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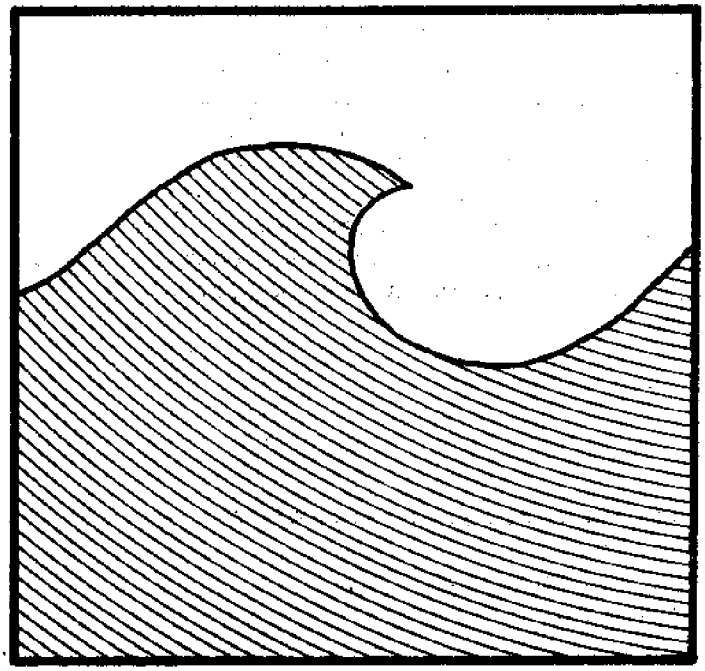
AUTHOR: MARGARET A. ROSS

VISUAL QUALITY OF THE COASTAL ZONE



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VISUAL QUALITY OF THE COASTAL ZONE

- WORKING PAPERS -

New York's coastline comprises a wide spectrum of visual environmental character, ranging from the aesthetically pleasing to the physically revolting. Natural processes over time, modified to varying degrees by human activities, have produced unique regional characteristics central to the quality of life of both permanent residents and seasonal visitors. While high aesthetic quality may occur in man-dominated as well as in undisturbed natural environments, thoughtless coastal development often destroys natural scenic values and creates visual horrors.

The vital importance of protecting and enhancing aesthetic values is widely recognized. Public concern has been translated into legislation, such as the National Environmental Policy Act of 1969 (NEPA) and the Coastal Zone Management Act of 1972, requiring that aesthetic values be duly considered along with ecological, cultural, economic and other values in land use decisions. State, regional, and local directives concerned with environmental quality concur. The need for action is clear, but defining, evaluating, and managing the vulnerable visual quality of our coastal zone is highly elusive.

In November 1974, the New York State Sea Grant Institute awarded a grant to the School of Landscape Architecture, SUNY College of Environmental Science and Forestry, Syracuse, N.Y., to investigate the issues of visual quality pertaining to the New York State's coastlines. The long range objective is to provide practical methods by which coastal managers can evaluate visual quality and integrate these findings into land use decisions. The project's initial steps have included the preparation of a series of working documents, intended to provide background information on the subject and to elicit responses from selected readers.

1974-75 Research Staff

Faculty Investigators
David B. Harper, Research Associate, Project Director
John P. Felleman, Assistant Professor
Christopher W.A. Macey, Assistant Professor
Thomas J. Nieman, Assistant Professor

Graduate Trainees
Sarah Haskett
Margaret A. Ross
Richard Viohl, Jr.

VISUAL QUALITY IN LAND USE CONTROL

by M. A. Ross

Within the past decade, visual quality has achieved a recognized place in environmental planning. Consideration of scenic resources has been incorporated in planning guidelines and land use regulations to an extent never witnessed before. Inventories and scenic evaluation studies have been undertaken by federal, state, and local agencies. This paper describes some of the developments which have occurred recently, with emphasis on those pertaining to shorelands and water resources.

Significance of Visual Quality

Zube (1973) has traced the process through which visual amenities have come to be included with other natural resources. The rationale for equating scenic with other resources has come from the humanities and social sciences.

