

PROCEEDINGS FROM THE GOVERNOR'S CONFERENCE ON COASTAL ZONE MANAGEMENT

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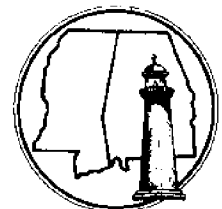
July 24 and 25, 1974
Biloxi, Mississippi



Sponsored for
Mississippi Marine Resources Council
by



The Mississippi-Alabama Sea Grant Consortium



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The Mississippi Marine Resources Council is supported by the State of Mississippi and by a coastal zone management program development grant from the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, Department of Commerce, as authorized by Section 305 of the Coastal Zone Management Act of 1972. The Mississippi-Alabama Sea Grant Consortium is supported by the State of Mississippi and by the Office of Sea Grant, National Oceanic and Atmospheric Administration, Department of Commerce.

The Council and the Consortium would like to express its appreciation to all of those State and Federal agencies, groups and individuals who helped to make this Conference a success.

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MASGP-74-027

TABLE OF CONTENTS

	PAGE
Purposes of the Conference	
Bruce W. Mattox, Ph. D.	1
Local, State, and Federal Perspectives of Coastal Zone Management	
"Benefits to be Derived from Coastal Zone Management"	
The Honorable Ben H. Stone	3
"The Relationship of the Mississippi Marine Resources Council to Coastal Zone Management"	
Donald J. Cuevas	11
"The Coastal Zone Management Plan for Mississippi"	
James B. Rucker, Ph. D.	21
"Coastal Zone Management--An Overview From the Federal Viewpoint"	
Robert W. Knecht	27
Luncheon Address	
Introduction: Roland Weeks, Jr.	37
Speaker: The Honorable Aaron R. Schwartz	39
Panel Discussion on the Areas of Critical Interest in Coastal Zone Management	
Moderator: The Honorable William C. Rhodes	
Panel: Fisheries	
William J. Demoran	49
Mineral Extraction and Fossil Fuels	
Terry Owen	57
Recreation and Tourism	
Edward Keels	61
Transportation and Navigation	
W. Larry Harris	63
Commerce and Industrial Development	
James W. Miller	71
Residential Development	
D. L. Anderson	77
Waste Disposal	
Bob Monette	81

Dinner Address	
Introduction: Donald J. Cuevas	85
Speaker: Governor William L. Waller	88
 Summary of Workshop Sessions	 95
 Conference Summary	
Bruce W. Mattox, Ph.D.	109
 Luncheon Address	
Introduction: The Honorable Edward A. Khayat	113
Speaker: William G. Simpson	114
 Appendix	
Conference Agenda	125
Conference Participants	129
Members of the Mississippi Marine Resources Council ...	141

PURPOSES OF THE CONFERENCE

Bruce W. Mattox, Ph. D.
Director, Mississippi-Alabama Sea Grant Consortium
Member, Mississippi Marine Resources Council

I have diligently tried to think of some type of acronym or "catchy" little phrase that would summarize the purposes of this conference so that we can all easily remember why we are here. Therefore, the purposes of this conference are to conform, perform, inform, deform, reform, preform, and last but not least, maidenform. I must explain these just a bit.

Conform is to conform to the spirit and to the guidelines of the Coastal Zone Management Act of 1972 by initiating Mississippi's Coastal Zone Management effort with class.

The second one, perform, is to perform in accordance with the proposal that was submitted by the Mississippi Marine Resources Council to the Office of Coastal Environment, which is a part of the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce. That proposal has been funded by this group.

The third reason for being here is to inform you about what coastal zone management is at the present time. We plan to tell you how the planning and implementation can be carried out at all levels of government and how you can participate. Also, we plan to inform the coastal zone managers of the needs, goals, problems and solutions. The earlier parts of this program are designed to inform you. The latter parts of the program, particularly the workshop sessions, are designed to let you inform the

managers of what you want the coast to look like and what you want to be here in the future.

As we really get into the spirit of this conference we are going to deform traditional thinking about boundaries along the coast. We are going to reform them into what needs to be the definition of the coastal zone. At these same sessions we will preform some ideas about the needs, conflicts and solutions that will apply to this newly defined zone.

Finally, we are going to maidenform. Within our bosoms we are going to uplift the spirit of cooperation and support coastal zone management activities to change the contours of our coast for the beauty and quality of life that it will bring to us all.

BENEFITS TO BE DERIVED FROM COASTAL ZONE MANAGEMENT

The Honorable Ben H. Stone
State Senator, State of Mississippi
Member, Mississippi Marine Resources Council

It is an honor and a privilege to be asked to lead off the keynote session of the Governor's Coastal Zone Management Conference. I am flattered with the invitation, but somewhat awed by the task that has been assigned me.

In reviewing my topic, "Benefits To Be Derived From Coastal Zone Management From A Local Standpoint," I found that very little information of a specific nature has been presented or published on what many of us may consider to be an easily defined subject. This reflects the relative infancy of this important consideration, and in a sense this conference is "paving new ground." We here are truly on the ground floor.

Coastal zone management is most simply a cooperatively funded and administrated program between the Federal Government and the states that calls first for delineating what actually is a state's coastal area and its natural and human resources and then for developing plans and programs for the future use and preservation of that area and its resources. Obviously, the program is much more complex than this and involves many other ramifications, but the later speakers will go into greater detail on this.

The Coastal Zone Management Act enabling this program is essentially a law aimed at the state level of control. However, this is not to say that local governments and representatives and their constituents have been excluded. Quite to the contrary, the Act specifically directs that people in the coastal areas and their governments are to be actively included in both the development and administration of coastal zone management plans. It is no secret that coastal zone management would be a complete failure anywhere without the participation and cooperation of coastal governments and residents. I want to discuss this in greater detail later.

In considering the Coastal Zone Management Act and its relationship to the local situation in Mississippi, I find that three very general areas of possible benefit stand out. Not necessarily in order of importance, they are: (1) Improved natural resource protection and utilization, (2) improved efficiency of all levels of government in dealing with problems present and future, and (3) an improved relationship or communication between the individuals in a community and the various governments. These are three extremely broad areas, each of which encompasses a number of separate items of concern.

The Coastal Zone Management Act was based on several concerns; but one of the most important was that our natural resources of the coastal area were being abused and misused at a startling rate, and, as opposed to other areas, the coastal zone was most susceptible to abuse and the most difficult to replace. Something had to be done to stem that trend. Assuming proper implementation of a properly devised coastal zone program, local interests

can benefit several ways from this emphasis. For example, resources of significant value in their natural state, such as coastal wetlands, can be identified and preserved to benefit future generations. Likewise, resources of historical significance can be identified and maintained for the future. Another category of resources benefiting from the coastal zone program are those that have a potential for exploitation. With proper coastal zone management, these resources, be they land development areas, water areas, depletable minerals, or many others; can be identified and the optimum means of their exploitation or preservation outlined within a total resource plan. I certainly envision that a properly developed plan would open new avenues for economic development in the fields of housing, industry and business, as well as preservation of our heritage and public domain. After all, the purpose of coastal zone planning is to permit and encure orderly development not to block orderly progress. New job opportunities with a long range, well established base will be one result.

Of course, research in the coastal areas can also be developed and improved through this program to more fully address the needs of our local citizens in terms of available resources. From this research and the defining and developing of our existing resources, I can foresee the arrival of new technology, new products, and other features that will lend themselves to an improved standard of living for our local residents. To put it simply, coastal zone management can enable us to better manage our natural and cultural resources, both of which add up to a better quality of life.

The second and third general areas of benefit from coastal zone management both relate specifically to strictly human concerns--improvement of efficiency in government and improvement of people government relations. I have the feeling that the originators of coastal zone management legislation did not specifically set out to address the need for improved human relations. However, this, as I see it, can be the most valuable part of coastal zone management from a local standpoint.

I believe coastal zone management can serve to improve efficiency at all levels of government, as well as how each level relates to each other. Specifically, I look forward to having the many overlapping lines of authority and conflicting jurisdictions of many agencies removed through proper coastal zone management. Streamlining of government would benefit not only citizens of the coastal zone but all people of the state. Nowhere could this be better focused than to have a total overhaul of the many overlapping and conflicting permit systems that presently exist at federal, state and local levels. One of the real objections to a plan and implementation of coastal zone management is from persons who believe this to be just another organization which must be consulted. Nothing should be further from the truth. If a coastal zone management plan cannot cut through all of the red tape and provide one flexible plan for development, it is not meeting the needs of the people it serves and fails in the purpose for which it was conceived. Coastal zone management can provide a single permit system that will enable the average citizen to obtain necessary approvals for a worthwhile activity in

a far shorter length of time than that presently required. For example, the Port of Gulfport and our other industrial development agencies are presently burdened with a seemingly endless list of approvals that must be obtained from federal, state and local agencies before starting a dredging project or expanding terminal facilities. The delays incurred in securing these approvals and starting a project add up to increased expenditures of tax dollars, to say nothing of the revenues that are lost as a result of failing to complete improvements to facilities. Delays such as this are felt throughout our economy. Coastal zone management can greatly simplify the permitting process by reducing the number of permits and by prescribing specific criteria by which activities can be undertaken. It can and should also include in the management plan such matters as spoil disposal methods and areas.

Because coastal zone management requires us to look far into the future, I can foresee where local governments could realize a considerable long-term savings of funds through insuring that all needs are covered through a project today, and not postponed until tomorrow. We have several examples of that presently on the coast. The D'Iberville Water and Sewer Project comes immediately to mind.

But, foremost in this all, I believe that coastal zone management is a program whereby people, working together can better themselves. It is a program that can help to make all of us better citizens. I say this, because coastal zone management can offer every citizen from the young

school child to the retiree the chance to become better educated, more aware, and believe he or she is a part of determining their destiny and that of those to follow.

The only way that coastal zone management can become a reality is simple: Through participation of local citizens and local government in the establishment of a plan which is both acceptable to them and is designed to accomplish our long range goals. We have seen it before. All of the best plans for the future have failed to be implemented where the people have not been allowed to participate in forming them. Let us not make the same mistake. Involve the average citizen first, and keep him involved until the plan is written and then accepted.

The chance to participate in forming and choosing the alternatives that will shape the Mississippi Gulf Coast in the future is something everyone has had. That chance now comes with coastal zone management and as a result it is something to cherish and use wisely. It is a chance also to use on a local level a positive approach to land management, something we have not had before. Instead of emphasizing what people cannot do, we can in good faith join homebuilder, the merchant, and the fisherman in determining what can be done, and done well. I believe that coastal zone management offers us the chance to develop the confidence and the responsibility of all levels of government, especially of our local forms of government. If we achieve that, coastal zone management will have succeeded without any doubt.

One further word of caution: A plan, once developed, must provide for the flexibility of constant and periodic updating to reflect our constantly changing attitudes and life style.

These then are some of the benefits and precautions I see from the local level resulting from coastal zone management. As with any sort of benefits, there will be some costs involved. In this case, the costs are the time and effort you and I as representatives of the people must put in to cultivate public interest. I think that these benefits certainly justify the costs.

THE RELATIONSHIP OF THE MISSISSIPPI MARINE RESOURCES COUNCIL
TO COASTAL ZONE MANAGEMENT

Donald J. Cuevas
Vice Chairman, Mississippi Marine Resources Council

Even though the conference is being produced by the Mississippi-Alabama Sea Grant Consortium for the Mississippi Marine Resources Council, it is a pleasure for me personally, and as Vice Chairman of the Council, to have the opportunity to participate, discuss, and possibly enlighten some of those present on the "Relationship of the Mississippi Marine Resources Council to Coastal Zone Management."

You heard Bruce Mattox present the purposes of the conference and Senator Stone discuss the "Benefits to be Drawn from Coastal Zone Management from the Federal Viewpoint."

The current members of the Mississippi Marine Resources Council are listed on the back of your program. Chaired by the Governor and functioning through a Vice Chairman and Executive Director, the Council is composed of sixteen members appointed by the Governor to represent the various segments of government, industry, and academic institutions. Two members each from the House of Representatives and the State Senate are represented. Academic institutions are represented by the directors of the Board of Trustees of Institutions of Higher Learning, the Gulf Coast Research Laboratory, and the Mississippi Sea Grant Consortium. The Consulting Biologist of the Mississippi Marine Conservation Commission and

the Director of the Mississippi Agricultural and Industrial Board, as well as a representative of the Mississippi Research and Development Center serve on the Council. Additionally, six members are appointed from the public at large. The Council also has established an Advisory Committee which is presently composed of nine members drawn from industry and state, regional, and federal agencies. All members of the Council and Advisory Committee serve without compensation.

Would you believe that at the first meeting of the Mississippi Marine Resources Council on June 25, 1969, the first topic of business was Bob Everett, Vice Chairman (now deceased), appointed a special committee to consider a Governor's Conference for Marine Sciences? The purposes of that conference would be to achieve a sectionalism approach whereby the "Executive Branch of the Federal Government might be stimulated into action." Five years later we have accomplished our first action of business, if even for a different purpose!

At any rate, at first blush my topic sounded simple, an easy enough request. Executive Order Number 45 issued by Governor John Bell Williams created the Mississippi Marine Resources Council in 1969 as an adjunct to the Agricultural and Industrial Board until the Legislature implemented the Council as a part of State Government through legislation passed in 1970.

The Council was created, oversimplified, with a mandate to study, develop, and manage the marine resources of the state. In the "wisdom" of the Legislature, let us examine the preamble to House Bill #294:

An Act creating the Mississippi Marine Resources Council to provide for the functions, policies and duties of said Council in the field of marine sciences and resources development of the coastal, offshore and water resources of the state; to authorize the coordination of said Council's programs with related agencies of the state, the United State Government and sister states in the field of marine resources and development; to set goals of said Council to increase competent human resources in order to promote economic growth in the field of marine sciences..."

It was not enough to create us and let us seek our own level of participation. They had to compound it and include a responsibility for just about every state agency, all the universities, neighboring states and the Federal Government and all its marine programs. At that time the Federal Government did not even have an ongoing program. You can begin to see some of the problems we faced.

Some of these problems were not new to Mississippi. Coastal zone or marine related problems are not new. When the Portuguese discovered the Mississippi Coast in the 1500's, when first explored by LaSalle in the 1600's, and when later in the 1600's D'Iberville established Biloxi, Ocean Springs and then Bay St. Louis was settled, the first problems were concerned with finding healthful building sites, safe water supplies, adequate marine transportation, and effective military defenses.

Does that sound like the 1600's? It sounds more like the problems of today that we see and hear on television and read about daily. In fact, the word superport that we are hearing so much about now as a brand new concept has, in effect, been around a long time, too. Did you know that before 1750 Ship Island functioned in this capacity? In the early

1700's we had a superport at Ship Island that was off-loading deep draft vessels onto shallow draft barges and boats for trans-shipping to Biloxi, New Orleans, along the Gulf Coast, and up the Mississippi River.

Recognizing that many problems exist and their varied solutions are important, not only to the state and nation as political subdivisions but to each and every citizen, it is a continuing challenge for our political leaders and Legislators to fund programs and a constant challenge to our Council to solve these problems in a meaningful and lasting manner for the benefit of everyone, if possible.

In 1973 the Legislature enacted the Coastal Wetlands Protection Act largely through the efforts of Representative Gerald Blessey, one of our members, and Governor Waller. The Mississippi Marine Resources Council was selected or designated as the enforcing authority, which was a logical assignment in view of our purposes. This bill requires the preservation of the state's public wetlands except for a higher public use. Our other activities are aimed towards conservation or the beneficial consumption or development thereof.

Mississippi began its activities by providing matching funds for Sea Grant through the University's Marine Center and in Coastal Zone Management through a series of studies or investigations. Actually trying to second-guess the federal programs and funding requirements, we were gearing our approach and plans to a plan application based on what we thought would be required for U. S. approval.

