

# THE HUMAN DIMENSION OF COASTAL ZONE DEVELOPMENT

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# The Human Dimension Of Coastal Zone Development

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## Introduction

This is a time of grave concern over the proper development of our natural resources. The research reported in this bulletin was undertaken in an attempt to develop a greater understanding of the social factors which need to be considered in the formulation of programs and policies for the conservation and management of coastal regions. It is the first phase of an overall project planned to provide background information about residents of coastal areas and the feelings and attitudes of the people of Louisiana about these areas.<sup>1</sup>

Three broad classes of data were researched and 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 was obtained to provide 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 was collected with the idea in mind of providing a picture of the recreation activities and potentials of this part of the state.

It is hoped that the findings reported will be useful to local planners and to representatives of state and federal agencies seeking to formulate plans for the long range, orderly conservation and development of Louisiana's coastal area.

## The Louisiana Coastal Zone: A Definition

The Louisiana coastal zone, by any definition, is a unique area of variety and constant change. It is also characterized by prolific biological production. However, it has an indistinct physical character which makes it difficult to delineate a precise boundary between coastal and noncoastal regions. The definitions of the coastal zone which have been attempted

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<sup>1</sup>The second phase, which is underway and will be reported later, is a study of local influentials. It is designed to determine the knowledge and attitudes of local persons toward coastal zone management and wetland resource development. The third phase of the overall study will be undertaken later. It will be devoted to a determination of the level of knowledge and attitudes of a statewide sample of citizens.

have tended to vary with the purposes and interpretations of writers and researchers. Generally, the coastal zone has been defined as an area with transitional rather than specific boundaries.<sup>2</sup>

A transitional boundary could not be accepted for this study for two major reasons. First, data of the type sought are normally reported on a parish (county) basis; second, decisions related to coastal zone management are implemented ultimately within the framework of local political units. It was for these reasons that an independent delineation of the Louisiana coastal zone was made and used.

In working out a delineation of the coastal zone of Louisiana, the first step was to determine what physical features could be used as acceptable indicators of such an area. It was discovered, after a review of literature, that there was widespread consensus on the interpretation that the coastal zone is "a region of transition between the land and sea, encompassing a wide heterogeneity of physical features and a broad array of activities. . . ." <sup>3</sup> The notion that the coastal zone includes the land and salt water interface was also universally accepted.

On the basis of the above criteria it was clear that the land adjacent to the high water marks of the sea must be included as part of coastal regions. It was also apparent that the areas of "marine influence," which include river basins and watersheds, were an integral part of these regions.<sup>4</sup> With these considerations in mind the Louisiana coastal zone was defined in terms of areal contiguity to the coast and its primary drainage channels.

Study of a map of Louisiana showing the details of waterways will reveal that the bayous Nezpique and des Cannes extend north from the Gulf of Mexico into Evangeline Parish and that Pointe Coupee Parish is the northern limit reached by the Atchafalaya River, which also empties into the Gulf. It will also indicate that East Baton Rouge Parish includes a port of major status, connected to the Gulf of Mexico via the Mississippi River, and that the Tangipahoa River extends into Tangipahoa Parish linking that parish with the Gulf. These were the major waterways used to delineate the coastal zone decided upon. Altogether, 29 parishes were included in the final delineation (see Figure 1). The coastal zone delineated (adjusted to parish boundaries) corresponds closely to the physiographic regions labeled marginal plain, marginal basin, deltaic plain, and alluvial valley by Frazier and Osanik.<sup>5</sup>

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<sup>2</sup>Justin Rutka and Chennat Gopalakrishnan, *Spheres of Influence in Hawaii's Coastal Zone*, Vol. 1, Federal Agency Involvement. Sea Grant Advisory Report, UNIH-Sea Grant-AR-72-03, March, 1973, p. 6.

<sup>3</sup>*Ibid.*

<sup>4</sup>This perspective of shore plus zone of direct influence on the coastal waters conforms, for example, to the definition of coastal zone which appears in the Federal Coastal Zone Management Act of 1972.

<sup>5</sup>After Frazier and Osanik, 1968 as reproduced in *Louisiana Government and the Coastal Zone—1972*, Louisiana Advisory Commission on Coastal and Marine Resources, March 31, 1972.

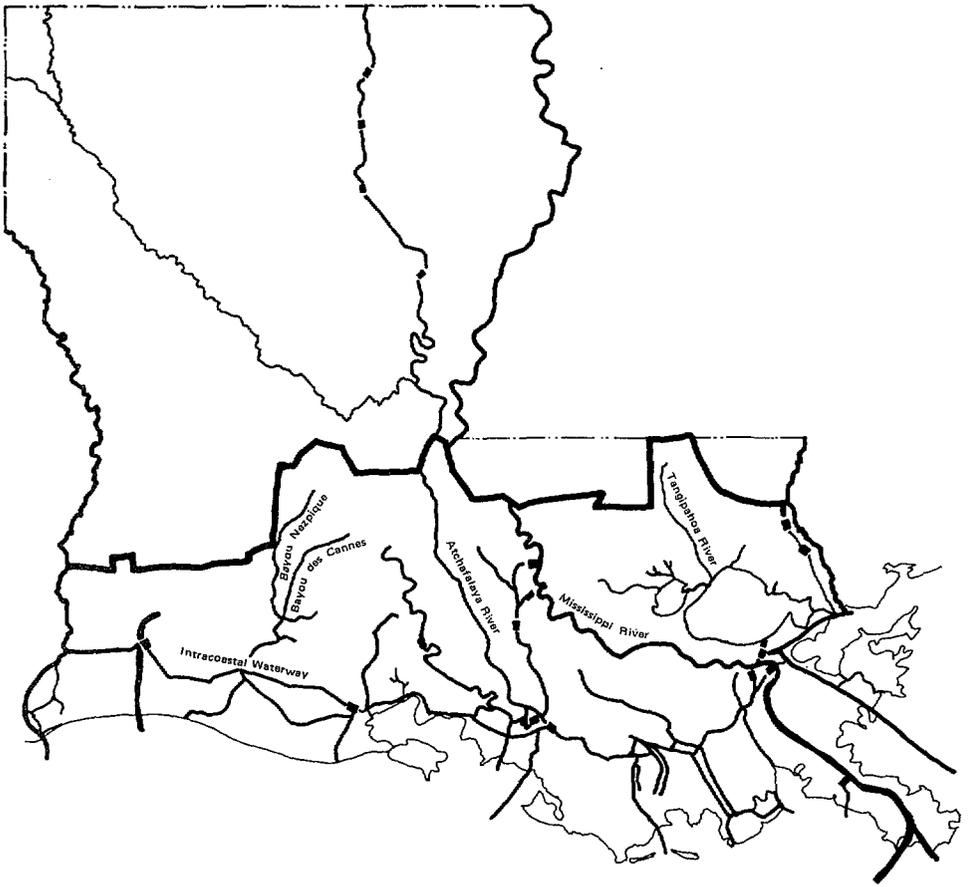


Figure 1.—Coastal zone of Louisiana showing primary drainage channels.

In contemplating the above delineation, the reader should be aware that there is some divergence from the region delineated by Jones and Rice in another recent Sea Grant supported study.<sup>6</sup> This difference is in the inclusion of an additional five parishes (to the north of the Jones and Rice coastal region border) in the present delineation. The data in this report are given by parish so that comparisons between the two studies can be made. Anyone wishing to rearrange the data in terms of

<sup>6</sup>Lamar Jones and G. Randolph Rice, *An Economic Base Study of Coastal Louisiana*, Center for Wetland Resources, Louisiana State University, Baton Rouge, LSU-SG-72-02.

the Jones and Rice study can do so by subtracting the appropriate data for the extra five parishes from the totals for the coastal zone.<sup>7</sup>

## Demographic Profile of the Louisiana Coastal Zone

It was pointed out in the introduction that the major objective of this research was to determine the demographic and socio-cultural characteristics of the people in the coastal and noncoastal areas of Louisiana. The demographic material presented in this section is in keeping with this objective. It was selected to highlight population characteristics which would be meaningful in explaining coastal-noncoastal differences in behavioral patterns. The following discussion emphasizes the overall differences between the coastal and noncoastal areas. However, because of the need for making comparisons and because the interest of individuals and planning agencies tends to be in individual parishes, a relatively large number of tables are included which show statistical information by parish.

### Size and Density of Population

The 29 parishes of the Louisiana coastal zone include less than half (42 percent) of the state's land area but over two-thirds (67 percent) of its people. Coastal Louisiana has a population density of 133 persons per square mile, as compared with a density of 45 persons per square mile in noncoastal Louisiana (Table 1). This fact contradicts the popular conception of coastal Louisiana as an area of marshes and swamps and relative isolation. It is a factor which has an important bearing on the types of problems which have accrued or will accrue in coastal areas.

Altogether, almost 2.5 million people live in the coastal parishes of Louisiana. The largest population concentration is in the southeastern part of the state and is accounted for by the New Orleans metropolitan development (see Figure 2). The noncoastal parishes include about 1.2 million persons, which is less than half of the people in the coastal region. Again, it is worth noting that planning for coastal Louisiana means planning for the majority of Louisianians.

### Residence Characteristics

Louisiana, in keeping with trends prevalent throughout the United States, is becoming more urban each year. The population classified as urban within the state increased from 63 percent in 1960 to 66 percent in 1970 (Table 1). For the purposes of this report, it is significant that the urbanization trend is especially strong in the coastal zone. It may come as a surprise to many that in 1970 almost three out of every four persons

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<sup>7</sup>For another example of a choice of parishes for the coastal zone, see *Louisiana Wetlands Prospectus*, Louisiana Advisory Commission on Coastal and Marine Resources, September 1973, pp. 1-8.

TABLE 1.--Land Area, Population Size, and Urban-Rural Components for Louisiana, the Coastal Zone, and the Noncoastal Area for 1970 and 1960

Region	Land Area		Total Population			Urban		Rural		Percent Change, 1960 to 1970		
	Square Miles	% of Total	Number	Per Sq. Mi.	% of Pop.	Number	% of Total	Number	% of Total	Total	Urban	Rural
----- 1970 Population -----												
State	44,930	100.0	3,641,306	81.0	100.0	2,406,150	66.0	1,235,156	34.0	11.8	16.8	3.2
Coastal	19,156	42.6	2,453,982	132.7	67.0	1,780,795	72.6	673,187	27.4	15.0	17.4	9.4
Noncoastal	25,774	57.4	1,187,324	44.9	33.0	625,355	52.7	561,969	47.3	5.5	14.9	-3.3
----- 1960 Population -----												
State			3,257,022	72.5	100.0	2,060,606	63.0	1,196,416	37.0			
Coastal			2,131,763	111.3	65.0	1,516,771	71.1	615,064	28.9			
Noncoastal			1,125,259	43.7	35.0	543,835	48.3	581,352	51.7			

Source: Table 9, U.S. Bureau of the Census, Census of Population: 1970, Number of Inhabitants, Final Report PC(1)-A20, Louisiana.

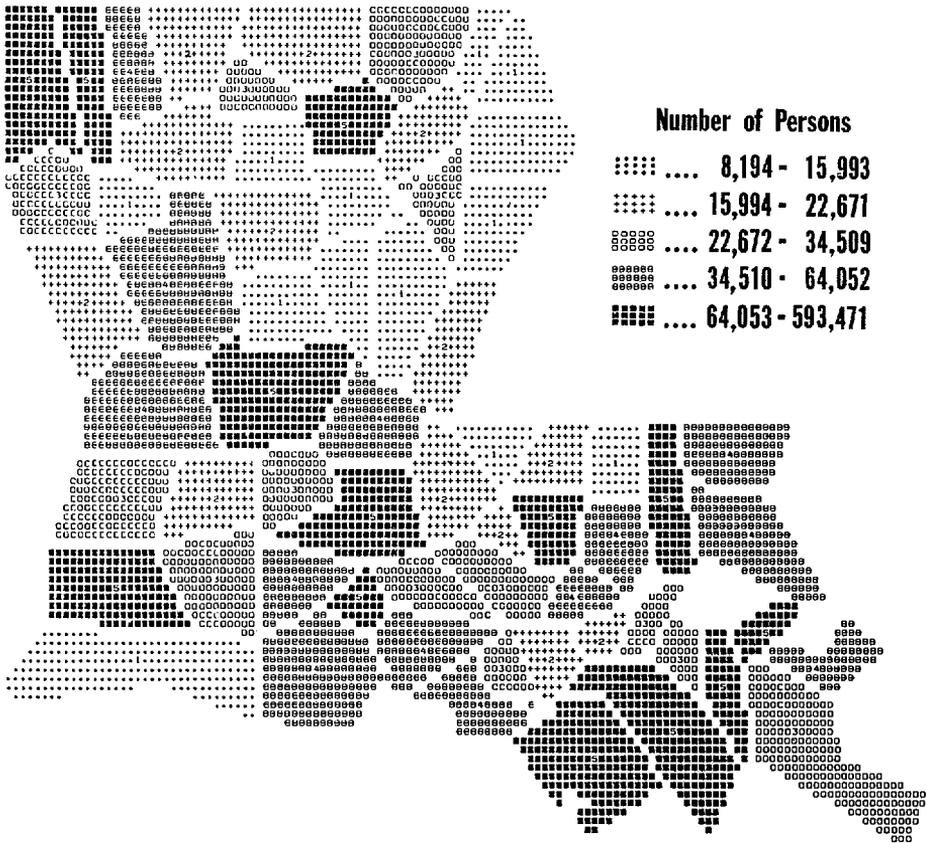


Figure 2.—Population by parish, 1970.

living in this part of the state were classified as urban residents. By contrast, only about half of the inhabitants of the noncoastal region were so classified. This is indeed an important variable, one which sets the coastal parishes apart from the remainder of the state.

By way of explanation, the number of urban people in the coastal area of the state reflects the location there of most of the state's major population centers—New Orleans, Baton Rouge, Lake Charles and Lafayette. The noncoastal region of the state includes only two—Shreveport and Monroe—of the state's six metropolitan areas. The 1970 population of individual parishes in coastal and noncoastal regions is shown in Table 2.

TABLE 2. - Population Size by Race and Sex for the Coastal and Noncoastal Areas of Louisiana, 1970

Coastal	1970 Population						
	All Races			White		Negro	
	Total	Male	Female	Male	Female	Male	Female
Acadia	52,109	25,183	26,926	20,288	21,429	4,885	5,476
Ascension	37,086	18,315	18,771	13,532	13,516	4,749	5,208
Assumption	19,654	9,693	9,961	6,166	6,132	3,518	3,818
Calcasieu	145,415	70,958	74,457	55,775	57,915	15,072	16,396
Cameron	8,194	4,120	4,074	3,818	3,809	286	256
East Baton Rouge	285,167	138,216	146,951	99,313	103,215	38,407	43,374
Evangeline	31,932	15,583	16,349	11,476	11,771	4,081	4,543
Iberia	57,397	27,873	29,524	20,285	21,059	7,553	8,411
Iberville	30,746	14,874	15,872	7,959	8,143	6,873	7,704
Jefferson	337,568	165,499	172,069	144,530	149,950	20,427	21,523
Jefferson Davis	29,554	14,307	15,247	11,414	12,073	2,877	3,148
Lafayette	109,716	53,333	56,383	41,829	43,811	11,395	12,462
Lafourche	68,941	34,147	34,794	30,369	30,677	3,706	4,025
Livingston	36,511	18,169	18,342	16,153	16,222	2,008	2,110
Orleans	593,471	275,969	317,502	151,134	172,286	123,401	143,907
Plaquemines	25,225	12,894	12,331	9,729	9,123	2,862	2,916
Pointe Coupee	22,002	10,762	11,240	5,394	5,531	5,362	5,701
St. Bernard	51,185	25,245	25,940	23,853	24,504	1,278	1,353
St. Charles	29,550	14,795	14,755	11,003	10,734	3,772	4,002
St. James	19,550	9,626	10,107	5,157	5,244	4,465	4,856
St. John the Baptist	23,813	11,717	12,096	6,302	6,436	5,397	5,638
St. Landry	80,364	38,833	41,531	22,876	24,183	15,916	17,286
St. Martin	32,453	15,857	16,596	10,358	10,740	5,472	5,820
St. Mary	60,752	29,996	30,756	21,645	21,742	8,189	8,867
St. Tammany	63,585	31,299	32,286	25,496	25,986	5,703	6,184
Tangipahoa	65,875	32,172	33,703	22,266	22,827	9,833	10,815
Terrebonne	76,049	37,822	38,227	31,027	31,224	5,548	5,875
Vermilion	43,071	20,931	22,140	18,136	19,070	2,780	3,050
West Baton Rouge	16,864	8,101	8,763	4,711	4,884	3,387	3,873
Total	2,453,982	1,186,289	1,267,693	851,994	894,236	329,202	368,597

(continued)

TABLE 2. - (continued)

Noncoastal	1970 Population						
	All Races			White		Black	
	Total	Male	Female	Male	Female	Male	Female
Allen	20,794	10,194	10,600	7,764	7,885	2,341	2,628
Avoyelles	37,751	18,329	19,422	13,335	13,951	4,963	5,438
Beauregard	22,888	11,468	11,420	9,262	9,303	2,181	2,082
Blenville	16,024	7,728	8,296	4,094	4,410	3,634	3,882
Bossier	64,519	31,380	33,139	25,201	26,283	6,053	6,659
Caddo	230,184	108,103	122,081	68,946	76,377	38,940	45,413
Caldwell	9,354	4,619	4,735	3,522	3,617	1,079	1,098
Catahoula	11,769	5,688	6,081	4,093	4,231	1,592	1,849
Claiborne	17,024	8,049	8,975	4,023	4,478	4,022	4,492
Concordia	22,578	10,873	11,705	6,795	6,977	4,054	4,709
DeSoto	22,764	10,773	11,991	5,012	5,590	5,758	6,397
East Carroll	12,884	6,213	6,671	2,669	2,588	3,513	4,056
East Feliciana	17,657	8,764	8,893	4,044	4,095	4,710	4,794
Franklin	23,946	11,607	12,339	7,496	7,882	4,103	4,450
Grant	13,671	6,600	7,071	5,161	5,385	1,422	1,676
Jackson	15,963	7,698	8,265	5,288	5,548	2,406	2,699
LaSalle	13,295	6,475	6,820	5,789	5,994	672	805
Lincoln	33,800	16,635	17,165	10,324	9,877	6,263	7,256
Madison	15,065	7,136	7,929	2,888	2,973	4,242	4,943
Morehouse	32,463	15,431	17,032	9,030	9,636	6,393	7,389
Natchitoches	35,219	17,010	18,209	10,808	11,172	6,105	6,951
Ouachita	115,387	55,267	60,120	40,651	43,082	14,548	16,943
Rapides	118,078	56,777	61,301	41,128	43,728	15,487	17,395
Red River	9,226	4,364	4,862	2,568	2,769	1,791	2,087
Richland	21,774	10,445	11,329	6,337	6,567	4,098	4,734
Sabine	18,638	9,121	9,517	7,366	7,586	1,749	1,922
St. Helena	9,937	4,789	5,148	2,120	2,271	2,669	2,876
Tensas	9,732	4,601	5,131	1,901	2,048	2,684	3,072
Union	18,447	8,919	9,528	5,931	6,356	2,984	3,166
Vernon	53,794	38,219	15,575	33,528	14,080	4,255	1,324
Washington	41,987	20,070	21,917	13,678	14,749	6,376	7,136
Webster	39,939	19,263	20,676	13,437	13,947	5,816	6,706
West Carroll	13,028	6,327	6,701	5,167	5,375	1,156	1,324
West Feliciana	11,376	8,323	3,053	2,730	997	5,588	2,050
Winn	16,369	7,937	8,432	5,552	5,823	2,382	2,603
Total	1,187,324	585,195	602,129	397,638	397,630	186,029	203,004

Source: Table 35, U.S. Bureau of the Census, Census of Population: 1970, General Population Characteristics, Final Report PC(1)-B20, Louisiana.

