W.P.

12290

Coastal Zone
Information
Center

COASTAL ZONE
INFORMATION CENTER

WISCONSIN COASTAL MANAGEMENT PROGRAM AMENDMENTS 1978

DRAFT FOR PUBLIC REVIEW

July 1978

Wisconsin Coastal Management Program

QK
938
.C6
W57
1978

WISCONSIN
COASTAL MANAGEMENT

W.P.

12290

WISCONSIN COASTAL MANAGEMENT PROGRAM AMENDMENTS

SEP 1 1 1978

COASTAL ZONE INFORMATION CENTER

1978

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

DRAFT
FOR
PUBLIC REVIEW

Wisconsin Coastal Management Program
Office of State Planning & Energy
Department of Administration

JULY 1978

The preparation of this report was financed in part through a Program Development Grant under the Coastal Zone Management Act, administered by the Office of Coastal Zone Management of the National Oceanic and Atmospheric Administration.

Property of CSC Library

Wisconsin Coastal Management Program

QK938.C6 W57

40847750

JUL 2 0 1997

WISCONSIN COASTAL MANAGEMENT
PROGRAM AMENDMENTS
1978

Table of Contents

		Page No.
	Request for Comments	i
	Summary of the Wisconsin Coastal Management Program	iii
I.	Chapter 305(b)(7): Shorefront Access and Protection Planning	1
II.	Chapter 305(b)(8): Energy Facility Planning Process	4
III.	Chapter 305(b)(9): Shore Erosion/ Mitigation Planning Process	112
IV.	Amendments to the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement	137

REQUEST FOR COMMENTS

Draft 1978 Amendments Report to

the Wisconsin Coastal Management Program

The Wisconsin Coastal Management Council requests public review and comment of the Draft 1978 Amendments to the Wisconsin Coastal Management Program. The Council will consider public comments before submittal of the 1978 Amendments to the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

The U.S. Department of Commerce formally approved the Wisconsin Coastal Management Program on May 22, 1978. Pursuant to Congressional amendments in 1976 to the Coastal Zone Management Act, P.L. 92-583, coastal states must amend their programs by October 1, 1978, to adequately consider Shorefront Access and Protection, Energy Facility Planning and Shoreline Erosion. These are Sections 305 (b) (7), (8) and (9) of the Coastal Zone Management Act as amended. The requirements for these amendments are explained in the Federal Register of March 1, 1978, 15 CFR 923.25, .14 and .26 respectively. The draft report on the amendments also explains the federal requirements.

Comments on these Draft 1978 Amendments have been requested from the same Federal, State and local agencies and other interested individuals who received the Wisconsin Coastal Management Program for review during the fall 1977 and winter 1978.

Public hearing on the Draft Amendments will be held by the Wisconsin Coastal Management Program at:

Senate Hearing Room 421 South
State Capitol
Madison, Wisconsin

on Monday, August 21, 1978
from 3:00 to 5:00 p.m.

The thirty day review period and the formal hearing record period will close on August 22, 1978. Please submit written comments to the following address. Additional copies of the Draft 1978 Amendments Report are available from:

Wisconsin Coastal Management Program
Attn: Allen H. Miller, Program Manager
Room B-130
1 West Wilson Street
Madison, Wisconsin 53702
Phone: 608/266-3687

Copies of the Draft 1978 Amendments to the Wisconsin Coastal Management Program were distributed to:

Office of Coastal Zone Management, NOAA, U.S. Department of Commerce
State document library centers
Coastal local public libraries
Legislative Reference Bureau
Wisconsin Congressional Delegation
Wisconsin Local Officials in Coastal Counties:
- County Board Chairmen
- Mayors
- Village Presidents
- Town Chairmen
- Tribal Chairmen

Members of the Wisconsin Coastal Management Council and Citizens Advisory Committee
Members of the Coastal Regional Task Forces
Bay-Lake Regional Planning Commission
Northwest Regional Planning Commission
Southeastern Wisconsin Regional Planning Commission
Coastal County Planning Commission
State Agency Heads and WCMP Working Contacts
National and State Special Interest Groups including port directors
Federal Agency Heads and WCMP Working Contacts
Great Lakes Coastal Management Program Managers

The Wisconsin Coastal Management Program was reviewed under the National and Wisconsin Environmental Policy Acts (NEPA and WEPA) in fall 1977-winter 1978. Amendments to approved state coastal management programs must also comply with NEPA. The determination of whether an environmental impact statement is needed will be made by the Office of Coastal Zone Management, NOAA, after the submittal due date of October 1, 1978. The basis of the decision will be whether these amendments will result in significantly different environmental impacts from those of the already approved management program. Comments on the need for an environmental impact statement on these amendments are also welcomed.

SUMMARY OF THE WISCONSIN

COASTAL MANAGEMENT PROGRAM*

Wisconsin borders two of the largest bodies of freshwater in the world-Lake Michigan and Lake Superior. The 620 miles of shoreline and the 6.5 million acres of Great Lakes in the state carry not only advantages, but responsibilities and problems as well.

The coastal issues facing citizens and their state and local government are many and diverse:

- Water quality
- Shore erosion
- Protection of natural areas
- Public recreational access
- Port development
- Lake level regulation
- Great Lakes fisheries
- Urban shore uses
- Economic development
- Power plant siting
- Shoreland blight
- Air quality

The Great Lakes are important to all Wisconsin citizens. The 43% of the state's population that lives in counties adjacent to the Great Lakes especially looks to them for food, fresh water, transportation, industry, jobs, and recreation.

WISCONSIN'S NEW FOCUS ON ITS COASTAL AREAS

The assistance provided under the Federal Coastal Zone Management Act has enabled the State of Wisconsin to direct its attention in a comprehensive and coordinated manner towards its coastal areas. The Wisconsin coastlines contain some of the most valuable resources of the state and some of its most severe problems.

While Wisconsin has a long historical commitment to the proper use of its resources, which is reflected in both strong legislation and judicial opinions, no single state or local group looked at the coasts and the Great Lakes and provided a clear overall policy direction for their future. No existing agency coordinated the many programs which address the Great Lakes coastal problems.

Now as a result of the development of the Wisconsin Coastal Management Program over a three year period of extensive public involvement, there are new specific policies and goals of the state which focus on the coastal areas. There is a new organizational structure designed to coordinate and administer the state program objectives. Also, there are added capabilities for improving program enforcement, implementation, and management. These new major features are outlined below.

* Pages 8-14 of the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement.

COMPONENTS OF THE PROGRAM

1. Objectives & Policies

The Coastal Management Program is based on the following concepts:

- The Great Lakes are a major local, state and Federal resource
- Improved management coordination are the most important needs
- Existing laws provide adequate state authority to manage the resource
- No new regulatory agency is needed

The overall goal of the Wisconsin Coastal Management Program is:

To preserve, protect, develop and where possible, to restore or enhance the resources of Wisconsin's coastal area for this and succeeding generations, with governmental coordination and public involvement, giving due consideration to the linkages and impacts to resources of inland areas.

a. Five objectives are proposed for the program:

- To improve the implementation and enforcement of existing state regulatory and management policies and programs affecting key coastal uses and areas;
- To improve the coordination of existing policies and activities of governmental units and planning agencies on matters affecting key coastal uses and areas;
- To strengthen local governmental capabilities to initiate and continue effective coastal management consistent with identified state standards and criteria;
- To provide a strong voice to advocate the wise and balanced use of the coastal environment and the recognition in Federal, state, and local policies of the uniqueness of the coastal environment;
- To increase public awareness and opportunity for citizens to participate in decisions affecting the Great Lakes resources.

b. Policies of the Program

On October 7, 1977, the Governor of Wisconsin signed Executive Order No. 49 (Attachment I). The Order formally established several critical elements of the Wisconsin Coastal Management Program; with respect to programmatic policies the Governor directed that the Wisconsin coastal program will initially concentrate on seven major areas. They are:

- Improve the quality and management of the air and water resources of the coastal areas;
- Conserve and enhance the natural land and water resources;
- Mitigate property damage and risks to public health and safety caused from erosion and flooding;
- Ensure the orderly and balanced development of coastal communities;
- Stimulate desirable economic development that broadens the coastal area economy and to encourage the designation and reservation of areas of significance to activities requiring a coastal location;

- Ensure intergovernmental communication, cooperation and coordination in all aspects of coastal management;
- Provide citizens with full opportunities for early and continuous involvement in coastal management through effective communication and participation.

2. Organization and Management Structure

The recently signed Executive Order also formally sets in place integral features of the Wisconsin coastal program's organization and management structure.

a. The creation of a new Coastal Management Council

The establishment of the Council was for the purpose of having a state level group make basic coastal program decisions and to provide for a balance and coordination of many diverse state interests. The 29-member Coastal Management Council will be composed of:

- State legislators
- Local officials
- Citizens
- Tribal governments
- State agency representatives
- University of Wisconsin representatives

The Coastal Management Council will perform the specific functions of:

- Oversight of state agency implementation and compliance
- Policy development and recommendation of state coastal goals
- Designation of key coastal areas and uses
- Assurance of consideration of national interest
- Serve as an interagency conflict resolution forum
- Oversight of financial assistance
- Oversight of demonstration grant program
- Oversight of technical assistance
- Continued coastal advocacy and public education
- Coordination of all above functions
- Approval of program budget
- Approval of Coastal Management Program and periodic revisions

All state agencies, while being consistent with their statutory responsibilities, are now required as a result of the Executive Order to cooperate to the fullest extent possible with the Coastal Management Council and act consistently with adopted state coastal policies.

b. Creation of a new Citizens Advisory Committee

Executive Order No. 49 provides the authority for the Wisconsin Coastal Management Council to establish a Citizens Advisory Committee. The Committee, composed of 27 members, will be a separate, independently-staffed

entity, with representation from a variety of coastal interests along the entire shoreline. Specific areas of concern for this group include monitoring initial implementation of the program and public education and participation.

The rolesof the Council and the Committee will be annually evaluated to assess their continued value and need.

c. Designation of a Lead Agency

The Wisconsin Office of State Planning and Energy, Department of Administration, has been designated by the Governor to be the lead agency for the implementation of the Wisconsin Coastal Management Program. It will also be the agency to receive and administer grants for the program, and it will act as staff to the Council.

3. Implementation

The Wisconsin Coastal Management Program has developed several techniques to ensure that the program's objectives and policies are implemented. Among the wide array of implementing mechanisms are the following:

a. Strong Legislative Mandate

The foremost factor in the state's capability of implementing its coastal management program is the strong statutory authority which presently exists in the state and upon which the program's goals and policies rest. Thirty existing statutory mandates are incorporated into the program in order to manage uses subject to the program. Major examples of these legislative enactments are:

- o §59.971 - Wisconsin Water Resources Development Act, which requires the adoption of local shoreland regulations in unincorporated areas of the state in accordance with state standards
- Chap. 147 - The Wisconsin Pollution Discharge Elimination System which adopts and enforces the Federal Water Pollution Control Act Amendments of 1972
- o Chap. 144 - State legislation which establishes among other things state regulatory authority for air and water quality, septic systems, garbage and refuse disposal, metallic mining, and solid waste disposal
- o Chaps. 30-31 - State legislation which regulates the placement of structures and deposits in navigable waters and shoreline alterations
- o §14.011 & 16.54 - Which broadly outline the executive authority of the Governor
- o Chaps. 84-86 - Involve state authority for administration and regulation of highway construction, access, maintenance, etc.

- o Chap. 236 - Imposes state standards and review of subdivision and platting of lands in Wisconsin

In order to implement the program's objective and policies, the following elements will, as a result of the Wisconsin Coastal Management Program, provide effective coordination and improved enforceability of the above statutory authority and other relevant legislative enactments.

b. Executive Order No. 49

The Governor of Wisconsin has the responsibility of executing the laws of the state. Through the issuance of the Executive Order the Governor has directed that all state agencies comply with the seven state coastal policies all of which have statutory basis.

c. Interagency Agreements

The interagency agreements between the Coastal Council, the lead state agency and the various state agencies that will be carrying out significant responsibilities in the coastal area serve to further delineate the responsibilities of the agencies under the Wisconsin Program. The agreements tie together procedurally the respective state agency's statutory authority, the policies of the coastal management program and the mechanics of its implementation. The Coastal Management Council and the lead state agency have entered into separate agreements with the Department of Natural Resources, Department of Transportation and the Public Service Commission. In all cases the agreements include a requirement that the agency consider the national interest in the planning and siting of facilities of greater than local concern. The agreements are in Attachment I.

d. The Wisconsin Coastal Management Council

The functions of the Council with respect to program implementation have been outlined above under organization and management structure 2.a.

e. Increased Monitoring Capability

As a result of financial assistance provided through the Wisconsin Coastal Management Program to the state DNR it will:

- have an increased capability to review amendments, variances, and special exceptions to the local shoreland ordinances to assure that they continue to be in compliance with the policies of the program;

- have greater capability in monitoring and enforcing DNR permit requirements.

The tracking mechanisms supplied by the interagency agreements will facilitate the monitoring of compliance with adopted policies by the Council and the lead agency.

As a result of the development of concise state coastal policies, those reviewers using existing review processes (e.g., A-95, NEPA, WEPA) will have a clearer benchmark to evaluate projected activities within or impacting on the coastal area.

f. Geographic Area of Management Concern (GAMC)

The Coastal Management Program includes a process for identifying and designating key areas and for providing program funding to improve their management. As a condition for designation the GAMC must be managed in accordance with state coastal management policies including those sectors of incorporated areas of the state that have been nominated by the local government and designated by the Council.

g. Consistency with the Wisconsin Program

With the implementation of the proposed Wisconsin Coastal Management Program the various levels of government will be expected to carry out certain actions in accordance with the policies of the program.

(1.) Local level

- In unincorporated areas, counties are required to meet the provisions of the Wisconsin Water Resources Development Act and implement the state regulations. These local ordinances are a part of the proposed management program for Wisconsin. All amendments, variances, and special exceptions are subject to review and approval by the DNR. As a result of directives of Executive Order No. 49 the DNR must insure in its review of proposed changes to the ordinances that the changes are in compliance with the state coastal management policies.
- The GAMC process is another method for achieving local action consistency with the program. All sites and work programs nominated by local government and designated by the Council must be consistent with overall program policies including those located within incorporated areas.
- All program "managed uses" apply throughout the coastal area including incorporated areas.
- Once the Wisconsin Public Service Commission issues a certificate of Public Convenience and Necessity, under the Power Plant Siting Act, local governments may not exclude the approved utility activities for that site.

(2.) State level

Consistency of state agency actions will be effectuated through six processes:

- Since the coastal management policies enumerated in Executive Order No. 49 are based on state law, violations of coastal policies would also be a statutory violation, thereby making available the administrative and judicial remedies discussed below;

- The Executive Order additionally directs that they act in accordance with the coastal policies;
- The interagency agreement structure;
- The Council's review and monitoring procedures which will rely in part on the A-95, NEPA and WEPA processes;
- The GAMC designation and funding processes;
- Financial and technical assistance to achieve coordination and consistency.

(3.) Federal level

Consistency of Federal actions with the Wisconsin Program will be monitored through:

- The A-95, WEPA, and NEPA processes for Federal activities (including development projects) and Federal assistance to state and local governments affecting the coastal zone and;
- Review of consistency certifications submitted by applicants (excluding Federal agency applicants) for Federal permits and licenses directly affecting the coastal zone.

The Wisconsin Coastal Management Council will serve as the lead agency for coordinating the state's review of these Federal actions.

The criteria which Wisconsin will use in evaluating Federal actions for consistency with the Wisconsin Program are:

- Consistency with state coastal policies, state approved county shoreland ordinances, and state approved floodplain ordinances;
- Consistency with specific management policies for designated state managed GAMC's;
- Opportunity for full public participation in the activity development project, grant, or financial assistance.

SHOREFRONT ACCESS AND PROTECTION PLANNING:

Compliance with Section 305(b)(7)
Federal Requirements

by

Joan Gasperow

Wisconsin Department of Natural Resources

for

Wisconsin Coastal Management Program

DRAFT

Chapter 305(b)(7)

SHOREFRONT ACCESS AND PROTECTION PLANNING

Table of Contents

Page No.

Preface ..... i.

I. Procedure for Assessing Public Areas Requiring Access or Protection 1

A. Summary - Outlines of Planning Procedures 1

B. Detailed Information 3

1. Wisconsin Outdoor Recreation Program 4

2. Feasibility Studies 7

3. Harbor Planning 8

4. Wisconsin Harbors of Refuge Law 9

II. Beach Definition 10

III. Enforceable State Policies 11

IV. Designation of Shorefront Areas as Geographic Areas of Management Concern 39

V. Legal Authorities, Funding Programs, and Other Techniques to Meet Management Needs 41

A. Legal Authorities 41

B. Funding Programs 41

C. Other Techniques 42

1. GAMC Management Agreements 42

2. Master Planning Process 42

PREFACE

To fulfill the requirements of subsection 305(b)(7) of the 1976 amendments to the Coastal Zone Management Act of 1972, Wisconsin's Coastal Program must include a planning process that can identify public shorefront areas appropriate for increased access and/or protection.

There are five elements which must be included in the shorefront access and protection planning process:

"(1) a procedure for assessing public areas requiring access or protection;

(2) a definition of the term "beach" and an identification of public areas meeting that definition;

(3) articulation of State enforceable policies pertaining to shorefront access and protection;

(4) a method for designating shorefront areas as areas of particular concern (either as a class or a specific sites) for preservation or restoration, if appropriate; and

(5) an identification of legal authorities, funding programs and other techniques that can be used to meet management needs."

-923.25 Federal Register, Vol. 43, No. 41

Like many aspects of the federal requirements for a Coastal Management Program, Wisconsin has ongoing program and policies which serve to fulfill the requirements for shorefront access and protection planning. This paper documents Wisconsin's compliance with the federal requirements cited above. The text describes Wisconsin's ongoing efforts in relation to federal rules.

I. Procedure for Assessing Public Areas Requiring Access or Protection

A. Summary of Shorefront Access and Protection Planning Process

The provision of shorefront access and resource protection is considered to be the responsibility of both state and local units of government in Wisconsin. To meet this responsibility, planning procedures are already in existence which fulfill the federal requirements specified by subsection 305(b)(7). Local units of government plan for shorefront access and protection by participating in the Outdoor Recreation Program. State government involvement is primarily through the procedures for feasibility studies for project acquisition and development by the Department of Natural Resources (DNR). The federal government is also involved by assisting local units of government with harbor planning.

The existing procedures for the Outdoor Recreation Program by local units of government, feasibility studies by the DNR and harbor planning by the U.S. Corps of Engineers are briefly outlined below. More detailed information on these planning programs and procedures, including eligible activities, funding priorities and how these procedures meet the federal rules (15 CFR 923.25(c)), are described in Part IB of this report.

New planning procedures for state assistance to local units of government for harbors of refuge will be established during the summer of 1978. These new procedures are a result of legislation signed in April 1978. The legislation is described at the end of Part IB of this report.

OUTLINES OF PLANNING PROCEDURES

Outdoor Recreation Program

1. Local unit of government develops a Comprehensive Outdoor Recreation Plan which includes:

   a. inventory of existing public facilities;

   b. anticipated demand for future use of facilities;

   c. capability and suitability of existing areas to support increased access;

   d. description of appropriate types of access and/or protection in light of government and public preferences, resource capabilities and priorities; and

   e. identification of specific projects

2. Local government officially approves the Comprehensive Outdoor Recreation Plan

3. DNR reviews plan to establish eligibility to receive LAWCON and ORAP funds.

4. Eligible unit of government contacts DNR Recreation Aids Specialist to discuss a potential project.

5. Recreation Aids Specialist meets with local officials at the proposed project site to discuss merits of project in relation to community needs, state policy and availability of funds.

6. Environmental impact assessment is prepared which considers primary and secondary impacts of project such as transportation requirements.

7. Local government works with Recreation Aids Specialist to submit application for funds, only if funding is likely to be approved.

8. Local government agrees to all contract provisions to receive LAWCON/ORAP funding and submits project for A-95 review.

9. Funding is approved by DNR Office of Intergovernmental Programs.

10. Local government undertakes approved project, maintains cost records, submits billings to DNR.

11. Recreation Aids Specialist inspects project and arranges for funds to be paid.

<u>Feasibility Studies for Project Acquisition and Development</u>

1. Preliminary proposal

2. Approval of proposed project by the Natural Resources Board

3. Feasibility Study for proposed project - evaluates current and projected needs in terms of:

   a. existing state, local and regional plans

   b. preservation of the resource

   c. resource potential for recreation activities

   d. criteria for each type of use

4. Approval of feasibility study by Natural Resources Board and Governor and authorization to undertake Environmental Impact Assessment process and master planning process.

5. Final approval of project by Natural Resources Board and Governor.

6. Project acquisition and development begins.

Harbor Planning

1. Expression of local interest and support for a harbor project

2. Reconnaissance Study by the U.S. Corps of Engineers

3. Detailed feasibility study includes evaluation of physical, environmental, economic, transportation, and engineering impacts of a harbor project

4. Development of plans and specifications by the U.S. Corps of Engineers

B. Detailed Information on Shorefront Access and Protection Planning Procedures

A procedure for assessing public areas requiring access or protection is required under the Federal Shorefront Access and Protection Planning Rules (15 CFR 923.25(a)(1)). The Federal rules state that the procedure should consider:

(a) supply of existing public facilities and areas (including public recreation areas, scenic natural areas, threatened floral/faunal habitat, wetlands, bluffs, islands, historic, cultural or archeological artifacts, urban waterfronts, etc.);

(b) anticipated demand for future use of facilities (especially the recreation needs of urban residents, as well as environmental, esthetic or ecological preservation, protection of public use benefits, preservation of islands, and maintaining the value of existing public shorefront access facilities);

(c) capability and suitability of existing areas to support increased access; and

(d) description of appropriate types of access and/or protection in light of government and public preferences, resource capabilities and priorities (considering lateral and perpendicular physical access and visual access).

The purpose of the planning procedure is to develop a method which will allow for the eventual identification of specific areas of more than local concern for which provision of access through acquisition will be appropriate during program implementation. The rules further suggest that the State Comprehensive Outdoor Recreation Plan and the procedures for geographic areas of management concern be used to fulfill these requirements.

The Wisconsin Outdoor Recreation Program, Feasibility Studies for proposed project acquisition and development by the DNR, planning for harbor access under programs sponsored by the U.S. Corps of Engineers and DNR, and the new Wisconsin Harbors of Refuge Law will now be discussed as to their relation to the federal guidelines. Additional state policies and funding sources for shorefront access and protection are presented in parts III and V, respectively.

Wisconsin Outdoor Recreation Program

The purpose of the Wisconsin Outdoor Recreation Program is "to promote, encourage, coordinate and implement a comprehensive long-range plan to acquire, maintain and develop for public use those areas of the state best adapted to the development of a comprehensive system of state and local outdoor recreation facilities and services in all fields, . . . , and to facilitate and encourage the fullest public use thereof.

The outdoor recreation program is established as a continuing program to financially assist the state and local agency outdoor recreation program, including . . . public access, state park and forest recreation areas, fish and game habitat areas . . . highway scenic easements, state aids for local governmental parks and other outdoor recreational facilities, acquisition and development, state aids for county forest recreation areas development, related historic sites, . . . recreational planning . . ." (Section 23.30, (1) and (2), Wis. Stats.).

Funding for this program is provided by the Federal Land and Water Conservation Program (LAWCON) and the State Outdoor Resources Action Plan Program (ORAP). The Outdoor Recreation Program is implemented under the provisions of Chapter NR 50, Wisconsin Administrative Code.

Units of governments must meet certain planning requirements to be eligible for LAWCON and ORAP funds. The applicants are required to submit a comprehensive outdoor recreation plan for their area to the Department of Natural Resources which conforms to the state outdoor recreation plan; or applicants may qualify for eligibility if proposed projects are identified in approved plans of higher units of government (NR 50.03(1) and (4), Wis. Adm. Code). The State Outdoor Recreation Plan identifies state priorities for project by type and geographically.

Guidance for the creation of an acceptable outdoor recreation plan for county and local units of government is provided by the Department of Natural Resources Bureau of Planning.

It is recommended that the plan include the following sections:

1. Introduction - a description of the goals, scope and authority of the planning effort;

2. Summary - plan highlights including outstanding recommendations;

3. General characteristics of the plan area - including demographic information, transportation data, basic recreational resources, etc.;

4. Supply - including an inventory of all publicly and privately owned recreation areas and associated facilities available for public use, an assessment of the physical condition of these facilities, deficiencies of these areas, recreation areas outside the plan area that have a significant impact on the area, and potential recreation areas;

5. Recreation needs - a description of unsatisfied recreational demands by residents and nonresidents; and

6. Action program - a proposal to overcome the deficiencies in the recreational facilities of that municipality.

The six sections of this plan consider the required elements for shorefront access planning (supply, demand, capability/suitability of existing areas, description of appropriate types of additional facilities, and identification of specific access sites for which acquisition is appropriate).

The comprehensive outdoor recreation plan must project a recreation program for a minimum of five years. The plan must be formally approved by the municipality before eligibility for program funding can be established. Formal approval by a local unit of government entails some degree of public participation as required by an official action of any governing or administrative body in Wisconsin, such as public notice of meetings, open meetings, and publication of meeting proceedings. Revision of the plan must follow the same approval procedures as the original plan.

Many general provisions of the administration of Outdoor Recreation Program Grants and State Aids are relevant to the federal requirements for shorefront access and protection planning. The federal requirements suggest that the state consider such factors as environmental, esthetic or ecological preservation. Environmental quality is deemed to be essential and shall be preserved and enhanced by the Outdoor Recreation Program (NR 50.05(1), Wis. Adm. Code).

The federal rules require that the planning process include a description of appropriate types of access and protection taking into account governmental and public preferences, resource capabilities and priorities. This requirement is partially met by the Recreation Needs and Action Program sections of the comprehensive Outdoor Recreation Plan of a municipality. The requirement is also fulfilled by provisions in the Administrative Rules for the Outdoor Recreation Program which includes a listing of the types of projects which can be funded. Eligible projects fall into two categories: land acquisition and development.

Land acquisition projects eligible for assistance include: (1) areas with frontage on rivers, streams, lakes, estuaries and reservoirs that will provide water-based public recreation opportunities; (2) areas that provide special recreation opportunities such as flood plains, wetlands and areas adjacent to scenic highways; (3) natural areas and preserves and outstanding scenic areas where the objective is to preserve the scenic or natural areas, including areas of physical or biological importance and wildlife areas. These areas must be open to the general public for outdoor recreation use to the extent that the natural attributes of the areas will not be seriously impaired or lost; (4) land within urban areas for day use picnic areas . . . ; (5) land for recreation trails (NR 50.05(4), Wis. Adm. Code). Acquisition of lands which provide public access to navigable waters by means of water, road, trail or otherwise through the privilege of crossing public or private lands without involving trespass, is also eligible (NR 50.08(4)(a), Wis. Adm. Code).

Development projects eligible for assistance include: 1) observation and sight-seeing facilities such as overlooks, turnouts and trails; 2) boating facilities, such as launching ramps and docks; 3) picnic facilities; 4) camping facilities; 5) swimming, bathing and water sport facilities including beaches . . .; 6) fishing and hunting facilities, such as trails and fishing piers; 7) urban recreation areas; supporting facilities, including entrance and circulation roads, utility and sanitation systems, erosion control work, parking areas, toilet buildings and interpretive facilities where there is permanent professional naturalist staff and the facilities are on the land being used for nature interpretation; 8) renovation or development of an existing facility; 9) beautification of an area, such as . . . cleaning and restoration of areas which have been exploited, polluted, littered etc., . . .; 10) initial dredging for swimming beaches and boat launching ramps where it is necessary to make the area useable (NR 50.05(7), Wis. Admin Code). In addition to these general types of development projects, public access site development projects generally include parking areas, boat launching ramps and may include safety, health and protection of the area as well as the facilities required for the use of the area (NR 50.08(4)(b), Wis. Admin. Code).

Priorities are given to projects which meet urban needs (an additional consideration under the federal requirements for shorefront access planning), to activities of the general public over those for a limited group, to basic over elaborate facilities, to participant over spectator type facilities, to projects not having other public or private funds available to them, where a scarcity of recreation land exists, and to acquisition over development. Projects which may enhance or preserve natural beauty are encouraged (NR 50.06(4), Wis. Admin. Code). The 1977 State Comprehensive Outdoor Recreation specifies additional priority considerations including public access to the Great Lakes.

In addition to these general guidelines, the primary objective of the state access aid program is to provide public access where needed and none exists. Where access exists but is inadequate, improvement will be considered as a lower priority. Each access project must have a demonstrable public interest and need (NR 1.92(6), Wis. Admin Code). Priority is given to large lakes greater than 1000 acres of surface area and important stream sytems (NR 50.08(5), Wis. Admin. Code).

After establishing eligibility to receive funds under the Outdoor Recreation Program a municipality meets with the DNR District Recreation Aids Specialist to discuss the merits of a potential project in light of community and state needs, state policy and priorities, and availability of funds. An environmental impact assessment is conducted for each project which evaluates the primary and secondary impacts including factors such as transportation requirements. To minimize bureaucratic procedures, applications are prepared only for those projects which are likely to receive funding.

The level of funding available to local units of government for planning, acquisition and development is limited and highly competitive. The LAWCON and ORAP funds are divided between counties, state agencies and contingency funds. State agencies receive 40% of the funds. Counties receive 40% of the funds. The contingency fund is the remaining 20% of the allocation. Of the 40% allocated to counties, 30% is divided on an equal basis and 70% is divided on the basis of population. Thus a relatively small amount of the funding is available to the Lake Superior Counties.

Perhaps one of the most constructive roles that the Coastal Program can play with respect to providing public access and protection is to cover some of the costs associated with LAWCON/ORAP project planning. Although many of the project planning costs such as feasibility studies, site planning and engineering services are reimbursable items under LAWCON/ORAP funding, these expenditures can use a large amount of money which could better be used for acquisition and development. Acquisition and development funds aren't currently available through the Coastal Program. The submission of refined project proposals could enhance the opportunity for coastal projects to receive a larger share of a county's allocation.

Feasibility Studies by the Department of Natural Resources

A different planning procedure is used by the Department of Natural Resources (DNR) in developing proposals for land acquisition and development of facilities. A preliminary proposal is introduced for consideration by the Natural Resources Board. If the Board is interested in the project it will authorize the preparation of a feasibility study. The feasibility study is used to factually determine the need, desirability and suitability of a given area for DNR property establishment. Consideration is given in the plan to the State Comprehensive Outdoor Recreation Plan and all other DNR plans, the services provided by private enterprise, and to the responsibilities of local units of government. Potential projects are rated for the type of use they will receive, such as Wildlife, Fisheries (including access), Recreation, State Forests, State Parks, Wild Resources, and Scientific Areas, and Abandoned Railroad Grades. Examples of the criteria used to rate particular types of areas are given below.

Criteria for Fishery Access Areas -

a. Anticipated public use of the proposed area
b. Ranking area for needs according to NR 1.90, Wis. Adm. Code
c. Explanation of need
d. General proposal for Lake Management (especially for inland lakes)

Criteria for Recreation Areas -

a. Area is environmentally adaptable to intensive recreation uses
b. Located so as to provide regional recreational opportunities for urban areas
c. Transportation now available or potentially available to provide access to the area
d. Area meets regional and statewide needs
e. Area is accessible to large numbers of potential users

Costs for the proposed project acquisition, development, operation and maintenance, local attitudes, adjacent land uses, ownership, zoning, pollution problems, and alternatives are also discussed.

The completed feasibility study must be approved within the DNR, the Secretary's Office and then submitted to the Natural Resources Board. If the Board approves the feasibility study, it is forwarded to the Governor for approval, the Environmental Impact Assessment Process is initiated, public hearings are held, the project land appraisal is completed, and the Master Plan is developed. Approvals by the Board and Governor are preliminary, pending completion of the property master plan and environmental impact process.

Harbor Planning

The need for harbors of refuge and marinas along Wisconsin's Great Lakes shoreline has been documented in numerous studies (see Neuman, 1976, Public Access to the Great Lakes, Wis. DNR, for a summary of these studies). The development of harbors is primarily limited by the adequacy of sites and the availability of funding. Recognizing these limitations, current harbor planning is directed toward detailed feasibility studies initiated after local cooperation for funding is expressed.

The Preliminary Feasibility Report on Harbors Between Kenosha and Kewaunee is an example of one of the studies establishing needs for harboring access. The report was prepared by the U.S. Army Corps of Engineers and quantifies the need for recreational boating facilities in the study areas; quantifies the capacity of existing facilities to satisfy the needs, develops and analyzes alternatives to satisfy the remaining needs; identifies the costs, benefits and other significant adverse and beneficial impacts of the alternatives considered; specifies the cost sharing and division of responsibilities between federal and nonfederal interests for the actual development of harbors (under section 107 of the 1960 Rivers and Harbors Act); and concludes that more detailed investigation of individual harbor sites is necessary before harbor development can proceed. Detailed feasibility studies will only be conducted if the local government body provides preliminary assurances of local cooperation and interest in developing the harbor, if a project is recommended after detailed study.

To expedite the development of small craft harbors by the U.S. Corps of Engineers and local units of government, the Department of Natural Resources obtained a grant from the Upper Great Lakes Regional Commission to prepare detailed feasibility studies for Ashland, Cornucopia, Port Wing and Kewaunee. These studies provide information on environmental, economic, physical, transportation and engineering aspects of small craft harbor development.

Section 107 of the 1960 Rivers and Harbors Act provides authority for the Army Corps of Engineers to develop and construct small navigation projects that have not already been specifically authorized by Congress. These projects are a joint venture between the Army Corps of Engineers and the local unit of government. A project is undertaken only after the Corps receives assurance that the local unit of government will cooperate and meet its share of the costs. A reconnaissance study, followed by a detailed feasibility study, is prepared before actual engineering plans and specifications are developed.

