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CITIZEN PERCEPTION OF COASTAL AREA PLANNING AND DEVELOPMENT

A STUDY OF THE ATTITUDES AND KNOWLEDGE OF LOUISIANIANS

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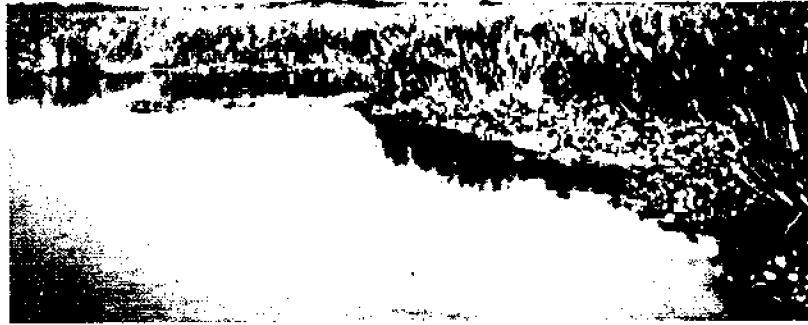
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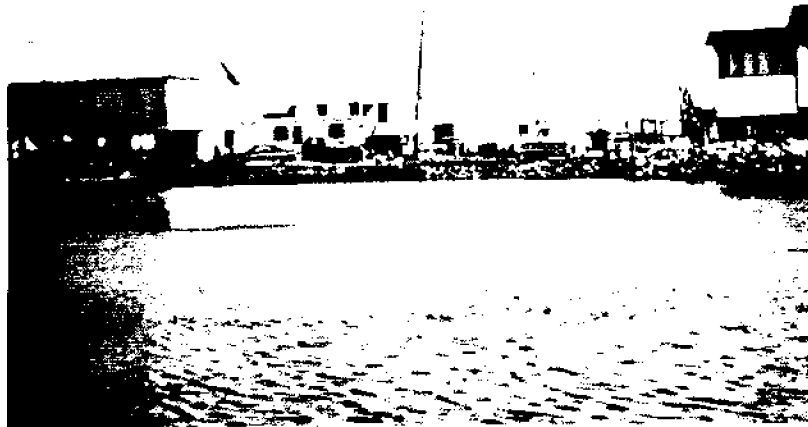
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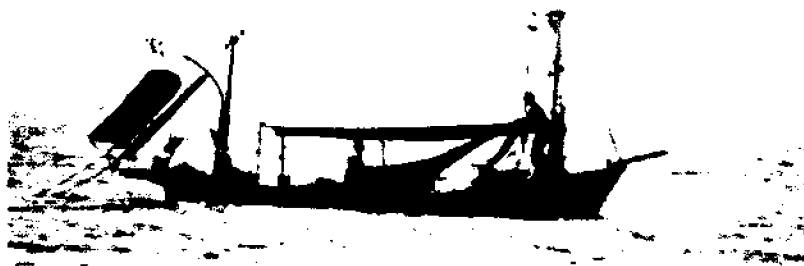
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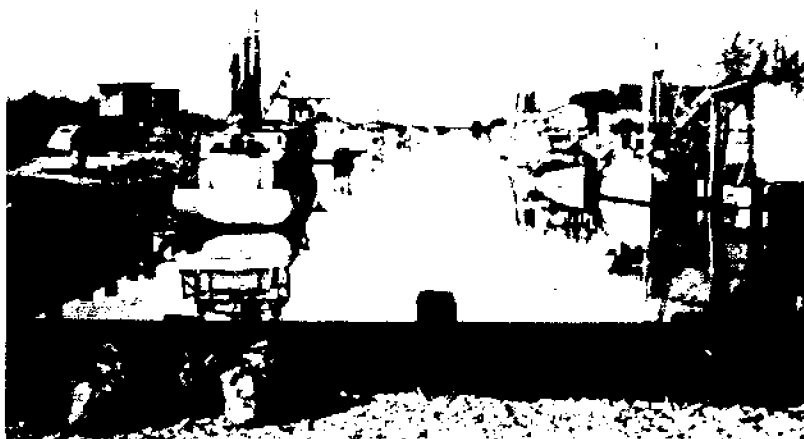
The tranquil appearance of a Louisiana coastal estuary and its bordering marsh belies the tremendous biological productivity which characterizes such areas.



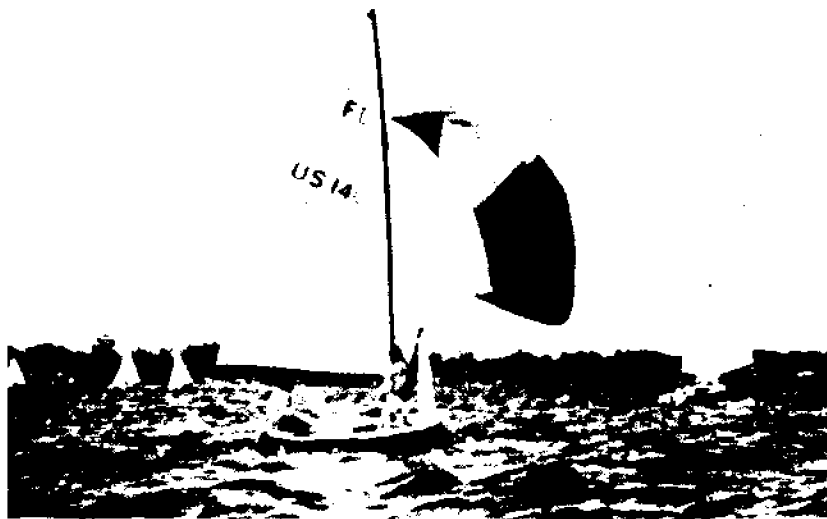
The great respect which residents of the outlying areas in the coastal zone have for water and wind is shown in the way they construct their camps and homes.



Hard work, loneliness, and dependence on the vicissitudes of nature are inherent in many coastal zone activities, as this two-man shrimping operation so forcefully portrays.



Life and work in small coastal zone communities is centered around work boats, with their size, type, and general appearance telling much about the social and economic status of the owner.



The coastal area is a haven for recreationists, offering a relief and a release from the pressures and congestion of urban life.



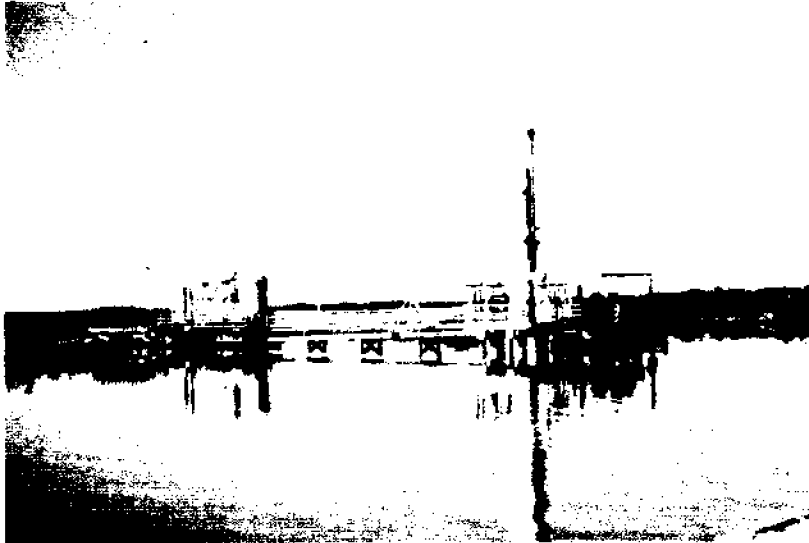
The project leader for this study proudly displays a redfish, one of the prime coastal area species on the sport fisherman's list. This fish provided a delightful repast during a weekend stay at the camp of Captain Pete Vujnovich, president of the Louisiana Oyster Fishermen's Association.



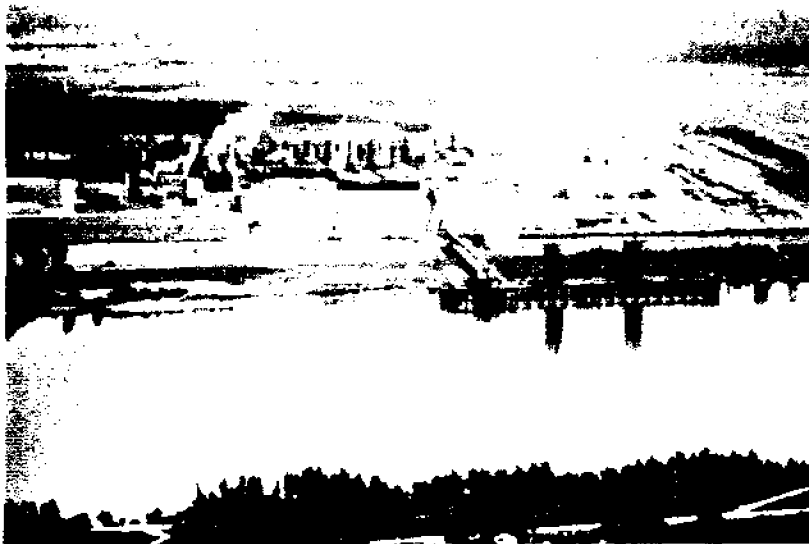
The land in the coastal area is "new" and "heavy" and takes special equipment and know-how to work.



The "Sugar Bowl" of Louisiana, where sugar cane reigns supreme, is in the center of the State's coastal region.



The coastal area's biological productivity is superimposed upon a vast subsurface mineral resource. Even the remotest areas provide evidence that the "oil and gas men" have been there.



Industry follows natural resources and access to water and transport facilities. All these are found in the Louisiana coastal zone, as the continuous industrial development along the lower part of the Mississippi River vividly evidences.

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SEAGRANT PUB. NO. LSU-T-76-001



**This research was sponsored by the Louisiana
Sea Grant Program, a part of the National
Sea Grant Program maintained by the
National Oceanic and Atmospheric
Administration of the U.S. Department of Commerce.**

MARCH 1976

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acknowledgments

This research was sponsored by the Louisiana Sea Grant Program, a part of the National Sea Grant Program maintained by the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce, under Grant No. 04-5-158-12.

Several individuals contributed in substantive ways to the research project. Michael Grimes was chiefly responsible for the sampling design and for the computer programming. He also served in a consultant capacity throughout the course of the study. Thomas Pinhey provided invaluable assistance in the processing of the data and in the search for pertinent background references. Ronald Becker and Marc Hershman served as consultants for the project and critically reviewed this report prior to publication.

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related publication

THE HUMAN DIMENSION OF COASTAL ZONE DEVELOPMENT, BY Karen W. Paterson, Joel L. Lindsey, and Alvin L. Bertrand. Center for Agricultural Sciences and Rural Development, Louisiana State University, Baton Rouge. Agricultural Experiment Station Bulletin No. 679. June, 1974. 58 pp.

Three broad classes of data are described in this bulletin. The first type of data collected relates to the demographic or population characteristics of Louisiana and the Louisiana coastal area. The second class of data provides an overview of the natural resource base of the coastal area and of selected industries and employment characteristics of this area. The third class of data provides a picture of the recreation activities and potentials of this part of the state.

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Synopsis of Findings

Louisianians have a general awareness of the coastal zone of the State, but their knowledge, in a specific sense, tends to be imprecise and somewhat distorted. When quizzed on their perception of the coastal zone, adult citizens gave responses indicating:

- 1) They tend to perceive the coastal zone primarily in terms of the physical characteristics of the landscape such as coastlines and marshes.
- 2) They tend to feel that Louisiana's coastal zone is relatively more important to this State than the coastal zones of other states are to them.
- 3) They tend not to think of urban centers as part of the coastal zone, regardless of whether or not they are located in the coastal region.
- 4) They are aware that swamps and marshlands have value.
- 5) They are of the opinion that mineral extraction and commercial fishing are the most important present and future activities of the coastal zone.
- 6) They are convinced that the people and way of life in the coastal zone are different from the rest of the state.
- 7) They especially like the outdoor activity in the coastal zone and especially dislike the frequency of hurricanes and floods there.

