A Method for Improved Visual Landscape Compatibility of Mobile Home Parks[1]

Daniel R. Jones[2/]

Abstract: This paper is a description of a research effort directed to improving the visual image of mobile home parks in the landscape. The study is an application of existing methodologies for measuring scenic quality and visual landscape compatibility to an unsolved problem. The paper summarizes two major areas of investigation: regional location factors based on visual values, and site design techniques for visual improvements. The findings are most applicable to non-arid regions with forests and land use patterns similar to Pennsylvania.

INTRODUCTION

Mobile home parks are increasingly the focus of several issues of concern for the urbanizing landscape. Rising costs for conventional housing have intensified the market interest in manufactured homes, to the extent that mobile homes now represent the majority of new housing units in many rural areas. Nation-ally, 5.3 million people live in 3.4 million mobile homes, according to the 1975 Annual Housing Survey. During the 1970's, one third of all new single family housing have been mobile homes.

Although the image of the mobile home park has improved in the last 15 years, mobile homes continue to suffer from poor public acceptance. While specific attitude studies have never been conducted, conjectural evidence would suggest that appearance, cost, perceived transient nature of residents, tax laws, and other factors all contribute to the public's concerns. This paper describes a study that was addressed to the issue of improving the appearance of mobile home parks in the landscape as viewed by the public.

Many communities are ill prepared to deal with mobile home parks, in part due to a lack of guidelines concerning their proper development. While planning for conventional housing can be quite sophisticated, mobile homes are misunderstood and regulated in inappropriate and ineffective ways. Towns with well organized planning and zoning apparatus often attempt (with some success) to use regulatory means of severely restricting the development of mobile home parks, or make eventual approval subject to such comprehensive review that most developers are effectively discouraged. Most zoning plans consider mobile homes as "special exceptions," despite their significance in the current housing market.

As a result of this situation, many developers are attracted to outlying areas where planning is not as well organized, where zoning may not exist, and where a mobile home park of mediocre design can be quickly built. In Pennsylvania, these outlying townships are being saddled with far more than their fair share of the mobile home nark "burden." Because of the nearly universal discrimination by well organized towns, good developers have

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difficulty demonstrating potentially improved techniques. Good mobile home parks need good locations, and most communities allow mobile homes only in locations that are undesirable for conventional housing. Typical development sites known to the author are associated with landfills, industry, powerlines, airport flight paths, or interstate highways. Good developers have problems overcoming their poor image, but routinely find themselves in expensive litigation proceedings to build oven in poor locations.

A clear need exists for improvement by both towns and developers. Because costs have forced such a significant segment of the population to consider manufactured housing as the only practical alternative to home ownership, municipalities have the responsibility to provide for orderly and fair integration of this housing_ type into the fabric of the community. In 1976 the state of Vermont declared in Act 236: "In writing of the Comprehensive Plan, a municipality should consider population, income, employment characteristics and the housing needs, present and projected, for all economic groups within the municipality and region. Specifically, no zoning regulation shall exclude mobile homes, modular homes, or prefabricated homes from the municipality, except on the same terms and conditions as conventional housing is excluded. Mobile home parks may not be prevented either."

At the same time, developers of mobile home parks must upgrade the image and liveability of these developments so that increased acceptance is deserved. Better techniques for location selection, master planning, and park design are needed. More involvement by land planners and landscape architects is needed to identify and implement such improvements. This project represents research into one factor of increased acceptance: improving the visual image of mobile home parks as viewed in the landscape by the public.

PROJECT DEFINITION

Goals

The major goal of the study was to identify practical means of improving the visual compatability of mobile home parks with their surroundings and to reduce thereby their negative visual impacts on neighborhoods and regions. Sub goals formed the basis for the direction and scope of the project, and included the following:

1. Economic: to identify means of improvement that are compatible with the economic limitations posed by typical rural mobile home development costs. There are many examples of luxurious mobi1e home parks which solve many of the associated visual problems, hut most of these resort type developments are unrealistic in economic terms for the average mobile home developer.

2. Social: to identify means of improvement that will benefit the general public which sees mobile home parks in the landscape. A secondary goal was to improve the residential characteristics of the parks for the users.

3. Political: to develop alternatives which have a reasonable expectation of transferability of the results to practical use in ordinance and regulations.

4. Functional Adequacy: to develop improvements that recognize typical layout standards for mobile home parks with respect to circulation, density, open space, utilities, etc.

5. Adaptability: to develop a range of improvements that is adaptable to many types of landscape settings, and to illustrate a range of improvement techniques which may be applied in as limited or comprehensive a way as may be required in an individual situation.

Assumptions

1. The unpopular image of mobile homes and mobile homes parks is at least partly a result of their appearance in the landscape. While many factors may influence public opinion, and while no specific opinions, survey, or perceptual study of this issue exist, considerable conjectural evidence suggests that appearance is a critical issue.

2. The visual perception of mobile home parks by the public is similar to that of experienced designers, and that visual improvements developed by designers will be recognized as improvements by the public. Several well organized research efforts have identified strong correlations between professional and public standards of scenic beauty (Shomaker, Worden 1977).

3. The attitudes of people toward mobile homes are affected by their visual settings in groups, and not only by the appearance of the unit itself.

4. The mobile home as a unit will not change in material, color, or form. Complex marketing factors suggest that significant changes in these areas are unlikely in the near future.

Limitations

1. Only mobile home parks in rural or suburban settings in the Northeast or Midwest of the U.S. were considered because of similar landscape characteristics.

2. Consideration was given to mobile home parks only, and not to the individual mobile home which represents a different set of factors.

3. Research was limited to the visual characteristics of mobile home park siting, although many other environmental factors affect their placement such as slopes, drainage and soils.

Method

1. Literature Survey: a review of existing literature pertaining to mobile homes and visual management techniques was conducted. It was concluded that while a considerable amount of attention has been focused on the mobile home industry, very little effort has been directed to their impact as a land use or as objects of design.

2. Travel: mobile home parks in many landscape settings were observed and analyzed with the intention of clarifying the nature of the visual problem.

3. Interviews: several prominent developers and designers of mobile home parks were consulted concerning economic, social, and political implications and current design standards.

4. Problem Definition: a theoretical model of the visual problem posed by mobile home parks was developed. Two prevailing concepts of scenic quality were utilized. One, identified by many researchers, contends that landscape complexity is a primary component of scenic preference. Second, the visual relationship between adjacent land uses, a principle called "visual landscape compatibility" by W. G. Hendrix and J. Cy. Fabos (1974) was utilized.

5. Design Response: in this phase, several prototypical solutions for different landscape settings were developed.

6. Technical Response: implementation techniques specific to the design solutions were identified.

[4/] W. G. Hendrix and J. Gy. Fabos "Visual Land Use Compatibility as a Significant Contributor to Visual Resource Quality" International Journal of Environmental Studies, 1974 Vol. 1 pages 1 - 8.

RESULTS

Regional Scale

The location of mobile home parks in a community or region is very influential to the establishment of image quality. The landscape offers wide variation in its abilities to accommodate visually new land uses. In order to identify a means of locating mobile home parks in ways that result in the least visual impact to a region, a visual sensitivity model was developed and mapped for a central Pennsylvania township for which existing information was extensive. The most sensitive areas will be those with high scenic ratings, low visual absorption capacity, and within a viewshed of a. major highway. Mobile home parks located in areas with low scenic ratings, high visual absorption capacity, and not seen from a major road will result in minor visual change to the region. The model was an application of two existing methodologies for visual assessment.