Wisconsin Harbors Refuge Law

New legislation relating to shorefront access planning was signed into law in April 1978. Chapter 274, Laws of 1977 creates a Wisconsin Waterways Commission and establishes programs for financial and technical assistance to local governments for the development of recreational facilities. The Waterways Commission will:

1. Study the need for recreational boating facilities and boating safety programs;

2. Study the engineering, economic and environmental feasibility of proposed projects;

3. Establish a priority list for proposed projects; and

4. Approve DNR actions in developing and administering the financial assistance programs.

Planning procedures for the implementation of this program will be established during the summer of 1978.

II. Beach Definition

Federal regulations require definition of the term "beach" to aid in the identification of those existing public beach areas requiring further access and/or protection as part of the State's Coastal Management Program (15 CFR 923.25(a)(2)). For the purpose of this program, beach will be defined very broadly as land adjacent to a body of water. Under this broad definition, both sand and nonsand areas are included. The Wisconsin Great Lakes shoreline includes a variety of physical elements: bluffs or unconsolidated materials, bedrock outcroppings, wetlands and sandy areas. Since many of these areas have environmental, recreational, historical, aesthetic, ecological and cultural values, a broad definition is necessary. Islands are also included in this definition.

Public areas which meet this broad definition of beach include state owned lands adjacent to the Great Lakes and its estuaries, other shorelands in public ownership, and areas which are covered by easements to provide access to the Great Lakes and its estuaries by the public. Since the physical characteristics and public values of beach areas are unique, physical boundaries of each beach area can only be defined on an individual case-by-case basis.

Lands between the OHWM and the water's edge are not considered to be public areas. These areas have been interpreted by the Wisconsin Supreme Court to be exclusively for riparian use (Doemel v. Jantz, 180 Wis. 225).

Beach is broadly defined as land adjacent to a body of water to meet the full spectrum of Wisconsin's access and protection needs (ramp, harboring, shore, pier and visual access, protection of wetlands, fish and wildlife habitat, erosion hazards, cultural, historical, aesthetic, recreational, ecological, and environmental values). Under this definition essentially the entire Wisconsin Great Lakes shoreline, whether an urban waterfront, a wetland, or a forested area on a bluff overlooking Lake Superior, is potentially eligible to meet the needs of the public for access and protection. It will be the responsibility of local units of government and authorized state agencies to meet these needs by utilizing the procedures described herein. The broad definition of beach as land adjacent to a body of water without delineating a landward boundary provides flexibility to Wisconsin in meeting the Coastal Management Program objectives in the coming years. Under this definition the current policy of case-by-case definition of access area boundaries is possible. However, the option remains under this definition for future legislative action which would redefine the state access policy towards acquisition of a public right-of-way corridor along the Great Lakes shoreline.

III. Enforceable State Policies

Articulation of enforceable State policies pertaining to shorefront access and protection is required under the Federal Shorefront Access and Protection Planning Rules (15 CFR 923.25(a)(3)).

The federal guidelines define shorefront access and protection to include physical access (beaches, trails, parking facilities, ferry services, etc.), visual access (waysides, zoning restrictions, etc.), environmental esthetic or ecological preservation (protection from overuse, mitigation of erosion, etc.), protection of public use benefits (recreational, historic or cultural uses), preservation of islands, and other protection necessary to maintain environmental, recreational, historic, esthetic, ecological or cultural values of existing public shorefront attractions (CFR 923.25(c)).

All of these issues are closely related to the overall goal of the Wisconsin Coastal Program. The goal is directed towards coastal area preservation, protection, development, restoration and enhancement.

This goal is supported by existing state policies. These policies and consideration of the national interest are explained in the State of Wisconsin Coastal Zone Management Program and Final Environmental Impact Statement. The following inventory of coastal policies is taken directly from the aforementioned document. The policies are grouped into seven issues: (1) coastal water and air quality; (2) coastal natural areas, wildlife habitat, and fisheries; (3) erosion and flood hazard areas; (4) community developmentl (5) economic development; (6) governmental interrelationships; and (7) public involvement.

Listed with each issue are general policies, specific policies citing statutory authorities, and relation to the implementation of the Coastal Program including Managed Uses; Geographic Areas of Management Concern, and other Program Activities.

COASTAL ISSUES, POLICIES, AND RELATED GAMC'S AND MANAGED USES

ISSUE 1: COASTAL WATER AND AIR QUALITY

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
1. Coastal Water and Air Quality	General Policies: 1.0 The state policy on coastal water quality shall be to improve the quality and management of the waters of the coastal area; to restore the chemical, physical and biological integrity of its waters; to protect public health, safeguard aquatic life and scenic and ecological values; and to enhance the domestic, municipal, recreational, industrial, agricultural and other uses of water. The state policy on coastal air quality shall be to improve the quality of the air resource through restricting any new air contaminant source and restricting the discharge of hazardous pollutants.		
Specific Issues: 1. The Great Lakes are used for disposal of industrial, shipping and municipal wastes. Non-point sources of pollution, such as agricultural runoff, runoff from construction sites, sedimentation and shore erosion, compound water quality problems.	Specific Policies: 1.1 The elimination of the discharge of pollutants to water shall be the long-range goal of the state. (Federal Water Pollution Control Act Ammendments of 1972, P.L. 92-500 and Wis. Stats. Section 147.01(1)(a)). 1.2 An interim goal is the protection and propagation of fish and wildlife and the maintenance of water quality to allow recreation in and on the water to be achieved by 1983. (Wis. Stats. Section 147.01(1)(b)). 1.3 Discharges of effluents, including industrial, municipal and agricultural wastes, into any waters of the state shall not be allowed if they exceed federal and state water quality standards. (Wis. Stats. Sections 147.015(3) and 147.02, and Wis. Admin. Code NR 221 to 297). 1.4 Disposal in the waters of the state of certain defined pollutants shall be restricted. (Wis. Stats. Section 147.015 (3), 147.02(1), 29.288 and 29.29). 1.5 Water quality standards for rivers emptying into the Great Lakes shall be as high as is practicable. (Wis. Stats. Section 144.025).	Water Based 1 h. Discharges of effluents into coastal waters. (Wis. Stats. Section 147.02, 147.015, 147.02 (3), and Wis. Admin. Code NR 102, 103, 104, 200, 217, and 221 to 297). 1 i. Placing refuse in coastal waters. (Wis. Stats. Section 29.288 and 29.29 (3) and Chapter 144). Land Based 2 c. Siting electrical generating and high voltage transmission facilities. (Wis. Stats. Section 196.491(3)(d)4). 2 d. Constructing sewer and water utility facilities. (Wis. Stats. Section 144.04 and Wis. Admin. Code NR 108.04 and 110).	

ISSUE 1: COASTAL WATER AND AIR QUALITY (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	1.6 Municipalities shall provide, at a minimum, secondary treatment and effluent disinfection. (1972 P. L. 92-500, Wis. Stats. Section 147.04(3)(a) and Wis. Admin. Code NR 102.04). 1.7 Phosphorus removal from sewage shall be required in municipalities with 2,500 people or more that discharge treated water into Lakes Michigan and Superior and their tributaries. (Wis. Admin. Code NR 102.04). 1.8 Sewer extensions shall be allowed only where adequate treatment capacity exists. (Wis. Admin. Code NR 110.05). 1.9 Thermal discharges shall not raise the receiving water temperatures more than 3°F above the existing natural temperature at the boundry of mixing zones. (Wis. Admin. Code NR 102.05).		
2. The increasing presence of toxic substances in the Great Lakes is emerging as a serious water quality problem and health hazard.	1.10 The discharge of toxic pollutants in toxic amounts shall be prohibited. (Wis. Stats. Section 147.01(1)(c)). 1.11 Discharge of inorganic mercury compounds and metallic mercury to the waters of the state shall be regulated and restricted. (Wis. Stats. Section 144.423 and Wis. Admin. Code NR 100.02). 1.12 The sale, distribution, storage, use and disposal of pesticides shall be regulated to protect the public from injury and wild animals from serious hazard. (Wis. Stats. Sections 94.69 and 29.29(4)).	Water Based 1 h. Discharges of effluents into coastal waters. (Wis. Stats. Sections 147.02, 147.015(13), 147.02(3), and Wis. Admin. Code NR 102, 103, 104, 200, 217, and 221 to 297). Land Based 2 p. Using pesticides. (Wis. Stats. Sections 15.195(1), 29.29(4), 94.69, 140.77, 134.67, and Wis. Admin. Code AG 29 and NR 80).	

ISSUE 1: COASTAL WATER AND AIR QUALITY (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
3. Inadequate or malfunctioning private waste or septic systems have created another water quality problem and have caused localized public health problems.	1.13 Lots not served by public sewer shall have area and width restrictions. Based on soil tests, area for one sewage absorption field and area for one replacement system shall be provided. Location of septic tanks near navigable waters shall be restricted. (Wis. Stats. Chapter 236, and Wis. Admin. Code H 62.20, 65, and NR 115).	Land Based 2 e. Using private waste treatment and disposal facilities. (Wis. Stats. Sections 60.315 and 145.045, and Wis. Admin. Code H 62.20 and NR 113). 2 l. Platting subdivisions that create 5 or more lots of 1½ acres or less. (Wis. Stats, Chapter 236 and Wis. Admin. Code H 65).	
4. A number of coastal communities rely on the Great Lakes for their water supply. However, increasing urbanization and industrialization threaten municipal water supplies by making the water unsafe for consumption.	1.14 The state shall establish, administer and maintain a safe drinking water program no less stringent than the requirements of the safe drinking act of 1974, P.L. 93-523. (Wis. Stats. Section 144.025(2)(t)).	Water Based 1 j. Obtaining drinking water. (Wis. Stats. Sections 144.025(2)(e), 144.04, 147.02, 162.01 and 196.02(1), and Wis Admin. Code NR 111 and 112). Land Based 2 o. Obtaining drinking water. (Wis. Stats. Sections 144.025(2)(e), 144.04, 147.02, 162.01 and 196.02(1), and Wis. Admin. Code NR 111 and 112).	
5. High water quality, including its aesthetic qualities, must be maintained to allow recreational use of the Great Lakes to continue.	(Increased pollution and, in some areas erosion and siltation, affect the use of the Great Lakes as a recreational resource; see the first Issues and Problems section in this Issue area for the related policy statements, managed uses and GAMC's).		

ISSUE 1: COASTAL WATER AND AIR QUALITY (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
6. Summertime ozone concentrations and the emission of sulfer into the air are Wisconsin's primary air quality problems. 7. The level of particulates suspended in the air is recognized as a principal statewide air quality problem. 8. Air quality affects water quality, in that up to 25% of the particles in air will settle out or be washed by rain into the Great Lakes.	1.15 No new air contaminant source shall be permitted to be constructed, installed or established which directly or indirectly emits air contaminants that make the air injurious to health, harmful for commercial or recreational use or deleterious to fish, bird, animal or plant life, without complying with federal and state air quality standards. (Wis. Stats. Sections 144.30 and .39 and Wis. Admin. Code NR 154 and 155). 1.16 Hazardous pollutants shall not be discharged into the ambient air in such quantity, concentration or duration as to be injureous to human health and plant or animal life. (Wis. Admin. Code NR 154 and 155).	Land Based 2 n. Emitting air pollutants from point sources. (Wis. Stats. Sections 144.30(1) and (2), 144.30 to 144.46, and NR 154 and 155).	
	PROGRAM ACTIVITIES 1.17 The program will provide financial assistance to improve implementation and enforcement on existing water and air quality programs where gaps or weaknesses are identified, with emphasis on (a) on-site waste disposal; (b) disposal of hazardous substances; (c) disposal of dredge spoils; and (d) coordination and air quality monitoring. 1.18 The program will encourage consideration of water, air and noise pollution in the development of plans and proposals for program funding. 1.19 The program will perform advocacy functions in monitoring and reviewing changes and additions in water and air quality programs and regulations which impact on coastal resources and people. 1.20 The program will support public awareness and research of (a) factors affecting Great Lakes water quality and supply, with emphasis on the trans-lake shipment of oil and other energy resources; (b) the unique climatic characteristics and limitations of coastal air resources; (c) air as a transmitter of pollutants to Great Lake waters, and (d) the impact of noise on the natural, cultural, and social environment.		

ISSUE 2: NATURAL AREAS, WILDLIFE HABITATS AND FISHERIES

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
2. Natural Areas, Wildlife Habitats and Fisheries	General Policies 2.0 The policy of the state is to conserve and enhance the natural land and water resources of the State by: a. Designating and managing special areas of the State, including scientific areas, state parks, state forests, state wildlife areas, so as to protect and enhance fish and wildlife habitat, forest resources, lakes and streams, recreation resources, and endangered plant and animal species; b. Providing special management attention to the conservation and enhancement of Great Lakes Fisheries resources, by conducting fish rearing, fish stocking, and fisheries research programs; by regulating sport and commercial fishing; by designating certain portions of the Great Lakes as fish habitat protection areas; c. Ensuring that the following activities that are engaged in or are subject to regulation by state agencies are conducted so as to minimize the destruction or degradation of coastal wetlands and to preserve the natural and beneficial values of coastal wetlands and the public interest therein. These activities include: 1) the acquisition, management and disposition of state lands and facilities; 2) construction activities assisted by or directly undertaken by state agencies; and 3) regulation of land and water uses in coastal wetland areas.		

ISSUE 2: NATURAL AREAS, WILDLIFE HABITATS AND FISHERIES (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
Specific Issues: 1. Coastal natural areas, which include forests, lakes, streams, swamps, bogs, and marshlands, are in an increasingly tenuous position. The problem is particularly acute on Lake Michigan, where development threatens to invade the few extensive natural areas left. The same pressures threaten some of the state's coastal farmlands.	Specific Policies: 2.1 State scientific areas, designated for purposes of scientific research, teaching of conservation and natural history, preservation of biotic communities and archeological sites, shall be disturbed as little as possible. (Wis. Stats. Section 23.27 and Wis. Admin. Code NR 45.23). 2.2 State parks are to be established for public recreation and education. These parks will be managed to protect these values and their most logical employment and greatest usefulness. (Wis. Stats. Section 27.01(1) and (2)). 2.3 State forests shall be primarily used for silviculture and growing of recurring forest crops. Recognizing the value of multiple use, they can be designated also for preservation with natural areas receiving a high degree of protection or for recreation with appropriate facilities. (Wis. Stats. Section 28.04). 2.4 Taxation of agricultural land and undeveloped land need not be uniform. Farmland shall be eligible for tax credits through an approved farmland preservation agreement if there is local adoption of approved farmland preservation plans and/or approved exclusive agricultural zoning ordinances meeting state standards. (Article VIII, Sec. 1 of the Wis. Constitution, Wis. Stats. Section 71.09(11), and Chapter 91). 2.13 Natural areas are protected through mandatory county shoreland regulation standards and criteria for unincorporated areas. Building development and uses are limited, special use permits are restricted to qualified activities, and tree cutting regulations are applicable for those areas designated as wetlands. (Wis. Admin. Code NR 115). Also see Issue Area 4--Community Development.	Land Based 2 m. Using rural shorelines. (Wis. Stats. Sections 59.971, 144.26 and Wis. Admin. Code NR 115).	1) Areas of significant natural, scientific, or historical value. 5) Areas for preservation are those natural, scientific, historic, and cultural areas whose unique values warrant preservation.

ISSUE 2 : NATURAL AREAS, WILDLIFE HABITATS AND FISHERIES (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
2. Coastal vegetation and estuaries provide wildlife habitats that are increasingly threatened by pressures similar to those that threaten natural areas.	In addition to the above: 2.5 Hunting is prohibited in state parks except for selective game management of deer. (Wis. Admin. Code NR 10.27). 2.6 State wildlife areas shall be managed for wildlife habitat and public hunting. (Wis. Stats. Section 23.09(2)(d)3). 2.7 The sale, processing and distribution of fish, wildlife and plant life designated by the state and/or the U.S. as endangered, native and foreign species is prohibited. (Wis. Admin. Code NR 27). 2.13 Habitat areas are protected through mandatory county shoreland regulation standards and criteria for unincorporated areas. Building development and uses are limited, special use permits are restricted to qualified activities, and tree cutting regulations are applicable for those areas designated as wetlands. (Wis. Admin. Code NR 115). Also see Issue Area 4--Community Development.	Water Based 1 h. Discharges of effluents into coastal waters. (Wis. Stats. Sections 147.015(13), 147.02, 147.25 and Wis. Admin. Code NR 102, 103, 104, 200, 217, and 221 to 297). Land Based 2 m. Using rural shorelines. (Wis. Stats. Sections 59.971, 144.26, and Wis. Admin. Code NR 115).	1) Areas of significant natural, scientific, or historical value. 5) Areas for preservation are those natural, scientific, historic, and cultural areas whose unique values warrant preservation.
3. Great Lakes fisheries are endangered due to poor water quality and the presence of toxic substances. There is also a need for adequate protection of spawning grounds.	2.8 Special regulations are applicable to designated state trout streams. (Wis. Stats. Section 30.19 and Wis. Admin. Code NR 102). 2.9 State fish management areas shall be designated and managed to assure protection and perpetuation of all species, foster and promote the preservation of required habitat for all species. (Wis. Admin. Code NR 1.01). 2.10 State fish management easements shall provide public access for public fishing. A permit will be required in these areas for removal of trees, shrubs, altering topography and erecting new structures. (Wis. Stats. Section 23.09(2)(d)). 2.11 The state shall create and maintain a sport fishery through programs of fish breeding, rearing, and stocking, and resources research. (Wis. Stats. Section 23.09 and Wis. Admin. Code NR 1.01).	Water Based 1 k. Harvesting fish for commerce or sport. (Wis. Stats. Sections 29.01, 29.085, 29.09, 29.30 and 29.33, and Wis. Admin. Code NR 20).	1) Areas of significant natural, scientific, or historical value. 5) Areas for preservation are those natural, scientific, historic, and cultural areas whose unique values warrant preservation.

ISSUE 2: NATURAL AREAS, WILDLIFE HABITATS AND FISHERIES (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	2.12 Sport and commercial fishing shall be regulated and commercial fishing shall be prohibited in designated state fish refuges. (Wis. Stats. Section 29.085, 29.14, 29.145, 29.166, 29.30, 29.33, and 29.36 and Wis. Admin. Code NR 26.23).		
	PROGRAM ACTIVITIES 2.14 The program will provide financial assistance to improve the implementation and enforcement of existing programs which manage uses with a significant impact on the coastal environment where gaps or weaknesses are identified. Particular attention would be given to Great Lakes fisheries resources, coastal wetlands, and other areas of natural and scientific value. 2.15 The program will support local and state agency efforts to identify and designate areas of significant natural and scientific value and develop specific management policies for each area. 2.16 The program will provide financial and technical assistance to state and local agencies to implement the specific management policies for these designated areas. 2.17 The program will support the accelerated collection of data on soils, geology, hydrology, topography, and other where needed for coastal management decisions. 2.18 The program will support public awareness and education efforts tied to areas of significant natural and scientific value.		

ISSUE 3: COASTAL EROSION AND FLOOD HAZARD AREAS

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
3. Coastal Erosion and Flood Hazard Areas	General Policies: 3.0 It is the state's policy to mitigate risks to public health and safety and risks of property damage in areas subject to natural hazards by: a. Providing that all development in areas subject to serious flooding will not materially alter the natural capacity of the lake or river so that the magnitude of floods will be intensified, or expose citizens to hazards or cause future public expenditures for flood disaster relief. b. Regulating those earth moving, devegetation, and construction activities now reviewed by State agencies so as not to accelerate the rate of shoreline erosion or bluff recession.		
Specific Issues: 1. A number of shore properties have suffered and are facing severe property damage due to shore erosion. 2. Shore erosion and sedimentation can damage lake aesthetics, may damage fish habitat and may increase water treatment maintenance and dredging costs.	Specific Policies: 3.2 Within unincorporated areas a setback of 75 ft. from the ordinary high water mark shall be required, unless an existing development pattern exists. (Wis. Stats. Sections 54.971 and 144.26, and Wis. Admin. Code NR 115). 3.5 Rip rap or other similar material for protecting stream banks or lake shore from erosion shall not materially impair navigation or damage fish and game habitat. (Wis. Stats. Section 30.12(2)(b)).	Water Based 1 g. Placing structures upon the bed of the Great Lakes or other navigable coastal water. (Wis. Stats. Section 30.12(1) and (2)). Land Based 2 a. Grading or removing top soils which disturbs 10,000 sq. feet or more of the banks of the Great Lakes or other navigable coastal water. (Wis. Stats. Sections 30.19 and 144.30(9)). 2 m. Using rural shorelands. (Wis. Stats. Sections 59.971 and 144.26, and Wis. Admin. Code NR 115).	3) Hazard areas are those areas prone to sever erosion and/or flooding that may impose danger to public use or substantial immediate or future public costs.

ISSUE 3: COASTAL EROSION AND FLOOD HAZARD AREAS (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
3. Flooding is a serious concern along the west and south shores of Green Bay. Serious flooding has caused localized hazards to safety as well as property damage.	3.1 Counties, cities and villages shall adopt reasonable and effective flood plain zoning ordinances for those parts of their jurisdiction subject to serious flood damage. These ordinances shall provide that no buildings be constructed in floodways and that inconsistent development be prohibited in flood plains. (Wis. Stats. Section 87.30 and Wis. Admin. Code NR 116). 3.2 Within unincorporated areas a setback of 75 ft. from the ordinary high water mark shall be required, unless an existing development pattern exists. (Wis. Stats. Sections 54.971 and 144.26, and Wis. Admin. Code NR 115). 3.3 Solid waste disposal sites and facilities are prohibited in floodplains and within the jurisdiction of shoreland regulations. (Wis. Stats. Section 144.045 and Wis. Admin. Code NR 115). 3.4 Subdivision plats, buildings, structures, roads, sanitary or other facilities which are reviewed by state agencies and which are in existing and potential flood hazard areas shall be prevented from exposing citizens to unnecessary hazards or cause future public expenditures for flood disaster relief. (Executive Order No. 67).	Land Based 2 b. Placing structures in flood prone areas. (Wis. Stats. Section 87.30 and Wis. Admin. Code NR 116). 2 m. Using rural shorelands. (Wis. Stats. Sections 59.971 and 144.26, and Wis. Admin. Code 115).	3) Hazard areas are those areas prone to sever erosion and/or flooding that may impose danger to public use or substantial immediate or future public costs.
4. Fluctuating lake levels, increasing erosion during periods of high water, is one of Wisconsin's most visible coastal problems.	Control of lakes is beyond the reach of any state program and can only be addressed in a limited sense by international bodies. (See coastal program activities).		

ISSUE 3: COASTAL EROSION AND FLOOD HAZARD AREAS (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	PROGRAM ACTIVITIES 3.6 The program shall support local and state efforts to identify and designate hazard areas as areas of special management concern and develop specific management policies for each and shall provide financial and technical assistance to local and state agencies to implement those policies for designated areas. 3.7 The program shall support research and public education on the dangers associated with these hazards in the form of technical analysis of data, and recommendations for structural and non-structural alternatives to alleviate erosion impacts, coordinating fully with the UW-Sea Grant College Program, the Wisconsin Geologic and Natural History Survey, and the Department of Natural Resources and soil and water conservation districts. 3.8 The program shall advocate and coordinate Wisconsin concerns about flood and erosion hazards with the Flood Insurance Administration of the U.S. Department of Housing and Urban Development and the U.S. Army Corps of Engineers.		

ISSUE 4: COMMUNITY DEVELOPMENT

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
4. Community Development	General Policies: 4.0 The state's policy on coastal community development shall be to ensure the orderly and balanced development of coastal communities, giving full consideration to economic, ecological, human resource, cultural, historic, recreational, aesthetic values, and existing and future needs by: a. Requiring local ordinances that ensure the efficient use, conservation, development and protection of the state's coastal resources in rural areas; b. Ensuring that subdivisions are laid out in an orderly fashion, are properly surveyed, and make adequate provision of public access to coastal waters; c. Ensuring that the state's significant historic, archetectural and archeological resources are identified, recognized and protected in all state activities and that efforts are undertaken to ameliorate any potential advese effects caused by state action. d. Designating and aiding in the restoration of blighted water front areas so as to protect and enhance public safety, aesthetics, and economic well-being; e. Acquiring additional recreational lands in heavily populated areas of the state; and f. Ensuring that shoreland alterations are not detrimental to fish and wildlife habitat, navigation, flood flow capacity or the public interest.		

ISSUE 4: COMMUNITY DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
Specific Issues: 1. There is a need for balanced community growth to reduce wasteful sprawl development, assure the adequate provision of community services and protect aesthetic values. This need is particularly strong in rural, largely undeveloped areas.	Specific Policies: 4.1 All coastal counties shall adopt and enforce management programs for all unincorporated coastal shorelands. These programs shall: maintain safe and healthful conditions; prevent and control water pollution; protect fish and aquatic life, particularly spawning grounds, control land uses, placement of structures, and building sites; reserve and protect shore cover; and protect natural beauty. (Wis. Stats. Sections 59.971 and 144.26 and Wis. Admin. Code NR 115). 4.2 All subdivisions creating five or more lots of one and one-half acres or less within a five year period shall meet state standards on surveying, lot size and street width and connections. (Wis. Stats. Chapter 236, and Wis. Admin. Codes LAD 1,2, H 65, and Hy 33). 4.3 Grading or exposing top soil in excess of 10,000 sq. feet on the banks of any body of navigable water shall not be permitted if it contaminates or renders unclean or impure the air, land or waters of the state, is deleterious to fish, bird, animal or plant life or habitat, or materially injures the rights of riparian owners. (Wis. Stats. Sections 30.19 and 144.30(a)).	Land Based 2 a. Grading or removing top soil which disturbs 10,000 sq. ft. or more of the banks of the Great Lakes or other navigable coastal water. (Wis. Stats. Sections 30.19 and 144.30(a)). 2 l. Platting subdivisions that create five or more lots of 1½ acres or less. (Wis. Stats. Chapter 236). 2 m. Using rural shorelines. (Wis. Stats. Sections 59.971, 144.26 and Wis. Admin. Code NR 115).	
2. The increasing economic and physical development of the coastal area is threatening to alter or destroy areas of historic, cultural, and archeological significance; still other areas face continued decay as a result of neglect.	4.4 The State Historical Society shall engage in a comprehensive program of historic preservation for the education, inspiration and enrichment of citizens. This program shall include preparation of a state historical plan, provision of technical assistance to local governments, and conduct a survey to identify and document historic properties. (Wis. Stats. Section 44.22).	Land Based 2 f. Developing state owned facilites. (Wis. Stats. Section 13.48, 20.710, 20.924 and Chapter 18).	1) Areas of significant natural, scientific, or historical value. 5) Areas for preservation are those natural, scientific, historic, and cultural areas whose unique values warrant preservation. 6) Areas for restoration are those areas that should be restored to an earlier or improved condition.

ISSUE 4: COMMUNITY DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	4.5 The state long-range public building program shall recognize the importance of historic properties and may include a program of preservation and restoration of those historic properties under state control. (Wis. Stats. Section 44.22). 4.6 The State Historical Society shall review and comment upon the actions of any state agency that may have an adverse effect upon historic properties, and shall seek the amelioration of any adverse effects. (Wis. Stats. Sections 1.11 and 44.22).		
3. In some communities waterfronts suffer from safety hazards and blight due to obsolescent structures or waterfront deterioration.	4.7 State aesthetic resources shall be protected and enhanced through the regulation of billboards, the screening of junkyards, the purchase of scenic easements, the development of parkways, and the establishment and operation of a Rustic Roads program. (Wis. Stats. Sections 83.42, 84.09, 84.105, 84.30 and 84.31).	Land Based 2 q. Using outdoor advertising. (Wis. Stats. Sections 86.19, 86.191 and 84.30).	6) Areas for restoration are those areas that should be restored to an earlier or improved condition.
4. The demand for public access to the lakes has outstripped the supply, especially in urban areas. There is a need for expanded and improved recreational facilities and services.	4.8 Public access of at least 60 feet width shall be provided at not less than one-half mile intervals by all subdivisions abutting navigable lakes or streams. Once provided, public access to navigable waters shall not be discontinued without state approval. (Wis. Stats. Sections 80.41 and 236.16(3)). 4.9 The state shall establish a state park system and shall give principal emphasis to the acquisition of recreational lands in the heavily populated areas of the state and in places readily accessible to such areas. (Wis. Stats. Sections 23.09, 23.091, 27.01 and Wis. Admin. Code NR 1.04). 4.10 Local communities shall be encouraged to provide local recreational and educational opportunities. (Wis. Stats. Section 23.30).	Land Based 2 1. Platting subdivisions that create five or more lots of 1½ acres or less. (Wis. Stats. Chapter 236).	1) Areas of significant natural, scientific, or historical value.

ISSUE 4: COMMUNITY DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED AMC's
5. Community development frequently requires shoreland alterations. If not properly carried out, such activities may disturb water quality, disrupt fish and wildlife habitats, obstruct navigation or increase shore erosion rates.	4.3 Grading or exposing top soil in excess of 10,000 sq. feet on the banks of any body of navigable water shall not be permitted if it contaminates or renders unclean or impure the air, land or waters of the state or makes the same injurious to public health or harmful for commercial or recreational use, is deleterious to fish, bird, animal or plant life or habitat, or materially injures the rights of riparian owner. (Wis. Stats. Sections 30.19 and 144.30(a)). 4.11 Dredging, filling, placing structures upon, and removing materials from the bed of navigable waters shall not be allowed if it damages the public interest, is deleterious to fish or game habitat, materially obstructs navigation or reduces effective flood flow capacity. (Wis. Stats. Sections 30.12 and 30.20). 4.12 Enlarging the course of a navigable water, constructing an artificial waterway, canal, ditch, lagoon, pond, lake or similar waterway or connecting an artificial waterway with an existing body of navigable water shall not be allowed if it damages the public's interest in the waters, is deleterious to fish or game habitat, materially obstructs navigation, or reduces effective flood flow capacity. (Wis. Stats. Section 30.19).	Water Based 1 a. Removing materials from lake beds. (Wis. Stats. Sections 30.20(2)(a) and (c)). 1 b. Mining of metallic minerals. (Wis. Stats. Sections 144.80 to .94, 24.39 and Wis. Admin. Code NR 130 and 131). 1 c. Enlarging the course of a Great Lake or other navigable coastal water. (Wis. Stats. Section 30.19). 1 d. Constructing an artificial waterway within 500 feet of a Great Lake or other navigable coastal water. (Wis. Stats. Section 30.19(1)(a)). 1 e. Connecting an artificial waterway to a Great Lake or other navigable coastal water. (Wis. Stats. Section 30.19(1)(b)). 1 f. Depositing any materials in the Great Lakes or other navigable coastal water. (Wis. Stats. Sections 30.12 and 30.11(2)). 1 g. Placing any structures upon the bed of the Great Lakes or other navigable coastal water. (Wis. Stats. Sections 30.12(1) and (2)). Land Based 2 a. Grading or removing top soil which disturbs 10,000 sq. feet or more of the banks of the Great Lakes or other navigable coastal water. (Wis. Stats. Sections 30.19 and 144.30(9)).	2) Areas especially suited for water related economic development.

ISSUE 4: COMMUNITY DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	PROGRAM ACTIVITIES 4.13 The program will provide financial and technical assistance to local governments to improve their coastal management capabilities, with emphasis on staff training, ordinance revision, data collection and analysis, and county shoreland zoning. 4.14 The program will provide financial assistance to local governments to implement the specific management policies of designated areas. 4.15 The program will support local governmental efforts to identify and designate areas of significant natural, recreational, scientific, cultural, or historic value and develop specific management, preservation or restoration policies for each area, with emphasis on recreation access and blight. This effort will be coordinated with the program referenced in policy 4.4. 4.16 The program will support public awareness and involvement in resolving local community coastal problems, with emphasis on the special needs of, or barriers to, low-income, elderly, handicapped, and minority groups in coastal plans and proposals.		

ISSUE 5: ECONOMIC DEVELOPMENT

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
5. Economic Development	General Policies: 5.0 The state's policy on economic development shall be to stimulate desirable economic development that broadens the coastal area economy and to encourage the designation and reservation of areas of significance to activities requiring a coastal location by: a. Providing special planning, management and promotional attention to Great Lakes port and transportation issues; b. Coordinating, stimulating and promoting the orderly and environmentally sound provision of business and tourism facilities; and c. Managing the planning for and siting of electrical generating and transmission facilities so as to ensure protection of water quality, public and riparian rights and orderly land use.		
Specific Issues: 1. There is a concern in many coastal communities for balanced and increased economic development, which is not solely dependent on resources and recreation-tourism and is compatible with the local environment, the labor force, local economic needs, and existing facilities.	Specific Policies: 5.1 The state shall promote business and industrial development so as to broaden and strengthen the state's economy. (Wis. Stats. Sections 560.03 and 560.23). 5.2 The state shall locate and maintain information on prime industrial sites. (Wis. Stats. Section 560.23). 5.4 The state shall promote travel to Wisconsin's scenic, historic, natural, agricultural, educational, and recreational attractions. (Wis. Stats. Section 560.23). 5.5 The orderly and ecologically sound development of commercial tourist facilities shall be coordinated and stimulated by the state. (Wis. Stats. Section 560.23(1)(f)).		1) Areas of significant natural, recreational, scientific, or historical value. 2) Areas especially suited for water related economic development.

ISSUE 5: ECONOMIC DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	5.12 The state shall prepare and maintain contingency plans for responding to critical energy shortages so that when the shortages occur, they can be dealt with quickly and effectively. (Wis. Stats. Section 16.95).		
2. Competition for shore property can exclude those uses that can only be sited at the water's edge. The relatively few areas which meet the special needs of harbors need to be set aside for these uses. While few shoreland uses are exclusive, many are incompatible with surrounding uses and with the capability of the land, air, and water to support them. Adequate consideration must be given to the impact of losing unique agricultural, mining, and forestry lands and conversion of areas especially suited to other uses.	5.2 The state shall locate and maintain information on prime industrial sites. (Wis. Stats. Section 560.23). 5.6 The state shall protect forests from destruction and premature cutting through planned development and sound forestry practice, giving full recognition to the concept of multiple use to assure maximum public benefits. (Wis. Stats. Secion 28.04, 28.11 and 77.01). 5.7 The state shall provide tax relief to those agricultural areas subject to approved local exclusive agricultural zoning or subject to farmland preservation contracts. (Wis. Stats. Section 71.09(11) and Chapter 91). 5.11 Once a state permit for construction of electrical generating or transmission facilities has been issued, local ordinances shall not preclude or inhibit the installation or utilization of the facility. (Wis. Stats. Section 196.491).	Land Based 2 c. Siting of electrical generating and high voltage transmission facilities. (Wis. Stats. Section 196.491).	2) Areas especially suited for water related economic development. 3) Areas approved as power plant sites.