The citizens of the State have a vague concept of coastal zone management and development and are hard put to identify and name specific development projects. Their attitudes and knowledge are reflected in the responses made to key questions. These responses indicate:

- 1) They perceive lands and waters in the coastal zone are used primarily for

oil and gas extraction, fishing and agriculture.

- 2) A majority of Louisianians have no knowledge of coastal zone management or planning.
- 3) There is very little awareness of specific coastal zone development projects.
- 4) There is a strong feeling that Louisiana lags behind other states in coastal planning efforts.
- 5) People are aware of the problems in the coastal zone but could not name specific types of problems (e.g., pollution, land loss, salt water intrusion).
- 6) There is a strong sentiment in favor of leaving coastal marshes and waters relatively untouched and primarily used for recreational and light industry purposes.
- 7) There is little optimism about the future of the coastal zone; that is, most people do not think the current situation will change very much in the future.

The people of Louisiana feel strongly that the primary responsibility for general control and development of coastal zone resources should be a state and local matter. At the same time, they feel that private owners should be free to make decisions relative to their property. Their responses to specific questions of this nature indicate:

- 1) There is a strong sentiment for owner control of privately held land.
- 2) There are divided opinions on whether state, local, or private interests should have major responsibility for decisions relative to management of coastal zone resources, but almost all reject a dominant federal government role.
- 3) They do not have clear opinions on the role legislators should play in initiating action relative to coastal resources development and management.

Although most Louisianians tend to be uninformed or have imprecise and vague information about the State's coastal zone, certain groups in the population demonstrate higher levels of knowledge. The responses

obtained from interviewees throughout the State indicate:

- 1) Younger persons are more knowledgeable about coastal zone management and problems than older persons.
- 2) More highly educated persons are more knowledgeable about coastal zone management and problems than persons with lower educational attainment.
- 3) More affluent persons are more knowledgeable about coastal zone management and problems than persons in the lower income brackets.

- 4) Whites are more likely to be acquainted with coastal zone management and problems than blacks.
- 5) Persons living in the larger urban centers are more knowledgeable about coastal zone management than residents of towns and smaller cities and rural dwellers.

The overall conclusion which can be drawn from the study is that the people of Louisiana are relatively uninformed about the State's coastal zone. This should be of concern to legislators, agency administrators, public officials, and others having responsibility for development and management of the State's coastal resources.

to implement these type programs be justified.

The discussion which follows hopefully has been organized in such a way to make it easy for the reader to follow. The first section is designed to provide a perspective for understanding the importance of the Louisiana coastal zone and its basic characteristics and development problems. The second section includes the main body of the report. It is devoted to a review of the findings of the research undertaken. The third and last section is reserved for a discussion of the conclusions and implications of the study.

Introduction

It is a well documented fact that the people of the United States are becoming increasingly concerned with matters related to energy and the environment. One facet of this concern is expressed in the often heard notion that wise management of our natural resources is a survival imperative. The research findings reported in this bulletin derive their relevance from the natural resource management issue. In a specific sense, the study was inspired by the mandate implicit in the Coastal Zone Management Act of 1972. This Act was designed to encourage Louisiana and all other coastal states and territories to develop information and tools for long-term planning and management of "invaluable and irreplaceable" coastal resources. It was with this general objective in mind that the Louisiana Sea Grant Program and the Louisiana Agricultural Experiment Station joined in a cooperative effort to provide background information about the people living in Louisiana's coastal areas and to determine the level of knowledge and general orientation of people throughout the State concerning coastal zone resources and their development.

A previous report (entitled The Human Dimension of Coastal Zone Development) addressed the socio-demographic characteristics of the people living in Louisiana's coastal zone. This report, planned as a logical follow-up, provides information on the knowledge and attitudes of the people of the State relative to planning for the resources of coastal areas.

The overall aim of the study was the provision of information which would be useful to both public and private officials with a responsibility related to the planning, conservation, and development of Louisiana's coastal resources. Without a clear notion of what people of the State know and think about coastal zone development, programs of an education, research, or advisory nature cannot be planned meaningfully, nor can the funds necessary

THE COASTAL ZONE DEVELOPMENT PROBLEM IN PERSPECTIVE

The coastal zone of Louisiana has been termed both unique and dynamic. It encompasses vast areas of fresh and salt water marshes, enormous expanses of open water, and a shoreline estimated to exceed 12,000 miles. Many definitions of what constitutes a coastal zone can be found, depending on the particular orientation of the writer. However, there is a general agreement that the uplands adjacent to the higher water marks of the sea bays, estuaries, sea shores, the waters themselves, and other areas of "marine influence" such as river basins and watersheds directly connecting to bays or the open sea are an integral part of these regions.¹ For the purposes of this study, the Louisiana coastal zone is defined in a general way as the territory south of U.S. Highway 190 (see Figure 1). However, because of the way certain data had to be collected, or were reported, the coastal region was adjusted to parish boundaries in the preparation of tabular materials. That

¹For a discussion of the definition of the Louisiana coastal zone, see:

Louisiana Advisory Commission on Coastal and Marine Resources. 1972. Louisiana Government and the Coastal Zone - 1972. Baton Rouge, pp. 15-18.

Patterson, K. W., J. Lindsey, and A. L. Bertrand. 1974. The Human Dimension of Coastal Zone Development. La. Agri. Exp. Sta. Bull. No. 679. Baton Rouge, pp. 4-7.

McIntire, W. G., M. J. Hershman, R. D. Adams, K. D. Midboe, and B. B. Barrett. 1975. A Rationale for Determining the Louisiana Coastal Zone. Center for Wetland Resources, La. State Univ., Baton Rouge. Sea Grant Publ. No. LSU-T-75-006.

is, any parish which fell partly within the coastal zone, was treated as if the whole of its area was so characterized. The operational definition of the coastal zone utilized thus includes areas having semi-enclosed bodies of water with free connection to the open sea and within which the sea water is measurably diluted with fresh water deriving from land drainage, plus the source of this fresh water in a drainage system.

BRIEF DESCRIPTION OF THE COASTAL ZONE

(The information presented in this section is largely from the various reports

of the Louisiana Advisory Commission on Coastal and Marine Resources.)

The Louisiana coastal zone was formed over the past 5,000 years by the Mississippi River. During this period, the Mississippi changed its course many times, leaving deltas which now comprise the marshes and estuaries of south Louisiana. It has been estimated that the coastal zone includes 3.7 million acres of marshes plus 3.4 million acres of associated estuaries and water surface. The biological productivity of this huge area is nothing short of phenomenal. This productivity accounts for the fact that Louisiana's commercial and

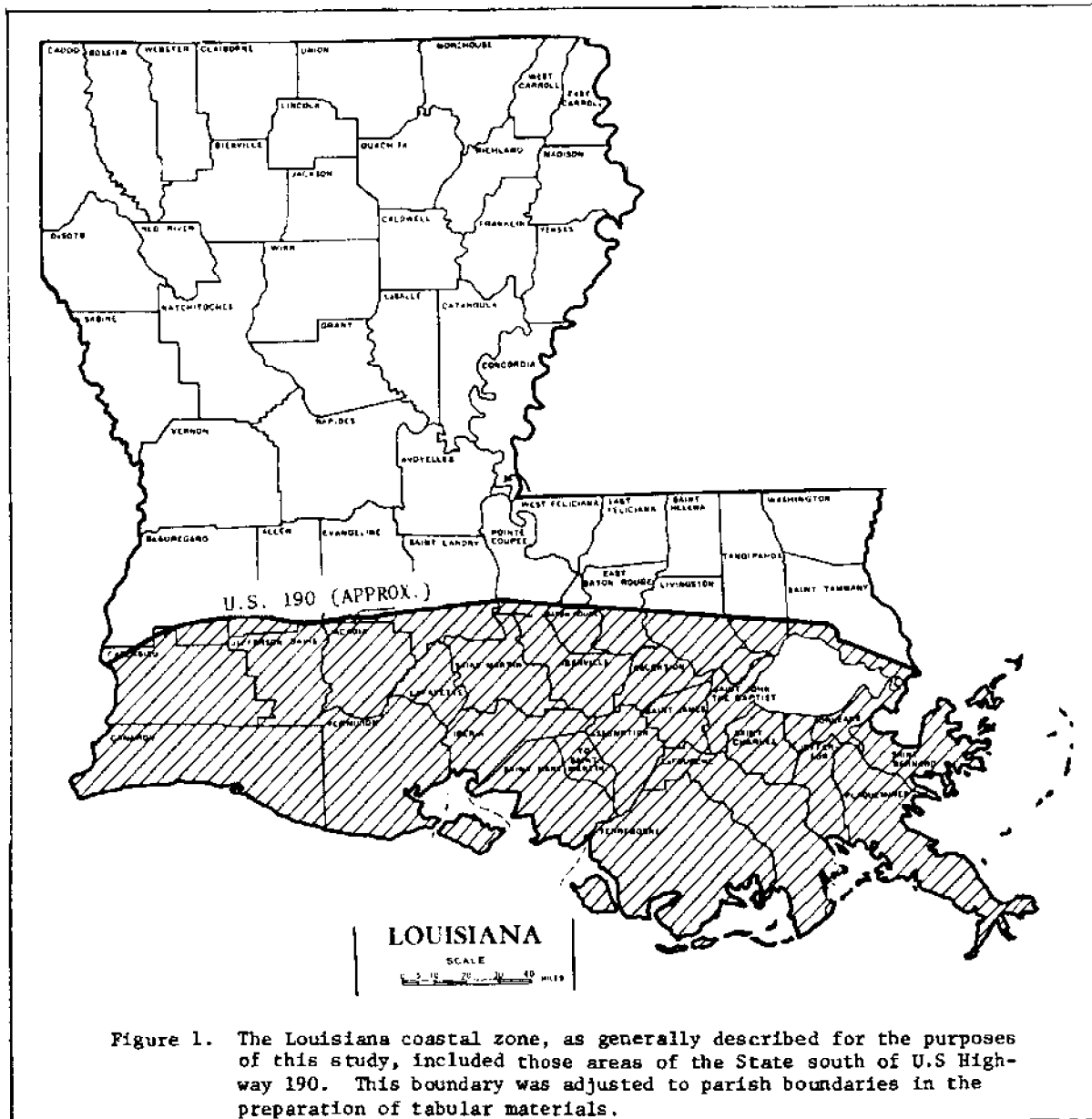


Figure 1. The Louisiana coastal zone, as generally described for the purposes of this study, included those areas of the State south of U.S Highway 190. This boundary was adjusted to parish boundaries in the preparation of tabular materials.

recreational fish and shellfish catch well exceeds one billion pounds annually. When it is contemplated that the millions of pounds of shrimp, oysters, crab, fish, and crayfish harvested each year are naturally occurring and require little if any investment by man other than harvest costs, one begins to appreciate the value of coastal wetland resources. It is estimated that the biological productivity of the coastal zone is worth in excess of a billion dollars to the Louisiana economy.

The biological productivity is not the exclusive benefit derived from the Louisiana coastal zone. This area is also characterized by a tremendous mineral and agricultural productivity. Oil and gas dominate the industry of the State, and most of the wells producing these minerals are found in the coastal zone. The worth of these resources can be imagined when it is known that oil and gas produced each year in the State are worth close to two billion dollars. Large deposits of sulphur and salt augment the mineral productivity of the coastal region. Altogether, four-fifths of Louisiana's industrial development is found in its coastal zone.

Agriculture is abundant in Louisiana's coastal zone and is highly diversified. Crop enterprises which predominate include rice, sugar cane, vegetables, and soybeans. Cattle also represent an important agricultural activity. It is estimated that at least one-half of the state's approximately \$400 million in annual farm income is from coastal zone parishes.

The coastal zone also accounts for the fact that Louisiana is a major transportation outlet for the Gulf of Mexico. Three of the nation's most active ports are in the zone--New Orleans, Baton Rouge, and Lake Charles. Also, there are numerous canals, docks, and locks which contribute to the transportation importance of the region.