After several false starts and Presidential impounding of appropriated funds, we settled down to developing a Plan for Coastal Zone Management in Mississippi, a plan that is designed to be implemented and is, in fact, now in the process of positive development.

Actually, Mississippi was the first state to apply for coastal zone management funding. However, as it turned out, our application was premature, but was used to assist the National Oceanic and Atmospheric Administration and the Office of Coastal Environment in establishing guidelines for applications and funding. Maybe our early efforts were more beneficial than we first thought.

Our program for identifying the issues and problems for our planning for coastal zone management is plagued by similar conflicts as experienced by other states when various groups and individuals pursue their legitimate interests.

Our planning for coastal zone management ranks the order of conflict by importance as we see them today:

1. Land Use and Population--Land use is basic to most problems in the coastal zone. Limited availability of land in shore areas intensifies competition for residential, commercial and industrial use. Unregulated development creates burdens on transportation, water, sewage, and utilities. Presently, approximately a quarter-million persons (over seventy per cent of coastal counties population) live within ten miles of the coastline. This is up twenty-five per cent from 1960 and is expected to double by 1990.

2. Water Pollution--A major problem arising from unregulated land use is that of water pollution. Inadequate or non-existent waste water treatment facilities has resulted in extreme conditions of water pollution. The closure of seventy per cent of our oyster fishing areas is testimony to the problem. More vocal concern has been evident through the warnings advising against water contact on our beaches. The building industry also remembers the moratorium placed on construction due to sewage pollution.

3. Coastal Zone Fisheries--This industry, worth \$11 million in dock side values and over \$55 million in add-on value, is not without its conflicts from pollution and other coastal zone uses. New concepts must be developed and implemented to change and improve the state's fisheries.

4. Wetlands Conservation-Utilization--Use and preservation of coastal wetlands is closely tied to land use and competition for space. Mississippi now has an effective Coastal Wetlands Protection Act that should go a long way in balancing preservation and development of these areas. Many conflicts and serious questions of ownership still need to be resolved to preserve Mississippi's dwindling wetlands, estimated to be sixty-four thousand acres.

5. Petroleum Extraction and Handling--Federal leasing of the Outer Continental Shelf and proposed leasing of state water bottoms for

petroleum and mineral extraction, coupled with the possibility of developing a superport with the attendant problems of cargo spills presents a unique set of problems within the coastal zone area. Add to this the state versus federal jurisdictional conflict and the problem becomes serious in many ways and needs resolution.

6. Natural Disasters--I think when we hear the word "Camille" nothing else needs to be said about the problems associated with hurricanes. But it is a fact that these natural disasters do affect the coastal zone by damage, flooding, rainfall, and drainage from adjacent or upland river basins.

7. Industrial Development--Industrial development is actively pursued throughout the coastal zone, not only in Mississippi, but throughout the nation. Some of these problems are providing an adequate water supply for industrial uses and coolant purposes, as well as many problems associated with waste disposal. These are some of the pressures that require attention in the coastal zone area associated with the area's economic development.

8. Transportation and Navigation--Navigation is an integral part of the Mississippi Gulf Coast. The need for channels, port access, dock-side facilities, spoil disposal and other items associated with transportation presents a continuing need for adequate management within the coastal zone.

These eight items represent the general grouping and ranking of our problems constituting the challenge to develop an effective and meaningful coastal zone management plan.

In addressing our attention to the goals and objectives as a solution for Mississippi's actual coastal zone management program, we will coordinate our effort with the federal program as set forth by Congress. There are five basic or general requirements to be met in attaining our goals and objectives.

1. We will develop available resources for the economic benefit of Mississippi's citizens in an orderly and responsible manner that will preserve values and maintain options for future generations.

2. We will provide environmental protection for the natural resources and inhabitants of this state through a continuing inventory of natural resources, their requirements and the ecosystems they support through a plan for optimum utilization, minimizing conflict and impingement of the natural environment.

3. We will focus marine research on coastal zone problems establishing mechanisms necessary for identifying, developing, and coordinating management requirement's for problems within the area.

4. We will develop a means for providing resolution of resource usage conflicts, addressing the problems of today and establishing long-term concepts and alternatives. A major undertaking will be the necessity of conducting a program of public education and a continual monitoring of the results to stay alert to the effectiveness of the methods employed.

5. We have already begun facilitating coordination of activities with various agencies involved in the coastal zone through uniform permitting

procedures currently included under the Wetlands Protection Act. It is anticipated that we will be successful in simplifying public involvement with all agencies and participants in the coastal zone in the near future to resolve any conflicts that may occur on a uniform and equitable basis for all parties concerned.

A syndicated coorespondent recently warned, "Beware of politicians bearing grants." However, in closing I wish to re-emphasize our concurrence in the Federal Coastal Zone Management Program and at the same time invite your support seeking the Department of Commerce and NOAA to establish separate programs for the Atlantic, Pacific and Gulf of Mexico.

In previous discussions with Dave Wallace and Bob Knecht I expressed a belief that our problems are different in the Gulf . The Mississippi River, Gulf Stream, numerous islands, minimal temperature variations, hurricanes, contiguous international boundaries, and other things make the Gulf of Mexico unique.

There are only five states involved in the United States on the Gulf, a small manageable group. Any program implementation could be executed quickly and results monitored almostly instantly from one aircraft overflight. I hope this will become an accomplished fact soon.

THE COASTAL ZONE MANAGEMENT PLAN FOR MISSISSIPPI

James B. Rucker, Ph. D., Executive Director
Mississippi Marine Resources Council

The conference program indicates that I am to discuss the Coastal Zone Management Plan for Mississippi. There is no Coastal Zone Management Plan for Mississippi yet. Presently, there are only policy objectives and planned program development activities. The body of my talk will be to describe the policy objectives and activities that will lead to the development of a State Coastal Zone Management Plan incrementally over the next three years.

There are five policy objectives of coastal zone management in Mississippi. These are in general terms.

1. We must first define the boundary as that of the state coastal zone subject to the management program. Presently, the Council has set the landward planning boundary as that of the northern boundary of the three coastal counties. The landward boundary of the state coastal zone, subject to the management program, will no doubt be more narrowly defined and extend landward only to the extent necessary to control those shoreland uses which have a direct and significant impact on coastal and esturine waters. We feel it is absolutely essential that the general public be provided the opportunity to fully participate in this important conceptual and operational issue. Additionally, since no single coastal zone boundary is going to meet the needs of each state, the actions of our neighboring states are of substantial interest and concern to Mississippi. For this reason, Mississippi will host a Gulf States Coastal

Zone Conference in September. This conference will provide sister states an opportunity to share concepts and address common objectives.

2. A second major policy objective is to identify permissible land and water uses which have a direct and significant impact on coastal waters. It is essential to give full consideration to the needs and requirements of at least the following eight activities:

1. Industry
2. Commerce
3. Residential Development
4. Recreation
5. Mineral Extraction and Fossil Fuels
6. Transportation and Navigation
7. Waste Disposal
8. Fisheries

Each of these activities can lay legitimate claim to the use of resources in the coastal zone. Since the economic underpinning of the coastal economy depends on a diverse economic base it is desirable to use our resources to support a variety of use needs. However, it will be necessary to categorize the nature, location, and scope of conflicts of current and anticipated coastal land and water use. We will begin examining some of these needs and conflicts in our workshops this afternoon.

3. The third major policy objective is to develop criteria for designating geographic areas of particular concern in the Mississippi coastal zone. For example, we need to objectively establish criteria to identify those geographic areas that are intrinsically suited for intensive use or development, and likewise, those areas that are environmentally frail and essential to the living

resource habitat and food web such as coastal wetlands, those areas of urban concentration where shoreline utilization and water use are highly competitive, those areas of significant hazard due to storms, and those areas of historic or esthetic value.

4. The fourth major policy objective is to establish priority use guidelines, especially in areas of particular concern. These guidelines will provide the state and local governments with a common reference for resolving use conflicts, and will provide the basis for necessary regulation of land and water uses in the coastal zone.

5. And lastly, a major policy objective is to describe the organizational structure and intergovernmental arrangements needed to develop and maintain an effective coordinated management process, and to identify or establish the means by which the state, together with other levels of government, can exert necessary control over land and water uses in the coastal zone. It should be recognized that present institutional arrangements for planning and resolving conflicting uses of waters and shorelands in Mississippi as in most other coastal states are inadequate to deal with growing competing demands.

These then are the five major policy objectives. We recognize that it will not be accomplished easily or overnight. However, we further realize that unless a program of coastal zone management is undertaken we will continue to live from crisis to crisis, from conflict to conflict.

Now let me describe briefly the five major areas of program

activity that will take place during the three year development period:

1. The first area of activity is that of agency coordination. The Coastal Zone Management Program will be developed using to the greatest possible extent information and policies already developed by other agencies. The objective of this activity is to achieve as complete coordination and integration as possible of all local, regional, state and federal programs. This will be a continuing activity throughout the development period.
2. A second area of activity is planning data development. The activity will continue through the development period but will be more intense during the first half. The purpose of this activity is to acquire and evaluate existing studies, plans and policies developed by other agencies, and to utilize and build upon the data and studies that have been developed. Where information is nonexistent or inadequate the Council will undertake to develop this data through specific contracts. Based on the information acquired, the Council through mechanisms such as joint boards and common review procedures, shall develop the broad provisional policy goals and options for coastal zone management in concert with appropriate concerned agencies.
3. The third area of activity is that of policy development. Using all available information, policies addressing each of the five objectives I discussed previously will be evolved as advised through mechanisms of public participation.
4. The fourth area of activity is to develop full public participation. The

objective of this activity is above and beyond the public hearings that are required by the Federal Coastal Zone Management Act. Since public attitudes and views are the cornerstone for setting sound policies, the public will be given an early opportunity to participate in coastal zone management design.

5. The fifth area is legal activities. Tasks in the area include a continuing review of evolving coastal zone management policies to determine the extent to which existing state agency powers are able to satisfy the regulative and control requirements for a Coastal Zone Management Program. The Federal Coastal Zone Management Act specifically requires that the authorized coastal zone management agency have the legal authority to:

1. Regulate land and water uses in the coastal zone in accordance with the state plan.
2. Control development in the coastal zone.
3. Resolve conflicts among competing users.
4. Acquire fee simple, or less than fee simple, interest in property to achieve conformance with the Coastal Zone Management Program.

Since these powers clearly exceed the existing legal authority of the Mississippi Marine Resources Council or any other existing state agency, attendant legal tasks will be to review the desired policies and recommend and evaluate alternate mechanisms by which these requirements can be achieved. Drafting of necessary legislative amendments and bills will fall within this area of activity.

This activity will proceed incrementally during each of the legis-

lative sessions that occur during the program development period. The final product should be an agency empowered by a publicly acceptable set of statutes that meet the spirit and aforementioned substance of the Federal Coastal Zone Management Act.

In summary, let me remind you that coastal Mississippi is experiencing extraordinary growth. The population of coastal counties has increased twenty-five percent in the past decade. Presently, the population stands at nearly 250,000. Over seventy percent live within ten miles of the shoreline where population densities reach 3,500 per square mile. By 1990 planners predict our population will double and exceed a half million residents and will serve a yearly influx of several million visitors. This growth in population has been accompanied by economic growth and wholesome economic diversification. These diverse interests lay legitimate claim to use of the waters and coastal areas of the state. The legitimate needs of these diverse interests must be recognized and we must begin now to establish the mechanisms for resolving conflicts among competing users of the state's coastal resources.

COASTAL ZONE MANAGEMENT--AN OVERVIEW FROM THE FEDERAL VIEWPOINT

Robert W. Knecht
Director, Office of Coastal Environment, NOAA

What I would like to do in my time is try to show how Washington's environment in this business of coastal zone management is somewhat sensible. I would like to explain to you why the National Government needs to be involved in coastal zone management, which is a rather local issue in many aspects. In order to do this I will give a little of the background leading to the passage of the Federal Coastal Zone Management Act of 1972, and give you some of the philosophy contained in the Act. I will talk a bit about our progress to date in implementing the legislation, what is going on in other coastal states outside of Mississippi, and then close by discussing some of the key relationships that exist in coastal zone management from our point of view.

How did the Federal Government get involved? Of course, the problems of the coastal zone have been with us for a long time. In fact, it does not take much thought to realize the coasts have played an important part in the development of our country from the very beginning. The coast has been the site of the first settlements, the first defenses of the country, the first economic and industrial development in the country, so has always been important.

Beginning in the late 50's and early 60's the pressures on the coast have increased tremendously. More and more of our people have more time, mobility, affluence, and the inclination to go to the coast and seek recreation.

Our ports have needed expanding and modernizing to compete in the interlocking economies of the world. Our fishing has been under pressure from pollution and from international fishing forces. The conflicts are becoming clearly visible to everyone.

States, of course, were not idle during this time. State governments began to pass legislation that would deal with some of these problems. Wetlands legislation was passed up and down the Atlantic Seaboard beginning in the early 60's. Beach access legislation, establishing a public right to use the beach for recreational purposes, was established in Texas and Oregon. Individual problems began to be dealt with on a one to one basis.

In general, these efforts at the state level were not comprehensive and were not very well supported in terms of financial underpinnings. Basically, the problems were zoning and local policies that were, understandably, strongly influenced by the economic well-being of that community. Also, federal policies were established and operated separately by a myraid of federal agencies. This directly affected how the coast was developed and how the land and water were used.

There was a series of studies at the national level that began in the 1960's. The National Estuaries Study, the National Estuarine Pollution Study, the Stratton Commission Study and others pointed to the need for legislation at the federal level and legislation at state levels to encourage a more comprehensive approach to managing coastal resources. The studies indicated that federal legislation was needed for at least three reasons--to provide financial assistance

and encouragement to states to develop comprehensive programs at the state level in cooperation with local governments, to bring about federal decisions that affect the coast with rational and comprehensive state programs to better marshal federal actions that affect states and to see that the national interest in the coastal zone is contained within comprehensive state programs. The Coastal Zone Management Act was passed in 1972 to try to meet these needs. This was after three years of Congressional debate on all sides of the issue and after some additional studies had been undertaken.

There are four main features in the legislation that I think are important. The First feature is that it is a voluntary program. No state is required to join the federal program or be a part of it or apply for grants. It is neither regulatory nor mandatory. The Act points to the state level of government as the one that should take the initiative to develop a comprehensive, state-wide view to the problem, working closely with the local government. It indicates that the federal role is one of reviewing the adequacy of the processes that states are asked to adopt, adequacy of the process and not individual land and water use decisions. Clearly, the federal role is not one of the federal zoning nor one of federal dictation to states with regard to how to use a certain stretch of water or plot of coastal land. It simply is designed to show the adequacy of the process that the states are encouraged to adopt. The federal program in the Act is not purely an environmental measure. It is a balanced measure, recognizing

that the coasts are important for ecological, environmental and recreational purposes, but also they are essential for economic development that must proceed for the social good. It calls for management, not necessarily in all instances for environmental protection even though environmental protection has to be an important part of any comprehensive program. These seem to be the four key aspects of the federal legislation.

Since it is voluntary, incentives will have to be provided in order to encourage states and local governments to become involved. These incentives are of two kinds--financial grants and leverage. Once the state has an approved management program, then federal actions that affect that state's coast have to be consistent with that approved state program. States are allowed to apply for up to three annual grants for planning before they have to submit a management program for federal approval. When the management program is submitted at the end of the three year period, then grants are available to assist the state in operating and implementing that program. These grants should be three or four times larger than the planning grants considering the authorization levels in the legislation.