Various scholars have argued that perception is an integral part of individual and group dynamics. Arnheim (1969) contends that reasoning is impossible without perceptual stimuli. Tuan speaks eloquently about the importance of beauty: "The beautiful landscape, like any aesthetic object, has the power to express through purely visual means ... the forms of our feeling". (Lewis, et al., 1973, p. 27). Rosow (1961, p. 132) theorizes that the sensuous environment affects the texture of social interaction. Thus, perception has been linked with cognitive, affective, and behavioral functioning of people.

While these broad concepts stressing the importance of the visual environment are difficult to verify scientifically, people

demonstrate their evaluation of scenic resources in their marketplace decisions. Choice of residence sometimes reflects aesthetic judgments (Ross, 1961; Chermayeff, 1944). Business locations may likewise be related to the presence of scenic surroundings: "More and more, the quaternary industries, the research and development companies, look to the scenic and recreational facilities, cultural assets and intellectual resources of an area" (Gould, 1972, p. 261). People seem especially attracted to locations where they have an extended view of the water, and are willing to pay from two to four times as much for waterfront lots as for interior lots (McKeever, 1968; Rick, 1962).

The inclusion of scenic values with other resource values in legislation seems to reflect a felt need to retain or develop visual amenities (Wohlwill, 1974). To comply with mandated protection of visual resources, planners and designers have developed a variety of criteria for evaluating these resources.

Imageability and visual order have been emphasized by some in order to permit easy orientation to the environment (Lynch, 1960; Lowenthal, 1962; Newby, 1971). On the other hand, complexity and ambiguity have been stressed by Berlyne (1963) and Rapoport (1967). Obviously, order and complexity are not necessarily incompatible. Researchers have hypothesized that a threshold exists such that stimuli are complex enough to be interesting, while orderly enough to be relatively comfortable (Wohlwill, 1968, 1974; Rapoport, 1967).

When applied to scenic evaluation, the complexity dimension has proved to be too simplistic (Zube, 1973, p. 99). Landforms and land use diversity may be more accurate predictors.

Other variables which account for people's judgments of landscape value are natural vs. man-made character as well as the

presence of water. Kaplan and Wendt (1972) reported that nature scenes were greatly preferred to urban scenes: this finding was borne out by Zube's studies. Also, the presence of water seems to have a strong positive influence on scenic evaluation (Zube, 1973, p. 99).

Although further research on variables determining scenic evaluation is desirable, "the resource planner/manager is not without a way, albeit imperfect, of measuring scenic resource values for inclusion in the planning decision process" (Zube, 1973, p. 101). The methodology developed in the North Atlantic Regional Water Resources Study (Zube, et al., 1970) is in fact being applied by planners to delineate scenic areas: for example, in the study of "Scenic Resources of Central New York" (Candeub, et al.,1969) (see below, under "Visual Quality Regulation in New York State").

Development of planning methodologies is not sufficient in itself, however. "Americans have rarely looked kindly on the idea of planning for its own sake, and have paid attention to planning only when it immediately affects decision making" (Bosselman and Callies, 1971, p. 322). For this reason, the remainder of this paper will examine the inclusion of scenic resources in land use regulation.

Visual Quality in Land Use Regulation

Traditionally, land use has been a matter of local control, regulated through zoning ordinances. State enabling legislation did not specifically authorize aesthetic controls when giving municipalities the right to zone. Ordinances with aesthetic controls were largely aimed at protecting private property values. Recently, however, "numerous systems of local land use regulation are beginning

to recognize land as a resource as well as a commodity... Regulations prohibiting topsoil removal or requiring common open space find their justification in the protection of land as a resource for recreation and beauty", (Bosselman and Callies, 1971, p. 317).

The courts' view of the legitimacy of zoning for scenic purposes may also be changing. "At the present time, esthetics in ordinances have been uniformly upheld as a secondary purpose, but the courts are divided as to whether it is an allowable primary purpose..." (Cerny, 1973). In several important cases, the right of communities to control land use for scenic purposes has been upheld (Berman v. Parker, U.S. Supreme Court, 1958; People v. Goodman, New York Court of Appeals, 1973). At the same time, there may be an increasing "concern on the part of the courts over the failure of the local governments to base their land use regulations on anything but popular prejudice" (Bosselman, Callies, and Banta, 1973, p. 235).