Finally, it is important to the discussion which follows to note that the coastal zone is relatively densely populated. A study of population trends shows the people of the State are slowly shifting toward the coast, a fact explainable in terms of the economic opportunities offered by the region. One fact regarding the human resources of the Louisiana coastal zone is quite unique. It is here the largest as yet unassimilated distinct ethnic group in the United States is found. This group (known locally as Acadians or "Cajuns") is culturally identified as French speaking and Catholic and appears in a State charac-

terized by an otherwise English speaking and Protestant cultural milieu.

THE NATURE OF COASTAL ZONE MANAGEMENT PROBLEMS

There are many specific problems related to coastal zone development and management which are worthy of attention.² However, almost all of the problems which arise can be subsumed under three broad topics as follow.

First, there is the class of problems related to the measures which are designed to keep the Mississippi River and its tributaries under control. These measures are necessary primarily to protect residential and agricultural areas from flood situations. However, the artificial (levee) control of flow of the Mississippi River has two very serious consequences. In the past, the deposits of sediments from the river created new land at a rate fast enough to offset the loss of land due to coastal erosion. This is no longer the case since the present delta has been built up to the edge of the continental shelf and river sediments are now being deposited in deep Gulf waters. Louisiana has suffered an average net loss of 16.5 square miles of land annually. A loss of this dimension adds quickly and has important economic implications for the State. The second consequence of controlling the spread of fresh water throughout the coastal zone is the loss in biological productivity. Many wildlife species require brackish water, and when fresh water entering the marshes is curtailed the salinity increases to an intolerable level for some species. Of course, animals can survive by moving further inland, but there is a limit to this migration. All in all, the people of the State face a dilemma in deciding whether to impose further control over water movement in coastal areas in the interest of residential, industrial, and agricultural development, or whether to attempt to maintain and increase the natural productivity found there by allowing flooding, sedimentation, and natural drainage patterns.

The second major type of problem which is of interest to this report is the sometimes vicious competition which erupts between those who wish to conserve and protect renewable resources such as wildlife and fisheries and

²The broad question of coastal zone management is treated in detail in:

Louisiana Advisory Commission on Coastal and Marine Resources. 1973. Wetlands '73: Toward Coastal Zone Management in Louisiana. Baton Rouge.

those who wish to exploit the non-renewable resources such as minerals and land. This type of problem falls under the umbrella of environmental impact issues. It is manifested in the frequent challenges to projects related to such things as port or airport development, oil exploration, and dredging or channel widening. Each day it becomes increasingly apparent that issues of this nature are of foremost concern and demand the most rational compromise solutions which can be worked out. Until the present time, broadly based and long-term planning of this nature has been noticeably lacking.

The third and final class of problem associated with the development of coastal areas also involves "conflict of interests" but at a much more direct and individual level. It is evidenced in the special concerns of classes of users of coastal zone resources. A good illustration is the conflicts which sometimes arise between commercial and sport fishermen, between agriculture and fishery interests, or between various types of commercial fishermen. Questions relating to "seasons" and "limits" fall under this class of problem as do "permits" related to access and use of certain public lands.

The above brief description of the Louisiana coastal zone was intended to provide a perspective for the reader of this report. As noted, the research undertaken was designed to contribute to both the state economy and national economy by providing information useful in the management of the coastal zone resources of Louisiana. The rationale for the study is based on the importance of the human factor in the development of natural resources. Said another way, unless the level of knowledge of the coastal zone of the people of the State and their attitudes regarding the utilization of the resources there are known, it is impossible to plan intelligently for the development and management of the region. The brief description of the coastal zone and of the types of problems which must be faced in its development given in the first part of this section provides a basis for interpreting the findings presented in the remainder of this bulletin.

METHODOLOGICAL PROCEDURES

It has been noted that the objective of this investigation was to find out what Louisianians living in and out of the coastal zone know about the resources and problems of this area. The research procedures followed were worked out in terms of two specific audiences selected for study.

The first group considered strategic to the research objective was local knowledgeable and influentials, i.e. persons living in the coastal zone who serve as opinion leaders and who will play important roles in the acceptance or rejection of particular programs. It is standard practice in community or regional development schemes to recruit such leaders as validators and legitimizers of the given project, if they can be convinced of its worth. For this reason it was deemed important to determine the attitudes prevalent among influentials residing in the coastal area.

In actual practice, local influentials were identified through a modified reputational technique. This procedure involved preliminary interviews with knowledgeable persons (judges), who were asked to nominate leaders in their community. Persons on whom a consensus was established formed the universe from which a sample of influentials was drawn. Altogether, 27 individuals were selected for in-depth interviews. These interviews were conducted according to an interview guide, so that all interviewees were asked the same questions. The sample drawn was purposive in that representation from the various sections of communities were sought--the industrial, the educational, the religious, the news media, and the banks. Slightly over one-half were over 45 years of age and two were less than 30 years of age. Five of the group were women.

The second group considered vital to the objectives of the study was the adult citizenry of the State. In this regard, it is a fundamental point that any project which depends upon public funds must have a substantial degree of popular support. Because the nature of most coastal zone development is somewhat remote from the experience of the average person, it is practically impossible to fathom public sentiment about issues relevant to these areas in an intuitive fashion. For this reason, it was deemed necessary to ascertain the level of knowledge and the feelings of the people of the State about coastal zone development questions. A second rationale for a state-wide survey of citizens was to provide a base line for planning and measuring the effectiveness of future educational and informational programs related to coastal zone issues. The sampling procedure followed in the implementation of this phase of the project is described in the Appendix. Altogether 926 interviews were completed. Of this number, 42.8% were male and 57.2% were female; 67.1% were white, 29.2% were black, and 3.7% were other races or unknown; 17.2%

had earned a 4-year college degree or more, 40.0% had at least a high school diploma but less than a college degree, 26.7% had from 7 to 11 years of schooling, and 15.2% had only up to 6 years of schooling or did not report their schooling; 34.6% reported family incomes of less than \$6,000, 18.7% reported family incomes of \$6,000 to \$10,000, 21.4% reported incomes of \$10,000 to \$16,000, and 18.3% reported incomes of over \$16,000. The sample drawn was considered sufficiently representative of the adult population of Louisiana for the purpose in mind.

The questions posed to interviewees were divided into three general groups for the purpose of the analysis which follows. All of the questions in the first group related to the interviewees' knowledge of, experience with, or opinion about the coastal zone in a general sense. Questions in the second group were focused on the interviewee's knowledge of problems related to the coastal zone and his opinions regarding the planning for and development of this region. The last group of questions was designed to determine whom the interviewees felt should have rights and responsibilities with regards to coastal zone management and development decisions. The discussion which follows is organized in this manner, with responses related to each broad topic presented in a separate section. The responses of the influentials living in coastal areas are compared with those of the average citizen on each topic on which comparable information is available. Comparisons are also made of the answers of persons living in the coastal zone and of interviewees living outside this region. All tabulations are based on the statewide sample; responses of influentials are discussed in the text but are not included in the tabulations.

Louisiana Citizens' Perception of the Coastal Zone

It was considered of primary importance to the objective of the study to determine the level of knowledge and the impressions of the coastal zone of what might be termed the typical citizen of the State. Such information was construed as fundamental to the support which any type of legislative, educational, or other action program related to the development of this part of the State might receive. It will be seen that the findings of the study are enlightening in terms of what Louisianians know and think about what is the most productive geographic area within their State.

LOUISIANIANS TEND TO PERCEIVE THE COASTAL ZONE IN TERMS OF THE PHYSICAL CHARACTERISTICS OF THE LANDSCAPE

It will be recalled that Louisiana's coastal zone was defined in an operational sense as the area south of U.S. Highway 190. Although this area is varied in its physical features, it can be conceived as including vast fresh and salt water marshes, extensive coastline, and special types of flora and fauna. The area can also be envisioned as one with enormous subsurface deposits of oil, gas, sulphur, and salt. The first question about the coastal zone asked of interviewees was: "When we speak of the coastal area, what comes to your mind?" Tabulated responses to this query are shown in Table 1. It can be seen that four specific types of first impressions were named, with physical characteristics such as water, marshes, or coastline predominating in the responses given. Approximately three of every five citizens conjure some such impression in their mind when reference is made to the coastal region. The second most common impression is of the place where certain towns and cities are located. One out of every five adult persons in the State thinks of places such as New Orleans, Houma, Lafayette, or Cameron when asked about the coastal zone of Louisiana. This type of perception was more common among persons living outside the coastal zone, as might be expected.

Table 1. Interviewees' perception of coastal zone, by residence

Perception of Coastal Zone	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
<u>Location:</u> towns, cities, or places	14.4	25.9	17.7
<u>Physical landscape:</u> land-water characteristics	58.6	55.0	57.5
<u>Recreation:</u> site of special activities	3.8	2.4	3.4
<u>Industry:</u> site of special type (mainly oil and gas)	7.9	7.4	7.8
<u>Nothing:</u> no special perception	15.4	9.4	13.7

Lesser numbers of individuals think about oil and gas activity (7.8%) or special types of recreation (3.4%), such as crabbing or speckled trout fishing, than think about the terrain features and population centers. Interestingly, one out of every eight respondents (13.7%) said they had no special perception of this area. The latter type of statement is probably a reflection of a lack of feeling that anything is unique or different in the coastal zone. Such a conclusion is suggested by the fact that more people living in than out of the coastal zone said that mention of the coastal area brought nothing special to their minds.

The influentials who were interviewed were asked essentially the same question. It is both interesting and important that practically all of these leaders were knowledgeable of the coastal zone. Most of them expressed the idea that it was the area extending back from the Gulf of Mexico including marshes and which was the scene of fishing, trapping, and oil activity.

All in all, it is evident that many Louisianians have a notion of at least some characteristics of the coastal zone. However, it is also clear that there are only a few people who have a clear, concise idea of the region as an ecological entity. The latter understanding, of course, was not expected of the average citizen without benefit of specialized study.

LOUISIANIANS TEND TO HOLD THE OPINION THAT THE COASTAL ZONE OF LOUISIANA IS WORTH MORE TO THE STATE THAN IS TRUE OF OTHER STATES WITH COASTAL AREAS

The second question designed to determine the impressions of Louisianians about their coastal zone read as follows: "In your opinion, how does Louisiana's coastal area compare with coastal areas of other states in terms of importance to its citizens?"

The significance of this question lies in the fact that Louisiana's economy rests in large part on this highly productive but delicately balanced ecosystem and the sub-surface minerals which it covers. There are no other states which depend as much on their coastal regions. The responses to the above query are shown in Table 2. There it can be seen that well over one-half (58.6%) of the interviewees felt that Louisiana benefited more from its coastal zone than did other states with coastal areas. Some persons no doubt were moved by "patriotic" reasons to make such a response. However, it is clear that a considerable number of people have an appreciation for the fact that one-fourth of the nation's wetlands are in Louisiana, and that this part of the State is, biologically, extremely productive. Of course, the mineral productivity of the coastal area is also well known.

Table 2. Interviewees' opinions regarding the relative importance of the coastal zone of Louisiana and other states to their respective citizenry, by residence

Opinion Regarding Relative Importance of Louisiana Coastal Zone	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
More important	58.6	58.4	58.6
About the same importance	22.0	18.0	20.9
Less important	8.2	6.6	7.8
No opinion	11.1	16.9	12.7

One-fifth of the interviewees rated the worth of coastal areas in Louisiana and certain other states as about the same in terms of their contribution to the respective states' economy. Such a response appears to be an attempt to be objective, without full knowledge of the facts. A relatively few persons (7.8%) expressed the belief that Louisiana's coastal zone was not as important a resource to the State as the

coastal areas of other states were to them. This view could be based on some specific experience with or impression of the coastal zone resources of other states, or it could be an uninformed guess. One-eighth of the interviewees were frank in acknowledging they did not have enough information to express an opinion on the subject.

A comparison of the responses of persons living in the coastal region with those living elsewhere in the state shows very little difference in knowledge and opinions on the above question. In brief, it appears that the people of Louisiana are not altogether unaware of the worth of the State's coastal zone resources to the State's economy. However, there is a relatively large number of citizens who do not appear to appreciate the relative extent of the contribution of the coastal zone to the State's economy. This question was not addressed to the influentials, but it can be assumed that they would be more knowledgeable on the economic importance of the coastal area.