ISSUE 5: ECONOMIC DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
3. A number of the state's ports and harbors have been declining or stagnating. Since they are important to the economic well-being of Wisconsin, they should be maintained, modernized and promoted.	5.3 The state shall promote a balanced transportation system that includes highway, rail, water travel and other facilities adequate to meet public needs. (Wis. Stats. Sections 85.02, 194.02, 195.199, and Chapter 196). 5.8 The state will formulate and coordinate a program of port planning, promotion, and development. (Wis. Stats. Sections 560.03 and 560.04). 5.9 Buoys and beacons necessary for free navigation shall not be unlawfully disturbed or interfered with. (Wis. Stats. Sections 30.15 and 30.17).	Land Based 2 h. Laying out, altering, or discontinuing highways. 2 i. Disturbing bridges. (Wis. Stats. Section 86.07 and Wis. Admin. Code NR 320). 2 j. Abandoning any rail line or service. (Wis. Stats. Section 195.199). 2 k. Constructing or establishing a new airport. (Wis. Stats. Section 114.134).	2) Areas especially suited for water related economic development.
4. The potential discontinuation of cross-lake ferry service would increase shipping rates and reduce tourism.	5.3 The state shall promote a balanced transportation system that includes highway, rail, water travel and other facilities adequate to meet public needs. (Wis. Stats. Sections 85.02, 194.02 195.199, and Chapter 196).		
5. The shoreline is attractive for power plant sites. The local economic impact of power plant location can be significant.	5.10 The state shall require advance planning for and shall regulate the siting of electirical generating and transmission facilities. (Wis. Stats. Sections 30.025 and 196.491 and Wis. Admin. Code PSC 111). 5.11 Once a state permit for construction of electrical generating or transmission facilities has been issued, local ordinances shall not preclude or inhibit the installation or utilization of the facility. (Wis. Stats. Section 196.491). 5.12 The state shall prepare and maintain contingency plans for responding to critical energy shortages so that when the shortages occur, they can be dealt with quickly and effectively. (Wis. Stats Section 16.95).	Land Based 2 c. Siting of electrical generating and high voltage transmission facilities. (Wis. Stats. Section 196.491).	4) Areas approved as power plant sites.

ISSUE 5: ECONOMIC DEVELOPMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	PROGRAM ACTIVITIES 5.13 The program will seek to improve the implementation and enforcement of existing state regulatory and management programs which influence the economic well-being of citizens along the Great Lakes. 5.14 The program will provide financial assistance to state and local agencies to implement the specific management policies of designated economic areas and improve the implementation of existing programs to broaden the economic base of communities with desirable diversifications of industry and to effectively manage coastal land and water resources which influence community development. 5.15 The program will seek to improve the coordination of policies which affect the economies of coastal areas. 5.16 The program will support state and local government efforts to (1) identify and designate areas especially suited for water-related economic development and power plant sites approved through the power plant siting process of the Public Service Commission and (2) develop specific management policies for each. 5.17 The program will support local government efforts that consider in their coastal plans and programs the concept that waterfront locations be kept available for activities which need such locations and that unnecessary development not consume coastal resources particularly suited to other uses. 5.18 The program will support local government efforts to locate new coastal development adjacent to existing areas which can provide adequate public services. 5.19 The program will advocate the role of the Great Lakes ports both within the state and at the national level. 5.20 The program will support research and public education about the economic base of coastal areas.		

ISSUE 6: GOVERNMENTAL INTERRELATIONSHIPS

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
6. Government Interrelationships	General Policies: 6.0 The state policy on government interrelationships shall be to ensure intergovernmental communication, cooperation and coordination on all aspects of coastal management through: a. Creating and operating an interagency, intergovernmental Coastal Management Council with representation from all directly affected agencies and levels of government and citizens within the state; b. Creating and maintaining technical/citizen committees to ensure coordination of specific projects and programs; c. Maintaining a workable system of interagency reviews and comments on coastal program activities; and d. Requiring state and federal agencies to, through the clearinghouse process or other appropriate mechanism, consult with and obtain comments of other agencies with respect to any significant environmental impact involved in their major actions.		
Specific Issues: 1. There are many programs and laws, spread among many agencies and levels of government, that apply to the coastal area. There is a strong need for improved coordination and communication on specific programs and projects, especially at the policy level.	Specific Policies: 6.1 A Wisconsin Coastal Management Council will be created with representation from state agencies, local governments, tribal governments, the University System and the public to oversee program operations and activities. (Chapter II, Organization for Program Implementation). 6.2 The state shall evaluate the plans of all state agencies, identify both duplication and program gaps in the plans and measure the agency plans with the state goals enacted by the Governor and the legislature. (Wis. Stats. Section 16.95).		

ISSUE 6: GOVERNMENTAL INTERRELATIONSHIPS (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	6.3 Structural reorganization of state government shall be a continuing process, with the goals of assuring responsiveness to popular control, improved public understanding of government, and efficient and effective administration of state policies, including improved management and coordination of state services and elimination of overlapping activities. (Wis. Stats. Section 15.001 and 16.001). 6.4 All state agencies shall prepare detailed statements on the environmental and economic impacts of all major actions significantly affecting the quality of the human environment. Prior to making such statements the agency shall consult with any other agency that has jurisdiction or special expertise with respect to any environmental impact involved. (Wis. Stats. Section 1.11).		
2. There is a strong concern about the paperwork and time-consuming procedures that accompany many government programs. A need has been suggested for streamlined procedures and a clearinghouse for information on regulatory programs.	6.5 All agencies shall study, develop and describe appropriate alternatives to their actions referenced in policy 6.4 that involve unresolved conflicts concerning alternative uses of available resources. (Wis. Stats. Section 1.11). See 6.11 of program activities.		

ISSUE 6: GOVERNMENTAL INTERRELATIONSHIPS (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
3. Given Wisconsin's 'home-rule status' citizens and local governments are concerned in maintaining a degree of local control in governmental decision-making. Even citizens who favor a strong state coastal management program are concerned that actual implementation takes place as close to the local level as possible.	6.6 The state shall foster closer cooperation and coordination between state and local government and encourage a pattern of state-local relationships that facilitates effective development and utilization of state and local resources in meeting citizen needs. (Wis. Stats. Section 22.03). 6.7 State agencies and localities shall mutually cooperate to enhance the quality, management and protection of the state's air, land, and water resources. (Wis. Stats. Section 144.31).		
4. The Great Lakes remain an under-represented "national coast" at the federal level, added as an afterthought in the final stages of passage of the 1972 federal Coastal Zone Management Act.	See 6.12 of the program activities.		
	PROGRAM ACTIVITIES 6.8 The program will use existing review processes (A-95, NEPA, and WEPA) to ensure coordination of federal, state, and local policies and programs. 6.9 The program will improve coordination with adjacent Great Lakes states and federal agencies with continuing programs affecting Lakes Michigan and Superior. 6.10 The program will improve information flow and coordination of policies related to key coastal areas and uses and with emphasis on streamling procedures and eliminating duplication or conflicting efforts.		

ISSUE 6: GOVERNMENTAL INTERRELATIONSHIPS (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	6.11 The program will support tribal governments in their efforts in coastal management. 6.12 The program will perform advocacy functions in seeking increased policy recognition of the Great Lakes in policy by all levels of government, with emphasis on the federal level.		

ISSUE 7: PUBLIC INVOLVEMENT

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
7. Public Involvement	General Policies: 7.0 The state's policy on public involvement shall be to provide citizens with full opportunities for early and continuous involvement in coastal management through effective communication and participation.		
Specific Issues: 1. There is a need for increased public awareness and understanding of coastal issues. There is also a need for provision of adequate information on the scope of coastal issues and options for addressing those issues.	Specific Policies: 7.1 The public shall be entitled to the fullest and most complete information regarding the affairs of government, compatible with the conduct of government business. To this end, all meetings of all state and local governments shall be preceded by public notice, shall be open to the public, and shall be held in places reasonably accessible to members of the public. (Wis. Stats. Sections 19.81 and 19.83). 7.2 Any person may, with proper care, examine and copy any official property and records. (Wis. Stats. Section 19.21). 7.3 The state shall establish a citizens environmental council to educate and advise the general public for the purpose of facilitating effective public awareness on environmental activities. (Wis. Stats. Section 144.76).		
2. There is a need for increasing and improving the opportunities of citizens and public interest groups to effectively participate in governmental decision-making on coastal issues.	7.4 The Department of Natural Resources shall, upon the verified complaint of six or more citizens, hold a public hearing relating to any alleged or potential environmental pollution. The alleged or potential pollution shall be served with notice of the hearing and the department shall, within 90 days after the hearing, issue findings of fact, conclusions of law and order. (Wis. Stats. Section 144.537). 7.5 The state shall establish and provide for a "public intervenor" in the Department of Justice with responsibility and authority to intervene in proceedings where necessary to protect public rights in waters or other natural resources. (Wis. Stats. Section 165.07 and Part IV, Appendix H of this proposal).		

ISSUE 7: PUBLIC INVOLVEMENT (CONT.)

ISSUES AND PROBLEMS	RELATED POLICY STATEMENTS	RELATED MANAGED USES	RELATED GAMC's
	PROGRAM ACTIVITIES 7.6 The program shall create a broad State Citizens Advisory Committee, with independent staffing, to monitor program implementation and to develop, recommend and sponsor public information, education, and participation programs. (See Section II. C. Organization). 7.7 The program shall create regional coastal task forces to facilitate full participation in the program on continuing basis by interested local parties. (See Section II. C. Organization). 7.8 The program shall support public education and awareness of coastal issues and broadly disseminate program materials. 7.9 The program shall provide appropriate forums to involve and educate citizens on projects and programs which have a significant or controversial impact on coastal resources; subject those projects and programs to public scrutiny and discussion; and make recommendations concerning such projects and programs to appropriate governmental agencies. 7.10 The program will encourage program participants to hold public informational meetings and involve citizens and technical members in issue study, problem identification, proposal development and decision-making.		

IV. Designation of Shorefront Areas as Geographic Areas of Management Concern

The current process for designating Geographic Areas of Management Concern (GAMC) is described in the Wisconsin Coastal Management Program and Final Environmental Impact Statement. The process provides a method for designating shorefront areas as GAMC which is a federal requirement (15 CFR 923.25(a)(4)).

Eligibility for GAMC designation is based upon qualifying under one of the six categories of areas established by Wisconsin, demonstration of direct relationship to the area to the Great Lakes, location within the Coastal Program boundaries, and existence of clear management policy for the area which is consistent with the adopted goals and policies of the coastal program.

The six GAMC categories include:

1. Areas of significant natural, recreation, scientific or historic value;

2. Areas especially suited for water related economic development;

3. Hazard areas relating to erosion or flooding;

4. Areas approved as power plant sites;

5. Areas for preservation; and

6. Areas of restoration.

Most shorefront access or protection areas would fit into the first category, thus the area may be eligible for GAMC designation.

A GAMC must have a direct relationship to the Great Lakes. This relationship may be physical, social, or economic. Most shorefront areas which provide protection, physical access (lateral or perpendicular) or visual access have a physical relationship to the Great Lakes.

Location within the Coastal Program boundaries is an easily met requirement for shorefront access and protection areas, particularly since preference is given to those areas located on the immediate shore or within the water.

The existence of a clear management policy consistent with the policies and goals of the coastal program is perhaps the most important prerequisite for GAMC designation because it is the basis for a GAMC receiving funding. Since protection, enhancement, development, and recreational use of shorefront areas are among the general policies articulated by the Coastal Program, management policies for shorefront access and protection areas can qualify. The managing agency must demonstrate that it has the ability and authority to carry out the management policy and agree to carry out the stated policy before an area is designated GAMC. Designation of an area as a GAMC results in eligibility of the managing body to receive financial and technical assistance to assist in the implementation of the approved management policies for the area.

The requirement of a clear management policy associated with GAMC designation for a period of one to three years provides a mechanism for continuing refinement and implementation of necessary management techniques. This will be discussed in greater detail in the fifth section of this report.

In the initial GAMC designations, areas were designated either by class or specific site. Examples of class designation include nomination of all state wildlife areas within six miles of the shore of Lake Michigan and Lake Superior by the Department of Natural Resources and nomination of all unincorporated county shorelands 1000 feet landward of the Ordinary High Water Mark of Lake Michigan by Sheboygan County.

A class designation is particularly useful for the purpose of giving recognition to a large area or a management policy which applies to a large area. Class designation also saves a managing body from excess paper work both in the nomination procedure and later administration of the GAMC. It is suggested that a class designation should be made only by the single managing body that has authority over the included areas. Designation of a class of areas by multiple agencies would complicate the management agreement between the Coastal Council and the managing body. Possible classes of areas related to shorefront access or protection include but are not limited to: boat ramps, docks, harbors, swimming beaches, piers, breakwaters, waysides, overlooks, etc.

Examples of initial site GAMC designation included Virmond Park in Ozaukee County. Site designation should be used when that is the only site within a particular class for which the managing body is responsible or the particular site is in need of specific management assistance.

Specific details of the Wisconsin GAMC nomination procedure can be found in the program document.

V. Legal Authorities, Funding Programs and Other Techniques to Meet Management Needs

Federal requirements for Shorefront Access and Protection Planning include an identification of legal authorities, funding programs and other techniques that can be used to meet management needs (15 CFR 923.25(a)(5)).

Wisconsin's response to this requirement is described below.

A. Legal Authorities

The identification of legal authorities is incorporated into Part III of this report.

B. Funding Programs

Some funding program information is provided in Part I of this report. Information on additional funding sources is not provided in detail, since the availability of funding for various purposes often changes. Instead of listing all potential funding programs, the applicant is directed to the following reference materials and resource people to learn about funding opportunities and eligibility requirements:

1. Directory of State and Federal Recreation-Related Financial Assistance Programs for Local Recreation Departments in Wisconsin - this directory is prepared by the U.S. Department of the Interior - Heritage, Conservation and Recreation Service in cooperation with the Wisconsin Department of Natural Resources. It provides information on the following types of programs:

a. Federal and State acquisition and development programs such as LAWCON and Local Park Aids:

b. General operation and maintenance programs such as federally subsidized employment programs;

c. Planning programs such as Federal HUD '701' planning assistance;

d. Water-related programs such as small beach erosion control projects;

e. Trail-related programs, such as federal aid to highway programs;

f. Fish and Wildlife-related programs such as the state wildlife habitat aid program; and

g. Other special purpose programs such as the Wisconsin federal property program.

Revisions of this directory are made as necessary and are sent to directory recipients. Copies may be obtained from the Heritage, Conservation and Recreation Service USDI, Federal Building, Ann Arbor, Michigan 48107.

2. Recreation Aid Programs Newsletter - this newsletter is published twice a year and provides updated information on eligibility and funding levels for LAWCON, ORAP, and other special funding programs administered by the Wisconsin Department of Natural Resources. The newsletter is available from the Office of Intergovernmental Programs - Bureau of Aid Programs, Box 7921, Madison, Wisconsin 53707.

3. Recreation Aids Specialists may be contacted at the District Offices of the Department of Natural Recources to assist applicants seeking funding for access and resource protection needs.

C. Other Techniques

Other techniques which can be used to meet the management needs of shorefront access and protection areas include methods which provide for continuing refinement and implementation of necessary management practices. Methods include GAMC management agreements and Master Planning for properties managed by the Department of Natural Resources which are described below.

1. GAMC Management Agreements

As mentioned in Section IV, a GAMC may be designated for a period of one to three years and receive funding for management activities. The GAMC designation is accompanied by an agreement between the Coastal Council and the managing agency for the area to be managed according to specific policies. At the end of the period for which the area has been designated, the Coastal Management Council may consider the area for redesignation by reviewing management policies and implementation activities for the area. If the management policies and implementation techniques require refinement, a new management agreement may be negotiated, prior to redesignation and consideration for future funding.

2. Master Planning Process

The purpose of the Master Planning process is to ensure sound, long-range, comprehensive master planning of all Department of Natural Resources lands of significant public use or interest. The master planning process consists of two parts: the Master Plan and the Implementation Plan.

The Master Plan reflects the public interest in all ecologic, economic and social benefits that may be derived from the property, consistent with its natural resource capabilities and the statutes under which it was acquired.

The Master Plan is prepared for the ultimate expansion and development of the property. It is scheduled to be reviewed every 10 years. The Master Plan includes: Information and goals and objectives of the property; management policies which direct or limit the acquisition, development and operation of the property; resource capabilities of the area describing the potential for providing other management opportunities; resource management problems including present and anticipated resource protection and development difficulties; long range resources, recreation needs and justifications; analysis of management alternatives; and a recommended management program which should be updated as goals and objectives of the property are changed.

The Implementation Plan is prepared after the Natural Resources Board approves the Master Plan. The Implementation Plan is a schedule of actions and their costs for at least six years. Estimates and priorities are made for two years followed by tentative estimates for the next four years. These estimates are updated biennially. The Implementation Plan includes priorities and plan for acquisition, development, operations and maintenance of the property.

ENERGY FACILITY PLANNING PROCESS

Compliance with Section 305(b)(8)
Federal Requirements

by

Teresa Danovich

Office of State Planning & Energy
Department of Administration

for

Wisconsin Coastal Management Program

DRAFT

Chapter 305(b)(8)

ENERGY FACILITY PLANNING PROCESS

Table of Contents

Page no.

1. Existing and Proposed Energy Facilities Along the Wisconsin Coastline..... 45

2. Articulation of State Policies..... 65

3. Procedures for Site Suitability..... 71

4. Public Participation and Inclusion of the National Interest in the Energy Facility Siting Process..... 81

5. Techniques to Meet Management Needs..... 85

Appendix A: CEIP - Section 308(c) Planning Inventory..... 87

Appendix B: Additional Proposed Coastal Energy Facilities Suggested by the Office of State Planning and Energy..... 92

Appendix C: Cooperative Agreement for Environmental Assessment of Major Electric Generating Facilities..... 93

Appendix D: CEIP Background Information and Intrastate Allocation Process.....101

ENERGY FACILITY PLANNING PROCESS

Section I. Existing and Proposed Energy Facilities Along the Wisconsin Coastline

A. Introduction

Recognizing the unique character of our nation's coastal areas, Congress enacted the Coastal Zone Management Act in 1972. Coastal waters are used for commerical fishing, shipping, drinking water supply, condenser cooling, recreation, aesthetic pleasure, and industrial discharges. This Act responds to the intense pressure placed upon coastal areas and affirms their importance.

The Act states that there is a "national interest in the effective management, beneficial use, protection and development of the coastal zone."[1] The states were given the primary responsibility for developing coastal management programs. Local governments and federal agencies were consulted during the planning process. In May 1978, Wisconsin received approval of its coastal management program.

In 1976, The Coastal Zone Management Act was substantially amended to include a planning process for (1) access to public coastal areas, (2) energy facilities, and (3) shoreline erosion, to be completed by October, 1978. In order to fulfill the conditions of section 305(b)(8) of the Coastal Zone Management Act,Wisconsin is required to establish a coastal energy planning process. The subject of this section, namely, "an identification of energy facilities which are likely to locate in, or which may signigicantly affect, the coastal zone", is the first part of the process.

The term "energy facility" is defined in section 931.91 of the National Oceanic and Atmospheric Administration (NOAA) Rules and Regulations (43 FR 7552). It includes any equipment or facility used:

(1) In the exploration for, or the development, production conversion, storage, transfer, processing, or transportation of, any energy resource; or
(2) For the manufacture, production, or assembly of equipment, machinery, products, or devices, which are involved in the above activities.

However, for the State of Wisconsin, this term can be defined in a more narrow sense because Wisconsin does not possess any known reserves of oil, natural gas, or coal either inland or off its coast.[2] The energy facilities pertinent to Wisconsin include electric generating plants and associated transmission facilities, petroleum refineries, oil storage facilities, and transportation systems for oil, gas, and coal. Each of these categories will be treated separately.

*Footnotes are at the end of each section
*Figures and Tables are at the end of the section.

B. Existing Steam-Electric Generating Plants and Transmission Facilities

Ten major inland power plant sites are presently located in Wisconsin with a total of 2,861 megawatts (MW) generating capacity; ten major coastal power plants are located along Wisconsin's coastline generating 5,404 megawatts of electrical energy. Figure 1 displays the location of the steam electric generating power plants over 50 megawatts in Wisconsin. Figures 2 and 3 outline the coastal transmission lines.[3] Table 1 lists the generating capacity of coastal power plants and Table 2 displays the thermal discharges of Wisconsin's coastal power plants.

C. Petroleum Refineries[4]

One crude oil refinery is located in Superior, Wisconsin; it is owned by the Murphy Oil Corporation. In 1977, it operated at a capacity of 35,000 barrels per day (bbl/day); however, it has an optimum capacity for 45,000 bbl/day. Crude oil varies according to sulfur content, viscosity, and amount of impurities; therefore, oil refineries are constructed to handle one type of crude oil. The equipment used at the Murphy Oil Refinery is best suited to handle Canadian crude oil; however, Canadian exports have declined steadily.

By the end of 1979, the amount of Canadian crude oil that the refinery can obtain will be too small for plant operation unless some type of vigorous exchange program with other refineries using Canadian crude oil can be implemented. Currrently, the Murphy Oil Corporation is only attempting to maintain its refinery operation and is not planning any expansion of its terminal or of its refinery.

D. Oil Storage Facilities

A total of 32 oil terminals are located in Wisconsin's fifteen coastal counties. In 1973, the Lakehead Pipeline Company proposed that a refined products terminal be constructed in the Duluth-Superior Harbor. However, the U.S. Army Corps of Engineers denied the permit in March, 1977 because the Superior area would only benefit temporarily from construction of the facility. Few individuals would obtain long-term employment and the risk to the environment from tanker traffic would increase.

E. Liquified Natural Gas Facilities[5]

Three small liquified natural gas storage facilities are situated in Wisconsin (Table 3). One of these facilities is located within one mile of the Lake Michigan shoreline. There are no plans for expansion and the number of facilities will probably remain constant for the next five years.

F. Transportation Systems for Oil, Gas, and Coal

Wisconsin imports all of its oil and natural gas supply. The major routes for natural gas and oil pipelines are diagrammed in Figures 4 and 5. Several Wisconsin Great Lake ports also handle petroleum products and coal. Tables 4 and 5 display amounts shipped during the year 1970-1975.

G. Other Energy-Related Facilities

Most of the proposed or expanding energy facilities are projections of future growth patterns of the energy industries situated in Wisconsin. Other energy facilities which are not likely to locate in, or significantly affect, the coastal zone include:

(1) Power Plants

(a) Direct solar energy

Solar energy for heating and cooling homes is applicable to most Wisconsin areas; however, using direct solar energy for centralized power plants is not applicable to Wisconsin.

(b) Wind power

The greatest potential for using wind power in Wisconsin exists in agricultural areas with adequate wind speeds and along the coastal areas; however, none of the Wisconsin electric utilities are presently planning wind-driven centralized power plants.

(c) Ocean thermal energy conversion, tidal or wave power, or geothermal energy

Not applicable to Wisconsin.

(2) Electric storage facilities[6]

The University of Wisconsin is presently studying a high energy electric storage facility. The experiment is designed to assess the technical feasibility of storing electricity during night hours and releasing it during peak hours. Although several areas in Wisconsin are being examined and one site is located near the coast, the economic feasibility and environmental impacts have not yet been addressed. Furthermore, even if the project is successful, construction would not commence within the next 15 years.

(3) Coal gasification plants

A possibility exists for changing coal into low- and medium-BTU gas. In Wisconsin this could be feasible if two conditions were met: a) a large demand for natural gas existed within a six to eight mile radius; and b) this demand was constant. However, questions of economics must be addressed. Presently, none of the Wisconsin companies are planning this type of energy facility.

(4) Uranium enrichment or a nuclear fuel processing facility[7]

Although some uranium deposits have been discovered in Wisconsin, it is low grade ore and mining may not be economically viable. These deposits are not located in coastal counties. Plans for constructing a uranium enrichment or processing facility are not being considered.

(5) Facilities to separate oil, water, and gas

Not applicable to Wisconsin. No known deposits of oil or gas exist in Wisconsin.

(6) Drilling rigs, platforms, subsea completions, and subsea production systems

Not applicable to Wisconsin. Such facilities are involved with offshore drilling.

(7) Construction yards for platforms and exploration rigs, pipecoating yards, bases supporting platforms and pipeline installation, and crew and supply bases.

Not applicable to Wisconsin. Such facilities are involved with offshore drilling.

(8) Oil and gas storage facilities

(a) Salt Domes

No salt domes exist in Wisconsin

(b) Granitic caverns

One natural gas storage facility exists in a crystal cavern in Minnesota; however, Wisconsin does not have any underground storage facilities.

(c) Paleozoic Formations[8]

Although natural gas is stored underground in Paleozoic formations in northern Illinois, there is no evidence that Wisconsin will store natural gas in sub-surface facilities in the future. Geologic investigations have discovered that Wisconsin rock formations are not favorable.

(9) Marine pipeline system including pressure source, gathering lines, pipeline, intermediate pressure boosting facilities, and associated landfill sites.

Not applicable to Wisconsin. Such facilities are involved with offshore drilling.

(10) Oil and gas processing facilities

Not applicable to Wisconsin. Such facilities are usually situated near the point of production.

(11) Transportation facilities for tankers

Not applicable to Wisconsin. NOAA Regulation 931.19(12) specifies that such facilities must be involved with outer continental shelf energy facilities.

(12) Facilities including deepwater ports, for the transfer of petroleum

Although three Wisconsin ports are considered "deepwater" ports for the Great Lakes, an ocean deepwater port is dredged to a depth of at least 40 feet. The International Joint Commission standard for the depth of Superior, Green Bay, and Milwaukee harbors is 27 feet. However, specific Congressional authorization determines the actual depth for each Wisconsin harbor.

(13) Facilities for geopressurized gas

Not applicable to Wisconsin. Refers to production facilities.

H. New or Expanding Coastal Energy Facilities

Within the next several years, eleven energy-related facilities are planned for construction along the Wisconsin coastal areas. Four of these are expanding facilities; seven are new sites. The Coastal Energy Impact Program Inventory lists these facilities in Appendices A and B. Appendix A is composed of those projects which were included on the federal NOAA list; additional projects suggested by the Office of State Planning and Energy are described in Appendix B. The majority of these facilities are electric generating plants. The new transmission lines associated with these plants are listed in Table 6.

The Wisconsin electric utilities submit electric demand forecasts to the Wisconsin Public Service Commission in the advance plan process. This process is explained in further detail in Section III.B.(1). The 1976 advance plan projections for electric energy are shown in Table 7. Table 8 corresponds to the proposed facilities required to meet the electric forecasts.

The Great Lakes Transmission Line Company is planning a natural gas pipeline. This new line would essentially parallel the present lines located in Douglas, Bayfield, and Ashland Counties. Land is available in Superior, Wisconsin for another coal transshipment facility. The proposed facility would transport larger amounts of western coal to eastern states in addition to the existing facility that began operation in 1976. Potential dock expansion in the Green Bay area is being considered by another company.

I. Conclusion

Numerous energy facilities are located along Wisconsin's shoreline. The most visible ones are electric generating plants which comprise half of the proposed energy facilities. Because of the potential increase in use of western low-sulfur coal by utilities in eastern states, it may become necessary to construct new coal transshipment facilities to meet this need. Such facilities are not only of local interest, but also form part of the growing national public concern to supply the nation's energy resources.

Footnotes

(Section I)

1. Coastal Zone Management Act of 1972, P.L. 92-583, Section 302(a).

2. Energy Facility Siting in the Great Lakes Coastal Zone, Great Lakes Basin Commission, Ann Arbor, Michigan, January 14, 1977, page 303.

3. Figure 2 is adapted from 1976 Advance Plan, Wisconsin Upper Michigan Systems, filed with the Wisconsin Public Service Commission, Madison, Wisconsin, Exhibits 2.32-2.42. Figure 3 is adapted from 1976 Advance Plan, Western Wisconsin Utilities, filed with the Wisconsin Public Service Commission, Madison, Wisconsin, Exhibit IV, Sheet 1.

4. Telephone conversation with Mr. Dave Thomas, Plant Manager, Murphy Oil Refinery, Superior, Wisconsin, November 4, 1977.

5. Survey and Description of the Data Base: Natural Gas Supply and End-Use in Wisconsin (unpublished draft), Ralph B. Hostetler, Wisconsin Office of State Planning and Energy, Madison, Wisconsin, December 1977.

6. Telephone conversation with Professor Haimson, University of Wisconsin, Madison, Wisconsin, March 29, 1978,

7. Telephone conversation with Mr. John Williams, Wisconsin Public Service Commission, Madison, Wisconsin, March 21, 1978.

8. Telephone conversation with Mr. Ron Hennings, University of Wisconsin-Extension, Geological Survey, Madison, Wisconsin, March 23, 1978.

Table 1: Existing Major Steam - Electric Generating Stations Along the Coast of Wisconsin

Power Plant	County	Town	Capacity MW*	Type of Fuel	Number of Units	Date of Initial Operation
Bay Front	Ashland	Ashland	82	coal	6	oldest 1917 newest 1960
Pulliam	Brown	Green Bay	393	coal, oil	8	oldest 1926 newest 1964
Kewaunee	Kewaunee	Carlton	560	nuclear	1	1974
Point Beach	Manitowoc	Two Creeks	1,068	nuclear, oil	2	1970, 1972
Manitowoc	Manitowoc	Manitowoc	70	coal	4	oldest 1941 newest 1964
Edgewater	Sheboygan	Sheboygan	477	coal	4	oldest 1931 newest 1969
Port Washington	Ozaukee	Port Washington	420	coal, oil	6	oldest 1935 newest 1950
Valley	Milwaukee	Milwaukee	275	coal, oil	3	1968, 1969
Lakeside	Milwaukee	St. Francis	347	oil, natural gas	14	oldest 1920 newest 1930
Oak Creek	Milwaukee	Oak Creek	1,712	coal, natural gas	9	oldest 1953 newest 1967

* The figures are taken from Inventory of Power Plants in the U.S., U.S. Department of Energy , Office of Utility Project Operations, Washington D.C., December, 1977.
The rating corresponds to the one assigned by the generator manufacturer appearing on the unit nameplate.

TABLE 2: THERMAL DISCHARGES FROM MAJOR COASTAL STEAM-ELECTRIC GENERATING STATIONS[1]

Power Plant (MW)	Lake or Water Body	Number of Days per Year with Thermal Discharge	Number of Outfalls Discharging Cooling Water	Total Cooling Water Volume in Million Gallons per Day		Total Discharge Temperature-All Outfalls (Effluent)(°F)		Total Thermal BTU Load in Millions of BTU's per Day	
				Max.	Avg.	Max.	Avg.	Max.	Avg.
Bay Front (82)	Superior	365	2	31.8	21.8	115.0	60.4	5,932	2,320
Pulliam (393)	Green Bay	365	1	484.9	263.4	95.0	66.0	46,731	26,515
Kewaunee (560)	Michigan	365	1	593.0	545.7	88.0	56.6	112,316	66,533
Point Beach (1068)	Michigan	365	3	1348.4	1130.2	93.5	68.7	187,721	133,001
Manitowoc[2] (70)	Michigan	365	2	65.4	21.2	90.0	62.2		
Edgewater (477)	Michigan	365	4	332.9	182.7	88.0	67.5	51,100	28,805
Port Washington (420)	Michigan	344	2	964.5	490.3	85.6	52.3	118,894	25,832
Valley (275)	Tributary of Lake Michigan-Menomonee River Canal 1-3/4 mi.	365	2	156.8	145.1	114.0	80.4	44,718	25,542
Lakeside (347)	Michigan	165	4	799.5	296.3	83.0	57.5	50,561	19,136
Oak Creek (1712)	Michigan	365	6	3594.4	1547.9	86.0	55.2	129,364	91,525

1. Source: CY 1977, NR 101 Effluent Reports, Wisconsin Department of Natural Resources
2. The figures for the Manitowoc power plant are taken from WPDES permit data, CY 1977, Wisconsin Department of Natural Resources.