More comprehensive planning and regulation may be required, such as the modifications taking place at the state level. Bosselman and Callies (1971) discuss the "quiet revolution in land use controls." "Prime examples of statewide regulations are those adopted by Hawaii, Vermont, and Maine. Hawaii's Land Use Law (1961), Vermont's Environmental Control Law (1970), and Maine's Site Location Law (1970) provide a variety of means to preserving scenic beauty in their states along with their other expressed purposes. (See Bosselman and Callies, 1971, for detailed discussion.)

Statewide regulations are subject to judicial review as are local zoning ordinances. The key issue in litigation has been whether land use regulations constitute a use of police power or the right of eminent domain, and therefore whether compensation is due

to those deprived of rights to develop their land. In The Taking Issue, Bosselman, Callies, and Banta (1973, p. 216) discuss a possible line for judicial distinction between taking property to benefit the public as opposed to regulating private use to prevent public harm. The distinction depends upon defining scenic and other land values as public resources. The Supreme Judicial Court of Maine upheld this definition and the state's use of the police power: "The Act recognizes the public interest in the preservation of the environment because of its relationship to the quality of human life, and in insisting that the public's existing uses of the environment and its enjoyment of the scenic values and natural resources receive consideration, the Legislature used terms capable of being understood in the context of the entire bill" (In the Matter of Spring Valley Development, 1973).

Greater state regulation of land use with consideration of scenic resources has been given impetus by federal policy, especially the reports of the Outdoor Recreation Resources Review Commission (1962) and the White House Conference on Natural Beauty ("Beauty...," 1965). Legislation such as the Highway Beautification Act of 1965 and the Appalachian Regional Development Acts of 1965 and 1969 involved the federal government directly in the amelioration of scenic [illegible]. The greatest potential impact on the federal level, however, lies with the in-house supervision of its own agencies mandated by the National Environmental Policy Act of 1969 (see below) and the possible assistance for state land use planning and regulation in the proposed National Land Use Policy Bill (S. 268, 1973).

This bill would provide federal funds to states that developed management and development review systems consonant with the aims of

the bill. "The effects on the scenic and natural beauty of the natural environment" are included in the considerations states would refer to in permit review (Section 202). Presently, local, state, and federal governments, as well as regional agencies, are involved in land use regulation. The lines of jurisdiction are often unclear: different levels of government have authority which overlaps or conflicts in some cases. Coordination of regulations under such a dispersed system is a formidable task in itself; however, some coordination could be achieved if a common data base were used for reference.

NEPA

The purpose of the National Environmental Policy Act of 1969 (NEPA) is to require federal agencies "to use all practicable means... (to)...assure for all American safe, healthful, productive, and aesthetically and culturally pleasuring surroundings" (Section 101). Section 102 of the act delineates the means for achieving this purpose: (a) by using interdisciplinary planning teams; (b) by consulting with the Council of Environmental Quality to develop procedures for considering unquantified amenities; (c) to provide environmental impact statements; and (d) to study alternatives to proposed development projects (Natural Environmental Policy Act of 1969, 1970).

Since agencies are held accountable to the judiciary for compliance with NEPA, they have had to revise policies and guidelines to include scenic impacts. The thoroughness with which scenic resources are incorporated in decision-making varies considerably, especially according to the purposes of the agency and its development of appropriate assessment techniques.

The U. S. Forest Service, for example, has been active in developing visual analysis tools based on Litton's methodology, and has provided definitive decision-making guidelines. On the other hand, the National Park Service has laid out broad procedural guidelines, leaving design teams for particular projects to apply their professional judgment with bureaucratic guidance (Redding, 1973).

The Federal Power Commission (FPC) has stipulated that no licenses for additional facilities or disposition of interest in project lands will be issued unless "a showing is made that construction will be designed to avoid or minimize conflict with natural, historic and scenic values and resources of the project area..." (U.S. Federal Power Commission Order 414, 1970).

Similarly, the Department of Transportation (DOT) has revised its guidelines for State Action Plan development "to ensure consideration of possible adverse economic, social and environmental effects" (including destruction or disruption of aesthetic values) (U.S. Dept. of Transportation, 1973). Having to comply with the Federal Highway Act of 1970 and Executive Order 11514, as well as NEPA, the DOT has had to pay particular attention to environmental effects and public input.