LOUISIANIANS TEND TO DEFINE THE STATE'S COASTAL ZONE IN TERMS OF SHORE LINE AND MARSH AREAS IN A NON-URBAN SETTING

In keeping with the distribution of the population of the State, approximately 70% of the interviewees selected were from the coastal zone, that is the area south of Highway 190. Nevertheless, only 20% of them perceived that they lived or had lived in the coastal zone. This is an exceptionally interesting finding because of the clue it provides to the erroneous perception of the boundaries of the coastal zone which the people of the State have. Apparently, a great many persons living in urban centers, such as New Orleans, Baton Rouge, and Lake Charles and away from shore line or marsh areas do not construe that they are living in or have lived in the coastal zone area. This is probably why about the same percentage of persons living in the coastal zone as living outside of it failed to claim residence experience in the zone (see Table 3). They simply did not define urban places and areas not characterized by shore line or marshes as part of the coastal zone. The significance of this finding is found in the implication it has for support of development programs. When people do not identify with an area, they tend to be unconcerned over programs or issues identified with the area. Perhaps if the residents of the major cities in the coastal zone interpreted their destiny as entwined with that of the region, they would be more willing to actively support planning, conservation,

or development projects. Since the influentials interviewed all lived in coastal parishes, there was no point in asking them whether or not they lived or had lived in the coastal zone.

Table 3. Interviewees' perception of having lived or living in the coastal zone, by residence

Perception of Living or Having Lived in the Coastal Zone	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Yes	21.3	16.0	20.3
No	71.4	72.1	71.6
No Knowledge	7.3	9.9	8.1

LOUISIANIANS GENERALLY ARE AWARE THAT SWAMPS AND MARSHLANDS HAVE VALUE

The phenomenal productivity of swamps and marshes was pointed out in the introductory section of this report. It has, for illustration, been estimated that a marsh produces more food per acre than intensive land-based agriculture. In response to a query as to the value of swamps and marshlands, 83% of the interviewees gave an affirmative answer, backed by some sort of specific illustration, such as the recreational and economic productivity of such places (see Table 4). Only 8% of the persons included in the sample population felt that swamps and marshlands were of no value. This small percentage is significant in light of the fact that many persons seem to have an image of swamps and marshes as formidable and unproductive. It is worthy of note that place of residence had little to do with the pattern of responses on this question. As can be seen in Table 4, approximately the same percentages of persons living in noncoastal areas as in coastal areas gave "yes" or "no" answers.

When the persons who gave positive responses were asked why they thought swamps and marshlands had value, the ecological (biological) productivity of such area was named most frequently. However, fishing and mineral production were also named relatively often. These responses are in keeping with the answers given to the question asked about their perception of the coastal zone. Again, it may be noted that it is important to educational programs to discover that Louisianians tend to appreciate the worth of coastal areas and that they have a good

notion why these areas are important. All the influentials interviewed were knowledgeable regarding the worth of marsh and swamp areas.

Table 4. Interviewees' opinions regarding the value of marshland and swamps, by residence

Opinion As to Value of Swamps & Marshland (1st Response)	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Yes, because of oil and gas	17.5	15.7	17.0
Yes, because of ecological productivity	24.4	32.8	26.8
Yes, because of fishing	18.5	23.0	19.8
Yes, because of recreation	4.6	7.2	5.4
Yes, because of residential use	4.0	1.3	3.2
Yes, because of agriculture	4.3	2.4	3.8
Yes, because of other reasons	8.0	4.6	7.0
Have no value	9.5	4.9	8.2
No opinion	9.2	8.2	8.9

LOUISIANIANS RECOGNIZE MINERAL EXTRACTION AND COMMERCIAL FISHING AS THE MOST IMPORTANT PRESENT AND FUTURE ACTIVITIES OF COASTAL ZONE

Two questions were designed to determine what specific coastal zone activity respondents felt had most economic importance at present and for the future. The information obtained is presented in Tables 5 and 6. Commercial fishing represents a 60-70 million dollar annual income for the State, recreational activity brings in an estimated 120-180 million dollars, mineral production exceeds a billion dollars, and agriculture accounts for 300-400 million dollars annually in the coastal area. In light of these figures, it is a commentary on the knowledge of the people of the State that the activity mentioned most frequently (by one out of every three persons) as contributing to the States' economy was mineral extraction. It is clear that this reference was primarily to the gas and oil produced in the region, and it is interesting that persons living outside the coastal region had more of an impression that oil and gas provided the primary economic support of the area. People living within

Table 5. Interviewees' opinions regarding the most important economic activity in the Louisiana coastal zone, by residence

Opinion Regarding Most Important Economic Activity	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Mineral extraction	33.6	39.5	35.3
Commercial fishing	23.1	30.2	25.1
Recreation	3.7	2.1	3.2
Shipping (water transportation)	8.1	5.8	7.4
Industry	1.5	0.8	1.3
Other activities	7.9	4.9	7.1
No opinion	22.0	16.7	20.5

Table 6. Interviewees' opinions regarding the most important future economic activity in the Louisiana coastal zone, by residence

Opinion Regarding Most Important Future Economic Activity	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Mineral extraction	36.3	28.6	34.1
Commercial fishing	14.7	33.8	20.1
Recreation	3.2	1.5	2.7
Shipping (water transportation)	7.9	6.7	7.6
Industry	2.1	0.7	1.7
Other activities	5.3	4.5	5.1
No opinion	30.5	24.2	28.7

the coastal zone seemed reluctant to specify any one activity as the most important, as evidenced by the distribution of their responses and the fact that more of them refused to express an opinion. Commercial fishing was felt to be the most important economic activity in the States' coastal zone by 25.1% of the respondents. Other activities ranked first by a substantial number of people were shipping (7.4%), miscellaneous other things (7.1%), and recreation (2.2%). One-fifth of the interviewees did not feel they had enough information to express an opinion.

When thinking about the future of the coastal zone, respondents tended to feel that present economic activities would continue to

hold their importance. However, it is of note that a considerably larger number of them, almost 30%, were unwilling to make a prediction. This was especially true of the persons living in the coastal area. There is little doubt that some of the current problems of the coastal zone, such as mineral and biological depletion and erosion, prompted local persons to be hesitant about prognostications for the future.

The knowledgeable interviewed were all aware of the major economic activities in the coastal region. Of interest is the fact that about half of them had some doubts about the future--their pessimism was based primarily on depletions of minerals. However, most of them felt that fishing, recreation, and agriculture had a good future.

LOUISIANIANS, IN A MAJORITY OF CASES, ARE CONVINCED THAT THE PEOPLE AND WAY OF LIFE ARE DIFFERENT IN THE COASTAL ZONE

There is, as pointed out previously, a distinct cultural uniqueness in the coastal zone of Louisiana. This distinctiveness is the result of three major influences--the early settlement of large numbers of French in the area, the predominance of Catholicism in the area, and the necessity to accommodate to the coastal ecosystem. Persons who travel through south Louisiana immediately become aware of the cultural practices which prevail there. It is not unusual to hear "Cajun" French spoken, the music tends toward French folk songs, and food habits lean toward spices and seafood dishes. Consequently, the perception of the people of the State regarding these important differences was considered worth determining.

Table 7 was prepared to show the responses received to the question relative to the people and way of life in the coastal zone. It can be seen that approximately 70% of all respondents were aware of differences between the people living in the coastal zone and the rest of Louisiana. It is not clear why three out of ten persons could see no difference between north and south Louisiana or failed to express an opinion on the matter. However, it seems safe to speculate that a certain number of persons did not wish to stress major differences among the citizens of the State. It is most revealing that one of every two persons living outside the coastal zone as compared with only one of every four persons living in the coastal zone cited a difference in people and way of life without elaborating. Coastal zone dwellers displayed a tendency to elaborate, no doubt because of a feeling of first-hand in-

Table 7. Interviewees' opinions regarding whether or not the people and way of life are different in the coastal zone, by residence.

Opinion Regarding Difference of People and Way of Life in Coastal Zone	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Different, no specific reason	25.0	52.3	32.7
Different because of culture & ethnicity	22.1	19.1	21.3
Different because of ways of making living	16.5	4.8	13.2
Different because of availability of services and facilities	2.2	1.0	1.9
Different because of hurricane and flood proneness	2.4	0	1.7
No difference	22.0	17.9	20.8
No opinion	9.8	5.1	8.4

volvement, in terms of the difference in ways of making a living in the two regions. People from this region also stressed cultural differences somewhat more frequently than people outside the region.

All but four of the influentials interviewed stressed that there were differences which set south Louisianians and north Louisianians apart. Again it must be conjectured that the four who said no differences existed were thinking in terms of the advantage of stressing homogeneity among the citizens of the State.

LOUISIANIANS ESPECIALLY LIKE THE OUTDOOR ACTIVITY POSSIBLE IN THE COASTAL ZONE AND ESPECIALLY DISLIKE THE FREQUENCY OF HURRICANES AND FLOODS

It was considered a fitting climax to the battery of questions designed to determine the perception of Louisianians to the coastal zone to ask what they especially liked or disliked about this region. Their responses were tabulated and are presented in Tables 8 and 9. Inspection of Table 8 shows immediately that the outdoor activity possible in the coastal region is especially attractive to the people of the State. This response focuses attention on the opportunities in the region to do such things as fish, crab, crawfish, and boat. It is not surprising that those living in the area were a bit more prone to cite such advantages than those living outside the coastal zone. It is also of importance that

Table 8. Interviewees' statement on what they especially like about living in the coastal zone, by residence

Statement of Likes	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Life style (easy going)	9.6	9.3	9.5
Outdoor activity climate	30.1	26.2	29.0
Industrial job opportunities	1.0	1.5	1.1
Low density of population	3.5	0.9	2.8
Friendliness of people	6.6	11.5	8.0
Other	8.2	10.6	8.9
Nothing especially liked	27.0	26.1	26.7
Not enough information to answer	14.1	13.8	14.0

a substantial number of respondents were impressed with the easy-going life (9.5%) and the friendliness of the people (8.0%) in south Louisiana. Of note is the fact that slightly over one-fourth of the interviewees in the two residence groups said they did not think of the coastal region in terms of a special life, and 14.0% did not feel they knew enough about the coastal area to render an opinion on the matter.

Table 9. Interviewees' statement on what they especially dislike about living in the coastal zone, by residence

Statement of Dislikes	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Hurricanes and floods	25.5	24.0	25.3
Too much water	8.2	8.8	8.4
Climate (mosquitoes)	8.5	10.0	8.9
Isolation	5.8	1.7	4.7
Other (pollution, no jobs, lack of facilities, etc.)	14.0	19.3	15.5
No dislikes	24.6	26.9	25.2
No knowledge or response	13.5	8.5	12.1

Hurricanes and floods tend to impress people, and it is apparent that the coastal zone is associated with these natural disasters. One-fourth of all the respondents named these occurrences as the thing they most disliked about the coastal zone. One has to speculate that the threat of hurricanes and floods is as well known outside the region as within, since there was little difference in the percentage of persons expressing concern about them in both regions. A relatively large number of persons reacted negatively to pollution and lack of opportunity and facilities in the coastal zone (15.5%) and to the large amount of water (8.4%) and number of mosquitoes (8.9%) there. However, almost two of every five persons had no special dislikes about the region or felt they did not have sufficient information to conjecture a response. This question was not asked the influentials interviewed.

Louisiana Citizens' Knowledge of and Attitudes Toward Coastal Zone Management and Development

The previous discussion highlighted the perception of the coastal zone held by citizens of the State. This part of the report is devoted to a description of study findings relative to the knowledge and attitudes of Louisianians regarding the development and management of the resources in the State's coastal zone. It is one thing to be aware in a general sort of way of an area and another to have specific information about its problems and potentials. This was the reason it was considered of importance to determine what Louisianians knew and felt about coastal zone problems and their development. Interviewees were asked several questions designed to determine as precisely as possible what they knew about coastal zone resources and the way they contemplated efforts or potential efforts to handle these resources. The findings from this part of the study should be of interest to persons charged with planning and development responsibilities for the State.