TABLE 3

LIQUEFIED NATURAL GAS STORAGE
FACILITIES IN WISCONSIN

Company	Location	Total Storage Volume mmcf*	Date of Initial Operation
Northern States Power Company	Eau Claire	270	1969
Northern States Power Company	La Crosse	130	1969
Wisconsin Natural Gas Company	Oak Creek	256	1965

* mmcf = million standard cubic feet

TABLE 4: PETROLEUM PRODUCTS IN TONS (SHIPMENTS)[1]

HARBORS		1970	1971	1972	1973	1974	1975
Duluth-Superior	Gasoline	81,061	121,287	68,521	84,560	71,220	88,033
	Distillate fuel oil	196,465	231,409	207,979	170,875	177,662	175,497
	Residual fuel oil	15,904	51,977	55,729	72,182	18,968	none
	Petroleum Coke	8,107	none	none	6,600	12,186	19,340
Green Bay	Gasoline	95,914	92,116	73,607	92,557	16,186	13,111
	Distillate	144,776	121,707	83,939	149,178	88,658	96,229
	Residual	50,142	66,053	37,140	43,700	27,032	36,726
Kewaunee	Gasoline	<1,000	15,276	14,014	7,120	5,113	4,387
	Distillate	<1,000	15,586	9,850	4,537	8,117	5,169
Two Rivers	Gasoline	31,385	34,732	40,732	13,911	none	none
	Distillate	70,072	54,585	53,659	59,277	25,011	none
Sheboygan	Gasoline	none	none	none	none	34,529	59,851
	Distillate	34,399	33,491	25,889	39,128	43,930	53,696
	Residual	2,484	4,222	none	none	5,294	31,471
	Petroleum Coke	none	none	none	8,200	28,650	16,400
Port Washington	Gasoline	109,387	104,515	92,801	114,169	98,572	114,787
	Distillate	57,260	64,191	57,111	49,069	31,311	25,240
Milwaukee	Gasoline	460,090	340,456	355,610	460,951	289,050	266,051
	Distillate	325,978	253,298	299,166	223,438	173,263	140,280
	Residual	133,465	74,605	37,869	84,248	6,838 (Canada)	} 46,513
						66,197 (domestic)	
	Petroleum Coke	32,543	59,220	26,287	25,821	12,328	10,948
Racine	Gasoline	27,459	32,731	32,641	28,995	24,536	24,973
	Distillate	50,451	47,104	48,986	42,022	46,111	48,873

[1] Figures taken from Waterborne Commerce of the United States, Calendar Year 1970-1975, Part 3, Waterways and Harbors, Great Lakes, Department of Army, Corps of Engineers

TABLE 5: COAL IN TONS (SHIPMENTS AND RECEIPTS)[1]

HARBORS	1970	1971	1972	1973	1974	1975
Superior-Duluth	1,816,125	1,199,999	905,748	1,532,502	1,713,131	2,219,893
Ashland	356,263	282,332	237,529	315,217	290,722	247,786
Marinette-Menominee	106,008	73,970	68,771	69,841	49,822	65,477
Green Bay	1,890,072	1,762,316	1,894,246	1,681,872	1,605,840	1,589,621
Kewaunee	6,789	7,387	3,048	2,290	5,008	<1,000
Manitowoc	191,111	144,497	132,478	147,750	116,307	124,580
Sheboygan	92,981	77,632	115,803	84,231	none	66,427
Port Washington	1,023,143	734,937	567,293	706,434	546,446	736,867
Milwaukee	1,672,294	1,203,172	1,213,023	1,143,523	900,282	862,140
Oak Creek	1,218,167	874,120	920,766	300,738	none	none
Racine	10,280	none	none	none	none	none

[1] Figures taken from Waterborne Commerce of the United States, Calendar Years 1970-1975, Part 3 Waterways and Harbors, Great Lakes, Department of Army, Corps of Engineers.

TABLE 6: NEW COASTAL TRANSMISSION LINES[1]

Location	KV	Length of Line	Distance from Shoreline	Year
Underground Lines				
1. Custer Terminal to Shorewood Substation	138	3.5 miles	1 mile	1977
2. NW from Everett Substation	138	.6 miles	1 mile	1980
3. SW from Everett Substation	138	.7 miles	1 mile	1980
4. W of Everett Substation	138	1.6 miles	1 mile	1986
Overhead Lines				
1. On or adjacent to Pleasant Prairie site	345	3 miles	5-2 miles	1980
2. Pleasant Prairie to Kenosha	138	8 miles	5-2 miles	1980
3. Oak Creek to Muskego	138	12.6 miles	14-0 miles	1982
4. Oak Creek to St. Francis	138	13 miles	0 miles	1982
5. Whitefish Bay to Bayside 2 lines parallel to each other	345 each	4 miles	8-2 miles	1982
6. Port Washington to Belgium Substation	138	12 miles	5-1 mile	1983
7. Belgium Substation to Sheboygan	138	24 miles	5-0 miles	1986

[1] Wisconsin Electric Power Company is proposing all these lines as part of their advance plan, July 1976.

TABLE 7

EXPECTED ELECTRIC LOADS UNDER VARIOUS GROWTH RATES (MEGAWATTS OF PEAK DEMAND)

	Eastern Wisconsin Utilities			Western Wisconsin Utilities		
Year	2%	Utility Forecast	6%	2%	4%	Utility Forecast
1976	5,522	5,522	5,522	902	902	902
1977	5,632	6,071	5,853	920	938	949
1978	5,745	6,410	6,205	938	976	1,028
1979	5,860	6,751	6,577	957	1,015	1,090
1980	5,977	7,117	6,971	976	1,055	1,184
1981	6,097	7,494	7,390	996	1,097	1,279
1982	6,219	7,871	7,833	1,016	1,141	1,376
1983	6,343	8,213	8,303	1,036	1,187	1,466
1984	6,470	8,683	8,802	1,057	1,234	1,550
1985	6,594	9.117	9,330	1,078	1,283	1,645
1986	6,731	9,558	9,889	1,100	1,335	1,735
1987	6,866	10,007	10,483	1,122	1,388	1,815
1988	7,003	10,490	11,112	1,144	1,444	1,904
1989	7,143	10,989	11,779	1,167	1,501	1,996
1990	7,286	11,515	12,485	1,190	1,561	2,079

Source: Assessment of the 1976 Advance Plan for Future Electric Power Facilities, Wisconsin Public Service Commission, Madison, Wisconsin, February, 1977, Table 4.

TABLE 8 PROPOSED FUTURE ELECTRIC GENERATION PLANTS IN WISCONSIN AS OF 1977

PLANNED DATE OF OPERATION	COMPANY	CAPACITY (MW)	GENERATION METHOD	LOCATION**
1978	Wisconsin Power & Light*	527	Coal	Columbia
1979	Dairyland Cooperative	350	Coal	Alma
	Northwestern Wisconsin Elect.	7	Oil	Unsited
	Wisconsin Electric Power Co.	54	Oil	Germantown
	Wisconsin Electric Power Co.	53	Oil	Germantown
	Wisconsin Electric Power Co.	53	Oil	Germantown
	Wisconsin Electric Power Co.	53	Oil	Germantown
1980	Wisconsin Electric Power Co.	580	Coal	Pleasant Prairie
1982	Wisconsin Electric Power Co.	580	Coal	Pleasant Prairie
	Northwestern Wisconsin Elect.	10	Oil	Unsited
	Wisconsin Public Service Corp.	300	Coal	Weston
1983	Wisconsin Power and Light	400	Coal	Edgewater
1984	Wisconsin Electric Power Co.	400	Coal	Koshkonong
	Northern States Power Co.*	1100	Nuclear	Tyrone
	Wisconsin Electric Power Co.	50	Oil	Unsited
1985	Wisconsin Electric Power Co.	400	Coal	Koshkonong
1986	Wisconsin Electric Power Co.	50	Oil	Unsited
	Wisconsin Public Service Corp.	300	Coal	Weston
1987	Wisconsin Electric Power Co.*	900	Nuclear	Haven
	Wisconsin Electric Power Co.*	50	Oil Turbine	Haven
1989	Wisconsin Electric Power Co.*	900	Nuclear	Haven

Note: Capacity figures are nominal net output capacity.

* Principle owner and operator listed--ownership shared with other companies.

**Some plant siting locations are tentative, and alternative sites are being considered.

Sources: Federal Energy Administration, Inventory of Power Plants in the United States. 1977.

Data Revisions from Wisconsin Public Service Commission. Latest update: August 1977.

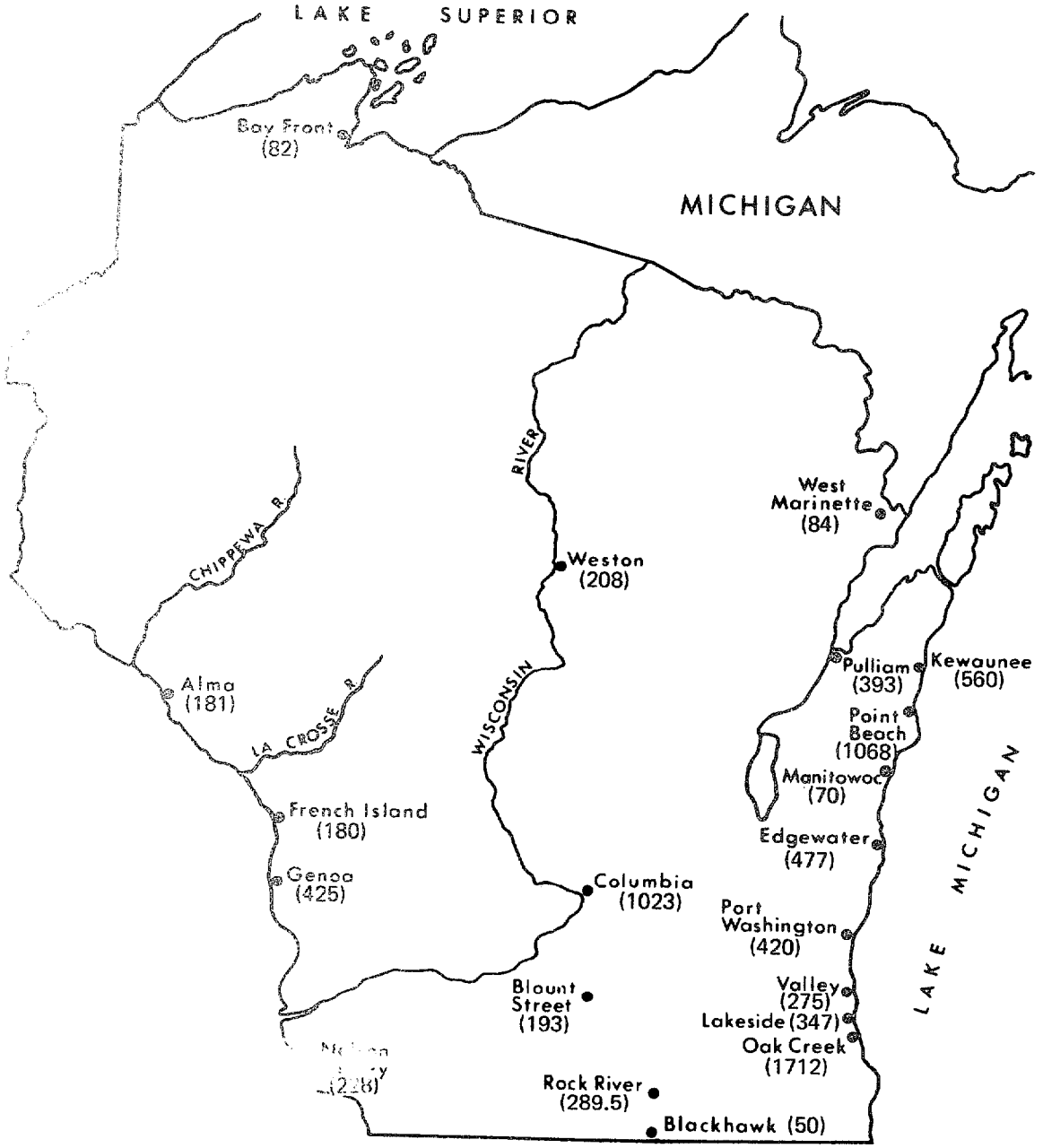


FIGURE 1: Major Power Plants in Wisconsin (net capability, MW)

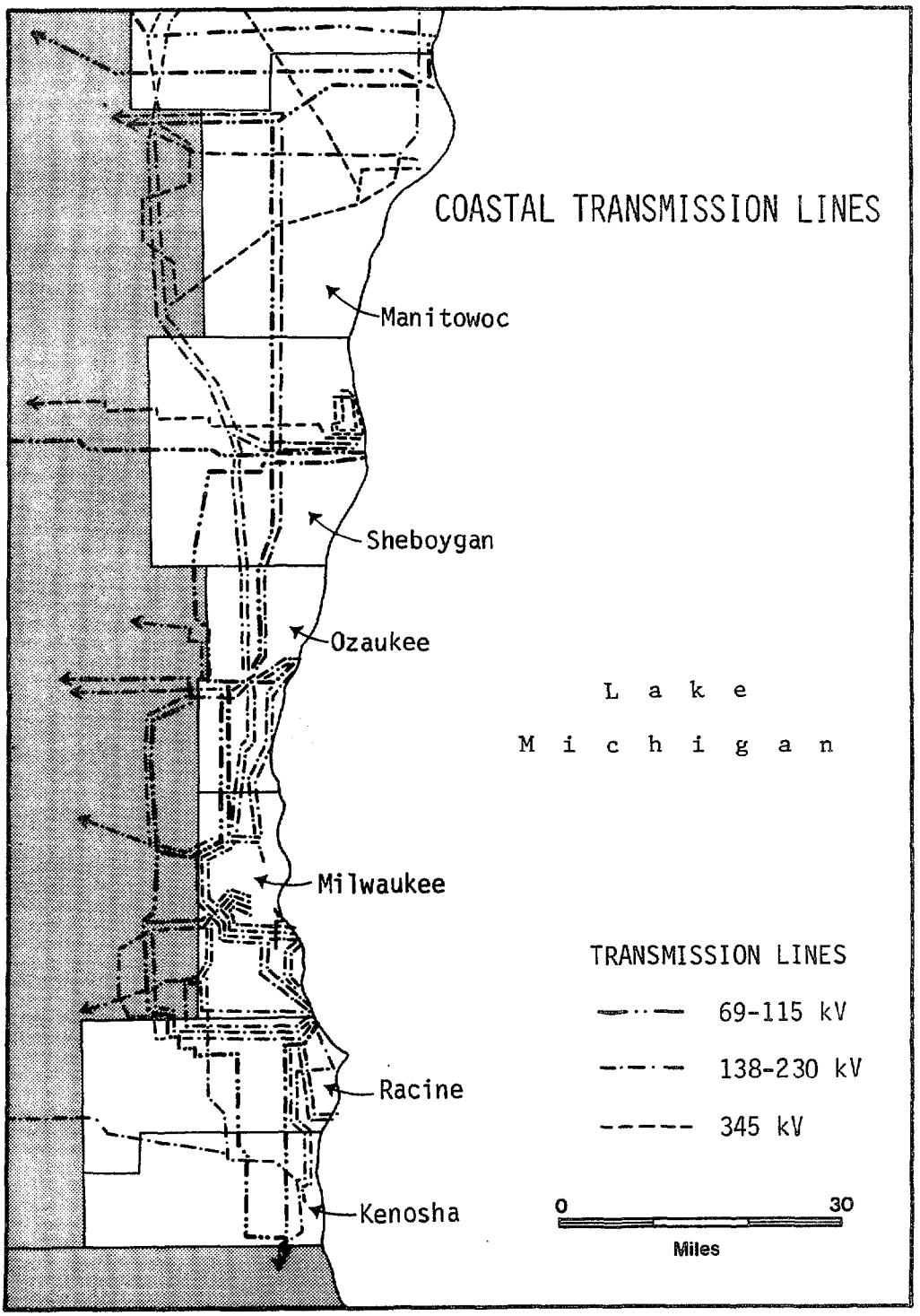


FIGURE 2a: Existing Transmission Lines Along the Lake Michigan Coastline (South)

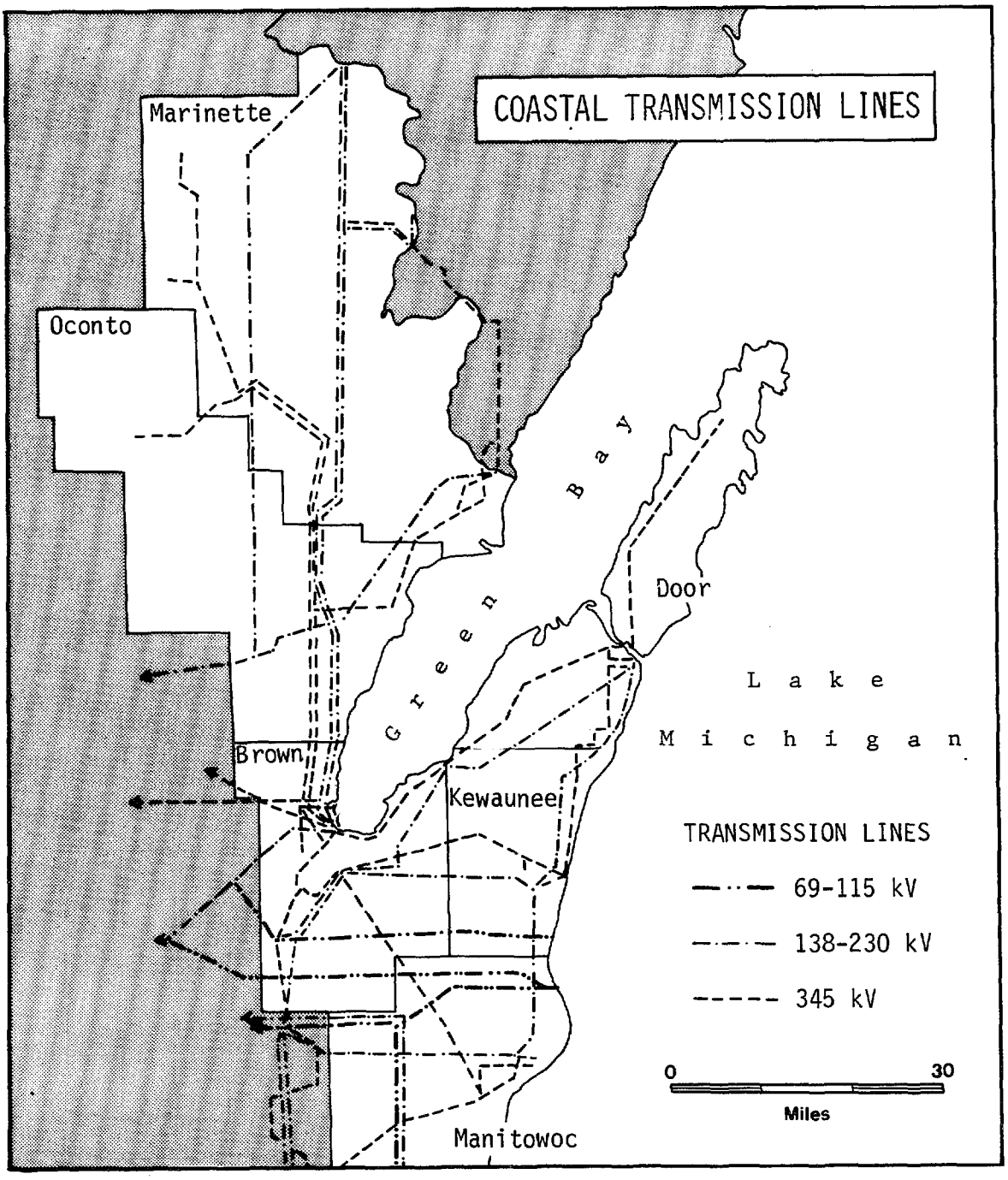


FIGURE 2b: Existing Transmission Lines Along the Lake Michigan Coastline (North)

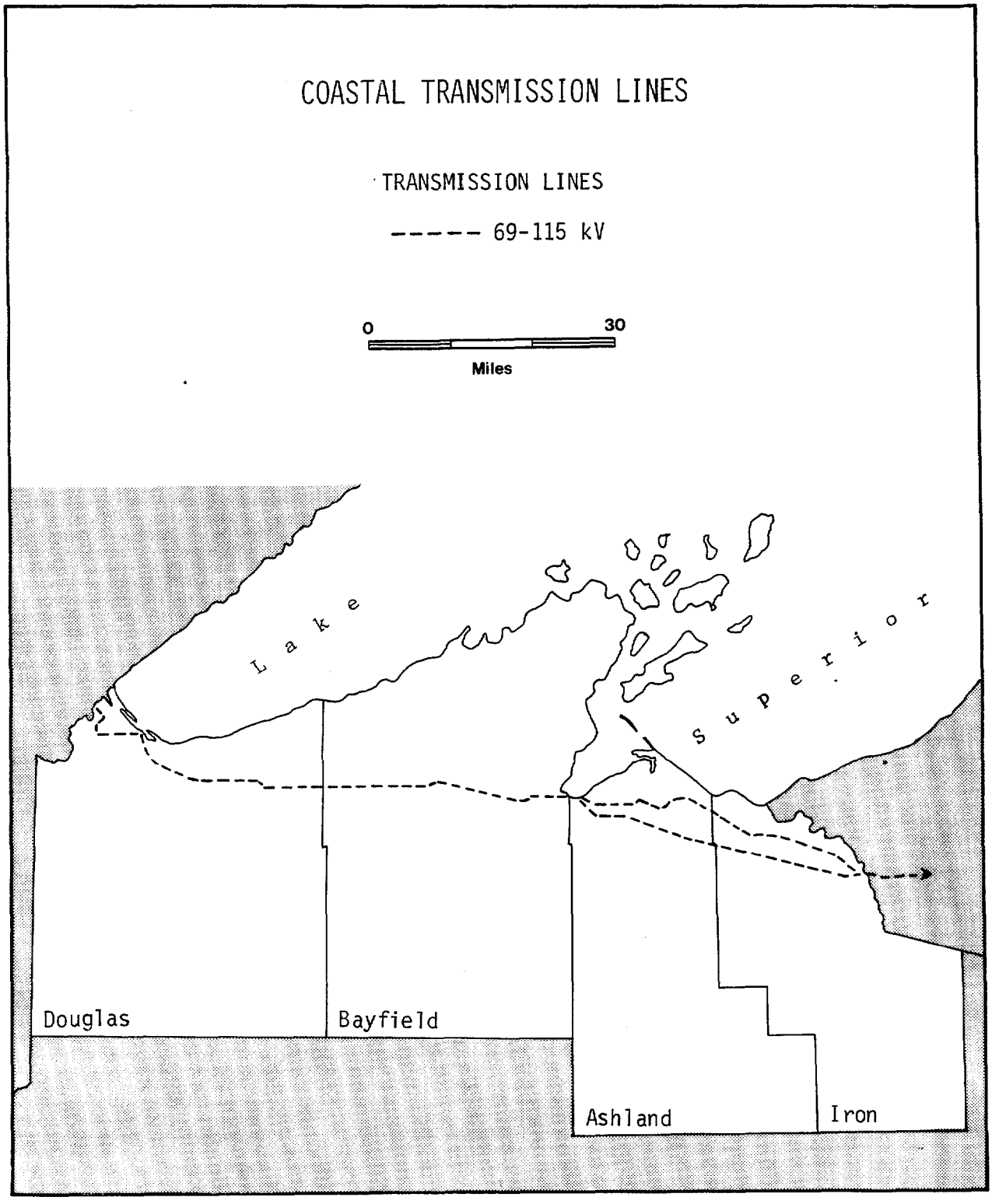


FIGURE 3: Existing Transmission Lines Along the Lake Superior Coastline

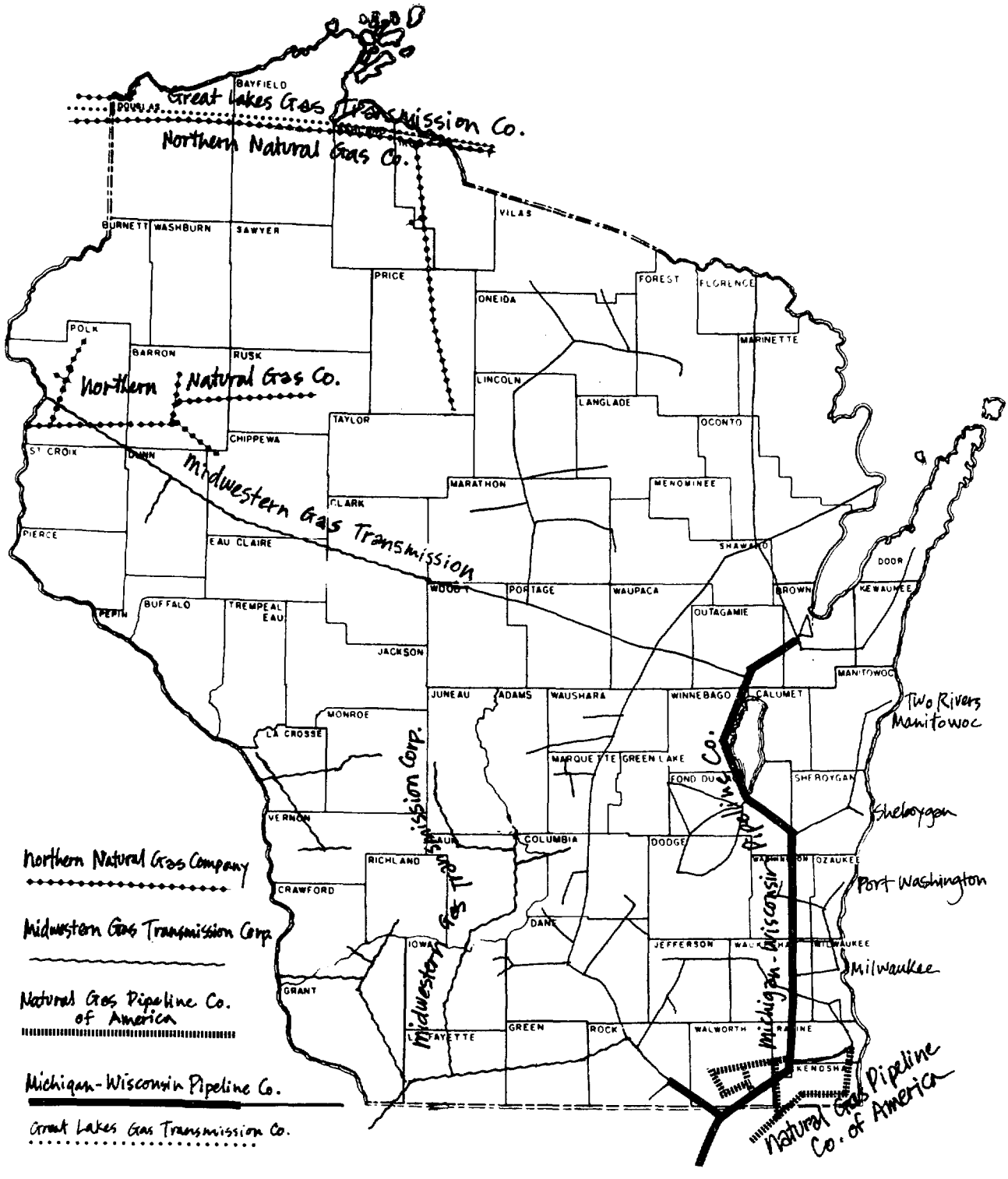


FIGURE 4: Natural Gas Pipelines in Wisconsin

Source: Wisconsin Department of Business Development

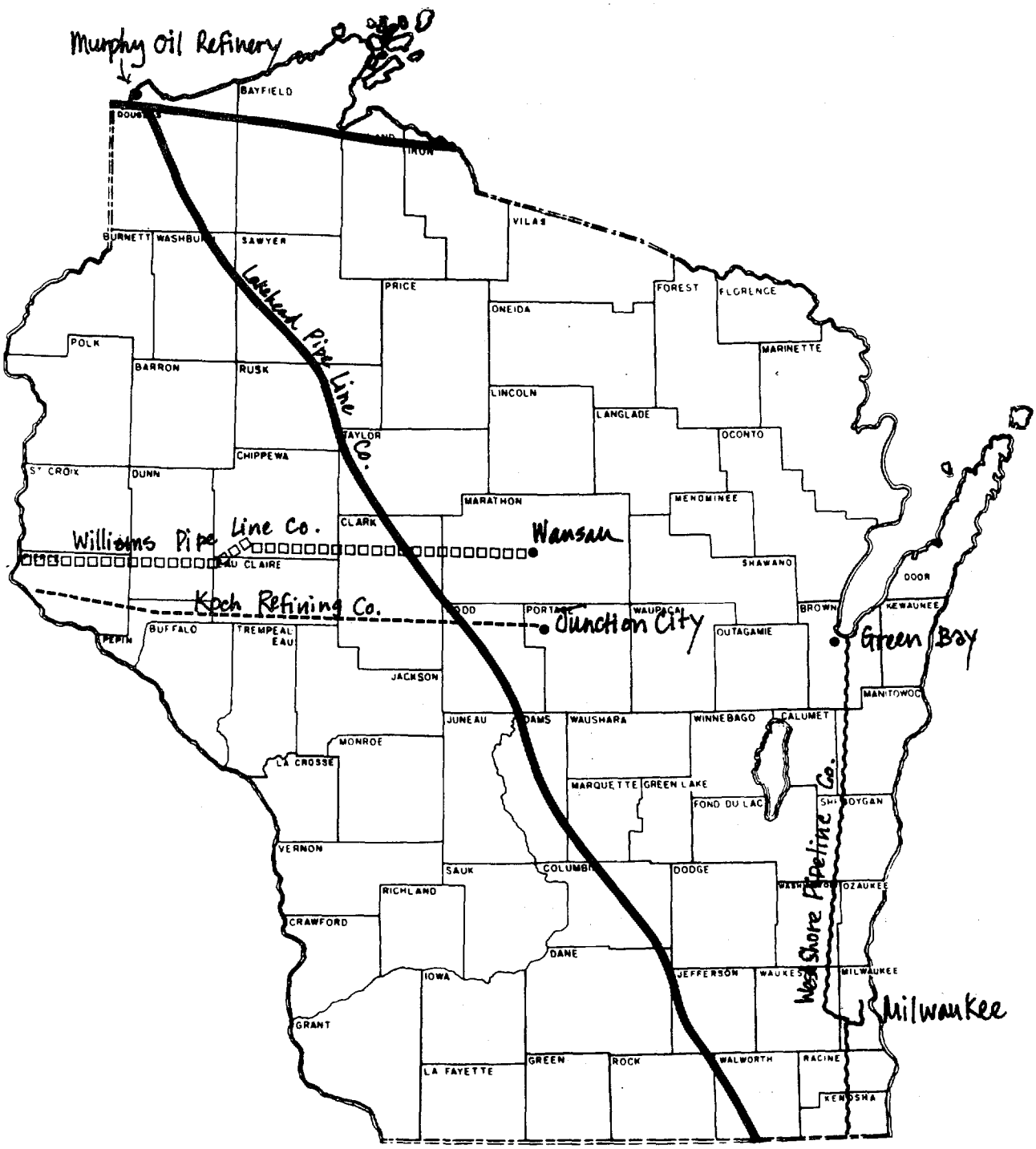


FIGURE 5: Petroleum Pipelines in Wisconsin

Source: Wisconsin Department of Industry, Labor and Human Relations, Bureau of Petroleum Inspection, 1977.

Section II: Articulation of State Policies

A. Introduction

The 305(b)(8) energy facility planning process also requires an "articulation of State policies for managing energy facilities and their impacts, including a clear articulation of policies regarding conditions that may be imposed on site location and facility development." This section describes numerous Wisconsin policies documented in the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement.[1] The footnotes reference the exact pages in the coastal program publication.

A policy is a general statement of a purpose set out for achievement by a governmental unit. This section deals with state policies which are printed in public documents and which have been approved by the Wisconsin Legislature. The policies in this section are broad, general statements. Specific objectives and the implementation of these policies are reserved for the following sections. The policies cited are categorized under subject matter headings.

B. Environmental Quality

The Wisconsin Environmental Policy Act expresses a strong statement of overall environmental concern for activities occurring in Wisconsin.

> The purposes of this act are to declare a policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate health and welfare of man; and to enrich the understanding of the important ecological systems and natural resources.
>
> Chapter 274, Laws of 1971, State of Wisconsin, 1971 Assembly Bill 875

The Conservation Act, which was originally passed in 1923 and subsequently amended, also states Wisconsin's intentions to preserve natural resources.

> The purpose of this section is to provide an adequate and flexible system for the protection, development and use of forests, fish and game, lakes, streams, plant life, flowers and other outdoor resources in this state.
>
> Wisconsin Statutes, Chapter 23.09(1)[2]

Several policy statements concern water quality.

> The department of natural resources shall serve as the central unit of state government to protect, maintain and improve the quality and management of the waters of the state, ground and surface, public and private....In order to achieve the policy objectives of this act it is the express policy of the state

to mobilize governmental effort and resources at all levels, state, federal and local, allocating such effort and resources to accomplish the greatest result for the people of the state as a whole. Because of the importance of Lakes Superior and Michigan and Green Bay as vast water resource reservoirs, water quality standards for those rivers emptying into Lakes Superior and Michigan and Green Bay shall be as high as is practicable.

Wisconsin Statutes, Chapter 144.025(1)[3]

It is the policy of this state to restore and maintain the chemical, physical, and biological integrity of its waters to protect public health, safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural, and other uses of water. In order to achieve this policy, the legislature declares that:

(a) It is the goal of the state of Wisconsin to eliminate the discharge of pollutants into the waters of the state by 1985;
(b) It is also the goal of the state of Wisconsin that, wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by 1983;
(c) It is also the policy of the state of Wisconsin that the discharge of toxic pollutants in toxic amounts be prohibited.

Wisconsin Statutes, Chapter 147.01(1)[4]

Specific laws on shoreline zoning further safeguard Wisconsin waters.

To aid in the fullfillment of the state's role as trustee of its navigable waters and to promote public health, safety, convenience and general welfare, it is declared to be in the public interest to make studies, establish policies, make plans and authorize municipal shoreland zoning regulations for the efficient use, conservation, development and protection of this state's water resources. The regulations shall relate to lands under, abutting or lying close to navigable waters. The purposes of the regulations shall be to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses and reserve shore cover and natural beauty.

Wisconsin Statutes, Chapter 144.26(1)[5]

> To effect the purposes of s. 144.26 and to promote the public health, safety and general welfare, counties may, by ordinance, . . .zone all lands (referred to herein as shorelands) in their unincorporated areas within the following distances from the normal highwater evaluation of navigable waters . . .: 1,000 feet from a lake, pond or flowage; 300 feet from a river or stream or to the landward side of the flood plain, whichever distance is greater.
>
> Wisconsin Statutes, Chapter 59.971(1)[6]

The Wisconsin Legislature delegated specific powers to the Department of Natural Resources regarding air quality.

> The department shall: (a) Prepare and develop one or more comprehensive plans for the prevention, abatement and control of air pollution in this state. The department thereafter shall be responsible for the revision and implementation of such plans.
>
> Wisconsin Statutes, Chapter 144.36(1)(a)

The Wisconsin Administrative Code on Air Pollution Control explains the basic objectives and policies for the Department of Natural Resources's rules.