The incorporation of scenic impact in state transportation action plans required by the new guidelines has been disappointing so far, judging from the Environmental Action Plan issued in 1974 by the New York State Department of Transportation. Under the New York plan, "visual quality such as 'view of the road' and 'view from the road'" are to be considered in highway planning (New York State Department of Transportation, 1974). Nevertheless, this consideration is to occur at the design rather than project inception stage, according to the plan. The agency will depend on the expertise of other

agencies in making scenic assessments, including the Adirondack Park Agency and the Office of Parks and Recreation.

The revision of guidelines and preparation of environmental impact statements (EIS's) has not yet revolutionized the activities of all federal agencies, particularly with regard to visual quality. EIS's have been prepared with inadequate data; existing assessment methodologies have seldom been applied (Anderson, 1973; Sullivan and Montgomery, 1972; Redding, 1973). Nevertheless, through litigation, "the courts have kept the agencies from straying from the careful, focused consideration of environmental values in day-to-day decision-making that Congress intended" (Anderson, 1973, p. viii). The courts have been establishing standards gradually, which include referring to the full range of knowledge when making EIS's. While scientists may provide the best information on ecological effects, the public itself may become the information source for information on effects on the human environment (Anderson, 1973, pp. 207, 210). In this context, research such as Zube's (1973), which gauges public response to scenic resources, may become increasingly valuable to federal agencies.

Besides stimulating studies of scenic assessment and necessitating policy changes, NEPA has provided a model for other legislation extending its 102(c) procedures to other projects. Environmental Quality Acts were passed in California (1970) and Wisconsin (1971) which require state review of projects according to NEPA standards. Many other states have since enacted legislation requiring environmental impact statements. Similar bills have been introduced in the New York State Legislature; among those introduced in 1975 are Assembly Bill 140 and Senate Bill 121 ("Environmental Assessments." 1975, p. 5).

Visual Quality and Shoreland Regulation

Since water resources are of critical ecological value as well as significant scenic impact, they have been subject to special regulation in the past decade. Federal and state legislation has given impetus to local/regional regulation in these critical areas.

Landmark regional ordinances have been enacted by the Tahoe Regional Planning Agency. Formed as the Tahoe Regional Planning Compact between California and Nevada (1969), the agency was empowered to control all land development in the basin. Protecting the aesthetic value of the lake with its deep blue color was a prime purpose for forming the agency; these concerns have been manifested in the planning and regulation by the agency (Rossellini and Callies, 1971). Delineation of use districts and limitations on building heights refer to the need to "maintain the natural scenic quality of the Lake Tahoe region and "the protection of views" (Land Use Ordinance #13, adopted 1972, amended 1973, Section 7.10 et seq.) A special shoreline ordinance (Ordinance #4, 1972) requires permits for all construction and alteration of the shore, underlying land, or within the lake. Section 5.0 stipulates that permit issuance requires proof that the natural beauty [illegible] be preserved.

Other important local/[illegible] regulations of water resources have similarly been established at the state level. For example, the San Francisco Bay Conservation and Development Commission was created to plan for the development of the Bay by the California legislature in 1965. In 1969 the legislature adopted the plan and gave the commission power to issue permits. The commission was formed to prevent the filling of the Bay, partly for scenic reasons. "The fact

that the Bay is seen so frequently by so many people made it easy for the average person to visualize its reduction to a 'river'..." (Bosselman and Callies, 1971).

In 1966, Wisconsin authorized all counties (not including cities) to enact shoreland zoning ordinances to preserve the beauty of lakes and rivers, as well as to prevent pollution (1966). Buildings were to be located with regard to preserving health and beauty. The state's Model Shoreland Protection Ordinance (1967) includes delineation of land into districts including conservancy districts, and includes restrictions on tree-cutting, to screen structures as seen from the water.

The state-initiated programs have been upheld in courts. The California Supreme Court upheld the constitutionality of the Tahoe Regional Planning Agency (People ex. rel. Younger v. County of El Dorado, 1971). The California Court of Appeals upheld the decision of the San Francisco Bay Conservation and Development Commission in Candlestick Properties Inc. v. San Francisco Bay Conservation and Development Commission, 1970. The Supreme Court of Wisconsin decided in favor of the Marinette County ordinances under the Wisconsin Protection Act in Just v. Marinette County, 1972. In the latter case, the court specifically referred to the need to preserve the scenic beauty and other natural resources of the shorelands.