LOUISIANIANS PERCEIVE THAT LAND AND WATER IN THE COASTAL ZONE IS USED PRIMARILY FOR OIL AND GAS, FISHING, AND AGRICULTURE

The uses to which land and water in the coastal zone are put have already been identified. In order to determine the overriding impression which adults in Louisiana have of the resources of the State's coastal zone, each interviewee was asked to list what he considered the most important use of land and water in this area. The pattern of responses obtained is shown in Table 10. First, it is important that at least one out of every four persons in the State initially associates land and water use in the coastal zone with oil and gas production. Such a response is understandable and logical in terms of the mineral production in this region. It is also not surprising that approximately the same number of persons think of fishing first when contemplating the resources of the area. Such a reply no doubt reflects a knowledge of the large harvests of fish and shellfish each year.

Table 10. Interviewees' impression of how land and water are being used in the coastal zone, by residence

First Impression of Land and Water Use	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Agriculture	13.3	15.1	13.8
Oil & gas industry	27.8	21.6	26.0
Hunting & trapping	6.2	3.0	5.3
Fishing	21.6	32.3	24.6
Recreation	6.8	11.4	8.1
Residential	2.7	1.0	2.2
Other	6.2	2.2	5.1
No Knowledge	15.4	13.3	14.8

The third largest group of respondents (13.8%) indicated they thought of the agricultural activities initially when considering the resources and activities of the coastal zone. A sizeable number (8.1%) said their first impression of an important use of land and water was recreational activity, while a smaller but substantial number said that hunting and trapping came to their mind first when thinking of the use to which land and water were put. Some 5.1% of the respondents named miscellaneous other uses of land and water, including places for residence as coming to their mind, while the remainder of the respondents (14.8%) felt they did not have enough knowledge to answer the question.

A comparison of the responses of persons living in the coastal zone with those living elsewhere turns up some interesting differences in impressions regarding the use of land and water in coastal Louisiana. For example, relatively more persons living in coastal areas have the impression that oil and gas activity is the first use to which land and water is put. However, more persons living outside the coastal zone, relatively speaking, have the impression that fishing and recreation are the primary activities in this part of the State. These patterns of answers appear related to the experiences of individuals. Persons living in the coastal zone are more likely to be aware of the gas and oil activity there, while persons outside the zone tend to hear about and think of the fishing and recreational activities there. The influentials questioned tended to be more knowledgeable than the average citizens. Most of them were careful to

differentiate between the uses of land and the uses of water. They correctly identified the major uses of the land as agricultural (including trapping) and industrial activity. Water uses were also logically identified by all of this group as principally including fishing, recreation, and transportation.

THE MAJORITY OF LOUISIANIANS HAVE NO KNOWLEDGE OF COASTAL ZONE MANAGEMENT OR PLANNING

Questions relating to the management and development of coastal resources presume a knowledge of the concept of coastal zone management. For this reason it was considered critical to objectives of the investigation to determine the perception which residents of the State had of this term and of specific planning projects.

In a technical sense the concept of coastal zone management entails a thorough knowledge of the surface geology and ecosystem of the region. The dynamics of the area, the stresses it can bear, and its suitability for various types of uses must be known and respected if the viability and productivity of the natural system is to be preserved. The key to enlightened management is the establishment of guidelines, priorities, and policies which will optimize uses of the region to increase it's worth to the people of the area and the nation.

It was somewhat disheartening, but not too much of a surprise, to discover that as many as three-fifths of the adults in the State claimed to have no knowledge of what is meant by coastal zone management (see Table 11). Only about one-tenth of the informants gave answers indicating a fairly good notion of what "management" of such an area in a resource sense means. Outside the coastal area an even greater proportionate number of persons (two-thirds) expressed ignorance of the meaning of coastal zone management. The above responses indeed suggest the need for educational programs.

It is of note that over half of the influentials interviewed (17 out of 27) gave knowledgeable answers when asked what coastal zone management meant to them. The remainder were only vaguely aware or were completely ignorant of the meaning of the concept. All in all, there appears to be little knowledge about "coastal zone management," and what is known is not of a specific nature but rather is of a general imprecise nature.

Table 11. Interviewees' perception of the term "Coastal Zone Management," by residence

Perception of Coastal Zone Management (1st Thought)	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Conservation programs	8.9	6.6	8.3
Industrial-commercial development	1.7	0.5	1.3
Government control	5.2	5.8	5.4
Politics	2.7	5.7	3.5
Other*	23.9	13.6	21.0
No knowledge	57.6	67.8	60.5

*Includes all categories of responses which did not equal 1.0% of total. Examples of such responses are recreation development, wildlife and fisheries development, drainage programs, Coast Guard activity, and marshlands management.

LOUISIANIANS HAVE VERY LITTLE AWARENESS OF SPECIFIC COASTAL ZONE DEVELOPMENT PROJECTS

There are scores of so-called development projects going on continuously in the wetlands areas of Louisiana. Some of these projects deal with drainage, others with transportation, and still others with ports and industrial development. Beyond these there are always more or less local problems, such as the regulation of pollution and sewerage, the setting of hunting and trapping laws, and the control of urban development. Despite this important and continuous activity, only 17.2% of the total number of persons in the sample population had knowledge of specific development projects (see Table 12). Again, this finding appears incongruous with the fact that two-thirds of the respondents lived in the coastal zone. It is, no doubt, a commentary on how little notice people take of what is going on around them. As might be expected, there was a greater cognizance of development projects on the part of those living in the coastal zone than of those living in other parts of the State. Relatively speaking almost twice as many of the former (20.5%) as the latter (9.3%) could think of a development project.

As a follow-up to the above question, each respondent was asked to name a specific coastal zone development project. Their responses were tabulated and appear in Table 12. Inspection of this table shows oil industry development to be the most visible to the few people who were aware of development projects, although superport develop-

Table 12. Interviewees' knowledge of specific coastal zone development projects, by residence

Knowledge of Development Projects (1st response)	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Superport	1.2	2.0	1.5
Oil industry development	6.6	4.1	5.9
Anti-pollution projects	0.6	0.7	0.6
Residential development	2.9	0.2	2.1
Recreational development	2.8	0.2	2.1
Disaster protection programs	1.3	0.2	1.0
Road development	2.2	0	1.6
Other	2.9	1.5	2.5
No knowledge	79.5	90.9	82.8

ment, residential development, pollution programs, recreational programs, and road development were all mentioned. A considerably higher percentage of influentials than of citizens could name a development project (13 out of 27). However, this number is less than would have been expected, given their positions and locations.

LOUISIANIANS FEEL PLANNING EFFORTS IN THE STATE'S COASTAL ZONE LAG BEHIND SUCH EFFORTS IN OTHER STATES

There is no way, of course, to do more than subjectively evaluate the relative progress of planning efforts in individual states. However, it serves a purpose of determining the impressions which are held of the planning going on to ask for comparisons with other states. When asked to rate coastal zone planning efforts in Louisiana with those in other states, only 19.4% of the interviewees expressed the feeling that Louisiana was ahead of other states. This general pattern of pessimism (or realism) is further evidenced by the fact that over two-fifths of them (41.9%) felt that Louisiana was behind other states in its planning. Approximately one-fourth of the interviewees expressed the opinion that Louisiana was about equal with other states in terms of what was being done to plan for development in its coastal zone (see Table 13).

It is of some interest that relatively more persons who live in the coastal zone tend to be convinced that Louisiana is either ahead of or behind other states than do persons outside this zone. Noncoastal area

Table 13. Interviewees' opinions as to how Louisiana ranks with other states in terms of coastal zone planning, by residence

Opinion	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Ahead	21.0	15.1	19.4
Equal	22.9	26.5	23.9
Behind	45.3	33.4	41.9
No knowledge	10.8	25.0	14.8

residents, probably because of a lack of specific knowledge, were more likely to say the State is equal to others in this respect. In this regard, 14.8% of the total sample population did not respond to this question because of a professed lack of knowledge.

The above question was followed by a probe question designed to determine the reason for the interviewees' opinions. It is interesting that those persons feeling Louisiana was ahead of other states frequently backed their opinions with references to the oil and gas production capacity of the state. Those who felt Louisiana was behind other states tended to blame poor political leaders and inexperienced or inept planners. The influentials were not asked to respond to this question. Such a response hints of impressions and/or opinions gained from experience much broader than that related exclusively to coastal zone planning.

HALF OF ALL LOUISIANIANS ARE NOT CONSCIOUS OF THE PROBLEMS OF THE COASTAL ZONE

There are certain important problems which are more or less unique to coastal areas, especially when these areas are the scene of large scale mineral productivity. These problems include such things as land erosion, salt water intrusion, the consequences of the alteration of marshlands by construction projects, the silting of certain areas, pollution from various sources, recreational access problems, and conservation of wildlife species, among other things. When asked to list a single problem of the coastal zone, one of every two respondents could not do so (see Table 14). Those persons who did name a problem tended to select the two types of problems which are much in the news at the current time-- pollution and problems of the physical environment such as floods, erosion, and silting. Some awareness of other problems

Table 14. Interviewees' perception of the problems of the coastal zone, by residence

Perception of Problems (1st Response)	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Pollution	18.5	17.1	18.1
Deterioration of physical environment (flooding, silting, erosion)	12.1	19.7	14.2
Wildlife extinction	0.2	0	0.2
Economic problems (employment)	1.6	0.2	1.2
Oil drilling	3.9	3.7	3.9
Political-legal conflict	2.8	1.9	2.5
Depletion of natural resources	4.3	0.5	3.2
Other	7.5	7.8	7.6
No knowledge	49.0	49.2	49.1

such as depletion of natural resources, political interference, oil industry activity (such as destroying or polluting the marshes), and wildlife extinction were identified by a few persons. The pattern of responses indicates some difference in individual perception of problems between people living in and out of the coastal zone. However, approximately the same percentage of both groups of respondents indicated no knowledge of problems. The latter is an important discovery for those interested in planning for the coastal zone. If there is no awareness of problems, there will be no concern about certain issues.

The influentials studied were relatively more knowledgeable than the average citizen, but still displayed a rather impressive state of uninformedness. Out of the 27 persons interviewed, 7 did not identify a single problem.

LOUISIANIANS TEND TO FAVOR LEAVING COASTAL MARSHES AND WATERS RELATIVELY UNTOUCHED AND PRIMARILY USED FOR RECREATIONAL AND LIGHT INDUSTRY PURPOSES

As can be seen in Table 15, as many as 30% of the interviewees said their first choice would be to see the marshlands and coastal waters left untouched or restored to a natural condition. Such a feeling, of course, is in keeping with the thrust of most of the conservation and environmental

movements which are currently popular. It is interesting that this sentiment was expressed by relatively more persons living outside the coastal zone than living within it. This pattern of responses probably can be explained by the logical feeling of local residents that development would help them and their local area. Nevertheless, the wish of three out of ten Louisianians that the coastal zone be left in a natural state is significant for planners for this part of the State.

Table 15. Interviewees' preferences for development programs related to marshes and coastal waters, by residence

Marshes and Coastal Waters Should Be: (1st Choice)	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Left in natural condition	28.4	32.9	29.7
Restricted to recreational use such as sport fishing & hunting	18.4	18.7	18.5
Restricted to commercial fishing & trapping	7.8	6.7	7.5
Light industrial development	14.5	15.4	14.8
Heavy industrial development with extensive change in terrain	3.7	2.8	3.4
Drained for farming & residential use	16.8	11.2	15.2
No preference	10.3	12.2	10.8

Of those who expressed feeling that the coastal zone be developed in some way, the most often named projects were recreation and light industry. It can be seen in Table 15 that almost two out of five respondents wanted to see the zone developed for recreational fishing and hunting, while another 7.5% felt that it should be developed more for commercial fishing and trapping. These sentiments follow the perception which many persons have of the marshes and waters as producers of wildlife and fish.

One of the controversies which has marked planning in the coastal zone is apparent in the responses given by a number of respondents. About as many persons (14.8%) said they would like to see industrial development (principally light industry) as would like to see recreational development (18.5%). Only 3.4% of the individuals questioned said they would like

to see more heavy industry located in the coastal zone as a planning priority. Another sizeable group (15.6%) of the interviewees had a wish for more of the marshes to be converted to agricultural and residential uses.