What is the status of the Federal Coastal Zone Management Program? Briefly, twenty-seven of thirty coastal states have applied for and have received financial grants to begin the planning process as of June 30. We are very pleased at the fact that essentially all of the coastal states of the United States, and this includes the Great Lakes states, have applied for and received grants to start the process. Mississippi received a little over

\$100,000 in federal grants. Not a large sum, we hope this can be larger in the future. It will surely be larger when the program is finally approved. As was mentioned, Mississippi's application was the first one received, long before we had our forms printed or our processes established. It was helpful in providing guidance to deal with the application question, and we very much appreciate the early enthusiasm of the Mississippi group.

Just recently there is another grant program, the Estuarine Sanctuary Grant Program, whereby federal assistance is provided to states to acquire and operate estuary sanctuaries for research and educational purposes. We have let the first of those grants to the state of Oregon for \$825,000 to acquire a particularly pristine estuary along the coast of Oregon. During the current year beginning July 1 we had \$12 million available again to let grants this year to continue the work. We hope that substantially more money will be available in future years to assist states in actually operating approved programs.

During the remainder of my time I would like to discuss a few of the key relationships that seem to us to be necessary for success in this business. Two of them that stand out at the top of this list are, of course, state-local relationships and state-federal relationships. It is absolutely fundamental that a good information base and a good set of inventories exist, which must underlie the development of the coastal zone management program. The pros and cons of developing it must be known to have a management program. It seems to me that the responsibilities incumbent on the state coastal zone

management entity, which in this case is the Council, are to make clear to programs like Sea Grant, what the research needs are, what their inventory requirements are, what their other technical problems are and where the gaps in understanding exist so that the institutions can be responsive.

It seems to me, on the other side, the academic institutions, Sea Grant in particular, should look seriously at the state's view of its problems and not feel that it really understands the problems better than the officials of the state that are charged with developing solutions. I have been in the university environment and I know its tendencies which must be overcome. I sense in talking to people here that a good relationship has developed and the Sea Grant Program is viewed as responsive to the state's needs.

The state coastal zone management entity versus the public, or the people of the state, is another entity which must be discussed. After all, this process and activity is proposed for the public good. The public must be involved from the beginning. It must be clear that this is their program for their good and not simply "institution building" on the part of the bureaucracy.

The state coastal zone management entity and other state agencies propose a very tricky relationship, one of the more difficult ones, but yet critically important to the success of the program. The coastal zone management agency, the Council in this case, is usually the "newest boy on the block"

in the family of state agencies and bureaucracies and, as such, has very little standing in many instances. In the case of Mississippi, with a Council that involves the Governor as Chairman, it would seem that some of these problems will be overcome at the onset.

Nevertheless, other problems are prevalent. The Council is not an operating arm of the State Government. Also involved are the highway department, planning office, department of community development, department of natural resources, and many other agencies. Clearly, the Council, the coastal zone management entity at the state level, has to bring these agencies into the picture early and effectively and show them why it is important that they are involved and why their objectives will be achieved more effectively by working with the Council rather than against it.

The state coastal zone management agency and the private sector must also be considered. No coastal zone management program would be complete or be likely to succeed politically if there was a continuing strong opposition from the private sector, which will continue to be, perhaps, the largest user of the coastal zone. Commercial fishing, recreation, energy facilities and other items in the coastal zone all have to be coordinated or rationally managed for the public good. Rational coastal zone management will ultimately benefit all of these private sector users. There is a considerable body of competence and experience in the private sector that can be used to good advantage as these plans and programs are developed.

The state-local relationship is undoubtedly the most difficult and yet

the most important to the success of the overall program. This has been mentioned several times by the speakers earlier this morning. For the most part, local governments now have the responsibility for managing land and water uses in the coastal zone and they are reluctant to give up this responsibility. This is understandably true. However, the whole thrust of the coastal zone management movement is that land and water use decisions that have more than local impact often have to be made. Generally, a regional or a state perspective's a national perspective. The state coastal zone management program must provide the same kind of incentive for local governments that the Federal Act provides for state governments in order for this thing to succeed. A very important job of the state entity, it seems to me, will be to propose some kinds of incentives that will be important enough to local governments to secure their involvement in a positive way. Experience has shown that unless local government is directly and effectively involved from the beginning and they view it as their plan as well as a state plan, then when the time comes to pass the legislation in the state capitol, it will not pass.

State-federal relationships in coastal zone management are quite important for several reasons. The siting of certain facilities in the coastal zone turns out to be a matter of not only local and state interest but national interest. This is most directly seen in connection with the siting of energy related facilities, deep water ports, large refineries, large oil terminals, or power generation plants. These often cannot be dealt with on a local or

even on a state basis. The Coastal Zone Management Act requires the state to have its program federally approved so that it has a process built in for adequately considering the national interest in the siting of these facilities that have more than a state-wide interest. Therefore, it is very important that the state coastal zone management agency work closely with the relevant federal agencies from the beginning.

In closing, I believe my comments can be summed up in one simple expression--"enlightened self interest." To achieve this the people should be involved and organizations must be involved. I truly believe that all of the objectives of coastal zone management, whether private, public, local, regional, or state, can be achieved by a comprehensive coastal zone management program. As you well know, we only have to step across the street and view the debris still left from Camille to realize what the wrong kind of development in the wrong location can do. I think most of us are convinced that the seas and their coastal margins hold much benefit for mankind. I believe the proper goal of coastal zone management is to obtain these benefits on a continuing basis with minimum risk both to the environment and to ourselves.

LUNCHEON ADDRESS INTRODUCTION

Roland Weeks, Jr.
President and General Manager, Gulf Publishing, Inc.

We are particularly pleased and privileged today to have a man from another southern state, the State of Texas, who has been keenly interested in coastal zone management for many years. As a ranking State Senator and Chairman of the Texas Coastal and Marine Council, he has been extremely active in efforts to promote good coastal zone management, not only in Texas, but throughout the country.

Our speaker lives in Galveston, Texas. He is a graduate of Texas A&M University and has a law degree from the University of Texas, which he received in 1951.

He was a member of the Texas House of Representatives from 1954 to 1958, and has been in the Texas State Senate since 1960. This makes him the third ranking Senator in that large state. He is Chairman of the Senate Committee on Juris Prudence and Chairman of the Senate Rules Committee.

Recently he was elected chairman of the relatively new Coastal States Organization. This is a group of men and women representing thirty coastal states. This organization is encouraging those folks in Washington, that we like to encourage, to pass legislation which will help us develop the coastal zones of these thirty states in an orderly manner. I present Aaron Robert "Babe" Schwartz.

LUNCHEON ADDRESS

Aaron R. Schwartz
Chairman, Coastal States Organization

I am delighted to be here as a representative of the Coastal States Organization, and I hope, as a representative of a southern state.

I make these talks around the countryside from time to time, and am delighted to be able to do so because I like to talk about the common problems that face us in the coastal zone. Whether you live in Texas, Mississippi, Alabama, Louisiana or Florida there are many things that happen to all of us and they happen to us every day. They have been happening for a long time. When I sit at these conferences and listen to intelligent folks discuss the problems and the methods of arriving at solutions, I always like to go back to what we were doing about it in the first place. Why are we even concerned about it? We are concerned because, basically, we are trying to preserve the coastal areas of this great nation. We are trying to preserve the coastal environment for future generations who have to live on this earth, who will live on the coast, and who will have to survive on the basis of whether or not there is a coastal environment. We are concerned whether the oceans are alive or whether they are dead, whether there is a beach for recreational purposes, or even whether there is anything there worthy of being there.

We must remember that we are the first generation of human beings in the history of this planet who are leaving it in worse shape than we found it. From the standpoint of many of its environmental concerns, we are the first group on the earth who have really done more to destroy it than we have done to enhance its use and availability. So far as I can see, and as far as I have been told, we have reversed the process of what people did for so long for future generations to come.

We have almost used up the earth, and ocean dumping is a good example of that. Ocean dumping is going on. In fact, there is an Environmental Protection Agency hearing being conducted right now in Florida. I will tell you about how all that started. Dupont, whose slogan is "Better Living Through Chemistry," applied for an application to dump in the Gulf of Mexico along with some other "good" citizens, Shell Oil Company and General Aniline. They are dumping a million tons of industrial wastes in an area 150 miles from my hometown. This is in an area sixteen miles square. I testified against Dupont and in the process found out that Dupont just happened to have another application pending, but it was over in Louisiana. The dump site was the same site we have here in Texas--150 miles from my hometown. Guess where the waste was coming from? The waste that Dupont wants to dump 150 miles off the Galveston coast is coming from Belle, West Virginia. They have to bring it to Texas?

After we raised a little cane (We call it "hell!"), Dupont found they had made a mistake. They did not want to dump at that site so

there was an error in their application. They changed that site in order not to be heard on the Texas application and made another mistake. Governor Edwards over in Louisiana took a position, which I think is enviable in the coastal states, and stated he, as well as Louisiana, is against ALL ocean dumping. Guess where they are hearing now?

They are now having hearings in Florida. Now Florida, at least, is organized and has the Attorney General in Alabama, the Attorney General in Mississippi and the Florida forces all rallied to fight this ocean dumping permit by Dupont. I have yet to figure out what Dupont feels is the matter with dumping their wastes in West Virginia. I do not know why we are "blessed" with their wanting to dump their wastes in the Gulf of Mexico. At any rate, this is an example of why we need to get together and find out what is happening. While I am Chairman of the Coastal States Organization I will work for some kind of communication between the states, which, of course, will be good for everybody.

Shell Oil Company in Texas is dumping their wastes 150 miles from Galveston. Shell Oil Company in Louisiana, which is producing the same wastes as the Texas plant, is building an incinerator to burn their wastes. They cannot dump in the ocean so they are going to do something else about it. This is proof again that if some states do something affirmatively, they can bring about change. By communicating with each other, we can bring about a continuity of thought about these kinds of problems.

The Outer Continental Shelf leasing problem is near and dear to the hearts of all of us. On the East Coast they are fighting Outer Continental Shelf leasing. They are fighting oil production off the East Coast. In California they are asking for a moratorium again on the leasing by the Federal Government, as well as a moratorium on all Outer Continental Shelf plans. We of the Coastal States Organization are discussing the possibility of advancing some legislative program which might give the adjacent states in the coastal areas participation in the federal revenues from the Outer Continental Shelf leasing. The majority of the impact of this oil and gas production is going to be on the land of the states adjacent to that production

The same rule applies to the offshore petroleum terminals or deepwater ports. If you are going to have an offshore terminal in your area, then the impact of that terminal will be where the oil comes to the land, where the refinery is located, and where the water is used from your subsurface water supply, river or ground water supply.

The impact is tremendous in any area. It is already here in your state. All of us here are from coastal states, and you know that we have reached the point in Texas and Louisiana where the impact from oil production is terrific. Governor Edwards from Louisiana has said he is willing to let someone else take some of this "largess." He is willing to let someone else share in the "joy" of refining these crude oil products. I hope that in our area over in Texas we will come to that

same conclusion. There comes a time when you reach the limit as to the number of refineries you can stand.

We have other problems in our part of the country on the Bay Shore of Galveston County where the coastal lands are subsiding. The United States Geological Survey did a study of the subsidence in our area to establish what was happening to us. They found that there were places in this area in Galveston and Harris Counties and in Houston, Texas, that had sunk from four to nine feet in a ten or fifteen year period. These places would continue to sink for another four feet in ten more years if the taking of the underground water was not stopped. This report was developed in 1969, and a paper on this subject was delivered in Tokyo.

The United States Geological Survey prepared that study. This paper was then delivered by one of those gentlemen in Tokyo at a conference of geologists. It was never delivered to the State Senator from that district who happens to be me. If the report was delivered to the Chamber of Commerce, it was delivered to the files and the shredders. The Chamber burns things like that because that would retard "progress." No Chamber of Commerce would want anything like that to happen knowingly. It never got to the Texas Legislature. As far as I know, it never got to anyone except the people who were in Tokyo. Now this subsidence is one of the most serious problems in our whole area.

The most recent survey shows that water by the millions of gallons is used every day for an industrial area called Bay Port, right on the Bay Shore, right at the Houston Ship Channel. They keep building levees around the industrial sites because the industries can afford it. However, the folks who live in two little towns called Keene and Seabrooke just happen to be sinking out of sight. The San Jacinto Monument, which is our pride and joy, is sinking straight down. It has sunk four feet and we now have a lake which once was a rectangular reflecting pool. It is going to continue to sink and the United States Geological Survey has told us it may sink another eighteen feet.

There are thousands of people in Harris and Galveston Counties who live only eight feet above mean, low tide. The hurricane tide of Hurricane Carla was fifteen feet. When you get serious, you look out there at all those developers. They are not developing on the flood plain. They are developing on dry land, but it is not going to be dry when the mortgage is finally paid out. In the year 2000 they are going to own underwater homes. However, the loan companies will still lend the money and the developers are still developing in that area. Since this continues to happen, coastal zone management is something more than a nice way for Bob Knecht to make a living, for you and me to talk about, and for universities to study about.

In the Hurricane Awareness Program, we in Texas finally persuaded the Coastal Marine Council to print a hurricane awareness chart which shows people what is going to go underwater in 1974 if a hurricane like that in 1961 comes along.

There are, of course, other problems which I will not go into now. However, some of these can be alleviated through interstate cooperation. We can get together and do better things in marine transportation, in the preservation of the Gulf, and save our citizens from being imposed upon by the sale of land which will become worthless. We can, in fact, serve industry better by providing some sort of legitimate industry siting plan or some baseline plans for industrial siting. We can make projections about fresh water inflow that is necessary to the bays and estuaries. We can decide how much the area can stand in terms of development before the water supply runs out, and if there is, indeed, and underground water supply available to meet the demands in the future.

You cannot let everyone who wants to locate somewhere locate there, and do everything they want anymore in the society in which we live. These are the things that, I hope, Texas, Alabama, Mississippi, Louisiana, and Florida can get together on. These are the kinds of things that the states of the Atlantic Seaboard can get together on, and that the Pacific Coast states can get together on. I trust we can develop policy which will be listened to on a national level.

In speaking to Bob Knecht, we talked about the possibility that in Outer Continental Shelf leasing we could, perhaps, provide under those oil and gas leases that the land site impact on the states be a concern. Anyone who entered such a lease might have to meet the coastal zone management requirements of the state adjacent to the production. This is an area in which the states' rights mean something. This is an area in which the states can have a voice. In my judgement, the states have that voice through the Coastal States Organization. The states have that voice through you.

You folks who have assembled know what we have to do. It should be done through your universities who are doing baseline studies. The University of Texas Bureau of Economic Geology has the finest geologic atlas of the Gulf Coast that has been produced for the Texas Coast. I know that you are looking at that in Mississippi. Also, I know all the states are doing the same work and it is good work. It is the basis of everything we are going to do in coastal zone management.

We have a Sea Grant Program at Texas A&M, which is the Sea Grant University in Texas. We have a university that is dedicated to coastal marine law. Use the universities, legislators, Senators, and friends to pump up some money for it. And, if you please, demand it a little bit sometimes.

You know you can get the attention of the cities, too. I have a newspaper clipping which quotes a mayor from an Alabama town. The article is entitled "City Can't Fund Sewage Plant." The great line by the mayor in this article is where he says even if the bonds could be issued, he would not be a part of taxing persons on welfare and social security \$25 a month just so a few people could wallow in Roseberry Creek. You know that is not what he is protecting. I hate to tell the man, but he is not talking about protecting those social security and welfare folks. He has somebody else he is protecting from that bond issue. That has been my experience. If this mayor were here I would have quite a debate with him about who he is protecting, because I know who the city of Galveston was protecting. They were not worried about any social security and welfare recipients. They were protecting a bunch of "fat cats" who did not want to pay any more taxes.