### Race Characteristics

Racial groups are important sources of variation in any population. It was for this reason that data on the racial composition of the coastal and noncoastal parishes were compiled (Table 2 and Figure 3).

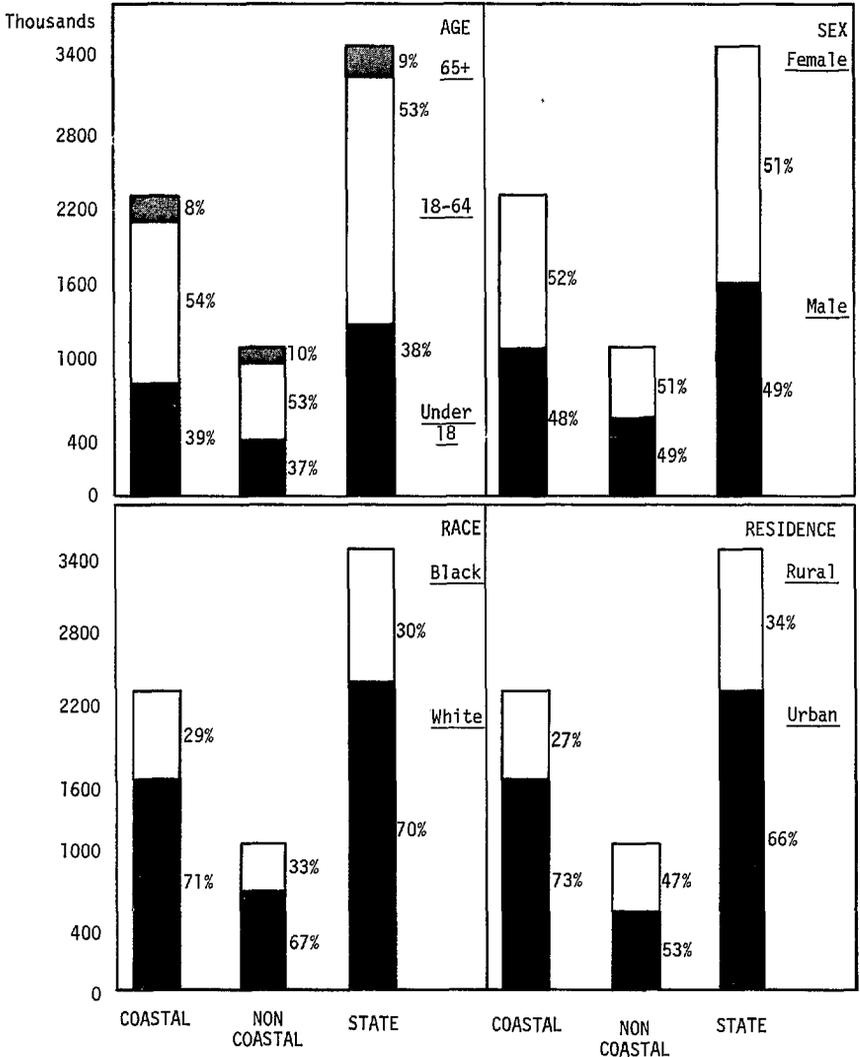


Figure 3.—Selected population characteristics for Louisiana by coastal and noncoastal areas, 1970.

Source: U.S. Bureau of the Census, Census of Population: 1970, General Population Characteristics, Final Report PC(1)-B-20 Louisiana, Table 35.

Persons acquainted with Louisiana will understand why, relatively speaking, more blacks are present in the noncoastal parishes. In certain of the noncoastal parishes of the state one out of every three persons is black, a phenomenon which traces to the patterns of land holding and agriculture prevalent in ante bellum times. The coastal parishes include only 29 percent black in their population, although this too is a larger percentage than in most of the U.S. In terms of absolute numbers, there are considerably more blacks in the coastal zone than in the noncoastal region; in fact, in 1970 there were almost twice as many—697,799 as compared with 389,033.

The significance of the above finding is hard to assess at this time. Cultural practices which tended to distinguish the races in the past are undergoing change, as are the life patterns of members of the black and white communities. Nevertheless, it is logical to assume that some activities and some attitudes relating to the use of coastal areas will vary from one race to another. Local persons will be in a more advantageous position to assess these variances and this is one of the reasons data on race are provided by parish in Table 2.

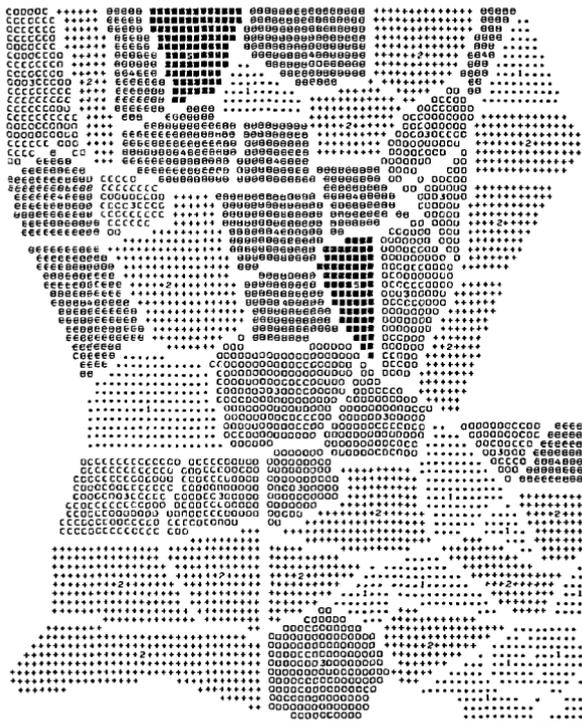
### Age Characteristics

Age is also an important demographic variable. Median ages are lower in the coastal parishes and higher in the north or noncoastal part of the state, as illustrated in Figure 4. It can also be seen in Figure 3 that the coastal parishes have slightly higher percentages of the population under 18 years and lower percentages over 65 years.

The population pyramids in Figure 5 were constructed to show the age (and sex) composition of the coastal and noncoastal populations in another way. The outer pyramids show the age structure of the white population and the inner pyramids represent the blacks in each age and sex category. The shapes of the coastal and noncoastal population pyramids differ in such a way as to indicate the younger population in the coastal parishes.

Variations in the shapes of the population pyramids largely reflect migration patterns and birth rates of previous years. This is clearly the case for blacks in both coastal and noncoastal parishes. There is a dramatic decrease in the number of black males and females near the age of 20. This is the group which accounts for a large share of the migration out of the state, and especially in the noncoastal, rural areas. At the base of each population pyramid it is possible to note a decline in birth rates, which is shown in fewer numbers in the youngest two age categories.

High rates of population growth were also characteristic of the coastal parishes during the last two decades, as can be seen in Figures 6 and 7 and Table 3. The major exception to this pattern is Orleans Parish, which lost residents. This loss was in keeping with trends in other cities. It is associated with what has come to be known as the "flight to the suburbs." However, the New Orleans metropolitan area, as a whole, grew rapidly and more than compensated for the loss experienced in the central city.



**Median Age**

::::: ... 21-23  
 ::::: ... 23-26  
 ::::: ... 26-28  
 ::::: ... 28-31  
 ::::: ... 31-33

Figure 4.—Median age by parish, 1970.

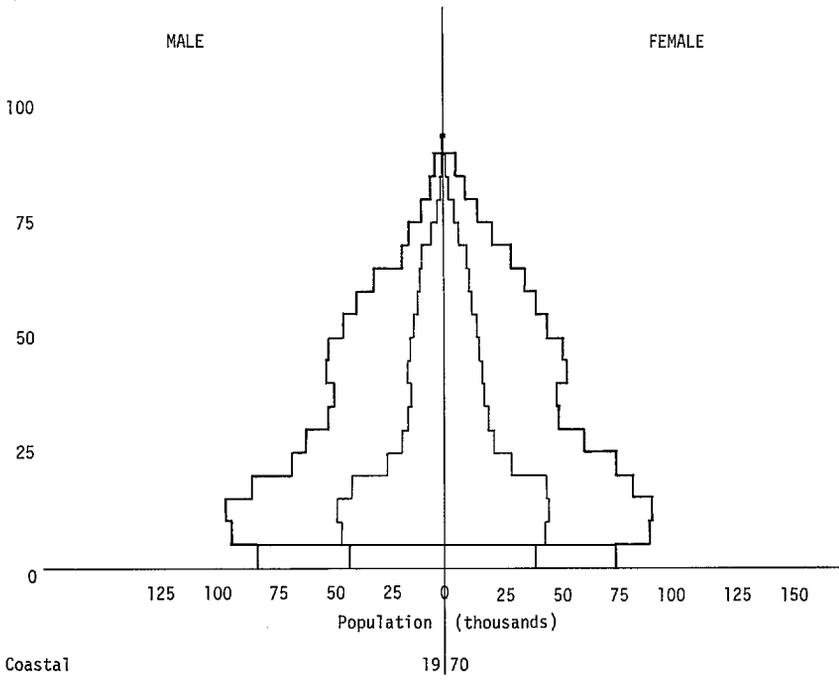
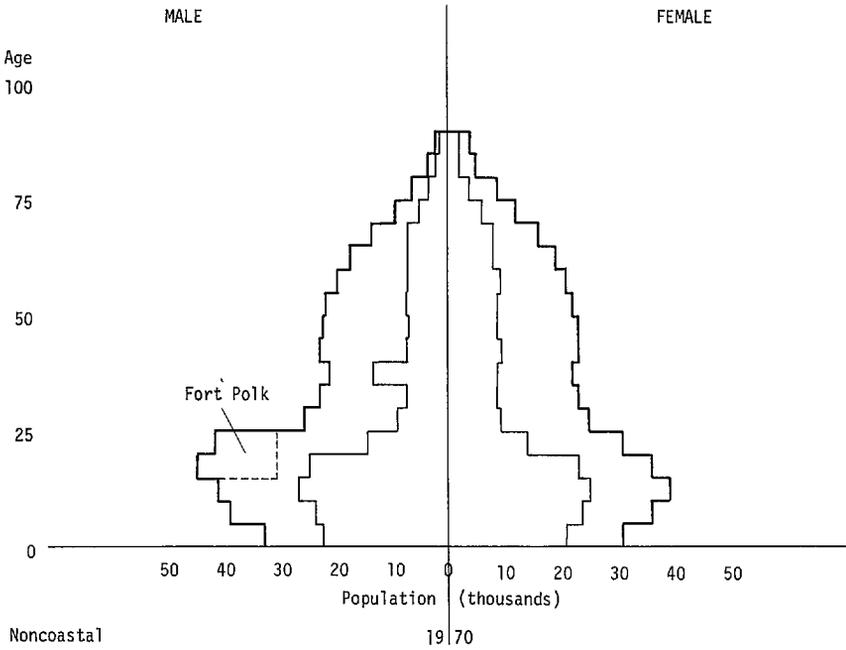
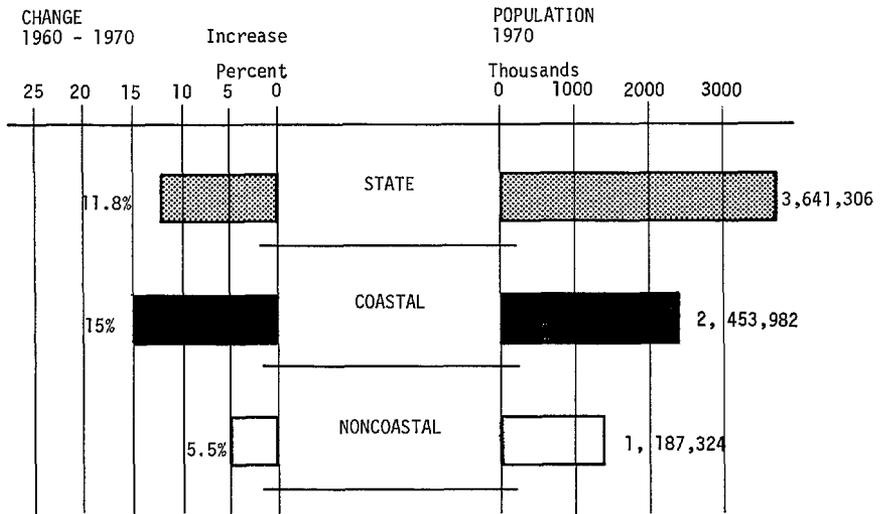


Figure 5.—Population in Louisiana coastal zone and noncoastal area by age, sex, and race, 1970.



**Figure 6.—Louisiana population change, 1960-1970, by coastal and noncoastal areas.**

**Source: U.S. Bureau of the Census, Census of Population: 1970, Number of Inhabitants, Final Report PC(1)-A-20 Louisiana, Table 9.**

In contrast to the coastal parishes, in which population increased by 15 percent between 1960 and 1970, the noncoastal parishes suffered a decrease of 5.5 percent in total population from 1960 to 1970. The only noncoastal parish to experience an unusually large population increase (194 percent between 1960 and 1970) was Vernon. This dramatic growth was due to the reactivation of Fort Polk. Vernon Parish lost population between 1950 and 1960 at a rate (4 percent) similar to other rural, noncoastal parishes.

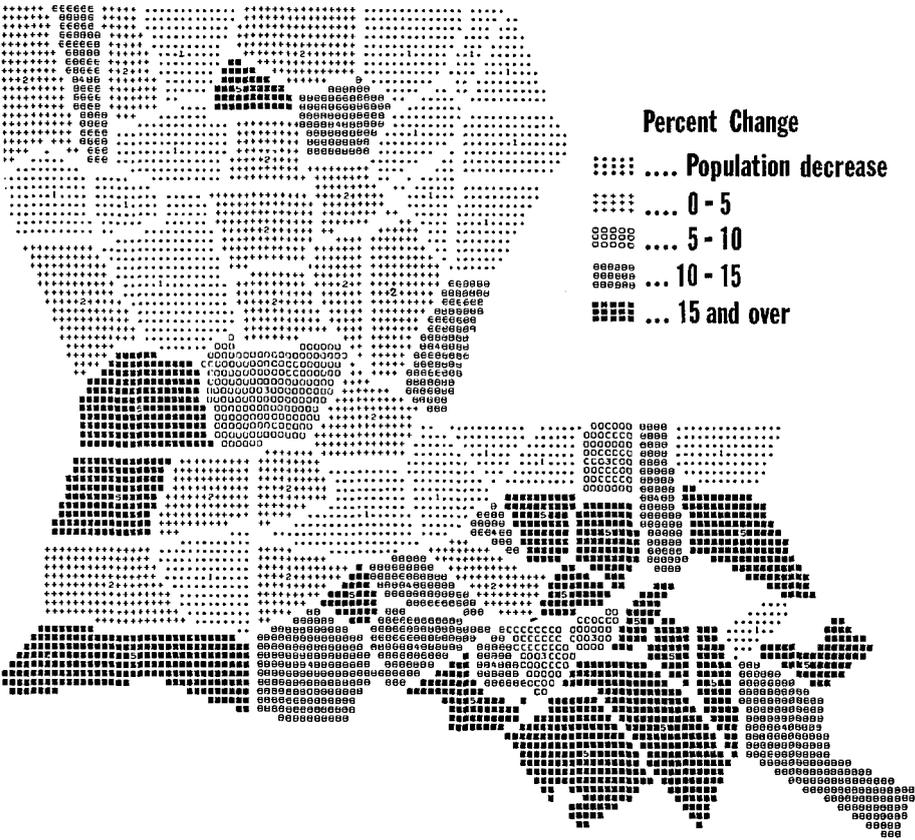


Figure 7.—Population change in Louisiana parishes, 1960-1970.

