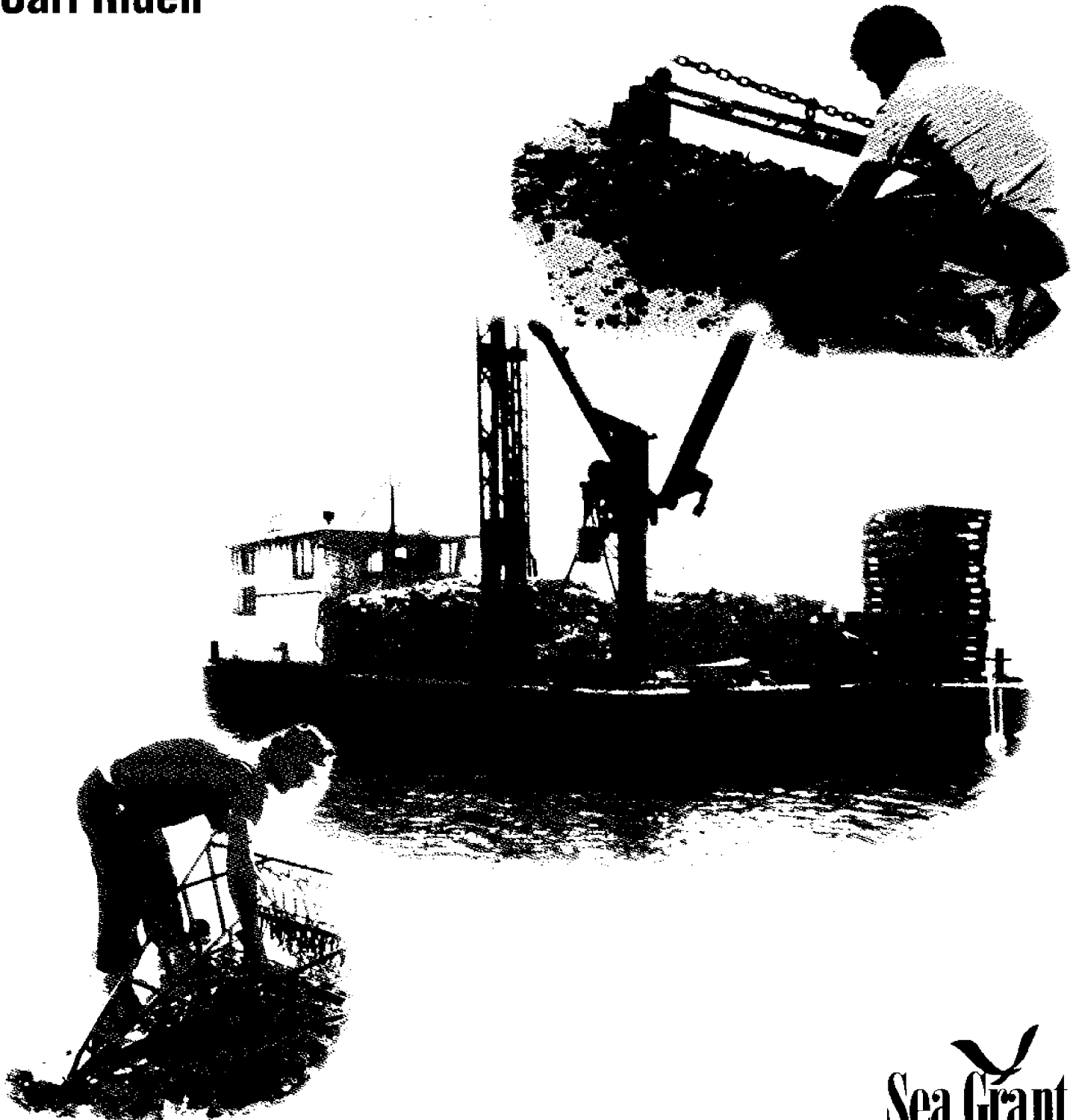


Louisiana Oystermen... Surviving in a Troubled Fishery

Forrest A. Deseran
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LOUISIANA OYSTERMEN...
SURVIVING IN A TROUBLED FISHERY

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ABSTRACT

This paper reports findings from a survey of Louisiana commercial oyster harvesters. The survey, which is part of a research project supported by the Louisiana Sea Grant College Program and the Louisiana Agricultural Experiment Station, was conducted in 1998 by the Louisiana Population Data Center at Louisiana State University. The primary purpose of the research is to identify factors that affect decisions to pursue or to abandon oyster harvesting as an occupation or way of life. We offer a brief historical overview of the oyster industry in Louisiana and discuss some of the major problems currently facing Louisiana oystermen. Then, following a brief description of our survey methodology and sampling procedures, we present the findings from the survey. We compare current commercial oyster license holders with those who do not currently hold licenses, and, we report findings for current license holders according to fishing vessel size. Our report contains information ranging from individual and family background characteristics to harvesters' opinions about what they consider to be major problems in the industry. We provide details about alternative employment for harvesters and other family members, about their satisfaction with various aspects of their lives, and about their plans for the future. We conclude our report with an overview of the findings and a consideration of the implications of these findings for the industry.

INTRODUCTION

PREVIEW: WHAT THIS REPORT IS ABOUT

This report presents findings from a survey of Louisiana commercial oyster harvesters administered by the Louisiana Population Data Center at Louisiana State University. We begin by explaining our rationale and focus for this study. Following a brief historical overview and discussion of the major problems currently facing Louisiana oystermen, we explain our survey methodology and sampling procedures. The bulk of the report consists of our findings. We compare current commercial oyster license holders with those who do not currently hold licenses, and we present findings by fishing vessel size for current license holders. Our report contains information ranging from individual and family background characteristics to harvesters' opinions about what they consider to be major problems in the industry. We provide details about alternative employment for harvesters and their family members, about their satisfaction with various aspects of their lives, and about their plans for the future. We conclude with an overview of the findings and a discussion of the implications of these findings for the industry.

RATIONALE AND FOCUS

Why Survey Louisiana Oyster Harvesters?

Despite considerable debate and speculation about the problems facing the Louisiana oyster fishery, with a few notable exceptions (e.g., Keithly and Roberts, 1988; Keithly et al., 1992; Roberts and Keithly, 1993), we have little information about those for whom these problems are most relevant—the oyster fishermen and their families. While the fortunes of the industry clearly hinge on factors external to the fishery, such as market demand, regulatory constraints, or environmental disruptions, it is the oysterman whose means of livelihood and way of life are at stake and who ultimately must make decisions on how to survive in the industry. Without knowledge of who these fishermen are and how they appraise their situation, our understanding of this fishery cannot be complete. What do oystermen see as the major problems facing the industry? Are they planning to continue or to abandon the profession? Why did they take up oyster harvesting? Do they have other income sources? How involved are other family members in the business? Answers to questions such as these will improve our ability to assess the current state and future direction of this important sector of the Louisiana seafood industry.

Research Focus

As has been well demonstrated by research on commercial fishermen, decisions to exit or remain in fishing are not grounded in economic calculations alone—social and cultural factors are important components of such decisions (Durrenberger, 1992; Johnson and Orbach, 1990; Maril, 1983; Britan, 1982). With this in mind, our research focuses on social and cultural factors that, in conjunction with economic considerations, may motivate oystermen to enter, to continue, or to

abandon oyster harvesting as an occupation or way of life. In this vein, our research touches on factors ranging from individual and family background characteristics to harvesters' opinions about major problems in the industry. We look at alternative employment held by harvesters and family members, their satisfaction with various aspects of their lives, and their plans for the future. With this kind of information we can more fully appreciate how Louisiana oystermen and their families are being affected by the problems currently facing the fishery, some of the ways they are adapting to these problems, and the prospects for sustaining their profession through future generations.

A BRIEF OVERVIEW OF THE LOUISIANA OYSTER INDUSTRY

The Early Days

Oyster harvesting is one of the oldest components of Louisiana's seafood industry, comprising the largest segment until 1925. In the early part of the nineteenth century, oysters were harvested from natural reefs for local use. Although beds were set aside for private culture as early as the 1840s-50s, it was not until after the Civil War that large-scale bedding and transplanting of oysters began. Oysters were removed from the more inland "wild" reefs and bedded in saltier waters at the end of the delta east of the Mississippi. The identity of those responsible for this initial phase of oyster culture in Louisiana is disputed. Some argue that a French settler planted oyster seed in Whale Bay (which no longer exists due to erosion) around 1885 (Mackin and Hopkins, 1962). Others say a Slavonian began cultivating oysters in Bayou Cook during the Civil War (Bilich, 1931). Either way, by the turn of the century, cultivating oysters became the mainstay of Louisiana's oyster industry, and the remaining natural reefs were put under state control. The Comprehensive Oyster Law of 1902 encouraged the practice of oyster mariculture and established the basic structure of the industry we see today. Two important technological advancements in oyster harvesting also occurred in the early part of the century- the development of the oyster dredge in 1905, which replaced most of the tonging, and the shift from sailing to motorized vessels in the 1920s (Dugas et al., 1982, Wicker, 1979). Beyond these transitions, the industry has remained basically unchanged throughout the century.

Historically, Louisiana produced three classes of oysters for the market: steam-canned, raw-shop, and counter-stock oysters. *Steam-canned* oysters are dredged from natural reefs then taken to a cannery where they are steamed open and the meats packed. In the past, this was an important element of the Louisiana industry, but it declined in importance as the value of raw oysters increased and cheap imports entered the market. It is now an insignificant portion of the industry. The canneries, a site of value-added production and jobs, had also disappeared by the late 1960s. Today, the industry is centered on the production of *raw-shop* oysters. These oysters are taken as seed from natural reefs (public), cleaned and separated, and rebedded on leased grounds (private) where they are cultivated. They are brought to shucking houses by

individual growers, removed from their shells, and refrigerated for shipping. *Counter stock* oysters are the highest grade and are cultivated to be served on the half-shell at oyster bars. They are grown to maturity in waters with high nutrient concentrations then moved to more saline beds just before marketing to achieve the desired salty taste.

Ethnic Roots

The history of the Louisiana oyster industry is closely intertwined with the contributions of a variety of ethnic groups. In 1902, most oyster leases were held by English, French, and Croatian, although there were a number of Italian and Irish oystermen as well. Each of these groups settled in geographically distinct areas. Oystermen from St. Bernard Parish were predominantly English, those from Lafourche Parish were Italian, while Jefferson Parish had a predominance of Irish. Those of French descent comprised the largest percentage of harvesters from Barataria Bay west to Vermilion Bay with a concentration in lower Lafourche Parish (Padgett, 1960).

The Croatians (alternatively referred to as Yugoslavs, Slavonians, or Dalmatians) were an early presence in the industry and had a strong impact on its direction and success. Arriving in New Orleans from the Dalmatian Coast of Eastern Europe between 1840 and 1850, many Croatians eventually moved to Plaquemines Parish to take up fishing when they were unable to find work in New Orleans. They settled at Grand Bay near Olga and later southwest of what is today the town of Empire. Some of these early settlers had immigrated from the Adriatic area where oysters had been cultivated for centuries, so it was natural for them to take up this activity in Louisiana waters (Vujnovich, 1974).

The Louisiana Oyster Industry Today

Production Levels. Louisiana is the largest producer of oysters in the U.S. today. Data from the National Marine Fisheries Service (1999) indicate that Louisiana oyster landings increased from about eight million pounds in 1990 to nearly 14 million pounds in 1997. Other key oyster harvesting states do not even come close to this volume of production—the harvest in 1997 was eight million pounds for Washington, four million pounds for Connecticut, and 3.5 million pounds for Texas. Gulf of Mexico waters accounted for 58 percent of all U.S. production and Louisiana claimed nearly a 60 percent share of all Gulf landings. These statistics leave little doubt about the importance of the fishery to both Louisiana and to the U.S.

Fixed-Bottom Character. To appreciate the nature of the Louisiana oyster fishery, it is important to understand that oyster fishing is a fixed-bottom enterprise. Oyster mariculture, which involves private leasing, transferring seed oysters, and reef development, is the mainstay of the state's oyster industry (Dugas et al., 1982). Historically, the largest proportion of Louisiana's oyster landings have been harvested from leased bottomland. Roberts and Keithly (1993) estimated that of approximately 300,000 acres of Louisiana bottomland in oyster production, 250,000 acres, or over 80 percent, were leased privately. More recently, however,

the proportion of oysters harvested from public waters has increased to nearly that of production from private leases (Louisiana DWLF, 1999).

Leased Bottomland. The state grants 15 year leases with the leasee getting first option for renewal. In 1904, the state set the maximum acreage for any one individual at 1000 acres. The initial lease was one dollar per acre per year, but was later increased to two dollars (Melancon, 1991). In 1913, 17,000 acres were leased; by 1976 the number of leased acres had increased to 193,225, and as of January, 1999, the number of leased acres had swelled to 403,141 (LDWF, 1999). Louisiana Wildlife & Fisheries records show 8,187 leases were held in 1992, increasing to 8,680 by the end of 1998. It should be noted that due to the limit on leased acreage per individual, harvesters often have access to water bottom acreage from multiple leases via shared agreements within families and partnership arrangements.

A major consequence of the fixed-bottom character of the fishery is that it limits the oysterman's ability to adjust to adverse effects of natural or human-made impacts on oyster populations. This is quite different from the open-access nature of the shrimp and fin fish fisheries which allows greater freedom for fishermen to shift the location of their operations when problems arise. Hence, in addition to many of the problems that are common to fishermen in other fisheries (e.g., over-fishing, foreign competition, rising costs), oystermen face an array of problems associated with the sedentary nature of their quarry. In this sense, they are particularly vulnerable to such problems as pollution and changes in water salinity.

Problems Currently Facing the Industry. Despite Louisiana's leadership in oyster production, local harvesters are facing an array of biological, environmental and management problems. Both natural and human-made factors contribute to these problems. Similar to other commercial seafood fishermen operating out of Louisiana, oyster fishermen have been adversely affected by pressures from environmental disturbances associated with the deterioration of wetlands and the increase in effluents from land-based industries. These environmental disturbances increase incidences of predation, parasite infestation, and pathogenic problems. Predation from southern oyster drills "conchs", blue and stone crabs, and black drum represent another ongoing hazard for oysters. In addition, costs of equipment and operation have grown substantially while a rise in imports of seafood products has taken an increasing share of the U.S. market. Finally, regulatory demands have placed restrictions on harvesting locations and seasons, reducing the productive capacity of the industry.

Perhaps the most highly publicized problem facing the industry is a series of deaths and illnesses attributed to a bacterium (*Vibrio vulnificus*) that can develop in oysters, especially during the warmer summer months. Because of this virus, in the summer of 1994 the U.S. Food and Drug Administration proposed an annual April-through-October ban on the sale of raw oysters. Should such a ban have been implemented, it was estimated that up to half of the Louisianans involved in the oyster industry could lose their jobs (McKinney, 1994). Although such a far reaching closure has not been implemented, the possibility continues to be a major threat to the future of the industry.

THE LOUISIANA OYSTER HARVESTER SURVEY

METHODOLOGICAL CONSIDERATIONS

Analytical Strategy

Because a major goal in this report is to provide a comprehensive overview of findings from our survey, we restrict our presentation to descriptive statistics and cross tabulations. As such, the profile we develop is more of a series of snapshots of some important aspects of the Louisiana oyster industry than an in-depth analysis of trends and changes in the industry. Our intention with these descriptive pictures is to bring to light possible relationships that may suggest fruitful directions for more focused research and analysis in the future.

Target Population and Sampling

Most of the data in this report are from telephone interviews with Louisiana commercial oystermen. The interviews were conducted in 1998 by the Survey Research Laboratory of the Louisiana Population Data Center at Louisiana State University. The target population was all Louisiana residents who held a commercial oyster harvesting license issued by the Louisiana Department of Wildlife and Fisheries (LDWF) at least once during the years from 1994 to 1997. LDWF license records contained information on 1,794 commercial oyster license holders for this four year period. Information from the license records included, among other things, places of residence, phone numbers, and types of gear.

CATI System Procedures

A computer-aided telephone interviewing (CATI) system was used for the survey. We selected the CATI method for gathering data for a number of reasons. First, telephone interviews are cost effective and efficient compared with other interviewing procedures, and they allowed us to include a sizable number of respondents in our sample, approximately one in every four licensed oyster harvesters. Second, a CATI system minimizes the chance of errors in entering and coding data. The method allows data to be directly entered into an electronic data set as the interviews are being conducted. And third, the telephone was particularly useful for interviewing fishermen who would otherwise be difficult to engage in face-to-face interviews due to their long and irregular work hours.

Response Rate and Length of Interviews

We contacted 618 eligible subjects, of which 75.9 percent (N = 469) completed the interview, 20.9 percent refused to participate, and 3.2 percent terminated the survey prior to completion.¹ The average length of time for the interviews was 22.0 minutes, ranging from 9 to 79 minutes in duration. Because we asked current license holders more questions about oyster

operations, their interviews required more time on the average (24.3 minutes) than did the interviews of those who were not current license holders (17.1 minutes).

The Instrument

The survey instrument contained questions dealing with a number of topics relevant to the oyster industry. We asked about oyster harvesting operations, other types of work in which oyster harvesters and their families have been engaged, and opinions and concerns about the industry. Prior to conducting the survey, we tested the instrument twice with subsamples of 10 oyster harvesters each. Based upon feedback from the pilot surveys, we made corrections and clarifications to the instrument. The questions from the survey that are the basis for this report are listed in Appendix A.