The responses given to the above question tell a lot about what the people of the State see as the best use of coastal resources. It is evident that there is a diversity of views and interests. One fact of note is that some of the first development priorities listed do not coincide with environmentally sound management practices. This finding highlights a matter of utmost importance for future planning. Interestingly, less than half of the influentials interviewed, 12 out of 27, favored leaving coastal marshes and waterways untouched or restored to their natural conditions. Three others felt that commercial-industrial use should be restricted. The remainder of the group either expressed no opinion or favored industrial or residential development. This finding suggests that there is a mixed sentiment relative to planning for the area.

LOUISIANIANS ARE NOT OVERLY OPTIMISTIC ABOUT THE FUTURE OF THE COASTAL ZONE

The development of an area is often dependent on the optimism with which its residents and the people of the state view its future. For this reason interviewees were queried about the future they envisioned for the coastal zone. More persons (45.6%) were of the opinion that the zone would not change or would decline in the future than felt it would improve (41.5%). Another one out of eight of the interviewees (12.9%) was uncertain what would happen to the coastal zone (see Table 16).

When probed for the reason they felt the coastal zone would improve or not, respondents gave clues to the feelings popular among the citizens of the State. Those persons seeing hope in the future cited such things as an increasing awareness of the worth of the region, positive planning programs, increased government subsidies, and increased economic activity. The individuals who saw a bleak future brought up considerations of pollution, overpopulation, too much politics, and lack of progressive planning.

The influentials who were questioned were asked to react in more depth to the question of the future of the coastal zone than were the individuals in the statewide sample population. This decision was based on the important roles which the former

Table 16. Interviewees' feelings about the future of the coastal zone, by residence

Feeling That Coastal Zone Will:	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Improve	41.3	42.1	41.5
Not change	14.0	14.7	14.2
Decline	34.8	22.9	31.4
No knowledge	9.9	20.4	12.9

potentially can plan with regards to future programs. In this light, it is worthy of consideration that as many as 18 of the 27 influentials saw a good future for the coastal zone. Of the remaining nine, only six gave a definitely negative reply, with three persons not venturing an answer of any kind. It is relevant to note that, although the leaders who saw hope for the future were aware of problems such as mineral depletion, they still felt that other activities such as recreation and industry would replace the revenues lost. They also cited the economic advantages which a superport or like development would bring. Problems such as overcrowding and pollution were noted but

Table 17. Interviewees' feelings about whether or not land and water could be better used in coastal zone, by residence

Response and Suggestions	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
No	22.4	21.5	22.0
Yes, no specific suggestion	19.3	16.1	18.4
Yes, develop for agriculture and residential use	10.5	7.6	9.7
Yes, develop recreational uses	10.9	7.4	9.9
Yes, anti-pollution and conservation programs	11.1	11.1	11.1
Yes, increase industrial activity	2.9	2.0	2.6
Yes, improve transportation and ports	1.9	1.5	1.8
Yes, other reasons	5.4	9.0	6.4
No opinion	15.6	23.9	18.0

were put aside as current annoyances which could be overcome. One could not help but detect that their responses reflected hope for the future, although this might well be dependent on the right set of circumstances. In this regard it is pertinent to note that 59.9% of the statewide sample (see Table 17) and 80% of the influentials felt improvement could be made in the way land and water was used in the coastal area.

Louisiana Citizens' Feelings About Responsibility for Control and Development of Coastal Zone Resources

The third general class of attitudes which was considered of interest for planners and developers of the coastal zone was related to the levels and types of control which should be maintained over coastal zone resources. This general question involves important issues, such as whether or not private interests should prevail over public interests and under what conditions; whether support and control of projects and programs should be at the local, state, or federal government levels; and the extent to which there should be legislative intervention in the management and development of coastal resources.

Before reporting the findings pertinent to this section, it is necessary to provide the reader with certain background information. First, it should be understood that coastal zone management has been going on for a long time and at all levels of government: federal, state, and local.³ However, there has been minimal coordination of these activities and different agencies and personnel typically have dealt with control and management problems independent of one another and often in what might be termed a competitive manner. Traditionally, coastal zone management activities have not been guided by long-term multi-resource development objectives. Rather, projects have been focused on a single resource, such as fish or oil production, and have planned in terms of short-term goals. It is not surprising that this type of planning approach opened the door for private individuals and groups and single resource public agencies to influence decisions in terms of short-term narrow interests.

³For a comprehensive review of state government activity in the coastal zone, see:

Louisiana Advisory Commission on Coastal and Marine Resources. 1972. Louisiana Government and the Coastal Zone - 1972. Baton Rouge.

The second understanding which the reader should have is that all levels of government (local, state, and federal), as well as private interests, have a legitimate and needed contribution to make to coastal zone management. The question is how to achieve a cooperative and coordinated approach to the most efficient and productive overall management program. The Coastal Zone Management Act of 1972 had orderly and enlightened development of coastal areas in mind and was designed to assist states in developing comprehensive management programs through a grant procedure. The State Legislature of Louisiana has also been cognizant of the need for a comprehensive coastal management plan. Act 35 of 1971 established the Louisiana Advisory Commission on Coastal and Marine Resources. This Commission produced some important documents and otherwise set the stage for long-term comprehensive planning. However, to date, the citizens of the State have not been actively involved in such planning efforts. The specific questions treated in this section were designed to determine how broad issues of planning and control were seen by the people of the State.

THERE IS A STRONG SENTIMENT AMONG LOUISIANIANS FOR OWNER CONTROL OF PRIVATELY HELD LANDS

Each interviewee was asked two questions relating to private control of land. These were: "Do you think a property owner has the right to permanently alter his property even though it may lower the value of the land to the public?" and "Should there be any restrictions on a property owner?" In interpreting the responses to these questions, it must be remembered that the nature of wetland resources are such that broad overall management practices must be followed to produce the greatest societal benefits. This often cannot be done without imposing certain types of restrictions on individual owners. It is thus of importance to planners to know what the feelings of the general populace are relative to the rights and privileges of land owners. The sacredness of the rights of owners is, of course, a deeply imbedded value in United States society.

It is not surprising, in light of the value identified above, to find that as many as 47.7% of the people questioned felt that an owner should be able to do anything he wished with his property. The fact that only 16.8% of the interviewees expressed the opinion that an owner should

not do anything with his property which would be harmful to or conflict with public interests is most enlightening. Only 6.7% of the interviewees did not express an opinion on the private property issue, indicating that feelings run strong on this question (see Table 18).

Table 18. Interviewees' opinion regarding the right of property owners to permanently alter their property although the value of land to public may be decreased, by residence

Owner May:	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Do anything he wishes	49.2	44.1	47.7
Do anything which does not interfere with neighbors	7.7	11.5	8.8
Not do anything to destroy property	17.9	17.9	17.9
Not do anything harmful to public	17.0	16.5	16.8
Other	2.6	0.7	2.0
No opinion	5.7	9.2	6.7

The implications of the findings relative to the above question appear quite clear. Anytime it is necessary to acquire ownership or use of privately held property for development programs, there is a possibility that owners will not agree with the goals or objectives of the project and, therefore, will decide not to cooperate. The responses obtained indicate a substantial number of people will consider the owners decision and right inviolate. This is an eventuality that should be understood and planned for by those who wish to implement coastal zone program.

LOUISIANIANS ARE DIVIDED IN THEIR FEELINGS ABOUT RESPONSIBILITY FOR DECISIONS RELATIVE TO THE MANAGEMENT OF COASTAL ZONE RESOURCES, BUT EMPHATICALLY REJECT A FEDERAL GOVERNMENT ROLE

Each interviewee was asked, "Who do you think should make the major decisions about the coastal areas, local, state, or federal agencies?" The answers to this question were coded in such a way as to indicate multiple as well as single responses, i.e., a person might name a combination of local, state, and federal government agencies in his response.

At this point it is well to remind the reader that many projects, by their nature, are promoted, planned, funded, and constructed by government agencies, state and federal. These include such things as channel deepening and widening, drainage projects, and flood protection devices. State governments usually have more or less exclusive control over licensing, limits, and seasons, and the federal government has broad responsibilities in flood control, navigation, and environmental matters. Other endeavors, such as industrial development, residential development, and land clearance, are primarily private undertakings. Local governments are concerned with improvements in water and sewerage supplies and the like. There is thus a mandate for and obviously a need for all levels of government and private interests to participate in coastal zone planning and management. The findings which follow should be interpreted in this light.

The largest number of respondents expressed the opinion that state agencies should take sole responsibility for all major decisions relating to the development of the coastal area (see Table 19). However, a sizeable number of individuals, 14.7%, were of the notion that local government units should have decision making prerogatives over areas under their jurisdiction. In keeping with the views held about private property, 15.6% of the interviewees felt that individual owners should make major decisions, presumably relating

Table 19. Interviewees' opinions regarding who should make the major decisions about the coastal zone, by residence

Decisions Should Be Made By:	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Individuals	13.2	14.8	13.6
Local government	13.0	17.1	14.1
Parish and state government	3.3	4.9	3.7
State government	28.9	34.4	30.5
State and federal government	5.7	2.8	4.8
Federal government only	6.7	7.2	6.8
Equal local, state, and federal government	1.3	0.9	1.2
Other	19.4	6.0	15.6
No opinion	8.6	11.9	9.5

to their holdings. Only 6.8% of the persons interviewed thought the federal government should have control over development programs in the coastal areas. Fewer numbers (less than 5%) of the respondents named some combination of government agency control as the best for the coastal zone. The above pattern of responses is indicative of a general climate of opinion with regards to the participation of the government agencies in local area development.

The finding that the residents of the State have a distrust of the federal government is not new. It does, however, indicate that many people fail to understand the facts of life in coastal zone development. This is one type of problem which has to be understood by those interested in development of the coastal zone. When federal funds are necessary for a project but are tied to some control over the project, as is the usual case, the project may not receive enough local support to make it feasible.

The influentials questioned probably have what would be interpreted as a politically pragmatic view of how decisions are made relative to development projects. When quizzed for their opinion on who should make major decisions relative to coastal zone development, about half of those interviewed suggested private owners. One-third of them felt local governments should have the most important voice and a similar number saw the state government as having the more important planning role. Only about 5 influentials felt the federal government had or should have a major hand in such activity.

LOUISIANIANS TEND TO HAVE POSITIVE OR NEUTRAL FEELINGS ABOUT LEGISLATIVE PROPOSALS DESIGNED TO MANAGE THE COASTAL ZONE

It appears from the pattern of responses received from citizens as well as influentials that the role of legislatures in initiating action relative to the management of coastal resources was not very well understood. Most individuals appeared to think in terms of specific local projects and not in terms of comprehensive programs. Nevertheless, it is most revealing to discover sentiments relative to the appropriateness of legislative initiation of coastal zone projects. Although this was not specifically intended or stated, there appears to be a presumption on the part of interviewees that reference was primarily to the State Legislature. Apparently there was a further feeling that any measure

passed by the State Legislature would likely be in keeping with the wishes and interests of Louisiana's people. There is also the probability that citizens of the State realize that laws are more likely to elicit or prevent action in keeping with development programs.

Over two-fifths (43.5%) of the respondents expressed the belief that legislatures were an appropriate agency for planning for the coastal zone. By contrast, one-fifth (19.2%) of the interviewees disapproved of such legislative proposals. Remarks made suggest a feeling that control of these resources would best be invested to private hands or to governmental agencies operating at local levels (see Table 20).

Probably the most revealing finding relative to the above question is the fact that 37.3% of the people of the State actually had no specific view on what procedure would be best for setting and maintaining management programs for coastal areas. This group of persons seemed to be reluctant to state an opinion without procuring the facts relative to type of program, etc. The latter, of course, is an understandable caution. There was not a great deal of difference between the pattern of responses of the coastal area dwellers and non-dwellers on this question. However, the latter are slightly more prone to answer that they did not know what approach would be best.