> The objectives of these rules are to maintain standards of air quality at a level which will provide adequate protection to public health and welfare, and to prevent detrimental effect on property and environment.
>
> It shall be the policy of the department to seek reasonable uniformity among local air pollution control ordinances in order to make the statewide comprehensive program more effective and less complicated for all persons concerned.
>
> Wisconsin Administrative Code, Department of Natural Resources 154, Foreword[7]

C. Recreation

The state's Outdoor Recreation Program is established in a general statement of policy.

> The purpose of this section is to promote, encourage, coordinate and implement a comprehensive long-range plan to acquire, maintain and develop for public use those areas of the state best adapted to the development of a comprehensive system of state and local outdoor recreation facilities and services in all fields, including, without limitation because of enumeration, parks, forests, camping grounds, fishing and hunting grounds, related historical sites, highway scenic easements and local recreation programs, except spectator sports, and to facilitate and encourage the fullest public use thereof.

Wisconsin Statutes, Chapter 23.30(1)[8]

D. Economic Development

The Department of Business Development promotes business and industry in Wisconsin. The following statements express the general policy of the department.

> The functions of the department of business development shall be of an advisory, informational, coordinative and promotional nature. Through research, planning, and promotion it shall foster the growth and diversification of the economy of the state . . . .
>
> The department shall promote and provide assistance to commercial, industrial and recreational development and expansion; facilitate the establishment of small and minority business enterprises; encourage creation of jobs in urban and rural depressed areas in the state; coordinate state public and private economic development plans; encourage cooperation between financial institutions and businessmen to encourage commercial, industrial and recreational business expansion in Wisconsin; and develop a state economic development policy.
>
> Wisconsin Statutes, Chapter 560.01(1)(2)

E. Public Utilities

The Public Service Commission regulates the utilities in Wisconsin. The major policy statements concerning the management of energy facilities and the planning process for resolving conflicts are discussed in Section III under "Electric power plants and associated transmission lines." The following statement outlines the basic mandate for electric utilities.

> Every public utility is required to furnish reasonably adequate service and facilities. The charge made by any public utility for any heat, light, water or power produced, transmitted, delivered or furnished or for any telephone message conveyed or for any service rendered or to be rendered in connection therewith shall be reasonable and just, and every unjust or unreasonable charge for such service is prohibited and declared unlawful.
>
> Wisconsin Statutes, Chapter 196.03(1)

F. Energy

Through policy statements Wisconsin recognizes the importance of conservation and the need for an overall planning process. The Department of Administration houses the Office of State Planning and Energy and this office performs the coastal management, land use, and energy planning for the state.

> All agencies of the state shall, to the fullest extent possible, investigate and consider the conservation of energy resources as an important factor when making any major decision which law and rules permit them to make

and which significantly affects energy usage.

Wisconsin Statutes, Chapter 100.195

The department shall, through a system of comprehensive long-range planning, promote the development and the maximum wise use of the energy, natural and human resources of the state.

Wisconsin Statutes, Chapter 16.95

Footnotes

(Section II)

1. State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Washington, D.C., March, 1978.

2. Ibid., page 110-111, Specific Policies #2.6 and 2. 11 under Coastal Natural Areas, Wildlife Habitat and Fisheries, and page 118 Specific Policy #4.9 under Community Development.

3. Ibid., page 106, Specific Policy #1.5 under Coastal Water and Air Quality.

4. Ibid., page 105-106, Specific Policies #1.1, 1.2, and 1.10 under Coastal Water and Air Quality.

5. Ibid., page 117, Specific Policy #4.1 under Community Development.

6. Ibid., page 111, Specific Policy #2.13 under Coastal Natural Areas, Wildlife Habitat and Fisheries.

7. State of Wisconsin Coastal Management Program and Draft Environmental Impact Statement, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Washington, D.C., October, 1977, page 389.

8. State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., page 118, Specific Policy #4.10 under Community Development.

Section III: Procedures for Site Suitability

A. Introduction

The next segment of the 305(b)(8) process deals with "a procedure for assessing the suitability of sites for such facilities." Energy facilities are located along the coast for shipping, condenser cooling, and discharging wastes. Provided that specific performance standards are met, energy facilities can be located along the coasts.

Table 9 displays the zoning and ownership in incorporated Wisconsin coastal communities.[1] Approximately 21% of the Wisconsin coast is zoned for industrial use and energy facilities may be located in these areas. However, certain areas along the coastline may be reserved for specific purposes such as state parks or coastal geographic areas of management concern. Energy facilitites may be precluded from these sites depending upon the management policy.

Wisconsin has enacted special legislation for siting electric generating facilities and transmission lines as opposed to other types of energy-related facilities. As noted previously, Wisconsin has no known reserves of oil, natural gas, or coal. Therefore, electricity is the only form of energy presently produced in Wisconsin. The largest energy complexes in the state are centralized electric generating stations.

The bulk of Wisconsin's energy supply is imported from other states; and Wisconsin relies on a highly structured network of transportation routes. Aside from electric generating power plants and one petroleum refinery, Wisconsin receives energy resources via pipelines, railroads, ships and trucks. The major natural gas and petroleum pipelines are interstate ones;[2] therefore, they are regulated on the federal level. However, Wisconsin has enacted numerous statutes regulating various aspects of energy-related facilities. The following paragraphs list these requirements. The Wisconsin siting procedures are described according to each type of activity: production, storage, processing, and transportation.

B. Electric Power Plants and Associated Transmission Lines

In the 1940's the Public Service Commission (PSC) was first empowered with the authority to issue permits for electric utility construction. However, in 1975 a new power plant siting law was enacted.[3] This law broadened the scope of issues relating to site selection and formulated a long-range planning process for approval of electric generating facilities and high-voltage transmission lines. The long-range planning process is termed "advance plans," and the individual power plant construction permit is labeled "certificate of public convenience and necessity". Each procedure is discussed separately.

(1) Advance Plans

In the summer of every even numbered year each electric utility is required to file an advance plan with the Public Service Commission.[4] Each plan must include:

1) Electric utility forecasts for the next 20-year period
2) Planned system expansion

TABLE 9: ZONING and OWNERSHIP IN INCORPORATED WISCONSIN COASTAL COMMUNITIES

		ZONING									OWNERSHIP			
Incorporated Areas	Total Distance Miles	Residential %	Business and Commerical %	Industrial %	Institutional %	Recreational %	Agricultural %	Natural Area %	Other or Unzoned %	Total %	Public, not Federally Administered %	Quasi-Public %	Private %	Total %
Kenosha	4.9	94.4	-	4.6	-	-	-	1.0	-	100	61.1	18.5	20.4	100
Racine	4.5	25.0	2.1	16.7	-	-	-	-	56.2	100	68.0	-	32.0	100
North Bay	.083	100.0	-	-	-	-	-	-	-	100	-	-	100.0	100
Wind Point	2.5	100.0	-	-	-	-	-	-	-	100	23.1	-	76.9	100
Oak Creek	4.5	-	-	100.0	-	-	-	-	-	100	27.3	-	72.7	100
South Milwaukee	3.2	86.2	13.8	-	-	-	-	-	-	100	75.0	-	25.0	100
Cudahy	2.6	-	-	-	-	98.2	1.8	-	-	100	100.0	-	-	100
St. Francis	1.9	31.6	-	36.8	31.6	-	-	-	-	100	30.0	-	70.0	100
Milwaukee	11.4	74.3	-	25.7	-	-	-	-	-	100	57.0	4.4	38.6	100
Shorewood	1.1	91.7	-	-	-	8.3	-	-	-	100	8.3	-	91.7	100
Whitefish Bay	2.7	89.3	-	-	-	1.8	-	-	8.9	100	21.4	-	78.6	100
Fox Point	2.7	100.0	-	-	-	-	-	-	-	100	7.1	-	92.9	100
Bayside	2.1	88.0	-	-	-	-	-	12.0	-	100	9.5	9.5	81.0	100
Mequon	6.1	100.0	-	-	-	-	-	-	-	100	3.3	6.7	90.0	100
Port Washington	3.0	-	19.4	29.0	12.9	38.7	-	-	-	100	47.9	-	52.1	100
Ashland	8.5	13.7	15.0	71.3	-	-	-	-	-	100	Not		available	
Washburn	3.75	16.7	-	-	-	-	3.6	79.7	-	100	54.7	-	45.3	100
Bayfield	1.3	-	47.9	-	-	11.0	-	16.4	24.7	100	17.2	-	82.8	100
Superior	20.8	52.5	-	33.3	-	-	-	-	14.2	100	60.4	-	39.6	100
Sheboygan	5.5	0.3	-	18.8	-	-	-	80.9	-	100	82.0	-	18.0	100
Manitowoc	3.2	30.1	-	19.4	-	-	-	50.5	-	100	65.0	3.3	31.7	100
Two Rivers	3.3	20.9	6.7	7.8	-	31.0	-	32.6	-	100	81.8	-	18.2	100
Marinette	3.3	11.1	-	18.6	-	70.3	-	-	-	100	4.1	-	95.9	100
Oconto	3.2	100.0	-	1.0	-	-	-	-	-	100	60.0	4.7	35.3	100
* Green Bay	10.37	27.6	1	1.0	1.0	5.8	4.3	37.7	11.6	100	88.2	-	11.8	100
Ephraim	4.5		Not	available							-	-	100.0	100
Sturgeon Bay	8.6	47.0	6.1	26.2	-	-	9.2	11.4	-	-	6.7	-	93.9	100
Cleveland	1.3	55.2	-	3.4	-	6.9	34.5	-	-	100	-	-	100.0	100
Howard	5.1		Not	available							-	-	100.0	100
Kewaunee	2.3	49.4	1.2	49.4	-	-	-	-	-	100	-	-	100.0	100
Algoma	2.6	42.1	2.6	10.5	-	-	18.5	26.3	-	100	20.3	-	79.7	100
Sister Bay	2.6	58.1	27.0	-	-	-	14.9	-	-	100	-	-	100.0	100
Egg Harbor	5.3		Not	available						-	-	-	100.0	100
Wisconsin Coast	148.8	48%	4%	21%	1%	6%	2%	12%	6%	100%	43%	1%	56%	100%

* Green Bay, Use percentages...not zoning percentages

*Coastal Land Measurements

Two types of municipal land measurements have been included in this report--total area and total coastal shoreline length. The figures for municipal size, in square miles (Table 1), were obtained from the United States Department of Commerce census data of 1970 and checked with the individual municipalities.

The length of a municipality's coastline and the amount of land in various zoning and ownership catergories are presented in Table 2. The maps used to obtain this data were base maps prepared by the three regional planning commissions as part of the preparation of the Wisconsin Coastal Atlas. These maps are on a scale of 1"=2000'. In certain cases, when incorporated areas were not shown on these maps, official city or village maps were used. To assure the reliability and accuracy of these figures they have been checked against other estimates of city and village coastline length and with the individual localities.

In preparing these tables, the shoreline was measured very closely. The shorelines around bays were included; river shorelines were not. Docks and other structures were excluded. As this project deals for the most part with coastal shore areas, distances were figured on the basis of land above the ordinary high water mark, rather than the outer most boundary of a municipality. For this reason these figures may vary from those used for other purposes.

3) System alternatives
4) Specific proposed and alternative generation sites for those major facililites whose construction is planned within three years
5) Proposed and alternative transmission line routes
6) Research programs
7) Conservation and load management programs
8) Regional associations and
9) Supplemental information necessary for a detailed evaluation of the plan.[5]

A copy of each advance plan must be filed with the following state agencies:

1) Department of Administration
2) Department of Business Development
3) Department of Health and Social Services
4) Department of Justice
5) Department of Local Affairs and Development
6) Department of Natural Resources
7) Department of Transportation
8) Each regional planning commission.[6]

Those agencies receiving a copy of the plans are required to comment on any permits or approvals required by the agency, the areas in which the plans coordinate or conflict with the agency's plans, and the environmental impacts of the plan. The Public Service Commission must prepare a single environmental assessment on all the utilities' advanced plans and discuss the generic issues.

Hearings are held in those areas significantly affected by facilities proposed for construction in the following three years and in other Wisconsin localities. The Commission is obliged to either approve or deny each plan within 18 months after it is filed except for the first advance plan. A plan shall be approved if, upon the hearing record and written comments submitted, the Commission determines that the plan:

1. Will provide for a reasonably adequate supply of electrical energy to meet the needs of the public during the planning period;
2. Is in the public interest when considering engineering, economic, health, safety, reliability, efficiency and environmental factors and alternate methods of generation or sources of supply;
3. Is reasonably coordinated with long-range plans and policies of other agencies or that a reasonable effort has been made to coordinate with such plans and policies; and
4. Provides for programs which discourage inefficient and excessive power use.[7]

(2) Certificate of Public Convenience and Necessity

Any person wishing to construct an electric generator over 12

megawatts or a high-voltage transmission line over 100 kilovolts must obtain a certificate of public convenience and necessity from the Public Service Commission. A certificate cannot be issued until all pre-construction permits from the Wisconsin Department of Natural Resources are granted. The following list constitutes a general order of events in the decision-making process for issuing a permit for siting a power plant:

a) The utility files an application;
b) The Public Service Commission and Department of Natural Resources staffs jointly prepare a Preliminary Environmental Report (PER);
c) The PER is distributed for public review;
d) The staffs prepare an environmental impact statement(EIS);
e) Public hearings are held in the vicinity on the application and EIS;
f) Adjudicatory hearings are held, a record of the transcript is obtained, and briefs are filed;
g) Preparation of recommendations;
h) The Commission issues an order.

The length of time required for each step is outlined in Appendix C.

The Public Service Commission must grant a certificate to applicants of a proposed power plant or transmission line if:

1. The proposed facility is in substantial compliance with the most recent advance plan filed . . .except if the commission . . .finds that the need for the facilities or lines could not have been reasonably foreseen by the utility at the time of the filing of its most recent advance plan approved by the commission.
2. The proposed facility is necessary to satisfy the reasonable needs of the public for an adequate supply of electric energy.
3. The design and location or route is in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability, and environmental factors.
4. The proposed facility will not have undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water and recreational use.
5. The proposed facility complies with the criteria under the public utilities code relating to:

   (a) Efficiency of service
   (b) Non-inflation of rate base, and
   (c) Cost of service.

6. The proposed facility will not unreasonably interfere with the orderly land use and development plans for the area involved.[8]

(3) Environmental Regulations

On April 28, 1972, the Wisconsin Legislature passed the Wisconsin Environmental Policy Act (WEPA). The Act required that environmental impact statements must be written by state agencies on major actions, which may significantly affect the environment.[9] An additional law specified that an environmental impact report may be required by the Department of Natural Resources on those projects which exceed forty acres or the estimated costs are greater than $25,000.[10]

The Wisconsin Environmental Policy Act is modeled after the federal law. The differences are that state agencies must include details of the beneficial aspects, economic advantages, and economic disadvantages of the proposed project, and a public hearing must be held on the environmental impact statement.

On July 21, 1973, the Wisconsin Legislature adopted a Water Pollutant Discharge Elimination System (WPDES).[11] The purpose of the law is to eliminate the unabated pollution of Wisconsin waters. The goal is to eliminate water pollutants by 1985. An interim water quality goal, preserving fish and wildlife, is established for 1983. The Department of Natural Resources holds authority to issue permits. An application is approved if the wastes meet effluent limitations, standards of performance for new sources, and federal or state water quality standards. Any facility expansion or design changes that discharge additional wastes must be reported to the Department of Natural Resources.

Wisconsin statutes include other environmental regulations concerning water quality,[12] the construction of structures on the beds of lake and rivers,[13] effluent limitations,[14] diversion of surplus[15] and non-surplus water,[16] floodplain and shoreline zoning,[17] changing the course of a stream,[18] excavations near navigable waters,[19] removal of bed material from a stream or lake bottom,[20] air quality, [21] hazardous waste disposal,[22] industrial wastewater treatment facilities,[23] establishment of bulkhead lines,[24] and high capacity wells.[25] Many of these laws are encountered when siting a power plant.

C. Natural Gas and Oil Storage Facilities

At the present time, no underground storage facilities are located in Wisconsin. Natural gas is stored in several other states and is usually pumped into nonproductive old gas wells and then drawn out when needed. When a company proposes to drill rock formations to test their feasibility to store natural gas, the Wisconsin Public Service Commission must be notified.

Three small liquid natural gas facilities are located in Wisconsin. A certificate is required from the Public Service Commission prior to construction. If the activity significantly affects the environment, an environmental impact statement is prepared.

Oil storage facilities are regulated on the federal and state levels. The federal Environmental Protection Agency (EPA) writes environmental impact statements for very large oil facilities; however, the agency is mainly concerned with preventing oil spills. The Environmental Protection Agency has instituted a program which requires each oil storage facility to prepare a Spill Prevention Control and Countermeasure Plan. The plan must be approved by a professional engineer and filed with the agency. If a major spill occurs, the plan must be amended to prevent future similar problems. The U.S. Coast Guard has the major clean-up responsibility for oil spills on the Great Lakes, and this agency frequently inspects the oil terminals. The U.S. Army Corps of Engineers controls permits for dredging.

The lead state agency for regulating oil storage facilities is the Wisconsin Department of Natural Resources. A WPDES permit must be obtained if the facility discharges any effluents into Wisconsin waters. The Department of Natural Resources also regulates air emissions under the Clean Air Act. The Wisconsin Department of Industry, Labor and Human Relations implements the Flammable Liquids Code.[26] A fire prevention permit is necessary for tanks holding more than 8,000 gallons. Facilities are required to meet certain specifications and obtain special safety equipment. The municipal fire departments check the storage tanks for compliance with the Flammable Liquids Code at least twice a year. Compliance with county shoreline zoning ordinances is also required.

D. Processing Facilities - Oil Refineries

One oil refinery operates in Superior, Wisconsin. The most recent proposal for another oil refinery occurred in 1974. The Kickapoo Oil company planned to construct and operate a facility near Oxford, Wisconsin in Marquette County.[27] The Department of Natural Resources published a preliminaty environmental report, and it was determined that the refinery could not meet the air quality standards. An environmental impact statement was not prepared. Due to the crude oil situation, new oil refineries are not expected to be constructed in Wisconsin. Canadian crude oil exports are declining.

The U.S. Environmental Protection Agency sets air emission and wastewater effluent standards for petroleum refineries. The Wisconsin Department of Natural Resources administers various laws that influence the siting of an oil refinery. The facility must comply with air contaminant source standards. A Wisconsin Pollutant Discharge Elimination System permit must also be obtained. Plans for the installation of a wastewater treatment facility and high capacity wells must also be approved by the Department of Natural Resources. These regulatory functions require that the Department of Natural Resources be the lead state agency and prepare an environmental impact statement on the project.

The Department of Industry, Labor and Human Relations has jurisdiction under the Flammable Liquids Code. This state agency reviews the facility's construction plans. If any access permits are required, the Wisconsin Department of Transportation has jurisdiction.

E. Transportation Facilities

(1) Natural gas pipelines

The large natural gas pipeline that serve Wisconsin are constructed by pipeline companies which sell natural gas wholesale. Since these pipelines pass through several states, the Federal Energy Regulatory Commission, Department of Energy, authorizes the rates, construction activities, and overall safety requirements. The federal Department of Transportation (DOT) also regulates some safety matters. This federal jurisdiction stems from the Natural Gas Act that was enacted in 1938.

Wisconsin laws mainly regulate intrastate lines such as intercity natural gas distribution lines. The Public Service Commission is empowered with the rights to allow construction of the facility and condemnation of property; it also sets safety requirements and economic rates. Natural gas distribution lines need a certificate to construct depending on the size of the project. The anticipated expenditures must also exceed 2% of the annual operating revenue of the utility.

Activities regulated by state agencies require some type of Wisconsin Environmental Policy Act review if significant environmental consequences result from the facility. The Department of Natural Resources permit must be obtained for distribution lines that cross a waterway. The Wisconsin Department of Transportation deals with distribution lines at highway crossings. Information relating to safety, interference with highway traffic, proposed method of construction, and maintenance plans is required before a determination is made on the issuance of a permit.

The bulk of Wisconsin's new gas lines, however, are gas distribution systems and gas hook-ups to individual customers. The Wisconsin Adminstrative Code sets construction standards for safety. Each distribution company promulgates its own rules in compliance with state standards. When a company is first established, these rules must be approved by the Public Service Commission.

(2) Petroleum Pipelines

As with natural gas pipelines, petroleum pipelines are usually interstate and are regulated by the Department of Energy (DOE). The Department of Energy is considered the lead federal agency for preparing environmental impact statements, and Wisconsin agencies are asked to review these statements. The federal Department of Transportation sets and enforces safety standards under the Federal Pipeline Transportation Act. The Environmental Protection Agency's major concerns are with preventing oil spills. The Interstate Commerce Commission sets rates for interstate petroleum pipelines.

Since petroleum pipeline companies are not classified as "utilities", the Wisconsin Public Service Commission has little jurisdiction compared to its authority over natural gas distribution. However, the company must still obtain approval from the Public Service Commission to condemn property. The lead Wisconsin agency for petroleum lines is the Department of Natural Resources. If the distribution line crosses a navigable stream, a Wisconsin Department of Natural Resources permit is required. A discharge permit is needed prior to any hydrostatic testing. The Wisconsin Department of Industry, Labor and Human Relations sets fire safety specifications, and the Wisconsin Department of Transportation has jurisdiction over permits for crossing highways.

(3) Coal Transshipment Facilities

The lead federal agency is the U.S. Army Corps of Engineers with jurisdiction over dredging permits. The U.S. Coast Guard inspects the vessels with the purpose of safeguarding against hazards to navigation. Coal dust levels from these facilities are set by Clean Air Act standards, and the Wisconsin Department of Natural Resources enforces these regulations. For any point source discharges, a WPDES permit must be obtained. The company must also comply with county shoreline zoning ordinances. Incorporated areas may have local jurisdiction, such as the City of Milwaukee which passed siting regulations for facilities that may create a safety problem or pose a hazard to public health or property.

F. Conclusion

Applicable federal, state, and local procedures adequately assess the suitability of sites for energy facilities in Wisconsin. The advance plan process resolves conflicts between various interests such as the regional need for energy, alternative systems for generation, alternative fuel sources and supply, techniques for reducing energy demand, and alternative plant sites. The Wisconsin Environmental Policy Act procedures evaluate the environmental suitability of sites and compare the proposed site to other alternative locations. Performance standards for specific energy facilities have been established for air emissions and waste effluents. These standards must be compiled with irrespective of a facility's coastal or inland location. Numerous other statutes relating to coastal areas safeguard navigability, water resources, shoreline aesthetic values, and facilities constructed in areas prone to flooding.

Footnotes

(Section III)

1. Land Use and Coastal Management in Wisconsin Coastal Municipalities, David W. Owens and Michelle Rothenberg, Wisconsin Office of State Planning and Energy, Madison, Wisconsin, January, 1978, Table 2, p. 28.

2. Interstate pipelines usually refer to those lines which directly link into the source of production. However, in this document, interstate pipelines refer to those major lines connected with other states' pipelines.

3. Chapter 68, Laws of 1975, State of Wisconsin, 1975 Assembly Bill 463.

4. Wisconsin Administrative Code, Public Service Commission 111.10.

5. Wisconsin Administrative Code, Public Service Commission 111.12-111.21.

6. Wisconsin Statutes, Chapter 196,491(2)(b)(1-8).

7. Wisconsin Statutes, Chapter 196.491(2)(i); and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Washington, D.C., March, 1978, p. 123, Specific Policy #5.10 under Economic Development.

8. Wisconsin Statutes, Chapter 196.491(3)(d).

9. Chapter 274, Laws of 1971, State of Wisconsin, 1971 Assembly Bill 875.

10. Chapter 273, Laws of 1971, State of Wisconsin, 1971 Assembly Bill 873.

11. Chapter 74, Laws of 1973, State of Wisconsin, 1973 Assembly Bill 128.

12. Wisconsin Statutes, Chapter 147 and Wisconsin Administrative Code, Department of Natural Resources 102-104; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p. 105, Specific Policies #1.3 and 1.4 under Coastal Water and Air Quality.

13. Wisconsin Statutes, Chapter 30.12; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p.118. Specific Policy #4.11 under Community Development.

14. Wisconsin Administrative Code, Department of Natural Resources 290.

15. Wisconsin Statutes, Chapter 31.14.

16. Wisconsin Statutes, Chapter 30.18.

17. Wisconsin Statutes, Chapter 144.26 and 59.971; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p.111, Specific Policy #2.13 under Coastal Natural Areas, Wildlife Habitat and Fisheries.

18. Wisconsin Statutes, Chapter 30.195.

19. Wisconsin Statutes, Chapter 30.19; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p. 117, Specific Policy #4.3 under Community Development.

20. Wisconsin Statutes, Chapter 30.20; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p.118, Specific Policy #4.11 under Community Development.

21. Wisconsin Statutes, Chapter 144.39; and State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, op. cit., p.107, Specific Policy #1.15 under Coastal Water and Air Quality.

22. Wisconsin Statutes, Chapter 144.43 and 144.44.

23. Wisconsin Statutes, Chapter 144.04.

24. Wisconsin Statutes, Chapter 30.11.

25. Wisconsin Statutes, Chapter 144.025.

26. Wisconsin Administrative Code, Department of Industry Labor and Human Relations 8.

27. Preliminary Environmental Report for the Proposed Kickapoo Oil Refining Company, Inc., Oil Refinery, Marquette County, Wisconsin, Wisconsin Department of Natural Resources staff, Madison, Wisconsin, October, 1974.

Section IV. Public Participation and Inclusion of the National Interest in the Energy Facility Siting Process[1]

A. Introduction

The next requirement of the energy facility siting amendment to the Coastal Zone Management Act of 1972 is concerned with an "identification of how interested and affected public and private parties may be involved in the planning process, and a discussion of the means for continued consideration of the national interest, in the planning for and siting of energy facilities that are necessary to meet more than local requirements, after program approval."

The public is involved with the planning process mainly during each agency's public hearings. These hearings are held according to the agency's procedures. The national interest concerns are addressed by the federal agencies and in various state agencies. The federal agencies' jurisdiction stems from federal laws and official legal actions. Section III describes in greater detail the extent of federal jurisdiction in the energy siting process. The state agencies consider the national interest also according to the agency's procedures.

B. Public Participation

The two major state actions concerning energy facilities' siting are the Wisconsin Environmental Policy Act procedures and the advance plan process. The Department of Natural Resources is responsible for protecting and maintaining air and water quality. In most of the Wisconsin energy facilities sitings, this department is the lead state agency and implements the Act. The Wisconsin Public Service Commission holds the authority for issuing permits for electric power plants and the advance siting process.

(1) Wisconsin Environmental Policy Act Procedures
Executive Order Number 26 establishes guidelines for state agencies implementing the Wisconsin Environmental Policy Act. The lead agency prepares a Preliminary Environmental Report on the project. The report is circulated for a 45-day review period with state, federal, and local agencies and the public. The comments received are then used by the lead state agency in developing an environmental impact statement.

The statement is circulated for a 30-day review period to the public and commenting agencies. A public hearing is held on the environmental impact statement and interested and affected public and private parties may voice their opinions. The final step in this procedure is the decision of the lead agency to approve or deny the proposed action.

(2) Advance Plans

The Wisconsin utilities submitted their first advance plan in July, 1976. An environmental impact assessment was prepared by the Public Service Commission and Department of Natural Resources staffs. Informational hearings were held throughout the state and specifically in those areas where a facility was being planned for construction within the next three years. The hearings were open to the public and were attended by interested groups and affected citizens.

Adjudicatory hearings were scheduled mainly in Madison, Wisconsin. Interested citizens could ask questions and cross-examine the witnesses. Upon a written 10 day notice, an individual or group could become a party to the proceeding and submit testimony for the record. This procedure allows any interested or affected public and private group to become involved in the planning process.

The public hearings on the 1976 advance plan are now officially closed and the Commission will reach a decision on the plan in the next few months. Their decision will affect the future Wisconsin electric capacity and will determine whether coal or nuclear plants will be constructed. A recent Public Service Commission ruling stated that the utilities will not be required to submit their next advance plan until six months after a decision is issued on the first plan. During subsequent advance plans the scope of the hearing may be limited to those topics previously not discussed.

C. National Interest

This section discusses the means for continued consideration of the national interest in the planning for and siting of energy facilities that are necessary to meet more than local requirements. Environmental regulations and the advance plans incorporate the national interest into the decision-making process. However, in certain situations it may be in the national interest not to site an energy facility.

(1) Environmental regulations

The Environmental Protection Agency sets standards for air and water quality in all regions of the U.S. This federal agency also issues the air emission levels for specific types of energy facilities. These levels have precluded the use of high-sulfur coal in electric power plants in some areas. This policy, which stems from a national interest in air quality, created a greater demand for low-sulfur coal. This type of coal is abundant in the western states; therefore, it must be transported to eastern states.

Coal is transported by rail, truck, or barge. A new coal transshipment facility was located in Superior, Wisconsin to transfer the coal from unit trains to barges. The coal was then shipped to eastern states for use by the electric utilities. In this manner the national interest was considered in the planning for and siting of energy facilities. The Superior coal transshipment facility was constructed to meet more than local requirements. Likewise similar facilities may be planned depending upon the future demand for western coal. Revisions in the air quality regulations will influence the economics of transporting western coal to eastern states.

(2) Advance plans

The advance plan process of the Wisconsin Public Service Commission incorporates the regional pools' and electric reliability council's projections of reserve requirements for electric demand forecasts. The Mid-America Interpool Network, the regional power pool for the eastern Wisconsin utilities, and the Mid-Continent Area Reliability Coordinating Agreement, the regional power pool for the western Wisconsin utilities, were both discussed at the proceedings. By statute the Public Service Commission is required to determine whether the plan "will provide a reasonably adequate supply of electrical energy to meet the needs of the public during the planning period."[2] This statement furnishes an assurance that regional and national interest concerns will continue to be included in the advance plan process.

Technical review comments requested a discussion of nuclear power plants and the waste management problems. During the advance plan proceeding, questions on nuclear versus coal-fired power plants were discussed at length. Experts testified on all aspects of the facilities. One study noted that cost comparisons of nuclear and coal-fired power plants were equivalent.[3] Representatives of the U.S. General Accounting Office stated that a special fund should be set aside for decommissioning a nuclear power plant.[4] Another person pointed out that the federal government has repeatedly experienced problems finding a site for burying the nuclear wastes and the resolution of the waste management question is continually lengthened.[5]

In this situation the Public Service Commission may decide to rule in the advance plan process that no new nuclear plants may be constructed until the waste disposal question is answered. The national interest, as expressed by various public agencies, may consider that conservation and coal-fired power plants are

preferred plans rather than constructing nuclear facilities. Certain groups within the private sector may feel it is necessary to construct nuclear power plants because of local requirements, however, it may not be in the national interest.

Footnotes

(Section IV)

1. The information contained in this section does not include the procedures of the Wisconsin Coastal Management Program. These procedures have previously been documented in the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement.

2. Wisconsin Statutes, Chapter 196.491 (2)(c).

3. Public Service Commission Advance Plans, Docket Number 05-EP-1, Exhibit Number 52, Sergeant and Lundy Report.

4. Ibid., Exhibit Number 119, Report to the Congress, Cleaning Up the Remains of Nuclear Facilities--A Multibillion Dollar Problem, U.S. General Accounting Office.

5. Ibid., Testimony of Terry R. Lash, February 16, 1978.

Section V. Techniques to Meet Management Needs

A. Introduction

The fifth element of the energy facility planning process includes "an identification of legal authorities and management techniques that will be used to implement state policies and procedures." Several authorities currently exist in Wisconsin for implementing state policies and procedures. The Wisconsin Legislature delegates responsibilities to State agencies; the agencies institute their own rules and enter into agreements for cooperating with other state agencies' procedures. Management techniques which assess the impacts of Wisconsin energy facilities include the Wisconsin Environmental Policy Act procedures, the designation of Geographic Areas of Management Concern, and the Coastal Energy Impact Program.

B. Legal Authorities

The state policies and procedures listed in Section II are carried out by state agencies. Their authority stems from the Wisconsin Statutes and is further delineated in the Wisconsin Administrative Code. These policies are implemented in the daily procedures followed by each agency. Section III describes in detail how certain policies are incorporated into the energy facilities siting process. The roles of the Office of State Planning and Energy and the Coastal Management Council are explained in the program document.[1]

Interagency agreements exist on behalf of the Coastal Management Council between the Department of Administration and the Public Service Commission, the Department of Administration and the Department of Natural Resources, and the Department of Administration and the Department of Transportation. These agreements are displayed in Attachment Number 1 to the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement. The agreements are used to help resolve conflicting considerations such as the need for energy transportation as opposed to wetlands conservation. They formalize compliance by state agencies with the coastal management goals and policies.

C. Management Techniques

The Wisconsin Environmental Policy Act process describes the proposed action; environment affected; probable impact of the proposed action on the environment; alternatives to the proposed action; probable adverse impacts which cannot be avoided; relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and irreversible and irretrievable commitments of resources. The lead agency prepares the environmental impact statement and uses it as one of the items considered in denying or approving an action.

The process for designating Geographic Areas of Management Concern (GAMC's) is discussed in the program document.[2] Six categories of areas may be designated: 1) significant natural, recreational, scientific or historical value; 2) hazard; 3) water related economic development; 4) future power plant sites; 5) preservation; and 6) restoration. These key coastal geographic areas are singled out because of their unique character. The coastal management program aids the

governmental units who will be managing the areas to set up definite management goals and implement those goals.

One of the expressed goals for a Wisconsin coastal program activity is the identification and designation of areas suited for approved power plant sites.[3] Areas would automatically be nominated for GAMC designation upon Public Service Commission approval of an advance plan specifically identifying and analyzing a coastal power plant. This nomination would follow the normal GAMC designation procedures. A clear statement on the proposed management policy and the duration of the designation should be included. The designation process would not hinder utility activities approved by the Public Service Commission and Department of Natural Resources.