TABLE 3.-Summary of General Characteristics of the Louisiana Population by Parishes, 1970

Parish	Percent Change 60-70	Percent Non- White	Percent Under 18 Yrs.	Percent 18-64 Years	Percent 65 Yrs. and Over	Ferti- lity Ratio	Persons 14 yrs. and Over,		Persons Over 18 Yrs., % Male	Persons Per House- hold	Median Age	Median Income	Persons 25 Yrs. & Over, Median Yrs. Educ.
							% Married	Male Female					
Coastal													
Acadia	4.4	19.9	40.0	50.8	9.2	458	67.3	61.7	46.8	3.45	25.2	\$5,550	8.3
Ascension	32.8	27.1	42.7	50.0	7.3	497	67.5	64.5	48.4	3.67	22.6	7,894	10.3
Assumption	9.2	37.4	43.6	48.2	8.2	541	63.2	60.1	47.7	3.95	21.9	6,135	7.5
Calcasieu	-0	21.8	39.4	53.9	6.7	384	68.5	64.4	47.5	3.41	24.5	8,404	11.7
Cameron	18.6	6.9	40.3	52.2	7.5	460	70.1	70.9	49.9	3.54	25.1	7,726	9.4
East Baton Rouge	24.0	29.0	36.9	57.0	6.0	347	64.3	59.6	47.1	3.35	23.9	9,627	12.3
Evangeline	0.9	27.2	40.0	50.4	9.6	479	68.8	65.9	47.4	3.33	25.8	4,289	7.6
Iberia	11.1	28.0	42.4	49.9	7.7	477	67.4	62.5	47.0	3.65	23.4	7,109	9.4
Iberville	2.7	47.6	42.1	48.4	9.5	477	61.6	57.0	46.6	3.71	23.2	6,259	8.7
Jefferson	61.7	12.8	39.7	55.4	4.9	402	71.3	67.5	47.8	3.52	24.7	10,235	12.1
Jefferson Davis	-9	20.5	40.9	50.3	8.7	442	68.3	63.9	47.2	3.43	24.8	6,049	9.2
Lafayette	29.6	21.9	39.6	54.6	5.9	392	64.7	61.0	47.5	3.55	22.8	7,916	11.7
Lafourche	24.5	11.5	41.9	52.2	5.9	486	68.0	66.3	48.7	3.76	22.3	7,855	8.5
Livingston	35.4	11.3	40.6	52.5	7.0	443	70.7	69.9	48.7	3.51	24.0	7,652	10.5
Orleans	-5.4	45.5	34.1	55.3	10.6	349	60.6	53.2	44.6	3.04	27.9	7,445	10.8
Plaquemines	11.9	25.3	42.4	53.4	4.2	476	68.7	69.5	51.7	3.76	22.3	8,601	9.8
Pointe Coupee	-2.2	50.3	42.5	47.4	10.1	473	61.6	58.6	47.5	3.74	23.1	4,957	8.2
St. Bernard	59.0	5.5	40.1	55.5	4.4	362	70.9	67.9	48.2	3.72	24.0	9,638	11.0
St. Charles	39.3	26.4	44.5	49.9	5.6	472	67.6	65.6	48.5	3.88	21.6	9,004	10.9
St. James	7.4	47.3	45.1	46.9	8.0	514	59.4	55.7	46.9	4.24	20.6	8,049	9.6
St. John the Baptist	29.1	46.5	44.7	48.8	6.5	498	63.1	61.0	48.3	4.12	21.2	8,275	9.9
St. Landry	-1.4	41.4	42.3	49.4	8.3	452	64.3	59.6	46.7	3.65	23.3	4,919	7.8
St. Martin	11.7	35.0	43.5	49.1	7.4	500	65.1	62.6	48.1	3.84	22.0	5,157	7.5
St. Mary	24.4	28.6	43.5	50.4	6.1	511	67.9	65.6	48.6	3.75	22.1	8,146	9.9
St. Tammany	64.5	19.0	41.0	51.5	7.5	407	68.1	65.5	48.0	3.51	25.0	8,655	11.9
Tangipahoa	10.8	31.5	38.7	52.4	8.9	414	61.2	57.8	47.3	3.40	23.5	5,208	9.6
Terrebonne	25.1	18.1	44.1	50.8	5.1	495	67.2	66.6	48.8	3.87	21.5	8,338	9.6
Vermilion	10.9	13.6	38.7	51.1	10.2	441	69.4	65.5	47.6	3.35	27.0	5,946	8.3
West Baton Rouge	14.0	43.1	43.4	49.7	6.9	501	65.9	60.3	47.1	3.81	21.9	6,920	10.1

(Continued)

TABLE 3.--(continued)

Parish	Percent Change 60-70	Percent Non- White	Percent Under 18 Yrs.	Percent 18-64 Years	Percent 65 Yrs and Over	Ferti- lity Ratio	Persons 14 Yrs. and Over, % Married		Persons Over 18 Yrs., % Male	Persons Per House- hold	Median Age	Median Income	Persons 25 Yrs. & Over, Median Yrs. Educ.
							Male	Female					
Noncoastal													
Allen	4.7	24.7	39.8	50.0	10.2	454	66.7	63.8	47.6	3.37	25.9	5,931	9.0
Avoyelles	.4	27.7	39.2	49.3	11.4	455	67.0	62.4	47.0	3.36	27.0	4,435	8.6
Beauregard	19.3	18.9	37.6	52.9	9.4	416	67.2	66.3	48.9	3.29	26.0	6,940	11.1
Bienville	-4.2	46.9	35.6	49.8	14.6	446	66.7	61.7	47.4	3.22	30.1	5,187	9.5
Bossier	12.0	20.2	40.9	53.2	6.0	401	72.1	68.0	46.9	3.43	23.6	7,927	12.1
Caddo	2.8	36.9	36.3	53.4	10.3	365	67.1	58.8	45.0	3.13	27.6	8,103	12.0
Caldwell	3.9	23.7	36.1	50.3	13.6	391	63.7	60.5	47.4	3.20	29.9	5,224	9.7
Catahoula	3.0	29.3	40.5	49.0	10.5	406	65.7	61.0	47.3	3.45	25.7	4,850	9.3
Claborne	-12.3	50.1	34.6	48.3	17.1	430	67.0	59.0	45.4	3.07	33.3	5,347	9.3
Concordia	10.3	39.0	42.5	49.5	8.0	441	65.6	61.4	46.7	3.60	23.3	6,321	9.9
DeSoto	-6.1	53.4	36.9	48.4	14.7	426	64.6	56.4	45.4	3.19	29.2	5,074	8.9
East Carroll	-10.7	59.2	45.1	44.0	10.9	583	58.8	53.2	44.8	3.70	21.4	3,612	8.1
East Feliciana	-12.6	53.9	35.0	51.6	13.4	396	50.8	50.8	49.1	3.77	30.4	5,755	8.4
Franklin	-8.2	35.8	40.5	48.1	11.4	461	65.4	60.7	46.4	3.45	25.7	4,171	8.9
Grant	2.6	22.9	36.4	50.5	13.2	402	67.7	63.1	46.5	3.19	30.1	5,329	9.6
Jackson	.9	32.1	33.9	53.7	12.3	382	69.1	63.2	46.8	3.08	30.6	6,608	10.0
LaSalle	2.2	11.4	34.4	52.9	12.6	388	71.0	66.1	47.5	3.08	31.0	5,799	10.2
Lincoln	18.5	40.2	28.6	62.0	9.3	258	51.4	50.3	48.5	3.07	22.9	6,535	12.0
Madison	-8.4	61.1	42.9	44.4	12.8	560	61.6	54.3	44.8	3.44	23.5	3,981	8.5
Morehouse	-3.7	42.5	40.6	48.5	10.9	454	66.0	58.6	45.4	3.39	25.4	5,708	9.5
Natchitoches	-1.2	37.6	34.4	54.3	11.3	338	56.9	53.4	46.9	3.26	23.9	4,598	9.4
Ouachita	13.5	27.4	37.1	54.2	8.7	386	65.8	59.8	45.9	3.24	24.9	7,354	11.7
Rapides	6.0	28.1	37.6	53.2	9.2	383	65.0	60.2	46.8	3.29	25.9	6,831	11.1
Red River	-7.5	42.2	37.8	48.8	13.4	427	65.8	59.4	45.4	3.26	28.0	4,563	9.2
Richland	-8.6	40.7	39.7	48.2	12.1	429	65.1	59.5	45.9	3.47	25.9	4,868	8.9
Sabine	.4	19.8	36.4	50.0	13.6	459	66.6	63.1	47.5	3.22	28.8	5,146	9.3
St. Helena	8.5	55.8	44.5	46.8	8.7	514	62.7	59.4	47.0	3.87	21.3	4,107	9.2
Tensas	-17.5	59.4	42.3	44.7	13.0	473	61.3	54.5	45.1	3.43	24.5	3,173	7.9
Union	4.7	33.4	35.3	51.1	13.6	390	68.0	61.7	46.5	3.23	29.8	5,976	9.7
Vernon	193.9	11.5	22.9	72.9	4.2	435	39.2	72.3	76.0	3.23	21.8	6,450	11.8
Washington	-4.6	32.3	38.2	51.5	10.3	386	67.2	61.3	46.3	3.23	27.2	6,377	10.3
Webster	.6	31.4	34.5	54.1	11.4	352	70.0	64.6	46.6	3.11	29.7	7,215	10.6
West Carroll	-8.1	19.1	37.5	51.0	11.5	398	69.2	63.9	47.4	3.25	28.9	4,802	9.2
West Feliciana	-8.2	67.2	24.1	70.6	5.4	515	41.3	55.7	79.5	3.88	27.2	5,355	9.1
Winn	2.1	30.5	35.2	51.8	13.0	416	67.8	63.4	47.5	3.11	30.1	5,405	9.7

Source: U.S. Bureau of the Census, Census of Population: 1970, General Population Characteristics Final Report PC(1)-B20, La.

TABLE 4.--Births and Deaths in Louisiana for 1970 by Race and Area of the State

Region	Births (By Residence)				Deaths (By Residence)			
	Total	Rate Per 1000	Race		Total	Rate Per 1000	Race	
			White	Black			White	Black
State	74,615	20.5	46,666	27,949	33,386	9.2	21,672	11,714
Coastal	51,010	20.8	32,835	18,179	21,553	8.75	14,405	7,148
Noncoastal	23,605	19.9	13,835	9,770	11,833	10.0	7,303	4,530

Source: Table VII, p. 16 and Table XVII, p. 44, Statistical Report of the Bureau of Vital Statistics, 1970, Louisiana State Department of Health.

When a comparison of birth, death, and migration rates is made between the coastal and noncoastal parishes the following picture emerges. The birth rate is slightly higher in the coastal area, 20.8 per 1,000 persons as compared with 19.9 per 1,000 in the noncoastal area (Table 4). If birth rates are broken down by race, two additional facts become evident. First, blacks have a much higher crude birth rate in both coastal and noncoastal areas. Second, the birth rates of both blacks and whites are higher in the coastal area (Table 5).

When comparisons of the crude death rate are made, it is found that people in the coastal parishes have the lower rate. The death rate there is 8.75 per 1,000 persons annually as compared with 10 per 1,000 persons in the noncoastal area. The crude death rate is higher for blacks in both regions, but is especially noticeable in the northern (noncoastal) parishes.

From the above, it might be deduced that the favorable relation between the birth rate and death rate in the coastal area would make for a higher natural increase. This is true, but it is only a part of the growth picture. Looking at the effect of migration alone, the state as a whole had a net population loss of 3 percent, which was due to relatively large numbers of blacks leaving the state and relatively low in-migration by whites (see Table 6). All but four parishes (Cameron, Jefferson, St. Charles and Vernon) had net migration losses among the nonwhites. These losses were especially high in the noncoastal parishes, 18.5 percent as compared with 7.8 percent in the coastal parishes. The data on white migrants indicate that slightly more whites came into the state than left from 1960 to 1970. The coastal parishes had an advantage in this regard in that they attracted more in-migrants than the noncoastal parishes. The respective rates of increase were 1.6 percent and 1.2 percent.

Two other population growth and composition facts are evident from the shape of the population pyramids in Figure 5. The first is the effect of migration patterns and birth rates of previous years. This is shown dramatically in the case of blacks in both coastal and noncoastal parishes.

TABLE 5.-Crude Birth Rate and Death Rate by Parish, 1970

Parish	Birth Rate	Death Rate
COASTAL		
Acadia	20.2	9.3
Ascension	24.0	8.1
Assumption	20.6	9.4
Calcasieu	21.3	7.7
Cameron	15.6	4.9
East Baton Rouge	21.2	7.0
Evangeline	20.4	10.5
Iberia	23.0	7.9
Iberville	21.5	10.6
Jefferson	20.6	6.2
Jefferson Davis	18.9	9.5
Lafayette	21.7	6.1
Lafourche	19.8	7.3
Livingston	22.3	7.7
Orleans	19.1	12.3
Plaquemines	26.0	7.1
Pointe Coupee	20.5	10.2
St. Bernard	19.7	5.8
St. Charles	21.4	6.1
St. James	22.8	9.1
St. John the Baptist	21.9	7.9
St. Landry	22.8	9.9
St. Martin	20.9	8.4
St. Mary	23.8	8.0
St. Tammany	19.9	8.5
Tangipahoa	21.9	10.4
Terrebonne	23.8	7.4
Vermilion	17.8	9.9
West Baton Rouge	22.1	9.5

(continued)

The drastic decrease in the number of black males and females near the age of 20 indicates this age group accounts for the largest share of the migration out of the state, especially in the noncoastal, rural areas. The second fact discernable from the pyramids is that the birth rate has declined within recent years. At the base of each population pyramid it is possible to note the fewer numbers in the youngest two age categories. This is meaningful in terms of planning for the future.

TABLE 5.- (continued)

Parish	Birth Rate	Death Rate
NONCOASTAL		
Allen	21.0	10.9
Avoyelles	19.3	9.9
Beauregard	20.1	10.7
Bienville	18.4	12.0
Bossier	25.3	6.8
Caddo	21.2	10.0
Caldwell	16.6	11.4
Catahoula	17.7	9.0
Claiborne	17.7	12.2
Concordia	19.1	9.4
DeSoto	18.2	12.8
East Carroll	24.2	12.0
East Feliciana	19.5	10.3
Evangeline	20.4	10.5
Franklin	18.1	9.6
Grant	18.6	12.1
Jackson	17.9	11.3
LaSalle	18.4	12.0
Lincoln	16.8	8.6
Madison	26.1	13.3
Morehouse	21.6	10.0
Natchitoches	19.7	10.4
Ouachita	22.1	9.2
Rapides	20.2	10.0
Red River	19.3	10.0
Richland	22.5	12.4
Sabine	19.0	11.8
St. Helena	15.8	8.5
Tensas	19.2	12.7
Union	15.8	11.5
Vernon	10.9	5.7
Washington	19.5	12.0
Webster	18.6	10.2
West Carroll	20.0	10.0
West Feliciana	12.8	6.2
Winn	18.7	13.0

Source: Table V and Table XVIII, Statistical Report of the Bureau of Vital Statistics, 1970, Louisiana State Department of Health.

TABLE 6.-Net Migration for Whites and Nonwhites by Parish, 1960-1970

Parish	Expected 1970 Population*		1970 Census Population		Net Migration			
	Whites	Nonwhites	Whites	Nonwhites	Number		Percent*	
					Whites	Nonwhites	Whites	Nonwhites
Coastal								
Acadia	45,806	12,335	41,717	10,392	-4,089	-1,943	-8.9	-15.8
Ascension	22,770	10,611	27,048	10,038	4,278	-573	18.8	-5.4
Assumption	12,280	8,889	12,298	7,356	18	-1,533	0.1	-17.2
Calcasieu	132,506	36,921	113,690	31,725	-18,816	-5,196	-14.2	-14.1
Cameron	7,466	541	7,627	567	161	26	2.2	4.8
East Baton Rouge	184,198	86,645	202,528	82,639	18,330	-4,006	10.0	-4.6
Evangeline	24,948	10,943	23,247	8,685	-1,701	-2,258	-6.8	-20.6
Iberia	44,052	18,564	41,344	16,053	-2,708	-2,511	-6.1	-13.5
Iberville	17,352	17,195	16,102	14,644	-1,250	-2,551	-7.2	-14.8
Jefferson	217,051	40,550	295,071	43,158	78,020	2,608	35.9	6.4
Jefferson Davis	26,668	7,555	23,487	6,067	-3,181	-1,488	-11.9	-19.7
Lafayette	77,402	26,014	87,217	24,528	9,815	-1,486	12.7	-5.7
Lafourche	59,274	8,841	61,046	7,895	1,772	-946	3.0	-10.7
Livingston	26,688	5,232	32,375	4,136	5,687	-1,096	21.3	-20.9
Orleans	413,988	279,663	323,420	270,051	-90,568	-9,612	-21.9	-3.4
Plaquemines	19,569	8,032	18,852	6,373	-717	-1,659	-3.7	-20.7
Pointe Coupee	11,485	14,089	10,925	11,077	-560	-3,012	-4.9	-21.4
St. Bernard	35,808	2,981	48,357	2,828	12,549	-153	35.0	-5.1
St. Charles	18,947	7,130	21,737	7,813	2,790	683	14.7	9.6
St. James	10,985	11,040	10,401	9,332	-584	-1,708	-5.3	-15.5
St. John the Baptist	10,536	11,677	12,738	11,075	2,202	-602	20.9	-5.2
St. Landry	52,546	42,478	47,059	33,305	-5,487	-9,173	-10.4	-21.6
St. Martin	21,335	13,226	21,098	11,355	-237	-1,871	-1.1	-14.1
St. Mary	41,767	18,177	43,387	17,365	1,620	-812	3.9	-4.5
St. Tammany	32,718	12,789	51,482	12,103	18,764	-686	57.4	-5.4
Tangipahoa	43,717	24,919	45,093	20,782	1,376	-4,137	3.1	-16.6
Terrebonne	61,033	15,856	62,251	13,798	1,218	-2,058	2.0	-13.0
Vermilion	38,280	6,287	37,206	5,865	-1,074	-422	-2.8	-6.7
West Baton Rouge	9,034	8,762	9,595	7,269	561	-1,493	6.2	-17.0
Coastal Total	1,720,209	767,942	1,748,398	708,274	28,189	-59,668	1.6	-7.8

(continued)

TABLE 6.--(continued)