Table 20. Interviewees' feelings about legislative proposals designed to initiate action relative to the management of coastal zone resources, by residence

Legislature Should:	Residents of Coastal Zone (N=662)	Residents Outside of Coastal Zone (N=264)	Total State Sample (N=926)
	(%)	(%)	(%)
Assume this function	44.3	41.6	43.5
Not assume this function	19.7	17.9	19.2
No specific view	35.9	40.5	37.3

Relation of Selected Socio-Personal Characteristics of Louisianians to Their Concepts of Coastal Zone Problems and Management

The preceding discussion was designed to give a general picture with regards to the knowledge and attitudes of Louisianians relative to the State's coastal zone. Because there are always segments of a population who are more knowledgeable than others and who have what might be called more enlightened views, the age, education, income, race, and place of residence of interviewees were related to their responses to two important queries: 1) "What comes to mind when coastal zone management is mentioned?" and 2) "Have you heard any discussion of problems of the coastal areas?" The findings from this part of the analysis are discussed below.

Before presenting the findings which apply to this section, it is appropriate to remind the reader that the coastal zone issue has been before the people of the State for some time. One indication of this fact is the active involvement of the Louisiana Wildlife and Fisheries Commission in coastal zone resources management since the early 1950's. Another is the establishment of a Sea Grant program at LSU in 1968. Under this program, University personnel have been active in research, education, and advisory services related to the use of coastal and marine resources. The knowledge and technology created by the Sea Grant program has not only resulted in advances in the development of the zone but has received considerable publicity as well.

Another indicator of the publicity which the coastal zone has received within recent years was the appointment of the previously mentioned Joint Legislative Committee on Environmental Quality (in 1970). This committee held hearings from 1970 to 1971 in which representatives of the Sea Grant program participated. As a result of these hearings, a bill was introduced to the State Legislature and passed as Act 35 of 1971. This act set up a Board of Nine Commissioners who were charged with studying "...the interest and role of the State of Louisiana in the orderly, long

range conservation and development of the State's coastal zone."

The publicity of the above events and the continuing news releases on the activities of the Louisiana Advisory Commission on Coastal and Marine Resources has put the issues relating to the coastal zone before the eyes of the Louisiana public at frequent intervals within recent times. Other matters, such as proposals for the superport, tidelands ownership, floods, hurricanes, and pollution effects on oysters and pelicans have also been more or less continuously in the news. Given this fact, it is relevant to planners and developers of the coastal zone to know what persons, among the total populace, have become more aware and concerned with the problems and potentials of this area.

Before reporting the findings of the study made, it serves a purpose of background information to note that demographic and socio-economic variables have been found to correlate rather closely with a concern for the environment. For example, Dillman and Christenson did a study of pollution control and found that respondents with higher levels of formal education placed more value on such controls.⁴ McEvoy found that both education and income were closely related to a concern for environmental problems in a study conducted in 1972.⁵ Age has also been found related to knowledge about conservation and other environmental problems as has been residence.⁶ The findings of this study along these lines are described below.

⁴Dillman, D. A., and J. A. Christenson. 1972. The Public Value for Pollution Control. In W. R. Burch, Jr., N. H. Cheek, Jr., and L. M. Taylor (eds.), Social Behavior, Natural Resources, and the Environment. New York, Harper & Row.

⁵McEvoy, James, III. 1972. The American Concern with Environment. In William R. Burch, Jr. (ed.), Social Behavior, Natural Resources, and the Environment. New York, Harper & Row.

⁶See: Hetrick, C. C., C. J. Lieberman, and D. R. Ranish. 1974. Public Opinion and the Environment: Ecology, the Coastal Zone, and Public Policy. Coastal Zone Management J. 1(3).

Hendee, J. C., W. R. Cotton, Jr., L. Marlowe, and C. F. Brockman. 1968. Wilderness Users in the Pacific Northwest-- Their Characteristic Values and Management Preferences. U.S. Dept. of Agri., Forest Serv. Res. Paper PNW-61, Wash., D.C.

YOUNGER PERSONS ARE MORE KNOWLEDGEABLE ABOUT COASTAL ZONE MANAGEMENT AND PROBLEMS

It was reported in an earlier section that there is a great lack of knowledge in the state about coastal management and coastal zone problems. However, it was not determined if there were differences in age groups in this respect. It is a common notion that younger people are more concerned about conservation, pollution, and other environmental issues. However, there is very little evidence that younger persons are more knowledgeable or concerned than older persons with respect to such problems. To shed light on this question, the answers of interviewees were tabulated by age groups (see Table 21). It was felt that 10-year intervals would provide a wide enough age span to detect noticeable trends.

An inspection of Table 21 makes it clear that age does relate to knowledge about the management aspects and problems of coastal areas. Although more people in the State appear to be ignorant of the concept of coastal zone management than of coastal zone problems, there is a direct association of age-group with percent of "Don't Know" responses to these two questions. As can be seen, just over half of the persons less than 24 years of age had no idea what coastal zone management meant. By contrast almost three-fourths of the persons 65 years of age and over acknowledged complete ignorance on this point.

Of the people who identified coastal zone management with some sort of activity, four responses tended to be repeated. However, the various age groups emphasized different activities. The youngest group (below 24 years) emphasized conservation and environmental type activities, as might be expected. Those persons in the next three 10-year age groups (24-35, 35-44, 45-54) tended to name conservation and environmental activities and political activities with about the same frequency. Again, one would expect this group to have more awareness of political influence. There is thus indication that age influences both knowledge and specific interpretation relative to coastal zone management. It is perhaps as important as any other finding that the largest percentage of all age groups indicating a knowledge of coastal zone management had varied notions and were classified in the residual category of "other" activity responses.

With respect to knowledge of coastal zone problems, again it should be noted that there was a high incidence of admitted ignorance. However, younger persons were not as likely to say they had no idea of the nature of such problems as were older persons. Also, the former were more likely to identify coastal zone problems of harm to the physical environment, such as erosion of land or sedimentation. By contrast older persons, aware of such problems, were more likely to identify wildlife and industrial waste problems than were younger persons.

All in all, it is possible to say that

age bears a definite relationship to what people know about managing the problems of the coastal zone. Younger people are more knowledgeable and appear more concerned than do older persons.

THE HIGHER THE EDUCATIONAL LEVEL OF LOUISIANIANS, THE MORE KNOWLEDGEABLE THEY ARE ABOUT COASTAL ZONE MANAGEMENT AND PROBLEMS

It is not surprising that formal education correlates with knowledge, but it is always enlightening to determine that such a relationship exists in a particular

Table 21. Interviewees' concept of coastal zone management and problems, by age group

Concept of:	Age Group (years) N=924					
	Less than 24 (N=103)	24-35 (N=196)	35-44 (N=160)	45-54 (N=137)	55-64 (N=155)	65 and Up (N=175)
	(%)	(%)	(%)	(%)	(%)	(%)
<u>Coastal Zone Management:</u>						
Conservation	13	7	7	12	8	6
Industry	2	1	2	0	1	2
Political	3	9	8	8	1	4
Recreational	1	5	2	4	1	2
Other	29	20	35	22	15	14
Don't Know	53	59	47	54	74	73
<u>Coastal Zone Problems:</u>						
Physical environment	38	21	18	17	11	10
Wildlife	7	19	15	12	15	16
Superport & oil drilling	0	0	0	1	0	0
Economic problems	2	1	2	0	1	2
Tideland rights	3	7	4	5	1	3
Transportation	0	4	5	1	2	2
Regional conflict	4	5	2	3	3	3
Industrial waste & sewage	6	6	11	11	8	5
Don't know	40	38	44	51	59	60

Table 22. Interviewees' concept of coastal zone management and problems, by educational group

Concept of:	Professional (MA, MS, PhD) (N=57)	Four Year College Graduate (N=102)	1-3 Years College (N=159)	High School Graduate (N=211)	10-11 Years of School (N=115)	7-9 Years of School (N=131)	4-6 Years of School (N=73)	Under 3 Years of School (N=65)
<u>Coastal Zone Management:</u>	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Conservation	18	16	13	6	7	3	0	7
Industry	4	0	1	2	2	0	3	0
Political	12	10	11	5	2	1	3	0
Recreational	1	4	6	3	0	2	0	0
Other	35	30	27	19	22	16	16	9
Don't know	30	41	42	65	68	79	77	85
<u>Coastal Zone Problems:</u>								
Physical environment	27	26	28	22	9	5	6	7
Wildlife	21	19	9	18	9	14	19	11
Superport & oil drilling	0	0	1	0	0	0	0	0
Economic problems	0	1	0	1	1	2	1	4
Tideland rights	8	8	5	3	7	1	0	0
Transportation	8	5	4	2	2	0	0	0
Regional conflict	6	3	7	4	2	3	0	0
Industrial waste & sewage	9	7	14	6	5	6	8	4
Don't know	22	31	34	43	64	69	66	75

Note: Thirteen persons did not report their level of formal education.

instance. As can be seen in Table 22, the percentage of persons admitting ignorance about coastal zone management and problems increases rather sharply as formal education attainment decreases. Only three out of ten persons with professional educational degrees did not have an understanding of coastal zone management, but 85% of the persons with less than 3 years of schooling admitted they did not understand the concept. In terms of recognizing coastal zone problems the pattern is the same. Four of every five persons with a professional degree indicated familiarity with this subject, but two-thirds of the persons with less than 10 years of formal education were uninformed on the subject. The fact that level of knowledge of respondents increased consistently with formal educational attainment is noteworthy.

Table 22 was prepared to show specific types of responses by educational group. A scrutiny of this table indicates that the more highly educated individuals--the ones who are knowledgeable about the coastal zone--tend to associate management problems with conservation, wildlife, and political issues. Those persons with less than a high school education think more in terms of miscellaneous other issues.

LOUISIANIANS WITH THE LOWEST INCOMES ARE LEAST KNOWLEDGEABLE ABOUT COASTAL ZONE MANAGEMENT AND COASTAL ZONE PROBLEMS

Table 23 was prepared to show the association of income with knowledge of the concept of coastal zone management and of coastal zone problems. As anticipated, there was a direct correlation between income and knowledge. Of those persons reporting an annual income of less than \$4,000, three out of four had no experience with the term coastal management, and two out of three could not identify any special coastal zone problem. The interviewees who reported earning \$16,000 or more annually were somewhat more knowledgeable. Fifty-seven percent of them could explain coastal zone management in some manner, and only 27% could not name a problem of the coastal zone.

A study of Table 23 discloses some interesting patterns of responses. The largest number of persons in all income classes cited miscellaneous concerns as equated with coastal zone management in their minds. Of course, conservation, political, industrial, and recreational concerns were named by some persons in almost every group, but not to the extent

which might be expected.

With regard to problems, the most frequent type mentioned, regardless of income, was wildlife. This response no doubt is related to concerns about the obvious decrease of some species and the matters of seasons and limits, which affect the commercial as well as the sport activity related to wildlife. It is also worthy of note that those persons with higher incomes seem to be more interested in problems of the physical environment. Perhaps they have more sophistication about such matters as erosion or sedimentation of coastal areas or perhaps they have more direct economic involvement with such problems.

**BLACKS ARE NOT AS WELL ACQUAINTED
WITH COASTAL ZONE MANAGEMENT
PROBLEMS AS WHITES**

It was considered of some importance to determine whether or not there were differences in knowledgeability about the coastal zone between blacks and whites. Since the percentage of black residents is not as great in the rural coastal parishes as it is in some other parts of the State, it could be expected that they would not be as aware of problems of management. Nevertheless, it is worthy of note that two-thirds of the black respondents as contrasted to 58.4% of the white respondents professed ignorance of the concept of

Table 23. Interviewees' concept of coastal zone management and problems, by income group

Concept of:	Income Levels (annual)				
	Less than \$4,000 (N=219)	\$4,000-\$7,999 (N=189)	\$8,000-\$11,999 (N=188)	\$12,000-\$15,999 (N=95)	\$16,000 and Up (N=170)
	(%)	(%)	(%)	(%)	(%)
Coastal Zone Management:					
Conservation	5	9	7	10	12
Industry	1	0	2	2	2
Political	1	4	4	13	12
Recreational	2	2	1	5	5
Other	16	20	24	22	28
Don't know	75	64	61	49	43
Coastal Zone Problems:					
Physical environment	6	17	20	26	26
Wildlife	15	10	17	14	17
Superport & oil drilling	0	0	0	1	0
Economic problems	3	2	0	0	0
Tideland rights	1	4	2	13	4
Transportation	1	4	2	2	3
Regional conflict	2	3	2	6	5
Industrial waste & sewage	5	5	10	1	17
Don't Know	67	55	46	36	27

coastal zone management. Fewer numbers (58.5% of the blacks and 45.0% of the whites) said they could not identify a problem of this area. In each of the above instances, the relative preponderance of blacks is not exceptionally great, but is large enough to suggest a need for working with black citizens on programs related to the coastal zone. The specific percentages of each racial group responding in various ways to the above questions is shown in Table 24.