The fact that they were willing to sacrifice the health of the people they were elected to represent has nothing to do with wallowing in Roseberry Creek or swimming in Alford's Bayou or in the Gulf of Mexico, for that matter. It has nothing to do with a few people swimming somewhere or a few people enjoying some recreation. It has to do with the health of the citizens in the state and in the county and in the municipality that is concerned. This problem exists here in Mississippi and everybody here knows it. It exists in Alabama, Texas, and

everywhere that there are cities that are not taking care of their sewage treatment facilities. It exists everywhere there is an industry that is not required to meet the pollution and water quality standards. It exists everywhere that human beings exist. Something can be done about it by people who care enough to do something about it.

PANEL DISCUSSION ON AREAS OF CRITICAL CONCERN
WITHIN COASTAL ZONE MANAGEMENT

FISHERIES

William J. Demoran
Consulting Biologist, Mississippi Marine Conservation Commission
Member, Mississippi Marine Resources Council
Marine Biologist, Gulf Coast Research Laboratory

The marine fishing industry in the State of Mississippi has had a long, colorful and interesting past. At one time it occupied a high position among fishery producing states in this country. Now it does not enjoy the position that it held in the past even though fishing is still one of the most important industries in the State, and particularly on the Coast.

The industry has been plagued by sudden decreases in production in recent years. In 1961, for example, shrimp production in the State declined fifty-four percent below the production of the previous year. This was attributed to extremely unfavorable climatological and hydrographic conditions. Some of these declines in production are caused by natural phenomena, while others are caused by man's activities.

A good case in point here involves the oyster industry of the State. From 1927 to the present time, oyster production in the State of Mississippi has fluctuated considerably with production ranging from 400,000 barrels of oysters in 1927 to 22,000 barrels in 1970. Such extreme fluctuations in this fishery were brought about by various factors.

The completion of the levee system on the lower Mississippi River can be cited as having the greatest effect on oyster production in the western portion of the Mississippi Sound. Gunter (1952) aptly describes the situation in a paper entitled The Relationship of the Bonnet Carre' Spillway to Oyster Beds in Mississippi Sound and the "Louisiana Marsh" with a Report on the 1950 Opening. The opening of the Bonnet Carre' Spillway in 1950 is reflected in the oyster production of the State of Mississippi. Immediately following the opening of the spillway, a dieoff due to too much fresh water occurred. A slight increase in production followed in successive years.

Very high oyster production occurred between 1927 and 1936 following what Gunter (1956) described as the "greatest flood of all on the Mississippi River." The situation during this period was more natural and no apparent oyster mortalities took place. Little or no production is shown during, and immediately following, World War II. This is most likely not a true picture and can be attributed to little or no effort being put into the collection of production figures. The same situation existed between 1951 and 1959 with little effort being made to collect proper production figures. I am certain that the productive reefs in Biloxi Bay and at the mouth of the Pascagoula River alone could have put oyster production over the 100,000 barrel mark during this period. Granted, that period between the years 1939 and 1959 approximately 3,000 acres of prime oyster bottom were lost in the Pass Christian area as a result of increased salinities.

During the period 1960 through 1968 oyster production was maintained at over 100,000 barrels. This was due to two factors: Heavy rainfall and an annual shell planting program that was instituted by the Mississippi Marine Conservation Commission.

The sudden decline in oyster production during the 1970 season was due mainly to the destruction of oyster shops and canneries by Hurricane Camille rather than actual destruction of the reefs. However, the oyster industry bounced back very quickly and during the 1971-1972 season 39,469 barrels of oysters were harvested.

The closure of the very productive reef at the mouth of the Pascagoula River at the height of the oyster season is another example of man's on-shore activities. In February of 1961 this reef was closed as a result of a bypass of raw sewage from the treatment plant at Pascagoula. The closure of this reef reflects a loss of approximately 80,000 barrels in the 1962 production. This area is still closed. Another example is the closure of Biloxi Bay oyster reefs in 1967.

The loss of 500 acres of what is considered to be the most productive reef in the State on the south side of Biloxi Bay and another 100 highly productive acres on the Ocean Springs side was truly tragic. The loss is likewise reflected in succeeding years.

The closure of the Biloxi Bay reefs was the result of finding excessive coliform bacteria which are used as indicators of human waste pollution. I feel that the Biloxi Bay reefs could support the entire raw oyster industry on a twelve month basis.

To give an example of the importance of Mississippi's fishing industry, a survey by Charles H. Lyles revealed that the Mississippi marine catch of fish and shellfish in 1971 amounted to 397 million pounds valued at \$12 million. This is a record catch in both volume and value surpassing the 1961 record of 392 million pounds worth \$8 million. According to Lyles, commercial fisheries of Mississippi normally provide for about 4500 jobs, 2900 fishermen and 1600 shore workers. Fishery processing in Mississippi produce products worth more than \$33 million. This data is even more impressive when one considers that Mississippi has the shortest coastline of any of the Gulf states.

It has been estimated that eighty percent of Mississippi's marine fishery resources spend at least some part of their life inshore in the estuarine environment, in the shallows, or in flooded tidal marshes. Including the Bay and Sound indentions of the mainland shore, but not counting the islands, Mississippi has 155 miles of general tidal shoreline compared with Alabama's 199 miles, Louisiana's 985 miles, Texas' 1,100 miles, and 1,658 miles on the west coast of Florida. These figures are from the U. S. Coast and Geodetic Survey.

The Mississippi Marine Conservation Commission is charged with the promulgation and enforcement of regulations governing the coastal fisheries of the State. Similar responsibility for game and fish, including freshwater commercial fisheries, is charged to the Mississippi Game

and Fish Commission. There has been some controversy in regard to areas of responsibility. In general, the legal provisions for management of fisheries resources are very good. Harvesting is based on the best available biological information, tempered to some extent by current economic conditions and demands. Political considerations appear to be minimal. Some authority has been delegated to local county and city governments. These, at times, cause some confusion.

The Mississippi State Health Department administers the closing of polluted areas to shellfishing in accordance with standards set by the U. S. Food and Drug Administration. The Mississippi Marine Conservation Commission is responsible for enforcement.

Until recently there was no legislation providing for conservation of the estuarine environment. Ownership of shoreline property entails riparian rights encompassing an area 750 yards from the shoreline. Riparian rights do not extend across channels. Most of the marshes are privately owned, but various local and State agencies hold title to some areas. However, water bottoms belong to the State.

Numerous local and State agencies and planning commissions have the responsibility and authority for the industrial development of the coastal area. In the past, development has proceeded with little or no consideration for the conservation of the estuarine environment. Efforts have been directed, almost totally, toward the development of waterfront industrial sites, the expansion of established industries, the attraction of new industry, and further

concentration of the human population here on the Coast. It does not seem fair that industries as important as tourism and fishing, which have been established here for many years, should be pushed aside and degraded by heavy industry.

The U.S. Army Corps of Engineers reviews all requests for engineering operations or modification of the estuaries. The Mississippi Marine Conservation Commission may protest engineering operations considered detrimental to continued production of renewable resources. The Corps has been cooperative within the limits of its authority, but State Law did not provide for any further action until enactment of HB140, the Wetlands Protection Act of 1973.

The complexities of the legal structure involving management and development of Mississippi's coastal areas were defined and clarified by HB140, and this legislation provided for the conservation and management of the estuarine environment. This legislation was directed toward the realization of optimum utilization of renewable resources. It is felt by some, including myself, that the Wetlands Protection Act is not totally adequate since some of the largest would-be offenders are excluded under the present Act.

In 1966 the Mississippi Marine Conservation Commission was designated as the agency to administer Public Law 88-309, The Commercial Fisheries Research and Development Act of 1964. The Commission recognized the fact that there was little or no protection of the estuarine environment of the State.

One of the first actions undertaken by the Commission was a project with the four other Gulf States and the National Marine Fisheries Service to produce a film to better educate the public, and politicians in particular, of the need to preserve our estuarine environment. The project was completed in June of 1967 and the result was a twenty-eight minute film entitled "Estuarine Heritage." This film was widely distributed, and is still being distributed. It is available from the Commission upon request, and is free of charge. A reduced fourteen minute version won a film festival award and was shown for two years by United Artists Studios around the country.

Another Commission sponsored project under PL 88-309 was a project entitled "Gulf of Mexico Estuarine Inventory." This study was conducted at the Gulf Coast Research Laboratory in Ocean Springs, with J. Y. Christmas as project leader. The study was an evaluation and assessment of the marine fishery resources of the State, with particular attention to the assessment of the marshes and wetlands in the three coastal counties. Representative Gerald Blessey used portions of this study to draft his Wetlands Act. You can see that the Mississippi Marine Conservation Commission has had protection of the wetlands and the marine environment in mind for some time.

If we are to maintain our present standard of living in this country, oil must be drilled off our coasts, channels must be dredged and maintained to our ports, and work in general in the marine and estuarine environment must be done. However, with the present technology that is available, tasks can be performed without undue stress and damage to the environment. The key is

planning and coordination by agencies charged with the various and sundry activities in the coastal zone.

MINERAL EXTRACTION AND FOSSIL FUELS

Terry Owen
Petroleum Engineer, Mississippi State Oil and Gas Board

It is a pleasure to be here. For those of you who are not aware of the purpose of the Mississippi State Oil and Gas Board, it was created by the State Legislature in 1948 to regulate drilling, production and transportation of oil and gas in the State of Mississippi. In addition to being a regulatory agency, the Oil and Gas Board has other responsibilities to foster, encourage, promote and develop the utilization of oil and gas resources through progressive drilling for the maximum economic benefit to the people of the State of Mississippi. At the same time, the Board protects public and private interests by prohibiting waste of these resources and protects the environment. Coastal zone management is going to be quite necessary if the waters of the State of Mississippi are leased for drilling.

In discussing mineral extraction, I would like to cover three basic points. These are the economic impact, the environmental impact, and the potential of mineral extraction in the Mississippi Sound.

A fuel supply in the Mississippi Sound could create a situation where industry would be wanting to come to the Gulf Coast. This would involve siting petrochemical plants and refineries, which would require land development and would create new jobs. Since the waters belong to

State, the severance tax would not be the only income from offshore oil and gas production to the State. We would also receive the lease bonus money and the royalty payments. Currently the severance tax alone for oil and gas production in the State amounts to 1.7 million dollars a month, which is a tremendous economic gain to the State of Mississippi.

Offshore drilling and production and pipeline operations in the Mississippi Sound would not really require a vast amount of sophisticated equipment. Exploratory wells in shallow waters, such as the Mississippi Sound, would require small rigs compared to the larger rigs needed for the Outer Continental Shelf. Production platforms would, more than likely, be small, single well platforms no more than twenty feet square. They would, of course, be properly marked and lighted for navigational purposes. Pipelines would not interfere with trawling operations and underwater obstructions would certainly not be allowed. Any potential location which might interfere with a public or private interest would probably be moved by the leasing company prior to the issuance of a permit to drill. In short, we see very few unusual problems which might develop from offshore drilling in Mississippi waters.

We have all heard a great deal about environmental impact. The main thing I can add is that the oil industry has spent millions and millions of dollars in the research and development of spill prevention equipment and clean-up equipment. In the last two years a group of over thirty-five oil company offshore operators, primarily in Louisiana and

Texas, have spent almost two million dollars in equipment alone. This equipment is stationed at various points in the Gulf of Mexico. The equipment is manned continually and costs over fifty thousand dollars each month just for stand-by purposes. If the offshore waters of the State of Mississippi are leased, this equipment will certainly be available to the area and will be sent to any spill as quickly as possible.

In addition to this clean-up equipment and the technology that has developed in the last few years, the United States Environmental Protection Agency and the State Oil and Gas Board have developed more stringent rules and regulations concerning offshore drilling, production and pipeline operations. I believe that at this particular moment, the oil industry is as advanced as it can possibly be. There will, undoubtedly, be continued improvements on their part in equipment and techniques to prevent any pollution to the waters.

We believe that the State Oil and Gas Board is prepared to proceed with any offshore activity concerning mineral extraction. This brings us to my final point--potential. We have approximately a half million acres which has been divided into ninety-eight proposed leasing blocks by the Mineral Lease Commission. Looking at the entire Gulf of Mexico, this half million acres is just a very small portion. We are now completely surrounded by blocks which have been leased in other states' waters. Louisiana, which is really due south of us, has been

drilling and producing offshore oil and gas for years. Certainly the offshore potential in Mississippi is not as great as that of Louisiana. The prolific fields in offshore Louisiana and Texas are caused primarily by salt movement from large, deep-seated salt domes. To our knowledge, we do not have this many salt deposits in the Mississippi waters. However, we do have coral reef deposits. These coral reef deposits will be in lower cretaceous sediments between ten and fifteen thousand feet. These could be drilled and developed quite easily.

Tremendously steep dips in the beds caused by faulting and salt movement are prevalent at the southernmost tip of Mississippi waters around the barrier islands. Some federal leases have been developed in this area. Drilling there may prove that Mississippi waters offer a better potential of oil and gas production than may now be expected.

RECREATION AND TOURISM

Edward J. Keels
Chairman of Board, Gulf Coast Inkeepers Association

I would like to welcome all of you tourists to the Gulf Coast. It will make you happy to know you are now a part of our permanent record of statistical and economic forecasting which will come from the Gulf Coast.

I spoke at a Water Quality Workshop recently and read a "Dear Abby" letter. Possibly some of you were at that workshop, but I believe this letter bears repeating. The letter was from a young gentleman who wrote, "Dear Abby, I'm a young fellow who just recently met a very pretty girl at the Drug Rehabilitation Center. We were both released at the same time and I've had a hard life. My mother ran away with an aluminum siding salesman when I was eight years old. My father died in a mental institution. I have an older brother in the hotel business. My younger sister was just busted for drugs and prostitution. My other brother is serving five to ten years for armed robbery. Now my problem is, Abby, I would like to marry this girl, but should I tell her about my brother in the hotel business?"

I believe the hotel business on the Coast has been cast as this type of person. The word "tourist" invokes pleasure, and I believe Webster's definition of the word "tourist" is someone who leaves home to travel for pleasure or culture. Obviously, you people are not here

for pleasure or culture, but are here to confront a serious problem.

The word "pollution" invokes a mental image of something that is very distasteful, something with which one would not want to be associated. Pollution has more ramifications to us in the hotel business than just this distasteful thing about which we are talking. The pollution problem certainly could be detrimental to the tourist industry. Who wants to come to a coast where the waters are so badly polluted that it may be harmful to swim there?

We know we have problems here on the coast. Recently, this hotel lost a convention from Chattanooga. They read in the paper that tests taken on the Gulf Coast at the Sheraton Hotel indicated the area was not fit for swimming. The Broadwater Hotel, likewise, received a call from a group in Nebraska. They had seen a television news coverage concerning the pollution on the Gulf Coast. They did not cancel only because they were too far committed. After their convention they met with local people and told how beautiful they felt our coast was, and what an injustice the television had done in their portrayal of the area.

Those of us in the tourist business are quite interested in improving our coast. We will do our best to help find some solutions to our problems.

TRANSPORTATION AND NAVIGATION

W. Larry Harris, Ports and Harbors Development Coordinator
Mississippi Agricultural and Industrial Board

In an effort to make a contribution toward long range planning and potential problems in the area of navigation and transportation, I would like to limit this presentation to brief summaries on the present status on rail freight, motor freight, and port activity, and the problems we will be dealing with in the future.

In laying a foundation to present these problems, let us talk for a moment about future industrial expansion because increased activity in this area will give rise to increased activity in transportation and navigation which will be the force that will create our problems in the future.

It is very obvious that the Gulf Coast area is a prime location for future industrial expansion. Up to now Mississippi has been hungry for new industries in order to solve unemployment and underemployment problems, but now we feel that we can be more selective in the type of industries that we seek. In seeking these industries, we must prepare and equip the Gulf Coast area for this industrial development in the fields of transportation and navigation.