Other states have taken complete control of some aspects of shoreland regulation. Delaware's Coastal Zone Act restricts manufacturing and industrial uses along the coast (1971). The State Planning Office takes aesthetic as well as other effects into consideration when reviewing permit applications for such uses (Bosselman and Callies, 1971). California has enacted legislation to protect

coastal zones as well as inland waterways. Until state and regional conservation commissions have prepared plans, the Coastal Zone Act requires permits for development. A special vote must be taken in certain cases including "any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast" (California Coastal Zone Act, Section 27401, 1973).

Inland waterways in California were studied by the state resources agency in order to establish a protected waterways system (California Resources Agency, 1971). The agency was authorized to identify waterways with extraordinary scenic, fishing, wildlife, or outdoor recreation values on a basis which would permit development and management of other uses where compatible (California Protected Waterways Act, 1968).

Other states which have instituted state control of shorelands include Florida (Environmental Land and Water Management Act, 1972); North Carolina (1971); Rhode Island (1971) and Connecticut (1969). These acts, as well as dredge and fill legislation by states, are discussed in Bosselman and Callies (1971).

Federal legislation has supported state and regional regulation of water resources. The Water Resources Planning Act of 1965 established a Water Resources Council to supervise regional planning by river basin planning commissions. These regional commissions, including the New England River Basins Commission, are authorized to develop comprehensive plans for federal, state, interstate, local and non-governmental development of water and related resources (Section 1962b). The North Atlantic Regional Water Resources Study, authorized by the New England River Basins Commission and the Army

Corps of Engineers, included a methodology for scenic inventory which has been applied to other studies for the commission and for unrelated agencies (Zube, et al., 1970). The Water Resources Council may extend its objectives to include creation as well as enhancement and protection of "areas of natural beauty and human enjoyment..." (Water Resources Council, 1970).

In 1968, Congress authorized a system for protection of rivers identified as being remarkably scenic and otherwise valuable. The Federal Wild and Scenic Rivers Act offers states and municipalities assistance in administering such rivers so that they may be preserved in free-flowing condition. This legislation has stimulated state legislation such as California's Protected Waterways Act and has helped state agencies to preserve scenic rivers as part of their comprehensive planning activities.

Finally, with the Coastal Zone Management Act of 1972, Congress authorized funding for states to develop planning and regulation programs for their coastlines. The purpose was "to encourage states to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and aesthetic values as well as needs for economic development..." (Coastal Zone Management Act of 1972, Section 303, 1974).

Visual Quality Regulation in New York State

Within New York State, scenic resources, including those of the shorelands, are taken into account in much of the official planning. Land use regulation incorporating visual quality seems to be much more limited, however, especially when compared to legislation in other states.

The most comprehensive planning which incorporates scenic evaluation has been carried out by the Office of Planning Coordination and the Office of Parks and Recreation. The Office of Planning Coordination issued the first phase of its comprehensive state plan: proposed land use, settlement, and transportation patterns. Natural open space areas are to be "preserved for conservation, outdoor recreation, and natural beauty" in the plan's aim (New York State Office of Planning Coordination, 1971, p. 49). Four broad geographic areas are designated: the Adirondacks, the Catskills, the Southern Tier, and the dispersed category of wetlands and shorelands. Within these areas, those to be preserved are primarily sparsely populated (i.e., 200-499 persons per square mile). In these regions, the plan proposes to protect shores and areas with striking topography - slopes over 10% with elevations of 2,000 feet or more (New York State Office of Planning Coordination, 1971).

Similarly, the Office of Parks and Recreation has incorporated preservation of open space and water resources in its comprehensive recreation plan for aesthetic and ecological reasons. "(S)ufficient 'green' space is more than a desirable luxury"; the plan states, "it is a necessity for life" (New York State Office of Parks and Recreation, 1972, p. 35). Substantial land areas with high ecological and aesthetic value should be preserved, as well as waterways classified as wild or scenic or recreational. The recreation plan is particularly concerned with water resources: "(a)vailable shorelines are being developed at an extremely rapid rate, denying public access and often destroying scenic quality and ecological values as well". (New York State Office of Parks and Recreation, 1972, p. 33).