This model allowed:

1. that other major mobile home park location factors are satisfied (access, economics, zoning, proximity to utilities, etc.);

2. that other major environmental factors are satisfied (proper soils, drainage, slopes)

The model included the following components:

1. Visual Absorption: (a composite of landscape complexity, vegetation, and topography); a measure of the ability of a landscape to visually absorb mobile home parks. (Jacobs, Way 1968)

2. Visual Landscape Character: a. measure of the scenic qualities of a particular landscape, with a ranking of the most attractive landscape units to the least. (Litton, USES)

3. View from Major highways: since the image of a region or landscape is primarily gained by the view from major roads, it was concluded that areas outside this "viewshed" are less sensitive to mobile home park development.

4. A final mapped composite of the three factors results in a measure of sensitivity of the landscape to change by mobile home parks. This method will be useful in selecting locations for mobile home parks in zoning plans, and will be useful in evaluating the potential level of visual impact of any specific development proposal.

Site Scale

Although selection of zones or districts for mobile home parts may result in better

visual relationships, there will be many instances when sites with unfavorable visual characteristics will be utilized because of other factors such as location or land cost. Therefore, techniques for the modification of the visual impact of the mobile home park itself were developed at this scale.

An analogy may be drawn between mobile home development and an earlier residential form that was also subject to criticism and concern by designers and the sophisticated public. Shortly after the Second World War, Levittown and many other subdivisions spread over the outskirts of American cities. Photographed from airplanes, these developments presented an alarming image of monotony and homogeneity that posed serious questions as to the future of the American landscape. However, there have been amazing and revealing changes in the Levittowns. At least in visual terms, a range of changes has transformed the former sterile landscape into neighborhoods of distinctly mellow character. As vegetation has grown, roofs have changed color, additions have been made, and other typical owner improvements have occurred. The traditional means by which new developments have been absorbed by their surroundings, not only in Levittown but for centuries before, are not present in the typical mobile home park. The units themselves do not change except for minimal additions of porches and side extensions. Because one owner/manager typically controls the entire site, the landscape will change only to the rare extent that street trees are planted. It is conceivable that a mobile home park may look substantially the same after twenty-five years as when it was built. However, deliberate attempts to modify the landscape to accomodate visually a mobile home park should be feasible.

Site Scale Method

1. Lacking specific perceptual research concerning the perceived visual "problem" of mobile home parks by the public, the researchers decided to accept that the great contrast between object and landscape was the primary cause of visual incongruity. From this assumption, a model for the contrast between an object and the landscape was developed (Strumillo 1974). Considering various combinations of color, material, scale, form, complexity, pattern and use activity, and several landscape types, it was concluded that a mobile home park achieves a maximum score in most categories. More importantly, limitations concerning changes to the units themselves led to an assumption that more potential for reducing contrast exists in alteration of the landscape. Specifically, two techniques were considered promising enough for further testing:

a. Vegetation can be planted to reduce the scale, increase visual complexity, and connect to existing landscape patterns.

b. The pattern of mobile home layout can be varied to increase visual complexity, reduce scale and improve edge character.

2. In order to portray the potential range of improvements that might be made three large models (200' = 1") were prepared which represented three prototypical landscape settings:

a. A flat, open site.

b. A rolling, open site.

c. A hillside, partially wooded site.

For each model, large mobile home parks (300-i'00 units) were designed and situated, with both standard layouts and with improved techniques applied. By photographing the models in the various stages of improvement (simulating typical road based views) the effect of singular or multiple applications of the techniques was tested. The major conclusion of this investigation is that the most promising technique for visual improvement of mobile home parks in typical open agricultural sites is to integrate the development with the existing landscape pattern by connecting a series of new hedgerows with existing hedgerows. Alteration of conventional layout patterns with improved layouts resulted in nearly insignificant improvements in visual landscape compatibility.

Figure 1 illustrates the cumulative effect of adding hedgerows to an open hillside site. The ground view is a simulated position of a driver on an adjacent highway. Similar results were achieved from other highway vantage points. As the slope becomes steeper, hedgerows are placed closer together. The integration of hedgerows does not decrease development densities (5 - 6 units/acre). For economical application, it is anticipated that hedgerows may be established through use of small, self-propagating trees, protected for one or two years by snow fence or similar device.

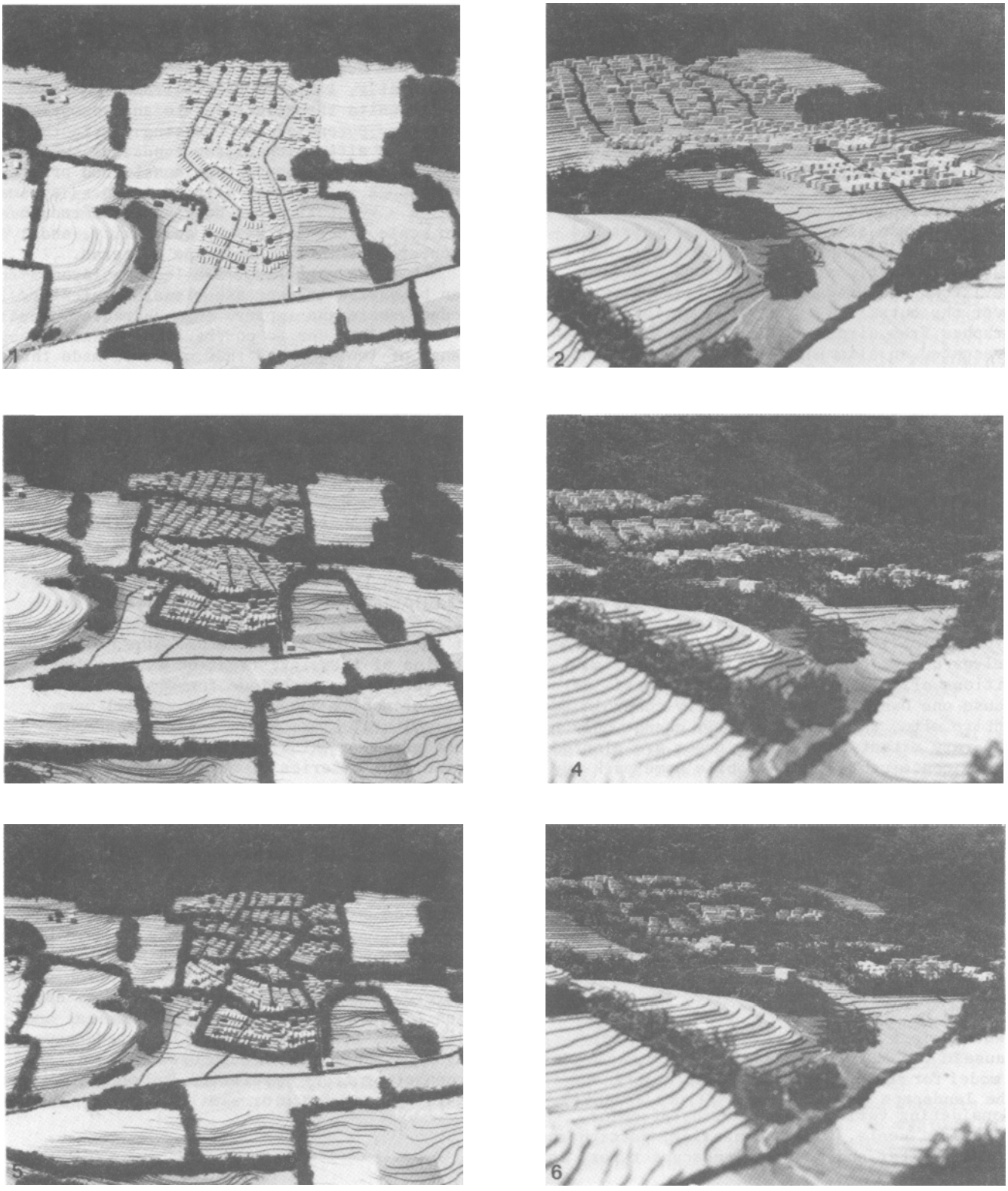

Figure 1

Detail Design

At this scale, certain details were developed upon which the site improvement techniques depend.