Parish	Expected 1970 Population*		1970 Census Population		Net Migration			
	Whites	Nonwhites	Whites	Nonwhites	Number		Percent*	
					Whites	Nonwhites	Whites	Nonwhites
Noncoastal								
Allen	16,806	5,717	15,649	5,145	-1,157	-572	-6.9	-10.0
Avoyelles	29,158	12,722	27,286	10,465	-1,872	-2,257	-6.4	-17.7
Beauregard	16,584	5,010	18,565	4,323	1,981	-687	11.9	-13.7
Bienville	8,446	9,516	8,504	7,520	58	-1,996	0.7	-21.0
Bossier	51,580	16,826	50,828	12,875	-752	-3,951	-1.5	-23.5
Caddo	156,387	96,558	145,323	84,861	-11,064	-11,697	-7.1	-12.1
Caldwell	6,844	2,816	7,139	2,215	295	-601	4.3	-21.3
Catahoula	8,099	4,675	8,324	3,445	225	-1,230	2.8	-26.3
Claiborne	9,499	10,975	8,501	8,523	-998	-2,452	-10.5	-22.3
Concordia	12,682	10,586	13,772	8,806	1,090	-1,780	8.6	-16.8
DeSoto	10,538	15,939	10,602	12,162	64	-3,777	0.6	-23.7
East Carroll	6,370	10,289	5,257	7,627	-1,113	-2,662	-17.5	-25.9
East Feliciana	9,604	12,660	8,139	9,518	-1,465	-3,142	-15.3	-24.8
Franklin	16,570	12,669	15,378	8,568	-1,192	-4,101	-7.2	-32.4
Grant	10,736	3,786	10,546	3,125	-190	-661	-1.8	-17.5
Jackson	11,320	6,113	10,836	5,127	-484	-986	-4.3	-16.1
LaSalle	12,234	1,901	11,783	1,512	-451	-389	-3.7	-20.5
Lincoln	17,902	13,727	20,201	13,599	2,299	-128	12.8	-0.9
Madison	6,332	12,134	5,861	9,204	-471	-2,930	-7.4	-24.1
Morehouse	19,770	18,960	18,666	13,797	-1,104	-5,163	-5.6	-27.2
Natchitoches	21,640	17,519	21,980	13,239	340	-4,280	1.6	-24.4
Ouachita	78,926	39,571	83,733	31,654	4,807	-7,917	6.1	-20.0
Rapides	86,477	39,099	84,856	33,222	-1,621	-5,877	-1.9	-15.0
Red River	5,452	5,499	5,337	3,889	-115	-1,610	-2.1	-29.3
Richland	14,340	13,040	12,904	8,870	-1,436	-4,170	-10.0	-32.0
Sabine	15,353	5,111	14,952	3,686	-401	-1,425	-2.6	-27.9
St. Helena	4,203	6,190	4,391	5,546	188	-644	4.5	-10.4
Tensas	4,421	8,535	3,949	5,783	-472	-2,752	-10.7	-32.2
Union	11,467	7,687	12,287	6,160	820	-1,527	7.2	-19.9
Vernon	18,291	2,907	47,608	6,186	29,317	3,279	160.3	112.8
Washington	31,370	17,285	28,427	13,560	-2,943	-3,725	-9.4	-21.6
Webster	28,030	15,872	27,384	12,555	-646	-3,317	-2.3	-20.9
West Carroll	11,920	3,877	10,542	2,486	-1,378	-1,391	-11.6	-35.9
West Feliciana	4,472	9,092	3,727	7,649	-745	-1,443	-16.7	-15.9
Winn	11,409	5,724	11,375	4,994	-34	-730	-0.3	-12.8
Noncoastal Total	785,232	480,587	794,612	391,896	9,380	-88,691	1.2	-18.5
Louisiana Total	2,505,441	1,248,529	2,543,010	1,100,170	37,569	-148,359	1.5	-11.9

\*1960 population plus natural increase from 1960 to 1970.

Source: 1971 Statistical Report of the Bureau of Vital Statistics, Louisiana State Department of Health, New Orleans, p. 8.

Planners are faced with the necessity of looking ahead as they work out programs of various types. With this thought in mind, population projections for the coastal and noncoastal parishes to 1985 are presented in Table 7 and Figure 8. A study of this data shows the population of the coastal region is expected to increase by another half-million in the 15

TABLE 7.—Projected Population for Louisiana, The Coastal Zone, and Noncoastal Area for 1985

Parish	1970 Population	1985 Population
Coastal		
Acadia	52,109	47,142
Ascension	37,086	50,950
Assumption	19,654	20,934
Calcasieu	145,415	179,563
Cameron	8,194	8,518
East Baton Rouge	285,167	373,567
Evangeline	31,932	28,031
Iberia	57,397	58,520
Iberville	30,746	28,432
Jefferson	337,568	526,291
Jefferson Davis	29,554	24,902
Lafayette	109,716	149,474
Lafourche	68,941	79,175
Livingston	36,511	53,353
Orleans	593,471	587,649
Plaquemines	25,225	28,424
Pointe Coupee	22,002	19,157
St. Bernard	51,185	101,947
St. Charles	29,550	43,907
St. James	19,733	19,262
St. John the Baptist	23,813	32,985
St. Landry	80,364	70,768
St. Martin	32,453	32,776
St. Mary	60,752	75,184
St. Tammany	63,585	140,812
Tangipahoa	65,875	69,608
Terrebonne	76,049	91,361
Vermilion	43,071	41,920
West Baton Rouge	16,864	19,405
Coastal Total	2,453,982	3,004,017
Noncoastal Total	1,187,684	1,142,310
State Total	3,641,666	4,146,327

Source: Roger L. Burford and Sylvia G. Murzyn, Population Projections by Age, Race, and Sex, for Louisiana and Its Parishes, 1970-1985, Number 10, June, 1972.

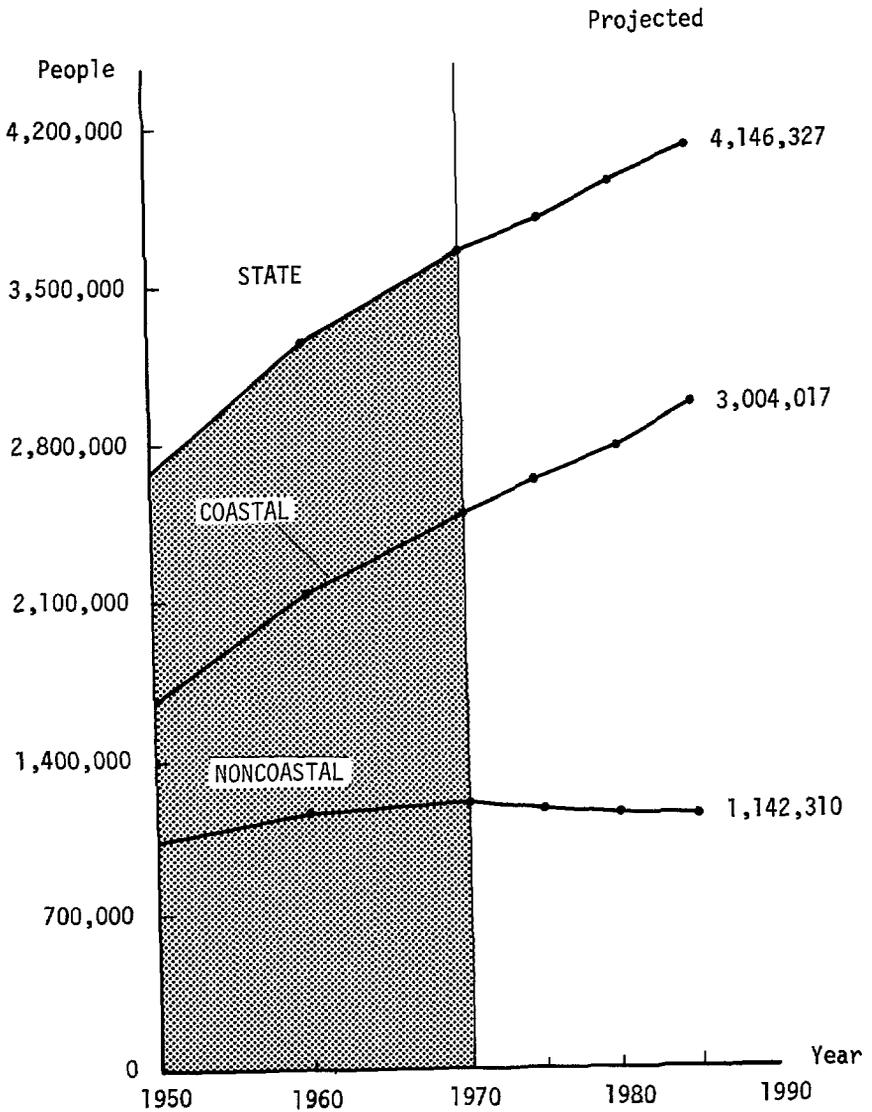


Figure 8.—Population trends for Louisiana, the coastal zone, and non-coastal area, from 1950 to 1985.

Source: Population Projections by Age, Race and Sex for Louisiana and Its Parishes, 1970-1985. Roger L. Burford and Sylvia G. Murzyn.

years following 1970. This is a much different picture than that projected for the noncoastal part of the state, where at best the population is expected to remain at present levels. It indicates that in the coastal region there will be six people in 1985 where there were only five in 1970.

## Cultural Characteristics

The population growth of a region is accounted for by births, deaths, and migration, but there are always underlying cultural factors which explain in large part the patterns such as those described in the previous section. The coastal-noncoastal differences in demographic characteristics which were reviewed are explainable to a considerable extent by the cultural contrasts between the two areas. Two rather sharp cultural distinctions are readily detected. First, the coastal region is primarily French in an ethnic sense and contrasts to the noncoastal region, which is primarily inhabited by descendents of Anglo-Saxon, Scotch-Irish, and other non-French European stock. There is a large percentage of blacks in all parts of Louisiana. It is of interest in this context that many blacks in south Louisiana have adopted French cultural traits. The percentage of French-speaking inhabitants in Louisiana, by parish, is shown in Figure 9. In

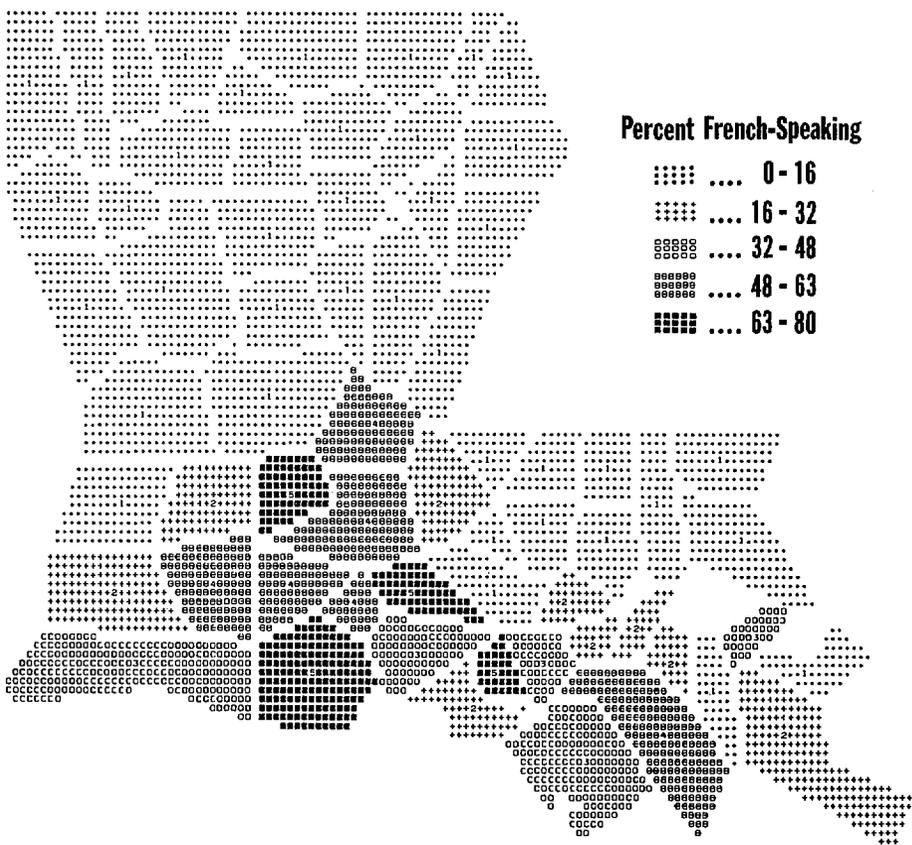


Figure 9.—Percent French-speaking, by parish.

some coastal parishes as many as four out of five persons list French as their mother tongue. There is thus a sharp contrast in cultural tradition, which is accentuated by the perpetuation of the French language in much of the coastal area.

The second cultural difference which stands out between coastal and noncoastal areas is a function of the first, but stands alone as an explanation of behavioral patterns. This is religion. In the coastal region the Roman Catholic Church predominates, while in the remainder of the state the various Protestant denominations claim the majority of religious communicants. The percent Catholic by parish for 1971 is shown in Figure 10.

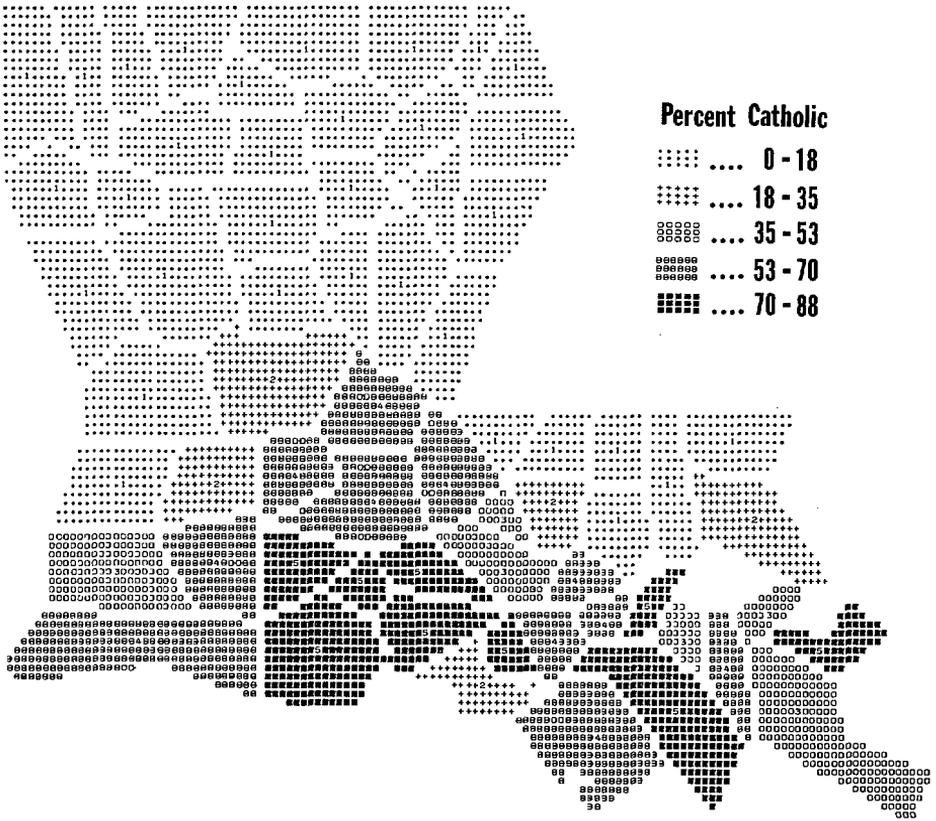


Figure 10.—Percent Catholic, by parish.

There are, of course, differences in the behavioral practices encouraged and/or discouraged by each of these religious groups. One, which has had importance in the recent past, is birth control. The reluctance of Catholics to utilize artificial means of birth control is reflected in a demographic way as follows. A measure of completed family size is the number of children ever born to women between ages 34 and 45. It can be seen in Figure 11 that there is a concentration of parishes with averages of more than four children per woman in the coastal zone. This rate is not subject to fluctuation due to changes in the proportion of women in the population of child-bearing age. It is interesting and in keeping with our point to note that the rate is higher for nonwhites in the noncoastal parishes (4.9) than in the coastal parishes (4.5), while for whites the opposite situation exists (see Table 8).

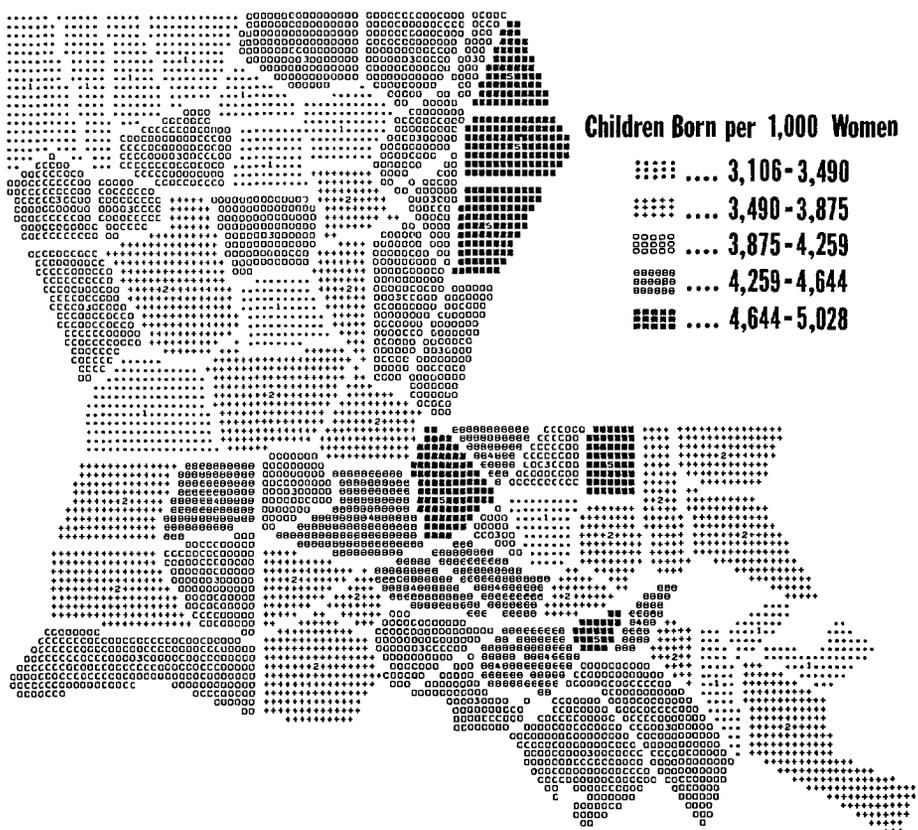


Figure 11.—Children ever born per 1,000 women ever married.