Classification Criteria

License Holding Status. As mentioned earlier, we use two basic criteria to group the sample of oystermen. First, we distinguish between respondents who held a commercial license during the reference year (our survey questions referred to oyster harvesting activities during 1997) and those who did not hold a license in the previous year but did have a license within the last four years. We refer to the former as "current licensees" and the latter as "prior licensees." This selection criterion allows us to compare findings between those who are currently active commercial harvesters and those who have recently decided not to harvest oysters. Subjects who did not fit either of these categories were not included in our sample. Of the 469 harvesters we interviewed, 153 (about one-third) were classified as prior licensees (Table 1).

Vessel Size. The second categorization criterion is vessel length. Vessel length proved to be a useful analytical category in earlier research on Louisiana shrimp fishermen, correlating with a number of indicators such as fishing effort, investment, and attitudes (Deseran, 1997). We created three categories of vessel length for reporting purposes: under 25 feet (small), 25 to 40 feet (mid-size), and over 40 feet (large). We report vessel length only for current licensees (N = 316). Operators of vessels less than 25 feet account for the smallest proportion (28.8 percent), while mid-sized vessel operators were the next most plentiful (33.5 percent). Large vessel operators make up the greatest proportion of the current licensees (37.7 percent).

It should be noted that while dredging is by far the predominant harvesting technology, some operators still harvest oysters using tongs. Slightly less than 20 percent of the current license holders and over 13 percent of our prior license holders held tong gear licenses. These oystermen for the most part are represented in the small vessel owner category. If we exclude those with tonging licenses from the sample, the percent of all harvesters that operate small vessels drops from 28.8 to 16.5 percent (Table 1).²

Table 1. License Status and Vessel Length — 1998 Survey of Louisiana Oyster Harvesters

	All Licensees		Excluding Tong Gear Licensees	
	N	Percent	N	Percent
Total in Sample	469	100.0%	387	100.0%
Prior License Holders	153	32.6	133	34.4
Current License Holders (1997)	316	67.4	254	65.6
Vessel Length (Current License Holders Only)	316	100.0%	254	100.0%
Small (Under 25')	91	28.8	42	16.5
Mid-Size (25' - 40')	106	33.5	95	37.4
Large (Over 40')	119	37.7	117	46.1

FINDINGS

ORGANIZATION OF PRESENTATION

Our findings are presented according to six topical categories. First, under *General Descriptive Characteristics*, we provide an overview of the some major demographic and social characteristics of the oystermen in our sample. In this section we present findings for where Louisiana oystermen live, their age, marital status, educational attainment, income, and ethnicity. Second, we depict *Oyster Operation Characteristics* by describing a number of dimensions directly related to oyster harvesting. We include data on vessel ownership and crew size, years spent harvesting oysters, fishing effort during the last year, and the extent of family involvement in the operation. The third section, *Personal Commitment to Oyster Harvesting*, contains findings for a series of questions dealing with oystermen's reasons for staying with or for leaving oyster harvesting. Such questions deal with satisfaction with oyster harvesting as a way of life and as an occupation, whether or not oystermen would recommend that their children take up oyster harvesting as a career, and their plans and preferences for the future. In the fourth section, *Working Outside Harvesting: Alternative Employment*, we focus on the employment of oystermen outside of the oyster fishery and the labor force involvement of their family members. Here we include information on the extent to which oystermen depend on alternative sources of income and the kinds of employment in which they and members of their families are engaged. We also include findings about the work history of the parents and grandparents of oystermen. The fifth section, *Community Satisfaction and Local Involvement*, concerns oystermen's sense of attachment to their communities and their participation in local organizations. The sixth and final section, *Opinions and Perceived Problems*, is based upon oystermen's responses to a number of

questions about issues and problems in the industry. This section ends with a presentation of what oystermen judge to be some of the most pressing problems facing the industry.

GENERAL DESCRIPTIVE CHARACTERISTICS

Places of Residence

Where do Louisiana oystermen live? Table 2 provides a list of the places and parishes that oystermen call home. The first column reports findings from our phone survey and the information in the second column is from LDWF records. We listed places and parishes of residence in descending order of the number of harvesters who report living in each place. Additionally, in the top half of the table we report findings for all licensees and in the bottom half we report findings when we exclude those with tong gear licenses.

Not surprisingly, oyster harvesters are concentrated in the south central coastal area of the state. The community of St. Bernard³ in St. Bernard Parish is the residence for the largest percent of harvesters (11.9 percent of the interviewees reported this place as their home). The next highest percent of harvesters (8.3 percent) reside in Cameron, although when we examine our findings in the bottom half of the table, we can see that the majority of Cameron residents in our sample are tong license holders.⁴ The coastal towns of Houma, Empire, Port Sulphur, and Montegut together are home to over 20 percent of our respondents. Altogether, about 90 percent reported living in the following six parishes (rank ordered by frequency of reported residence): St. Bernard, Plaquemines, Terrebonne, Cameron, Lafourche, and Calcasieu.

Of importance to our methodology, a comparison of the percentages reported in the two columns of Table 2 shows that the distribution of residences from our survey sample very closely approximates the distribution found in LDWF records. This is a good indicator of the extent to which our sample accurately represents the target population.

Age

Findings for age shown in Table 3 reveal that, on the average, prior licensees are slightly older than current licensees (44.2 vs. 42.0 mean years respectively). However, when vessel size is taken into consideration, we find that the mean age of oystermen increases with the sizes of their fishing vessels. In the aggregate, large vessel owners are almost five years of age older than small vessel operators and just over two years older than their mid-size vessel counterparts. More striking is the observation that more than 16 percent of large boat operators are 60 years of age or older compared with fewer than four percent for small vessel operators and under seven percent for mid-size vessel operators.

Table 2. Place of Residence for Survey Respondents and for All Oyster Harvesting Licensees (1994-1998)

Town Ranking ¹	Parish	Survey Participants ² (N=469)		All Louisiana Commercial License Holders: 1994-97 ³ (N=1,794)	
St. Bernard/Yscloskey	St. Bernard	11.9%	(39)	13.3%	(239)
Cameron	Cameron	08.3%	(31)	07.9%	(142)
Empire	Plaquemines	06.0%	(28)	07.5%	(135)
Houma	Terrebonne	06.0%	(28)	07.9%	(142)
Port Sulphur	Plaquemines	06.0%	(28)	05.4%	(97)
Montegut	Terrebonne	05.8%	(27)	06.6%	(118)
Buras	Plaquemines	04.1%	(25)	07.0%	(126)
Sulphur	Calcasieu	03.4%	(16)	01.7%	(30)
Chauvin	Terrebonne	03.2%	(15)	02.4%	(43)
Violet	St. Bernard	03.2%	(15)	02.6%	(47)
Belle Chasse	Plaquemines	02.6%	(12)	01.6%	(29)
Chalmette	St. Bernard	02.6%	(12)	01.2%	(22)
Golden Meadow	Lafourche	02.1%	(10)	01.5%	(27)
Metairie	Jefferson	01.9%	(9)	01.2%	(22)
Point a la Hache	Plaquemines	01.9%	(9)	02.7%	(48)
Theriot	Terrebonne	01.9%	(9)	04.3%	(77)
Braithwaite	Plaquemines	01.7%	(8)	01.1%	(20)
Galliano	Lafourche	01.5%	(7)	01.6%	(29)
Meraux	St. Bernard	01.5%	(7)	00.7%	(13)
All remaining towns		24.5%	(115)	22.0%	(395)
EXCLUDING TONG GEAR LICENSE HOLDERS					
Town Ranking		(N=387)		(N=1522)	
St. Bernard/Yscloskey	St. Bernard	14.5%	(56)	15.7%	(239)
Port Sulphur	Plaquemines	7.2%	(28)	6.2%	(95)
Empire	Plaquemines	6.7%	(26)	8.5%	(130)
Houma	Terrebonne	6.7%	(26)	8.7%	(132)
Montegut	Terrebonne	6.7%	(26)	7.3%	(111)
Buras	Plaquemines	4.9%	(19)	8.1%	(123)
Violet	St. Bernard	3.9%	(15)	3.1%	(47)
Chauvin	Terrebonne	3.4%	(13)	2.7%	(41)
Belle Chasse	Plaquemines	3.1%	(12)	1.8%	(28)
Chalmette	St. Bernard	3.1%	(12)	1.4%	(22)
Golden Meadow	Lafourche	2.6%	(10)	1.6%	(24)
Metairie	Jefferson	2.3%	(9)	1.4%	(22)
Point a la Hache	Plaquemines	2.3%	(9)	3.3%	(50)
Theriot	Terrebonne	2.3%	(9)	5.1%	(77)
Braithwaite	Plaquemines	2.1%	(8)	1.3%	(20)
Galliano	Lafourche	1.8%	(7)	1.8%	(27)
Meraux	St. Bernard	1.8%	(7)	0.8%	(12)
Cameron	Cameron	1.3%	(5)	0.8%	(12)
Sulphur	Calcasieu	0.3%	(1)	0.1%	(2)
All remaining towns		23.0%	(89)	20.2%	(308)

¹Rank ordered by number of respondents residing in each town.

²Full sample for 1998 LSU survey.

³Based on records of the Louisiana Department of Wildlife and Fisheries.

Table 3. Selected Household and Demographic Characteristics of Louisiana Oyster Harvesters by License Status and Vessel Size.

Household and Demographic Characteristics	Prior Licensees (N=153)	All Current Licensees (N=316)	Current Licensees by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Age (based on year born)	<u>44.2</u>	<u>42.0</u>	<u>39.2</u>	<u>41.9</u>	<u>44.1</u>
<i>Mean Age</i>					
Percent:	26.1	30.3	36.7	33.3	22.7
Under 35 years	30.1	30.9	30.0	23.8	37.8
35-44	30.1	29.6	30.0	36.2	23.5
45-59	13.7	09.2	03.3	06.7	16.0
60 years or older					
Marital Status					
Married	77.1	77.5	67.0	81.1	82.3
Separated	01.3	00.9	02.2	00.9	00.0
Divorced	07.8	07.9	09.9	03.8	10.1
Widowed	01.3	02.2	02.2	02.8	01.7
Never married	11.8	11.4	18.7	11.3	05.9
No Response	00.7	00.0	00.0	00.0	0.0
Percent with Children Living at Home	58.8	61.4	51.6	65.1	65.5
Total Household Income¹					
Under \$25,000	35.5	31.7	42.4	31.0	23.4
\$25,000 - \$74,999	38.8	48.4	40.3	53.6	50.0
\$75,000 and over	09.2	09.5	06.5	07.2	14.1
Don't Know/ No Response	16.4	10.5	10.8	08.3	12.5
Self-reported ethnicity/race:					
Cajun/French	32.7	36.7	44.0	37.7	30.3
Croatian/Yugoslavian	04.6	14.2	01.1	01.9	35.3
Black	05.2	03.2	08.8	01.9	00.0
White	34.0	22.2	27.5	27.4	13.4
Vietnamese or other Asian	00.0	00.9	02.2	00.0	00.8
American Indian	05.9	03.2	04.4	02.8	02.5
Spanish/Hispanic	04.6	05.7	01.1	11.3	04.2
Other or Mix	12.4	12.9	09.9	15.1	13.4
No Response	00.7	00.9	01.1	01.8	00.0

¹ Income is for the previous year, before taxes and other deductions.

Marital Status

Well over 75 percent of the oystermen in our sample reported being married and a sizeable proportion reported having children living at home. By contrast, approximately 54 percent of all households in the state of Louisiana were classified as married couple households in 1990 (U.S. Bureau of the Census, 1991). Disaggregating our sample by vessel size reveals substantial variations in marital status within our sample, however. Smaller vessel operators are much more likely to have *never* been married (18.7 percent) compared to mid-size and large vessel operators (11.3 and 5.9 percent). Small vessel operators also are considerably less likely to be married or have children at home than other oystermen. Prior and current license holders are about equally likely to report being divorced (7.8 and 7.9 percent respectively). These percentages are lower than for adults over 18 in the U.S. (9.0 percent) and in Louisiana (8.5 percent) (U.S. Bureau of the Census, 1991). However, the lower percent for current licensees is largely a function of the very low percent of divorced mid-sized vessel operators (3.8 percent). Small and large vessel operators experience divorce rates (9.9 and 10.1 percent) which are actually above national and state averages.

Income

We asked respondents to estimate their previous year's household income, before taxes and deductions, by telling us where it fell on a 10 bracket scale. For reporting purposes, we have collapsed the 10 categories into three broad ranges (Table 3). Note that more than sixteen percent of the prior licensees and 10 percent of the current licensees claimed to not know their income for the previous year or did not provide the information. This nonresponse rate is the highest for any of our survey questions.⁵ Hence, the results for income should be considered as a rough estimate at best.

Keeping in mind our disclaimer for these findings, two observations about the income distribution are noteworthy. First, the distributions of reported income of prior and current licensees are similar, although a smaller proportion of prior licensees fall in the lower two income categories. Second, vessel size clearly makes a difference in reported income level among current licensees. The percent of large vessel operators reporting income in the highest category, \$75,000 and over, is roughly twice that of the other oystermen. More telling in this regard, oystermen of small and mid-size vessels are much more likely to report income in the lowest brackets (\$25,000 and under) than large vessel operators.⁶

Ethnic Composition

As mentioned above, one of the defining characteristics of the Louisiana oyster industry has been its unique ethnic composition. We are interested in determining if the current composition of the industry reflects its historical ethnic roots. To help answer this question, we asked respondents to tell us how they describe themselves in terms of ethnicity or race. The results shown on Table 3 indicate that ethnic identity continues to be a major defining

characteristic of the industry. Cajun/French is the most common category of self-identification (36.7 percent). Twenty-two percent consider themselves “white,” while 14.2 percent claim a Croatian identity. The large Cajun/French representation in the industry mirrors the ethnic make up of the Louisiana shrimp fishery (Deseran, 1997) and is consistent with the popular public image of the Louisiana oyster as an integral part of the South Louisiana Cajun cuisine (Ten Eyck and Deseran, 1999).

However, our findings suggest that the Cajun/French oystermen are not the only major players in the industry. Although the Croatian category represents a relatively modest proportion overall, when we consider vessel size we get a greater appreciation of the importance of this group. While representing less than 15 percent of our full sample, this ethnic group accounts for over 35 percent of all large vessels. By comparison, the Cajun/French component operates 30.3 percent of the large vessels and 44 percent of the small vessels (less than two percent of the small vessels are operated by Croatians). Furthermore, Croatians are disproportionately unlikely to be prior license holders (4.6 percent) than are those claiming a Cajun/French or white identity (32.7 and 34.0 percent respectively).

Table 4. Parish of residence for currently licensed French/Cajun, Yugoslav/Croatian, and white oystermen, 1998

Parish	Self-Reported Ethnicity/Race (Current Licensees Only)		
	French/ Cajun (N=116)	Yugoslav/ Croatian (N=45)	White (N=70)
St. Bernard	17.2	11.1	25.7
Plaquemines	16.4	71.1	21.4
Terrebonne	20.7	0.0	7.1
Cameron	19.8	0.0	20.0
Lafourche	6.9	0.0	5.7
Calcasieu	5.2	0.0	12.9
Jefferson	5.2	6.7	4.3
All other parishes	8.6	11.1	2.9
<i>Total Percent</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Ethnicity and Geographic Mobility. Does the ethnic diversity among oystermen continue to be reflected in patterns of residence? To answer this question we examined the parish of residence for each of the three most often claimed ethnic/racial categories B French/Cajun, Croatian, and “white” (Table 4). Oystermen claiming Cajun/French or white heritage appear to be relatively evenly dispersed across the parishes. In sharp contrast, over 70 percent of the Croatian respondents live in Plaquemines Parish. This residential concentration suggests that in addition to controlling a disproportionate share of the industry (as indicated by the large proportion of large vessel operators), the Croatian oystermen have remained geographically stable over the generations.

Education

Education is one of the most frequently used predictors of employability and income attainment. We asked oystermen about their own educational attainment as well as that of their spouses (for those who reported being married) and their parents. Our findings in Table 5 reveal a number of well defined patterns regarding the educational attainment of Louisiana oystermen and their families.

Educational Attainment of Oystermen. As a whole, oystermen have a relatively low level of educational attainment; only about one half completed high school. In contrast, the average high school completion rate for Louisiana adults is 68.3 percent, nearly 18 percentage points higher. Even more telling is the fact that 70.2 percent of adult residents from the seven-parish coastal region where oystermen are concentrated graduated from high school (U.S. Bureau of the Census, 1991).

Our findings also show that high school completion rates differ considerably depending on license status and vessel size. Prior license holders were not as likely to have completed high school (52.3 percent) as were large vessel captains (55.4 percent), although they reported higher completion rates than small and mid-size vessel operators (49.5 and 45.3 percent).

Wives' Education. A second pattern revealed in Table 5 is that women in the fishery (wives and mothers of oystermen) have higher levels of formal education than the men. Wives were more likely to have completed high school by a factor of 20 percentage points over their oyster harvester husbands. This pattern holds for the findings regarding the educational attainment levels of oystermen's parents. Although not as marked, the effect of vessel size on wife's educational attainment levels was similar to what we saw for men B the larger the vessel, the higher the educational attainment.

Parents' Education. Finally, as would be expected, the oystermen in our sample reported higher educational attainment rates for themselves than for their parents. Less than one fourth of fathers completed high school. Unlike the attainment pattern we found for the oystermen in our sample, fathers of small vessel operators were more likely to have completed high school than fathers of larger vessel operators. Even so, the attainment levels were exceptionally low.

OYSTER OPERATION CHARACTERISTICS

Vessel Characteristics

The fishing vessel is a major investment and of central importance to an oysterman's work. Table 6 contains information about the age of vessels, ownership status, and amount of debt on vessels.

Table 5. Educational Attainment Levels of Oyster Harvesters, Their Spouses, and Their Parents by License Status and Vessel Length, 1998.