1. An investigation of hedgerow plantings led to proposed designs and cost estimates for the establishment of vegetation at these mobile home parks. Hedgerow type plantings were considered the most appropriate because they take up minimal space, provide maximum visual change, offer windbreak and shade advantages, and are inexpensive to establish. (The cost of establishing the complete hedgerow system shown in the example site was estimated at $20,000.00 or 1% of the total site development costs.)
2. Details for mobile home siting on slopes, for cluster arrangements, and for integration of planting were also developed.

APPLICATION

The results of the project should have application in the following areas:

1. As a result of the previously cited court decision in Vermont, municipalities are required to accept mobile home parks and to specify their development requirements. Other states are likely to implement similar regulations. The results of this project can provide guidance for ordinance development, and for eventual increased public acceptance.
2. Developers of mobile home parks could use the techniques for developing improved prototypes. The actual costs of proposed improvements are well within the cost framework of typical site development.
3. The residents of such mobile home parks should find their homes to be more pleasant and the image of their neighborhood to be more accepted.
4. The same techniques may be applicable to other land uses which pose similar visual problems such as automobile junkyards.

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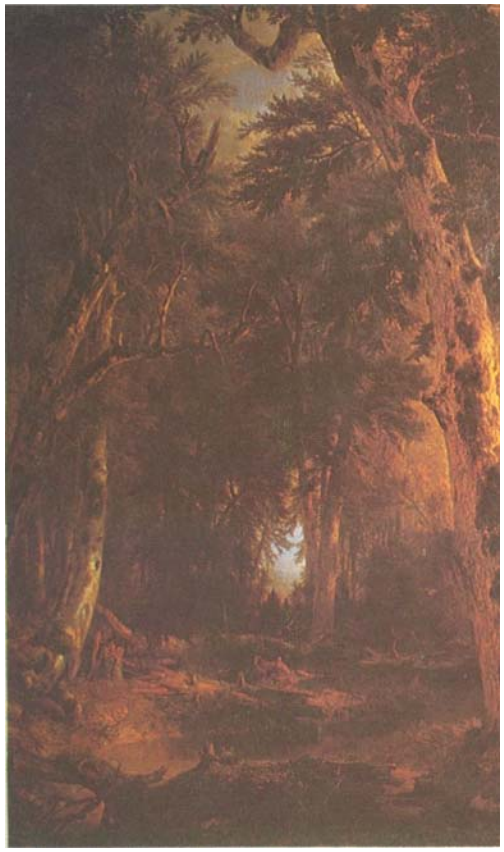
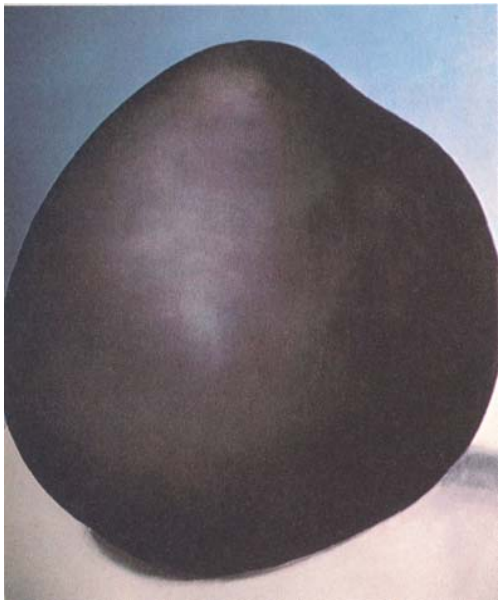
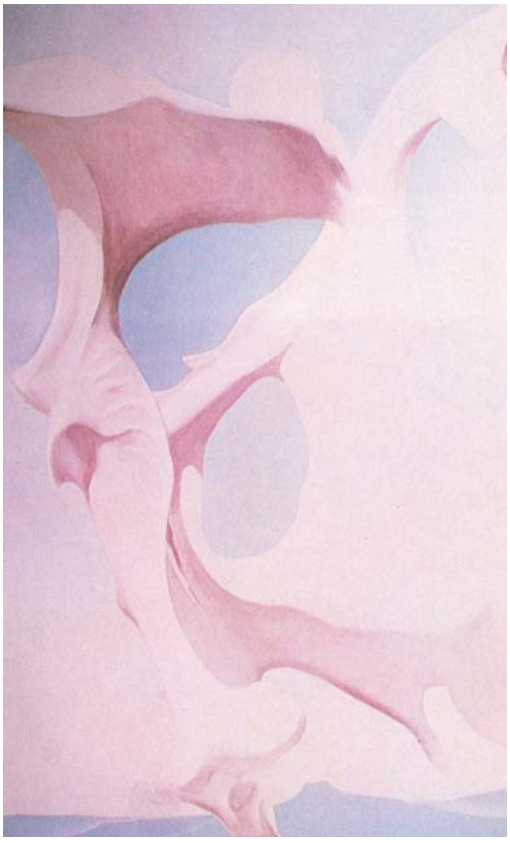
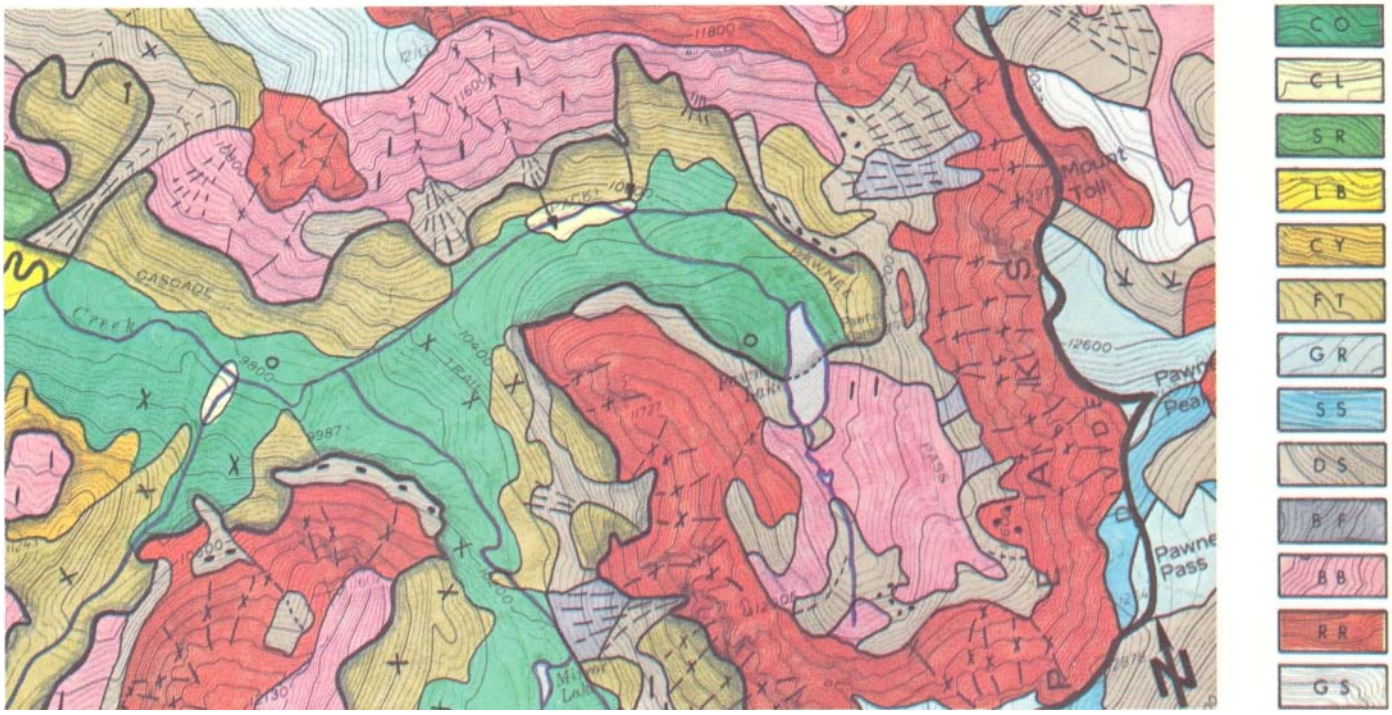