Both comprehensive plans discuss means for their implementation; however, neither office has authority to regulate land use or acquire land or easements, nor has the state government adopted regulations to enforce the plans. The role of regional planning agencies in the state is a similar one. For example, inventories of scenic resources have been prepared for the St. Lawrence-Eastern Ontario Commission (Harper and Dean, 1972) and the Central New York Regional Planning and Development Board (Candeub, et al., 1969). Both studies provide classifications of scenic resources, emphasizing important water features. Land use within these designated areas is not subject to special regulation as a result, however. Long Island Sound has been inventoried in even greater detail in the New England River Basins Commission study recently completed: the study data will be used in formulating guidelines for the final Long Island Sound plan (Roy Mann Associates, Inc., April, 1975). Development over which the New England River Basins has control will have to conform to the established guidelines; state and local coastal management programs may choose to coordinate their regulations with the final plan.

Besides local zoning ordinances, the few regulations of visual quality in the state are delegated to the Department of Environmental Conservation (DEC) and the Adirondack Park Agency (APA). The DEC was assigned the responsibilities formerly assigned to the Natural Beauty Commission, in the Environmental Conservation Law of 1972, in order to "coordinate and promote programs contributing to natural and man-made beauty" (Environmental Conservation Law, Article 49, Section 0101). These programs include a state Nature and Historic Trust. The DEC has since been given the task of developing environmental impact analysis and permit programs for specified projects

(New York State Department of Environmental Conservation, 1974).

The APA was given the power to review proposed developments within the Park in the Adirondack Park Agency Act (1971). The Park's unique scenic resources were to be considered in judging potential adverse effects of proposed developments. Nevertheless, the effectiveness of the review power is limited by exemptions for such activities as logging and agriculture. Furthermore, the Agency's jurisdiction does not apply to municipalities with local ordinances meeting the approval of the Agency.

The DEC and the APA together were authorized by the New York State Wild, Scenic, and Recreational Rivers Act (1972) to study such rivers for inclusion in a statewide system. Rivers recommended by these agencies and approved by the legislature will be subject to restrictions on development up to one-half mile from their banks, according to their classification. All three types must remain free from future impoundments (Beamish, 1975).

The broadest powers to affect scenic resources were given to the Hudson River Valley Commission. Besides planning and limited review authority, the Commission was given the right to acquire property (Chapter 345, New York Laws, 1966). For the purpose of encouraging the "preservation, enhancement and development of the scenic, historic and natural resources of the Hudson River Valley", the Commission was appointed to develop a comprehensive plan (Article 5). In 1970 the Commission published "An Environmental Approach to Identifying Significant Sites in the Hudson River Valley", criteria for significant sites included scenic quality in areas "dominated by landforms with great visual impact such as mountains or gorges". (Hudson River Valley Commission, 1970, p. 10).

Furthermore, the commission could review any proposed development within one mile of the river or visible from the river and two miles from the shore which would "...destroy or substantially impair significant historic or recreational resources or bring about major changes in appearance or use of water in the Hudson River or the surrounding land" (Article 6). Although the commission could only halt construction for 90 days, its influence was considerable; however, the commission has since been stripped of its powers (Stalley, 1972).

If New York adopts a coastline regulation system in accord with the Coastal Zone Management Act, it will extend the potential for protecting scenic resources with a degree of control not presently in existence. In order for these resources to be incorporated in coastline management, it is crucial that methodologies for evaluating scenic impact be perfected. It is essential that scenic inventory and assessment techniques be formulated so that they can be applied in fact to management decisions. Increased efforts to make scenic data usable would have the additional benefit of allowing agencies already possessing regulatory powers to include scenic resources in making their decisions.

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- Hawaii Land Use Law #187, 1961, Hawaii Rev. Stats. Section 205 et. seq. (1968).

- Maine, Title 38, Maine Rev. Stats. Section 481-488 (Supp. 1970).
- Vermont Act #250, 1970, 10 Vermont Stats. Section 6001-6091 (Supp. 1970).
- Wisconsin, Environmental Quality Act, Chapter 274, Laws of 1971.
- Wisconsin, Water Resources Act, Wisc. Stat. Anno. Section 144.26 (1974), as amended, Wisc. Stat. Anno. Section 59.971(1) (Supp. 1974).

VISUAL QUALITY OF THE COASTAL ZONE

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David Harper, Sea Grant Project Director
School of Landscape Architecture
SUNY College of Environmental Science
and Forestry
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