Highest Educational Attainment Level	Prior Licensees (N=153)	All Current Licensees (N=316)	Current Licenses by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Respondents					
Less than High School	47.1%	49.1%	49.5%	53.8%	44.6%
8 th grade or less	25.5	24.4	19.8	26.4	26.1
Some high school	21.6	24.7	29.7	27.4	18.5
High school diploma or higher	52.3	50.2	49.5	45.3	55.4
High school degree	34.6	35.4	38.5	33.0	35.3
Some college	11.1	09.2	07.7		13.4
Vocational/technical school	03.9	02.5	01.1	05.7	02.5
College degree or higher	02.6	03.1	02.2	03.8	04.2
Don't Know/No Response	00.7	00.6	01.1	02.8	00.0
				00.9	
Spouses of respondents (N=364):					
Less than High School	27.1%	28.2%	32.8%	25.6%	27.6%
8 th grade or less	11.9	09.0	06.6	05.8	13.3
Some high school	15.3	19.2	26.2	19.8	14.3
High school diploma or higher	71.2	70.5	65.6	73.2	71.4
High school degree	51.7	50.6	49.2	58.1	44.9
Some college	11.0	12.2	11.5	08.1	16.3
Vocational/technical school	02.5	00.8	00.0	01.2	01.0
College degree or higher	05.9	06.9	04.9	05.8	09.1
Don't Know/No Response	01.7	01.2	01.6	01.2	01.0
Fathers of respondents:					
Less than High School	54.9%	52.8%	40.7%	54.8%	60.5%
8 th grade or less	51.6	41.1	28.6	42.5	49.6
Some high school	03.3	11.7	12.1	12.3	10.9
High school diploma or higher	24.2	23.7	28.6	20.8	22.7
High school degree	17.0	18.0	25.3	14.2	16.0
Some college	03.9	01.9	02.2	01.9	01.7
Vocational/technical school	00.0	01.9	00.0	00.9	04.2
College degree or higher	03.3	01.9	01.1	03.8	00.8
Don't Know/No Response	20.9	23.4	30.8	24.5	16.8
Mothers of respondents:					
Less than High School	47.1%	45.8%	40.7%	44.4%	51.2%
8 th grade or less	37.9	29.7	24.2	27.4	36.1
Some high school	09.2	16.1	16.5	17.0	15.1
High school diploma or higher	34.6	31.3	36.3	28.2	30.3
High school degree	30.7	25.6	31.9	23.6	22.7
Some college	01.3	02.5	01.1	02.8	03.4
Vocational/technical school	00.0	01.3	01.1	00.9	01.7
College degree or higher	02.7	01.9	02.2	00.9	02.5
Don't Know/No Response	18.3	22.8	23.1	27.4	18.5

Vessel Age. In general, the findings shown in Table 6 show a Louisiana oyster fleet that is relatively modern. Over half of the vessels were built since 1980. However, when we look at age across vessel size categories we find that the age distribution is uneven. Of the vessels built prior to 1980 a disproportionate number are found in the large vessel category (65.8 percent). With only five percent of the boats in this size category constructed since 1990, the segment of the fleet which accounts for a disproportionate amount of the Louisiana harvest is comprised largely of aging vessels.

Table 6. Fishing Vessel Age and Ownership Status by Size (Current Licensees Only), 1998

Vessel Characteristics	All Current Licensees (N=316)	Current Licensees by Vessel Length		
		Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Year Fishing Vessel Built				
Since 1990	15.8	26.4	18.9	05.0
Between 1980 and 1990	38.6	39.6	48.1	29.4
Prior to 1980	44.3	33.0	30.2	65.5
(No Answer)	01.3	01.1	02.8	00.0
Fishing Vessel Ownership and Indebtedness:				
Percent Ownership	84.8	92.3	81.1	82.4
Percent of Owners with Vessel Mortgage	11.2	07.1	7.0	18.4
Value of Vessel Mortgaged (N=31)				
25% or less	33.3	50.0	16.7	33.3
Between 25% and 50%	30.0	50.0	50.0	16.7
Between 50% and 75%	06.7	00.0	00.0	11.1
More than 75%	23.3	00.0	16.7	33.3
(No Answer)	06.6	00.0	16.7	05.6

Ownership and Debt. Most oystermen are vessel operator/owners and have no debt on their vessels. Nearly 85 percent say they own the vessels they operate and only 11.2 percent report owing money on their boats (Table 6). Those with vessels over 40 feet are about twice as likely to report owing money on their vessels than are other vessel owners. While this differential in debt is understandable because of the higher cost associated with larger vessels, it is impressive that over 80 percent of large vessels are fully paid for.

Harvesting Effort

Length of Time in Business. Respondents who were harvesting oysters in 1997 had a wide range of experience in the industry, as is evident from the findings reported in Table 7. For the most part, Louisiana oystermen are seasoned fishermen. Less than 10 percent of those we interviewed reported being in the business for less than five years, about 40 percent have 20 or more years experience, and nearly one-fifth have been oyster harvesting for 30 or more years.

Number of Sacks of Oysters Harvested. One of the key indicators of fishing effort is the size of the harvest. As expected, the number of sacks harvested in the previous year is highly correlated with vessel size. Approximately three-fourths of the large vessel operators brought in over 1,000 sacks, compared with about one-fourth of the small vessel operators and approximately 58 percent of the mid-sized vessel operators.⁷

Table 7. Oyster Harvesting Effort by Fishing Vessel Size (Current Licensees Only) 1998

	All Current Licensees (N=316)	Current Licensees by Vessel Length		
		Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Years Harvesting Oysters				
Less than 5	08.3%	17.6%	07.6%	01.7%
5 - 9	11.4	16.5	12.4	06.7
10 - 19	39.4	35.2	41.9	40.3
20 - 29	21.9	16.5	20.0	27.7
30 or More	18.7	13.2	18.1	23.5
Don't Know/No Answer	00.3	01.1	00.0	00.0
Number of Sacks of Oysters in 1997				
Less than 100	14.9%	30.8%	11.3%	07.6
100-499	10.4	24.2	08.5	00.0
500-999	07.9	08.8	11.3	04.2
1,000-3,999	24.4	16.5	35.8	20.2
4,000 or more	31.6	11.0	22.6	55.5
Don't Know/No Answer	10.8	08.8	10.4	12.6
Number of Weeks During Last 12 Months That Oyster Harvesting Was Primary Activity				
Less than 8 Weeks	12.3%	23.1%	14.2%	02.5%
8-24 Weeks	35.1	51.6	40.6	17.6
25-40 Weeks	15.8	07.7	17.9	20.2
More than 40 Weeks	26.9	08.8	20.8	46.2
Don't Know/No Answer	09.8	08.8	06.6	13.4
Time Spent on Oyster Harvesting in the Last 12 Months Compared to Other Years				
More Time	16.8%	18.7%	16.0%	16.0%
Less Time	38.0	47.3	35.8	32.8
Roughly the Same Amount of Time	44.3	33.0	47.2	50.4
Don't Know/No Answer	00.9	01.1	00.9	00.8

Weeks Spent Harvesting in the Last Year. We also estimated effort by asking during how many weeks was oyster harvesting the primary activity in the last year. Table 7 reveals a broad range of responses to this question. Approximately 12 percent report less than eight weeks while over one-fourth indicate devoting more than 40 weeks to harvesting activities. Consistent with our findings that show a relationship between number of sacks harvested and vessel size, we find that the number of weeks spent harvesting during the year is positively correlated with vessel size B the larger the vessel, the greater the amount of time harvesting. Approximately 46

percent of the large vessel operators devoted more than 40 weeks to oyster harvesting, compared with 20.8 percent for mid size and 8.8 percent for small vessel operators.

Time Spent Harvesting Compared to Other Years. We also asked harvesters how the time spent harvesting oysters in the previous year compared with other years. Was it less time, about the same, or more time? Overall, 44.3 percent reported that they spent roughly the same amount of time and a smaller percent reported spending more time (16.8 percent). However, a sizable proportion (38.0 percent) spent less time harvesting in the past year, and there are major differences across vessel size. Nearly half of the small vessel operators (47.3 percent) report a drop in time spent compared with 35.8 percent for mid-size and 32.8 percent for large vessel operators. Because we did not ask about how much less or how much more time harvesters spent on their operations, we cannot estimate the magnitude of these variances in time.

Participation of Household Members

Oyster harvesting in Louisiana has long been characterized by individual vessel owner-operators who rely heavily upon the labor of family members. The results in Table 8 indicate that family involvement remains an important source of labor for most of the oystermen in our sample.

Family as Crew Members. In all, 52.7 percent of the harvesters reported that at least one member of their crew was a family member or relative. The likelihood of family or relatives being on the crew decreased sharply with increasing vessel size. Over 78 percent of small vessel crews included relatives, compared to about 60 percent for mid-sized and 35 percent for large vessel crews.

Percent of Wives Contributing Labor. We asked married harvesters if their spouses helped with the oyster operation in the last year, how much time they spent helping, and what kinds of work they did (Table 8). Slightly more than 60 percent answered in the affirmative. However, unlike our finding that family and relatives of smaller vessel operators were more likely to be crew members than those of large vessel operators, oystermen's wives were least often involved in small vessel operations (55.7 percent) and most likely to be involved in mid-sized vessel operations (66.3 percent). We get a different picture when considering the amount of time wives devote to oyster operations (Table 8). Wives of small vessel operators who helped with the operation devoted a considerably greater number of hours per week than did their counterparts. Over half of the involved wives of small vessel operators spent more than eleven hours per week helping with the oyster operation, compared with approximately 25 percent of mid-sized and 24 percent of large vessel operators' wives.

Kinds of Tasks Performed by Wives. What sorts of things did spouses do? We used responses to this open-ended question to construct three broad categories of oyster harvesting tasks that wives performed during the past year: managerial tasks, such as bookkeeping and sales; technical support activities, such as helping with repairs, performing maintenance, and transporting

Table 8. Family Participation in Oyster Harvesting Operation by Fishing Vessel Length (Current Licensees Only) 1998.

	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Number of Family or Relatives That Are Crew Members				
None	45.2	19.6	36.0	64.4
1	39.2	60.7	47.7	23.1
2 or more	13.5	17.9	12.8	12.0
No Response/Don't Know	01.9	01.8	03.5	00.9
Percent of Married Harvesters Whose Wives Help with Oyster Harvesting	60.4	55.7	66.3	58.2
If Wife Helps:	(N=148)	(N=34)	(N=53)	(N=57)
Number of Hours Per Week Devoted to Oyster Business				
1 - 5 Hours	28.1	23.5	36.4	22.8
5 - 10	22.6	20.6	20.0	26.3
11 - 30	18.5	29.4	14.5	15.8
More than 30 Hours	13.0	23.5	10.9	08.8
No Response/Don't Know	17.8	02.9	18.2	26.3
Types of Tasks Performed by Wives:				
1. Managerial (book-keeping, sales, orders)	54.1	29.4	54.4	68.4
2. Technical Support (repairs, maintenance, transporting supplies)	08.8	11.8	07.0	08.8
3. Harvesting (deckhand, sacking oysters)	09.5	20.6	08.8	03.5
4. More than One Type of Task	22.3	23.5	26.3	17.5
5. All Types of Tasks	04.1	11.8	01.8	01.8
9. Other	01.4	02.9	01.8	00.0
Percent Households with Children Living at Home Who Help with Oyster Harvesting	39.2%	42.6%	37.7%	38.5%
If Child Helps:	(N=76)	(N=20)	(N=22)	(N=30)
Types of Tasks Performed:				
1. Managerial tasks (book-keeping, sales, orders)	01.3	05.0	00.0	00.0
2. Technical support activities (repairs, boat maintenance, transporting supplies)	18.4	20.0	11.5	23.3
3. Harvesting activities (deckhand, sacking oysters)	57.9	50.0	65.4	56.7
4. More than one of the above	18.4	20.0	19.2	16.7
5. All of the above	02.6	00.0	03.8	03.3
9. Other	01.3	05.0	00.0	00.0

supplies; and harvesting activities, such as sacking oysters and being a deck hand. Because many wives performed more than one kind of task, we also include categories for wives who performed two of these tasks or wives who performed all of them. By far, the most commonly reported task for wives was some form of managerial duties such as bookkeeping. A relatively low percent of wives performed either technical support or harvesting activities (less than 10 percent for each). A little over 20 percent reported doing two of the tasks, and less than five percent did all three. Again, we find clear cut differences across vessel size. The percent of wives who did managerial tasks increases markedly with vessel size, ranging from 29.4 percent for small vessel wives to 68.4 percent for large vessel wives. Small vessel wives, on the other hand, were much more likely than other wives to be involved with manual harvesting activities, and nearly 12 percent of these spouses were involved with all three types of tasks.⁸

Labor Contributions of Children Who Are Living at Home. We were also interested in the extent to which the children of oystermen participated in their oyster harvesting operation. Of those who reported that they had children at home, 39.2 percent said that their children helped in some way with their oyster harvesting operation. The percentage is slightly higher for smaller operations (42.6 percent) and slightly lower for mid-size vessel operations (37.7 percent) and large vessel operations (38.5 percent).

Kinds of Tasks Performed by Children. For the most part, when children helped with the oyster business, their work involved some type of manual labor associated with harvesting, such as serving as deck hands or sacking and sorting oysters (57.9 percent). They also were involved in technical support activities, which included equipment cleaning and vessel maintenance (18.4 percent). Nearly one-fifth reported that their children were involved in more than one type of activity. Mid-size vessel operators were more likely to report their children engaged in manual harvesting activities than were other oystermen.

Participation of Older Children

One of the key questions in our research is whether family background plays a part in decisions to enter the oyster fishery. One indicator may be the number of older children of oystermen who have entered the industry. Of the 108 respondents who claimed to have children who have moved away from home, 37.0 percent said that those children were currently in the oyster harvesting business. Interestingly, mid-size vessel operators were appreciably more likely to report that their older children are in the business than either the small or large vessel operators (45.9 percent vs 34.5 percent and 31.0 percent respectively). Additionally, when older children have taken up the profession, relatively few (just over one fourth) work with their father, and of those who do work with their father, most are likely to be from small vessel operator families. The low percentage of children of large vessel oystermen who have taken up the profession or who work with their fathers, is somewhat puzzling given that this group has both the greatest investment in the profession and the most resources from which their children could benefit (i.e., larger vessels, greater income)⁹. We will revisit the question of occupational inheritance in more detail below.

Table 9. Older Children of Oystermen Engaged in Oyster Harvesting by Vessel Length.

	All Current Licensees (N=316)	Current Licensees by Vessel Length		
		Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Households with Older Children Who Have Moved Away From Home:	(N=108)	(N=29)	(N=37)	(N=42)
Are any of your children who have left home harvesting oysters?				
No	63.0%	65.50%	54.1%	69.0%
Yes	37.0	34.5	45.9	31.0
Don't Know/No Response	00.0	00.0	00.0	00.0
Households with Older Children Who Have Moved Away from Home and Are in the Oyster Business:	(N=40)	(N=10)	(N=17)	(N=13)
Are any of these older children in business with you?				
No	72.5%	40.0%	76.5%	92.3%
Yes	27.5	60.0	23.5	07.7
Don't Know/ No Response	00.0	00.0	00.0	00.0

PERSONAL COMMITMENT TO OYSTER HARVESTING

We now focus on some of the more subjective reactions of oystermen to their profession and life circumstances. In this section, we report findings about oystermen's reasons for staying with or for leaving oyster harvesting, levels of satisfaction with oyster harvesting as a way of life and as an occupation, if oystermen would recommend that their children take up oyster harvesting as a career, and plans and preferences for the future.

Reasons for Entering the Industry

We asked oystermen to share with us their major reasons for choosing oyster harvesting as a career. Although a wide range of reasons was given, most responses to this open-ended question could be placed in five categories: (1) inherited the family business, (2) preferred the lifestyle, (3) did not know what else to do, (4) a good living or income, and (5) a lack of alternative opportunities.

The most frequently mentioned reason for taking up oyster harvesting as a career was that it was a family business. While more than 40 percent of all harvesters made this claim, by far the largest proportion that claimed to be carrying on the family business was from the large vessel captains (58.0 percent). This reason for their career choice decreased sharply for mid-size and small vessel captains (37.7 percent and 23.1 percent respectively).

Table 10. Reasons for Entering Oyster Harvesting by Vessel Length, Current Licensees Only

	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Reasons for Choosing Oyster Harvesting as a Career				
Family Business	41.1%	23.1%	37.7%	58.0%
Preferred the Lifestyle	14.6	19.8	17.0	08.4
Didn't Know What Else to Do	11.1	12.1	12.3	09.2
A Good Income	07.0	07.7	02.8	10.1
Few Other Opportunities	02.8	05.5	01.9	01.7
Miscellaneous Reasons /Don't Know	21.8	29.7	27.4	10.9
No Response	01.6	02.2	00.9	01.7
Would Make Decision Again to Become an Oyster Harvester				
No	14.9%	09.9%	13.2%	20.2%
Yes	82.3	90.1	84.0	74.8
Don't Know/No Response	02.8	00.0	02.8	05.0

The second most frequently mentioned reason for taking up oyster harvesting as a career was lifestyle preference (14.6 percent). Oystermen mentioned such things as enjoying work on the water and the freedom or autonomy associated with the profession. A larger percent of small and mid-size vessel operators chose this response than did those who harvest with large vessels (19.8 and 17.0 percent respectively compared with 8.4 percent).

The third ranking reason for taking up oyster harvesting was simply not knowing what else to do. Despite being third, this response reflects a relatively small segment of the industry (only slightly more than one tenth) and does not vary appreciably across vessel size.