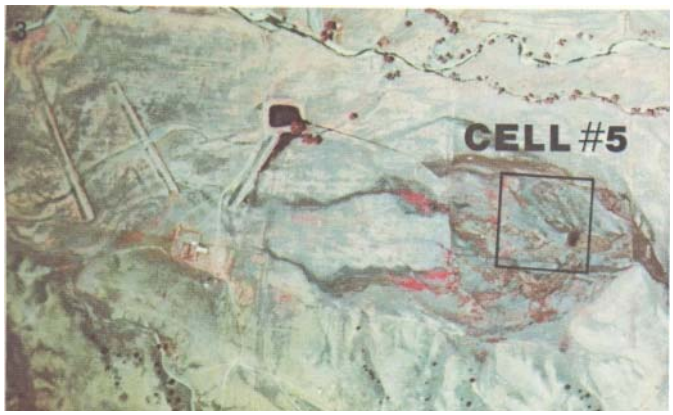


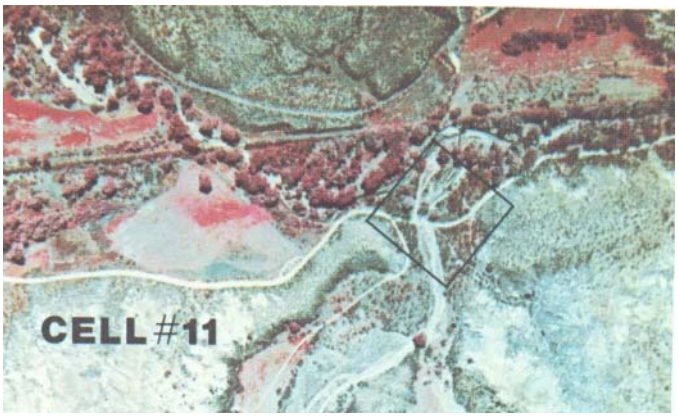
Opie: **Figure 1**—Typical painting from the American nature-romantic era.
Figure 3—Thomas Moran, *The Chasm of the Colorado,* 1873-1874.
Figure 4—Georgia O'Keefe, *Black Rock with Blue,* 1970.
Figure 5—Georgia O'Keefe, *Pelvis with Moon,* 1943.

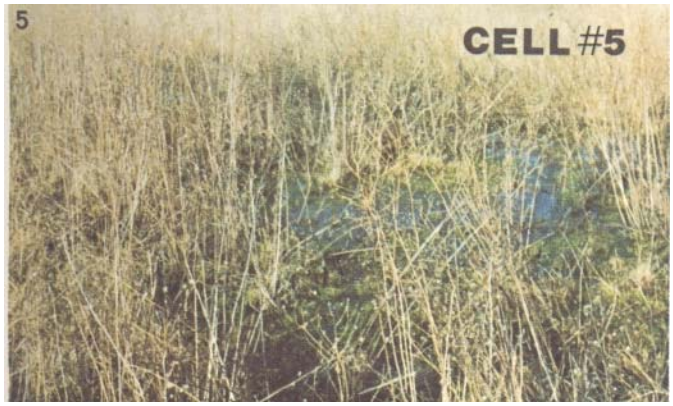


Baumgartner: **Figures 1 and 2**—The landscape of the Aletsch Region (same area on photograph and "Geomorphological Map").
Figure 3—The "Combined Dominant Visual Landscape Type Map" in the Indian Peaks (Colorado).

McCarthy



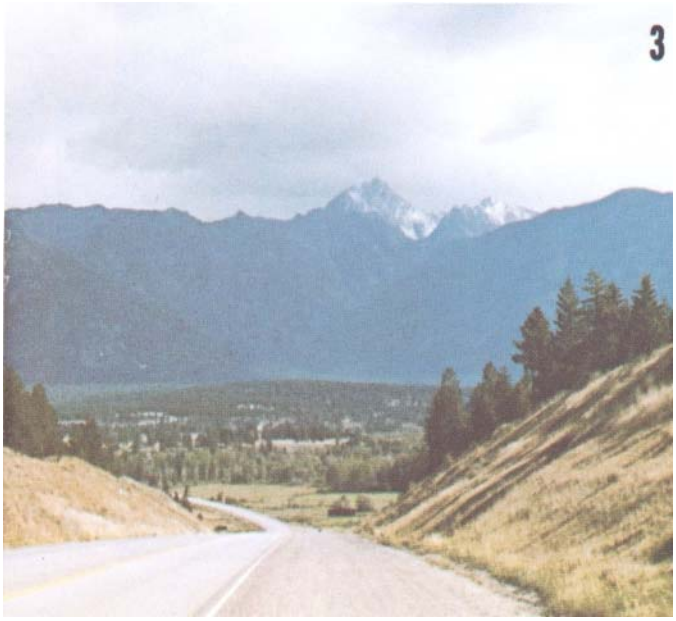




McCarthy:

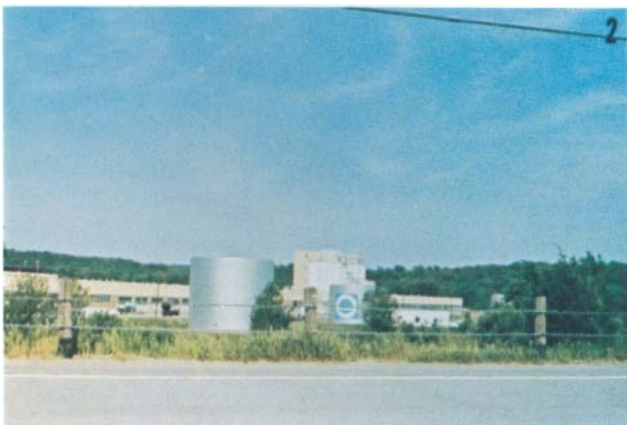
Figure 3—Color-infrared aerial photo showing location of cell number 5 in the grassland area.
Figure 4—Color-infrared aerial photo showing location of cell number 11 in the riparian woodland area.
Figure 5—Ground level photo of grassland within cell number 5.
Figure 6—Ground level photo of riparian woodland within cell number 11.

Yeomans



Yeomans:

Figure 3—Much of British Columbia has low VAC because of steep slopes, highly visible from valley floors.