Section 308 of the Coastal Zone Management Act creates a Coastal Energy Impact Program to provide financial assistance to states and local governments faced with the impacts from energy facilities. The Coastal Management Program is establishing an Intrastate Allocation procedure to properly distribute these funds to local governmental units. A general description of the Coastal Energy Impact Program and the proposed allocation procedure is included in Appendix D. The procedure is included with the amendments for a public review and also must be approved by the Coastal Management Council. It will be incorporated into the existing coastal management program funding procedures described in the program document.[4]

D. Conclusion

The legal authorities and management techniques outlined in this section, in Section III, and in the coastal management program document adequately implement the state policies and procedures for siting coastal energy facilities. These authorities and procedures assess the needs for energy facilities and aid in mitigating the impacts from coastal energy facilities. The process is a dynamic and complex one which responds to conditions in energy demand and supply.

Footnotes

(Section V)

1. State of Wisconsin Coastal Management Program and Final Environmental Impact Statement, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, March, 1978, P.203-208.

2. Ibid., p.161-170.

3. Ibid., p.123.

4. Ibid., p. 215-230.

Appendix A: CEIP - SECTION 308(C) PLANNING INVENTORY*

October 17, 1977

State:	Wisconsin
County:	Three Northern Counties
Activity:	Transportation and Transfer Facilities
Name:	Dakota Transportation System
Location:	Douglas, Bayfield, Ashland Counties
Operator:	Great Lakes Transmission Company
Facility Type:	Major Gas Pipeline
Capacity:	100 Miles/35"
Initial Operating Date:	12/01/81
Construction Start Date:	06/01/81
Construction End Date:	12/01/81
Environmental Impact Statement:	No
EIS Status:	
Application for Federal Permit Pending:	Yes
Description:	FPC-75-283
Federal Permit Obtained:	No
Description:	
Application for State Permit Pending:	No
Description:	
State Permit Obtained:	No
Description:	
Peak Construction Employment:	400
Peak Operating Employment:	
Environment Factor:	2
Safety Factor:	1
Population Density Code:	1
Planning Cost Differential:	1.13

*Appendix A consists of the federal inventory list for Wisconsin, dated October 17, 1977. The federal Office of Coastal Zone Management (OCZM) prepares a list of planned coastal energy facilities each year for the state of Wisconsin. The number of facilities on the inventory contributes to Wisconsin's 308 allotment. This inventory is derived from previous lists and information from federal regulatory agencies. The information on this list consists of the best available information at the time it is distributed. If an environmental impact statement is being prepared but the OCZM is not aware of this activity, then the inventory would reflect that an environmental impact statement is not being prepared.

The numerical ranking for environmental considerations and safety considerations is based on the type of energy facility. All nuclear electric generating plants are assigned a number of 3 for environmental considerations and 3 for safety considerations. Major gas pipelines are assigned a number of 2 for environmental considera-

tions and 1 for safety considerations. The population density code is derived from the location of the proposed facility. The planning cost differential is an index of the average salary of professional planners in planning agencies throughout the United States. The OCZM calculates a planning - need factor for each facility based upon the numerical values assigned to each characteristic. The sum of the planning - need factors for all of Wisconsin's proposed coastal energy facilities constitutes Wisconsin's planning need equivalency. The OCZM allocates the year's available funds according to each coastal state's planning need equivalency.

State:	Wisconsin
County:	Sheboygan
Activity:	Electric Generating Plant
Name:	Edgewater Unit 5
Location:	Sheboygan
Operator:	Wisconsin Power and Light
Facility Type:	Fossil Fuel
Capacity:	400 Megawatts
Initial Operating Date:	01/01/83
Construction Start Date:	01/01/78
Construction End Date:	01/01/83
Environmental Impact Statement:	No
EIS Status:	
Application for Federal Permit Pending:	Yes
Description:	Environmental Protection Agency Preliminary Air Quality Permit
Federal Permit Obtained:	Yes
Description:	
Application for State Permit Pending:	Yes
Description:	Certificate of Authority
State Permit Obtained:	No
Description:	
Peak Construction Employment:	530
Peak Operating Employment:	45
Environment Factor:	2
Safety Factor:	1
Population Density Code:	1
Planning Cost Differential:	1.13

State:	Wisconsin
County:	Sheboygan
Activity:	Electric Generating Plant
Name:	Haven I
Location:	Sheboygan
Operator:	Wisconsin Power & Light and Wisconsin Electric Power Company
Facility Type:	Nuclear
Capacity:	900 Megawatts
Initial Operating Date:	6/1/87
Construction Start Date:	8/1/81
Construction End Date:	4/1/87
Environmental Impact Statement:	No
EIS Status:	
Application for Federal Permit Pending:	No
Description:	
Federal Permit Obtained:	No
Description:	
Application for State Permit Pending:	No
Description:	
State Permit Obtained:	No
Description:	
Peak Construction Employment:	750
Peak Operating Employment:	55
Environment Factor:	3
Safety Factor:	3
Population Density Code:	1
Planning Cost Differential:	1.13

State:	Wisconsin
County:	Sheboygan
Activity:	Electric Generating Plant
Name:	Haven II
Location:	Sheboygan
Operator:	Wisconsin Power & Light and Wisconsin Electric Power Company
Facility Type:	Nuclear
Capacity:	900 Megawatts
Initial Operating Date:	12/01/89
Construction Start Date:	
Construction End Date:	
Environmental Impact Statement:	
EIS Status:	
Application for Federal Permit Pending:	No
Description:	
Federal Permit Obtained:	No
Description:	
Application for State Permit Pending:	No
Description:	
State Permit Obtained:	No
Description:	
Peak Construction Employment:	750
Peak Operating Employment:	55
Environment Factor:	3
Safety Factor:	3
Population Density Code:	1
Planning Cost Differential:	1.13

Appendix B: Additional Proposed Coastal Energy Facilities Suggested by the Wisconsin Office of State Planning and Energy for Inclusion on the Federal Office of Coastal Zone Management Inventory to Determine the Wisconsin Allocation of Coastal Energy Impact Program Funds

A. Electric Power Plants

1. A 900 MW coal-fired electric generating plant is in the planning stage near Belgium, Wisconsin (Ozaukee County). Preliminary environmental site work will probably begin in 1978 and an application will be submitted in 1979. The utility anticipates plant operation in 1984.

2. A 580 MW coal-fired power plant is being constructed in Pleasant Prairie, Wisconsin (Kenosha County). Although it is located 5 miles inland, the plans call for the use of Lake Michigan water for cooling purposes. Initial operation is expected in 1980.

3. A second unit at the Pleasant Prairie site is plannned for an operating date of 1982.

B. Oil and Natural Gas Storage Facilities

1. One of the gas companies serving Wisconsin has started some exploratory drilling along the coast. They are testing rock formations for the possible construction of an underground gas storage facility. The natural gas storage capacity is dependent upon the test results.

2. An oil terminal along the Wisconsin shoreline is expanding its facility. They are discussing the construction of a large oil storage tank.

C. Transportation Systems for Oil, Gas and Coal

1. A new coal transshipment facility is planned for the City of Superior. A few million tons of coal will be shipped through this new facility. Construction could begin in 1979.

2. A coal company in Green Bay is discussing the possibility of expanding its coal handling facility.

Appendix C
Cooperative Agreement Between the Public Service Commission of Wisconsin and the Department of Natural Resources for the Environmental Assessment of Major Generating Facility Proposals

Definition of Terms

WEPA	Wisconsin Environmental Policy Act (Section 1.11, Wisconsin Statutes)
Power Plant Siting Law	Chapter 68, Laws of 1975 (Section 196.491, Wisconsin Statutes)
Wis. Stats.	Wisconsin Statutes
Wis. Admin. Code	Wisconsin Administrative Code
PSC	Public Service Commission
SPERCA	Division of Systems Planning, Environmental Review and Consumer Analysis, PSC
DNR	Department of Natural Resources
BEI	Bureau of Environmental Impact, DNR
EIR	Environmental Impact Report
PER	Preliminary Environmental Report
EIS	Environmental Impact Statement
CPCN	Certificate of Public Convenience and Necessity

The Public Service Commission and the Department of Natural Resources are involved in critical decisions regarding major electric generating facilities in Wisconsin. In order to insure full compliance with the spirit and intent of WEPA and the Power Plant Siting Law and to maximize the effectiveness of state agency regulatory review, the PSC and DNR enter into the following agreement.

I. Scope

This agreement shall apply to all major electric generating facilities (20 MW or greater) including associated transmission lines, as described in section 196.491, Wis. Stats.

II. Intent

A. Since the PSC has the primary decision responsibility with regard to major electric generating facilities, the PSC shall assume the role of lead agency. It shall be responsible for minor (non-substantive) editing, collating, production and distribution of both the PER and EIS. The DNR shall be responsible for printing the PER and EIS. Each agency shall be responsible for specific sections of both the PER and the final EIS.

B. A PSC and DNR coordinated review procedure and joint development of PER's and EIS's for major electric generating facilities shall be established in order to comply with the statutory requirements of WEPA and the Power Plant Siting Law. These procedures shall include the following:

1. The exchange of available information regarding utility site evaluations for potential power plant proposals which is of use to both agencies.

2. Development of joint guidelines for the utility's use in preparing an EIR to satisfy the requirements of Chapter PSC 111, Wis. Admin. Code, and section 23.11(5), Wis. Stats., and a procedure for requesting additional information from the utilities which will coordinate such requests.

3. Maximum utilization of each agency's staff and expertise in the development of PER's and EIS's for power plants by defining each agency's responsibilities.

4. Procedures for exchange of staff expertise at public hearings and meetings held by each agency.

III. General Procedure

A. Each agency shall notify the other when it becomes aware of a new major proposal by a utility, if the proposal has not already been identified through the Power Plant Siting Law's provision for submittal of Advance Plans by the utilities.

B. The designated WEPA coordinator of each agency shall serve as liaison person for the DNR and PSC respectively. A project coordinator within each agency for each specific project shall be appointed to:

1. Coordinate that agency's participation in the review of the project.

2. Expedite the exchange of information between the two agencies.

3. Resolve any scheduling and coordination problems.

4. Apprise the other agency of all project developments, through immediate exchange of all appropriate correspondence and other new information, and through notification of all scheduled meetings which involve the applicants. The lead agency shall receive copies of all correspondence relating to each project and shall maintain a complete file of such correspondence.

5. Serve as a contact through whom all interagency communications can be directed and establish guidelines for direct staff contact where appropriate.

C. The agencies shall direct the utility to prepare a single report (EIR) including a complete description of the proposed facility and necessary environmental data to comply with PSC 111, Wis. Admin. Code and section 23.11, Wis. Stats. The PSC shall not consider the CPCN application complete until the EIR has been submitted by the applicant, and reviewed and considered sufficient by both agencies for development of the PER. Two copies of the engineering plan filed with the DNR pursuant to section 196.491(2)(m), Wis. Stats., shall be sent to the PSC by the DNR project coordinator for informational purposes. The DNR shall notify both the PSC and the applicant of its acceptance of the engineering plan. The DNR project coordinator shall consult with the PSC project coordinator prior to the DNR decision regarding pre-certification permits and approvals in accord with Chapter NR 170, Wis. Admin. Code.

D. The two project coordinators will prepare joint guidelines to be followed by the applicant in preparing the EIR. In requesting supplemental information necessary to complete the application, a letter requesting such information shall be jointly prepared by the PSC and DNR within one month of the receipt of the application by PSC, and forwarded to the utility by PSC. These requests shall identify whatever additional information

is required to develop the PER. Responses to the inquiries shall be reviewed for adequacy within 3 weeks of their receipt and the utility notified as to the adequacy of its response. Efforts to further clarify information should adhere to the general division of responsibility described in Section IV, and thus avoid separate requests of the applicant for similar information. Following submittal of the CPCN application, all requests for clarification shall be forwarded through the PSC project coordinator. When all information is received and found to be acceptable to the PSC and DNR, the CPCN application will be considered complete. Following the acceptance of the CPCN application, a coordinated approach shall be taken by both agencies in requesting further information.

E. To adhere to the time limits imposed by section 196.491(3)(f) and (g), a jointly prepared PER shall be released for comment within 135 days after the application is accepted as complete. The EIS shall be released within 300 days after the application is accepted as complete. Other milestones in the review process shall be met generally as described in Attachment A.

F. A written record of all delays shall be kept by the project coordinators. A written explanation of any significant delays shall be prepared by the project coordinator(s) and provided to the WEPA coordinator and the Commission and the DNR Office of the Secretary.

G. For each proposal, the PSC and DNR shall jointly develop a content and agency assignment outline for the PER and EIS. The outline shall be utilized by each agency as the basis for refining and further delineating responsibilities within that agency. This outline shall be developed according to the guidelines contained in Section IV.

H. The preparation of the PER and EIS shall proceed according to the applicable agency rules and the Governor's Guidelines for Implementation of WEPA, issued February 1976. Throughout the preparation of the PER and EIS, each agency shall have final editorial authority over its portions of the documents, subject to lead agency non-substantive editorial and publication responsibilities.

I. Sections of the PER and EIS that are prepared by one agency but will affect the analyses of the other agency shall be identified, if possible, when the outline is developed. Typed draft copies of these sections shall be given to the other agency upon completion.

J. A minimum and maximum period shall be jointly established for the internal review of the completed draft of the PER and EIS, allowing time to incorporate any necessary revisions into the documents and to resolve any disagreements. If such disagreements cannot be resolved through communication between agency staffs and/or re-evaluation of data, each agency shall have the right to present its assessment of the other agency's analysis through a formal review of the published PER or if necessary through a separate analysis in the body of the document. All reasonable efforts will be made to avoid the need for separate analyses of similar subject matter by the two agencies.

K. PER and EIS summary sheets, the PER announcement sheet and all notices of public meetings and hearings in which both agencies are involved shall be prepared jointly. After the need for a public meeting or hearing has been established, the purpose, date, time, location and necessary agency participants for each public meeting and hearing shall be agreed upon by both agencies if appropriate. Project coordinators should receive copies of all public meeting and hearing notices.

L. During public hearings on the EIS, each agency shall make its staff available to answer questions from the public and intervenors on those portions of the EIS for which it is responsible. Interagency questioning shall be avoided whenever possible.

1. Interagency questioning should not be used as a substitute for normal interagency communication. Wherever possible, interagency questions should be dealt with prior to the hearing and responses should be incorporated in the PER/EIS or in the interagency review comment process.

2. Where the question was not answered prior to the hearing through normal interagency communications, or in areas of unresolved conflict, cross-examination shall be permitted. Under these circumstances, the questions shall be given to the respective agency staff prior to their testimony if at all possible so that the subject can be adequately addressed first through direct examination.

M. The PSC shall provide the DNR with a copy of the CPCN decision and the DNR shall provide the PSC with copies of all decisions, permits and approvals that are issued in relation to the proposal. If the CPCN decision will directly affect any existing DNR policies or programs, the department shall fully set forth the expected effects in the EIS, or on the hearing record and/or through briefs.

IV. Responsibility of Each Agency in Preparing the PER and EIS

In preparing the PER and EIS, each agency recognizes that one purpose of these documents is to present the PSC and DNR decision-makers with a factual analysis of the environmental ramifications of each proposed major electric generating facility. Thus, the PER and EIS shall be issue-oriented and written in a clear, concise manner.

Responsibility for preparation of specific portions of the PER and EIS will be determined on the basis of regulatory authority and available expertise within the agency.

A. The PSC shall prepare those sections of the document which pertain to the history of the proposal, project need, schedule and cost, land-use patterns, general land use including agriculture, industrial, commercial, and residential uses, transportation and utility usage, economic, social and cultural considerations, historic and archaeological areas, population, regional impacts, human health considerations, and system and site alternatives.

B. The DNR shall be responsible for describing those aspects of the proposal for which it has permitting authority or regulatory responsibility, including scientific and natural areas, fish and wildlife habitat, forestry, recreation, water resources, air quality, permits for contaminant sources such as solid and liquid waste disposal, and in-plant and on-site alternatives. In sections for which DNR is responsible, Commission requirements for decision-making shall be considered and shall be included in the document.

Anthony S. Earl, Secretary
Department of Natural Resources

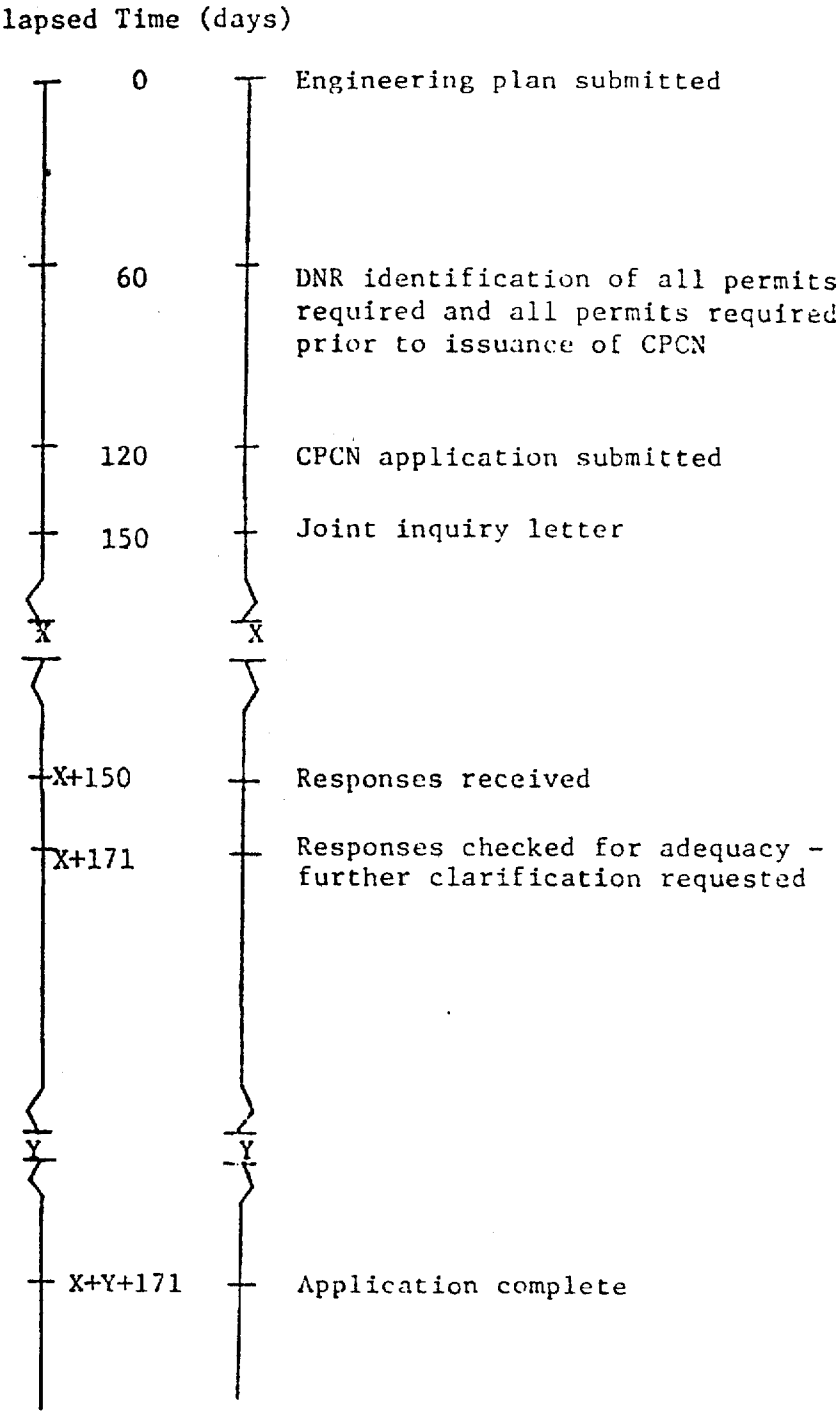
13-April 1978
Date

Lewis T. Mittness, Executive Secretary
Public Service Commission

4-25-1978
Date

Attachment A

Milestones in Regulatory Review of Electric Power Plants
(Prior to Complete Application)



X = time utility takes for preliminary response
Y = time utility takes for follow-up response

(Continued)

Attachment A (continued)
Milestones in Regulatory Review of Electric Power Plants

Elapsed Time (days)	
0	Application complete
90	DNR portions of PER submitted to PSC for final typing
105	Pre-publication review of PER
120	PER to printing at DNR
135	PER released - 60-day review begins
195	PER 60-day review ends - EIS preparation begins
255	DNR portions of EIS submitted to PSC for final typing
270	Pre-publication review of EIS
285	EIS to printing at DNR
300	EIS released
330	Joint hearings initiated
360	Joint hearings completed
390	PSC transcripts available
480	DNR permits issued
540	CPCN decision

Appendix D:

CEIP Background Information and Intrastate Allocation Process

TABLE OF CONTENTS

		Page No.
I.	Background Information	103
	A. Introduction	103
	B. Federal Administration of CEIP	104
	C. Planning Grants	104
	D. Requirements for Establishing an Interstate Allocation Procedure	105
	E. Conclusion	106
II.	Official State Policy	106
III.	Proposed Criteria for CEIP Applications and a Procedure for Assessing the Criteria	107
IV.	Allocation Process	109
V.	Short Form of CEIP Intrastate Allocation Procedure	110
VI.	Notification Procedures	110
VII.	Summary and Conclusions	111

Section I. Coastal Energy Impact Program Background Information

A. Introduction

The Coastal Energy Impact Program is administered by the federal Office of Coastal Zone Management (OCZM) according to Section 308 of the Coastal Zone Management Act of 1972 as amended. The OCZM is a subdivision of the Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). This provision of the law provides financial assistance to states and local governments to mitigate the impacts resulting from coastal energy development. Energy related activities along Wisconsin coastal areas or affecting the coastal areas are eligible for funding under the Coastal Energy Impact Program (CEIP).

Five types of financial assistance are provided under Section 305(b)(c)(d):

(1) Planning grants for the consequences of energy facilities,
(2) Loans for new or improved public facilities and services required as a result of coastal energy activities,
(3) Grants to reduce any unavoidable loss of valuable environmental or recreational resource,
(4) Outer Continental Shelf (OCS) development grants, and;
(5) Repayment assistance to coastal states and local governments experiencing difficulties meeting credit obligations because the energy activity did not provide the expected revenue.

Because of the legal language written in the law, certain words need to be defined and clarified. The language describes what types of energy projects can be funded. The term "coastal energy activity" refers to (1) any Outer Continental Shelf energy activity; (2) any transportation, conversion, treatment, transfer or storage of liquid natural gas; or (3) any transportation, transfer or storage of oil, natural gas, or coal (NOAA regulations, Section 931.13, 43 FR 7551). The term "energy facility" means any equipment or facility which is used primarily: (1) in the exploration for, or the development, production, conversion, storage, transfer, processing or transportation of, any energy resource; or (2) for the manufacture, production, or assembly of equipment, machinery, products or devices which are involved in the projects described in section (1) (NOAA regulations, Section 931.19, 43 FR 7552).

Funding obtained through planning grants, Section 308(c), may be applied to either coastal energy activities or facilities. However, the remaining four types of assistance mentioned above may be distributed <u>solely</u> for coastal energy activities. In particular, these remaining four types of funds may <u>not</u> be applied to electric generating plants. In addition, the monies allocated under the Coastal Energy Impact Program come from two separate sources, the bulk of which is earmarked for Outer Continental Shelf development.

B. Federal Administration of CEIP

The federal OCZM annually distributes a proposed inventory for the state; it lists the new energy facilities, population change, and associated permits pending (Appendix A). The Wisconsin Office of State Planning and Energy (OSPE) reviews the inventory within 45 days and is allowed to comment and add proposed energy facilities to the list. Funds are made available according to this inventory of new coastal energy facilities in the state and according to a procedure set up by the Office of Coastal Zone Management. The formula procedure takes into account several parameters including: environmental and safety considerations, planning cost differences for various regions of the country, and expected employment of the facility.

In March, 1977 Wisconsin received the first federal inventory. On May 16, 1977 Wisconsin was allocated $27,165 for CEIP funding under Section 308(c) for the fiscal year 1977. Although these funds are allocated or set aside for Wisconsin, the state must submit an application explaining how the funds will be used and which projects will be funded. In order to receive the 1977 funds, the state must apply prior to August 15, 1978. On October 17, 1977 Wisconsin received the 1978 federal planning inventory (Appendix A). The Office of State Planning and Energy reviewed the coastal energy inventory and proposed that additional facilities be included (Appendix B). On January 17, 1978 Wisconsin was allocated $82,283 for fiscal year 1978; the application must be submitted prior to August 15, 1979. Both of these amounts may only be used for planning purposes, Section 308(c) funds. Wisconsin did not receive funding under the other four types of assistance, Section 308(b)(d). OCZM distributed the funds according to the inventory and the formula procedure described previously.

C. Planning Grants

Section 308(c) grants are designed for the study and planning of consequences relating to new or expanded energy facilities. These funds can be applied to various programs:

(a) planning for economic, social, or environmental consequences of new or expanded energy facilities;
(b) analyzing government or private industry siting policies;
(c) devising strategies for the public purchase of land or for land-use controls upon or near which energy development is to take place;
(d) devising methods of protecting recreational or environmental resources;
(e) conducting studies for maintaining or improving public safety threatened by the construction or operation of energy facilities;
(f) conducting analyses required for state or local regulatory decisions related to energy facilities;

(g) performing cost/benefit analyses comparing the consequences of alternative energy facility types or sites;
(h) devising strategies for recovering compensation for any adverse effects caused by an energy facility;
(i) forecasting employment, population, public facility and public service needs and costs, and tax and user fees revenues;
(j) planning for public facilities needed as a result of the energy activities;
(k) study of and planning for the secondary consequences of alternative types and sites of public facilities needed as a result of the energy activities;
(l) study of and planning for the consequences of the phasing out of energy facilities; and
(m) carrying out projects necessary to administer assistance under Section 308 (NOAA Regulations, Section 931.33, 43 FR 7554 - 7555)

The compiled list of eligible planning projects is not considered to be a comprehensive one; other proposals relating to energy facilities planning may be funded. Section 308 states that the financial assistance is provided "to meet the needs of the coastal states and local governments in such states resulting from specific activities involving energy development." Therefore, the funds are to be used to ameliorate the negative impacts of energy facilities and not be used in propounding an adversary position to the site. It is assumed that the facility will be constructed. Likewise, CEIP funds can not be used to persuade an energy company to locate a facility in a certain area. Generally, a company must first apply for a permit.

D. Requirements for Establishing an Intrastate Allocation Process

Since Wisconsin has been allocated less than $250,000 in 308 grants or $2 million in credit assistance, Wisconsin can use a simple allocation process as explained in NOAA Regulations Section 931.112 (b) (43 FR 7566). The following three elements form the basis of the Intrastate Allocation Process:

(1) The methods used to determine the priorities for the needs for financial assistance resulting from coastal energy activity.
(2) The methods used to evaluate and select projects and to allocate financial assistance.
(3) The methods used to provide for formal notification of, direct consultation with, and comments by, affected State agencies and units of local government in the allocation of all 308 funds.

Several key questions need to be addressed in this process:

(1) Who determines the needs and sets the priorities? What method or methods are used to rate, rank or group needs?
(2) Who evaluates and selects proposals? What method or methods are used to rate, rank or group projects or activity applications?

(3) Who makes the determination about the allocation of 308 funds to individual projects? How are project by project financial assistance allocations made?
(4) Who is responsible for notifying, consulting with and receiving comments from affected state agencies and units of local government? How are the notification, consultation and comment requirements concerning affected state agencies and units of local government met?
(5) Who is administratively responsible for tying this together?

Compliance with these three elements and answers to the five key questions are necessary prior to the reception of CEIP funds. One state agency must act as the CEIP lead agency responsible for setting up an Intrastate Allocation Process. This process must provide guidelines for distributing funds within the state.

E. Conclusion

Section I described the basics of Section 308, one of the amendments to the Coastal Zone Management Act of 1972. A discussion of the federal administration of CEIP and the method used in allocating funds was included. Planning grants, the only type of CEIP financial assistance available to Wisconsin, were explained. The legal requirements each coastal state must comply with in order to apply for the allocated funds were also discussed.

Section II. Official State Policy

This section provides information on Wisconsin's involvement in the CEIP process. Executive Order Number 49, promulgated by Acting Governor Schreiber on October 7, 1977, sets forth several official coastal management policies:

- "to improve the quality and management of the waters of the coastal area,
- to conserve and enhance natural land and water resources,
- to mitigate risk to public health and safety,
- to insure the orderly and balanced development of coastal communities,
- to stimulate desirable economic development . . .and to encourage the designation and reservation of areas of significance to activities requiring a coastal location,
- to ensure intergovernmental communication, cooperation, and coordination in all aspects of coastal management, and
- to provide citizens with full opportunities for early and continuous involvement in coastal management through effective communication and participation."

Several policies relate directly to the formulation of the CEIP Intrastate Allocation Process. Citizen involvement and communication with various levels of government are important sources of input for this process. Section VI describes the citizen participation. State policy also deals directly with the Coastal Energy Impact Program when encouraging the designation and reservation of areas of significance to activities requiring a coastal location. Section

12(e)(3) of the Executive Order necessitates "managing the planning for and siting of electric generating and transmission facilities so as to ensure protection of water quality, public and riparian rights, and orderly land use." This statement recognizes the unique nature of electric energy facilities and their particular association with Wisconsin coastal areas.

In March, 1977, Governor Patrick Lucey officially established the Office of State Planning and Energy as the lead agency for the administration of CEIP under Section 931.26(a) of the interim final regulations dated January 5, 1977, Part III. This designation was accomplished by a letter to Mr. Robert Knecht, Associate Administrator of NOAA. On March 2, 1978 Governor Martin J. Schreiber reaffirmed this designation (Appendix E). Therefore the Office of State Planning and Energy is the lead agency for both Sections 305 and 306 coastal management program grants as well as Section 308 CEIP grants. This single agency facilitates coastal management planning for the state and performs the functions listed in NOAA Regulations Section 931.26(a)(1)(2)(2) (43 FR 7553-7554). This mode of operation streamlines the statewide coordination aspects of the various programs relating to coastal management in Wisconsin.

Section III. Proposed Criteria for CEIP Applications and a Procedure for Assessing the Criteria

The Coastal Energy Impact Program (CEIP) of Wisconsin's Coastal Management Program is required to establish an Intrastate Allocation Process. The CEIP funds are to be "distributed among units of local government in amounts which are proportional to need and in a manner which is equitable and expeditious." (NOAA Regulations Section 931.110, 43 FR 7566). The Wisconsin Coastal Management Program staff is proposing criteria for CEIP allocations to guide the distribution of the funds (Table 1).

The criteria listed below will be integrated into the funding guidelines of the Wisconsin Coastal Management Program after public review and OCZM approval:

Table 1: Proposed Criteria for CEIP Grants

A. Major Criteria
   1) coastal energy activity/facility determination (as defined in NOAA Regulations Section 931.13 and 931.19, 43 FR 7551-7553)
   2) size and vulnerability of the area*
   3) appropriate timing of the proposal to address the impacts of the facility (urgency or immediacy of need)*
   4) consistency with other state policies and with the Coastal Management Program*

B. Other Criteria
   1) compliance with federal regulations and guidelines
   2) ability of applicant to carry out proposed study and previous energy planning involvement

* Existing guidelines from Coastal Management Program funding.

3) presence of matching funds*
4) geographic distribution of the proposals*
5) transferability of findings of the project*
6) cost of project and availability of complementary funds from other state or federal sources*

On July 15, 1977, the federal Office of Coastal Zone Management (OCZM) proposed a model for an Intrastate Allocation Process. The proposed planning grant worksheet included points for the timing of the project with the permit approval and construction of the facility, environmental characteristics of the site, increases in population resulting from the new or expanded energy facilities, safety factors for different types of facilities, cost differentials for planning personnel in various regions of the country, projects proposed on a regional or county basis, and local government matching funds. Wisconsin adopted the broad set of criteria listed in Table 1 rather than use the complex set of formulas suggested by OCZM. Therefore, Table 1 will be the basis for selecting the proposals to be funded. Although Wisconsin's method is subjective, it seems to address the needs of the state better than a highly technical formula. The criteria are established to guide the decision-making process and safeguard it from bias.

The state is not obligated to fund impacts relating to every energy facility and is also not limited to the facilities listed on the Wisconsin inventory. If a new coastal energy facility such as a coal transshipment facility or power plant is being planned and it is not included on the list, applications still will be received on the facility. If the need for funding is imminent, projects may be funded to study the impacts. When the inventory list is compiled for the following year, the new facility will be proposed for inclusion.

The public has also expressed concern that coastal funds be geographically distributed throughout Wisconsin's coastal areas. Because of unique situations involving the siting of energy facilities, this goal may not be completely achieved; however, it is included as a criterion and will be considered when ranking the proposals.

The section entitled "Program Funding" of the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement (p.220) identifies coastal energy impact recipients. Specifically these recipients include general purpose governments (state and local), the University of Wisconsin, and tribal governments.

> "The term 'unit of general purpose local government' means any political subdivision of any coastal state or any special entity created by such a state or subdivision which (in whole or part) is located in, or has authority over, such state's coastal zone, and which (A) has authority to levy taxes or establish and collect user fees, and (B) provides

*Existing guidelines from Coastal Management Program funding.

any public facility or public service which is financed in whole or part by taxes or user fees" (P.L. 940370, Section 308(1)(3)).

Therefore, according to the Wisconsin coastal program document these funds may be distributed to various levels of government including state agencies, county governments, cities, towns, villages, and tribal governments. However, if a regional planning commission, consulting firm, federal agency, or environmental group wished to sponsor a project, the applicant would have to be the county or some other governmental unit with the ability to collect taxes.

Applicants for CEIP funds must indicate if they are aware of any other source of funds available to implement their proposal. Other sources should be thoroughly examined before applying for 308 funds, such as housing and land-use planning funds (HUD 701), community development funds, Economic Development Administration funds(302), and assistance from the Upper Great Lakes Regional Commission. Priority will be given to those energy projects that are not eligible for other private, state or federal forms of assistance. The applicant should also certify that the proposal does not duplicate any existing project. CEIP federal planning grants may provide up to 80% of the total proposal's cost.