Fourth on the list of reasons was that oyster harvesting provided a good income. It is instructive to note that this was the first mention that refers to economic concerns, and that only about seven percent of the harvesters mentioned this as the major reason for being in the business. Although large vessel operators were most likely to report that the lucrative aspects of oyster harvesting drew them into the business, only ten percent of this group mentioned economic motivations.

Finally, a small percent of our respondents (less than three percent) claimed to have entered the business because of the lack of alternative employment opportunities. Unlike those who felt constrained by their lack of skills or knowledge, this group felt that their career decisions were constrained by the limited kinds of employment available in the area.

Although most career decisions are complex and not based on a single factor, we were able to uncover some of the underlying priorities for such decisions by asking oystermen to tell us the major motivating factor in their decision to enter the oyster harvesting business. If anything, our findings suggest that entry into oyster harvesting is not driven solely by the expectation that the profession is lucrative or provides a good living. Nor are these decisions largely a function of the lack of alternative sources of work. Most reported this occupational choice because it was already a way of life through a family business, because they preferred the lifestyle, or because they simply did not know what else they could do.

If the Choice Could be Made Again

Regardless of our reasons for deciding to enter a particular profession, we may have second thoughts about the wisdom of those decisions. We asked respondents if they would still consider becoming an oyster harvester if they could make the decision again. The answer was "yes" for over 80 percent of all oystermen (see Table 10). However, this response is qualified depending on vessel size. While 90.1 percent of the small vessel operators claimed they would do it over again, a considerably lower number of large vessel operators answered in the affirmative (74.8 percent) and mid-size vessel operators fell somewhere in between (84.0 percent). Despite these differences, the fact remains that the large majority of oysterman claim that they would consider entering the profession if they could make the decision again.

Satisfaction with Oyster Harvesting

As An Occupation. In addition to asking oystermen about why they chose their means of livelihood, we asked them how satisfied they were with oyster harvesting as an occupation and as a way of life.¹⁰ There can be no doubt that oystermen are much more positive than negative about oyster harvesting, both as an occupation and as a way of life (Table 11). Altogether, more than 78 percent of oystermen report being either extremely or somewhat satisfied with their occupation, and only about 20 percent report at least some dissatisfaction. Despite the positively skewed responses, some variation occurs across vessel size categories. In particular, nearly one-fourth (24.3 percent) of oystermen operating large vessels reported some level of dissatisfaction with oyster harvesting as an occupation (compared with 18.7 and 17.9 percent respectively for small and mid-size vessel operators).

As A Way of Life. Levels of satisfaction with oyster harvesting as a way of life were even higher than what we found for satisfaction with oyster harvesting as an occupation. More than 80 percent of the respondents reported satisfaction with this dimension. Similar to our findings for satisfaction with oyster harvesting as an occupation, mid-size vessel operators are somewhat more positive than small and large vessel operators.

Table 11. Satisfaction with Oyster Harvesting by Vessel Length

	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Satisfaction with Oyster Harvesting as an Occupation				
Extremely Satisfied	29.1%	27.5%	34.9%	25.2%
Somewhat Satisfied	49.1	51.6	46.2	49.6
Somewhat Dissatisfied	13.9	11.0	17.0	13.4
Extremely Dissatisfied	06.6	07.7	00.9	10.9
Don't Know/No Response	01.2	02.2	00.9	00.8
Satisfaction with Oyster Harvesting as a Way of Life				
Extremely Satisfied	30.1%	25.3%	34.0%	30.3%
Somewhat Satisfied	51.6	53.8	50.9	50.4
Somewhat Dissatisfied	13.0	13.2	12.3	13.4
Extremely Dissatisfied	03.8	05.5	01.9	04.2
Don't Know/No Response	01.5	02.2	00.9	01.6

Burdens and Problems Associated with Oyster Harvesting

Overburdened by Demands. In addition to broad questions dealing with satisfaction with oyster harvesting, we asked respondents more specific questions about burdens or problems associated with their work. First we asked a general question about how much of the time they felt overburdened by the demands of their oyster harvesting operation. Answers to this question were mixed. About 17 percent claimed to be overburdened “a lot of the time,” and approximately 14 percent said that they never were overburdened (Table 12). Large vessel operators were more inclined than their smaller vessel counterparts to claim to be overburdened a lot of the time (27.7 percent compared to 15.4 percent of small and 7.5 percent of mid-size vessel operators).

Equipment Problems. Our next questions about problems that oystermen may face were more specific. When asked how often they had problems with equipment, especially their vessels, the oystermen answered in a pattern that was similar to what we saw for our more general question about being overburdened. Large vessel operators were more likely than other operators to experience such problems a lot of the time (although very few in any vessel category claimed to never experience equipment problems).

Financial Problems. Do oystermen feel that they do not have enough money to meet their needs? A little over 30 percent of our respondents said that this is the case often and over

Table 12. Problems Associated with Oyster Harvesting Operations by Vessel Length.

	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
How much of the time do you feel overburdened by the demands of your oyster harvesting operation?				
A lot of the time	17.4	15.4	07.5	27.7
Some of the time	30.1	25.3	36.8	27.7
Only once in a while	35.4	36.3	34.9	35.3
Never	13.9	20.9	16.0	06.7
Don't Know/No Response	03.1	02.2	04.7	02.5
How often do you have problems with equipment, especially your vessel?				
A lot of the time	17.7	17.6	15.1	20.2
Some of the time	33.5	22.0	37.7	38.7
Only once in a while	43.7	53.8	40.6	38.7
Never	04.4	06.6	04.7	02.5
Don't Know/No Response	00.6	00.0	01.9	00.0
How often do you feel that you don't have enough money to meet your needs.				
A lot of the time	30.7	26.4	34.9	30.3
Some of the time	26.3	33.0	17.9	28.6
Only once in a while	30.1	25.3	37.7	26.9
Never	12.3	14.3	08.5	14.3
Don't Know/No Response	00.6	01.1	00.9	00.0
How much of the time would you say you feel overburdened by your debt load?				
A lot of the time	21.5	25.3	14.2	25.2
Some of the time	28.8	28.6	27.4	27.7
Only once in a while	30.7	25.3	38.7	27.7
Never	18.0	20.9	17.9	16.0
Don't Know/No Response	01.9	00.0	01.9	03.4
How often do you feel overburdened by government rules and regulations?				
A lot of the time	64.9	68.1	67.0	60.5
Some of the time	19.9	17.6	15.1	26.1
Only once in a while	10.4	07.7	13.2	10.1
Never	02.8	03.3	02.8	02.5
Don't Know/No Response	01.9	03.3	01.9	00.8
Do you generally feel that you have enough people to help you out?				
No	24.4	16.5	19.8	34.5
Yes	72.5	81.3	75.5	63.0
Don't Know/No Response	03.1	02.2	04.7	02.5

one-fourth claim that money is a problem some of the time. This question yielded little variation across vessel size category, indicating that financial matters tend to be of equal concern, regardless of the size of operations. Similarly, our findings presented in Table 12 indicate that oystermen’s sense of being overburdened by their debt loads is not related to size of operation.

Governmental Restrictions. We also asked respondents if they felt overburdened by government rules and regulations. The overwhelming response was that they felt overburdened a lot of the time. Nearly 65 percent of all oystermen gave this answer. Compared to large vessel operators, a slightly higher percent of the small and mid-size operators answered this way (60.5 percent vs. 68.1 and 67.0 percent), but the high proportion of such responses strongly suggests that this question hit a collective nerve.

Enough People to Help? Finally, we asked oystermen if they generally feel that they have enough people help them out. Most answered in the affirmative (72.5 percent), although a sizable minority (24.4 percent) said “no.” For this perceived problem, vessel size makes a noticeable difference. Over one-third (34.5 percent) of the large vessel operators claimed that there were not enough people to help out, compared to 16.5 percent of the small and 19.8 percent of the mid-size vessel operators.

Encouraging Children to Become Oystermen

A characteristic feature of the Louisiana oyster fishery is that the harvesting business is handed down from generation to generation. Recall that the major reason most oystermen gave for entering the industry was to continue the family business. Hence, the role that oystermen’s children will play in maintaining this tradition has important implications for the future direction of the industry. This consideration prompted us to ask respondents if they had encouraged, or if they would encourage, their children to enter oyster harvesting as a career (Table 13).

Table 13. Encouragement of Future Generations to Enter Commercial Oyster Harvesting by Vessel Length.

	All Current Licensees (N=316)	Current Licensees by Vessel Length		
		Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Have you encouraged, or would you encourage your children to enter oyster harvesting?¹				
No	60.1%	56.0%	59.4%	63.9%
Yes	35.8	39.6	34.9	33.6
Don't Know/No Response	04.1	04.4	05.7	02.5

¹ Subjects without children were asked how they would respond if they did have children.

Surprisingly, over half (60.1 percent) of all respondents answered that they have not encouraged or would not encourage their children to become oyster harvesters. Large vessel operators were the most likely to discourage their offspring (63.9 percent said they would not encourage their children) while small vessel operators were the least likely to discourage their children (56.0 percent gave that response). Despite the differences across vessel size, the fact remains that most of the oystermen we interviewed felt that the oyster business was not a career they would like to see their own children enter.

Our finding that oystermen, especially large vessel oystermen, were unlikely to encourage their children to take up the business is perplexing and begs additional attention. On one hand, this finding raises a question about whether or not inheriting a family business increases the desire or intention to pass this business on to heirs. We would expect that oystermen who inherited the family business would be more prone to recommend the occupation to their children than those who did not inherit the business. And, recalling that large vessel operators were the most likely to have inherited a family business, we would anticipate that this group of oystermen would be the most likely to express an interest in passing on the tradition to their children. However, as we saw, this was not the case. On the other hand, our results may indicate a relationship between satisfaction with one's own occupation and career preferences for one's children. It seems reasonable to expect that workers who are dissatisfied with their occupation would be unlikely to recommend that same kind of career for their children. In this vein, our finding that large vessel oystermen expressed greater dissatisfaction for their career may help explain why these harvesters were also less disposed than other harvesters to encourage their children to enter that profession. One additional question raised by these findings concerns the role of ethnic identity. Is the high incidence of negative responses among large vessel operators related to the fact that a large proportion of these oystermen are Croatians? To address these questions, we separately examined the effects of family inheritance, occupational satisfaction, and ethnic identity on oystermen's inclination to encourage their children to take up the occupation (Table 14).

The Influence of Inheritance. To examine the effects of inheritance, we categorized oystermen into two groups based upon their responses to why they entered the business—those who inherited a family business and those who did not. Our outcome shows very little difference in what oystermen say about how they would advise their children. Those who inherited their business were only slightly more inclined to be encouraging than those who did not inherit their business. When we consider vessel size, however, it is a different story. For small vessel operators, inheritance makes a substantial difference. Of those inheriting their business, 52.4 percent would encourage their children to follow suit, while only 35.7 percent of those who did not inherit the business would be encouraging. Inheritance appears to be much less potent for mid-size operators, if it has an effect at all. Turning to the large vessel operators, we find that the effect of inheritance is negligible, and actually acts in the opposite direction. That is, large vessel oystermen who inherited their business are less likely to recommend the business to their children than those who did not inherit their business.

Influence of Satisfaction with the Occupation. Does level of occupational satisfaction help explain the perplexing question of why oystermen, especially large vessel operators, are reticent to recommend oyster harvesting to their children? For this part of our analysis, we dichotomize occupational satisfaction according to those who claim to be either extremely or somewhat satisfied with their career versus those who claim to be either extremely or somewhat dissatisfied. The results in Table 14 show that across the board, satisfaction is positively associated with recommending the profession. Those who express a low level of satisfaction with the occupation are much less likely to recommend the occupation to their children. We must keep in mind that the dissatisfied group of oystermen represents a clear minority, so dissatisfaction in itself cannot be the major factor in explaining this outcome. For example, among large vessel operators, well over half of those who are satisfied with their occupations still would not recommend it for their children. However, of those who are dissatisfied, almost 90 percent do not recommend the occupation. In short, level of occupational satisfaction appears to be more useful than inheritance in explaining why large vessel operators are more likely than smaller vessel operators to not recommend the occupation to their children.

Influence of Ethnic Identity. To examine if ethnic identity helps explain why large vessel operators are less likely than other oystermen to recommend oyster harvesting to their children, we compared responses across three categories of ethnic self descriptions—Cajun/French, Croatian and other. Because only two of the 45 Croatian subjects in our sample were not large vessel operators, we do not report findings for small and mid-size vessel categories in Table 14. The results show a pattern of distinct differences across ethnic groups when we include all oystermen as well as when we restrict our sample to large vessel operators. Although a minority of oystermen in each category claimed that they would encourage their children to enter the profession, Cajun/French operators were more the most likely to report that they would encourage their children. Over 44 percent of the large vessel Cajun/French were affirmative compared to only 26.2 percent of the Croatians and 31.7 percent of the others in this vessel size category. This suggests that ethnicity needs to be taken into account when considering issues of recruitment and retention in the industry. We will return to this issue in the conclusions section.

Perceived Alternatives to Harvesting Oysters

A primary goal of our research is to determine the impact that problems facing the oyster industry will have on labor displacement. As mentioned above, the Louisiana oyster industry faces an uncertain future caused by an array of biological, environmental, and management problems. Periodic closures due to pollutants and bacterial contamination have increasingly disrupted the industry, and the prospects for other major disruptions remain on the horizon. To examine the potential impact of these disruptions, we asked oystermen about their perceived alternatives and plans. Specifically, we asked them about the kinds of employment they would turn to if they could no longer make a living harvesting oysters or if they would have to leave the area to find work. Additionally, we asked if they plan to leave the industry in the near future, and if so, why.

Table 14. Encouragement of Children to Enter the Oyster Harvesting Business, Controlling for Inheritance of the Business, for Satisfaction with Oyster Harvesting as an Occupation, and Ethnic Identity by Vessel Length.

Have you encouraged, or would you encourage your children to enter oyster harvesting? ¹	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
INHERITANCE				
Inherited Family Business:	(N=130)	(N=21)	(N=40)	(N=69)
No	57.7%	42.9	55.0	63.8
Yes	36.2	52.4	35.0	31.9
Don't Know/No Response	00.8	04.8	10.0	04.4
Did Not Inherit Family Business:	(N=186)	(N=70)	(N=66)	(N=50)
No	61.8	65.0	62.1	64.0
Yes	35.5	35.7	34.9	36.0
Don't Know/No Response	02.7	04.3	03.3	00.0
SATISFACTION WITH OYSTER HARVESTING AS AN OCCUPATION:				
High Satisfaction:	(N=247)	(N=72)	(N=86)	(N=89)
No	55.5	52.8	57.0	56.8
Yes	40.1	41.7	37.2	41.6
Don't Know/No Response	04.9	05.6	05.8	02.2
Low Satisfaction:	(N=65)	(N=17)	(N=19)	(N=29)
No	80.0	70.6	73.7	89.7
Yes	16.9	29.4	21.1	06.9
Don't Know/No Response	03.1	00.0	05.3	03.5
ETHNIC IDENTITY²				
Croatian (N=45)	(N=45)	NA	NA	(N=43)
No	68.9			69.5
Yes	24.4			26.2
Don't Know/No Response	06.7			04.8
Cajun/French (N=116)	(N=116)	NA	NA	(N=36)
No	51.7			55.6
Yes	46.6			44.4
Don't Know/No Response	01.7			00.0
Other (N=155)	(N=155)	NA	NA	(N=41)
No	63.9			65.9
Yes	31.0			31.7
Don't Know/No Response	05.2			02.4

¹Subjects without children were asked how they would respond if they did have children.

²We do not report findings for small and mid-size categories because all but two of the Croatians in the sample were large vessel operators.

What to Do if There Are No Oysters to Harvest. Speculating about what they would do should oysters no longer be available to harvest in Louisiana, a large proportion (40 percent) of the oystermen we interviewed claimed that they had no idea of what they would do or that they would do nothing, retire, or go on welfare (Table 15). This answer was by far the most prevalent for the large vessel operators; nearly 57 percent answered in this manner. Operators of small and

Table 15. Future Employment Plans by Vessel Size (Current Licensees Only).

	Current Licensees by Vessel Length			
	All Current Licensees (N=316)	Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
If oysters were no longer available to harvest in Louisiana, what kind of work would you do?				
Have no idea / do not know what	31.3	21.1	25.0	44.8
Will do nothing, go on welfare, or retire	08.7	5.6	7.7	12.1
Specified kind of work:				
Commercial fishing (e.g., shrimping, crabbing, fin fish)	37.7	44.4	42.3	28.4
White collar type occupation (e.g., managerial, technical, sales, service)	03.9	4.4	3.8	3.4
Blue collar type occupation (e.g., craft, repair, operator, fabricator)	16.5	21.1	19.2	10.3
No Answer	01.9	3.3	1.9	00.9
(If work specified) Would you have to leave the area to find work?				
No	(N=193) 50.2	(N=68) 54.8	(N=65) 55.8	(N=57) 41.3
Yes	37.8	35.7	33.7	43.3
Don't Know/No Response	12.1	09.5	10.6	15.4
Do you plan to leave oyster harvesting in the next two or three years?				
No	(N=316) 90.2	(N=91) 90.1	(N=106) 87.7	(N=119) 92.4
Yes	08.9	09.9	10.4	06.7
Don't Know/No Response	00.9	00.0	01.9	00.8
(If yes) What is the major reason for your decision to leave oyster harvesting?				
Retiring	(N=28) 07.1	(N=9) 00.0	(N=11) 09.1	(N=8) 12.5
Can't make enough money	42.9	44.4	27.3	62.5
Work is too hard	10.7	11.1	18.2	00.0
Bad publicity/poor market	10.7	11.1	09.1	12.5
Too many regulations	10.7	00.0	27.3	00.0
Health reasons	00.0	22.2	00.0	00.0
Other reason	07.1	11.1	00.0	12.5

mid-size vessels, on the other hand, were much more likely to specify a kind of work they would do if oysters were not available. Understandably, the alternative work possibility mentioned most often, regardless of vessel size, involved some other form of commercial fishing, such as shrimping, crabbing, or fin fishing.¹¹ Blue collar occupations, such as craftsmen, mechanics, and machine operators, were mentioned by about one-fifth of the small and mid-size vessel operators, and white collar jobs were the least frequently mentioned alternatives.