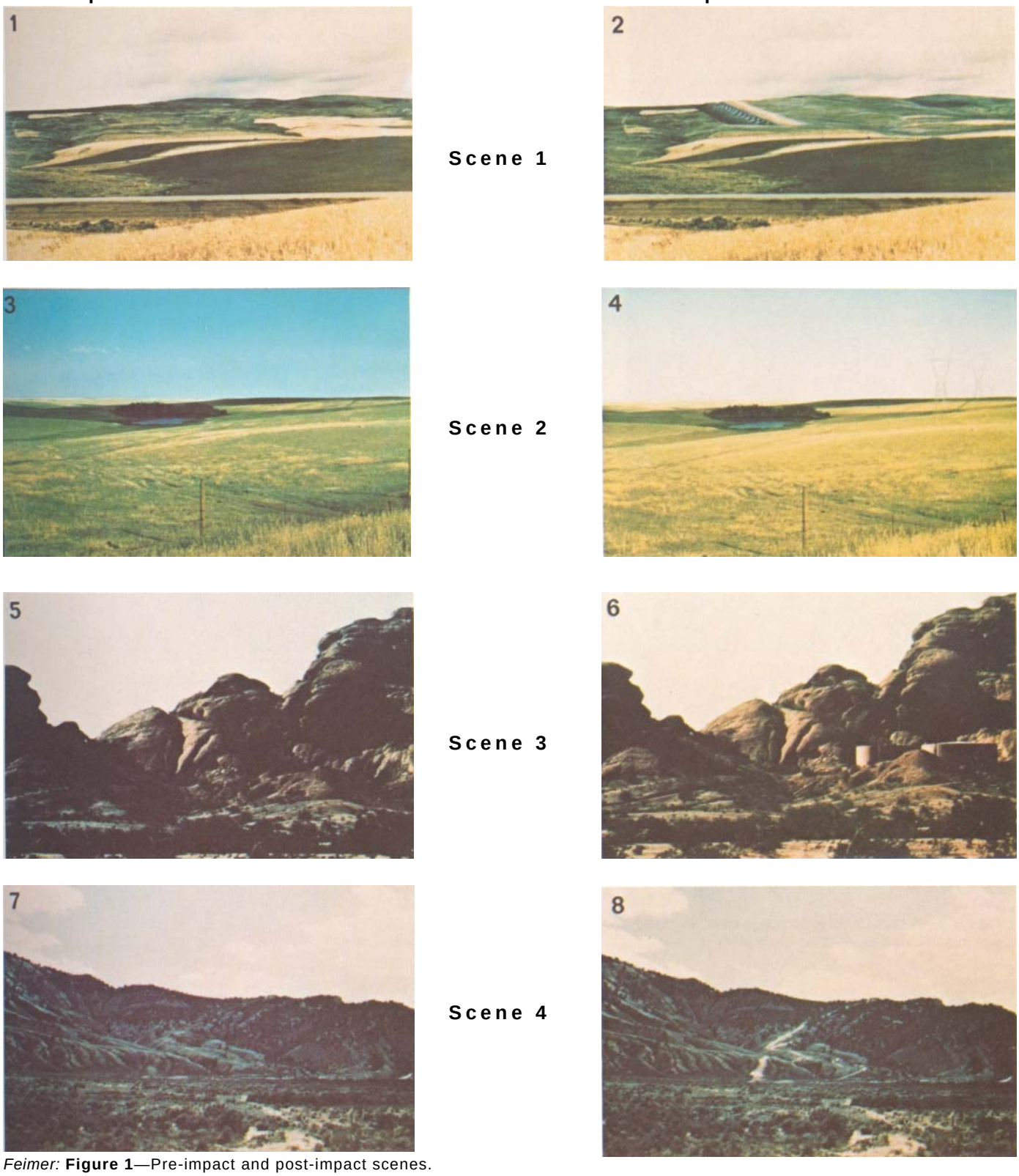
Civco: **Figure 1**—Experimental photograph number 3: Observed Rank Order = 2; Predicted Rank Order = 2; Scenic Quality Adjective = Scenic.

Figure 2—Experimental photograph number 19: Observed Rank Order = 20; Predicted Rank Order = 20; Scenic Quality Adjective = Nonscenic.

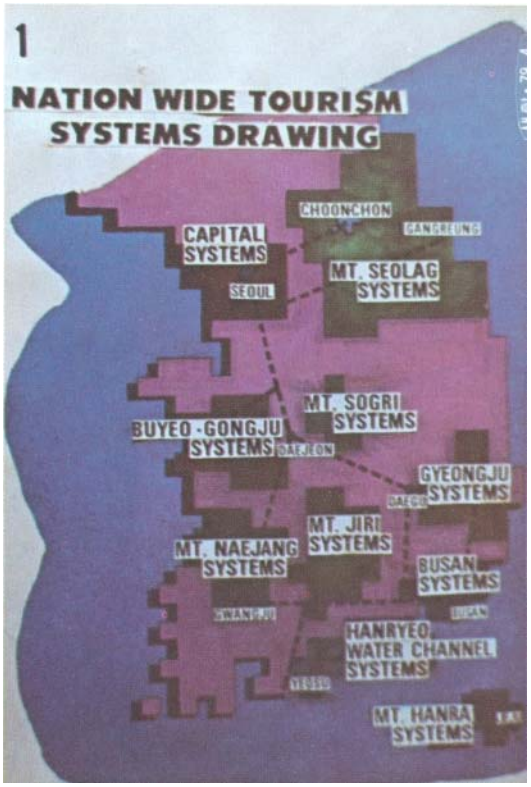
Figure 3—Test photograph number 2: Observed Rank Order = 1; Predicted Rank Order = 1; Scenic Quality Adjective = Scenic-Extremely Scenic.
Figure 4—Test photograph number 6: Observed Rank Order = 10; Predicted Rank Order = 10; Scenic Quality Adjective = Nonscenic.