Table 24. Interviewees' concept of coastal zone management and problems, by race

Perception of:	White (N=641)	Black (N=268)
	(%)	(%)
Coastal Zone Management		
Conservation	9.3	6.6
Industry	1.4	1.3
Political	10.5	2.8
Recreational	0.2	0.1
Other	20.1	22.6
Don't know	58.4	66.6
Coastal Zone Problems		
Physical environment	19.0	14.0
Wildlife	11.5	17.2
Superport & oil drilling	0.3	0
Economic problems	1.2	1.3
Tideland rights	5.3	0.5
Transportation	3.4	0.9
Regional conflict	4.4	0.9
Industrial waste & sewage	7.9	6.8
Don't know	45.0	58.5

URBANITES ARE MORE KNOWLEDGEABLE ABOUT COASTAL ZONE MANAGEMENT THAN RURALITES

Place of residence is a variable which often accounts for differences in attitudes and interests. For this reason, an effort was made to determine if persons living in rural areas, town and smaller cities, and metropolitan areas could be differentiated on the basis of their knowledge about coastal zone management and problems. The data obtained is presented in Table 25.

Perusal of Table 25 immediately makes one fact clear, rural persons are not as knowledgeable about the concept of coastal zone management as are persons in large urban centers. Individuals living in towns and smaller cities appear somewhat more knowledgeable than rural residents but are

Table 25. Interviewees' concept of coastal zone management and problems, by place of residence

Concept of:	Place of Residence		
	Rural (N=163)	Inc. Places** (N=143)	SMSA*** (N=620)
	(%)	(%)	(%)
Coastal Zone Management			
Conservation	3.4	2.6	11.9
Industry	1.3	0	1.7
Political	4.9	12.1	9.6
Recreational	0	0	0.3
Other	16.3	17.6	23.6
Don't know	74.1	67.8	53.0
Coastal Zone Problems			
Physical environment	14.7	15.8	20.1
Wildlife	24.0	7.2	12.6
Superport & oil drilling	0	0	0.3
Economic problems	2.0	1.6	0.8
Tideland rights	1.3	1.8	5.5
Transportation	2.0	3.4	2.5
Regional conflict	1.3	1.2	4.5
Industrial waste and pollution	3.3	13.5	7.4
Don't know	51.3	55.4	46.3

* Includes persons living on farms, in the open country but not on farms, and in places of 2,500 or fewer people.

** Includes all towns and cities over 2,500 population, but not qualifying as an SMSA.

*** Includes parishes qualifying as an SMSA (having a population center of at least 50,000 persons).

considerably less knowledgeable than residents of the larger cities. In a specific sense, whereas three out of every four rural dwellers expressed complete ignorance on coastal management activity, only one of every two persons living in an SMSA (greater than 50,000 population) gave such a response. Residents of towns and smaller cities said they didn't know what coastal management implied in approximately two out of three cases.

Interestingly, although persons living in SMSA's appeared somewhat more informed about coastal zone problems than rural dwellers, the difference was not great. In fact, more persons from towns and smaller cities than from rural areas or SMSA's could not identify a single such problem. Of those persons identifying coastal area problems, there appear to be concerns which are definitely associated with place of residence. Individuals in the large urban centers apparently are more prone than ruralites to think in terms of deterioration of the physical environment, tideland problems, and conflict with other parts of

the State when identifying coastal zone problems. Ruralites, in contrast, stress wildlife problems more often than large city dwellers. Persons living in urban places not qualifying as SMSA's point to industrial waste and sewerage problems more often than either of the other two residence groups.

All in all, there is clear evidence that the younger, the more highly educated, the more affluent, the white, and the residents of metropolitan areas tend to be more knowledgeable about coastal zone management and issues. This finding is in keeping with the conclusions of studies done elsewhere. It provides those persons in decision-making roles with clues as to what level and to what audience educational programs should be developed and planned.

Summary and Implications

The Louisiana coastal zone is broadly defined as including the area south of U.S. Highway 190, which traverses the State from west to east. This zone encompasses vast meadows of fresh and salt water marshes and has a prolific biological productivity. It is also rich in subsurface minerals. The State has benefited and continues to benefit immensely in an economic and recreational sense from this tremendously dynamic and productive ecosystem. However, the system is quite fragile in that the delicate balance of life which must be maintained to support the millions of dollars of wildlife harvested each year can be easily disturbed. The necessity for the practice of wise "husbandry" of such an area is obvious.

The inspiration for the study reported in this bulletin was derived from the urgent need for a comprehensive program for the development and utilization of the resources in the Louisiana coastal zone. This need has been recognized at the State and Federal Legislative levels, as witnessed by various statutes, but it has not become a matter of overriding concern among the citizens of the State. It was conjectured that a lack of first hand knowledge accounted for the lack of enthusiasm about coastal zone resources and programs.

This conjecture in turn suggested that programs of information would serve to acquaint people with the vast worth of their coastal wetlands area and would motivate them to demand comprehensive planning and development programs. However, there was no available evidence to suggest the knowledge of or feelings and opinions about the coastal zone of the people of the State. This type of information is, of course, necessary for planning educational programs. The objective of the study conducted was thus to provide factual information regarding what the people of the State knew and felt about the coastal region.

Research procedures included two types of field surveys. The first was the in-

depth interview of a sample of influential and/or knowledgeable persons living in the coastal parishes. The persons interviewed were chosen because they held certain offices, such as mayors or ministers, or represented leaders in certain community activities, such as bankers or newspaper owners/editors. Twenty-seven such influentials were interviewed. The second survey was designed to reach a representative sample of adult citizens in the State. Altogether 926 persons were personally interviewed and asked key questions about the coastal zone.

The first battery of questions was prepared to determine the Louisiana citizens' perception of the coastal zone. In brief, it was discovered that the zone was likely to be perceived in terms of marshes, water, and coastline but that very little notion of the total area included was present. There was a general idea of the worth of the coastal zone area, but very little knowledge of the specific economic productivity of a given area. The people of the State recognized that the culture, that is, the way people speak and act and the way they earn a livelihood, is different from that outside the coastal zone. However, they are not sure what significance this has. Finally, in terms of their impressions, Louisianians like the outdoor activity possible in coastal areas, but dislike the frequency of floods and hurricanes there.

A second battery of questions was designed to provide information on what Louisianians knew about programs of management and development in the coastal zone and what preferences they had along this line. Very few persons had specific knowledge of management problems or development programs, but they were aware of the worth of lands and water and knew some sort of programs had to be initiated to maintain the biological and mineral productivity of the region. Citizens of the State did not seem to have great faith in their public officials as evidenced by the fact that a considerable number of them did not think Louisiana ranked as well as other states in the utilization of its coastal resources. In this regard, the persons interviewed were not overly optimistic about the future development of the coastal area. Although the people of the State do seem especially conscious of the specific problems of the coastal area, they have a relatively strong feeling that the area has an environmental value to preserve. This explained why a considerable number of them wanted as much of the area left in a natural state as

possible.

The last set of questions asked of respondents was prepared to shed light on the feelings of citizens with regard to who should have the responsibility for planning in the region. The finding that citizens preferred minimal federal government participation was consistent with a prevailing viewpoint that private owners should have the right to use their holdings as they see fit. Interestingly there was little objection to legislative initiative in originating development programs, especially the State Legislature.

Finally, it was determined that certain characteristics of individuals served as rather reliable indicators of their knowledge and opinions about the coastal zone. Those persons who lived in the coastal zone, who were younger, who were better educated, who had higher incomes, who were white, and who lived in metropolitan areas tended to be better informed and more concerned about coastal zone management problems.

The major conclusions to be derived from study findings are rather obvious. It is clear that the people of Louisiana, in general, are aware of coastal zone resources and how they are managed, but only in a vague and imprecise sort of way. There is, however, a rather definite impression that the coastal zone is a unique area and that it represents an important asset to the State. At the same time, there is a rather pessimistic view relative to the future development of the region. The role of the federal government seems to be least understood and appreciated, while the rights of private owners are highly respected.

Two important implications may be derived from the above conclusions. First, the responses given by respondents explain the lack of concern and even apathy with which coastal zone problems have been considered in the past. Individuals who lack both a specific knowledge of and full appreciation for the resources in the coastal zone cannot be expected to demand or support comprehensive planning and development programs for this area. The second implication is derived from the first. Since there is an obvious need for the inauguration of rather large-scale programs of information and education, study findings indicate that certain types of information and educational strategies must be stressed. Among other things, instructional units for primary and secondary school students could be prepared, mass media public service messages could be

developed and public forums could be presented. Problems related to planning and development should be treated in detail as should roles which government agencies, local, state, and federal, should and can play in the attack on these problems. Finally, attention should be given to a comprehensive planning and development effort, one which will conceive of the coastal zone as an entity and which will stress private and corporate uses consistent with overall benefits to the state and nation. In planning educational programs of the above type, target audiences should include as many as possible of those identified as influentials or opinion leaders. These persons could then be expected to counsel and advise those least knowledgeable on coastal zone matters, namely the older, the least educated, the lower income, the black, and the non-coastal residents. There is one inescapable implication of the study. Unless the people of the State become better informed about the coastal zone and back a large-scale planning and development program in the reasonably near future, the State will lose a large part of the future benefits of one of its most productive areas.

Appendix

SAMPLING PROCEDURE FOR STATEWIDE SAMPLE OF LOUISIANA CITIZENS

A disproportional six-stage stratified, cluster, random, quota sample was selected as the appropriate sample design for the statewide survey planned. The first step in the generation of the sample was the stratification of the eight planning districts designated by the Louisiana State Planning Office according to degree of urbanization, ethnic composition, educational level, distance from the coast, topography, and distance from the Baton Rouge Campus of Louisiana State University. On the basis of this procedure, four planning districts were selected as sample areas, three from the southern region of the State and one from the northern region of the State.

The second step in the selection of the sample population consisted of identifying parishes within the four planning districts that met certain criteria. The most urbanized and rural parishes were arbitrarily selected to provide a broad range of views in each area.

Step three consisted of selecting sampling units within the four urban and four rural parishes which had been chosen. A different method was used to randomly select units in urban, incorporated, and rural areas. In urban areas, census tracts were stratified on the basis of the typical income of residents and then randomly selected from all towns designated by the census as incorporated. Wards (minor civil divisions) were the basic units used in sampling in rural areas, excluding the incorporated towns within wards.

The fourth step in the methodological procedure involved the systematic selection of dwelling units in each urban, incorporated, or rural area. In rural areas, state highway maps showing dwelling units were used as a basis for designating clusters of six to eight housing units that were

geographically grouped together. Each cluster was given an individual number, then using a table of random numbers, clusters were selected with alternatives.

Dwelling places within each of the blocks, units (incorporated), and clusters selected were randomly selected. The interviewer, using a table of random numbers, selected a predetermined number of houses in each city block. A similar procedure was used to select individual dwelling units in incorporated places and rural areas.

The sixth step, after the interviewer had randomly selected dwelling units, involved the setting of quotas for male and female respondents with the understanding

that only heads of households or spouses were to be interviewed. To ensure a sufficient number of male respondents, interviews were scheduled between 2 p.m. and 8 p.m. since working persons would more likely be at home after 5 p.m.

The interview instrument developed consisted of 32 questions, about half of which were open-ended, and required from 35 to 50 minutes to administer. A pretest was conducted in parishes that had not been selected in the sample.

The active field survey was conducted from mid-July 1974 to November 1974. Recognizing the possibility of interviewer bias, black interviewers were employed and sent to predominantly black areas.