TABLE 8.—Children Ever Born to Women Age 35-44 Years  
for Coastal and Noncoastal Parishes, 1970

Parish	Total	Negro	White
<b>COASTAL</b>			
Acadia	3.806	4.854	3.577
Ascension	3.843	5.003	3.534
Assumption	4.559	5.779	3.977
Calcasieu	3.546	4.359	3.335
Cameron	4.000	--	4.028
East Baton Rouge	3.334	4.278	3.014
Evangeline	4.163	5.935	3.577
Iberia	4.108	5.195	3.774
Iberville	4.398	5.643	3.616
Jefferson	3.188	4.537	3.033
Jefferson Davis	3.942	4.619	3.755
Lafayette	3.647	4.660	3.424
Lafourche	3.959	5.693	3.802
Livingston	3.600	5.031	3.443
Orleans	3.422	4.031	2.913
Plaquemines	3.826	5.316	3.507
Pointe Coupee	4.703	5.925	3.690
St. Bernard	3.110	4.051	3.084
St. Charles	3.851	5.791	3.351
St. James	4.688	5.611	4.073
St. John the Baptist	4.397	4.820	4.056
St. Landry	4.315	5.528	3.647
St. Martin	4.463	5.564	3.923
St. Mary	3.900	5.164	3.559
St. Tammany	3.543	5.168	3.268
Tangipahoa	3.700	5.121	3.153
Terrebonne	4.021	5.610	3.799
Vermilion	3.858	4.791	3.734
West Baton Rouge	4.014	4.813	3.449
<b>Total Coastal</b>	<b>3.592</b>	<b>4.539</b>	<b>3.269</b>

(continued)

TABLE 8.--(continued)

Parish	Total	Negro	White
<b>NONCOASTAL</b>			
Allen	4.135	5.610	3.773
Avoyelles	3.859	5.225	3.473
Beauregard	3.671	5.319	3.251
Bienville	3.909	4.990	3.083
Bossier	3.227	5.274	2.954
Caddo	3.219	4.254	2.766
Caldwell	3.842	5.721	3.071
Catahoula	4.202	6.701	3.420
Claiborne	3.402	4.307	2.690
Concordia	3.900	5.721	3.260
DeSoto	4.168	5.304	3.156
East Carroll	5.028	6.661	3.425
East Feliciana	4.008	4.880	2.846
Franklin	4.069	6.192	3.115
Grant	3.309	4.579	3.062
Jackson	3.389	4.795	2.762
LaSalle	3.626	5.317	3.463
Lincoln	3.106	3.462	2.893
Madison	4.687	6.128	3.386
Morehouse	3.944	5.644	3.143
Natchitoches	3.830	5.352	3.012
Ouachita	3.259	4.446	2.882
Rapides	3.592	4.701	3.209
Red River	4.208	5.325	3.300
Richland	4.027	6.587	3.072
Sabine	4.125	5.178	3.829
St. Helena	4.802	5.729	3.681
Tensas	4.837	6.515	3.133
Union	4.047	5.841	3.185
Vernon	3.224	3.368	3.210
Washington	3.642	4.826	3.192
Webster	3.262	4.230	2.937
West Carroll	4.071	7.362	3.430
West Feliciana	4.582	5.741	3.380
Winn	3.923	6.044	3.139
<b>Total Noncoastal</b>	<b>3.576</b>	<b>4.919</b>	<b>3.059</b>

Source: Table 120 and 125, U.S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C20, Louisiana.

The strong French-Catholic ethnic group in the coastal region is characterized by cultural practices undoubtedly related to water resources. Members of this group became water oriented from the beginning and placed their settlements in such a way as to take advantage of bayous and other available water transportation routes. They also very early came to rely upon the coastal water areas as a source of food and livelihood. Utilization of fish and other wildlife for food led to a unique food culture, internationally recognized for consumption of crawfish, which is of interest in a report such as this because of the potential for development projects which it represents.

The existence of a French subculture, in addition to a black subculture, has implications for the planner. The local use of French as a language suggests that program implementers should consider using persons who are bilingual. It seems logical to assume that local beliefs and practices would differ from those found in non-French communities. Planners for the region will have to work out ways of becoming accepted by the local people.

The most striking finding of the demographic section of this study is that the coastal zone, originally defined in terms of drainage patterns, can also be delineated in terms of the French-Catholic cultural area of Louisiana. There are some exceptions, such as East Baton Rouge Parish and its vicinity, but these are not of great importance. The correspondence of a cultural and a physical area is not unusual. However, it is a coincidence which always has challenging consequences for the formulation of policies and programs.<sup>8</sup>

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<sup>8</sup>For a discussion of this in the context of agricultural planning, see *The French and Non-French in Rural Louisiana*, Alvin L. Bertrand and Calvin L. Beale, LAES Bulletin No. 606, December 1967.

## Industrial and Occupational Milieu

The human resource component in an area is reflected in occupational and industrial activity as well as in the composition and distribution of the population. It was with this thought in mind that selected data relating to industry and employment were gathered. It can be seen from the accompanying tables and charts that there is, indeed, an important difference in the way people make a living in the coastal and noncoastal areas. These differences can be highlighted in terms of the percentage of persons in at least two employment categories, agriculture and mineral production (see Table 9 and Figure 12). It should be noted that a previous Sea Grant publication has explored differences in the economic structure of the coastal and noncoastal areas.<sup>9</sup> For this reason, only broad findings which reflect culturally relevant patterns are reviewed here.

One such pattern is that significantly fewer persons are engaged in agriculture in the coastal zone than in the noncoastal area. This difference is in both relative and absolute terms, as can be seen in Figure 13 and Table 10. The full ramifications of this difference in the way a living is made in the two regions are not obvious without elaboration.

First, although it is clear that agricultural pursuits occupy the time and interests of more persons in the noncoastal area, only a relatively small percentage of persons work on farms in either the coastal zone or the noncoastal region. In this regard, it should be noted that many persons are engaged in farm-related but off-farm occupational pursuits. But it is still clear that noncoastal areas are much more agriculture-oriented in the traditional sense. A recent study done at the request of the Louisiana Advisory Commission on Coastal and Marine Resources goes into considerable detail in this area.<sup>10</sup>

Second, there is a considerable difference in agriculturally related pursuits in the two parts of the state. Coastal area farmers tend to specialize in crops not grown in great quantity in noncoastal areas, such as rice, sugarcane, winter vegetables, and citrus. They also are engaged to a much greater extent in fisheries and trapping activity. Since fishing activity is included under agricultural industries in the U.S. Census, it was deemed of interest to try to determine the extent of its importance in the coastal area. Certain indicators were found and are shown in Table 11.

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<sup>9</sup>Lamar B. Jones and G. Randolph Rice, *An Economic Base Study of Coastal Louisiana*, Center for Wetland Resources, Louisiana State University, Baton Rouge, LSU-SG-72-02.

<sup>10</sup>Floyd L. Corty, *Agriculture in the Coastal Zone of Louisiana*, Department of Agricultural Economics and Agribusiness, A.E.A. Information Series No. 25, Louisiana State University, Baton Rouge, May 1972.

TABLE 9.--Industry of Employed Persons for Selected Industries in Louisiana by Parish, 1970

Parish	Total Employed	Agriculture	Mining	Construction	Manufacturing	General Merchandising and Retailing
Coastal						
Acadia	15,009	1,750	1,374	1,083	1,678	295
Ascension	10,805	459	209	1,430	2,643	234
Assumption	4,929	937	219	569	1,081	66
Calcasieu	47,648	1,084	1,693	5,168	9,052	1,188
Cameron	2,601	336	416	219	306	58
East Baton Rouge	102,577	1,133	981	10,116	17,772	2,654
Evangeline	8,386	1,316	585	613	931	155
Iberia	17,346	1,090	2,673	1,076	2,242	495
Iberville	8,018	548	363	1,088	1,361	81
Jefferson	122,345	1,129	4,810	10,608	19,323	4,168
Jefferson Davis	8,752	1,391	930	731	763	204
Lafayette	37,569	1,380	3,568	2,926	2,030	1,220
Lafourche	20,964	1,362	2,191	1,789	3,193	441
Livingston	11,066	432	183	2,091	1,986	273
Orleans	208,787	1,364	3,576	12,061	24,830	6,189
Plaquemines	7,905	371	1,596	1,015	827	76
Pointe Coupee	5,510	844	66	913	707	129
St. Bernard	17,521	225	356	1,785	3,777	520
St. Charles	8,910	205	261	723	2,881	216
St. James	4,976	511	18	313	2,197	40
St. John the Baptist	6,321	312	94	660	2,293	111
St. Landry	20,569	2,362	1,335	2,901	1,337	250
St. Martin	8,301	991	696	1,316	717	133
St. Mary	19,130	1,120	2,347	1,491	2,647	334
St. Tammany	19,608	440	488	2,065	4,018	351
Tangipahoa	19,294	2,007	292	1,939	3,063	438
Terrebonne	22,958	1,036	4,255	1,465	2,698	719
Vermilion	12,519	1,619	1,442	1,208	1,001	194
West Baton Rouge	4,583	309	68	617	1,070	88
Total	804,907	28,063	37,085	69,979	118,424	21,320

(continued)

TABLE 9.- (continued)

Parish	Total Employed	Agriculture	Mining	Construction	Manufacturing	General Merchandising and Retailing
Noncoastal						
Allen	5,676	418	146	551	1,337	147
Avoyelles	9,859	1,435	241	1,361	877	181
Beauregard	6,454	212	187	683	1,187	317
Bienville	4,677	269	137	413	1,578	55
Bossier	17,879	558	539	1,093	3,326	671
Caddo	82,576	1,368	2,977	5,280	14,916	2,191
Caldwell	2,700	351	111	283	362	48
Catahoula	3,091	596	188	306	371	35
Claiborne	5,001	269	364	323	1,195	93
Concordia	6,807	701	540	505	1,057	182
DeSoto	6,439	563	167	428	1,768	120
East Carroll	3,067	867	34	179	171	77
East Feliciana	4,419	309	18	350	854	31
Franklin	6,319	1,360	167	518	665	168
Grant	3,619	291	184	405	566	56
Jackson	5,250	116	18	349	2,228	437
LaSalle	3,810	84	606	253	907	31
Lincoln	11,371	342	220	733	1,248	214
Madison	4,015	750	23	263	527	101
Morehouse	9,038	971	77	531	2,655	207
Natchitoches	10,081	779	160	846	754	101
Ouachita	39,340	692	402	3,083	6,069	1,385
Rapides	35,353	1,505	406	2,501	4,329	976
Red River	2,715	340	67	240	574	36
Richland	5,849	1,037	166	558	786	108
Sabine	4,812	247	214	373	1,371	59
St. Helena	2,429	332	60	330	356	7
Tensas	2,388	707	62	103	181	30
Union	5,565	318	153	525	1,477	76
Vernon	6,933	246	63	607	738	275
Washington	12,636	646	260	959	3,495	177
Webster	13,369	265	361	873	4,988	260
West Carroll	3,228	768	36	390	439	74
West Feliciana	1,745	137	16	72	543	21
Winn	4,828	87	129	363	1,755	81
Total	353,338	19,936	9,499	26,630	92,150	9,028

Source: Table 123, U.S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C-20, Louisiana.

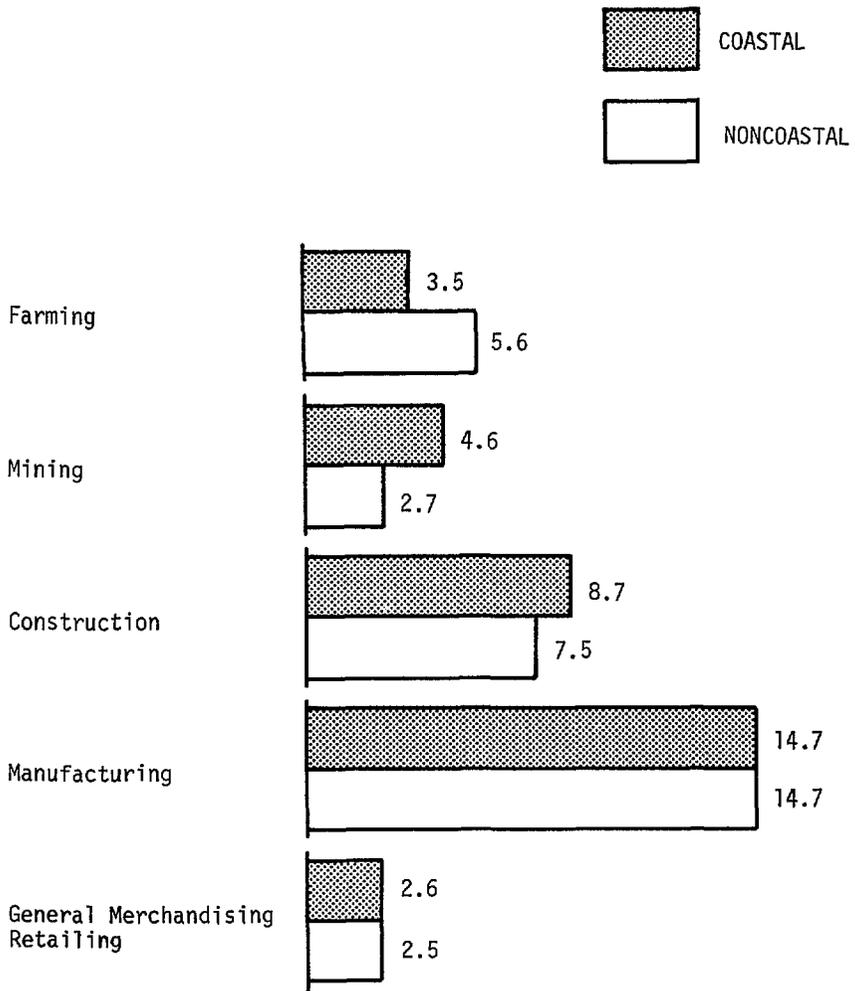


Figure 12.—Percent distribution of employed persons for selected industries in the coastal and noncoastal areas of Louisiana, 1970.

Source: U.S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C-20 Louisiana, Table 123.

Number of Farms

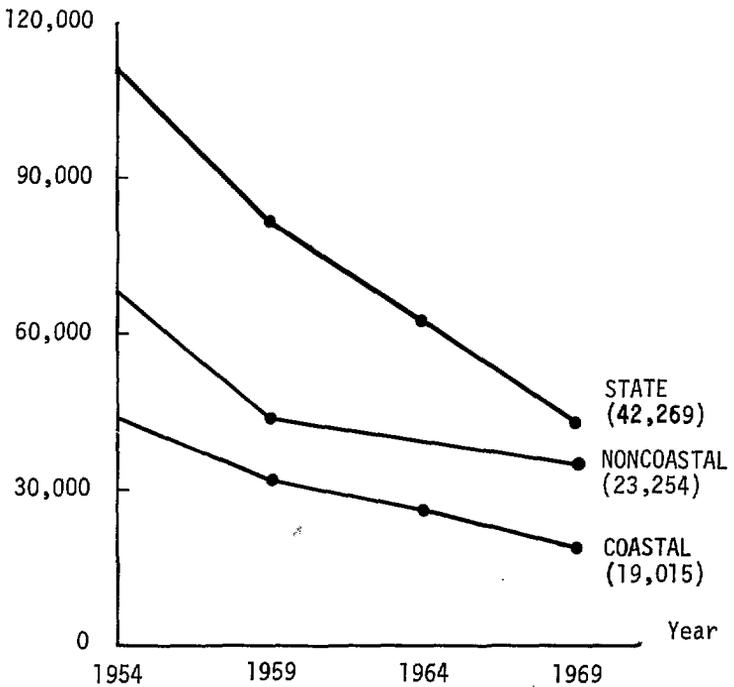


Figure 13.—Number of farms in Louisiana, the coastal zone, and the noncoastal area, 1954-1969.

Sources: U.S. Bureau of the Census, Census of Agriculture: 1969, Vol. 1, Part 35, La. Section 2, County Data, Table 3; U.S. Census of Agriculture: 1959, Vol. 1, Table 2.