In conclusion, this section identifies the proposed priorities for allocating financial assistance to meet the impacts resulting from coastal energy activities and facilities. These priorities are consistent with existing guidelines for Wisconsin's Coastal Management Program funding process.

Section IV. Allocation Process

This section of the Intrastate Allocation Procedure presents a process for accepting applications for 308 assistance, reviewing the proposals, and distributing CEIP funds. It is emphasized that the process described herein is also consistent with procedures defined in the Wisconsin Coastal Management Program for other sections of the federal Coastal Zone Management Act.

A general description of the process is outlined in the flow chart (Figure 1). All of Wisconsin's coastal areas will be notified that applications are being accepted for CEIP funds concurrently with the 306 budget procedures. The letter calling for proposals will include: the deadline for the applications, amount of funding allocated for each type of assistance, type of projects available for funding, and the criteria used to rank the projects. The notice will be sent to local units of governments, state agencies, regional planning commissions, the University system, tribal councils and others as appropriate. Assistance from the Regional Planning Commissions or the Coastal Management Program staff will be available to aid any potential applicant in applying for funding.

After the completion date for the proposals, the Coastal Management Program staff will review proposals for eligibility. If a proposal is clearly not eligible, the applicant and the Council will be notified of the non-eligibility comment. All other proposals will be trans-

mitted to the regional clearinghouses for review and comment; a technical review will simultaneously be conducted. After the comment period the Wisconsin Coastal Management Council's Finance Committee will review the comments and make recommendations to the full Coastal Management Council for their final approval of the proposed application. Subsequent to Council approval, the application is sent to the State A-95 Clearinghouse process for public review. Formal submission of the grant application to the federal Office of Coastal Zone Management will take place after this public review. OCZM will notify Wisconsin of the approved grant application 30 days before the beginning of the grant period. Recipients will be notified and the projects must commence within 90 days of approval.

Each recipient will be obliged to periodically report on the progress of the funded projects. This reporting process is identical to the one used for 306 coastal projects. At the termination of the project, a final report must be submitted to the Coastal Management Council. Those reports which affect a regulatory decision should be incorporated into the agency's formal decision-making process. Recipients would be expected to supply a copy of the report to the regulatory agency and could be called upon to testify and be cross-examined on the study.

This procedure would further implement Wisconsin's Coastal Management policies by providing a thorough independent evaluation of the project and by guaranteeing the discussion of coastal issues at public hearings on energy projects which affect the coastal areas. It would aid in reducing the adverse consequences resulting from a coastal energy facility. This procedure would be followed only by those projects whose findings are transferable.

Section V. Short Form of CEIP Intrastate Allocation Procedure

Since the full allocation process will take nine months from the call for proposals until the grant approval this procedure can not be followed for fiscal year 1977 CEIP funds. Therefore, the Office of State Planning and Energy will submit a proposal for funds to administer the program and to perform a study of the methods local governments use in assessing the impacts of energy facilities. A clustering of facilities in certain counties can be seen by reviewing the state's energy inventory (Appendices A and B). Some funds will be channeled into these areas to obtain their views on how a county or local government assesses the needs of their community when new facilities are constructed.

The proposal will be explained in greater detail and announced to the public in the Coastal Newsletter published by the UW-Extension. The Finance Committee of the Coastal Management Council will review the proposal and make recommendations to the full Council. Subsequent to the Coastal Management Council's approval, the application will be submitted to the federal OCZM. The funds for fiscal year 1978 will be distributed according to the Allocation Procedure described in Section IV.

Section VI. Notification Procedures

The Wisconsin Intrastate Allocation Process including the proposed criteria, method for evaluating and selecting projects, and the

short-form procedure was circulated for a technical review by regional planning commissions, state agencies and the Office of Coastal Zone Management in April 1978. This report represents further public review prior to formal OCZM approval. The CEIP allocation process will be annually checked by the Wisconsin Coastal Management Council to incorporate any additional knowledge concerning the CEIP working procedures.

Section VII. Summary and Conclusion

The preceding Intrastate Allocation Procedure represents Wisconsin efforts to comply with the Coastal Zone Management Act Amendments of 1976 and the subsequent administrative regulations. The methodology for formulating the Intrastate Allocation criteria follows the CEIP regulations set forth in NOAA Regulations Section 931.122(b) (43 FR 7566). The proposed Section 308(g)(2) process includes a set of allocation criteria and a process for distributing CEIP funds in Wisconsin. Consultation will be made with all affected state agencies and local units of government as described in the Section VI.

The process described above will become a part of the overall Wisconsin Coastal Management Program and integrated into existing guidelines. Overall, this process attempts to implement the basic objective of the Coastal Energy Impact Program, providing financial assistance to coastal states and local governments so that the needs resulting from energy development activities may be met, and maintaining consistency between Section 308 and other sections of the federal Coastal Zone Management Act.

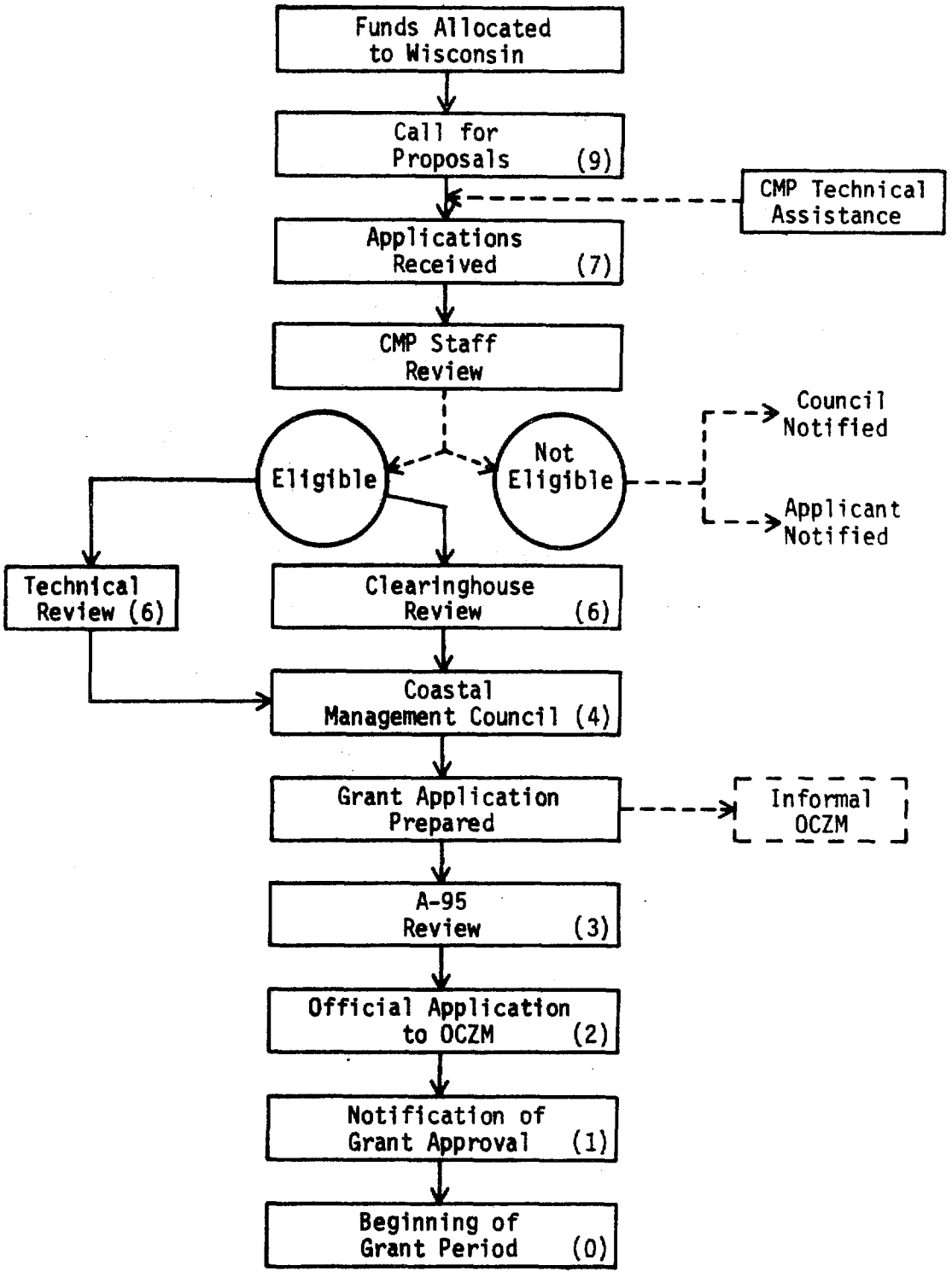


Figure 1: Wisconsin Intrastate Allocation Process

(Numbers) indicate months prior to beginning of grant period.

SHORE EROSION/MITIGATION PLANNING

IN WISCONSIN:

Compliance with Section 305(b)(9)
Federal Requirements

by

Doris Fischer

Geological & Natural History Survey
University of Wisconsin

for

Wisconsin Coastal Management Program

DRAFT

Chapter 305(b)(9)

SHORE EROSION/MITIGATION PLANNING PROCESS

Table of Contents

		Page No.
	Preface	i.
	Introduction	113
I.	The Planning Process, In Brief	113
II.	The Planning Process, In Detail: Its Components and Its Compliance	117
	A. Shoreline Data Gathering and Analysis	117
	B. Investigation of Structural and Nonstructural Alternatives	121
	C. Development of a Framework for Action	123
	D. Assessment of Technical and Financial Assistance Sources	127
	E. Coordination of Local, Regional, and State Shore Damage Mitigation Policies and Programs	131
III.	Wisconsin's Compliance, In Summary	133
IV.	Footnotes	135

PREFACE

In Section 305(b)(9), Coastal Zone Management Act Amendments of 1976, Congress issued the following directive:

> "The management program for each coastal state shall include ... a planning process for (A) assessing the effects of shoreline erosion (however caused), and (B) studying and evaluating ways to control, or lessen the impact of, such erosion, and to restore areas adversely affected by such erosion."

Five specific guidelines accompany the Section 305(b)(9) mandate. They identify those elements which must be included in the shoreline erosion/mitigation planning process of each state seeking coastal funds. They are listed below:

"1. A method for assessing the effects of shoreline erosion;
2. Articulation of State policies pertaining to erosion, including policies regarding preferences for non-structural, structural and/or no controls;
3. A method for designation of areas for erosion control, mitigation and/or restoration as areas of particular concern or areas for preservation and restoration, if appropriate;
4. Procedures for managing the effects of erosion, including non-structural procedures; and
5. An identification of legal authorities, funding programs and other techniques that can be used to meet management needs." (923.26a Federal Register, Vol. 43, No. 41)

This paper documents Wisconsin's compliance with the federal requirements cited above, and its five accompanying guidelines. The text outlines the shore erosion/mitigation planning process Wisconsin has developed over the past three years and highlights those particular activities, whether completed, ongoing, or scheduled, which address the five specific guidelines. Points of compliance with these guidelines are identified throughout the paper. They are summarized on page 134 in tabular form,

WISCONSIN'S SHORE EROSION/MITIGATION PLANNING PROCESS

Introduction

Shore erosion has long been recognized as a natural hazard endangering coastal resources, structures, and land uses in Wisconsin. Shore erosion agents attack the coastal bluffs and beaches of Lakes Michigan and Superior on a year-round basis. Yet, it is during heavy storms and high-water periods that the effect of erosive processes is most acute, and public awareness highest.

No greater threat has been imposed upon Wisconsin's shoreline, in recent decades, than the particularly severe erosion which occurred during the 1950-52 and 1972-74 high-water periods. Over the course of each period, shore properties suffered damage and loss estimated in the millions of dollars;[1] wildlife habitats, scientific areas, and recreational opportunities were also adversely affected. In recognition of persisting hazard conditions, many local governments and coastal property owners constructed shore protection structures of various types. Some devices proved effective, but most did not. As a result, lakeshore residents and public officials grew frustrated in their attempts to reduce shore erosion damages. At the same time, they felt increasing pressures to develop their coastal environment more extensively. A need to assess the issues of shore erosion in the context of overall coastal land use was becoming apparent.

By 1974, shore erosion was the #1 concern of Wisconsin shore residents.[2] In view of its commitment to fostering compatible shoreland activities, Wisconsin's Coastal Management Program became the appropriate coordinator of shore erosion/mitigation planning efforts in the state. Since 1975, the Program has been building "in-house" state and local capabilities to address erosion-related problems. Such a focus has maintained Wisconsin's tradition of inter-governmental cooperation. It has also guided the evolution of a shore erosion/mitigation planning process.

The Planning Process, In Brief

Formulation of the Study Plan illustrated in Figure 1 represented Wisconsin's first major step in addressing the problems posed by its eroding shoreline. Shore erosion planning in the state was initially directed towards the development of a substantial coastal data base and a subsequent set of options for reducing shore damages in a manner compatible with existing land uses and environmental conditions. Information-gathering activities were coordinated by the Shore Erosion Policy Group (now, Shore Erosion Advisory Committee), a technical committee created to guide Wisconsin's overall planning efforts.[3]

The question of how to translate data into action quickly arose, amongst coastal researchers, advisors, and citizens alike. With it came a fuller recognition of the complexity of the shore erosion issue. From it evolved a more comprehensive planning process.

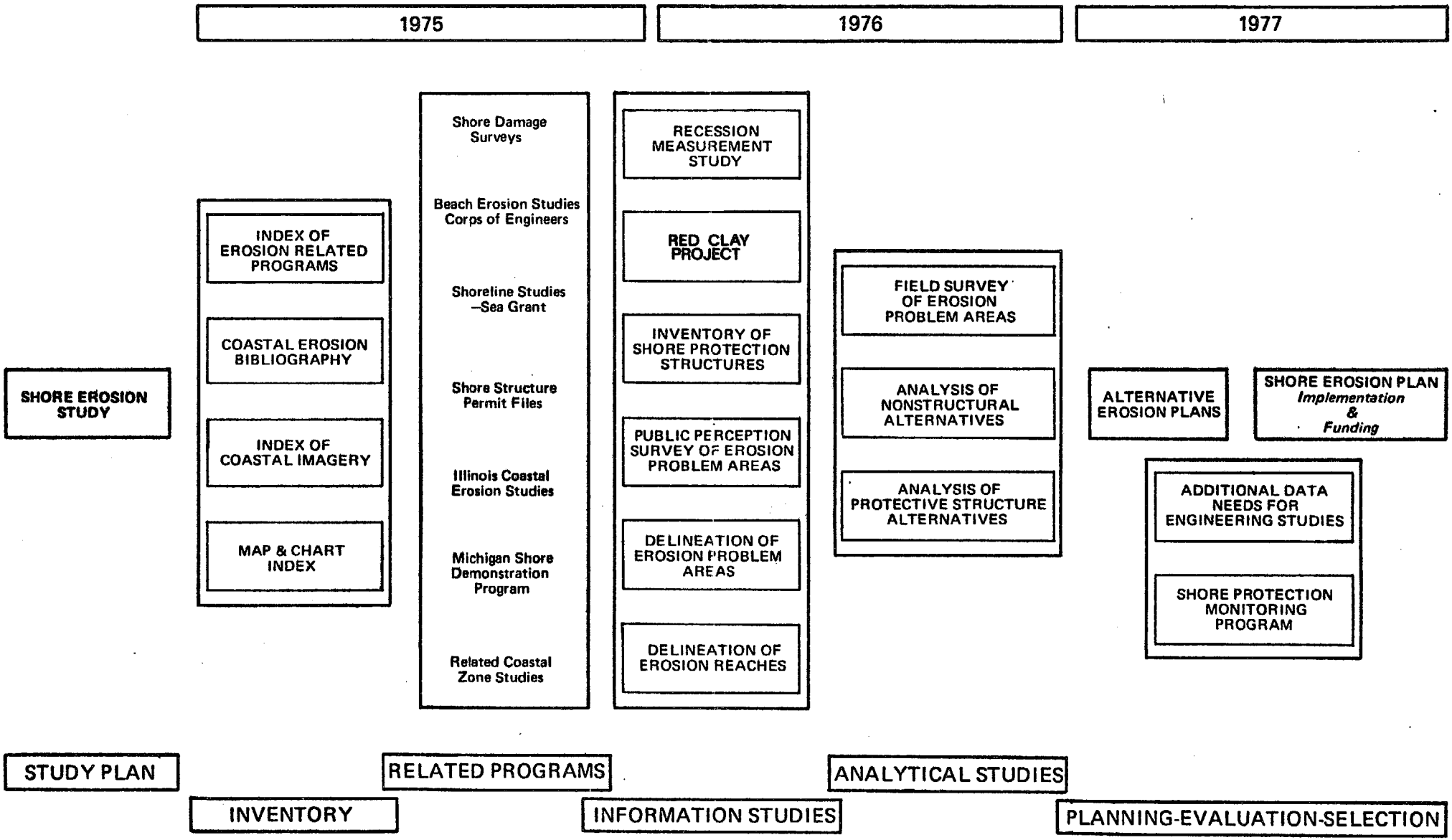


Figure 1. **Wisconsin Shore Erosion Study Plan**

Source: Shore Erosion - A Study Plan.

Wisconsin has broadened its shore erosion planning focus to include five principal components. In Table 1, these components have been stated in terms of needs -- that is, what has Wisconsin needed to know and do in order to move towards the goal of shore damage reduction? Such needs are being addressed in a five-stage planning process, also summarized in Table 1.

By 1974, it was well-recognized that erosion of bluffs and beaches was occurring more rapidly in some areas along Wisconsin's coast than others. It had also become evident that where land use was most intensive, shore damages were highest. But the shore erosion-related information available in the State was insufficient as a basis for identifying appropriate hazard mitigation measures.[4] Wisconsin needed to know more about the shore erosion process itself, more about its vulnerable shoreline, and more about the range of feasible solutions which might be successfully applied to problem areas.

Initial planning emphasis, thus, was on (1) gathering shoreline data and (2) investigating those structural and nonstructural measures which could reduce the damaging effects of erosive forces upon shore properties or facilities. Although such information regarding shore erosion problems and potential solutions is proving an invaluable resource, Wisconsin state and local decision-makers have needed additional support in order to select, establish, and maintain effective shore damage reduction programs. Subsequently, attention has turned to (3) developing a framework for action, whether it be collectively or individually undertaken. This framework is based upon the translation of existing state and local shore erosion-related policies into guidelines and the application of these guidelines to a generalized planning process for shore damage reduction programs. Shore erosion/mitigation planning efforts are also currently focused on expanding the existing body of coastal data and (4) examining the array of available technical and financial assistance sources.

Future planning emphasis is directed towards (5) coordinating public and private sector shore damage reduction activities and refining them, such that they enhance the overall future of Wisconsin's coastal area. To this end, the planning process will be strengthened by the ongoing assessment of shoreline conditions, the articulation and implementation of further state and local policies -- of a regulatory and incentive nature -- and the clarification of agency and government roles and responsibilities. Wisconsin's need to make its shore damage mitigation efforts as efficient and effective as possible will therefore be addressed.

Table 1. Wisconsin Moves Toward Shore Damage Reduction: 1975 - 1978 and Beyond.

State and Local Needs	A Planning Process to Address Needs	1975	1976	1977	1978	Major Planning Activities
1. Need to evaluate extent and nature of shore erosion in Wisconsin's coastal area.	A. Shoreline data gathering and analysis.	X	X	X	X	1. Geotechnical studies. 2. Shoreline damage survey. 3. Priority ranking of critical reaches. 4. Delineation of erosion hazard districts.
2. Need to know what can be done to reduce shore damage.	B. Investigation of Structural and Non structural Alternatives.		X	X	X	1. Evaluation of structural solutions. 2. Evaluation of nonstructural solutions. 3. Evaluation of compensation avenues.
3. Need to know how to select damage reduction option(s), then how to proceed.	C. Development of a Framework for Action.			X	X	1. Analysis of state and local erosion-related policies. 2. Translation of policies into guidelines and implementation strategies. 3. Development of decision making process.
4. Need to tap available sources of assistance.	D. Assessment of Technical and Financial Assistance Sources.			X	X	1. Identification of existing aid programs. 2. Compensation study.
5. Need to make shore damage reduction programs as effective as possible.	E. Coordination of state and local shore damage reduction policies and programs.				X	1. Clarified agency and government roles and responsibilities. 2. Coastal Management Council leadership. 3. Great Lakes shore erosion information and assistance program.

The Planning Process, In Detail: Its Components and Its Compliance

Wisconsin's shore erosion/mitigation planning process can be further characterized by the research, analytical, and administrative activities of its five principal components (A-E). The following pages discuss these activities, list the erosion-related documents produced thus far (Appendices A-E), and highlight the compliance of such efforts with the federal requirements (FR#1-#5).

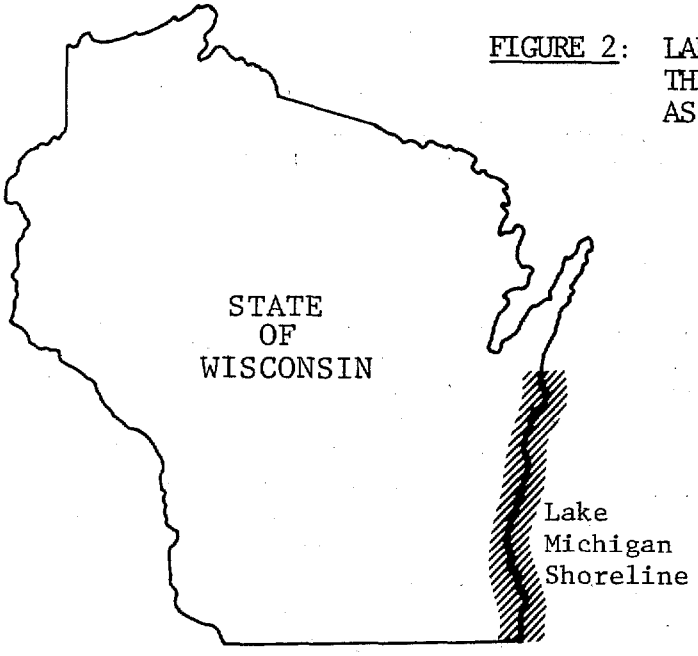
A. Shoreline data gathering and analysis.

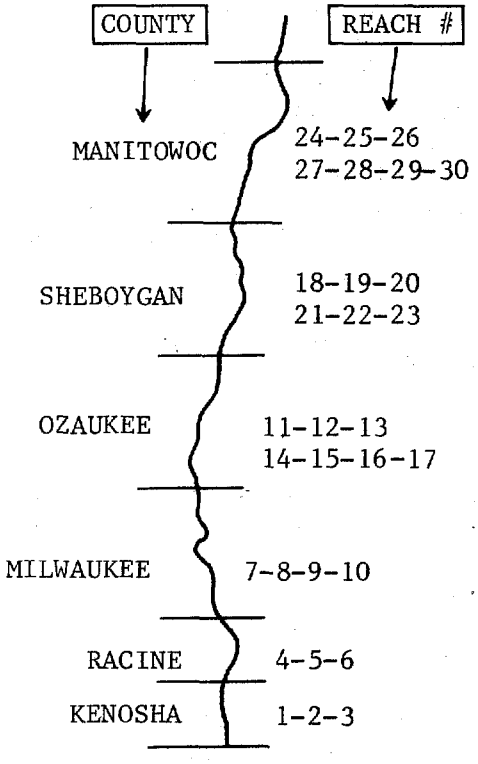
During 1975 and 1976, shoreline surveys of various types were undertaken. Inventories of natural areas, fish and wildlife habitats, and historic sites provided information regarding some valuable resources of Wisconsin's coastal area. Patterns of shoreland use, ownership, and zoning were also identified. Aerial photographs of Lake Michigan and Lake Superior shores were acquired from several regional, state, and federal agencies, and from actual flights along the Wisconsin coast. The photos enabled coastal researchers to observe the condition of existing shore protection structures, and to locate them on shoreline base maps. They served as well to identify those sites (1) where slumps, slides, and seepages gave evidence of the erosive effects of gravity, winds, and waves upon coastal bluffs, and (2) where littoral drift processes had either carved away or supplemented beach areas, often adjacent to shore protection structures. The imagery files also provided the data base needed to undertake a shore recession measurement study. Short term rates for the Lake Michigan shore were calculated and then mapped along with older, long-term measurements.[5]

Estimations of bluff heights and beach widths were made from U.S. topographical maps, and the information was added to the shoreline base maps. Perceptions of coastal residents regarding the shore erosion issue were obtained during three regional workshops. Citizens identified the areas of severe erosion with which they were familiar and thereby contributed to the ultimate determination of which shores were eroding at a critical rate. In addition, pilot study findings of a larger Great Lakes Shoreline Damage Survey revealed the extent and location of land and property losses which occurred during 1972-74 in three of Wisconsin's coastal counties.[6]

The acquisition and analysis of basic shoreline data facilitated a designation of reaches and an identification of coastal stretches most vulnerable to erosion. A ranking of Lake Michigan's shoreline reaches according to their conditions of erodibility was made. Figure 2 locates these reaches and prioritizes them, from the most severe erosion problem area (Priority #1) to the least severe (Priority #32). This listing provided the basis for an extensive geotechnical study of the Lake Michigan coastline during the summer of 1976. Field investigations were most thorough where shore erosion posed a formidable threat to coastal residences, buildings, and public facilities. Detailed descriptions of 126 miles of coastline were made. The effects of erosion upon unprotected, somewhat protected, and well-armored shores were noted. Availability of such data led to the development of a shore protection

FIGURE 2: LAKE MICHIGAN REACHES: THEIR LOCATION AND THEIR PRIORITY AS EROSION PROBLEM AREAS





LIST OF LAKE MICHIGAN REACHES BY PRIORITY

Priority	Reach	Grid Miles N-S Cumulative Totals
1	1	4.5
2	12	11.1
3	6	15.7
4	7	18.5
5	11	21.1
6	10	27.7
7	13	32.9
8	18B	37.9
9	3	43.9
10	5	46.9
11	8	52.7
12	16	55.7
13	17	59.2
14	14	60.2
15	15	63.7
16	27	67.2
17	24	70.7
18	18A	72.7
19	19	74.9
20	25	80.8
21	29	83.1
22	22	85.5
23	23	90.0
24	18C	93.0
25	21	96.5
26	26	99.5
27	30	104.1
28	2	107.1
29	4	110.4
30	28	116.0
31	20	119.0
32	9	126.0

Source: Shore Erosion Study Technical Report

structure inventory. It also supported subsequent planning efforts by Wisconsin to identify feasible structural and nonstructural solutions which might effectively be applied to its erodible shores. And it has suggested new avenues for coastal research in Wisconsin -- particularly, the need to monitor coastal conditions at selected sites, the need to make similar geotechnical investigations of Lake Superior's shore, and the need to delineate erosion hazard areas and specify their appropriate use(s). Such needs are being addressed over the next few years.

On the basis of its shoreline data gathering activities -- those completed, ongoing, and planned -- Wisconsin has fully complied with Federal Requirement #1, that "...a method for assessing the effects of shoreline erosion..." be developed. During its initial planning period, Wisconsin acquired, organized, and mapped much of the shoreline data necessary to evaluate the major effects of shore erosion upon its Great Lakes coast. Clearly, land is being lost at a variable rate; buildings, public utilities, and recreational facilities are endangered; and natural areas and habitats are threatened.

The State has also been assembling its shore property damage estimates, its shore protection structure evaluations, its shoreline recession measurements, and its bluff stability calculations in order to clarify the cause-and-effect relationships contained in the shore erosion process. Although land losses during major storm attacks have proven the most costly of shore erosion effects, Wisconsin's attention to the shore erosion issue remains comprehensive in scope; that is, all aspects of the shore erosion process and all effects are being considered. Extensive property and structure damage during severe coastal storms represent only one form of shore erosion. Bluff slides and slumps, and gradual composition changes and recession of coastal bluffs and beaches are associated with the more cyclic and year-round types of erosion. In addition, the erosive effects of lake level regulation, shore armorment placement, and upland management practices are becoming distinguished.

As Wisconsin pieces together the puzzle of its coastal erosion history and current situation, the benefits of updating information and elaborating upon methodology in the future have become apparent. Yet, as indicated above, the recent shoreline research has already proven useful in several specific instances. More generally, it has heightened Wisconsin's own understanding of the nature and extent of its shore erosion problem. It has also provided a benchmark from which the state and local governments can establish procedures for obtaining shoreline data on an ongoing basis. Finally, the question of how Wisconsin's shore erosion-related policies and programs might be strengthened has been raised -- a direct result of the new, often disturbing, coastal research findings.

Appendix A: (Asterisk (*) denotes project received funding support from the Wisconsin Coastal Management Program.)

* Coastal Water Quality. 1975
* Inventory of Coastal Imagery. 1975
* An Analysis of the International Great Lakes Levels Board Report on Regulation of Great Lakes Water Levels. 1976

  - Summary Report.
  - Hydrology.
  - Navigation.
  - Shore Property and Recreation.
  - Wetlands, Fisheries and Water Quality.
  - Institutions.

* Fish and Wildlife Habitat. Great Lakes. 1976.
  Great Lakes Shoreline Damage Survey: Brown, Douglas and Racine Counties, Wisconsin. Appendix II. 1976
* Natural Area Inventory. Coastal Zone, Wisconsin. 1976.
* Ordinary High Watermark Determinations on Wisconsin's Great Lakes. 1976.
* Preliminary Historic Structures Survey. Wisconsin's Great Lakes Counties. 1976.
* Shore Erosion - A Bibliography. 1976.
* Shore Erosion - A Study Plan. 1976.
* Delineating Great Lakes Shorelines. 1977.
* "Shoreline Erosion and Bluff Stability Along Lake Michigan and Lake Superior Shorelines of Wisconsin," Shore Erosion Study Technical Report. 1977.
* Technical Report Appendices. 1977.
  Shoreland Use in Wisconsin. 1977.
* Wisconsin Coastal Atlas. 1977.

B. Investigation of structural and nonstructural alternatives.

Independent shore protection efforts by coastal citizens and local governments often result in the haphazard application of controls to what research and field study have now revealed as a system of shore erosion causes and effects. The benefits of systematically , and cooperatively, undertaking shore damage reduction activities have become apparent. In order to foster such coordination, however, Wisconsin first needed to evaluate the set of alternative solutions. It began to identify those options which might alleviate the erosion hazard conditions along the shoreline. Specifically, it investigated the costs and effectiveness of structural protection and the legal and administrative provisions for nonstructural measures.

The range of structural solutions was examined by a Wisconsin engineering firm, together with coastal planners of the state. Initially, investigations focused upon the coastal processes and their interactions with current methods of beach accretion, shore armorment, and bluff stabilization. Analyses of existing shore protection works were performed at nine priority locations along the Wisconsin coast. The structural devices which had been applied to these nine erosion hazard situations were assessed for their condition and performance. Such site - specific studies provided valuable information regarding what shore protection structures were and weren't "working" under varied geomorphologic conditions.

The logical next step was to develop guidelines for the selection of structural designs. Again, nine sites -- considered representative of Wisconsin's major shoreline types -- were chosen for analysis. Temporary, intermediate, and long-term life solutions were developed for each site;[7] costs of the various structural devices were calculated. Such efforts confirmed Wisconsin's experience, historically, that structural protection is a costly means of addressing the problems posed by shore erosion; they also demonstrated the variation in life effectiveness of the design alternatives.

Parallel to the study of shore protection structures was an examination of nonstructural options available to citizens and governments along Wisconsin's coastline. Vegetation and upland management practices gained consideration as viable alternatives to an exclusively structural armoring of the Great Lakes shore. Existing county land use controls were identified and assessed for their degree of influence over Great Lakes shore development pressures. Shoreland zoning regulations were found particularly applicable to the issue of reducing safety hazards and property damages along the coast. The value of an erosion hazard warning system was also identified. In addition, a study of erosion-related compensation sources examined the extent to which relocation of buildings away from eroding shores and public or private acquisition of coastal areas might represent feasible options.

A major highlight of the "alternatives" research discussed above is the distinction between remedial and preventive approaches to shore damage reduction. Structural procedures would typify the first strategy, while nonstructural solutions would characterize the second. These two perspectives are reflected, in Wisconsin, by different policies and practices. Their combined and coordinated thrust, however, holds promise of more effective shore erosion mitigation measures being undertaken by state and local units of government and by private citizens.

Wisconsin's attention to identifying and developing further "procedures for managing the effects of erosion including nonstructural procedures", is ongoing. The array of existing shore damage reduction alternatives has been studied at great length. Establishment of clear guidelines upon which to base selection of one or more solutions will be receiving extensive consideration over the next several months. Compliance with Federal Requirement #4 is certainly underway.

Appendix B:

* Capabilities of County Land Regulation Programs in the Wisconsin Coastal Area. 1976.
* Addressing Coastal Erosion Through Flood Plain Zoning -- Is It Feasible in Wisconsin? 1977. Unpublished.
* Bluff Erosion Control Under Wisconsin Shoreland Zoning Provisions. 1977. Unpublished.
* Great Lakes Shore Erosion Protection - A General Review with Case Studies. 1977.
* Some Non-structural Alternatives for the Reduction of Shore Damage. 1977.
* Feasibility of Compensation for Man-induced Shore Erosion. 1978.
  - Summary Report.
  - Legal and Administrative Options for Compensation.
  - Relation of Human Activities to Shore Erosion.
* Great Lakes Shore Erosion Protection - Structural Design Examples. 1978.

C. Development of a framework for action.

While Wisconsin's shoreline conditions and options for site-specific shore damage reduction efforts undergo continued assessment, the question of how overall shore damage reduction can actually be achieved has become more pressing. With coastal data now more available and alternative solutions somewhat clarified, guidelines regarding program selection and implementation have become necessary.

The third component of Wisconsin's shore erosion/mitigation planning process is the development of a framework for action at both the state and local level. Principles upon which the framework is based derive from interpretations of not only recent shoreline studies, but also existing shore erosion-related state and local policies and programs. Research findings have been discussed in the previous two sections; the pertinent state laws are listed below:[8]

1. Within unincorporated areas a setback of 75 ft. from the ordinary high water mark shall be required, unless an existing development pattern exists. (See Wis. Stats. Sections 59.971 and 144.26, and Wis. Admin. Code NR 115.)