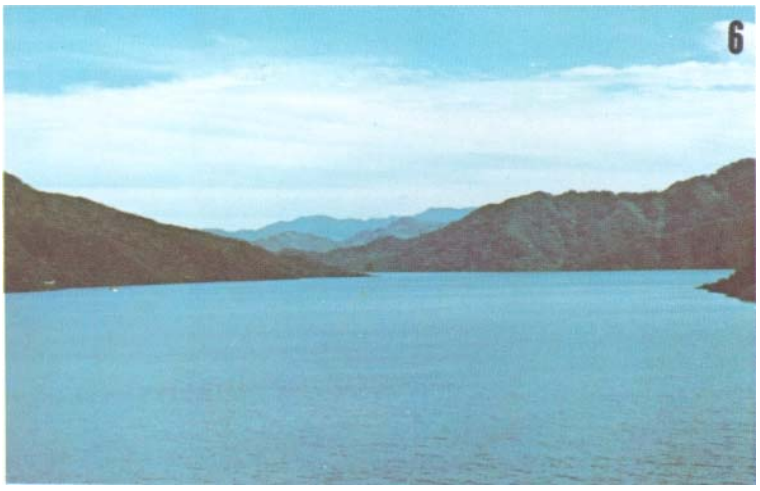
Pre-Impact

Post-Impact



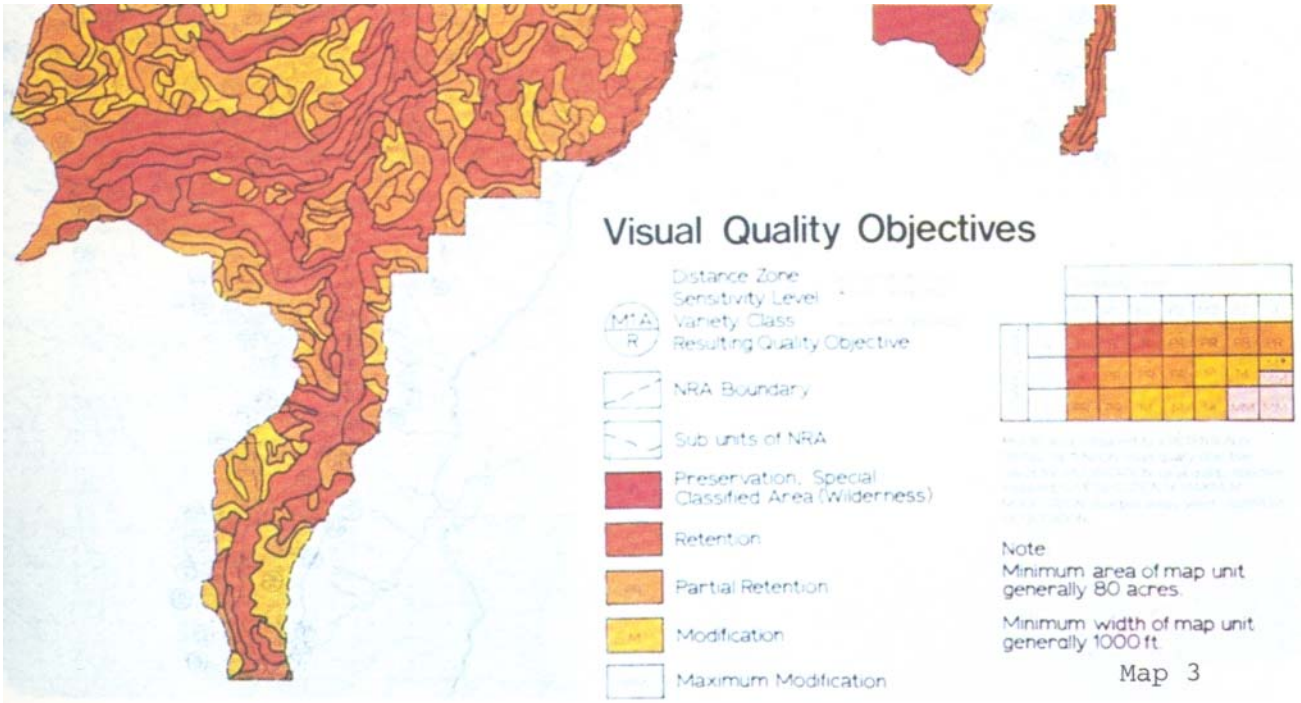
Feimer: **Figure 1**—Pre-impact and post-impact scenes.

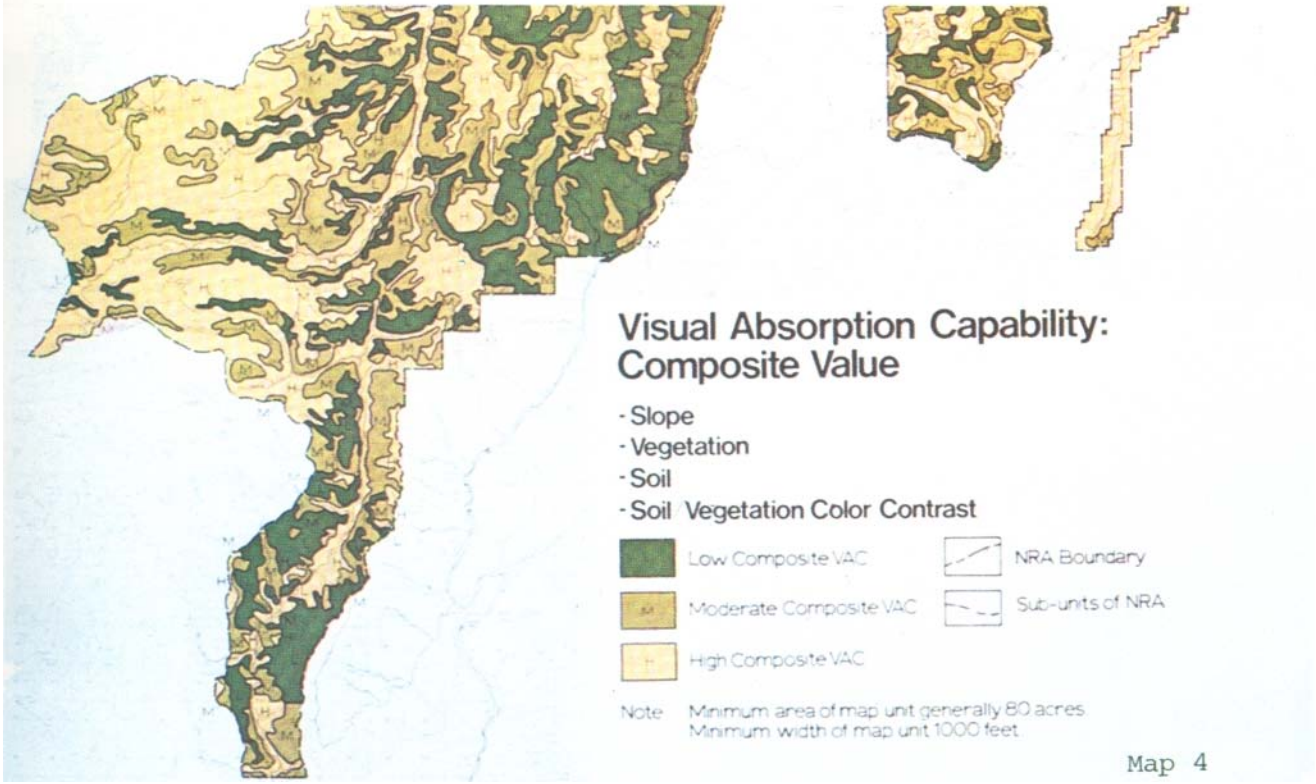




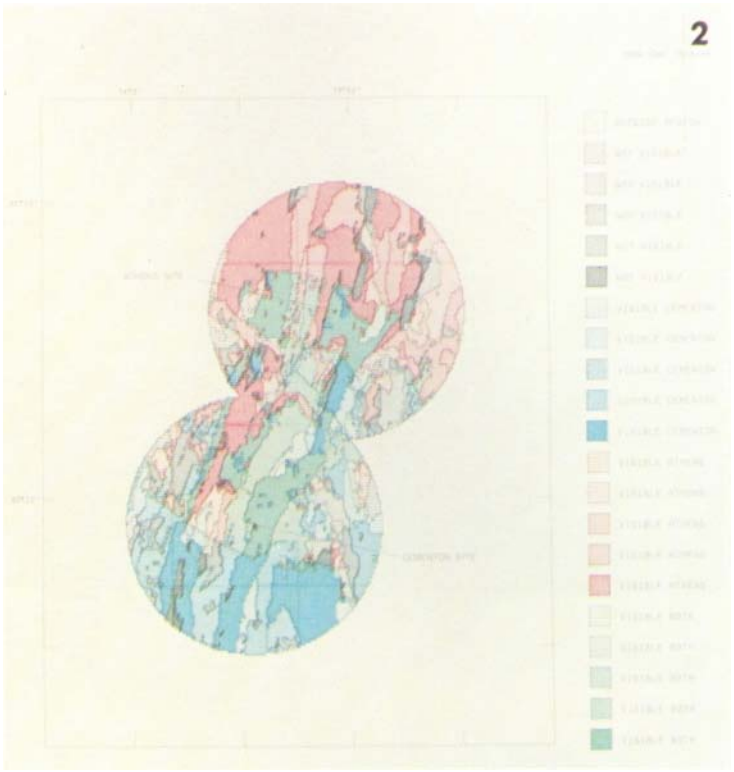
Suh: **Figure 1—**A drawing of Nation-wide tourism circle.
Figure 2—An inventory area.
Figure 5—A distant view of hillside and mountain peaks, towards Choon-Chon from the large and magnificent So Yang Dam.
Figure 6—A panoramic waterscape view, including Yanggu and Inje from the bank of So Yang Dam.