TABLE 10.—Farms, Land in Farms and Ownership in Louisiana by Parishes, 1969

Parish	Approximate Land Area--Acres	Land in Farms, Acres	Number of Farms	Average Size of Farm--Acres	Proportion in Farms, Percent	Tenant Acres	Percent of Tenancy	Negro Percent of Tenancy
Coastal								
Acadia	424,192	335,630	1,453	230.9	79.1	72,141	21.8	37.3
Ascension	192,640	64,135	523	308.0	33.3	18,753	14.3	50.0
Assumption	227,584	84,743	194	436.8	37.2	33,719	48.4	60.0
Calcasieu	707,200	403,435	739	545.9	57.0	109,686	25.1	33.3
Cameron	922,368	287,385	423	679.3	31.2	34,454	13.7	0.0
East Baton Rouge	293,760	133,511	675	197.7	45.4	16,854	12.8	15.3
Evangeline	427,840	222,317	1,519	146.3	52.0	32,336	23.6	62.7
Iberia	376,960	131,051	591	221.7	34.8	29,442	24.5	36.5
Iberville	401,472	122,340	286	427.7	30.5	35,700	40.9	40.7
Jefferson	236,416	8,951	54	165.7	3.8	2,788	31.4	0.0
Jefferson Davis	420,864	365,769	897	407.7	86.9	115,800	31.9	33.3
Lafayette	181,120	136,453	1,452	93.9	75.3	26,932	19.6	39.2
Lafourche	730,048	204,629	519	394.2	28.0	47,481	31.2	0.0
Livingston	418,368	44,864	489	91.7	10.7	824	2.8	33.3
Orleans	126,144	-	-	-	-	-	-	-
Plaquemines	658,944	31,691	111	285.5	4.8	4,926	25.2	50.0
Pointe Coupee	360,448	228,458	811	281.6	63.4	43,489	31.4	52.6
St. Bernard	329,024	7,112	27	263.4	2.2	320	25.9	0.0
St. Charles	188,224	33,653	71	473.9	17.9	18,645	47.8	0.0
St. James	162,112	56,900	145	392.4	35.1	28,948	45.5	43.4
St. John the Baptist	145,024	22,556	47	479.9	15.6	3,177	40.4	78.5
St. Landry	596,480	336,329	2,864	117.4	56.4	54,265	23.7	39.9
St. Martin	471,040	99,532	774	128.5	21.1	25,114	30.6	56.0
St. Mary	399,040	121,199	216	561.1	30.4	38,802	36.1	26.8
St. Tammany	567,360	80,206	526	152.4	14.1	2,665	4.7	0.0
Tangipahoa	517,184	159,592	1,513	105.4	30.9	7,851	6.0	9.4
Terrebonne	875,200	100,080	217	461.1	11.4	17,771	27.6	50.0
Vermilion	771,328	393,113	1,738	226.1	51.0	57,818	19.4	48.7
West Baton Rouge	129,856	55,334	141	392.4	42.6	10,728	23.4	12.5
Total	12,132,096	4,270,968	19,015	224.6	35.0	891,429	21.0	

(continued)

TABLE 10- (continued)

Parish	Approximate Land Area--Acres	Land in Farms, Acres	Number of Farms	Average Size of Farm--Acres	Proportion in Farms, Percent	Tenants Acres	Percent of Tenancy	Negro Percent of Tenancy
Noncoastal								
Allen	495,488	161,088	523	308.0	32.5	25,595	12.4	13.3
Avoyelles	532,480	257,609	2,009	128.0	48.4	14,975	10.0	22.6
Beauregard	757,568	157,174	828	189.8	20.7	15,546	6.8	0.0
Bienville	532,608	95,396	548	174.0	17.9	3,624	5.2	5.1
Bossier	543,040	181,350	537	337.7	33.4	26,582	13.5	13.0
Caddo	575,296	277,386	807	343.7	48.2	46,942	18.4	16.8
Caldwell	352,448	61,375	333	184.3	17.4	7,588	10.2	17.9
Catahoula	474,944	204,071	671	304.1	43.0	61,945	13.5	21.2
Claiborne	488,448	113,677	535	212.4	23.3	8,081	8.7	12.6
Concordia	459,264	237,946	443	537.1	51.8	34,358	16.4	22.0
DeSoto	572,160	246,552	877	281.1	43.1	25,166	10.3	11.6
East Carroll	278,720	211,010	445	474.1	75.7	34,071	18.2	15.9
East Feliciana	290,496	184,764	503	367.3	63.6	11,395	11.1	14.9
Franklin	414,528	326,782	1,701	192.1	78.8	47,840	15.5	29.5
Grant	428,608	62,796	347	180.9	14.7	1,793	8.0	21.6
Jackson	372,544	29,063	232	125.2	7.8	450	3.0	33.3
LaSalle	411,648	21,695	283	76.6	5.3	1,245	7.4	38.4
Lincoln	300,032	77,333	482	160.4	25.8	2,683	3.9	21.4
Madison	423,232	242,575	443	547.5	57.3	44,873	17.8	33.7
Morehouse	514,560	268,449	726	369.7	52.2	45,413	16.3	18.8
Natchitoches	828,800	267,807	881	303.9	32.3	21,715	10.4	18.9
Ouachita	408,064	111,771	499	223.9	27.4	8,540	12.2	25.0
Rapides	843,776	197,839	1,130	175.0	23.4	30,595	14.2	37.3
Red River	259,776	131,513	428	307.2	50.6	13,427	11.2	26.3
Richland	368,832	263,814	1,146	230.2	71.5	33,989	14.7	33.5
Sabine	558,720	82,557	566	145.8	14.8	1,050	1.5	40.0
St. Helena	268,800	71,249	594	119.9	26.5	2,990	5.2	4.6
Tensas	400,832	235,042	459	512.0	58.6	38,201	27.4	35.3
Union	579,840	89,885	574	156.5	15.5	2,781	5.0	12.2
Vernon	868,672	63,142	575	109.8	7.3	1,509	2.6	50.0
Washington	425,600	137,405	1,212	113.3	32.3	4,248	4.3	8.6
Webster	393,856	103,758	545	190.3	26.3	3,659	5.8	8.8
West Carroll	227,840	196,855	1,163	169.2	86.4	22,638	13.0	26.5
West Feliciana	259,136	121,455	221	549.5	46.9	9,256	31.6	57.1
Winn	608,256	25,511	218	117.0	4.2	605	4.5	0.0
Total	16,518,912	5,517,694	23,254	237.28	33.0	655,368	12.0	
State Total	28,777,152	9,788,662	42,269	231.5	34.0	1,546,797	16.0	29.6

Source: U.S. Bureau of the Census, Census of Agriculture, 1969, Vol. 1, Area Reports, Part 34, Louisiana 2; County Data, U.S. Government Printing Office, Washington, D.C., 1972.

TABLE 11.--Fishing and Trapping Activities in Louisiana

NUMBER OF FISHERMEN, QUANTITY AND VALUE OF LANDINGS IN LOUISIANA, 1972, AND NUMBER OF PROCESSING PLANTS IN LOUISIANA, 1971\*

	Number of Fishermen 1972		Quantity and Value of Landings, 1972		Processing Plants and Number of Employees, 1971	
	Full Time	Part Time	Quantity 1000 of Pounds	Value 1000 of Dollars	Number of Plants	Average Annual Employment
Louisiana	9,500	3,300	1,070,597	71,916	128	3,112
Gulf States	30,500	8,250	1,584,799	232,419	428	11,488
United States	85,730	64,180	4,710,400	703,600	1,836	56,698

NUMBER OF TRAPPING AND FUR DEALING LICENSES SOLD FOR COASTAL AND NONCOASTAL LOUISIANA \*\*

	<u>Trapping</u>	<u>Fur Buyers</u>	<u>Fur Dealers</u>
Coastal Total	2,520	73	14
Noncoastal Total	878	12	2
Louisiana Total	3,398	85	16

\*Source: United States Department of Commerce, Fisheries of the United States, 1972, March 1973.

\*\*Source: Louisiana Almanac, 1973-1974, p. 215.

Information obtained on commercial fishing activities in the state shows there were 128 fish processing plants in Louisiana in 1971, and that there were 9,500 full-time and 3,300 part-time commercial fishermen in 1972. The great majority of these plants and fishermen are in the coastal area. An idea of the importance of this type activity can be gleaned from the fact that, in 1972, Louisiana led all states in volume of fish landings with over 1 billion pounds processed. Shell fish are also a very important commodity in the coastal zone. The areas where oysters, crabs, and salt-water fish are caught appear in Figure 14. For example, approximately 58 million pounds of shrimp with a value of \$43.3 million were harvested in Louisiana coastal waters in 1971 (Table 12).

It is also of interest to note the large number of trapping licenses sold in the coastal zone—2,520 as compared with only 878 in the noncoastal area. Fur-bearing animals such as nutria and muskrat thrive in the marsh and swamp lands of the coastal zone and provide a source of income for many residents in parishes such as Terrebonne, Vermilion, St. Mary, and Cameron (Table 11). Since most commercial fishing and trapping activities are restricted to the coastal zone, one can expect a definite cultural distinction in this respect between coastal and noncoastal Louisiana.

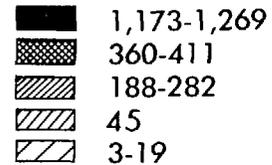
It also should be noted that seafood and fur represent renewable resources. These resources, if properly maintained, could become increasingly important segments of the state's economy.

The third difference in agricultural pursuits between the coastal and noncoastal zones is with respect to land holdings and tenure. There has been a decrease in the number of acres in farming in both coastal and noncoastal areas, but the drop in acreage has been more rapid in the noncoastal part of the state (see Figure 15). The number of farms also has been dropping in both regions, but this trend is more evident in the coastal parishes. From 1954 to 1969, the number of farms in Louisiana declined by 62 percent (Figure 13). The number of farms in the coastal zone declined by 56 percent and in the noncoastal area by 66 percent during this same period. Average farm size in the coastal zone was 110 acres in 1954, as compared with 99 acres in the noncoastal area; by 1969 average farm size had increased to 225 acres in the coastal zone and 237 acres in the noncoastal area. These changes are portrayed graphically in Figure 16.

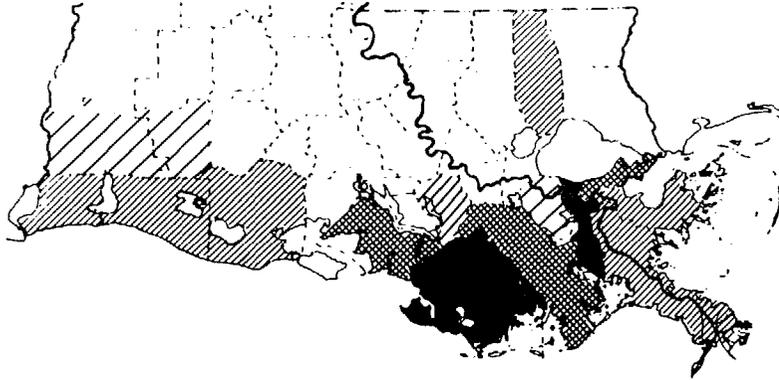
Land tenure has reference to the relations which man has to the land he owns or works. In this context, tenant farming is still a major way of life for many residents in the coastal zone. In fact, over two-thirds of the coastal zone farm acres are worked by tenants. By comparison, less than half the acreage in the noncoastal area is operated by tenants (Table 10). This pattern probably reflects a trend on the part of coastal landowners to maintain ownership, even though they live off the farm themselves. Such decisions can be attributed in part to a hope for benefits from oil and gas deposits.

## SEA FOOD PROCESSING, NUMBER EMPLOYEES

Peak of season, 1967

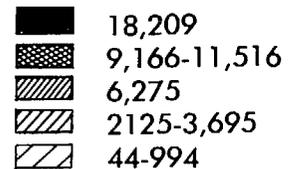


State = 4,882

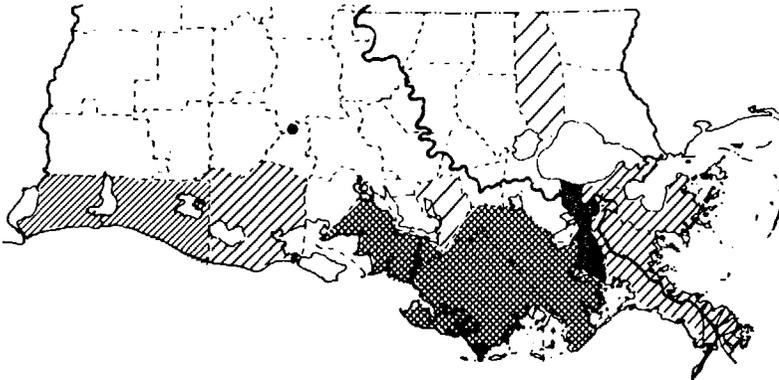


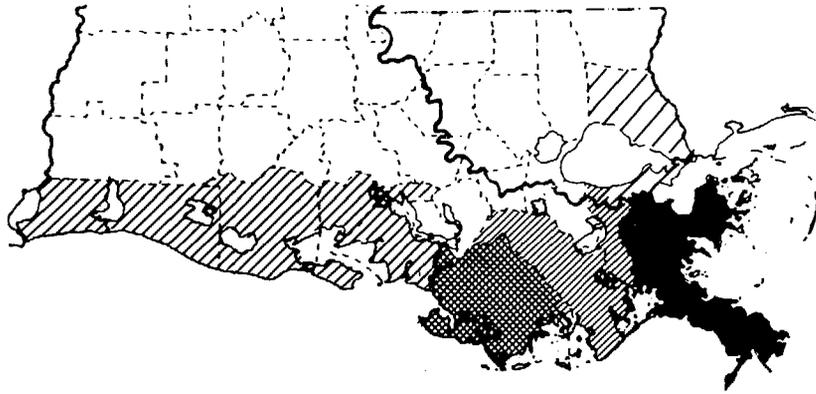
## PROCESSED PRODUCTS

1967 Value  
X \$1000



State = 68,160



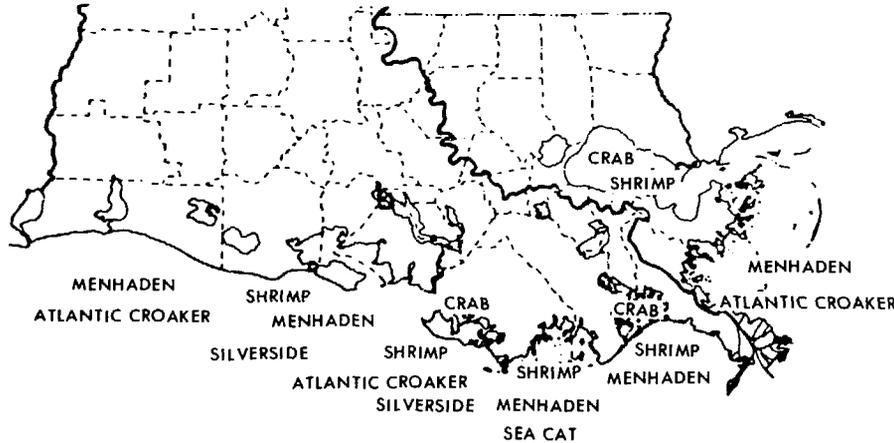


### OYSTER LEASES

1969 (acres)

- 36,939-37,654
- 20,347
- 7,955-10,759
- 701-1200
- 208-333

State = 117,518



### MAIN COMMERCIAL SPECIES

Figure 14—Seafood processing industry in Louisiana.

TABLE 12.—Gulf Coast States Summary of Shrimp Landings, 1971

	Quantity 1000 of Pounds	Value 1000 of Dollars
Louisiana	58,712	43,283
Florida West Coast	13,580	12,985
Alabama	10,470	11,451
Mississippi	5,927	4,239
Texas	54,385	64,191

Source: U.S. Department of Commerce, Current Fisheries Statistics No. 5924, Shrimp Landings, Annual Summary 1971, pp. 2-3.

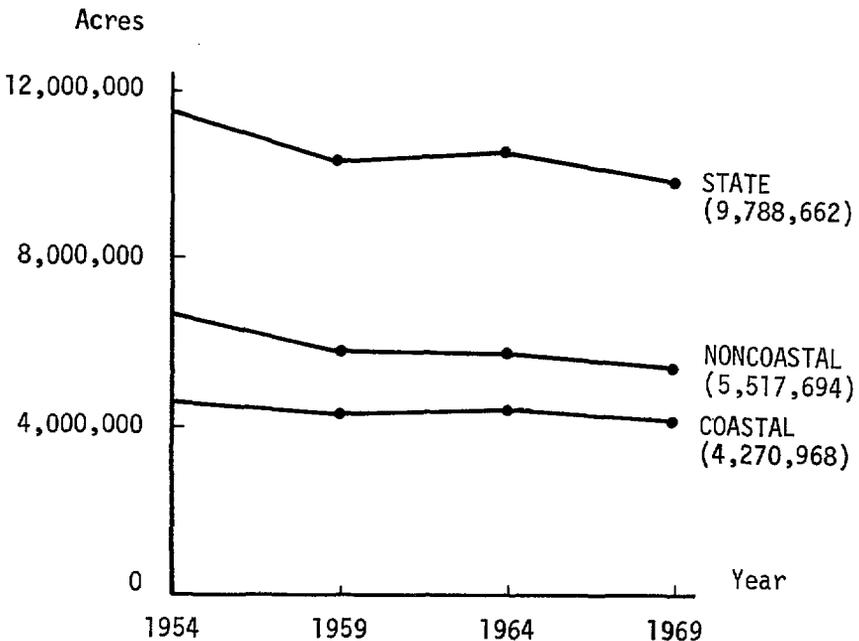


Figure 15.—Land in farms in Louisiana, the coastal zone, and the non-coastal area, 1954-1969.

Sources: U.S. Bureau of the Census, Census of Agriculture: 1969, Vol. 1, Area Reports, Part 35, La. Section 2, County Data, Table 1; U.S. Census of Agriculture: 1959, Table 2.

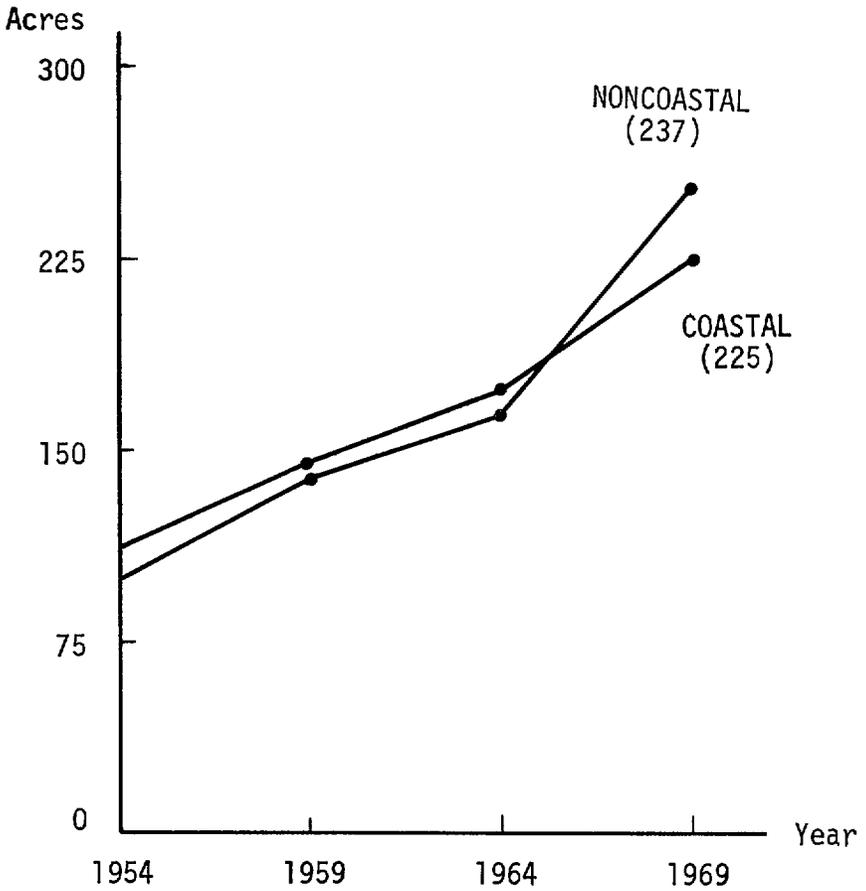


Figure 16.—Average size of farm in Louisiana's coastal zone and non-coastal area, in acres, 1954-1969.