Leave Area to Find Work? We asked those who specified some kind of alternative occupation if they would have to leave the area to find work. Approximately half claimed that they would not have to leave under those circumstances. Large vessel operators again appear to be the least flexible in their alternatives to oyster harvesting. Not only did a larger proportion of them than others claim that work would not be available for them locally, a larger proportion were less likely to know if they would have to leave their communities to find work.

In sum, oystermen's estimations of their alternative work options clearly indicate that the means of a livelihood for a sizable proportion, particularly those operating large vessels, would be seriously restricted should oysters no longer be available to harvest. Many claimed they would do nothing or had no idea what they would do, and those who did mention an alternative were most likely to specify some type of commercial fishing.

Planning to Exit Harvesting

The uncertainties facing the industry would lead us to anticipate that a sizable number of harvesters would be planning to move out of the profession. However, our findings do not bear this out. Fewer than 10 percent of the harvesters we interviewed reported that they were planning to leave oyster harvesting in the next two to three years (Table 15). A smaller proportion of large vessel operators have such plans than do others, but the differences are minor. A variety of reasons were given for leaving, including not enough money, poor health, work too hard, excessive regulations, pending retirement, and bad publicity directed toward the industry. The inability to make enough money was the most frequently stated reason given by those planning to leave harvesting. However, the fact remains that relatively few indicated any plans to leave soon.

Reasons Why Prior Licensees did not Harvest Oysters in the Previous Year

As we explained, our sample for this study included 153 persons who did not hold a commercial oyster harvesting license in 1997, but who held a license within the three year period prior to that. Our rationale for including prior licensees was to gain information about those who have recently exited the industry. Of particular interest was the question of why those in this group decided not to commercially harvest oysters in the previous year.

It is important to point out that members of this group are not peripheral to the industry. Our findings indicate this in two ways. First, as can be seen in Table 16, over 60 percent of these respondents commercially harvested oysters for more than 10 years and more than one-fourth harvested oysters for more than 20 years. This represents a considerable amount of collective experience in the fishery. Second, when asked if they would return to oyster harvesting if they could, a large majority of this group (82.4 percent) said that they would. Hence, we can expect that members of this group would be moving back into the industry when circumstances allowed. That is, most of these prior licensees have a strong attachment to the profession, despite their current status of not holding a commercial license.

So, why did these oystermen choose to not harvest oysters commercially in 1997? As shown in Table 16, over one-fourth gave the reason of being engaged in some other kind of work.¹² An additional 16.3 percent reported that their health kept them from harvesting oysters, while 15.7 percent cited monetary concerns as a reason. Other less frequently mentioned reasons included problems with equipment, not being able to find enough oysters to harvest, too many environmental problems, and retirement. These findings suggest that most were drawn away from harvesting oysters (possibly only temporarily) by alternative opportunities rather than forced out of the industry due to low earnings or lack of oysters to harvest.¹³ These findings add strength to our belief that these oystermen remain an important part of the industry, and that we can expect to find many of them reentering the industry.

Table 16. Reasons for Not Harvesting Oysters, Number Years Spent as a Harvester, and Preferences to Return to Oyster Harvesting for Prior Licensees (N=153).

For about how many years did you harvest oysters?	
Less than 5 years	18.1%
5 to 9 years	17.4
10-19 years	36.9
20-29 years	13.4
30 or more years	14.1
What is the MAJOR reason for your decision not to harvest oysters commercially during the last 12 months?	
Doing other kinds of work	26.1%
Health reasons	16.3
Couldn't make enough money	15.7
Regulatory pressures	08.5
Problems with equipment/boat	07.8
Inadequate stock	07.8
Environmental – Pollution, fresh water,	07.2
Retired	03.3
Other reasons	07.2
If you could, would you return to oyster harvesting?	
No	15.0%
Yes	82.4
Don't Know/No Response	02.6

WORKING OUTSIDE HARVESTING: ALTERNATIVE EMPLOYMENT

Research suggests that an increasing number of commercial fishing households rely on alternative sources of income to maintain their way of life. For example, in 1995 approximately 37 percent of all Louisiana shrimp fishermen held jobs in addition to shrimping, and over half of all their households brought in income from non shrimping employment (Deseran, 1997). To what extent do Louisiana oyster harvesters also depend on the larger economy? In this section we examine the labor force experiences of oystermen and members of their households. To enable some comparisons, we asked both prior and current licensees a series of questions about the amount and kinds of work they do for pay other than oystering.

Other Employment of Oystermen

Percent of Oystermen with Other Jobs. Well over half of the current license holders (57.0 percent) indicated that they had earned income from work other than oyster harvesting in the last 12 months (Table 17). The predominance of this employment, as expected, is from small vessel

Table 17. Nonoyster Labor Force Participation by License Holding Status and Vessel Length.

	Prior Licensees (N=153)	All Current Licensees (N=316)	Current Licensees by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Did you earn any income from any kinds of work other than oyster harvesting in the last 12 months? (Percent yes)	79.7	57.0	80.2	65.1	31.9
If yes, how many weeks in the last 12 months did you work at that job?					
Less than 12	05.8	30.9	17.8	36.8	45.9
13 - 24	20.0	25.3	27.4	23.5	24.3
25 - 40	21.7	23.0	30.1	20.6	13.5
More than 40	45.8	15.2	19.2	11.8	13.5
No Answer/Don't Know	06.7	05.6	05.5	07.4	02.7
What kind of work?					
Managerial Professional	10.7	03.1	01.6	04.5	03.2
Technical, Sales, and Admin. Support	04.1	03.1	03.1	00.0	09.7
Service Occupations	05.7	01.9	04.7	00.0	00.0
Commercial Fishing	41.0	67.7	65.6	72.7	61.3
Precision, Production, Craft, Repair	14.8	08.1	09.4	04.5	12.9
Operators, Fabricators, and Laborers	21.3	12.4	12.5	12.1	12.9
No Response/uncodable	02.5	03.7	03.1	06.1	00.0
Were you self employed? (Percent yes)	42.6	66.1	60.3	72.5	65.8
What percent of income from other job?¹					
10% or less	NA	13.9	09.6	13.0	23.7
11 - 25%	NA	16.7	13.7	10.1	34.2
26 - 50%	NA	25.0	23.3	30.4	18.4
51 - 75%	NA	19.4	19.2	21.7	15.8
more than 75%	NA	23.9	34.2	23.2	05.3
Don't Know/No Response	NA	01.2	0.0	01.4	02.6
Any full time employment prior to oyster harvesting?¹	NA	42.1	51.6	49.1	28.6

¹This question was not asked of the prior licensees.

operators. Approximately 80 percent of these harvesters earn income from other kinds of work. A large majority of mid-size vessel operators also report alternative employment (65.1 percent), while just under a third of large vessel operators report other sources of income. These patterns across vessel size are reflected in the number of hours worked at these jobs B the smaller the vessel, the greater the number of hours spent working in other jobs. The proportion of income earned from outside work also follows this pattern. More than half of small vessel operators earn at least 50 percent of their income from nonoyster work, while approximately 45 percent of mid-size vessel operators and 21 percent of large vessel operators fall in this category.

Kinds of Work. Table 17 reveals that most of the alternative paid employment is from some other kind of commercial fishing. Over two-thirds of the nonoyster work is from this sector, with little difference across vessel size categories. Shrimp, crabs, and finfish were the main species mentioned in this regard. Blue collar jobs, such as craftsmen, mechanics, machine operators, and laborers, made up most of the other jobs reported by respondents (20.1 percent). Most of the oystermen reported that they were self-employed (66.1 percent) in their alternative jobs. This high level of self-employment is highly uncharacteristic of the general labor force where most work is for others, but it does reflect the labor configuration of the oyster harvesting industry in Louisiana which is characterized by independent owner-operators. This high rate of self employment is largely due to the high involvement in other commercial fisheries which also are characterized by individual owner-operators.¹⁴

Work Prior to Oyster Harvesting. In addition to questions about current work, we asked oystermen if they held any other kinds of paid full time work prior to entering oyster harvesting. More than 40 percent reported that they did (Table 17). Small and mid-size vessel operators were much more likely than large vessel operators to have experienced such employment, which is consistent with our other findings showing that smaller operators are more likely to hold other jobs currently and less likely to have inherited their oyster harvesting business.

Labor Force Participation of Wives

We have already shown that the unpaid work of oystermen's wives is a major component of many oyster harvesting operations. In addition, we know that women in general are increasingly entering the paid labor force and that fishermen's wives are following that trend. For example, in 1994 nearly one-third of the wives of Louisiana shrimp vessel captains earned income from work outside of shrimping (Deseran, 1997). We anticipated that oystermen's wives would also have a strong presence in the paid labor force, and our findings in Table 18 more than bear out this expectation.

Percent of Employed Wives. Among married current license holders, 42.0 percent of the wives earned at least some income from work other than oyster harvesting. This percent is even higher for the spouses of prior license holders, of whom nearly half (48.3 percent) held paying jobs. Among the current licensees, wives of small vessel operators were the most likely to have

Table 18. Labor Force Participation of Oystermen's Wives by License Holding Status and Vessel Length¹

	Prior Licensees (N=118)	Current Licensees by Vessel Length			
		All Vessels (N=245)	Under 25' (N=61)	25'-40' (N=86)	Over 40' (N=98)
In the last 12 months, did your spouse earn any income from any kinds of work other than oyster harvesting?					
No	49.2%	57.1%	52.5%	58.1%	59.2%
Yes	48.3	42.0	47.5	39.5	40.8
No Response/Don't Know	02.5	00.8	00.0	02.3	00.0
If not working, is your spouse currently looking for work or does she intend to look for work during the next 12 months?					
	(N=61)	(N=142)	(N=32)	(N=52)	(N=58)
No	79.3%	80.3%	84.4%	80.8%	77.6%
Yes	17.2	14.8	12.5	11.5	19.0
No Response/Don't Know	03.4	04.9	03.1	07.6	03.4
If working, what kind of work?					
	(N=57)	(N=103)	(N=29)	(N=34)	(N=40)
Managerial Professional	16.0%	12.8%	18.5%	06.3%	14.3%
Technical, Sales, and Admin. Support	50.0	56.4	55.6	56.3	57.1
Service Occupations	06.0	14.9	11.1	15.6	17.1
Commercial Fishing	12.0	09.6	11.1	15.6	2.9
Precision, Production, Craft, and Repair Operators, Fabricators, and Laborers	00.0	00.0	00.0	00.0	00.0
No Response	10.0	02.1	00.0	00.0	05.7
	06.0	04.3	03.7	06.3	02.9
Was she self employed? (Percent yes)					
Yes	35.4%	17.5%	27.6%	14.7%	12.5%
No	62.5	82.5	72.4	85.3	87.5
No Response/Don't Know	02.1	00.0	00.0	00.0	00.0
How many hours per week did your spouse work at this job?					
Less than 10 hours	07.0%	02.0%	00.0%	00.0%	05.0%
10-29 hours	19.3	17.6	13.8	09.1	27.5
30 or more hours	70.2	71.6	72.4	84.8	60.0
No Response/Don't Know	03.5	08.8	13.8	06.1	07.5
What percent of household income from her job?					
10% or less	17.5%	29.1%	27.6%	17.6%	40.0%
11 - 25%	14.0	18.4	13.8	29.4	12.5
26 - 50%	47.4	30.1	31.0	35.3	25.0
51 - 75%	07.0	04.9	06.9	00.0	07.5
more than 75%	07.0	09.7	13.8	11.8	05.0
Don't Know/No Response	07.0	07.8	06.9	05.9	10.0
If financial considerations were not a concern, would your spouse work at that job?					
	45.6%	39.8%	31.0%	50.0%	37.5%
No	50.9	58.3	65.5	47.1	62.5
Yes	03.5	01.9	03.4	02.9	00.0
No Response/Don't Know					

¹Data in this table are for married couple households only.

held paying jobs (47.5 percent), while job holding for wives of mid-size and large vessel operators were 39.5 and 40.8 percent respectively.

Respondents who reported that their spouse did not hold a job in the last year were asked if their spouse was looking for work or had intentions to do so within the next 12 months. A modest percent reported affirmatively (Table 18). We found some variation across vessel size categories, with about seven percentage points separating nonworking wives of large vessel operators from those of the smaller vessel categories. But, overall, the large majority of nonemployed wives were not thinking about getting a paid job in the near future.

Kinds of Employment. Not surprisingly, the kinds of nonoyster employment typical of wives is quite different from their husbands. While the preponderance of men's employment involved some alternative form of commercial fishing, the jobs of the working wives are almost totally restricted to white collar type occupations¹⁵, as depicted in the first three occupational categories listed on Table 18. Taken together, these three categories account for 84.1 percent the jobs of wives of current licensees and 72.0 percent of the of the jobs of prior licensees. Also differing from men, wives were much less likely to work for themselves. Only 17.5 percent of the wives of current licensees and 35.4 percent of wives of prior licensees were self employed (recall that 66.1 percent of the husbands reported being self-employed in their nonoystering, mostly commercial fishing, jobs).

Full- or Part-Time Employment. When a wife was employed, the job was likely to be full time. On the average, more than 70 percent of the working wives of both prior and current licensees devoted more than 30 hours per week to their jobs. However, vessel size does make a difference, with wives of large vessel operators much more likely to have worked part time than their counterparts. Almost one-third of the wives of large vessel operators worked fewer than 30 hours per week, compared to 13.8 percent and 9.1 percent respectively of wives of small and mid-size vessel operators.

Percent of Household Income. How much income did these working wives bring to their households? To get a rough idea, we asked respondents to estimate the percent of household income that came from the wife's paid work. Two observations merit comment. First, women's monetary contributions were far from inconsequential. For a large percent of households, women's paid employment brought in more than one-fourth of the total household income. Wives of current licensees contributed more than 25 percent of the total income in 44.7 percent of the households. Second, the proportion of economic contribution varies with vessel size, with the large vessel operator wives contributing the smallest proportion¹⁶.

Reasons for Working. Of particular interest to our research is the question of why wives seek paid employment. Is it to raise family income to a desired level? Is their employment seen as a stopgap for those times when income from commercial fishing is insufficient to meet family needs? Or, do wives seek employment for reasons other than financial concerns? Put another way, would these wives leave the labor force if family finances were not at issue? We addressed

these questions by asking respondents if their wives would work at their jobs if financial considerations were not a concern. Interestingly, most (58.3 percent of the current licensees and 50.9 percent of the prior licensees) reported that their wives would continue to work under such circumstances (Table 18). While this does not answer the question of why wives entered the labor market in the first place, it does indicate that for many wives, decisions to enter and remain in the paid labor force are grounded in more than financial considerations for sustaining commercial fishing as a way of life.¹⁷

Work History of Parents and Grandparents

Fathers' Work. Up to this point our focus has been on the labor of oystermen and their spouses. However, we cannot fully appreciate the nature of the work force in this fishery without considering the larger family context. As we pointed out earlier, many oystermen entered their trade to carry on a family business. The findings reported in Table 19 reconfirm this observation. In response to our question about what kinds of work their fathers did, oystermen overwhelmingly reported commercial fishing. Nearly 60 percent of the current licensees reported that their fathers were commercial fishermen, as did slightly more of the prior licensees. Similar to the pattern reported earlier for inheriting the family business, the percent of oystermen who grew up in commercial fishing families increases as their vessel size increases, ranging from 45 percent for the small vessel operators to 65.1 percent for the large vessel operators. Predictably, other occupations of fathers include blue collar jobs. The concentration in blue collar jobs (when not classified as a commercial fisherman) fits the pattern found for our respondents.¹⁸

Mothers' Work. We also asked about the paid work of oystermen's mothers while oystermen were growing up. The findings reported in Table 19 show that a sizeable percent of the oystermen we interviewed grew up in a family where the mother had some kind of job outside the home (Table 19). The mothers of nearly 40 percent of the current licensees worked for pay as did the mothers of 35.3 percent of prior licensees. While these labor force participation rates are somewhat lower than for oystermen's wives (see Table 18), the differences are not as great as we had expected. Essentially, the pattern of wives working in the fishing community has not changed much between these generations of women. In this regard, note that the labor force participation for both the mothers and wives of small vessel operators is markedly higher than for the mothers and wives the larger size vessel operators.

Grandfathers' Work. Finally, in Table 19 we report the percent of oystermen who had at least one grandfather who harvested oysters commercially. The numbers are impressive. More than half of the active commercial harvesters reported that this was the case. The proportion of third generation oyster harvesters increases with each vessel size category for the current licensees. Approximately 41 percent of the small, 49 percent of the mid-size, and 61 percent of the large vessel operators reported that oyster harvesting had been in their family for

Table 19. Parents' and Grandparents' Work History by License Holding Status and Vessel Length.