Transportation facilities consume about 24% of the total fuel resources expended each year in the United States. Of this, ground transportation consumes about 45% of all oil-produced energy. These facts concerning the enormous amount of energy consumed by ground transportation points to the

problem of availability of fuel and the ability to purchase fuel if available, not to mention the need to implement future plans for modern transportation arteries. These arteries need to be planned to have east, west, and north orientations, to have easy access to cross-country routes and especially to the port and industrial areas without having to deal with the time-consuming problem of traffic congestion. In order to plan for ideal motor freight transportation, there is a need to have accessible arteries that permit a free flow of traffic and have an adequate supply of fuel at a competitive cost with other parts of the United States.

To give you an idea of the truck traffic at the Port of Gulfport, the Port handled 25,000 trucks in 1973 with access to the Port being adequate at this time. Also, there is a need to provide adequate truck marshalling areas in all future Port plans to prevent congestion once the motor freight reaches the port. The same stands true for rail traffic with the exception of fuel availability but with the addition of the problem of the lack of rail cars available.

Railroads are efficient users of energy and manpower for long-distance line haul transportation and for short-haul transport for bulk commodities in unit trains. In short movements involving frequent switching and sorting of rail cars, railroads are at a severe disadvantage. There is a trend toward road vehicles taking over local distribution and collection for rail movement in both rural and urban areas. Which points out the need to prepare for additional, efficient local traffic arteries to cope with this ever-increasing problem of local or domestic traffic along with the before-mentioned cross-country traffic.

This line of thought is geared toward servicing local industries with needed commodities, but there is also the problem of moving commodities that have a destination other than points in the Gulf Coast area--notably points up-state. This is the case where the railroad would have quick access to the ports which is not the case at the present time. There is an ever increasing trend toward more and more rail cars to frequent our ports: A classic example of this is the Port of Pascagoula handled over 28,000 rail cars in 1973 compared with only 1900 the previous year.

The major importance of the ports in the future will be their contribution to the region's transport versatility and capability for supporting industrial development, but the ability to perform this function will be jeopardized without long-range planning that contain's clear, comprehensive goals for the future.

Both our deep water ports in Mississippi have made great strides toward supporting industrial development in recent years, but the ability to keep up this trend is questionable. The Port of Pascagoula and Bayou Casotte handled approximately 14 million tons of cargo in 1973. In 1963, it handled only 2.3 million tons, an increase of about 600% in 10 years. By the same note, the Port of Gulfport handled about 1.1 million in 1973 compared with only 330 thousand in 1963, an increase of some 300% despite the fact the port was almost completely destroyed by Hurricane Camille. Also, let me add that as a result of recent negotiations with various industries, the tonnage figure at the Port of Gulfport should go over the 2 million ton mark in the next 5 years.

Having shown a brief picture of where our ports are presently, let us talk

a minute about where they will be in ten to twenty years. There is a dire need to prepare our ports with deep water channels. The trend in the ship-building industry today is toward building larger ships with deeper drafts. Our present channels cannot handle these deep draft vessels because of present channel depth which is thirty-eight feet at Pascagoula and thirty feet at Gulfport. In April of this year, we had our final public hearing on deepening the channel into Gulfport to 40 feet which had a very encouraging reception. Progress is being made toward conducting hearings to study and hopefully deepen the channel at Pascagoula and Bayou Casotte up to 50 feet.

Today's trend in shipping is geared toward carrying larger volumes of cargo. This is evidenced by containerization, barge-carrying ships, and super tankers, all of which do not have access to our ports with our present channel depths. The Port of Pascagoula and Bayou Casotte area, possessing a very bright future in the area of petroleum and chemicals, must prepare themselves to handle these deep draft tankers, such as 80,000 ton vessels, in order to be attractive to potential oil refining prospects. Also, possessing channel depths to handle say an 80,000 ton tanker may not be a complete answer in attracting oil refineries. This is evident by the fact that major oil companies around the world presently have 360 tankers on order in the 150,000 ton class or larger, none of which would have direct access to the Bayou Casotte area. Thus, we are looking at the superport concept or some method of trans-shipping onto smaller tankers in order to come into the harbor at Bayou Casotte if, in fact, we had to rely on this type of vessel in order to import oil. The same is

true for Gulfport. We must prepare ourselves to be competitive with our neighboring ports in the Gulf by laying a foundation now to handle these container ships and larger general cargo ships. No question, large amounts of money would have to be expended on equipment, but without these long-range plans, there will be a diversion of our traffic to ports that do cater to this type of transportation.

The question will always come up that our ports lack available land to expand and handle this type trade and it all points to how well do truck and rail have access to our ports as previously mentioned. Through a combined comprehensive planning effort, ideal land transportation systems could be built into our port areas thus changing their image from that of a storage area to one of a transit area, or to have the ability to move cargo off the port property immediately rather than store it for any length of time. This transit area image could easily be projected on our ports if they can be easily accessible by rail and truck.

In obtaining these deeper channels, the problem is not necessarily one of showing a favorable benefit to cost ratio in order for the Corps of Engineers to proceed. The problem, which is a problem no one seems to have an answer for, is one of what to do with the dredge spoil once it is displaced from the channel. This problem arises every time someone mentions a dredging project. Some areas in Florida pump it onto their beaches, but unfortunately most of the dredge spoil in the Mississippi Sound is unsuitable for this. It is too expensive to pump the suitable material on our beaches because it is located so far off the beach.

The marsh island concept has been mentioned. That is, consolidating all dredge and maintenance material in one location thus constructing an island. This has been criticized because of the fear that it would have an adverse affect on the natural water circulation in the Sound or that it would eventually erode away thus serving no purpose at all. However, this idea seems to be the best solution anyone has come up with at this time. It has not been proven as an effective remedy to spoil disposal problems but may very well turn out to be.

At the present time, the Vicksburg District of the United States Army Corps of Engineers is studying spoil disposal problems and has expressed an interest in using the Gulfport Channel dredging project as a model in which to study. I personally think it is a step in the right direction in taking advantage of the opportunity to study the spoil island concept.

In summary, I have mentioned the importance of rail freight and motor freight accessibility into our ports and industrial areas along with the potential problems of fuel deficiency. I have mentioned providing our ports with deep water channels and the importance of keeping our ports competitive with neighboring ports in terms of equipping them in order for them to keep up with the changing trends in moving cargo by water. There are many other concepts that have not been mentioned which carry the same degree of importance, such as increased barge traffic which we will surely have to deal with, the importance of having American flag vessels calling on our ports, developing our ports so that they will be a regular port-of-call for selected shipping lines and the need

to place some sort of definition on our desires to locate refineries, petrochemicals plants and other related industries in the Bayou Casotte area. This area can become one of the largest petrochemical complexes in the United States if this is the desire of the majority. If so, let us unite and initiate a consolidated effort toward obtaining a superport permit or license. The Jackson County area is a natural for this type of heavy industry, but we need to fully determine if this is the type business to solicit.

In conclusion, no one can foresee the solutions to these problems, but I honestly feel that a good place to start planning and looking for these answers is through a total consolidated effort which would include systematic planning in the areas of land use, water quality, legislation, and policing environmental standard on the part of all local and county governments, on up to the State, and ultimately to our United States Senators and Congressmen. In the past, there have been signs of competition between local governments, between counties, between environmentalists, ecologists, and industrialists. In the future, if we can discard our differences and intrastate competitiveness, we can surely go forward with our much needed industrial developments, suffering minimal cost and making very few sacrifices in doing so.

COMMERCE AND INDUSTRIAL DEVELOPMENT

James W. Miller, Manager of Industrial Development
Mississippi Agricultural and Industrial Board

Ladies and Gentlemen, it is a pleasure to be here today to discuss with you and other members of the panel, the future development of commerce and industry on the Mississippi Gulf Coast and the relationship of that development to coastal zone management.

At the outset, I want to emphasize that we can have continued industrial growth on the Gulf Coast without inflicting damage to our recreational and seafood industries. With sound planning and reasonable safeguards we can see the parallel growth and prosperity of all of these industries.

Balancing industrial needs with water quality needs is a complex problem. I cannot stand here today and make broad generalizations because the water quality problems of new or expanding industrial locations are problems that have to be solved on a case by case basis. Before any new location or expansion can be approved, we have to match estimated discharges with the estimated capacity of the body of water to safely absorb those discharges without ecological damage. This, of course, is a responsibility of the Air and Water Pollution Control Commission and I do not intend to get into a deep discussion regarding pollution laws. It is a complex and tightly regulated process. For most industries there is no significant water pollution problem. But industries such as oil refineries, organic chemical plants, and pulp and paper plants must be located near bodies of water capable of absorbing these discharges along with whatever other discharges are presently being emitted. For example, a

substantial pulp and paper plant cannot be located on a small stream, but this same plant might be located on the Pearl River without causing any significant damage.

At the present time, I do not know of a single new industrial location we have lost because of water quality problems. We have lost a couple to Alabama but primarily because Mississippi did not have suitable land adjacent to deep water. There are three reasons for this:

First of all, the 1972 amendments to the Federal Water Pollution Control Act assure that the ecological impact of most new industrial locations will be nominal. When we talk of water quality problems in locating new industry, we are talking about only a small portion of new industry. The Water Pollution Control Act Amendments establish as a goal the elimination of all pollutant discharges by 1985 through a series of steps which progressively tightened regulations. I do not know whether this goal can be achieved, but, no doubt, achievement of harmonious growth among the various areas of the Coast economy will be made easier by the provisions of this Act.

The second reason we are not losing industry on the basis of pollution problems is that the Water Pollution Control Act applies equally to every state. Industry knows that if they look outside our state they are likely to confront the same problems.

Finally, Mississippi's abundant water supply carries a larger than average absorbing capacity. The amount of discharges our waterways can accept without serious damage, is substantially greater than the average state this size.

As you can see industrial discharges are tightly regulated and cannot legally be allowed to increase to the point where the recreation or fisheries industry is threatened. The current problems in the Mississippi Sound are not the result of industrial pollutants, but largely a problem of municipal waste treatment.

As we look at the future of industrial development on the Coast, the problem is not so much whether industrial development will interfere with other uses of our waterways as whether the absorbing capacity of coastal waterways will be sufficient to allow continued industrial growth.

While we can fully expect to continue to attract and locate new industry on the Coast, the future is not without problems. As I have said, these are complex problems that must be resolved on a case by case basis, weighing all of the relevant information. Therefore, it is difficult to make generalizations about the future. But we can, however, be assured that the Mississippi Gulf Coast can continue substantial industrial growth without hurting our seafood or recreation industries.

We are committed on the state level to an accelerated industrial development program, both in-state and out-of-state. We are concentrating more effort in-state now than ever before in an attempt to identify problem areas in local communities, for example, the need for industrial parks. We are also working with existing industries to determine if our state agency can assist in solving problems that might exist.

The best advertising Mississippi can have is the testimony of business

people who have found a favorable location in Mississippi, and that is as it should be. Almost thirty-seven percent of the more than 118,000 new industrial jobs created in our state during the last decade have come as the result of expansion of Mississippi industries.

The area which should receive the most emphasis to insure the accelerated economic advancement of our state in 1974 is the creation of better jobs for Mississippians. The main objective for a number of years has been the creation of jobs, and it remains so. However, we recognize that total new industries, or total new industrial jobs created, is not the entire story and should not be the sole objective of our efforts. We are as interested in the type of industry which we secure and the type and quality of the jobs created as we are in the total numbers.

We seek jobs, diversification, and industries with the vision to grasp the significance of new developments in their fields. More and better jobs for our people is the key to the development of our human resources. This means jobs in industry, commerce and business, and in the processing of the products of our farms and forests. For years, the leaders of Mississippi have recognized the necessity of providing Mississippi's young people with the means of making a living in keeping with their abilities and educational attainments. We have been in the past and continue to be concerned about the problem of our young people leaving the State of Mississippi. We cannot isolate this problem. It is a part of a complete picture involving all of the elements of economic development, a picture which must be viewed as a whole.

It is obvious, of course, that increased manufacturing and processing industries in Mississippi is a principal way of securing more and better paying jobs and of providing opportunities. In addition, we have the task of providing more opportunity in the wholesale and retail fields and in the professions and service trades, all of which are growing faster on a national basis.

We can neither forget the work to be done in agriculture where we must continue to seek more and better markets for the products of our farms and forest and, consequently, more opportunities for the youth to earn a satisfactory and meaningful living at home.

There are many areas which must be given emphasis if we are to insure continued economic advancement through the coming decade. Industry must consider a combination of factors in the selection of a plant location; or for that matter, when it decides whether to expand its operations in a particular location or to open up a new plant somewhere else.

In general, however, I do not think that there is any doubt that the most important factor in plant location is attitude--how the community and the state feel about industry and various elements which go together to make a business climate in which industry can prosper. This is not to say that manpower, markets, and materials are not important. Indeed they are, but the relative importance of any one of these can vary from one instance to another. Attitude, however, what kind of welcome the community and state gives the businessman, is an ingredient which must be present in every case.

In Mississippi we are committed to a policy of balancing the need for industrial growth with the need to protect our environment. Because so much of our industrial development is occurring under the new environmental regulations, and because we have been able to disperse much of our industry throughout the State, Mississippi is in the truly enviable position of being able to achieve both environmental and economic goals. As we look toward the future on the Mississippi Gulf Coast, I believe that if we can solve our immediate water quality problems, then we will be in a good position to achieve these same goals in the Gulf Coast area, as well.

RESIDENTIAL DEVELOPMENT

D. L. Anderson
Manager, Gulf Coast District
Mississippi Research and Development Center

Recently, we have come to recognize the existence of what we call the coastal zone. We might define this large area as the interface between the land and water. The question arises, why bother with even naming and defining the coastal zone? Well, that answer might be obvious to some people, yet it may well elude others. Bill Demoran, who practices marine science, tells us that a vast portion of these things we call seafood creatures spend a great deal of their life in developing in and getting nutrients from the wetlands areas. It may be worth saving for that idea alone. However, better reasons come to mind. Coastal land in America today commands a premium price from the developer.

We know that never before in our history have we witnessed such an outmigration from the interior cities to the shorelines of America. The fastest growing areas in our nation are the ocean oriented and Gulf Coast communities. We had 240,000 people on our own Gulf Coast in 1970. We find 273,000 people in 1974, an increase of fourteen percent. These residents live in 85,000 dwelling units. Based on current rates of population growth we might expect to have 322,000 people in 1980 and 440,000 people in 1990. That is probably conservative so I would definitely allow for 500,000.

Residents have to have a place to call home. Generally, we are looking for a home today or we have a home. If we have a home, we have a good investment. If you are looking for a home, you will find it on a market which is quite difficult to penetrate. During the period between 1970 and 1972 we had homes on the coast representing \$117 million. In 1973 we built homes costing \$57 million. This year we are projecting a \$32 million investment in new homes. The greatest year in home building was 1972, and we have seen a continual decline since that year. This year is proving to be the worst yet.

How does all this dollar demand really affect us down here? It affects us in terms of supply for land. In economic terms land is thoroughly inelastic in supply. That means when and if we use it up, we cannot create more. More homes mean more streets, more easements, more water and sewage systems, more garbage, more automobiles, more traffic, and the list is almost endless.

I believe the condition of our water may be attributed to unwise management in waste disposal. The problem now is not to discontinue residential development but to start to balance the needs and the results that come as a consequence in satisfying these needs. The greatest need for coastal zone land comes from the private sector. These people can take land and do something with it for a profit. There is certainly nothing wrong with that, but I suggest that we attempt to strike a balance

between developing our land for the private sector and keeping some of it for what I call the social needs--parks, playgrounds, and that sort of thing.

With regard to future residential development I believe we have to be assured that those we entrust are making wise decisions. These people make decisions that will affect us now and in the future. Decisions regarding the land must be made in light of the fact of the impact on the water. Coastal zone management, I think, is a two-way street. While the traffic must be regulated, it should be allowed to move so that bottle-necks or traffic jams, whatever they might be, do not occur. We have to keep the economy moving. I think two facts act in concert to restrict residential development in close proximity to the water. These are the increasing costs of fire and extended coverage insurance, and the ever-present danger of flooding from a storm.