Sources: U.S. Bureau of the Census, *Census of Agriculture: 1969, Vol. 1, Area Reports, Part 35, La. Section 2, County Data, Table 3*; U.S. Census of Agriculture: 1959, Vol. 1, Table 2.

The second major occupational activity which varies considerably from coastal to noncoastal Louisiana is mineral production or mining. The map of mineral production in Louisiana for 1969 (Figure 17) shows the vast areas of the coastal zone where mines are located. The leading minerals produced are salt, sulphur, lime, gypsum, and oil. Oil and gas production, which has a market value of more than \$4.32 billion annually, is the major mineral industry in the coastal zone. Despite the fact that crude oil production in Louisiana experienced a sharp decline in 1971

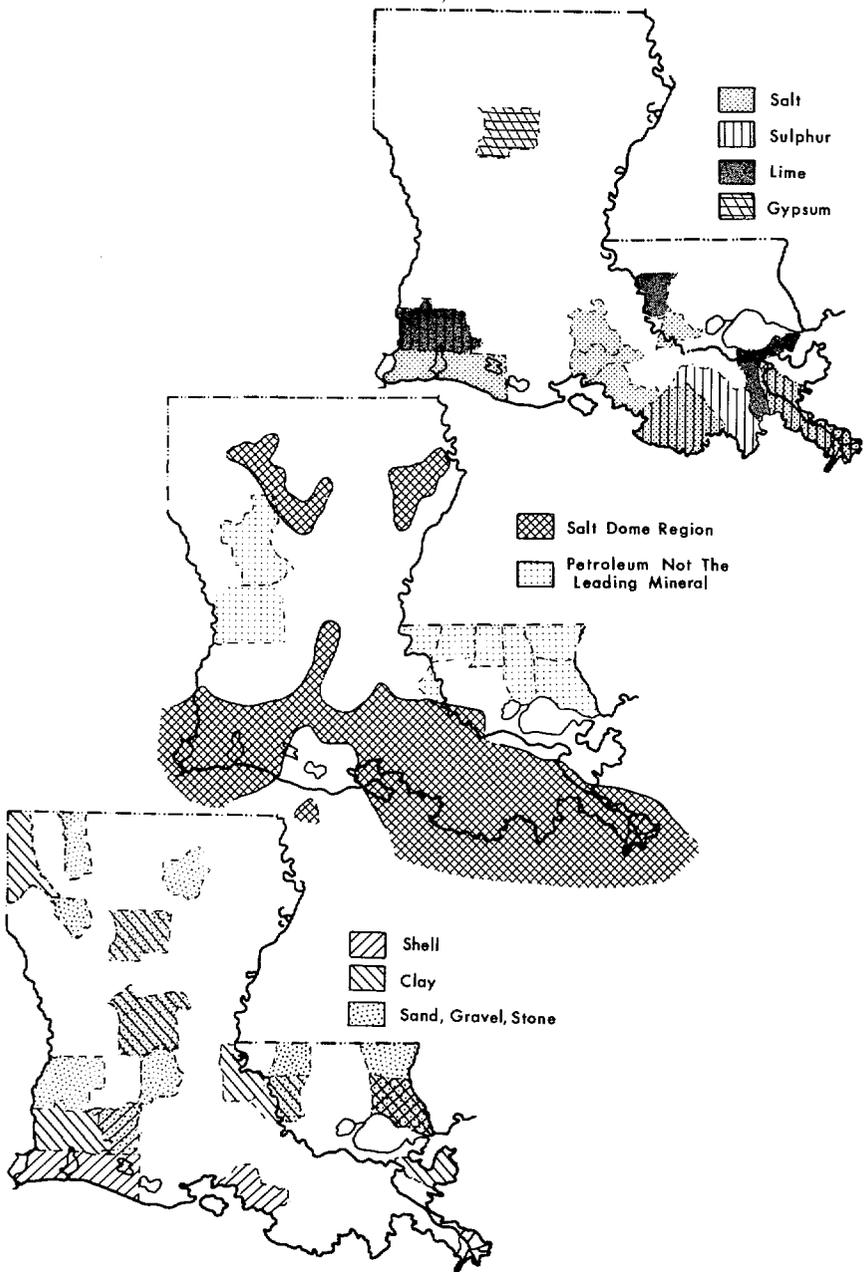


Figure 17.—Mineral production in Louisiana, 1969.

(Figure 18), and that this decline occurred primarily in the coastal zone, production there still remains high.

Mining, including quarrying as well as petroleum and gas extraction, currently employs over 37,000 people in the coastal zone, which is more than three times the number employed in like occupations in the noncoastal area (Table 9). In fact, almost one out of every 20 persons is

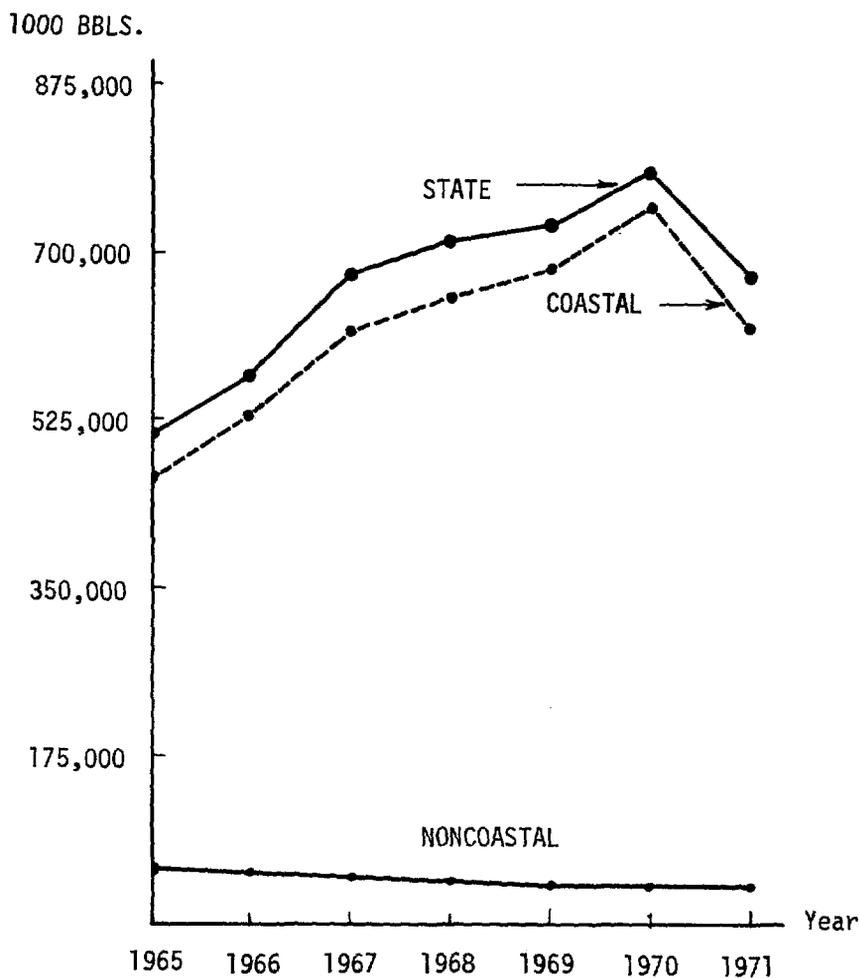


Figure 18.—Crude oil production in Louisiana, the coastal zone, and the noncoastal area, 1965-1971.

Source: Louisiana Department of Conservation, Annual Oil and Gas Report, respective years.

employed in this type occupation in the coastal zone, but in the noncoastal area only one in about every 34 persons is working in a mineral or mining job. The difference in the amount of such activity carried on in each region is highlighted by the fact that the value of mineral production was approximately 10 times greater in the coastal zone than in the noncoastal area in 1968 (see Table 13).

Figure 12 and Table 9 include information on persons employed in construction, in manufacturing, and in general merchandising and retailing in the coastal and noncoastal areas of Louisiana. These occupational areas, along with agriculture and mining, were considered to represent the important employment opportunities in the state where differences between coastal and noncoastal areas might exist. It can be seen that there is some difference between the coastal and noncoastal regions in the relative number of persons employed in construction work.

TABLE 13.—Value of Mineral Production in Louisiana, by Parish, 1967 and 1968

Parish	1967	1968	1968
			Minerals Produced in Order of Value <sup>1</sup>
<b>Coastal</b>			
Acadia	\$ 138,834	\$ 114,116	NG, NGL, P
Ascension	33,288	10,117	P, S, NG
Assumption	32,752	27,708	NG, P
Calcasieu	72,037	62,882	P, NG, NGL, L, S, CM, SL, C
Cameron	176,593	218,472	NG, P, NGL, S, ST
East Baton Rouge	18,917	16,689	CM, L, P, S&G, NG, C
Evangeline	13,608	11,022	P, NG, NGL, S&G
Iberia	144,428	193,098	P, NG, S, NGL, C
Iberville	64,781	53,620	P, S, NG, NGL
Jefferson	144,309	220,804	P, SL, NG, S, NGL, ST
Jefferson Davis	80,786	57,825	NG, P, NGL, S&G
Lafayette	19,992	15,872	NG, P, NGL, C
Lafourche	315,272	445,289	P, NG, SL, NGL
Livingston	67	18	P, NG
Orleans	15,262	15,372	C, L, NG
Plaquemines	912,908	1,093,662	P, NG, SL, NGL, S
Pointe Coupee	22,668	25,087	P, NG, NGL, C
St. Bernard	19,537	32,225	NGL, P, NG, C
St. Charles	88,875	74,516	P, NGL, NG
St. James	10,064	10,382	P, NG, NGL
St. John the Baptist	6,482	4,703	P, NG, ST
St. Landry	56,187	49,302	NG, P, NGL
St. Martin	101,274	80,464	P, NG, NGL, S
St. Mary	328,346	346,074	P, NG, NGL, S, ST, L
St. Tammany	3,165	7,837	ST, S&G, NG, C, P
Tangipahoa	430	170	P, S&G, C
Terrebonne	535,504	529,991	P, NG, SL, NGL, S
Vermilion	153,895	220,785	NG, P, NGL, S&G
West Baton Rouge	845	3,497	P, NG, C
<b>Coastal Total</b>	<b>3,511,106</b>	<b>3,941,599</b>	

(Continued)

This difference, no doubt, is related to the fact that coastal areas are growing at a faster rate than the rest of the state. However, about the same relative number of people are employed in manufacturing, in general merchandising and retailing, and in other activities in both regions of the state.

TABLE 13.--(continued)

Parish	1967	1968	1968
			Minerals Produced in Order of Value <sup>1</sup>
Noncoastal			
Allen	\$ 7,903	\$ 6,361	P, NG, NGL
Avoyelles	6,627	5,449	P, NGL, NG
Beauregard	14,494	9,315	P, NGL, NG, S&G
Bienville	12,332	7,293	NG, P, C
Bossier	20,137	24,005	NG, P, NGL
Caddo	28,525	26,324	P, NG, NGL, C
Caldwell	2,502	1,914	NG
Catahoula	17,501	9,513	P, S&G, NG
Claiborne	34,784	27,054	P, NG, NGL
Concordia	37,534	30,011	P, NG
DeSoto	12,878	6,458	NG, P
East Carroll	-	28	NG
East Feliciana	D	D	S&G
Franklin	4,119	2,188	P, NG
Grant	462	2,272	P, S&G, NG
Jackson	4,251	2,650	NG, P
LaSalle	29,925	19,733	P, NG, S&G
Lincoln	35,732	19,835	NGL, NG, P, C
Madison	1,955	814	NG
Morehouse	1,891	11,760	NG, NGL, P
Natchitoches	30,425	33,227	P, NG, NGL, C
Ouachita	11,360	24,791	P, NG, NGL, S&G
Rapides	10,499	7,548	P, S&G, NG, NGL, C
Red River	1,581	595	S&G, P, NG
Richland	22,346	16,911	P, NGL, NG
Sabine	14,226	3,743	P, NG
St. Helena	D	D	S&G
Tensas	18,491	7,359	P, NGL, NG
Union	7,991	2,114	NG, P
Vernon	17	17	S&G
Washington	621	928	S&G
Webster	36,959	31,635	NG, NGL, P, S&G
West Carroll	139	36	NG
West Feliciana	D	D	S&G
Winn	2,439	2,823	P, G, ST, S&G
Undistributed	19,998	16,707	
Noncoastal Total	450,644	379,411	
State Total	3,961,750	4,321,010	

<sup>1</sup>P=Petroleum, NG=Natural Gas, NGL=Natural Gas Liquid, S&G=Sand and Gravel, S=Salt, L=Lime, C=Clays, CM=Cement, SL=Sulfur, ST=Stone, G=Gypsum.

D--Figures withheld to avoid disclosing company confidential data.

Source: Division of Business and Economic Research, College of Business Administration, Louisiana State University in New Orleans, Statistical Abstract of Louisiana. Fourth Edition, 1971.

In concluding this section on major occupational and employment differences which set coastal Louisiana apart from noncoastal Louisiana, a word of summary is in order. Coastal residents are less likely to be farmers than noncoastal residents. However, those occupied in agricultural industries will tend to be in types of pursuits which are not prevalent in the northern part of the state. Another contrast is that coastal residents are more likely to be employed in extractive industries, i.e., mining and mineral production. These differences set the stage for considerable socio-cultural differences between the two areas.

## The Recreation Picture and Potential of the Coastal Zone

Coastal areas of Louisiana represent an unusual recreation resource, with the mild climate and abundance of fish and wild life in these areas. It is thus important to attempt to determine the recreation use now being made of Louisiana's coastal zone. It is also in keeping with the objectives of this study to determine the potential uses for recreation which the coastal zone might have. The following discussion is intended to provide an indication of how the coastal zone fits into the statewide recreation picture.

Two recreation activities, fishing and hunting, are more popular in Louisiana than in the U.S. as a whole. These are traditional sports engaged in by thousands of persons because the state offers many acres of woodlands, swamps, marshes, agricultural lands, and water areas rich in fish and game. Rather easy access to game areas, as well as to fresh-water and salt-water fishing, enhances participation in these activities.

Differences in sports fishing and hunting activity between the coastal and noncoastal areas are principally related to the presence of the Gulf of Mexico and to the terrain features in these two parts of the state. For example, charter boats out of several coastal ports make daily recreation fishing runs as far as 20 to 30 miles to the large oil and gas platforms which dot the offshore Gulf area. Smaller, privately owned boats provide access to literally hundreds of bayous and lakes which characterize the estuarine areas of southern Louisiana. These areas also account for the national reputation which the Louisiana coast has for duck and goose hunting. In contrast, the noncoastal areas are more popular for deer and for birds other than waterfowl.

Empirical evidence showing the larger volume of hunting and fishing in the coastal region as contrasted to the noncoastal region is presented in Table 14. It can be seen that over 30,000 more resident fishing licenses were sold in the coastal parishes in 1971, and that 35,000 more hunting licenses were sold.

There are, of course, many other outdoor recreation activities, besides fishing and hunting, which are popular in Louisiana. Among those which stand out are boating for pleasure, camping, picnicking, bicycling, swimming, and sightseeing. It should be of concern to planners for the state that

TABLE 14.--Licenses Sold by Parish 1970-71 Hunting and Fishing Season

Parish	Hunting					Fishing		
	Basic Resident \$2.00	N/R Season \$25.00	N/R Trip \$5.00	Reciprocal	Big Game \$2.00	Resident \$2.00	N/R Season \$6.00	N/R Trip \$3.00
Coastal								
Acadia	4,919	1	82	12	453	1,013	2	10
Ascension	3,883	1	6	-	1,068	1,106	2	25
Assumption	1,764	-	-	-	355	386	-	3
Calcasieu	18,779	15	1,292	-	4,726	9,295	25	184
Cameron	1,674	179	820	56	123	4,149	6	70
East Baton Rouge	22,381	4	212	41	8,662	10,621	20	336
Evangeline	4,345	-	13	-	1,192	1,374	3	27
Iberia	5,015	-	42	9	667	2,468	15	75
Iberville	3,419	1	4	-	1,518	1,731	2	14
Jefferson	15,198	1	54	17	1,868	7,084	12	77
Jefferson Davis	4,455	3	270	47	586	1,075	5	20
Lafayette	9,178	7	225	-	1,378	3,323	4	81
Lafourche	8,182	-	-	-	805	2,037	6	3
Livingston	5,745	1	9	-	2,764	1,119	-	21
Orleans	17,084	4	278	42	2,229	20,266	70	250
Plaquemines	2,175	-	-	-	211	1,342	-	1
Pointe Coupee	2,369	-	27	-	1,197	1,076	6	48
St. Bernard	3,102	-	1	-	371	2,184	1	14
St. Charles	2,945	-	30	1	566	1,427	11	34
St. James	1,448	-	-	-	301	271	1	-
St. John the Baptist	1,680	-	7	-	342	535	3	15
St. Landry	8,916	-	32	-	2,635	2,876	3	30
St. Martin	2,819	-	6	-	486	1,606	4	59
St. Mary	6,158	1	71	-	1,048	2,034	14	61
St. Tammany	6,318	68	116	6	2,001	3,243	316	325
Tangipahoa	7,257	7	41	27	1,793	1,993	54	90
Terrebonne	7,956	6	21	-	696	3,266	6	18
Vermilion	5,199	7	479	-	592	1,307	3	11
West Baton Rouge	2,764	-	9	-	1,138	787	1	8
Total Coastal	187,127	306	4,147	258	41,771	90,994	595	1,210
Noncoastal	151,826	385	4,080	597	86,226	59,547	2,224	11,245
State Total	338,953	691	8,227	855	127,997	150,903	2,819	12,455

Source: Louisiana Almanac, 1973-74, p. 213.