B l a u





Blau: **Map 3**—Visual quality objectives.
Map 4—Visual absorption capability: composite value.



Petrich: **Figure 2**—Study area defined by 5-mile radii around Cementon and Athens sites. Color indicates visibility to a cooling tower at either site, and shading pattern shows scenic quality of all land or water units. Darker shades indicate higher scenic quality.

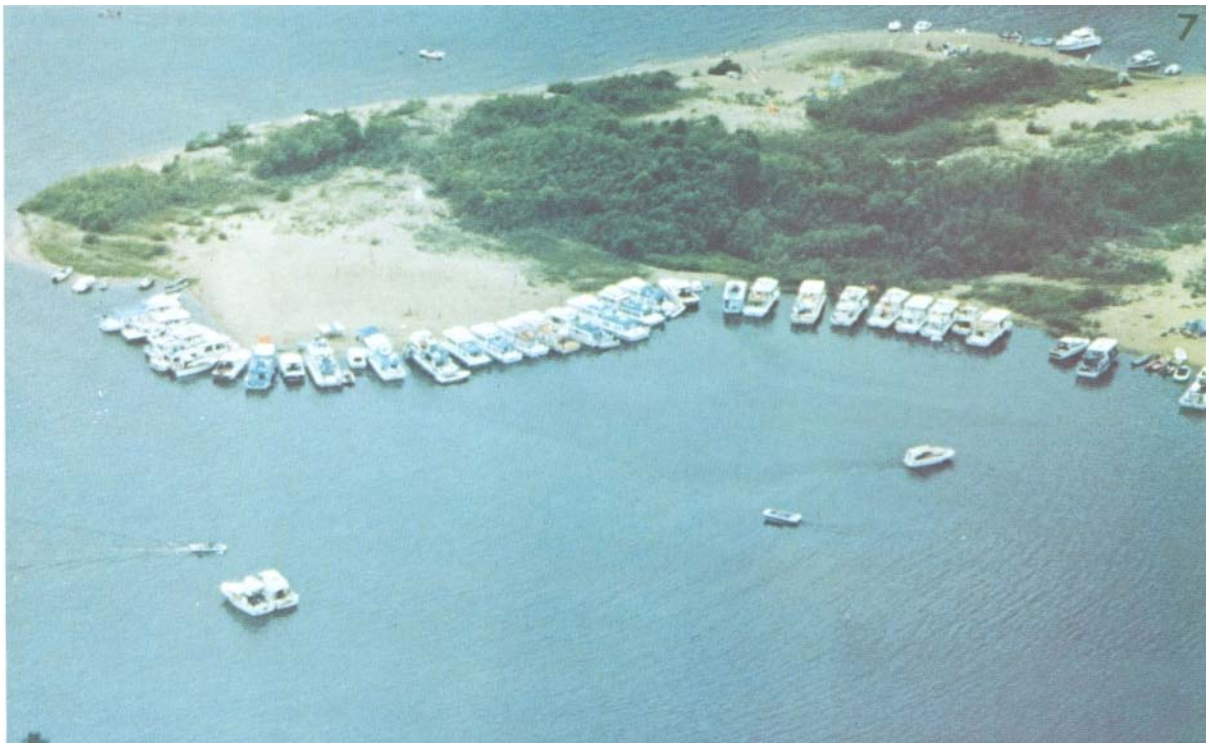
Figure *5*—*Winter Landscape from Olana* (c. 1870) by Frederic E. Church (1826-1900). Oil on paper, $11^{5}/_{8}$ x $18^{1}/_{8}$ inches. (By permission Olana State Historic Site, New York State Office of Parks and Recreation.)

Treiman

Treiman: **Figure 2**—Unaltered view east past Thompson Mesa toward the Henry Mountains on a cathode-ray tube (CRT).
Figure 3—Computerized (CRT) simulation of the plume expected from the single large plant under stable conditions.
Figure 4—Computerized (CRT) simulation of plumes from smaller plants.
Figure 5—Computerized (CRT) simulation of the plume from the 3000 MW plant with a neutral atmosphere.

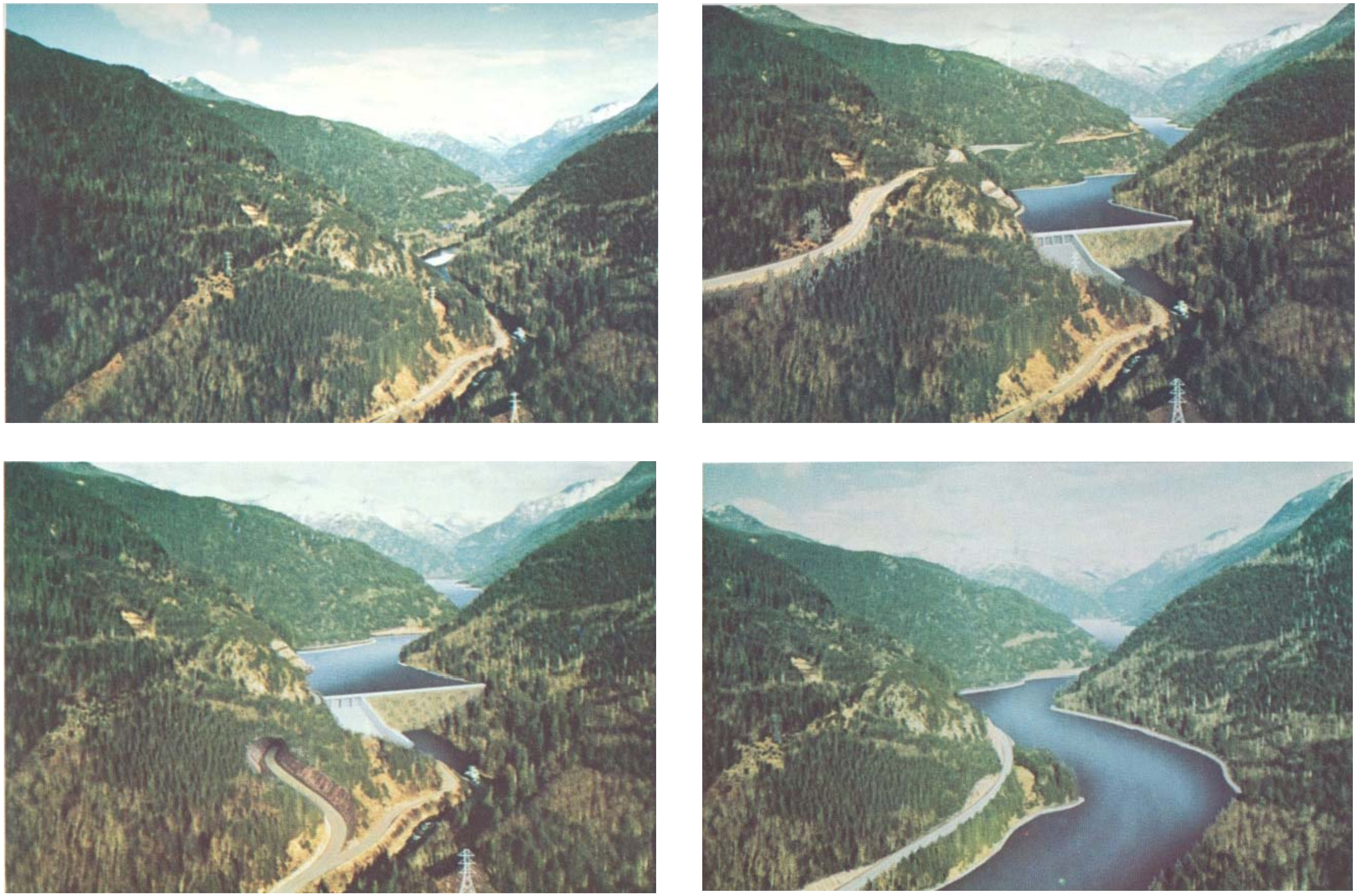
Henley

Henley: **Figure 11—**A representative scene of the broad Nooksack River valley framed by hills of low elevation.
Figure 12—An example of the narrow sections of the Nooksack River valley framed by steep mountain peaks.