Flood insurance which is now available at subsidized rates will cost homeowners substantially more after December 31, 1974. They will then be required to pay commercial or actual area rates for flood insurance. For someone located in the flood hazard zone, this could be quite costly.

In these times of high mortgage money, additional insurance costs may be a factor in helping a future homeowner make two decisions:

(1) Will I build? and (2) Where will I build? While it is safe to say that residential development will continue, three factors tend to cast a shadow over continued high investment in new housing--an extremely

tight money market which will likely continue for quite sometime, a reluctance on the part of the Government to again become heavily involved in the public housing sector, and increased land development and construction costs. Land today is about sixty percent more expensive than it was in 1970. Construction costs, including materials, have increased an average of fifteen percent per year. A home costing \$34,000 in 1970 would probably cost \$46,000 today.

Our real income balance, or the ratio we would get if we put total money supply over a figure we call total wage increases, has been deteriorating steadily since 1969. We are not only getting less for our dollar, but we are getting less dollars to spend.

WASTE DISPOSAL

Bob Monette
Regional Engineer
Mississippi Air and Water Pollution Control Commission

I believe when you talk about Mississippi's Coastal Zone Management one of the main things to consider would be exactly what is going to be put into the coastal waters and the estuarine waters that are not near the Sound. I would like to briefly go over with you the problems that we face. First of all, when talking about volumes and quantities, I will be referring to treated waste water. Of the three coastal counties, the main concentration of industry is in the Bayou Cassotte region near Pascagoula in Jackson County. The only other areas that are growing industrially are North Gulfport and Biloxi, the Back Bay area, the Industrial Seaway, and the area behind Pass Christian where the Dupont plant will be located. Just on the eleven major industries in the coastal area I have calculated the volume of waste water discharged to be 767 million gallons a day. That is quite a quantity of waste water. Again, this is treated waste water. The quantity of suspended solids reaches the 300,000 pounds per day level. As you can see, we are talking about a vast quantity of waste water being discharged daily into the Sound area.

Next we should view domestic wastes which have been the topic for a great deal of discussion in the last few months. Not only the municipalities but the entire coast has grown so fast that we have subdivisions

developing all over the three coastal counties. For this reason, the cities just have not had the finances, the time, or the planning necessary to accomodate all of these people with interceptive sewers and water systems. There are about 150 package sewage treatment plants in the coastal counties ranging from 5,000 per day to 300,000 gallons per day. The domestic waste total discharge is around sixteen million gallons a day of treated domestic waste.

Our programs in the State of Mississippi consist of contacting all industries by making monthly industrial inspections. We make these monthly inspections, primarily, just to check in with the people and let them know we are available if they should need any help. We are not simply a regulatory agency but are here to consult with them on any problems which might arise.

Of course, we are constantly monitoring all sewage treatment plants in the state, particularly on the coast. Lately, the cities have taken a greater interest in keeping the water clean and are doing all they can to make sure that they operate all sewage treatment plants as best they can. I feel we have had very good cooperation from the cities on the coast in training their personnel to operate these treatment facilities.

The Pollution Control Commission is also involved in a water sampling program. This was begun last October and was extended until

the first of March when we slacked off a bit. In compiling our sampling program we have tried to take all relative items into consideration such as temperature, tidal fluctuations, rainfall, and all other entities which might have an effect on the pollution level in the Mississippi Sound.

In the last two weeks we have begun another intensive sampling program.

We are sampling about twenty-five locations at least twice per day.

Many samples over an extended period of time must be collected before any conclusive findings are available. The Environmental Protection Agency will be down here in the next four to six weeks working with us, training us, so that we can set up twenty-four hour composite sampling machines to monitor industrial discharges.

As far as emergency situations are concerned, the Mississippi Air and Water Pollution Control Commission is on call twenty-four hours a day to check fish kills, oil spills, or anything which may occur. In fact, there is a number in Jackson where we can always be reached. Also, we can call on the U.S. Coast Guard and the Mississippi Boat and Water Safety Commission to locate problems within the different areas. There are three regional offices of the Pollution Control Commission serving twenty-two counties. These regional offices were opened to help shorten the time lag when an emergency arises. This time lag makes it very difficult for us as an agency to reach a location, pin down exactly what has happened, and who is responsible for it.

DINNER INTRODUCTION

Donald J. Cuevas
Vice Chairman, Mississippi Marine Resources Council

As Vice Chairman of the Mississippi Marine Resources Council I would like to welcome you to this facet of the Governor's Conference on Coastal Zone Management.

Our speaker this evening, a Democrat, was elected Governor of Mississippi in 1971. Our Governor comes from the small farming community of Burgess near Oxford in Lafayette County. After working his way through Memphis State University, he earned a law degree from Ole Miss Law School.

Prior to entering state-wide politics he became known in the State as one of Mississippi's distinguished district attorneys. First elected in 1959 he was reelected without opposition. His straightforward prosecution in the Medgar Evers case attracted national headlines in the early sixties. In 1967 he was an unsuccessful candidate for Governor. Even then, as a relative unknown, his approach and proposals for the scene of the day drew a great deal of favorable attention.

During both gubernatorial campaigns he placed his efforts, and has been somewhat successful, in bringing government back to the people. Part of his return of the government to the people has resulted in getting decision-making inputs through his program of moving the Capitol to all parts of the state. I think this has opened a voice to many people who have not been heard before.

Mississippi, as someone has called the "Flower of the Old South", is changing. We are blossoming into a dynamic New South under Waller's leadership. His election has been viewed as a mandate for change, and change it is. His programs are bringing about a social, political and economic boom in Mississippi in industry, national and international marketing, capital investments for the state, and an increase in agricultural products.

Our speaker addresses all problems of our state with vigor and a positive attitude. His administration has seen education move forward. We have a new dental school, school of veterinary science, and other educational accomplishments. Contrary to some things we read, today, education is moving forward in the State of Mississippi.

Other problem solutions resulted in the largest public works program in our history -- a \$600 million highway program under his leadership. A consumer protection agency has been established. His administration has provided the groundwork for improved penal and correctional institutions.

The Governor thinks big for Mississippi and relates that the best thing about his administration is the spirit of unity, cooperation, and optimism among the people of Mississippi. Because he practices this strong belief, we have cause to be here at this meeting.

This morning I remarked during my presentation that the first order of business of this Council in 1969 was to appoint a committee to conduct a Governor's Conference on Coastal Zone Management. Five years later we

are accomplishing that. We are completing one of our first undertakings, but not without the intervening problems and frustrations associated with it. We are completing this only because of the leadership of our speaker tonight.

Through the efforts of Governor Bill Waller the Mississippi Marine Resources Council was able to attain life. Our Council, we admit, was a poor risk to carry over into a new administration, not of his making or containing a single appointment opening until about two weeks, ago. In other words, we had been two years into our speaker's administration before he had the right to appoint or to shape the affairs of the Council with the exception of four legislative appointments that were open to him. Nevertheless, he accepted this gracefully and faced the problem head-on. With an unfortunate legislative tag as a do nothing Council and having been identified primarily as a means to provide money for Sea Grant programs, with a record devoid of significant accomplishments, with appropriations threatened, Governor Waller took charge of a Council he had inherited only a few months earlier.

He spearheaded our appropriations and provided the leadership to get a full time management staff. He deserves full credit for the existence of the Mississippi Marine Resources Council. Today we are a viable, permanent arm of the State of Mississippi.

His baptism into the cause of coastal zone management, the purpose for which we are here tonight, and his re-establishing the Mississippi

Marine Resources Council qualifies him to be our speaker this evening on Mississippi's coastal zone management problems. Ladies and gentlemen, it is my pleasure to present the Governor of the State of Mississippi and the Chairman of the Mississippi Marine Resources Council, the Honorable William L. Waller.

GOVERNOR'S ADDRESS

The Honorable William L. Waller
Governor, State of Mississippi

The subject of change is so controversial that you seldom ever get an audience's attention. You read about management. Just the word "management" turns everybody off. Who are they going to control, what are they going to control, or what are they going to keep me from doing now? You can talk about changing zoning in the most rural county in Mississippi and immediately make ninety-eight per cent of the citizens mad at you. You can talk about solving the problems of pollution on the coast and everybody runs away from the subject and away from the speaker. The only thing I know is just simply to come together as Mississippians in the spirit of common exchange to discuss what our future might be and what it could be with better planning.

The lot of the citizens of this State is accelerating and improving faster than it is anywhere in the nation. There is a tremendous amount

of optimism abroad in this State because we have found our people to be united for progress.

The local government is getting cooperation, we hope, from the State. The State is certainly getting cooperation from the local government. People in every walk of life and from every area of the State are saying that we want our State to grow. We want to work with towns and counties for progress. We want to get new industry in here. We want to get our schools in better condition. Right now, just in Harrison County, you can think of things happening. These things are not happening tomorrow and are not in the planning state, but are going on right now. We are growing faster than any one of you realize. It is so exciting for me to go to the Office of the Governor because I know something, something big and good and great for our State, is going to happen each day. I do not know anything I could say to you that is more dramatic than this. Our people are optimistic and happy. They feel this growth rate accelerating in our State. Now, in order for us to have this deserved quality of life, what do we have to do? We have to have some management over our environment. This includes correction of existing deficiencies as fast as possible and it certainly includes a measure of planning for the years to come. So, frankly, we will not get into the predicament that we are in now in certain areas of our State.

I want to tell you how much sympathy I have for you coast residents. Let us just talk about water for a minute whether it is the Pearl River or the Mississippi Sound or the Biloxi River or the Pascagoula or Escatawpa Rivers

or whatever. You know all the up-state rivers and streams flow south. When they get here they have whatever contaminants were deposited all along the way. So in some measure, the State needs to help the coast and the wetlands and the Sound with any problems of clean-up.

When we talk to the fishermen I am amazed to know that the Mississippi River, not the Pearl River, killed a tremendous amount of marine life in the Sound. When they opened the spillways for emergency purposes a good amount of polluted, muddy water flowed out of the Mississippi River and into the Mississippi Sound. Now we are reseeding, restocking, and biologically researching the damage done by the Mississippi River. We had to tell the President of the United States that we are a disaster area. We are a disaster area because of the floods in Illinois, Kentucky, Tennessee, Missouri and in Mississippi. I stand ready, as do most elected officials, to take some action on this question of today's problem to prevent this from happening to us again.

But where is the money coming from? Are we going to get it in Jackson or are we going to get it in Washington? This is one question that I cannot answer. Three years ago the Federal Government said that special funding of most projects will be ended and most projects will be funded locally by revenue sharing. Many of the grants (\$400 million) that we had with the Economic Development Administration were to clean up the coast. EDA is not funded anymore. The Federal philosophy now is toward local funding through revenue sharing. We will continue to probe these areas to find out

from where the money is coming. It is going to require an emergency state of mind for all of us concerned with the Mississippi Coast to get together. It will be necessary for Jackson, George, Harrison, Stone, Hancock and Pearl River and other affected counties to secure the expertise that we have to have in order to launch a program.

The quality of life cannot be improved for any county in Mississippi simply by good jobs. We can run from the problem. We can leave it to the courts. We can leave it to the Marine Resources Council. We can leave it to the Air and Water Pollution Control Commission. We can leave it to the Environmental Protection Agency in Atlanta or we can just leave it, but it will not solve itself without some direct input from local citizens and local officials. These people must be united for the common purpose of getting the job done. I hope that I will be invited along with any other State officials to a countywide meeting in any Mississippi county where the people will deliberately say that they are not citizens of one particular city, but are county citizens who are united for the common purpose of solving the total problem.

Some of the big, national conventions have heard about this pollution and will go to Miami Beach or the Virgin Islands in 1978. The accumulation is going to catch up with us and we are going to look back and say, "if we had acted back during mid '74, we would not have this loss of business here in 1978. We have a lot of talent and we have a lot of tools, but marshall them. We have to put our heads together, our hearts together, our forces

together, to get this problem solved. There is no more provincialism in pollution. Jackson cannot do as an entity what Hinds County can do and Pascagoula cannot do as an entity what Jackson County can do. It is for the quality of life. We could be paying \$10 an hour to every man, woman, and child in Harrison County for the work effort. That is \$400 a week or \$20,000 a year capital income and we can still have failed to produce that high quality of life that we are entitled to have. Why? Our lakes, our streams, our bays, our Sound, and so forth need a problem solved. While we are developing our State at a rapid rate, educationally and industrially, we may need a crash program to catch up on the quality of our environment.

I, personally, will leave you with this thought. I do not believe we will solve the environmental management problem in those six counties that I named until we unite. The mayors are doing all they can do. They have to have support from the citizens or the taxpayers. The supervisors are doing all they can do. You get the type of government you demand. You get what you need and you get it after you demand it. It is going to have to be upright. I challenge the news media tonight to join into a crusade of awareness that we are going to have to have. That is a collective, 100% effort to get the problem solved. I shudder to think about how many millions of dollars will be required for its needs. We talk about a \$600 million highway program. We talk about a \$25 million state-wide park improvement program and other costs. The teachers received \$46 million dollars in a package last year and millions and millions more. It will probably, in my opinion, be the figure I used earlier--

\$250 million to get it all going in the right direction. At the same time we must have adequate waste treatment for the expansion and adequate potable water. Jackson County is out of water. Did you know that? It is probably within 5% to 10% of its growth potential until it finds a source for storing and using good clean water.

It is a total concept of our environment that we need to listen to. We will keep that old spirit--a purpose of neighborliness that we share, one man with the other man in the state. We will dedicate ourselves to the fact that we have the best State in the Union. The quality of life might be better if we improve what we have, with the people we have in certain counties and in certain communities. If we can get it all together we can solve the problem. I can only say that if I'm called, I will be there. If you need twenty agencies, they will be there. We will work this thing out together, man to man in unity. I want to challenge the conferees to probe deeper, think harder, and work harder tomorrow to try to make this the historic conference it should be. This will be true not because the office holds the reigns attached to it, but because it is a step in the direction where Coastal Zone Management cannot end in sixty miles from the Mississippi beach. It cannot end in Mobile Bay. It cannot end on Fort Walton Beach. It cannot end on the Louisiana Coast. It has to be a coast-wide effort. This conference could be historic in the nation, and it might very well be that it will open the door to what we have to have--that is, a unified effort on Coastal Zone Management.

SUMMARY OF WORKSHOP SESSIONS

For the workshop sessions, the conferees were asked which area of particular concern within the coastal zone they were most interested. The participants were then assigned to one of seven workshops: Fisheries, Mineral Extraction and Fossil Fuels, Recreation and Tourism, Commerce and Industrial Development, Residential Development, Transportation and Navigation, and Waste Disposal.

The Nominal Grouping Technique was used in each of these workshops. Each group was asked to address the same three questions:

- (1) What do you feel are the major needs in Mississippi's Coastal Zone?
- (2) What do you see are the major use conflicts in the coastal zone?
- (3) What are some possible solutions to the identified use conflicts in the coastal zone?

The following is a summary of the conclusions of each workshop using this Nominal Grouping Technique. The number in parentheses after each entry indicates the number of votes it received.