	Prior licensees (N=153)	Current Licensees (N=316)	Current Licensees by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
When you were growing up, what type of work did your father do?¹					
Managerial Professional	02.2%	01.1%	01.3%	02.1%	00.0%
Technical, Sales, and Admin. Support	02.9	04.6	05.0	05.2	03.8
Service Occupations	02.2	02.1	05.0	01.0	00.9
Commercial Fishing	60.3	57.6	45.0	59.8	65.1
Precision, Production, Craft, and Repair	08.1	10.6	15.0	09.3	08.5
Operators, Fabricators, and Laborers	15.4	14.1	16.3	14.4	12.3
Don't Know/Father Not Present	08.8	09.9	12.5	08.2	09.4
Did your mother work outside the house while you were growing up?					
No	63.4%	57.9%	51.6%	60.4%	60.5%
Yes	35.3	39.9	46.2	37.7	37.0
Don't Know/No Response	01.3	02.2	02.2	01.9	02.5
If yes, what type of work did she do?					
	(N=49)	(N=118)	(N=40)	(N=33)	(N=43)
Managerial Professional	04.1%	06.9%	00.0%	08.6%	11.9%
Technical, Sales, and Admin. Support	30.6	24.1	28.2	25.7	19.0
Service Occupations	18.4	25.0	30.8	25.7	19.0
Commercial Fishing	14.3	13.8	10.3	08.6	21.4
Precision, Production, Craft, and Repair	00.0	00.0	00.0	00.0	00.0
Operators, Fabricators, and Laborers	22.4	13.8	12.8	20.0	09.5
Don't Know/No Response	10.2	16.4	17.9	11.4	19.0
Were either of your grandfathers an oyster harvester?					
No	39.2%	43.7%	52.7%	43.4%	37.0%
Yes	55.6	51.3	40.7	49.1	61.3
Don't Know/No Response	05.2	05.1	06.6	07.5	01.7

¹Due to a clerical error, approximately ten percent of the open-ended responses to type of father's work were lost during coding. Cases with missing values for this item are not included in the total number (N) used to calculate percentages.

at least three generations. The proportion of prior licensees whose grandfathers were commercial oyster harvesters is also substantial (55.6 percent).

We can summarize our findings on alternative employment by reiterating several points. First, a large portion of Louisiana commercial oyster harvesters supplement their income through other paid work, mostly as self-employed in some other fishery. Second, the income of over half of Louisiana oystermen is bolstered by their spouses' earnings from employment outside of the oyster industry. Third, the propensity of wives to participate in the labor force is inversely related to size of the oyster harvesting operation (as indicated by vessel size). The smaller the

operation, the greater the labor force participation of wives. Fourth, the patterns of labor force participation we observed for oystermen's wives are reflected in the work histories of the families in which the oystermen were raised. And finally, our findings reflect the strong family connections across generations of commercial oyster harvesters. In short, it appears that the income producing strategies of commercial oyster harvesting families has changed little over the last generation.

COMMUNITY SATISFACTION AND LOCAL INVOLVEMENT

We have shown that Louisiana oystermen have a very strong sense of attachment to their profession both as an occupation and a way of life. Another vital although somewhat intangible dimension of a commercial fisherman's life is an attachment to the community. As shown early in this report, most Louisiana commercial oysterman reside in a cluster of small communities along the Gulf coast in the south central part of the state. We asked a series of questions designed to tap respondents' attachment to and involvement in their communities. We asked these questions of both current and prior license holders.

Community Satisfaction

We first asked respondents tell us how satisfied or dissatisfied they were with their communities as a place to live. Across the board, the responses were very positive (over 90 percent were either satisfied or very satisfied). Only rarely did respondents report dissatisfaction with their communities, regardless of license status or vessel size. Likewise, when asked how they would react if they suddenly found out they had to leave their neighborhood for a similar kind of area, they were overwhelmingly displeased with such a prospect. Clearly, responses to these two measures of community satisfaction indicate a very strong attachment to the places they live.

Organization Membership

As an indicator of community involvement, we asked subjects about their membership in various types of organizations, ranging from professional associations to religious groups. The highest levels of involvement were in commercial fishing associations and church groups. Prior licensees were not as involved in organizations as current licensees, particularly in membership in commercial fishing associations (22.2 percent vs 35.4 percent). Among the current licensees, large vessel operators were disproportionately represented in fishing associations (compare 22.0 percent of small vessel captains with 45.4 percent of large vessel captains). Nearly one-third of all respondents reported membership in some sort of church group and less than 10 percent claimed membership in service organizations.

We also report in Table 20 the total number of types of organization membership claimed by oystermen by license status and vessel size. The pattern of involvement revealed in this table shows that prior licensees and small vessel operators are very similar. For each of these groups, more than half hold no memberships in organizations and only between 12 and 15 percent claim membership in at least two kinds of organizations. On the other hand, it is clear that the larger the vessel size, the greater the proportion of organizational membership; 55.7 percent of the mid-size and 65.6 percent of the large vessel operators reported membership in at least one organization and nearly one-third of the large vessel captains belonged to at least two kinds of organizations.

Trust and Involvement in Local Government

Our final two questions dealing with community attachment were about local government. We first asked how much of the time oystermen thought they could trust the local government in their town to do what is right. The responses to this question suggest that most oystermen are pessimistic about their local governing bodies. On average, fewer than seven percent answered "just about always" and less than a quarter said "most of the time." Nearly 70 percent of the current licensees and 62.1 percent of the prior licensees responded that local governments do what is right "only some of the time" or "almost never." Although on the average, responses of large vessel oystermen tended to be more positive in this regard than their smaller vessel counterparts, almost 65 percent of the large vessel operators answered negatively.

We next asked if they had spoken to or written a member of their local government, or some other person of influence, about their needs or problems. The percent of prior license holders who claimed to have taken such action was considerably lower than that of current license holders (43.9 vs. 57.0 percent). Of those who were licensed in 1997, large vessel operators were the most likely to claim having contacted a government official about concerns or problems.

To recapitulate, the overwhelming majority of our respondents, regardless of vessel size or license status, are satisfied with their communities as a place to live. And, they would be distressed if they had to leave their communities, even if to go to places with similar attributes. Involvement in the community, as indicated by organization membership, on the other hand, varies considerably across vessel size, with larger vessel owners participating more than the other oystermen. Finally, trust in local governments tends to be low across the board, although large vessel oystermen are more likely than other oystermen to have voiced their opinions about problems to local officials or persons of influence in their community.

OPINIONS AND PERCEIVED PROBLEMS

Opinions on Issues Relating to the Industry

This section of our report focuses on the opinions of oystermen and prior license holders regarding a variety of topics and issues related to the industry. We begin by providing the results

Table 20. Community Satisfaction and Organizational Involvement by License Holding Status and Vessel Length.

	Prior Licensees	Current Licensees	Current Licensees by Vessel Length		
			Under 25'	25'-40'	Over 40'
How satisfied are you with your community as a place to live?					
Very satisfied	56.9%	63.6%	68.1%	60.4%	63.0%
Somewhat satisfied	32.0	30.7	25.3	34.9	31.1
Somewhat dissatisfied	04.6	03.8	06.6	02.8	02.5
Very dissatisfied	05.9	01.9	00.0	01.9	03.4
Don't Know/ No Response	00.7	00.0	00.0	00.0	00.0
Suppose you suddenly found that you had to move to a similar kind of area, more than 100 miles away from here. How would the idea of leaving this neighborhood make you feel?					
Very pleased	03.9%	02.8%	02.2%	00.9%	05.0%
Somewhat pleased	10.5	07.6	08.8	07.5	06.7
Somewhat displeased	19.6	21.5	23.1	17.9	23.5
Very displeased	61.4	64.6	64.8	69.8	59.7
Not sure/ Don't Know/No Response	04.6	03.5	01.1	03.7	05.1
Do you belong to any of the following kinds of organizations? (Percent yes)					
Commercial fishing associations	22.2%	35.4%	22.0%	35.8%	45.4%
Church groups	27.5	30.7	26.4	34.0	31.1
Service clubs	05.2	07.9	06.6	06.6	10.1
Other community or professional associations	08.5	07.9	06.6	01.9	14.3
Number of Kinds of Organizations for Which Membership is Claimed					
None	52.9%	43.7%	54.9%	44.3%	34.5%
At Least 1	47.1	56.3	45.1	55.7	65.5
At Least 2	12.5	21.9	14.3	18.9	30.2
At Least 3 or more	03.3	03.5	01.1	03.8	05.0
How much of the time do you think you can trust the local government in your town to do what is right.					
Just about always	06.5%	06.3%	02.2%	07.5%	08.4%
Most of the time	23.5	21.8	20.9	19.8	24.4
Only some of the time	41.8	44.0	44.0	40.6	47.1
Almost never	20.3	25.9	31.9	30.2	17.6
Don't Know/ No Response	07.9	01.9	01.1	01.9	02.5
Have you ever personally spoken to, or written to some member of local government or some other person of influence in the community about some needs or problems?					
No	54.9%	42.4%	47.3%	46.2%	35.3%
Yes	43.9	57.0	52.7	52.8	63.9
Don't Know/No Response	01.3	00.6	00.0	00.9	00.8

for a series of closed-ended questions dealing with such issues as overcrowding in the fishery, pollution, limited entry into the fishery, coastal restoration, and regulatory agencies (Table 21). We then report findings for an open-ended question about what respondents consider to be the most pressing problems facing the oyster industry (Table 22).

Too many fishermen. Our first closed-ended question asked if respondents agreed or disagreed with the statement that there are too many people oyster fishing in Louisiana (Table 21). On the average, both prior and current licensees appear to have similar opinions about this topic, and largely disagree with 64.0 and 62.3 percent respectively. However, as the findings have shown repeatedly for this survey, vessel size category makes a marked difference. Clearly, crowding is perceived as a much more serious problem by the large vessel oystermen than by the other oystermen. Almost half of all large vessel operators agree that there are too many people oyster fishing while less than 15 percent of the small vessel and less than 30 percent of the mid-size vessel operators feel that it is an issue.

Pollution vs. Overfishing. We next asked respondents if they agreed or disagreed with the statement that pollution is more of a threat to oyster reefs than overfishing. Responses to this question were mixed, but regardless of license status or vessel size, most agreed that pollution is a greater threat to oyster beds than overfishing.

Limited Entry. Do oystermen support some type of program that limits the number of people who can harvest oysters? Consistent with the responses to the question about too many fishermen, the large vessel operators' responses indicate a greater concern for over-fishing than do the responses of the other respondents. Fully half of all large vessel captains indicated support some type of limited entry program, compared to less than one-third of the small or mid-size vessel captains voicing this opinion.

Coastal Restoration. The restoration of the Louisiana coastline has been of concern to oystermen because of the adverse impacts that this has had (or could have) on some oyster beds. When asked if they support the restoration project, most respondents, particularly prior licensees, agreed (nearly 70 percent of the prior licensees and 57.2 percent of the current licensees agreed). However, large vessel operators were more likely than their counterparts to not support coastal restoration. More than one-fourth of the large vessel oystermen expressed opposition. Of interest, a sizable proportion of the current licensees reported that they did not know about the project, and this lack of knowledge was highly correlated with vessel size. Nearly one-fourth of the small vessel operators were unaware of the coastal restoration project while only 8.3 percent of the large vessel operators and 14.1 percent of the mid-size vessel operators claimed ignorance of the project.

Move the Oyster Program to Agriculture? The Department of Wildlife and Fisheries is the regulatory agency responsible for the Louisiana oyster program. When asked if they agreed or disagreed that the program should be moved to the Department of Agriculture, most of our

Table 21. Opinions on Selected Topics by License Holding Status and Vessel Length.

	Prior Licensees (N=153)	Current Licensees (N=316)	Current Licensees by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
There are too many people oyster fishing in Louisiana.					
Strongly Disagree	06.5%	06.3%	08.7%	08.1%	02.5%
Disagree	57.5	56.0	70.7	57.6	44.2
Agree	22.9	23.9	10.9	20.2	35.8
Strongly Agree	07.2	08.8	03.3	09.1	13.3
No Opinion / Neither Agree Nor Disagree	04.6	04.7	06.5	04.0	04.2
No Response	01.3	00.3	00.0	01.0	00.0
Pollution is more of a threat to oyster reefs than over-fishing.					
Strongly Disagree	05.2	04.1	04.3	05.1	03.3
Disagree	19.6	21.4	18.5	26.3	19.2
Agree	38.6	42.1	43.5	34.3	46.7
Strongly Agree	30.7	25.8	30.4	26.3	22.5
No Opinion / Neither Agree Nor Disagree	03.9	06.3	03.3	08.1	07.5
No Response	02.0	00.3	00.0	00.0	00.8
I support some type of program that limits the number of people harvesting oysters.					
Strongly Disagree	09.8	11.9	12.0	17.2	07.5
Disagree	50.3	43.1	52.2	44.4	34.2
Agree	28.8	29.9	27.2	26.3	35.8
Strongly Agree	06.5	07.9	03.3	05.1	14.2
No Opinion / Neither Agree Nor Disagree	03.3	06.0	04.3	06.1	06.7
No Response	01.3	01.3	01.1	01.0	01.7
I support the coastal restoration project.					
Strongly Disagree	03.3	06.3	02.2	04.0	11.7
Disagree	11.8	16.0	16.3	17.2	15.0
Agree	47.7	43.7	48.9	39.4	43.3
Strongly Agree	22.2	13.5	04.3	20.2	15.8
Don't Know What this Project Is	09.8	15.4	23.9	14.1	08.3
No Opinion / Neither Agree Nor Disagree	05.2	05.0	04.3	05.1	05.8
No Response	00.0	00.0	00.0	00.0	00.0
I believe the oyster program should be moved to the Department of Agriculture.					
Strongly Disagree	07.2	04.1	06.5	05.1	01.7
Disagree	22.2	22.3	27.2	22.2	17.5
Agree	34.6	32.1	31.5	34.3	30.0
Strongly Agree	15.0	28.6	14.1	19.2	49.2
Don't know what the oyster program and/or Dept. of Ag is					
Dept. of Ag is	09.2	06.6	13.0	09.1	00.0
No Opinion / Neither Agree Nor Disagree	11.8	05.7	06.5	09.1	01.7
No Response	00.0	00.6	01.1	01.0	00.0

respondents agreed with that idea. Nearly half of the prior licensees agreed with the statement, although about one-fifth had no opinion or did not know enough about the issue to form an opinion. Among the current licensees, our findings show a clear-cut consensus among the large vessel operators. Close to 80 percent believed that the oyster program should be moved to the Department of Agriculture, and half of the large vessel respondents reported feeling strongly about the issue. Although most of the small and mid-size vessel operators shared these sentiments, it is evident that the issue was less salient for them. Similar to the prior licensees, nearly twenty percent of the smaller vessel oystermen had no opinion or were unaware of the issue, while less than two percent of the large vessel operators fell in this category.

Oystermen’s List of Most Important Problems Facing the Industry

At the beginning of this report we discussed some of the problems facing the oyster industry in Louisiana. We will end our presentation of findings by reporting what oystermen themselves find to be the most pressing issues in their industry. We asked the following open-ended question:

“We know that the oyster industry faces a number of problems. Based on your experience, what would you consider to be the **THREE MOST IMPORTANT** problems or issues facing oyster harvesters in Louisiana today?”

In Table 22 we present those problems mentioned first by respondents. Although we received a wide array of answers, with concerns ranging from pollution to market conditions, almost all of the responses fit into eight categories. They are listed in order of the frequency with which they were given.

Table 22. Factors Perceived by Oyster Harvesters as Major Problems Facing the Industry in Louisiana by License Holding Status and Vessel Length.

Major Problems	Prior Licensees (N=153)	Current Licensees (N=316)	Current Licensees by Vessel Length		
			Under 25' (N=91)	25'-40' (N=106)	Over 40' (N=119)
Pollution	28.6%	26.7%	34.8%	19.2%	25.0%
Regulatory Issues	15.6%	19.0%	14.6%	24.2%	19.0%
Water Salinity	14.3%	15.8%	15.7%	17.2%	14.7%
Media Coverage	04.8%	11.6%	07.9%	13.1%	12.9%
Economic Concerns	08.2%	07.4%	10.1%	08.1%	05.2%
Crowding/Theft	10.2%	04.2%	04.5%	03.0%	05.2%
Health Risk	08.2%	04.5%	00.0%	05.1%	07.8%
Predators	02.0%	01.6%	00.0%	00.0%	04.3%
Miscellaneous	00.7%	01.6%	03.4%	01.0%	00.9%
No Response/Don't Know	07.5%	07.7%	09.0%	09.1%	05.2%

Problems related to pollution were mentioned most often by both current and prior licensees. Over one-fourth of all respondents gave this as their first answer to the open-ended question. When taking vessel size into consideration, we find some variation in the percent who consider this the most problematic. Over one-third (34.8 percent) of the small vessel operators mentioned pollution as the most important problem while 19.2 percent of mid-size and 25.0 percent of the large vessel oystermen mentioned pollution first. On the other hand, regulatory issues, the second most often mentioned kinds of problems, evidently are of less importance to small vessel operators than to mid-size and large vessel operators. Less than 15 percent of the small vessel oystermen listed regulatory issues first, compared to 24.2 percent of the mid-size and 19.0 percent of the large vessel oystermen.¹⁹

Concerns with water salinity ranks third. Approximately 15 percent of the responses fell in this category, regardless of vessel length or license status. Problems in this category include fresh water diversion projects, changing water levels, and salt water intrusion.

The fourth most frequently mentioned problem for current licensees was negative media coverage. This problem was the first choice of about 11 percent of the oystermen. They felt that the market for oysters and reputation of the industry has been damaged by negative and excessive attention to what they consider to be relatively isolated health problems. Small vessel operators and prior licensees were less concerned with this than the mid-size and large vessel operators.

Interestingly, economic problems (e.g., bad market, insufficient income, rising costs) rank relatively low in the hierarchy of concerns. Although small vessel oystermen are somewhat more likely to mention such concerns than the other respondents, the fact remains that only one in ten in this group lists this as the first concern.