Becker: **Figure 6**—High oblique photograph of the Kinnickinnic River Delta State Park.

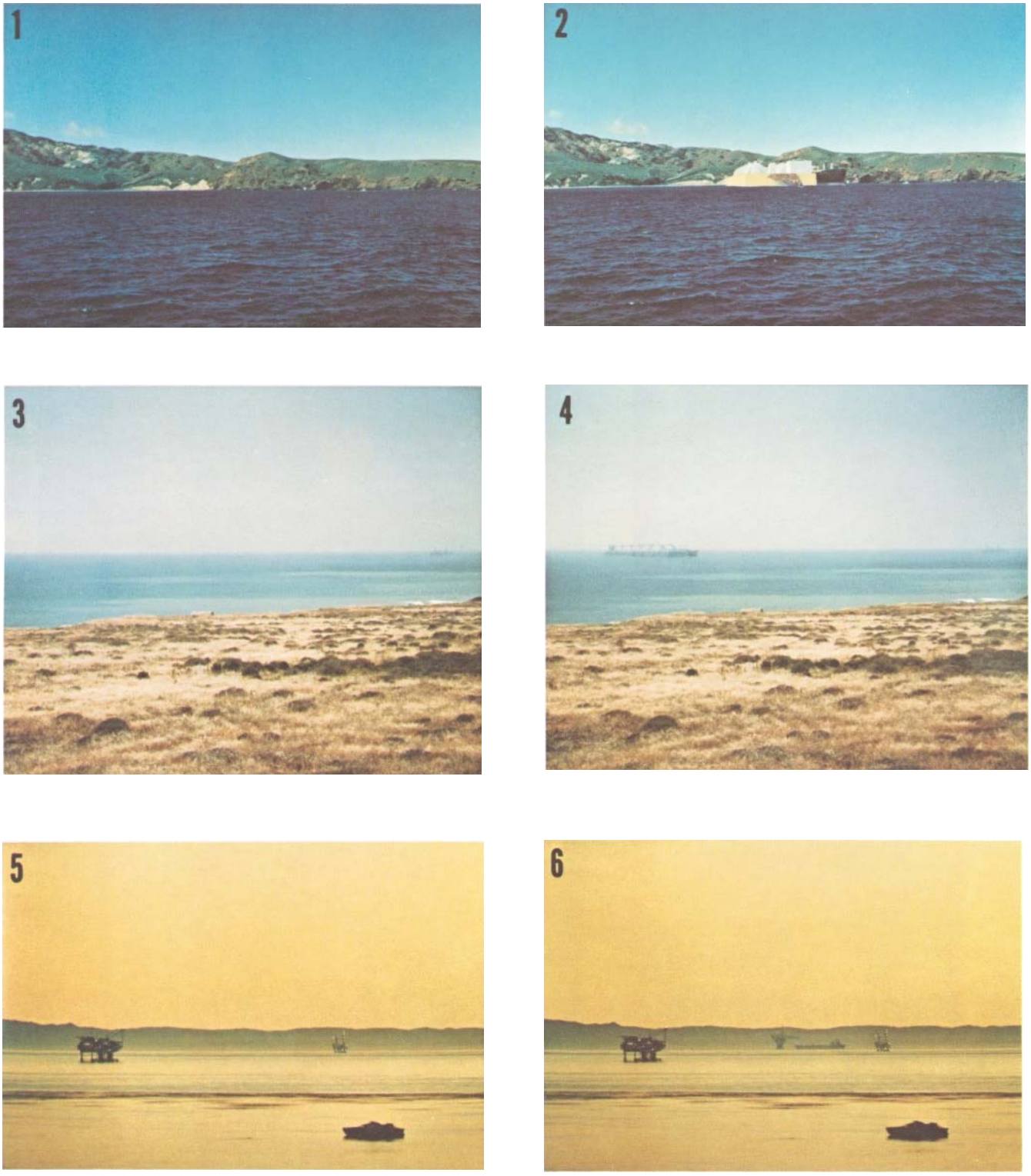
Figure 7—Low oblique photograph taken of the lower right portion of the Kinnickinnic Delta from the opposite direction of *figure 6.*



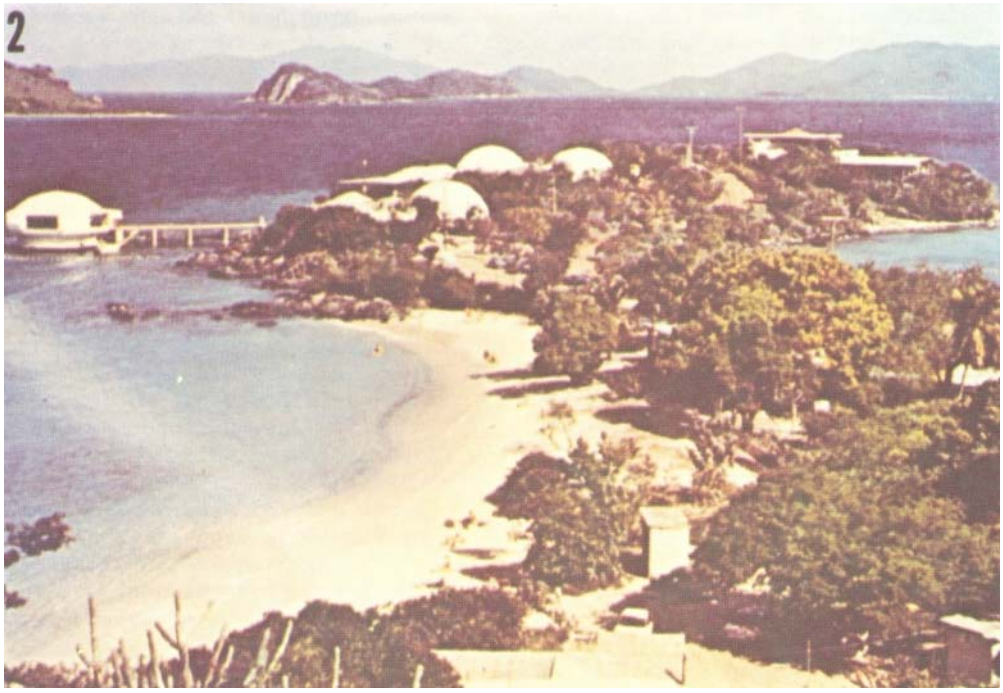
Ady: **Figure 6**—Four different alternatives simulated from the same view upstream from the Copper Creek dam site.

Baird

Before **After**



Baird: **Figure 9**—Pre-impact scenes and post-impact simulations of (from *top to bottom)* Santa Cruz Island, Camp Pendleton, and Ventura Flats.



Mills: **Figure 1**—Site for the Trunk Bay Underwater Trail, St. John, U.S. Virgin Islands.
Figure 2—Coral World, Underwater Restaurant and Observation, Coki Beach, St. Thomas, U.S. Virgin Islands.