Fisheries

1. What do you feel are the major needs in Mississippi's coastal zone?
 1. Maintain the environment (24)
 2. Pollution control (21)
 3. Maintain fishery potential (19)
 4. Better Fishery statistics (13)
 5. Control fresh water (10)
 6. Expanded research activities (10)
 7. Centralization of canneries (5)

8. Better economic evaluation for resource assessment (5)
9. Harvest under-utilized resources (5)
10. Licensing of fishermen and limited entry (4)
11. Private oyster leasing and opening present areas (3)
12. Develop sport fishing potential (3)
13. Vocational training (3)
14. Increase Mississippi's shrimp fleet (2)
15. Encourage political awareness by all fishery components (2)
16. Public education (2)
17. Better marketing techniques (1)
18. Utilization of "trash" fish (0)
19. Rebuild fishing fleet (0)
20. Conserve nursing areas (0)
21. Minimize problem of federal pollution regulation (0)
22. Develop and restore oyster reefs (0)
23. Get "new blood" into industry (0)
24. Fishing vessel financing(0)
25. Mariculture (0)

II. What do you see are the major use conflicts in the coastal zone?

1. Industrial, economic, residential, and municipal pollution and waste disposal
2. Environmental destruction
3. Sport-commercial fishery conflict (institutional)
4. Fishery disorganization
5. Employment
6. Offshore resources development
7. Dead shell controversy
(No votes were listed for these entries)

III. What are some possible solutions to the identified use conflicts in the coastal zone.

1. Evaluate and enforce pollution laws including regional waste disposal systems
2. Public education of fishery problems and solutions
3. Better interagency coordination
4. Set resource priorities
5. Land use planning and implementation
(No votes were listed for these entries)

Mineral Extraction and Fossil Fuels

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Evaluation of data on potential minerals and further exploration into these mineral potentials
 2. Institutional framework for the development of primary and secondary industries on-shore and off-shore
 3. Criteria for orderly development
 4. Coordination on the issuance of application permits
 5. Impact of oil and gas activities on cultural, social, and bio-physical parameters
 6. Understand circulation in the Mississippi Sound
 7. Geologic data
 8. Comprehensive, coordinated developmental plan (rules)
 9. Public education of process dynamics
 10. Include visual impact of proposed scheme
 11. Include other impact studies (smell, etc.)
 12. Design transportation/movement if developed including perspectives
- (No votes were listed for these entries)

II. What do you see are the major use conflicts in the coastal zone?

1. Stop destruction of marine resources (28)
2. Industrial expansion in areas already subject to use stress (12)
3. Overlapping governmental jurisdiction (12)
4. Pollution (10)
5. Conflict between state, local, and federal interests (10)
6. Conflict between municipalities (6)
7. Competition in land use (6)
8. Conflicting business and economic interests (5)
9. Inoperative and inefficient state controls (5)
10. Increased need for public services (3)
11. Competition for transportation facilities (2)
12. Competition for fresh water (1)
13. Time demand for preparation of environmental impact statements (1)
14. Definition of liability (0)
15. International conflicts (0)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Coastal zone management in action (29)
2. Coordination between governmental agencies (12)

3. Education of public--more public relations (11)
4. Research into availability of resources and into environmental safeguards (10)
5. Continued multi-disciplinary planning and implementation (7)
6. Spirit of cooperation between all levels of government and public for the betterment of Mississippi's coastal zone, the state and the nation (5)
7. Regional land and water use planning (4)
8. Good zoning regulations (4)
9. Stricter state controls on industry (4)
10. Strict enforcement of existing laws and stricter penalties for non-compliance (4)
11. Public participation in policy decisions (3)
12. Ombudsman (3)
13. Enactment of state laws and greater federal control (2)
14. Technological systems approach to problems (2)
15. Institutional ability to enact coastal zone management (0)

Recreation and Tourism

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Public beach facilities
 2. Unique tourist attraction
 3. Public information
 4. Advertising market analysis
 5. State park in Jackson County
- (No votes were listed for these entries)

II. What do you see are the major use conflicts in the coastal zone?

1. Money (27)
2. Lack of land-use controls (19)
3. Lack of inter-governmental cooperation (19)
4. Lack of leadership (13)
5. Environmental rules and regulations (11)
6. Lack of public awareness (9)
7. Lack of acceptable over-all plan (8)
8. Economic vs. principle (6)
9. Land speculation (3)
10. Private enterprise (2)
11. Public acceptance vs. stated plans (2)
12. Inadequate penalties (1)
13. News media image (1)

14. Lack of general coordination (0)
15. Race relations (0)
16. Transportation bottlenecks or lack of access (0)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Establish professional leadership (20)
2. Inter-governmental coordination (16)
3. Implement existing plans (13)
4. Enforced land use controls (12)
5. Projects based on benefits vs. costs (12)
6. Faster response from state/federal agencies (10)
7. Eliminate duplication and overlapping (10)
8. Create tourist attraction (10)
9. Build the image (9)
10. Public awareness (forums, etc.) (8)
11. Enact and enforce appropriate environmental controls (7)
12. Recreation and tourism surveys (5)
13. Expanded use of state/federal facilities (4)
14. Tax retention (4)
15. Areawide beautification (4)
16. Knowledgeable action (4)
17. Political/academic coordination (3)
18. New sources of money (3)
19. Restriction of heavy industry (0)
20. Good leadership (0)
21. Review title of all tidal lands (0)

Commerce and Industrial Development

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Adequate transportation (29)
2. Freshwater supply (25)
3. Adequate power supply (19)
4. Adequate deep water access (17)
5. Adequate waste disposal (10)
6. Coordinated development program (10)
7. Major tourist attraction (9)
8. Adequate recreational facilities (7)
9. Adequate geological survey (6)
10. Labor data (5)
11. Understanding between industrialists and environmentalists (5)
12. Accurate environmental baseline (4)

13. Offshore terminal facilities and pipeline facilities (4)
14. Adequate mass transportation (4)
15. Development of fishing industries (2)
16. Adequate housing opportunities (2)
17. Adequate man-power training facilities (1)
18. Effective drainage (0)
19. Streamline organizations controlling activities (0)
20. Lower land costs (0)
21. Projected future plans (0)
22. Adequate general educational opportunities (0)
23. Define area-wide water quality regions (0)
24. Adequate inland support industries

II. What do you see are the major use conflicts in the coastal zone?

1. Land-use conflicts (40)
2. Environmentalists' vs. industrialists' conflicts of attitudes (30)
3. Fresh water supply conflicts (25)
4. Energy use conflict (10)
5. Wetlands development conflicts (10)
6. Fishing-industrial conflict (8)
7. Status quo and change conflict (8)
8. Thermal pollution (6)
9. Waste disposal (5)
10. Agriculture and forestry conflicts (3)
11. Conflict between recreation and industry (2)
12. Population shifts (0)
13. Housing conflicts (0)
14. Transportation conflicts (0)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Establish and implement coastal zone management plan (15)
2. Establish and fund implementation plans (11)
3. Establish geologic survey (10)
4. Education-orientation program establishment (10)
5. Establish water survey (9)
6. Establish and implement transportation plans (9)
7. Establish baseline pollution levels (9)
8. Projected needs of population (4)
9. Establish population limits (4)
10. Attract labor force (2)

11. State purchase of wetlands (0)
12. Establish energy allocation system (0)

Residential Development

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Population threshold (23)
2. Development of controls (17)
3. Land use legislation (16)
4. Land capability determination (16)
5. Land availability (13)
6. Citizen participation in planning (12)
7. Cost reduction (8)
8. Population density (8)
9. Strong coastal zone management agency (8)
10. Quality residential development (larger lots, treatment facilities, etc.) (7)
11. Access to water and sewage systems (5)
12. Insurance (5)
13. Flood plain management (5)
14. Market analysis (4)
15. Estuary utilization (2)
16. Developmental planning (zoning) (1)
17. Waste disposal (1)
18. Better transportation network (0)
19. Long range planning (0)
20. Innovative housing materials (0)

II. What do you see are the major use conflicts in the coastal zone?

1. Private ownership vs. public interest (25)
2. Development vs. ecosystem protection (20)
3. Development vs. nature (floods) (13)
4. Sewage treatment vs. other uses (13)
5. High cost maintenance (7)
6. Special interest groups (7)
7. Intense population vs. pollution control (7)
8. Impact of controls (education process) (6)
9. High assessment (5)

10. Residential vs. recreational vs. commercial uses of resources (5)
11. Agency conflicts (5)
12. Quality vs. cost effectiveness (5)
13. Development vs. agricultural uses (5)
14. Public service vs. public interest (3)
15. Industrial water use vs. residential use (2)
16. Residential vs. recreation (2)
17. Residential canals vs. water quality (1)
18. Over commercializing in residential areas (0)
19. Quality vs. quantity housing development (0)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Public involvement (educational process) (27)
2. Effective planning (long range) (19)
3. Effective coastal zone management (interagency governmental cooperation) (17)
4. Effective controls (13)
5. Zoning and land use legislation (11)
6. Funding (9)
7. Population controls (8)
8. Research (5)
9. Identify the planners (4)
10. Protection of wetlands (4)
11. Pollution controls (3)

Transportation and Navigation

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Deeper channels to ports (21)
2. Industry or tourism? (15)
3. Complete evaluation of state ports/waterway needs (13)
4. Development of plan to satisfy those needs (13)
5. Standard code of rules and regulations for coastal environmental control (10)
6. Method of high-speed mass transportation (10)
7. Solution to dredge spoil disposal problems (9)
8. Deep draft superports (10)
9. Oil spill protection (8)

10. Local/regional transportation coordination (6)
11. Increased highway load capacity (4)
12. North-south interstate highways for Pascagoula and Gulfport-Jackson-Memphis (4)
13. Execute plans (3)
14. Development of restrictions adjacent to transportation routes (3)
15. Completion of I-10 (3)
16. Better traffic light system on Highway 90 (1)
17. On-shore pumpout facilities for boat toilets (1)
18. Improve aesthetics and landscaping (1)
19. Better navigational aids (0)
20. Commercial and recreational boating conflicts (0)
21. Air freight service (0)
22. Commercial public off-loading wharves (0)
23. Seaside parking and service facilities (0)

II. What do you see are the major use conflicts in the coastal zone?

1. Industrial uses and recreation and tourism (33)
2. Dredging vs. biotic resources (23)
3. Wetlands in natural state vs. use of dredge spoil or industrial areas (18)
4. Use of Highway 90 along beach for commercial and private vehicles (16)
5. Land use conflicts (zoning) (15)
6. Conflict between municipal sewage disposal and recreation and commercial fishing (10)
7. Forced land use vs. private ownership choice (9)
8. Aesthetics of beaches vs. industry (5)
9. Risk cargo vs. normal cargoes in port (3)
10. Social conflicts and minority workers vs. recreation (2)
11. Residential housing vs. recreation/hotel development (1)
12. No definite rules or guidelines on conflicts (0)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Build marsh islands out of dredge spoils (20)
2. Comprehensive development planning (16)
3. Decide priorities--industrial, recreational, or tourism (15)
4. Proper planning and zoning (12)
5. Interagency coordination (10)
6. Massive public support for proposed future coastal zone (10)
7. Complete I-10 and a major north-south route (8)
8. High-speed mass transit (8)

9. Taxation of destructive uses to pay for rehabilitation (7)
10. Local referendums (5)
11. Inspired political leadership (5)
12. Create a local-state-federal advisory committee on transportation and navigation problems (5)
13. Set standard guidelines to resolve conflicts (3)
14. Survey to define wetlands (3)
15. Closer monitoring and control of destructive uses (2)
16. Designate alternate routes for commercial traffic (2)
17. Set special areas for dredge spoil disposal (2)
18. Authoritative and unified execution of the comprehensive plan (1)
19. Refer land-use conflicts to Gulf Regional Planning Commission for study and evaluation (1)
20. Management plan for water use development (0)
21. Use Gulf Coast Research Laboratory to evaluate dredge problems (0)

Waste Disposal

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Funding
 2. Uniform rules, guidelines, and information of the laws
 3. Cleaner coastal waters (recreational)
 4. Better community understanding
 5. Planned or zone development
- (No votes were listed for these entries)

II. What do you see are the major use conflicts in the coastal zone?

1. Ecosystem absorption capacity (land vs. water)
2. Land developers
3. Population growth
4. People vs. cost
5. Easy disposal vs. higher expense treatment
6. Industrial waste pollutants
7. Siting
8. Industrial vs. domestic use of land
9. Water uses
10. Industries and recreation
11. Local governmental authorities

12. Funding for public use vs. public behalf
13. Priority of funding
14. Public access vs. private control of water resources
15. Regional vs. local planning
16. Local land management conflicts
17. Public awareness
18. Land development vs. conservationists
19. Violation of water quality standards
20. Water disposal vs. fishing
21. Impact assessment

(No votes were listed for these entries)

III. What are some possible solutions to the identified use conflicts in the coastal zone?

1. Equalization of costs (reassessment)
2. Proper zoning
3. Utilization of recoverable substances to defray costs
4. Inventory of disposal needs by geographic area
5. Reclamation of polluted air, water, and land
6. Tax considerations for land developers
7. Design parameters must be met before permit issued
8. Establish public awareness
9. Cease growth
10. Regionalization of disposal
11. Assess impact of new development
12. Identify area of concern
13. Rationalize EPA regulations
14. Sound local laws and ordinances for control
15. Governmental (all levels) coordination
16. Do we want "good ole days"?
17. Control population density

(No votes were listed for these entries)

If time permitted, each workshop was asked to discuss and then submit their definition of the coastal zone. The following is a synopsis of the findings of those workshops discussing the definition of the coastal zone.

Fisheries--Lower coastal plains seaward to the Outer Continental Shelf and inland to include the lower two tiers of the Mississippi counties.

Residential Development--(1) Stay within boundaries of political subdivisions, (2) the three coastal counties, (3) contour of natural area, feet elevation, and (4) alter band from rural to urban.

Transportation and Navigation--The contiguous zones of land, air and water, including the wetlands of the state and their contributing ecosystems, extending seaward to the limit of the Continental Shelf and landward to encompass all significant species of flora and fauna dependent on the proximity of the sea for their survival, and including recreational, residential, commercial, industrial, and/or extractive uses which have, or could have, direct impact on the coastal environment.

Waste Disposal--The three coastal counties extending seaward to the wetlands boundary as defined by law.

In the last general session the first question (what do you feel are the major needs of Mississippi's coastal zone?) was addressed by the conference as a whole. Each workshop chairman submitted the five topics which received the most votes in their individual groups. These were submitted to the entire delegation. Each conferee was asked to pick the five which he felt were most important, and then rank these five by assigning a weight of from five to one for each.

The following, quite interestingly, is a summary of the conclusions of the conferees as a whole addressing this first question. The number in parentheses after each entry indicates the number of votes it received.

I. What do you feel are the major needs in Mississippi's coastal zone?

1. Maintain environment (130)
2. Standard code of rules and regulations for coastal zone environmental control (86)
3. Adequate waste disposal facilities (65)
4. Criteria for orderly development (54)
5. Fresh water supply (49)
6. Expanded research activities (47)
7. Land use legislation (47)
8. Land capability determinations (44)
9. Control fresh water (42)
10. Better community understanding (41)
11. Population threshold (41)
12. Adequate transportation (40)
13. Funding (39)
14. Plan for zone development (39)
15. Public information (38)
16. Coordination on the issuance of application permits in the state (36)
17. Decide priority industry or tourism (36)
18. Adequate deep water access (27)
19. Cleaner coastal waters for recreation (26)
20. Maintain fishery potential (24)
21. Unique tourism attractions (19)
22. An institutional framework for the development of primary and secondary industries on- and off-shore (18)
23. Evaluation of data on potential minerals and exploration of these minerals (15)
24. High-speed mass transportation (11)
25. Uniform rules, guidelines and information of laws (11)
26. Develop controls (10)
27. Public beach facilities (10)
28. Better fishery potential (9)
29. Adequate power for energy supply (8)
30. Complete evaluation of state ports and waterway needs with a developmental plan to satisfy these needs (8)
31. State park--Jackson County (8)
32. Dredge spoil disposal problems (7)
33. Land availability (4)
34. Advertising market analysis (3)
35. Impact of oil and gas activities on cultural, social, economic and biophysical parameters (2)

CONFERENCE SUMMARY

Bruce W. Mattox, Ph. D.
Director, Mississippi-Alabama Sea Grant Consortium
Member, Mississippi Marine Resources Council

After our work here for the past two days, I think we must admit that the conflicts of resources use in the coastal zone are real. We know there are going to be differences of opinion between people who want to use the resources of the coastal zone. We seem to have also discovered that the real world demands that we consider conservation. Conservation may be a bad word, perhaps. If this group was asked the meaning of conservation, we would probably get as many answers as there are people in the audience. However, conservation, if we divorce it from all the value judgements, simply means whether we are extending our resources into the future or whether we are using them up now. Conservation implies use. It is not preservation, since preservation implies non-use.

