative responses.

*Foundations for Visual Project Analysis* describes specific and detailed methods of landscape evaluation and conservation that will flesh out the broadly conceived ideas found in Ian McHarg’s *Design with Nature* and Kevin Lynch’s *Managing the Sense of a Region*. McHarg and Lynch agree in their integrative approaches, but they cover different levels of scale and detail. This book adds comprehensiveness, alternate methodologies, and different solutions to landscape problems that vary, for example, from the National Forest Landscape Management handbooks that are restricted to national forest policies. The authors of this book bring together concepts and methods that must otherwise be gleaned from numerous articles, ephemeral publications (symposia proceedings), and a relatively small number of hardback books. It should be a welcome reference to students and instructors of the environmental design field, landscape designers and planners, and resource managers in both private practice and public agencies.

R. Burton Litton, Jr.
In the past decade, project scenic impact analysis has evolved from an academic research subject, to a topic mandated by environmental legislation, to a major daily activity engaged in by public and private offices throughout the United States and Europe. This rapid growth has created a significant information gap, both for practicing professionals with no formal training in the area and for students of the subject who need a comprehensive treatment.

This book is needed because there is no comprehensive resource on the market which addresses this specific subject matter in an intensive and all-encompassing way. The only other comparable books are conference proceedings. There are books and series of books which deal with environmental perception and research, but these do not deal specifically with assessment of the landscape as a visual resource nor are they written for design and planning practitioners. This book is written for design and planning practitioners as well as students concerned with visual resource analysis at the project review level of application. Specific professions and academic programs include landscape architecture, environmental planning, community planning, architecture, civil engineering, resource planning, and environmental impact assessment.

This particular book has four specific objectives:

1. The chapters are structured in a sequential fashion so that the student/reader will progress from elementary material to more complex material.
2. Visual analysis methodological considerations are treated across several environmental contexts, for example, wildland, rural, and urban, but the focus is primarily on the project review level of application.

3. A comprehensive array of landscape description and assessment conceptual approaches and methods are now combined in one book—a novel feature.

4. The last and most important objective of this book is to synthesize from key projects and highly qualified authors the best practical visual resource management methods and procedural guidance for students and professionals.

Many of the chapters are commissioned papers that have not appeared before. The editors have attempted to integrate the material as far as referencing one chapter to another. There is no unified approach to visual analysis, but rather a number of approaches with different directional underpinnings. What we have attempted to do is encourage contributing authors to develop decision rules that aid the reader in choosing which approach may be best depending on environmental and decision-making contexts.

In Part 1 we trace basic landscape values development—why we need to manage visual landscapes—and a history of legal consideration of landscape values—major court cases and laws, followed by an overview of the structure in the remainder of the book.

Part 2 is a concise basic primer on visual perception—the mechanics of vision, major findings about how we perceive the landscape, and a summary of the mechanics of visibility assessment—when we can see the landscape and when we can’t, and why.

Part 3 presents basic methods and terminology for accurate description and analysis of wildlands, rural countrysides, and urban landscapes.

Part 4 builds directly on the previous section to summarize and show how to do landscape assessment and evaluation, various visual simulations, and visual impact assessments for both natural/rural and urban landscape contexts.

Part 5 is an international sampler to demonstrate that visual landscape analysis is being used on an international basis. Typical state-of-the-art case studies are presented.
Part 6 is a basic illustrated glossary of landscape analysis terminology, concepts, and methods to complement the text. This is followed by a reference section for the whole book.

The book is designed both as a basic textbook in visual project analysis and as a professional reference tool for landscape architects, architects, engineers, planners, and other environmental design professionals.

Richard C. Smardon
James F. Palmer
John P. Fellemman

Syracuse, New York
February 1986
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PART 1

INTRODUCTION

The introductory section sets the cultural and institutional context for visual analysis in America and to a lesser extent other Western countries. Recognition that the landscape had scenic value, as well as resource values, did not simply appear as a new social fact with the passage of the National Environmental Policy Act (NEPA) in 1969. In the first chapter, Ervin H. Zube reviews the history of landscape values and their implications for our situation. He finds the birth of the modern image of landscapes as a source of human pleasure and satisfaction rising to challenge the crumbling medieval belief that nature was sinful and to be feared. The evolution of our current values are traced from these roots through two dominant themes: an appreciation of the beautiful, picturesque, and sublime, and a foundation of antiurbanism. These values can be seen in the five phases or movements of development in America's landscape policy: Disposal of public lands, preservation of the unique and beautiful, establishment of a recreation system, ameliorating scenic ills, and environmental planning. Finally, he reviews the major highlights where environmental professionals have explored ways to integrate these values into managing and assessing the landscape.

If the first chapter tries to encompass the cultural milieu that colors our landscape vision, then the second attempts to bring order and meaning to the contextual reality of governmental regulation and control that faces anyone concerned with project review. In this chapter, the editors review the underpinnings of the legal, regulatory, and judicial processes and principles relating to visual quality.
Examples are taken from the literature of visual studies conducted at a variety of scales: regional, corridor, citywide, and project sites. A review of nearly 100 environmental assessments in the decade after NEPA’s passage indicates that substantial adverse visual impacts are recognized but little consideration is given to their mitigation. The final half of this chapter proposes a decision-making framework for conducting aesthetic resources analyses. While this process has sufficient detail to provide real guidance, it is flexible enough to be applied to analysis at any scale and broad enough to recognize impacts identified by public, professional, or institutional criteria. Many of the contributions in this volume can be usefully evaluated and better understood when placed in this decision-making context.