2. It is unlawful to deposit any material or to place any structure in navigable waters without a permit. (See Wis. Stats. Section 30.12(1).)[9]

3. Rip rap or other similar material for protecting stream banks or lake shore from erosion shall not materially impair navigation or damage fish and game habitat. (See Wis. Stats. Section 30.12(2)(b).)

Such legislative provisions, admittedly, do not comprehensively treat the range of shore erosion concerns. They have, however, provided Wisconsin state government -- and, to a lesser degree, local governments -- with some regulatory authority vis-a-vis shoreland use. Policy #1, for example, has formed the basis for the state's shoreland management standards, with which local governments of unincorporated areas along the coast must comply. Policies #2 and #3 are major elements of the state permitting procedure, whereby individuals or governments intending to build a shore protection device must meet certain construction and maintenance criteria.

In addition to these rather specific policies, Wisconsin's general direction in addressing its shore erosion concerns has been articulated by Executive Order #49, issued in October 1977:

> "The state policy on natural hazard areas is to mitigate risks to public health and safety and risks of property damage by:
>
> 1. Providing that all development in areas subject to serious flooding will not materially alter the natural capacity of the lake or river so as to intensify the magnitude of floods, expose citizens to hazards, or cause future public expenditures for flood disaster relief; and

2. Regulating those earth moving, devegetation and construction activities now reviewed by state agencies so as not to accelerate the rate of shoreline erosion or bluff recession."[10]

As the need for shore erosion/mitigation planning in Wisconsin has become more widely recognized, both administrative and legal attention has turned to policy analysis, elaboration, and refinement as integral parts of the foundation for effective shore damage reduction programs. A number of shore erosion-related policy areas will be examined in depth by the Coastal Management Council and various state and local agencies. Studies will focus, for example, on the status of incorporated areas vis-a-vis shoreland zoning regulations, the practice of beach nourishment, the state's role in managing its lake beds, and the state's preference for particular structural and/or nonstructural procedures. Until official policies become established or redirected as a result of such topical analyses, Wisconsin will draw upon its existing policy base and an interim set of guidelines for the development of shore damage reduction programs. Essentially, the principles listed in Figure 3 interpret the shoreline information that has been gathered thus far. They are a product of A Shore Erosion Plan for Wisconsin: Appraisal of Options and Strategies, a forthcoming document which articulates a number of important considerations upon which decisions regarding future shore erosion mitigation activities in the state should be made.

The principles themselves serve to guide the decision-making process (also developed in the Erosion Plan) by which shore damage reduction actions may be taken, whether at the state, local or individual level. This process is diagrammed in Figure 4. Its cyclical format emphasizes the need for continuous refinement of every shore damage reduction program, as new data become available and old policies are revised.

Wisconsin will continuously be defining and redefining its positions with regard to the numerous aspects of the shore erosion issue. In continuous manner, then, the state is addressing Federal Requirement #2, "Articulation of State policies pertaining to erosion, including policies regarding preferences for non-structural or structural controls and/or no controls."

Appendix C: (see page 130).

Figure 3. Principles and Guidelines for the Development of Shore Erosion Damage Reduction Programs in Wisconsin

1. Shore erosion is a complex, natural process which is difficult, if not impossible, to totally arrest.

2. The planning and implementation of long term solutions must begin prior to the presence of acute erosion hazards or high water levels.

3. Coastal resources and buildings can only be fully protected when a total site plan, including the beach, toe, bluff, and upland zones, is prepared and implemented.

4. Shore erosion damages can be more effectively and efficiently reduced with cooperative and comprehensive reach planning between coastal property owners and managers.

5. Structural and nonstructural solutions which do not substantially remove or reduce erosion hazards over a long period of time should not be widely encouraged in Wisconsin.

6. No single approach or solution can work everywhere along the shoreline. All structural and nonstructural solutions have positive and negative characteristics which should be carefully evaluated prior to implementation.

7. Structural solutions must be cautiously promoted and placed since many are not only costly and short-lived but, they can also create adverse impacts upon neighboring properties.

8. The value and use of a site and its buildings, both existing and projected, should be key determinants in isolating appropriate types of solutions, and levels of public or private investment.

9. Hazard zones or districts should be precisely identified and incorporated into land use plans and codes along Wisconsin's Great Lakes shoreline. Along undeveloped portions of the shoreline, every attempt should be made to avoid the placement of buildings and facilities in these zones or districts.

10. All individuals, governments, and agencies purchasing land along the shoreline should be cognizant of erosion hazards and any special siting requirements.

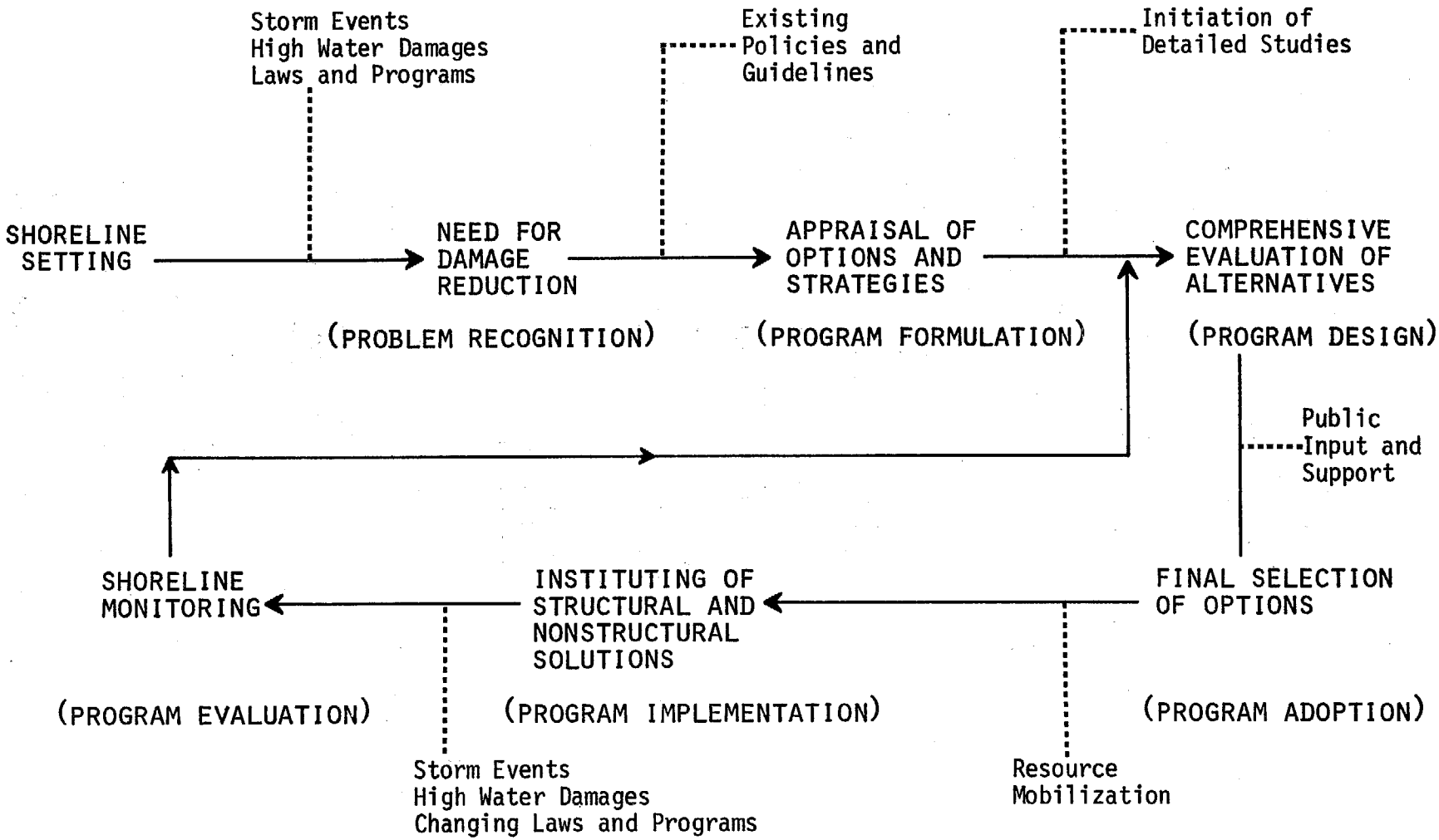
11. Where public funds are utilized to reduce damages or save coastal resources on private property, the benefits should be commensurate with the investment.

12. Shore erosion damage reduction programs and plans should be prepared, implemented, and enforced by those governments and agencies legally responsible for shoreline planning and management. Supportive programs and efforts should seek to provide direct information, assistance, and resources to these agencies and governments.

Source: A Shore Erosion Plan for Wisconsin: Appraisal of Options and Strategies.

Figure 4

GENERALIZED PLANNING PROCESS FOR DAMAGE REDUCTION PROGRAMS



Source: A Shore Erosion Plan for Wisconsin: Appraisal of Options and Strategies

D. Assessment of technical and financial assistance sources.

If state and local capabilities to address the issue of shore erosion in Wisconsin are to be fully developed, the channels for technical and financial aid must be identified, and their accessibility insured. Wisconsin's shore erosion/mitigation planning efforts include attention to this aspect of shoreland management. Tables 2 and 3 summarize the federal and state programs which currently provide, or potentially could provide, assistance to Wisconsin governments and private citizens in their shore damage reduction activities. Most shore erosion-related support emphasizes the need for planning. Existing funds are clearly directed towards evaluating shore erosion problem areas and initiating nonstructural measures of hazard mitigation and resource preservation. Financing available for structural solutions or as an avenue for compensation is extremely limited.

The Coastal Management Program represents a likely source of assistance to those Wisconsin communities interested in shore erosion damage reduction. Besides channeling its monies towards an expansion of the state's own shoreline information base, the Program is also funding shore erosion-related projects of coastal communities, counties, and regional bodies. That local policy development, plan design, and program implementation have become a major CMP focus is evidenced by the following list of future activities, classified under Coastal Issue #3, Coastal Erosion and Flood Hazard Areas:

	Title of 306 Project Proposal	Sponsor	Subject County(ies)
1.	Erosion Control Study Design	Racine County/ Town Caledonia	Racine
2.	Recreation Activity Management Study	Racine County/ Town Caledonia	Racine
3.	Ecological Study	Racine County/ Town Caledonia	Racine
4.	Lake Access Road Feasibility Study	Racine County/ Town Caledonia	Racine
5.	Duck Creek Flood Plain Management	Oneida Tribal Reservation	Brown
6.	Coastal Topographic Mapping	Town of Suamico	Brown
7.	Lake Superior Shoreland Geotechnical Study	Wisconsin Geological and Natural History Survey	Lake Superior Counties
8.	Great Lakes Shore Erosion Information and Assistance Program	Wisconsin Geological and Natural History Survey	Statewide
9.	Shore Erosion Policy Study for Local and County Governments	Wisconsin Geological and Natural History Survey	Statewide

Table 2. Shore Damage Reduction: Primary Sources of Assistance.

Federal or State-Sponsored Program.	Sponsoring Agency	Program Target: State Govt.	Program Target: County Govt.	Program Target: Local Govt.	Program Target: Private Govt.	Program Scope: Technical Govt.	Program Scope: Financial Govt.	Program Contact
Beach Erosion Control	U.S. Army Corps of Engineers	X	X	X	X	X	X	Corps District Office: Chicago-Lake Michigan St. Paul-Lake Superior
Hurricane, Tidal and Flood Protection.	Same as above.	X	X	X	X	X	X	Same as above.
Correction of Federal Navigation Project-Induced Shore Damage	Same as above.	X	X	X	X	X	X	Same as above.
Resources Conservation.	Soil Conservation Service, U.S. Dept. of Agriculture.		X	X	X	X		Soil and Water Conservation District Office.
Agricultural Conservation.	Agricultural Stabilization and Conservation Service USDA.				X	X	X	ASC Committee; or Soil and Water Conservation District Office.
Coastal Management Program	Wisconsin Coastal Management Council	X	X	X	X	X	X	T.A.: WI Geological and Natural History Survey. F.A.: Regional Planning Commission; Citizens' Advisory Committee; or Office of State Planning and Energy.

Table 3. Shore Damage Reduction: Secondary Sources of Assistance.

Federal or State-Sponsored Programs	Sponsoring Agency	Program Target: State Govt.	Program Target: County Govt.	Program Target: Local Govt.	Program Target: Private Person	Program Scope: Technical Assistance	Program Scope: Financial Assistance	Program Contact
Resource Conservation and Development Project Activity	Soil Conservation Service, USDA		X	X	X	X	X	Soil and Water Conservation District Office
Highway Improvement.	Wisconsin Dept. of Transportation		X	X		X	X	Highway District Office.
Disaster Loan Assistance.	Small Business Administration.				X		X	Small Business Administration Regional Office.
Scientific Areas Preservation.	Wisconsin Dept. of Natural Resources.	X	X	X	X	X		Scientific Areas Coordinator, Wisconsin Department of Natural Resources.
Outdoor Resources Action Plan (ORAP).	Same as Above.		X	X			X	Wisconsin Department of Natural Resources District Office-Recreational Aid Specialist.
Land and Water Conservation (LAWCON).	U.S. Dept. of Interior.	X	X	X			X	Same as above.
Community Development (701).	U.S. Dept. of Housing & Urban Development		X	X			X	Regional Planning Commission; or, Wisconsin Department of Local Affairs and Development.
Water Quality Control (208).	U.S. Environmental Protection Agency.	X	X	X		X	X	Wisconsin DNR.
Technical Assistance Grants.	Upper Great Lakes Regional Commission.	X	X	X			X	Regional Planning Commission; or UGLRC headquarters.

Wisconsin Coastal Management funds are distributed according to the priorities which have emerged from the process of designating geographic areas of management concern. Itself a management technique, the GAMC procedure has singled out for special consideration, "Hazard areas, which are those areas prone to severe erosion and/or flooding that may impose danger to public use or immediate or future substantial public costs."[11] Erosion control, hazard mitigation, and resource conservation policies for such areas are guided by a distinction between high and low priority shoreland uses:

> "The highest use priority in these areas would be assigned to those activities that do not impose immediate or future substantial costs due to geologic, soil, or flood conditions. Any development should be so constructed as to avoid creating new hazards or increasing existing hazards. Uses of the lowest priority include those activities that are non-water dependent or non-water enhanced, create new or increase existing hazards and result in irretrievable losses of coastal resources."[12]

Application of the GAMC process to Wisconsin shore erosion management has served to provide coastal communities with additional standards for evaluating their shore damage reduction alternatives. It also fulfills Federal Requirement #3, "a method for designation of areas for erosion control, mitigation, and/or restoration as areas of particular concern or areas for preservation/restoration." And, together with current attention towards assessing existing and potential technical and financial assistance sources, it demonstrates Wisconsin's partial compliance with Federal Requirement #5, "an identification of legal authorities, funding programs and other techniques that can be used to meet management needs."

Appendices C and D:

* Lake Bed Grants. Great Lakes. 1976
* Feasibility of Compensation for Man-Induced Shore Erosion. 1978.
* A Shore Erosion Plan For Wisconsin: Appraisal of Options and Strategies. 1978.

E. Coordination of local, regional, and state shore damage mitigation policies and programs.

The benefits to be gained by coordinating shore damage reduction activities have become clear as research continues to point up the system-like interactions of coastal processes and landforms. Although the concerns of each shore property owner, whether private or public, are usually site-specific in nature, if efforts to mitigate damage and/or reduce erosion are to be efficient and effective, their compatibility with one another must be insured. A primary objective of Wisconsin's shore erosion/mitigation planning process is to accomplish such compatibility.

Future planning emphasis, therefore, will be given to clarifying and coordinating agency and government responsibilities vis-a-vis existing and proposed shore damage reduction efforts in Wisconsin. Thus far, state agencies, together with the U.S. Army Corps of Engineers, have performed the bulk of coastal research and regulatory activities. Other agencies (i.e., Soil and Water Conservation Districts and the U.S. Soil Conservation Service) have developed additional shore erosion information and made it available to interested parties, while local governments have enforced their shoreland-related zoning ordinances to varying degrees.

Assessment of shoreline conditions, evaluation of existing remedial and preventive procedures, and refinement of pertinent regulatory policies have already been highlighted as ongoing elements in Wisconsin's shore erosion/mitigation planning process. The first element will involve primarily those state agencies currently active in coastal data-gathering and analysis: the Wisconsin Geological and Natural History Survey, the Wisconsin Department of Natural Resources, and the Sea Grant College Program, Geology Department, and Engineering Department of the University of Wisconsin. The latter elements will require leadership from the Coastal Management Council and implementation support from all its represented and cooperating agencies and governments: the Wisconsin Departments of Natural Resources, Transportation and Business Development, the Public Service Commission, the regional planning commissions, and the local public officials, to name a few.

Besides these three areas of future planning focus, Wisconsin will consider a fourth: the development of additional preventive--or incentive--policies and techniques which can serve to manage further the state's progress towards its shore damage reduction goal. Again, agencies and governments at all levels will be involved, whether the particular incentive program pertains to the establishment of erosion hazard warning systems or performance standards for erosion hazard districts. These programs will be targeted towards encouraging coastal localities to strengthen their own policies and implementation tools with regard to shore erosion.

In light of such anticipated activity, the need to integrate the various shore damage reduction efforts into a comprehensive strategy becomes even more apparent. Attention to this need will now dominate shore erosion/mitigation planning in Wisconsin. To enhance the opportunities for coordination, evaluation, and refinement of its shore damage reduction purposes and actions, Wisconsin will be relying especially upon the GAMC process as a screening and funding mechanism, and the Coastal Management Council as an advisory body alert to program weaknesses and needs for modification. In addition, the Geological Survey's technical assistance activities will certainly strengthen the lines of communication between federal, state, regional, and local agencies and governments and develop further the program implementation capabilities of all parties and interests involved.

Such an agenda documents well the extent to which Wisconsin has addressed Federal Requirement #5, "an identification of legal authorities, funding programs and other techniques that can be used to meet management needs." This shore damage reduction planning prospectus also demonstrates consistency with overall objectives of the Wisconsin Coastal Management Program. In particular, Program goals of making state regulatory and management policies more effective, coordinating them with local planning strategies, and strengthening local government coastal management capabilities are proving directly applicable to the shore erosion/ mitigation planning process.

Appendix E:

* A Shore Erosion Plan for Wisconsin: Appraisal of Options and Strategies. 1978.

WISCONSIN'S COMPLIANCE, IN SUMMARY.

Over the past three years, shore erosion/mitigation planning activities in Wisconsin have been coordinated through its Coastal Management Program. The Program has developed a process for addressing coastal erosion-related problems, identifying feasible solutions, and implementing appropriate shore damage reduction plans. The process can be summarized according to its five principal components. Research, analysis, and administrative activities of each are preparing the coastal community to deal effectively with its eroding Great Lakes shoreline. They therefore serve as general evidence of Wisconsin's response to Section 305(b)(9) guidelines, issued in the Coastal Zone Management Act Amendments of 1976.

Those intervals in Wisconsin's shore erosion/mitigation planning process which demonstrate compliance with the five federal requirements are specified in Table 4. During an initial period of shoreline data gathering and analysis, the state has learned much about the extent and nature of coastal erosion along its Lake Michigan and Lake Superior shores. Such projects as geotechnical field study, shore damage estimation, recession rate measurement, and critical reach determination represent a methodology which has been developed in order to assess the effects of shore erosion in an ongoing fashion (Federal Requirement #1). Investigations into the types and costs of various structural and nonstructural options, including compensation avenues, have provided some answers to the question of what can and cannot be done to reduce shore erosion damages. Although procedures for managing erosion effects have been identified (FR #4), their application to the Wisconsin shoreline rests upon the decision making process used and subsequent actions taken by those agencies, governments, and citizens involved in the shore damage reduction effort. A framework for such actions has been proposed, based primarily upon the application of existing state and local shoreland policies (FR #2) and the need for continuous refinement of programs as new shoreline information becomes available and current policies and guidelines are revised.

Wisconsin's set of shore erosion management tools is being expanded to serve better the program implementation and evaluation needs at all jurisdictional levels. Currently, the GAMC process is providing a mechanism for channeling Coastal Management funds to shoreline stretches which have been designated as erosion hazard areas and earmarked for an appropriate hazard mitigation strategy (FR #3). At the same time, other sources of technical assistance, financial support and relief, and shore damage reduction incentives are being investigated for their applicability to the coastal area (FR #5).

Coordination and monitoring of the wide range of shore erosion/mitigation planning efforts in Wisconsin represent a future focus for the Coastal Management Council and the staff (Great Lakes shore erosion information and assistance program) of the Geological and Natural History Survey in particular (FR #5). In fact, however, all those decision making bodies, research teams, technical committees, and private individuals involved in addressing the shore erosion issue are enhancing the state's overall ability to develop and maintain a high level of efficiency and effectiveness in accomplishing its shore damage reduction objectives.

Table 4

WISCONSIN'S COMPLIANCE WITH FEDERAL GUIDELINES: A SUMMARY

The following table relates the five specific federal requirements to the Wisconsin shore erosion/mitigation planning process. The planning component(s) which addresses each requirement is identified.

FEDERAL REQUIREMENTS	COMPONENTS OF PLANNING PROCESS
#1 - A method for assessing the effects of shore erosion.	A. Shoreline data gathering and analysis.
#2 - Articulation of State policies.	C. Development of a framework for action.
#3 - A method for designation of areas for erosion control, mitigation and/or restoration.	D. Assessment of technical and financial assistance sources. also E. Coordination of local, regional, and state shore damage mitigation policies and programs.
#4 - Procedures for managing erosion effects.	B. Investigation of structural and nonstructural alternatives.
#5 - An identification of legal authorities, funding programs, and other management techniques.	D. (See above) also E. (See above)

FOOTNOTES

1. The U.S. Army Corps of Engineers has extensively surveyed Wisconsin's coastal counties in order to estimate the dollar value of damages and losses suffered during each high water period. Results of the first survey were reported in Property Damage on the Great Lakes Resulting from Changes in Lake Levels (1952). The more recent figures, obtained in cooperation with the Wisconsin Department of Natural Resources, will appear in the forthcomming Great Lakes Shoreline Damage Survey.

2. At public meetings and in public perceptions polls, the Wisconsin Coastal Management Program staff have consistently heard or seen shore erosion ranked as the #1 or #2 issue amongst shoreland residents and public officials. As recently as 1976, results of a widely administered coastal citizens' questionnaire demonstrated shore erosion's continuing high priority as a coastal concern.

3. The Committee's membership has included:

   1) S. Born, University of Wisconsin - Madison; also, Office of State Planning and Energy.

   2) T. Edil, University of Wisconsin - Madison.

   3) G. Hedden, Sea Grant Advisory Services.

   4) T. Lauf, Department of Natural Resources.

   5) D. Mickelson, University of Wisconsin - Madison.

   6) A. Miller, Office of State Planning and Energy.

   7) M. Ostrom, Wisconsin Geological and Natural History Survey.

   8) G. Pirie, University of Wisconsin - Milwaukee.

   9) D. Thomas, Office of State Planning and Energy.

   10) P. Tychsen, University of Wisconsin - Superior.

   Staff coordinator for the Shore Erosion Study is Roger Springman, Wisconsin Geological and Natural History Survey.

4. Up until 1975, Wisconsin was relying almost exclusively, for its shoreline information, upon the earlier research of such federal and regional agencies as the U.S. Army Corps of Engineers, the Great Lakes Basin Commission, the International Joint Commission, and the International Great Lakes Levels Board.

5. Short-term recession rates along Lake Superior are currently being calculated. In general, Wisconsin's shore erosion planning efforts have, to date, focused upon the highly developed stretches of Lake Michigan's coast, where shore erosion poses a more severe threat to existing land uses.

6. See Great Lakes Shoreline Damage Survey: Brown, Douglas and Racine Counties, Wisconsin. Appendix II. 1976.

7. The "life" of a structural solution may be considered temporary if its effect lasts less than 5 years; intermediate, if its effect is observable for at least 5 years, but not longer than 25 years; and long-term, if its effect continues beyond 25 years.

8. Laws #1 and #3 are excerpted from State of Wisconsin Coastal Management Program and Final Environmental Impact Statement (Madison, 1978), p. 114.

9. This specific policy should be added to those currently listed under "Coastal Issue #3, Coastal Erosion and Flood Hazard Areas" of the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement document.

10. This general shore erosion policy statement is consistent with that reported in the Program Document, p. 113.

11. Ibid, p. 162.

12. Ibid, p. 162.

HL:jlp-6/775758

AMENDMENTS TO THE

STATE OF WISCONSIN

COASTAL MANAGEMENT PROGRAM

AND FINAL ENVIRONMENTAL IMPACT STATEMENT

Wisconsin Coastal Management Council

DRAFT

In addition to the three new planning elements required by the 1976 Amendments, the following pages list specific additions or amendments to the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement. Such amendments must comply with the procedures of Section 306(g) of the Coastal Zone Management Act as amended before they are formally approved by the Assistant Administrator for Coastal Zone Management, U.S. Department of Commerce.

Amendment items are listed in the order in which they will be inserted into the Program Document. Additions are underlined and deletions are typed and marked out with slashes. Tables in the Program Document which provided cross-referencing of statutes, administrative code and other legal citations are not included here, but will be accomplished after the amendments are formally approved. Other refinements may be submitted to the Assistant Administrator by the Wisconsin Coastal Management Council.

Amendment items #2, 3, 4, 5, 6, 13, 15 and 16 are the result of action taken by the 1977-78 Biennial Session of the Wisconsin State Legislature. These items represent further clarification of state policy within the seven coastal issues of the adopted Wisconsin Coastal Management Program. Amendment item #12 is an additional listing of an existing policy.

Amendment items #1, 7, 8, 9, 10, 11 and 14 are the result of action taken by the Natural Resources Board and published in the Wisconsin Administrative Code. These items represent further clarification of state policy and regulations on public access and wetlands.

Amendment items #18, 19, and 20 are the result of Wisconsin compliance with 305(b)(8), Energy Facility Planning. This amendment to the Funding Allocation Procedures of the Wisconsin Coastal Management Program is further explained on pages 101-111 of this report.

Amendment item #17 is the result of action taken by the Wisconsin Coastal Management Council on May 10, 1978. The modification refers to Council voting procedures on funding decisions.

A refinement, #21, is also listed at the request of the Nuclear Regulatory Commission.

Amendment Item No.	Page No.	Amendment to the State of Wisconsin Coastal Management Program and Final Environmental Impact Statement
		Chapter I. Coastal Issues and Policies
		I. COASTAL WATER AND AIR QUALITY
#1	105	1.0 The state's policy on coastal water quality is . . . to protect public health, safeguard aquatic life and scenic and ecological values including wetlands; . . .
#2	106	1.5.1 The state shall provide financial and technical assistance to abate point and non-point source water pollution. (Wis. Stats. Section 144.24 and .25).
#3	106	1.7 Phosphorus removal from sewage . . . tributaries and the sale of cleaning agents and water conditioners which contain more than 8.7% phosphorus by weight is prohibited. (See managed use #1 h, Wis. Stats. Section 100.28, and Wis. Admin. Code NR 102.04).
#4	106	1.8 Waste treatment facility plans shall be reviewed and may be disapproved if they are not in conformance with any existing approved areawide waste treatment management plans prepared pursuant to P.L. 92-500 as amended. Sewer extensions shall be allowed . . .exists. (See managed use #2 d, Wis. Stats. Section 144.04, and Wis. Admin. Code NR 110.05).
#5	106	1.9.1 Treatment, storage and disposal of hazardous substances and solid waste shall be regulated and restricted. Waste generators shall contribute to a waste management fund to guarantee long-term care of and environmental repairs to solid and hazardous waste disposal sites and to make such sites suitable for other uses. (See Resource Conservation and Recovery Act of 1976, P.L. 94-580 and Wis. Stats. Section 144.41 ff).
#6	106	1.13 Lots not served by public sewer shall have area and width restrictions. No building permit shall be approved without septic tank permit approval if such a permit is necessary. (See . . . Wis. Stats. Chapter 236 and Section 66.036, . . .).
		II. COASTAL NATURAL AREAS, WILDLIFE HABITAT AND FISHERIES
#7	109	2.0.a. Designating and managing special areas . . .streams, wetlands, . . .
#8	109	2.1 State scientific areas shall be designated for . . . preservation of . . . communities, including wetlands, . . . (See . . . Wis. Admin. Code NR 45.23 and NR 1.95).
#9	110	2.6 State wildlife areas shall be managed . . . the primary objectives of wildlife habitat ~~and~~, public hunting

and wetlands protection. (See . . . and Wis. Admin. Code NR 1.95).

#10 110 2.9 State fish management areas shall be designated and managed to . . . foster and promote the preservation of required habitat for all species including wetlands, . . . (See . . . Wis. Admin. Code NR 1.01 and NR 1.95).

#11 111 2.13.1 The Department of Natural Resources shall preserve and protect wetlands under its management and control. The Department of Natural Resources shall use its regulatory authority to minimize adverse changes in the quality or quantity of the flow of waters that nourish wetlands, to protect wetlands from all environmentally incompatible uses, activities and substances, and restore wetlands which were unlawfully altered. (Wis. Admin. Code NR 1.95).

III. COASTAL EROSION AND FLOOD HAZARD AREAS

#12 114 3.5 It is unlawful to deposit any material or to place any structure in navigable waters without a permit. Rip rap . . . habitat. (See . . . Wis. Stats. Section 30.12(1) and 30.12(2)(b)).

IV. COMMUNITY DEVELOPMENT

#13 117 4.0.g. Providing assistance programs for recreational boating facilities and boating safety to remedy the problems of recreational use of the waters.

#14 118 4.8 Public access . . . approval. Providing public access to waters by the Department of Natural Resources is a variable requirement based on the quality of the resource, the space available and the levels of use experienced, respecting private rights and developments. (See . . . and Wis. Admin. Code NR 1.90, 1.91 and 1.92).

#15 118 4.10 Local communities shall be encouraged . . . The state shall provide technical and financial assistance to municipalities for the development of recreational boating facilities. (See . . . and Wis. Stats. Section 23.30 and 30.92).

V. ECONOMIC DEVELOPMENT

#16 121 5.1 The state shall promote business and industrial development . . . and shall authorize the establishment of foreign trade zones by government bodies and private corporations. (See . . . and Wis. Stats. Section 560.03 ~~and~~, .23 and 182.50).

Chapter II. Implementing a Coastal Management Program in Wisconsin

C. Organization for Implementation of the Coastal Management Program
3. A new Wisconsin Coastal Management Council

#17 204 First paragraph, delete last sentence, lines 4-7.
~~Also, it should be noted that state agencies as well as all other Council members, will not be allowed to vote on funding decisions that directly affect their agency or interest.~~

D. Program Funding
2. Funding Sources for a Coastal Management Program
-- Coastal Energy Impact Program (Section 308)

#18 218 Delete second sentence: "The provision . . . resource."
Insert in its place:

Five types of financial assistance are provided under Section 308(b)(c)(d):

(1) Planning grants for the consequences of energy facilities,
(2) Loans for new or improved public facilities and services required as a result of coastal energy activities,
(3) Grants to reduce any unavoidable loss of valuable environmental or recreational resource,
(4) Outer Continental Shelf (OCS) development grants, and;
(5) Repayment assistance to coastal states and local governments experiencing difficulties meeting credit obligations because the energy activity did not provide the expected revenue.

Planning grants, the only type of CEIP financial assistance available to Wisconsin, may be applied to either coastal energy activities or facilities.

3. Eligible Funded Activities and Recipients
a. To improve the implementation. . . of existing . . . policies . . .
(3) Coastal energy impacts--

#19 220 Delete whole paragraph: "financial assistance is . . . energy activity."
Insert:

Section 308(c) planning grants are designed for the study and planning of consequences relating to new or expanded facilities, such as:

(a) planning for economic, social, or environmental

consequences of new or expanded energy facilities;
(b) analyzing government or private industry siting policies;
(c) devising strategies for the public purchase of land or for land-use controls upon or near which energy development is to take place;
(d) devising methods of protecting recreational or environmental resources;
(e) conducting studies for maintaining or improving public safety threatened by the construction or operation of energy facilities;
(f) conducting analyses required for state or local regulatory decisions related to energy facilities;
(g) performing cost/benefit analyses comparing the consequences of alternative energy facility types or sites;
(h) devising strategies for recovering compensation for any adverse effects caused by an energy facility;
(i) forecasting employment, population, public facility and public service needs and costs, and tax and user fee revenues;
(j) planning for public facilities needed as a result of the energy activities;
(k) study of and planning for the secondary consequences of alternative types and sites of public facilities needed as a result of the energy activities;
(l) study of and planning for the consequences of the phasing out of energy facilities; and
(m) carrying out projects necessary to administer assistance under Section 308 (NOAA Regulations, Section 931.33, 43 FR 7554 - 7555)

4. Considerations in Project Funding

#20 226 Add an additional paragraph at the end of the section, mid-page.

Major criteria for selection of CEIP projects are:

a) coastal energy activity/facility determination (as defined in NOAA Regulations Section 931.13 and 931.19, 43 FR 7551-7553)
b) size and vulnerability of the area*
c) appropriate timing of the proposal to address the impacts of the facility (urgency or immediacy of need)*
d) consistency with other state policies and with the Coastal Management Program*

Other criteria for CEIP project selection are:

e) compliance with federal regulations and guidelines
f) ability of applicant to carry out proposed study and previous energy planning involvement
g) presence of matching funds*
h) geographic distribution of the proposals*
i) transferability of findings of the project*
j) cost of project and availability of complementary funds from other state or federal sources*

*Existing guidelines from Coastal Management Program funding.

Chapter III. Federal Government Activities in the Coastal Area

D. Federal Consistency - Licenses and Permits

#21 242 Nuclear Regulatory Commission

a) ~~Siting and operation of nuclear power plants.~~ Permits and licenses for the construction and operation of nuclear facilities. (State permits required).