With a couple of exceptions, the remaining categories of perceived problems, which include crowding and theft, health risks, and predators (such as conch and black drum), received relatively few first mentions. Problems of too many fishermen and of theft (referring to theft of oysters from leased ground) were most often brought up by prior license holders.

SUMMARY AND CONCLUSIONS

LOUISIANA'S OYSTER INDUSTRY

Several distinctive features characterize the Louisiana oyster fishery. First, it is one of Louisiana's oldest and most well established fisheries. More oysters are harvested from Louisiana waters than from anywhere else in the U.S. As a fixed-bottom fishery, oyster harvesting is much more geographically restricted than are other fisheries. Additionally, most oyster harvesting in Louisiana has been from bottomland leased from the state by individual oystermen, further restricting their flexibility to deal with problems such as changes in water

salinity or pollution. Although this private dimension has become less pervasive in recent years, it remains an important aspect of the fishery. Finally, the industry in Louisiana has a unique cultural heritage where the French/Cajun and Croatian influences have left distinctive stamps on the fishery.

Although Louisiana's leadership in oyster production in the U.S. remains indisputable, a battery of natural and human-made problems has clouded the future of the industry. The deterioration of wetlands, increasing effluents from land-based industries, rising costs of equipment and operation, increases in imports of seafood products, and recurring restrictions on harvesting locations have reduced the productive capacity of the industry. More dramatically, a series of deaths and illnesses attributed to a bacterium (*Vibrio vulnificus*) that can develop in oysters, especially during the warmer summer, has focused much negative attention on the industry, both from the consuming public and from regulatory agencies.

The problems facing the industry prompted the research presented in this report. Although considerable attention has been trained on the industry's problems, we have very little reliable information about the consequences of these problems for those most directly affected—Louisiana oystermen. Our research was designed to fill in some of this gap in our knowledge.

Guided by the question of why oystermen enter, continue, or abandon oyster harvesting as an occupation or way of life, we examined factors ranging from individual and family background characteristics to harvesters' opinions about major problems in the industry. We reported alternative employment held by harvesters and family members, their satisfactions with various aspects of their lives, and their plans for the future.

Most of the data for this report were from interviews of Louisiana oystermen administered in 1998 by the Survey Research Laboratory of the Louisiana Population Data Center at Louisiana State University. Subjects for the survey were a randomly selected sample of 469 Louisiana residents who held a commercial oyster harvesting license during the previous four years. Our findings were presented separately for current and prior license holders, and for the current license holders, we reported findings by categories of vessel length B small (under 25 feet), mid-size (25 to 40 feet), and large (over 40 feet).

Of the 469 harvesters we interviewed, 153 (or about one-third) were prior licensees. Of the 316 current licensees in our sample, 28.8 percent were classified as small vessel operators, 33.5 percent as mid-size vessel operators, and 37.7 percent as large vessel operators.

HIGHLIGHTS OF FINDINGS

We presented our findings under six headings: (1) general descriptive characteristics, (2) oyster operation characteristics, (3) personal commitment to oyster harvesting, (4) working

outside harvesting, (5) community satisfaction and local involvement, and (6) opinions and perceived problems. Highlights of these findings follow.

General Descriptive Characteristics

- ◆ *Places of Residence.* Oystermen are concentrated in the south central coastal part of the state, with about 90 percent living in six parishes—St. Bernard, Plaquemines, Terrebonne, Cameron, Lafourche, and Calcasieu
- ◆ *Age Structure.* The average age of current licensees was 42.0 years and of prior licensees it was 44.2 years. The age of oystermen increased with the size of their fishing vessel. Over 16 percent of large boat operators were 60 years of age or older compared with fewer than four percent for small vessel operators and under seven percent for mid-size vessel operators.
- ◆ *Marital Status.* Oystermen were more likely to be married than working age men in the general population. More than three-fourths of the oystermen were married, compared with approximately half of Louisiana adults. Small vessel operators were more likely than others to never have been married.
- ◆ *Income.* Vessel size was clearly related to income. The larger the vessel size category, the higher the percent of oystermen in higher income categories.
- ◆ *Ethnic Composition.* Ethnic distinctiveness clearly remains a characteristic of the fishery. While the largest proportion of respondents claimed a Cajun/French identity, we found that those claiming a Croatian heritage remained an important part of the industry. While representing less than 15 percent of our full sample, this ethnic group accounted for over 35 percent of all large vessels operators. In addition, we found a high geographic concentration for the Croatian respondents, over 70 percent of whom reside in Plaquemines Parish.
- ◆ *Education.* As a whole, only about one half of the oystermen had completed high school, which is relatively low compared with the 68 percent completion rate for Louisiana adults. Comparisons by vessel size revealed that large vessel operators were more likely than their smaller vessel counterparts to have completed high school, although their high school completion rate is still markedly lower than the state average. The educational attainment rates of spouses of oystermen tend to be considerably higher, while parents' educational attainment was lower.

Oyster Operation Characteristics

- ◆ *Fishing Vessels.* Vessels in the largest category were the oldest in the fleet—a disproportionate number of large vessels were built prior to 1980 and only five percent

were constructed since 1990. Most oystermen owned their vessels outright and did not carry a mortgage. Although large vessel owners were about twice as likely as were other vessel owners to owe money on their vessels, over 80 percent of large vessels were fully paid for.

- ♦ *Length of Time in Business.* Louisiana oystermen collectively represented many years of experience. Less than ten percent reported being in the business for less than five years, while nearly 65 percent claimed to have spent ten years or more in the business. The larger their vessel size, the more years they have spent harvesting oysters.
- ♦ *Number of Sacks of Oysters Harvested.* Consistent with our expectations, we found a strong relationship between size of vessel and the amount of oysters harvested. The larger the vessel the larger the annual harvest.
- ♦ *Weeks Spent Harvesting in the Last Year.* As expected, larger vessel operators devoted more weeks during the year to oyster harvesting than did smaller vessel operators.
- ♦ *Family as Crew Members.* Over half reported that at least one member of their crew was a family member or relative. The likelihood of family or relatives being on the crew decreased sharply with increasing vessel size.
- ♦ *Percent of Wives Contributing Labor.* Slightly more than 60 percent of oystermen's wives contributed to the oyster business. Small vessel oystermen's wives were least often involved and mid-size vessel oystermen's wives were most likely to be involved.
- ♦ *Kinds of Tasks Performed by Wives.* The most commonly reported task for wives was some form of managerial duty, such as bookkeeping,. A relatively low percentage of wives performed technical support or harvesting activities. Wives of small vessel oystermen were much more likely than other wives to perform manual tasks associated with harvesting, while the percentage of wives who did managerial tasks increased markedly with vessel size.
- ♦ *Labor Contributions of Children Who Are Living at Home.* Nearly 40 percent of oystermen with children at home reported that their children helped in some way with their oyster harvesting operation. Most children's work involved some kind of manual labor associated with harvesting, such as serving as deck hands or sacking and sorting oysters.
- ♦ *Participation of Older Children.* Thirty-seven percent of respondents with children who had moved away from home said that those children were currently in the oyster harvesting business. Mid-size vessel operators were appreciably more likely to report that their older children were in the business than either the small or large operators. Additionally, relatively few of these older children in the industry worked with their

father, and of those who did work with their father, most were likely to be from small vessel operator families.

Personal Commitment to Oyster Harvesting

- ♦ *Reasons for Entering the Industry.* Oystermen's reasons for choosing oyster harvesting for a career fell into five categories, ranked here in order of frequency (1) inherited the family business, (2) preferred the lifestyle, (3) did not know what else to do, (4) provided a good income, and (5) no alternative opportunities. Most striking about this finding was the wide margin by which large vessel operators were more likely than other oystermen to claim that family inheritance was the main reason for enter the business. It is noteworthy that these findings indicate that economic concerns ranked relatively low in the reasons oystermen gave for taking up their careers.
- ♦ *Would Make Decision Again.* A large majority, over 80 percent, of oystermen claimed that they would still consider becoming an oyster harvester if they could make the decision again. However, responses to this question varied according to vessel size, with the percentage of positive replies markedly dropping as vessel size increased.
- ♦ *Satisfaction with Oyster Harvesting.* Our findings left little doubt that as a group, oystermen are satisfied with oyster harvesting, both as an occupation and as a way of life. However, vessel size did make somewhat of a difference, as large vessel operators were more likely to express dissatisfaction, particularly with oyster harvesting as an occupation.
- ♦ *Burdens and Problems Associated with Oyster Harvesting.* Large vessel operators were more inclined than their smaller vessel counterparts to claim to be overburdened with the demands of harvesting in general and to experience equipment problems. We found no consistent pattern for responses about financial burdens or debt loads, although vessel size did make a difference in how oystermen felt about having enough help. Over one-third of the large vessel operators claimed that there were not enough people to help out, compared with less than 20 percent of the small and mid-size vessel operators.
- ♦ *Governmental Restrictions.* Our question about government rules and regulations clearly hit a collective nerve. Nearly two-thirds of the oystermen strongly felt overburdened by rules and regulations. Vessel size made little difference in the responses to this item.
- ♦ *Encouraging Children to Become Oystermen.* Well over half of all respondents had not encouraged or would not have encouraged their children to become oyster harvesters. Large vessel operators were the most likely to discourage their offspring while small vessel operators were the least likely to discourage their children. Despite the differences across vessel size, most of the oystermen we interviewed felt that the oyster business was not a career they would like to see their children enter.

Because of our interest in why oystermen enter or exit their career, we further explored findings about encouraging children by comparing responses of those who claimed to have inherited their business with responses from those who did not and comparing those who expressed satisfaction with oystering as an occupation with those who did not.

- ◆ *The Influence of Inheritance on Encouraging Children.* Overall, inheritance appeared to make little difference in how oystermen would advise their children. Those who inherited their business were only slightly more inclined to be encouraging than those who did not inherit their business. When we consider vessel size, however, it is a different story. Among small vessel operators, those inheriting their business were much more prone to encourage their children to follow suit than those who did not inherit the business. Inheritance was less potent for mid-size operators and had a negligible effect for large vessel oystermen. Actually, large vessel oystermen who inherited their business were less likely to recommend the business to their children than are those who did not inherit their business.
- ◆ *Influence of Satisfaction with the Occupation.* Satisfaction was positively associated with recommendations across the board. Those who expressed a low level of satisfaction with the occupation were much more likely to not recommend the occupation to their children.
- ◆ *Perceived Alternatives to Harvesting Oysters.* When asked what they would do if oyster harvesting were no longer an option, a large proportion of oystermen, especially large vessel operators, claimed that they had no idea of what they would do or that they would do nothing, retire, or go on welfare. Those who specified alternative employment possibilities mentioned some form of commercial fishing most often, regardless of vessel size. Blue collar occupations were mentioned next most often, while white collar jobs were the least frequently mentioned alternatives.
- ◆ *Percent Planning to Exit Harvesting.* Fewer than 10 percent of the harvesters we interviewed reported that they were planning to leave oyster harvesting in the next two to three years.
- ◆ *Reasons Why Prior Licensees did not Harvest Oysters in the Previous Year.* Most prior licensees were drawn away from harvesting oysters by alternative opportunities rather than forced out of the industry due to low earnings or lack of oysters to harvest. These findings suggest that these oystermen remain an important part of the industry and would reenter the industry if circumstances permitted.

Working Outside Harvesting: Alternative Employment

- ♦ *Oystermen with Other Jobs.* Well over half of all current license holders indicated that they had earned income from work other than oyster harvesting in the last 12 months. Vessel size and alternative employment are clearly linked. Less than one-third of large vessel operators, half of the mid-size operators, and, approximately 80 percent of the small vessel operators had other jobs. Over two-thirds of the non-oystering work was in the form of some type of commercial fishing and most oystermen were self employed in these other jobs.
- ♦ *Labor Force Participation of Wives.* Among married current license holders, 42.0 percent of the wives earned at least some income from work other than oyster harvesting. Comparing across vessel size, we found that wives of small vessel operators were more likely hold paying jobs than were wives of larger vessel operators. The jobs of the working wives were almost totally restricted to full-time nonprofessional white collar type occupations. For nearly 45 percent of all households, working women contributed more than one-fourth of the total income.
- ♦ *Work History of Parents and Grandparents.* Our findings clearly showed that oyster harvesting in Louisiana is a generational career. Nearly 60 percent of the current licensees (and slightly more of the prior licensees) reported that their fathers were commercial fishermen). Even more impressive was our finding that more than half of the active commercial oyster harvesters in our sample were third generation fishermen (as indicated by their grandfather's occupation). Consistent with early findings, vessel size clearly was associated with this aspect of family history. That is, the larger the vessel, the more likely that father and grandfather were fishermen. In addition, we found that the labor force involvement of oystermen's mothers differed little from what we found for their wives, indicating little change between these generations of women in the pattern of paid employment.

Community Satisfaction and Local Involvement

- ♦ *Community Satisfaction.* Across the board, Louisiana oystermen were very positive about the communities in which they lived. Over 90 percent either were satisfied or very satisfied and nearly 90 percent would be distressed if they had to leave their neighborhoods.
- ♦ *Organization Membership.* The highest levels of organization membership were in commercial fishing associations and church groups. We found that the larger the vessel size, the greater the percent membership.
- ♦ *Trust and Involvement in Local Government.* It was evident that most oystermen have little trust in local government. Nearly 70 percent of the current licensees and 62 percent

of the prior licensees responded that you can seldom expect local governments to do what is right. Also, we found that large vessel operators were more likely than other oystermen to have become involved in local issues or problems by direct contact with government officials or influential persons.

Opinions and Perceived Problems

- ♦ *Too Many Fishermen and Limited Entry.* Overall, most oystermen did not agree with statements that there are too many people oyster harvesting in Louisiana or that some type of limited entry program is needed. However, sentiments varied according to vessel size; large vessel oystermen were more likely than other oystermen agree with these statements.
- ♦ *Pollution vs. Overfishing.* Most respondents agreed, regardless of license status or vessel size, that pollution is a greater threat to oyster beds than overfishing.
- ♦ *Coastal Restoration.* Most Louisiana oystermen expressed support for coastal restoration, although a sizeable minority, particularly among large vessel operators, expressed at least some opposition.
- ♦ *Move the Oyster Program to Agriculture.* Although most oystermen believed that the oyster program should be moved to the Louisiana Department of Agriculture, the percent of those holding this opinion differed considerably across vessel size. This view was expressed by nearly 80 percent of large vessel oystermen, 53.5 percent of the mid-size vessel oystermen, and 45.6 percent of the small vessel oystermen.
- ♦ *Oystermen's List of Most Important Problems Facing the Industry.* We asked oystermen to tell us what they considered to be the major problems facing the industry today. The problem mentioned most often was pollution. For over one-fourth of the respondents, this was mentioned first. Government regulations (either as excessive or as insufficient) was the second most mentioned problem. Problems with water salinity ranked third and concerns with media coverage of the industry ranked fourth. Other problems mentioned by respondents included economic conditions, overcrowding in the fishery, and natural predators.

CONCLUSIONS

A major goal of this research was to expand our knowledge about the current state of the Louisiana oyster fishery and to speculate about its future. While it would be presumptuous to claim that our survey has provided a full accounting of the industry, it does advance our knowledge in two important ways. On a broad level, we have created a descriptive profile of oystermen in Louisiana, revealing key differences (and similarities) in their backgrounds, the

nature of their operations, and their beliefs and attitudes about oyster harvesting. On a more specific level, the information from the interviews offers the opportunity to speculate on the future of the industry by shedding some light on the important issues of recruitment and retention within the industry.

Some Important Commonalities

Our research leaves little doubt that oystermen in Louisiana have much in common. They share an enthusiasm and passion for their way of life and their profession, which for most, has been an important part of their families across generations. They live with their families in one of the small fishing towns lining central coastal Louisiana and have a strong attachment to their place of residence. They share concerns about the quality of the environment and the dangers of pollution for oyster beds. They find governmental regulations to be burdensome and are frustrated with regulatory agencies. Most took up their occupation for non-pecuniary reasons such as preferred lifestyle or maintaining a family business. Despite the grueling labor and the man-made and natural problems they face on a day-to-day basis, the vast majority of Louisiana oystermen have no plans to leave the industry, and say that if they could make the decision again, they would still select a career of oyster harvesting. Finally, and most intriguing, they do not believe that their children should take up the profession.

Size Makes a Difference

Despite their commonalities, our findings uncovered some important differences in the interests, experiences, and outlooks among Louisiana oystermen. Our major comparative criterion, size of fishing vessel, was used as a proxy for amount of investment in and commitment to oyster harvesting. And indeed, this factor did reveal predictable and clear-cut differences for such characteristics of harvesting operations as hours spent on the water, number of sacks harvested, and number of years invested in the industry. We also found, as would be expected, that larger vessel operators were more likely than operators of smaller vessels to be older, to have higher earnings, and to be full-time commercial fishermen.

Also of interest for our purposes were differences associated with vessel size (or amount of investment in the industry) that would not be quite so intuitively evident. Ethnicity was one of those differences. Contrary to what those outside of the fishery may popularly believe, oyster harvesting is not the exclusive domain of Cajun/French fishermen. Croatians not only have played an important role in the history of the industry, they currently represent a disproportionate number of the large operations.

Our findings showed clear differences across vessel size in the extent to which commercial fishing was part of the family background. The larger the operation the more likely were oystermen to be from families with fathers and grandfathers who were commercial fishermen and to have inherited their businesses. When we consider this in the context of the indicators of effort (i.e., time spent harvesting during the year, years in the business, and amount of harvest), it is

clear that the larger vessel operators are heavily invested in the industry not only in terms of their economic capital and labor, but also in terms of their family identity.