We have classified three types of resources along the coast. These are stock resources, flow resources, and renewable resources. Stock resources, by definition, are those which can be used up. There is only a finite amount. Flow resources are those which, if not used at a particular point in time, are wasted. Renewable resources, as we have found, are those which can reproduce and can be harvested

continually without destruction if the parent stock is maintained. With shrimp, oysters, and fisheries, we know that if a particular parent population is maintained, there will be an amount available for mankind to harvest. If we get to the point where that parent population cannot renew itself we are in a critical zone, which means we do not have enough of the parent population to make the crop or the progeny from that parent population available to mankind on a sustained basis. Understanding these resources is basic to any coastal zone management plan.

We have indirectly considered opportunity costs, the costs of alternatives foregone. We find ourselves in the position where some of our resources would be better oriented toward other uses in the coastal zone. For example, how many people can a particular resource, perhaps shrimp, sustain? This is another key issue identified during our conference. If we get in the position where we have too many fishermen for our resources and the income of all concerned is lowered, then we have to consider alternative types of investments along the coast. People need work. If they cannot make a living from the traditional types of employment, then we must consider their opportunities in other types of employment. The best allocation of human resources on the coast, whether in fisheries or other types of employment, is crucial to coastal zone management.

Going back to the purposes of the conference I stated yesterday which were to conform, inform, perform, deform, reform, and maidenform,

I think we have met all of our objectives to this point. We have conformed to the spirit of the Coastal Zone Management Act of 1972. We have performed in the sense that we have had excellent speakers to inform us and you have informed the managers of what you need from the Coastal Zone Management Program in Mississippi in the future. We have deformed by tearing down the traditional boundaries of the coast. We have considered not only the coastal counties but the whole of southern Mississippi. We have reformed that into a preliminary definition of what the coastal zone should be, including how far inland, as well as seaward, it should extend. We have preformed many thoughts by listing your ideas concerning the needs, use conflicts, and possible solutions in the coastal zone.

I mentioned maidenform yesterday, so will not dwell on that at this time. However, we did talk about your support. We have talked about an uplift in cooperation. We have talked about changing the contours of the coast. We have talked about it from the standpoint of an increased population and from the standpoint of the beauty and quality of life. The key phrase here seems to be "the quality of life," which does include economic gain. Reconciling these things requires the spirit of cooperation--working together to make coastal zone management work.

LUNCHEON ADDRESS INTRODUCTION

The Honorable Edward A. Khayat
President, Jackson County Board of Supervisors

If ever there was a man related to the coast or to water, certainly that is our speaker today. He was born in Gulfport, Mississippi, on the water. He graduated from St. Stanislaus College on the Bay of St. Louis. He went to Marion Institute, Alabama, close to the Alabama River, and later to the University of Mississippi near the Sardis Reservoir. He still had not been around water enough so he joined the U. S. Merchant Marine Academy at Kingsport, New York, and later joined the Navy.

He was involved in the seafood industry along with his deceased father and his brother who now sits with him. He has served as Chairman of the Mississippi Marine Conservation Commission and as President of the State Port Authority at Gulfport. He was Special Assistant to Governor Paul B. Johnson who helped us build that great shipyard in Jackson County which employs over 19,000 citizens. He is now a Legislative Assistant to U. S. Senator James O. Eastland, and he serves on the Board of Directors of the American Oceanic Organization.

Ladies and gentlemen , we are proud to present a great friend of the State of Mississippi, working for a great Senator in America, William G. (Bill) Simpson, Legislative Assistant to U. S. Senator Jim Eastland.

LUNCHEON ADDRESS

William G. Simpson, Legislative Assistant
to U. S. Senator James Eastland

I am honored to have been invited to participate in this important conference, and happy, as always, to be home again.

I bring you Senator Jim Eastland's personal greeting and his warmest best wishes for your success. I am proud, as I know you are, of his recognized position as a national leader in the field of water-related activity. You will have his strong support in all of your endeavors.

I want to sincerely commend the agencies and individuals who put this meeting together. In pursuit of a worthy goal you have blended good minds, good will, and dedicated leadership.

On the subject of dedicated leadership, a salute to the Governor of Mississippi is certainly in order today. This conference is symbolic of the forward-looking, wide-horizon approach which has been a hallmark of the Waller Administration.

Before I get into my assignment on this program, I should like to offer an observation and present a brief report.

My observation is that you have accepted a mission vital to Mississippi, the Gulf South, and the United States. I refer, of course, to the tough and demanding task of coastal zone management.

Our hopes for accomplishment in ocean activities are high, but no attainment on or under the waters can be, or should be, stopped at the water's edge.

With proper and productive planning and management in the Coastal Zone our victories at sea are translatable into benefits for our people. Without it, our great aspirations for the utilization of the oceans in the cause of the advancement of America will not, indeed, cannot be fulfilled.

Permit me to report to you, briefly, on the status of Senator Eastland's national program "to save commercial fishing and serve sport fishing." It is a people's program in the purest sense. Three entities, the Atlantic States Marine Fisheries Commission, our own Gulf States Marine Fisheries Commission, and the Pacific Marine Fisheries Commission, will act as agents of the Congress to gather information for the proposal. That information will be furnished directly by men and women whose livelihood and lives are interwoven with our sport and commercial fishing industries.

The initial step was the establishment of a national policy, a clear and strong statement, expressing America's determination to support her fishing interests.

Senator Eastland, joined by forty-three other members of the Senate, introduced a Concurrent Resolution to put this foundation for our work in place. It was adopted by the Senate on a voice vote. With the enthusiastic and effective support of Congressman Trent Lott and others it passed the House on a record vote of 405 to 0.

Our national policy was approved by the Congress without a single dissenting vote and our foundation is there for us to build on.

Step One of the overall process is completed. The Senator has already

launched Step Two. He has pending before our Appropriations Committee a request for over \$500,000. These funds will be used by the three commissions to hold face-to-face meetings with the people involved in every aspect of commercial and sport fishing operations. These open, public, "Town Hall" types of gatherings will be held up and down the Atlantic Seaboard, through our Gulf area, and all along the Pacific Coast. When this program for the people has been written by the people, we move to Step Three.

"Executive" or "Steering" Committees will be chosen from the Gulf, Pacific, and Atlantic regions. Armed with facts from the fishing industries and backed by the millions of citizens involved in the industries, our committees will be prepared to meet with Federal officials at the highest levels. The Committees and the officials can then proceed to hammer out the final and inclusive legislative package which will give our land, at last, a national program which, in the Senator's words, "will assist every American involved directly or indirectly in fishing activities from Maine to Hawaii, from Alaska to Florida."

In 1969 a report entitled "Our Nation and the Sea" included this statement: "How fully and wisely the United States uses the sea in the decades ahead will affect profoundly its security, its economy, its ability to meet increasing demands for food and raw materials, its position and influence in the World Community, and the quality of the environment in which its people live."

The Senate of the United States unaimously adopted S. Res. 222 and launched the National Ocean Policy Study because it is convinced, I believe, of two facts. The first is that the waters of the world will, indeed, affect profoundly the lives of all Americans and be a major factor in shaping the future of this small and fragile planet. The second is that our great nation is not doing enough to confront the challenges and seize the opportunities that await us beyond our shores.

Senator Magnuson of Washington, Senator Eastland, and Senator Hollings of South Carolina proposed the Resolution. Eastland from the Gulf area, Magnuson from the Pacific Coast, and Hollings from the Atlantic Seaboard, joined by more than sixty Senators of both parties, led the way to set in motion a study aimed at action--action at the national and international levels, action for the benefit of America, action for mankind.

Time does not permit us to examine all of the facets of ocean-related activity. In order, therefore, that we might weigh challenge against opportunity on the seas in the last quarter of the Twentieth Century, let us look across the waters at the matters targeted for us in the language I quoted from the 1969 report.

Security is first, as it should be, since every human lives in the shadow of thermonuclear weaponry. Some see the oceans as a source of added danger. I regard them to be central to our defensive strength. I am persuaded, for example, that our Polaris/Poseidon submarines, to be replaced by the Trident system, are the strongest deterrent force on Earth,

our best insurance policy for peace. You all know the old infantry adage which states that "all you need is dry socks and the high ground." I suggest that the only "high ground" left on this planet may be the depths of the seas. The Armed Forces Committee occupies a position of leadership in the National Ocean Policy Study.

Our nation's economy is high on our list. Again, it certainly should be. If our mighty economic machinery fails the United States fails as surely as if we were conquered in armed conflict.

Let me attempt to connect economic health with salt water in the context of the problems that beset us today. In the vital field of energy, consider two factors. One is the potential of the Outer Continental Shelf, where we will extract what we must have from below the surface of the sea. The other is the vast quantities of petroleum we will be forced to import across the seas in the years ahead. At this point is, of course, where the term "superport" assumes a position of priority.

How many business and industrial operations in every corner of our country import or export raw materials or finished products? I assert that each of them is directly dependent on the oceans. I heard a President of the United States say in our neighboring City of New Orleans, "We must trade or fade." He was right and he encompassed a long and varied list of needs in those five words--needs like a modern merchant fleet, port facilities and channel depths to serve this land and her trading partners, and to deliver to America all or part of the sixty-nine of the seventy-two items she requires

for stability, growth and progress. These things must move across the greatest highways in the world, the highways we call oceans.

The Committee on Interior and Insular Affairs concerned with energy, the Commerce Committee involved with trade, the Labor Committee concerned with jobs, the Committee on Public Works, and the Foreign Relations Committee are all in the forefront of the study.

Our report cited "ability to meet increasing demands for food and raw materials." We have dealt with concrete plans for the revitalization of our fishing industries, but we must and we can go beyond even this solid step. Some day we will be required to seed and weed and harvest the oceans. Very soon we will need to develop and utilize the mineral resources of the deep seabed in an economically and environmentally sound manner.

The 1969 report speaks of our country's "position and influence in the World Community." That position and the degree of influence we can exert are critical elements in the day-to-day lives of men and women whose homes are in places as far apart as Rome, Italy, and Rome, Georgia. The strategic importance of the oceans has been set before us dramatically twice in the recent past. The Yom Kippur War and the Turkish-Greek conflict on Cyprus pointed up the suddenness with which crisis conditions can arise and the direct relationship between the use of the seas and the keeping of the peace in the world.

In this general field, let me assure that Senators connected with the Ocean Policy Study are monitoring very closely the Law of the Sea Conference now in progress in Caracas, Venezuela.

Last, but certainly not least, the "Our Nation and the Sea" report speaks of the "quality of the environment in which our people live." Here we regard the legitimate interests of the vast number of Americans who have been drawn to work, live, play and retire near the oceans. Here, also, we must bring into play all the talent in this room and elsewhere in this great and generous land to formulate and launch dynamic ocean research programs. We must seize and retain leadership in ocean technology. Surely the nation that sent men to the moon can lead the earth in the exploration of the seas.

Finally, a constant thread that runs through and binds together the wide variety of efforts I have touched on is your vital mission of coastal zone management. Senator Eastland is fully aware, as I am, as all of you are, of the magnitude and complexity of the task we have undertaken with the National Ocean Policy Study, especially in view of the fact that the Study is aimed, not at the production of a report, but rather at specific and progressive action across the spectrum of activity related to the seas.

The challenge is in direct proportion to the vast reaches of the oceans. However, opportunity is there on the same huge scale--opportunity that can be grasped and moulded into the brightest day America has ever seen.

I would like to leave you with this thought: When we are told, as we will be, that the problems are many, that the difficulties are mountainous, that our resources are limited, I ask you to recall with me the words of President Kennedy which say, "We have come too far, we have sacrificed too much to disdain the future now."

I respectfully suggest to this distinguished gathering that the United States possesses the courage and the character to journey much farther, to sacrifice yet more, to fashion a future that will be a credit to the Race of Men, the Children of God.

APPENDIX

CONFERENCE AGENDA

Governor's Conference on Coastal Zone Management
Sheraton-Biloxi Motor Inn
Biloxi, Mississippi

Wednesday, July 24, 1974

- 9:00 a. m. Conference Registration, Grand Ballroom Lobby,
Sheraton-Biloxi Motor Inn
- Morning Session: Grand Ballroom
10:00 a. m. - 12:00 m.
- 10:00 a. m. Welcoming Address:
The Honorable Jerry O'Keefe, Mayor, City of Biloxi
- Purposes of Conference:
Bruce W. Mattox, Ph. D., Director, Mississippi-
Alabama Sea Grant Consortium
- Local, State, and Federal Perspectives of
Coastal Zone Management
- 10:30 a. m. "Benefits To Be Derived From Coastal Zone Management"
The Honorable Ben H. Stone, State Senator, State of
Mississippi
- "The Relationship of the Mississippi Marine Resources
Council to Coastal Zone Management"
Donald J. Cuevas, Vice Chairman, Mississippi Marine
Resources Council
- "The Coastal Zone Management Plan for Mississippi"
James B. Rucker, Ph. D., Executive Director,
Mississippi Marine Resources Council
- "Coastal Zone Management--An Overview From the
Federal Standpoint"
Robert W. Knecht, Director, Office of Coastal
Environment, National Oceanic and Atmospheric
Administration

12:00 m.

Luncheon: Top of the Sheraton

Master of Ceremonies:

Roland Weeks, President and General Manager,
Gulf Publishing Co., Inc.

Speaker:

The Honorable Aaron R. Schwartz, Texas State
Senator; Chairman, Coastal States Organization

Afternoon Session: Grand Ballroom

2:00 p. m. - 5:30 p. m.

Areas of Critical Interest In
Coastal Zone Management

2:00 p. m.

Panel Discussion

Moderator:

The Honorable William C. Rhodes, State Senator,
State of Mississippi

Panel:

Fisheries

William J. Demoran, Mississippi Marine Conservation
Commission, Mississippi Marine Resources Council

Mineral Extraction and Fossil Fuels

Terry Owen, Petroleum Engineer, State Oil and Gas Board

Recreation and Tourism

Edward J. Keels, Chairman of Board, Gulf Coast
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Commerce and Industrial Development

James W. Miller, Manager of Industrial Development,
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Residential Development

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Transportation and Navigation

W. Larry Harris, Coordinator of Ports and Harbors
Development, Mississippi Agricultural and Industrial
Board

Waste Disposal
Bob Monette, Regional Engineer, Mississippi Air
and Water Pollution Control Commission

4:00 p. m. Workshop Sessions

6:30 p. m. Social Hour: Gulf Rooms

7:30 p. m. Dinner: Grand Ballroom
Master of Ceremonies:
Donald J. Cuevas, Vice Chairman, Mississippi Marine
Resources Council

Governor's Address:
The Honorable William L. Waller, Governor, State
of Mississippi

Thursday, July 24, 1974

Morning Session: Grand Ballroom
9:00 a. m. - 12:00 m.

Areas of Critical Interest In
Coastal Zone Management (Continued)

9:00 a. m. Workshops (Continued)

10:30 a. m. Reports by Workshop Chairmen: Grand Ballroom

11:45 a. m. Conference Summary:
Bruce W. Mattox, Ph. D., Director, Mississippi-Alabama
Sea Grant Consortium

12:00 m. Luncheon: Top of the Sheraton
Master of Ceremonies:
The Honorable Edward A. Khayat, President, Jackson
County Board of Supervisors

Speaker:
William G. Simpson, Legislative Assistant to United
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Adjournment

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