Louisiana ranks below national participant averages in almost all these activities.<sup>11</sup> This is especially striking since the climate would allow for nearly year-round participation in outdoor recreation.

In comparing the coastal and noncoastal areas with regard to the above types of recreation, one fact stands out. The coastal parishes are far ahead of noncoastal parishes in user days in all of the activities studied and presented in Table 15. A considerable amount of this difference is directly related to population differentials, but in some instances the re-

<sup>11</sup>U.S. Department of the Interior, Bureau of Outdoor Recreation, The 1970 Survey of Outdoor Recreation Activities, Preliminary Report, February, 1972, p. 8.

TABLE 15.- User Days of High Quarter\* Participation by Recreation Activity  
for 1970 and Projected for 1985 by Parish

Coastal Parishes	Swimming		Water Activities Non-fishing		Resource Based Recreation	
	1970	1985	1970	1985	1970	1985
	Acadia	357,656	331,460	115,535	107,100	278,562
Ascension	249,112	353,971	80,492	114,374	194,071	275,763
Assumption	131,575	146,656	42,514	47,387	102,504	114,253
Calcasieu	1,006,531	1,254,711	325,226	405,417	784,143	977,488
Cameron	56,086	60,401	18,122	19,516	43,694	47,055
E. Baton Rouge	1,978,782	2,603,037	639,376	841,083	1,541,580	2,027,908
Evangeline	219,123	197,919	70,802	63,951	170,708	154,190
Iberia	389,511	402,791	125,857	130,098	303,451	313,674
Iberville	209,272	198,177	67,619	64,034	163,035	154,391
Jefferson	2,307,759	3,690,107	745,675	1,192,333	1,797,871	2,874,796
Jefferson Davis	203,893	175,956	65,881	56,854	158,844	137,079
Lafayette	753,223	1,027,500	243,378	332,002	586,802	800,479
Lafourche	462,949	556,008	149,586	179,655	360,662	433,161
Livingston	248,539	376,866	80,307	121,771	193,626	293,599
Orleans	4,162,608	4,132,705	1,345,006	1,335,344	3,242,900	3,219,604
Plaquemines	169,989	194,912	54,926	62,979	132,431	151,847
Pointe Coupee	150,876	134,934	48,751	43,599	117,540	105,121
St. Bernard	353,274	716,790	114,148	231,606	275,220	558,418
St. Charles	199,219	304,892	64,371	98,516	155,202	237,528
St. James	133,008	133,556	42,977	43,154	103,621	104,048
St. John	160,045	229,693	51,713	74,218	124,684	178,944
St. Landry	550,535	494,136	177,886	159,663	428,897	384,959
St. Martin	219,208	229,795	70,830	74,250	170,776	179,023
St. Mary	406,228	518,557	131,259	167,554	316,474	403,985
St. Tammany	438,222	997,644	141,596	322,355	341,399	777,219
Tangipahoa	455,432	486,353	147,157	157,148	354,806	378,895
Terrebonne	509,608	631,278	164,662	203,976	397,012	491,800
Vermilion	297,728	297,242	96,201	96,044	231,946	231,568
W. Baton Rouge	112,940	135,161	36,493	43,673	87,986	105,298
Coastal	16,971,142	21,013,207	5,483,651	6,789,707	13,221,451	16,370,442
Noncoastal	8,201,862	8,050,947	2,650,155	2,601,392	6,389,701	6,272,130
State	25,173,004	29,064,154	8,133,806	9,391,099	19,611,152	22,642,572

(continued)

TABLE 15.- (continued)

Coastal Parishes	Walking and Picnicking		Playing Outdoor Games		Watching Outdoor Events		Camping	
	1970	1985	1970	1985	1970	1985	1970	1985
Acadia	273,539	253,569	513,286	475,812	402,774	373,368	61,192	56,725
Ascension	190,572	270,790	357,601	508,127	280,608	398,726	42,632	60,577
Assumption	100,656	112,193	188,877	210,525	148,211	165,199	22,517	25,098
Calcasieu	770,002	959,862	1,444,879	1,801,143	1,133,793	1,413,352	172,254	214,727
Cameron	42,906	46,207	80,512	86,705	63,178	68,037	9,598	10,337
E. Baton Rouge	1,513,781	1,991,340	2,840,550	3,736,671	2,228,973	2,932,156	338,642	445,475
Evangeline	167,630	151,409	314,551	284,113	246,828	222,943	37,499	33,871
Iberia	297,978	308,018	559,145	577,983	438,760	453,542	66,660	68,905
Iberville	160,095	151,607	300,411	284,484	235,732	223,234	35,814	33,915
Jefferson	1,765,450	2,822,955	3,312,799	5,297,165	2,599,545	4,156,672	394,942	631,513
Jefferson Davis	155,980	134,607	292,690	252,585	229,673	198,203	34,894	30,112
Lafayette	576,220	786,044	1,081,254	1,474,980	848,457	1,157,413	128,904	175,843
Lafourche	354,159	425,350	664,565	798,152	521,482	626,308	79,227	95,153
Livingston	190,135	288,305	356,780	540,992	279,964	424,515	42,534	64,496
Orleans	3,184,422	3,161,546	5,975,442	5,932,517	4,688,915	4,655,231	712,375	707,257
Plaquemines	130,043	149,109	244,020	279,797	191,482	219,556	29,091	33,357
Pointe Coupee	115,421	103,226	216,583	193,699	169,953	151,995	25,820	23,092
St. Bernard	270,257	548,349	507,126	1,028,955	397,941	807,418	60,458	122,669
St. Charles	152,404	233,245	285,979	437,674	224,407	343,442	34,094	52,178
St. James	101,752	102,171	190,934	191,721	149,825	150,443	22,763	22,856
St. John	122,436	175,717	229,746	329,725	180,281	258,735	27,390	39,309
St. Landry	421,163	378,017	790,296	709,334	620,143	556,613	94,217	84,565
St. Martin	167,696	175,795	314,675	329,872	246,925	258,849	37,515	39,326
St. Mary	310,767	396,700	583,142	744,391	457,590	584,122	69,520	88,744
St. Tammany	335,242	763,204	629,069	1,432,122	493,629	1,123,783	74,996	170,733
Tangipahoa	348,408	372,063	653,774	698,161	513,015	547,845	77,941	83,233
Terrebonne	389,853	482,932	731,544	906,203	574,041	711,095	87,213	108,035
Vermilion	227,764	227,392	427,390	426,693	335,372	334,825	50,952	50,869
W. Baton Rouge	86,400	103,399	162,126	194,025	127,220	152,251	19,328	23,131
Coastal	11,530	14,277,172	24,362,149	30,164,552	19,116,918	23,670,049	2,904,385	3,596,130
Noncoastal	5,572	5,470,120	11,773,810	11,557,170	9,238,879	9,068,883	1,403,639	1,377,812
State	17,103,497	19,747,292	36,135,959	41,721,722	28,355,797	32,738,932	4,308,024	4,973,942

\*Summer period is high quarter for all activities except hunting.

Source: Roger Burford and Sylvia G. Murzyn, Population Projections by Age, Race and Sex, for Louisiana and Its Parishes 1970-1985. (Occasional Paper No. 10), Div. of Research, College of Business Administration, Louisiana State University, Baton Rouge, June, 1972; State of Louisiana Outdoor Recreation Plan, State Parks and Recreation Commission, June, 1971.

source advantages of the coast areas account for the patterns observed. This is especially true for water activities other than fishing.

Since it is predicted that the state's population increase over the next 15 years will be primarily in the coastal parishes, one can expect greater demands on existing recreation facilities there and a need for the creation of new ones. For this reason, projections of future recreation needs were attempted.

The future demand for outdoor recreation was calculated by multiplying population projections for parishes in 1985 (Table 5) by current recreation participation rates as determined in the outdoor recreation survey made by the Louisiana State Parks and Recreation Commission in 1968.<sup>12</sup> Since these data are 5 years old, the projections are probably a conservative estimate of outdoor recreation needs for 1985. An overall increase in Louisiana recreation participation rates to conform to national recreation patterns can be expected.

The projection trendline calculated for hunting, fishing, crabbing, and crawfishing, in terms of user days, for the period from 1970 to 1985 is shown in Figure 19. An upward trend is projected for the coastal zone, while a decline is projected for the noncoastal area in terms of user days.

Projections for water activities such as motor boating, water skiing, canoeing, and sailing also show an expected steady increase in user days in the coastal zone as contrasted to the noncoastal area (Table 15). Projections for camping, both tent and trailer, follow a similar pattern.

Projections for swimming, which include pool and beach and water skiing (Figure 20), show a dramatic increase in terms of user days from 1970 to 1985 for the coastal zone. This jump in participation apparently will not be experienced in the remainder of the state.

These projections of user days for various forms of outdoor recreation point to a serious need for program development in Louisiana. This growing need is basically a function of growing population. Since population growth in Louisiana is taking place mainly in the coastal parishes, the need for recreation planning seems to be more critical there.

In concluding this section, certain observations are in order. The first is that Louisiana faces a great and inescapable challenge to develop more outdoor recreation facilities. Part of the challenge is to plan this development in such a way as to ensure the protection of both natural beauty and environmental quality. The current use of overcrowded swimming pools and undeveloped streams, lakes, reservoirs, and beaches results in conditions which discourage proper utilization of available resources.<sup>13</sup>

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<sup>12</sup>Louisiana State Parks and Recreation Commission, Comprehensive Outdoor Recreation Plan, 1970-1975, June, 1971, p. 4.4.

<sup>13</sup>For a more extensive discussion of recreation activities in Louisiana and recommendations for actions by state government, see *Louisiana Wetlands Prospectus*, Louisiana Advisory Commission on Coastal and Marine Resources, September 1973, Chapter 6, Section 3, pp. VI-19 to VI-45.

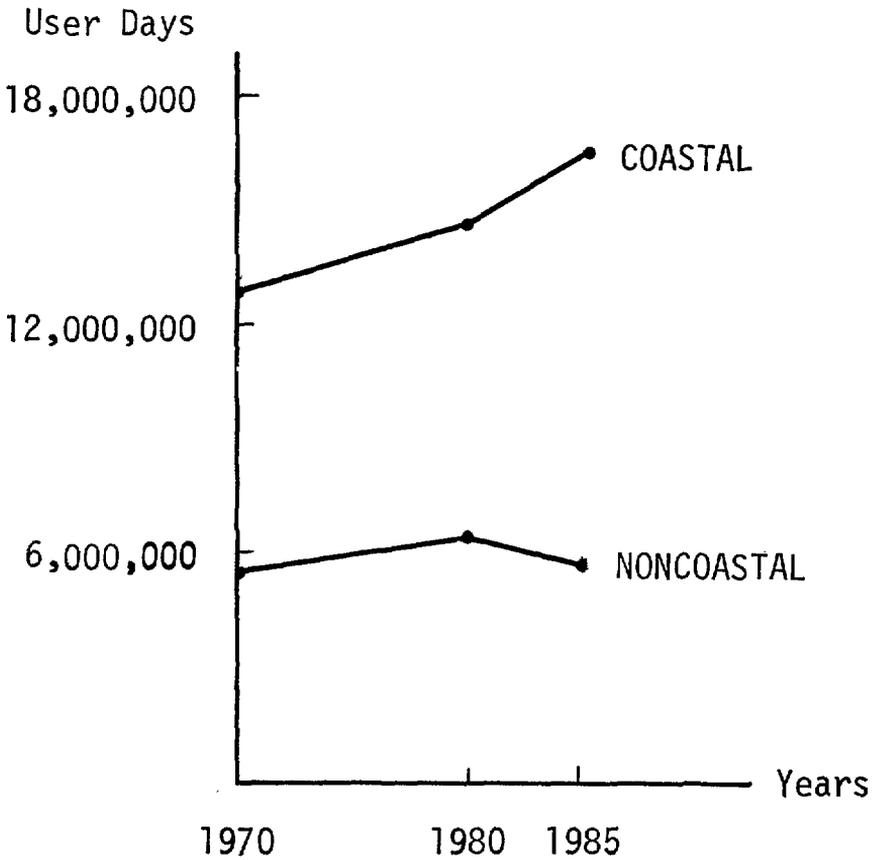


Figure 19.—Resource-based recreation projections for Louisiana hunting, fishing, crabbing, and crawfishing in the coastal and noncoastal areas from 1970 to 1985.

Source: *State of Louisiana Outdoor Recreation Plan*, State Parks and Recreation Commission, June, 1971.

In addition, many areas suitable for recreation activities are either inaccessible or lack such facilities as boat launching ramps, rental boats, or fishing piers. The amount of water presently suitable for recreation but inaccessible in the two areas of the state is delineated in Table 16.

All in all, outdoor recreation activity appears to be one of the great opportunities for those charged with developing the natural resources of the state and its coastal zone.

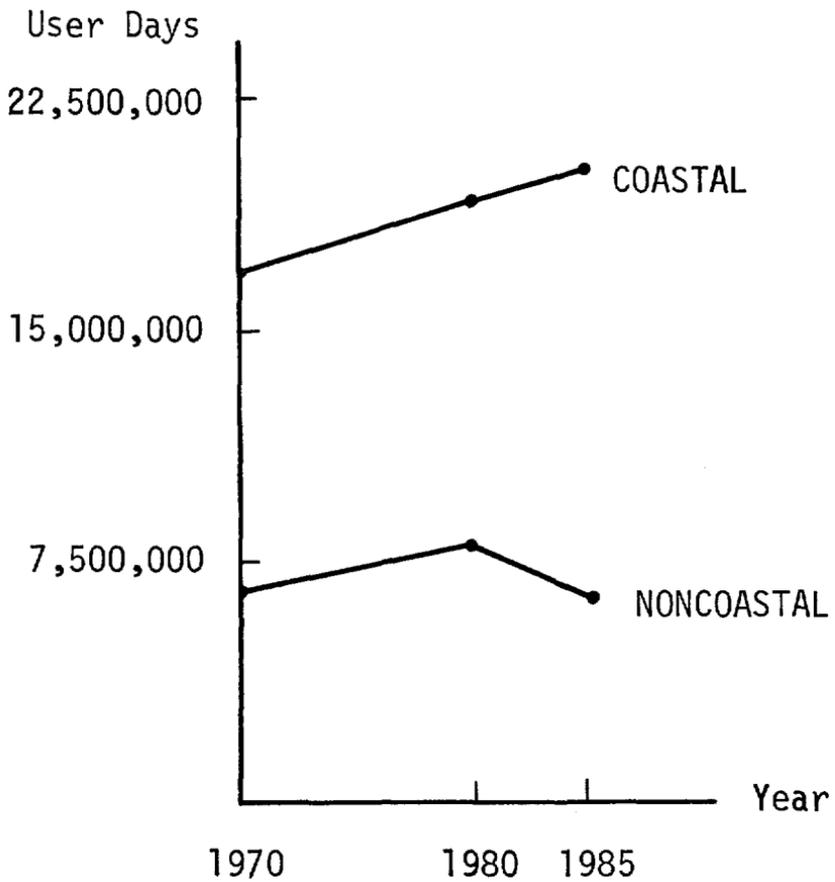


Figure 20.—Recreation projections for number of user days of swimming (pool and beach) in the coastal and noncoastal areas of Louisiana from 1970 to 1985.

Source: Table 11, *State of Louisiana Outdoor Recreation Plan*, State Parks and Recreation Commission, June, 1971.

TABLE 16.—Accessible and Inaccessible Water Acreage in Louisiana Suitable for Recreation

Region	Suitable Water	Accessible Water	Inaccessible Suitable Water	Percent Suitable Water Now Inaccessible
Coastal	1,296,380	82,836	1,213,544	93.6
Noncoastal	317,395	91,572	225,823	71.1
State	1,613,775	174,408	1,439,367	89.2

Source: Louisiana State Parks and Recreation Commission, Comprehensive Outdoor Recreation Plan, 1970-75, June, 1971, p. 4.4.

## Summary and Conclusions

Louisiana's coastal zone, in comparison with the noncoastal area, is densely populated, has more major population centers, and has a larger percentage of the population living in urban areas. Population growth rates are higher in the coastal zone than in the noncoastal area, which is a reflection of more births than deaths rather than high in-migration. The fact that the population in the coastal zone is younger will no doubt affect birth rates in future years. Culturally the coastal zone is predominantly French-Catholic while the noncoastal area is mainly non-French and Protestant.

The economy of Louisiana has a broad base. Mining, contract construction, and farming and farm-related industries produce a large percentage of the state's gross product. Although the number of acres of land in farming and the number of farms in the state have declined, over one-third of the land area in the coastal zone is still in agricultural production. The number of farms has declined in both the coastal and noncoastal areas, while the average farm size in both regions has increased. Commercial fishing in the coastal zone provides many jobs and is an economic base not found in the remainder of the state. Mineral production, which provides a large share of the gross state product, is also primarily located in the coastal zone.

It is logical to expect the demand for improved and additional recreation facilities in Louisiana to increase during the next 20 years because of the growing population. Projections of user days for swimming, hunting and fishing, camping, and water-related activities such as boating and skiing, indicate that demand for these activities in the coastal zone will rise rapidly over the next 10 years while the noncoastal areas will experience a decline in these types of recreation. Fishing and hunting are more

popular in Louisiana than in the rest of the nation and considerably more than half of the resident fishing licenses sold in Louisiana during 1970 were sold in the coastal zone. The coastal zone also leads the rest of Louisiana in the number of hunting licenses sold, other than big game licenses.

Future trends are implicit in the patterns now in evidence in Louisiana. In particular, the coastal zone is going to continue to be the area of greater population growth, as it has been in the past. This highlights the central dilemma of planning for the increasingly intense confrontation between man and a rather fragile coastal zone ecosystem, a confrontation evident in population growth trends, urbanization, industrialization, and increasing demands for recreation resources. Equally important from the perspective of wetland management is the fact that the coastal zone overlaps closely the area of French-Catholic Louisiana. Educational programs designed to make the whole state aware of land-use problems must be designed with this socio-cultural dichotomy in mind. The political ramifications of this cultural characteristic are also important.

This information is presented in the hope that it will be useful to planners concerned with the development of the coastal zone and the state.