Differences among oystermen for some of the more evaluative or subjective dimensions of oyster harvesting are particularly noteworthy. Although we found that most of our measures of satisfaction showed that oystermen were happy with their occupation and their way of life, we did find considerable variation for some key indicators. More specifically, compared to the other harvesters, large scale oystermen were less satisfied with oyster harvesting as an occupation, were more likely to feel overburdened by the demands of the work, and more likely to claim that they did not have enough people around to help. In addition, large scale operators were the least likely to recommend the occupation to their children. This last point is highly relevant to our concerns with recruitment and retention in the industry, a topic to which we now turn.

Recruitment and Retention in the Industry

Taken together, the differences we found across vessel size suggest an underlying dilemma that has implications for recruitment and retention in the industry. We had expected to find that the smaller operators, who are the most vulnerable to the problems facing the industry, would be more dissatisfied or less inclined to encourage their children to enter the industry. But we found just the opposite. In particular, those oystermen who have the greatest stake in the industry (in terms of resources) and who have the deepest roots (in terms of family tradition and inheritance) are at the same time the least likely to encourage their children to take up the business. These findings could indicate a reversal or down turn in the pattern of inheritance among larger operators that currently typifies the industry. And, as large operators exit the industry due to retirement or other reasons, without replacement by their offspring, we would expect the fleet to become increasingly comprised of smaller, part-time operators.

Our comparison of current and prior licensees provided some suggestions about the nature of recruitment and retention in the industry. Recall that approximately one third of those who were on record as holding a commercial license in the last four years did not hold a license for the previous year, suggesting considerable turn-over in the industry. Although we collected only a limited amount of information about this group's oyster harvesting operations,²⁰ we did ask them many of the same questions about other matters that we asked the current license holders. Two points about what we found for these ex-oystermen need to be emphasized. First, our descriptive profile of these prior licensees showed that they more closely resemble small and mid-size operators than the large scale operators along a number of dimensions such as marital status, household income, educational attainment, years devoted to harvesting oysters, and job-holding status. The second point to emphasize is that even though they were not licensed for commercial harvesting in the previous year, these prior licensees were not peripheral to the industry. Over 60 percent of them had more than 10 years of experience harvesting oysters, over 40 percent were currently fishing commercially for other species, and most were from families with commercial fishing backgrounds. Perhaps most telling, almost all of them said that they would return to oyster harvesting if they could. These factors point to a segment of the labor

market in the fishery that is characterized by an ebb and flow of what might be called a reserve labor pool of experienced fishermen.

Another point we need to make regarding this segment of the oyster harvesting industry is the prevalence of multiple job holding among the smaller operators and the extent to which these fishermen depend upon these other income sources for their livelihood. Because much of their other income is from self-employment in other commercial fisheries, these oystermen can adjust their labor to market fluctuations and regulatory demands with relative ease. Although we did not ask oystermen specifically if they held other jobs as a means to staying in the oyster business (or vice versa), their high levels of satisfaction with oyster harvesting as an occupation and a lifestyle, the reasons they gave for entering the industry, and the very low number planning to exit the industry, make it evident that these fishermen see oyster harvesting as more than just a job. It is a preferred way of life. And as such, for the immediate future we should expect this part of the labor pool to be a source of stability in the size of the fleet.

At the same time we that see a pattern of ebb and flow amongst the smaller operators, our findings suggest that, barring major economic or environmental disruptions, the composition of the sector occupied by the larger operators will remain relatively static, at least for the short term. We reached this conclusion for several reasons. First, as we pointed to earlier, oystermen in this category have the greatest investment in the industry in terms of time, capital outlay, and self identity. This in itself is an important factor in the hold the industry has on these oystermen. Second, members of this group have limited human capital resources such as educational attainment or other work experience that would allow them to easily make career changes. We found that most large vessel operators are full-time oystermen without other jobs and nearly half do not have a high school diploma, a minimum prerequisite for many kinds of employment. It is little wonder then, that when asked what they would do if oyster harvesting were no longer an option, the majority of large scale oystermen claimed they had no idea or would retire. Our finding that only a handful among this group had plans to retire or leave the industry is another indication of the short term stability of this sector. Finally, and perhaps most important, even though they expressed somewhat less satisfaction with oyster harvesting than did other oystermen, most of the oystermen in this category were satisfied with their occupation, and even more were satisfied with oyster harvesting as a way of life.

The Long Run

Although we have stressed that our findings can provide little more than a snapshot of the fishery, we found elements of this descriptive profile to be useful for speculation about some short term implications for retention and recruitment in the industry. To speculate about what to expect in the long term is more difficult, but our research does offer some hints. Perhaps the most telling finding in this regard is the overwhelmingly negative response from oystermen about recommending the occupation for their children. And, as we pointed out earlier, this response was most extreme for the large scale operators, which is rather remarkable in light of the strong family heritage that has defined this sector of the fishery. This suggests an impending

fundamental change in recruitment into the occupation and ultimately in the composition of the industry's labor force. Our findings about the number of oystermen's older children who are also in the business may indicate that this change is already under way. Compared to smaller operators, large operators had fewer children taking up the profession, and only a tiny percent of those children who were in the oyster business worked with their fathers. Although we must be cautious in interpreting these findings due to the relatively small number of oystermen in our sample with older children, this result is consistent with oystermen's sentiments about recommending the career to their children.

How would a decline in the inheritance of large scale operations affect the composition of the fleet? Differences that we found across ethnic groups in whether they would recommend oyster harvesting as a possible career for their children may help answer part of this question. Among the large vessel oystermen, Croatians were the least likely and Cajun/French were the most likely to consider the industry as a preferable option for their children. Assuming that oystermen's preferences for their children are played out in the decisions these children make, we would expect to see a drop in the proportion of large scale operators in the fishery, with a disproportionate amount of that drop among Croatian oystermen.

The factors we found to be associated with recruitment and retention in the oyster industry raise a number of additional questions about the future of the fishery that go beyond the capacity of the current study. Should we expect to see an increased number of smaller operators to take up the slack in production should more large scale operations fail to reproduce themselves? Or would we find these large scale family businesses gradually being transferred to others outside of the family or ethnic enclave? Of what consequence is lease holding on the inheritance of oyster businesses? Are large lease holders more firmly entrenched in the industry, and thus more resistant to transferring the business? Clearly, important questions remain about the future direction of the fishery. In this report we have touched on only some of the more obvious aspects of this diverse and important fishery. We hope that the information we have presented will prove to be of use to those who have a role to play in the future of the industry and will provide the impetus for additional research on the questions that were raised here.

END NOTES

1. This completion rate is considered to be very good for survey research (Dilman 1978).
2. Although tonging and dredging represent very different technologies, we include oystermen with both types of gear as long as they reported that they harvested oysters for commercial (as opposed to recreational) purposes. The fact that the large proportion of tongers operate small vessels is consistent with our design for comparing oystermen according to their investment and effort in the industry.
3. Many of those we have categorized as residing in St. Bernard reported living in Ycloskey. We have combined Ycloskey and St. Bernard to be consistent with the LDWF records which include only St. Bernard.
4. Another notable difference between tong license holders and the rest of the sample is found in Sulphur, Louisiana. Most of those in our sample (and in the license records) hold tong licenses.
5. Interviewers were instructed that income information is often considered to be private and to not press for information if respondents were hesitant to answer.
6. The correlation between vessel size and income, although not surprising, does verify to some extent the utility of using vessel size as a comparative criterion.
7. Although not reported in Table 7, excluding tong license holders from the analysis makes a marked, albeit predictable, difference for the small vessel operators. For example, the percent of small vessel harvesters who reported harvesting less than 100 sacks dropped in half, from 30.8 to 19.0 percent, and those reporting less than eight weeks of harvesting activity dropped from 23.1 to 11.9 percent.
8. Although not reported here, it is of interest to note that among small vessel operators we found a distinct difference between the contributions of wives of tong license holders and the contributions of other wives. In particular, wives of tong harvesters are much less likely to be involved in the managerial aspects of the operation and more involved in the other aspects.
9. We did not ask about the gender of older children, hence interpretation of these findings is limited. Oyster harvesting is almost totally done by males.
10. Although obviously interrelated, we felt it important to make a distinction between satisfaction with an occupation and satisfaction with a way of life. An occupation may include dimensions such as income potential, levels of financial and physical risk, regulatory constraints, and prospects for the future. A way of life, on the other hand, may include such

amenities as working on the water, being one's own boss, being able to work with family members, and associating with others who share values and lifestyle preference.

11. It is of interest to note that only 28.4 percent of the large vessel operators claimed this alternative (commercial fishing for other species), compared to well over 40 percent each of the small and mid-size operators. This suggests that the larger vessel operations are more specialized in their function and hence less adaptable to other forms of fishing.
12. A very small number (less than three percent) of those we categorized as doing some other kind of work reported that they were working on some type of educational degree.
13. Admittedly, our data do not allow us to clearly distinguish between those who left due to economic need or to preferred other occupations. We can only report what these prior licensees claim to be the major reason for not harvesting in the target year.
14. Although not shown in Table 17, approximately 85 percent of those who do other kinds of commercial fishing are self-employed.
15. These white collar occupations tend to be concentrated in the relatively low paying echelon of nonmanual kinds of work, such as sales clerks, secretaries, or medical assistants.
16. This should not be interpreted as indicating that the income of wives of large vessel operators was lower than the incomes of other wives. Because large vessel operators had higher earnings than small vessel operators, the proportion contributed by wives would be smaller, even if they earned as much as or more than other wives.
17. We would like to know if wives go to work to ease the financial burdens of maintaining the oyster operation or for other reasons such as self-fulfillment, but we did not ask this question directly.
18. Unfortunately, we did not include in our survey any questions about fathers' alternative sources of income.
19. Although we did not make the distinction in our table, not all sentiment was for less government intervention. Some oystermen were concerned with being over-regulated while others mentioned the need for stricter regulations.
20. Questions about their oyster harvesting activities, in addition to verifying that they held a commercial license in the last four years, include why they quit the business, how long they harvested oysters, and if they would return to oyster harvesting if they could.

APPENDIX A

The following is a list of survey questions referred to in this report. Detailed instructions, skip patterns, and other information used in the administration and coding of the instrument are not included.

- ♦ Have you held an oyster harvesting license within the last 12 months?
- ♦ Did you harvest oysters for COMMERCIAL purposes during the last 12 months?
- ♦ Have you held an oyster harvesting license and harvested oysters COMMERCIALY at any time during the past four years?
- ♦ (If did not harvest oysters in last 12 months) What is the MAJOR reason for your decision not to harvest oysters commercially during the last 12 months?
- ♦ (If did not harvest oysters in last 12 months) If you could, would you return to oyster harvesting?
- ♦ For about how many years did you harvest oysters?
- ♦ Have you been employed during the last 12 months?
- ♦ What kind of work did you do?
- ♦ How many weeks in the last 12 months did you work at that job?
- ♦ When you were working on that job, how many hours per week did you work?
- ♦ Were you self-employed or did you work for someone else?
- ♦ We know that the oyster industry faces a number of problems. Based on your experience, what would you consider to be the THREE MOST IMPORTANT problems or issues facing oyster harvesters in Louisiana today?
- ♦ There are too many people oyster fishing in Louisiana.
 - Strongly disagree
 - Disagree
 - Agree
 - Strongly agree
 - No opinion / neither agree nor disagree/No response

- ♦ Pollution is more of a threat to oyster reefs than over-fishing.
(Repeat above codes)
- ♦ I support some type of program that limits the number of people harvesting oysters.
(Repeat above codes)
- ♦ I support the coastal restoration project.
(Repeat above codes)
- ♦ Do you own the vessel that you normally operate?
- ♦ What is the length of the vessel you use most frequently?
- ♦ In what year was this vessel built?
- ♦ Do you owe money on your vessel?
- ♦ How much of the value of the vessel is mortgaged?
- ♦ How many crew members, including yourself, normally work on your vessel?
- ♦ Of those who work on your vessel, how many are members of your family or are relatives?
- ♦ To whom did you sell most of your oysters during the last 12 months?
- ♦ How many sacks of oysters did you harvest from PRIVATE grounds in the last 12 months?
- ♦ For approximately how many years have you been oyster harvesting?
- ♦ For about how many weeks during the last 12 months was oyster harvesting your primary activity?
- ♦ How many trips would you say you make during your busiest month of oystering?
- ♦ During the last 12 months, would you say you engaged in oyster harvesting more time, less time, or roughly about the same amount of time compared to other years?
- ♦ If oysters were no longer available for harvest in Louisiana, what kind of work would you do?
- ♦ Would you have to leave the area to find work?
- ♦ Do you have any plans to leave oyster harvesting?

- ◆ (If yes to previous) Do you plan to leave oyster harvesting in the next two or three years?
- ◆ (If yes) What is the MAJOR reason for your decision to leave oyster harvesting?
- ◆ If you could make the decision again, would you still become an oyster harvester?
- ◆ Have you encouraged, or would you encourage your children to enter oyster harvesting? (If he says he has no children, prompt: if you had children, would you encourage them to enter oyster harvesting)
- ◆ Are you currently living with someone, married, separated, divorced, widowed, or have you never been married?)
- ◆ Do you have any children?
- ◆ (If yes) How many of these children currently live in your home?
- ◆ Do any of your children LIVING AT HOME WITH YOU help you with your oyster business by harvesting, cleaning equipment, filling sacks, and so on?
- ◆ What kind of work do they do?
- ◆ How many of your grown children no longer live in your home?
- ◆ Are any of these children involved in oyster harvesting?
- ◆ (If yes) Do they work with you?
- ◆ In the last 12 months, did you earn any income from any kinds of work OTHER THAN oyster harvesting?
- ◆ What kind of work did you do?
- ◆ How many weeks in the last 12 months did you work at that job?
- ◆ When you were working on that job, how many hours per week did you work?
- ◆ Were you self-employed or did you work for someone else?
- ◆ What percent of the income you earned during the last 12 months was from your non-oyster harvesting jobs?

- ♦ I have asked you about jobs you had in the last year. BEFORE that, did you hold any FULL-TIME jobs other than oyster harvesting?
- ♦ During the last 12 months, did your spouse help with your oyster business by doing things like keeping the books, helping with the harvest, taking equipment for repair or washing down equipment?
- ♦ What exactly did she (or he) do?
- ♦ On average, how many hours per week does your spouse help with your operation?
- ♦ Does your spouse earn any income from oyster harvesting for any operations OTHER than yours?
- ♦ When she/he was working on that job, how many hours per week did she/he work?
- ♦ Was she/he self-employed or did she/he work for someone else?
- ♦ How much of your HOUSEHOLD income during the last 12 months was from your spouse's nonoyster harvesting jobs?
- ♦ If financial considerations were not a concern, would your spouse work at that job?
- ♦ (If not working) Is your spouse currently looking for work or does she/he intend to look for work during the next 12 months?
- ♦ Why did you choose oyster harvesting as a career?
- ♦ How satisfied are you with oyster harvesting as an occupation?
 - Extremely satisfied
 - Somewhat satisfied
 - Somewhat dissatisfied
 - Extremely dissatisfied
- ♦ How satisfied are you with oyster harvesting as a way of life?
 - (Repeat above codes)
- ♦ How often do you feel overburdened by government rules and regulations?
 - A lot of the time
 - Some of the time
 - Only once in a while
 - Never

- ♦ How much of the time would you say you feel overburdened by the demands of your oyster harvesting operation?
(Repeat above codes)
- ♦ How often do you have problems with equipment, especially your vessel?
(Repeat above codes)
- ♦ How often do you feel that you don't have enough money to meet your needs.
(Repeat above codes)
- ♦ How much of the time would you say you feel overburdened by your debt load?
(Repeat above codes)
- ♦ Do you generally feel that you have enough people to help you out?
- ♦ In what parish do you live?
- ♦ In what town do you live?
- ♦ How satisfied are you with your community as a place to live?
Very satisfied
Somewhat satisfied
Somewhat dissatisfied
Very dissatisfied
- ♦ How many years have you lived in this area?
- ♦ Where are you from originally? Are you from somewhere else in the U.S. or from outside the U.S.?
- ♦ Do you belong to any commercial fishing associations?
Any church groups?
Any service clubs?
Any other community or professional associations?
- ♦ How much of the time do you think you can trust the local government in your town to do what is right?
Just about always
Most of the time
Only some of the time
Almost never

- ♦ Have you ever personally spoken to, or written to some member of local government or some other person of influence in the community about some needs or problems?
- ♦ Suppose you suddenly found that you had to move to a similar kind of area, more than 100 miles away from here. Would the idea of leaving this neighborhood make you feel—
 - Very pleased
 - Somewhat pleased
 - Somewhat displeased
 - Very displeased
 - Not sure
- ♦ What is the highest grade of school you completed?
 - 8th grade or less
 - Some high school
 - High school diploma
 - Some college
 - College degree
 - Some graduate work
 - Graduate degree
 - Vocational/technical school
- ♦ What is the highest grade of school your spouse completed?
(Repeat above codes)
- ♦ What was the highest grade of school your father completed?
(Repeat above codes)
- ♦ When you were growing up, what type of work did your father do?
- ♦ Were either of your grandfathers an oyster harvester?
- ♦ What was the highest grade of school your mother completed?
(Repeat above codes)
- ♦ Did your mother work outside the house while you were growing up?
- ♦ What type of work did she do?
- ♦ In what year were you born?
- ♦ Do you consider yourself primarily Cajun or French, Croatian or Yugoslavian, Vietnamese, Asian, Black, White, or something else?

- ♦ I'm going to read a series of income categories. Think of what your total household income was last year, before taxes and other deductions. Please tell me when I get to the category that includes your family income.

Under \$5,000

Under \$10,000

Under \$15,000

Under \$25,000

Under \$35,000

Under \$50,000

Under \$75,000

Under \$100,000

Under \$150,000

\$150,000 and over

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