

STUDY TITLE: Environmental Justice Considerations in Lafourche Parish, Louisiana

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CONTRACT NUMBER(S): 1435-01-99-CS-30951-18175

SPONSORING OCS REGION: Gulf of Mexico OCS Region

APPLICABLE PLANNING AREA(S): Western, Central, and Eastern Gulf of Mexico

FISCAL YEAR(S) OF PROJECT FUNDING: FY 2001 to FY 2003

COMPLETION DATE OF REPORT: April 2004

COST(S): \$42,263 + \$17,000

PROJECT MANAGER: Larry Rouse

AFFILIATION: Coastal Marine Institute

ADDRESS: Louisiana State University, Baton Rouge, LA, 70803

PRINCIPAL INVESTIGATOR: Craig E. Colten

KEY WORDS: Environmental Justice, Technological Hazards, Lafourche Parish, Petroleum Industry, Outer Continental Shelf

BACKGROUND: Environmental justice is becoming an increasingly important issue in terms of industrial siting and locating hazardous facilities. In 1994, President Bill Clinton issued Executive Order 12898, which directs Federal agencies to assess whether their actions have disproportionate adverse environmental effects on ethnic or racial minorities or with low incomes. These environmental effects encompass human health, social, and economic consequences.

Lafourche Parish provides an ideal situation for a preliminary examination of the environmental justice issues in coastal Louisiana as they relate to OCS activity. With a total 2000 population of 89,974 it is a manageable size for a pilot project. The demographics are also well suited to a project of this type. It is home to a sizable native American (2.3%) as well as African American population (12.6%), and a small Asian American population (0.7%) overall almost 15% of the parish population is minority. Although these numbers are below the state average, they are significant. Furthermore, for the parish as a whole, 14.7% of the population is below the U.S. Census Bureau's definition of poverty and 19.7% of the children live below the poverty level. Again, both these figures are below the state averages (18.4% and 26% respectively), but are significant.

Lafourche is ideal for another reason. Environmental justice literature in Louisiana has tended to focus on issues related to petrochemical production and waste disposal, downstream uses of petroleum that are not part of MMS's purview. Lafourche is the location of the kinds of activities that are addressed in the agency's environmental assessments such as shipyards, supply bases, pipeline land fills, and onshore transport and storage of OCS-related waste.

OBJECTIVES: The first task of the research entailed a review of the existing literature. The literature review included

- a. OCS related activity in Lafourche Parish and coastal Louisiana
- b. Environmental justice literature for Louisiana with an emphasis on the Gulf coast area
- c. Studies of ethnic group status and distributions, poverty, and environmental impacts in the areas and the parish, along with available census data sets
- d. Natural resource use and distribution in coastal Louisiana
- e. Use of geographic information systems (GIS) to characterize environmental justice concerns

The second task involved mapping the Lafourche Parish population. Using U.S. Census Bureau data for 2000, the researchers mapped minority and low-income populations by census tract.

The third task was to map zones of expanding OCS activity. Using MMS data and information the researchers plotted the areas that have seen recent expansion of OCS-related activity such as pipeline landfalls, petroleum bulk storage facilities, and fabrication/service facilities.

The fourth task was to map zones of vulnerability. This focused on areas where there are low-income and minority populations proximate to potential environmental impacts associated with OCS oil and natural gas production. This also includes areas where there is overlap between natural resources used by local populations that are proximate to OCS-related activity and areas along transportation corridors where OCS-related activity could produce spills or leaks and their relationship to local populations. Finally, this project includes areas that are likely to witness growth or expansion of OCS-related activity and that also house low-income/minority populations.

DESCRIPTION: The report contains seven chapters and two appendices. The "Introduction" introduces the idea of environmental justice and briefly discusses the issue as it relates to Louisiana and Outer Continental Shelf oil activity. This section also introduced the study area as well as the methods utilized in the project. The "Areas of Potential Environmental Justice Concern" section briefly describes the minority populations found in the study area and presents information on the geographical

distributions of these populations, identifying areas of high concentrations. The “OCS-Related Environmental Hazards” section identified the potential hazards associated with Outer Continental Shelf onshore infrastructure and presented the geographical distributions of these. The “Hazardousness of Place Model” identifies zones of vulnerability to potential environmental hazards in Lafourche Parish, identifying at risk populations. The “Statistical Analysis” used contingency analysis, discriminant analysis, and multiple regression analysis to establish the statistical relationship between minority population, low-income population, and Outer Continental Shelf oil-related industries. The last major section, “Summary and Conclusions”, discusses the patterns of racial, ethnic, and economic population distributions found around the oil-related facilities in Lafourche Parish, identifying a number of high risk areas. Two large appendices follow the “References” section. The “Cross Tabulation Statistical Output for Minority Groups and OCS-Related Activities” briefly describes the contingency analysis used and provides the statistical output of the analysis. The “Minority and Low-Income Groups in the Counties/Parishes along the Gulf of Mexico” appendix presents the findings of a related research project in which information on minority and low-income populations along the Gulf of Mexico was gathered. These areas were identified and a bibliography of literature to be used for future research was created.

SIGNIFICANT CONCLUSIONS: Five different classes of OCS-related activities were identified as being potentially hazardous to nearby communities. Transportation corridors, oil and natural gas pipelines, petroleum bulk storage facilities, shipyards, and a natural gas processing plant are all located in Lafourche Parish. The areas of greatest potential environmental justice impact are in communities along the natural levees on the southern portion of Bayou Lafourche, and to a lesser extent along Bayou Pointe-au-Cheien, on the parish’s western border. The facilities of south Lafourche, with the exception of the petroleum bulk terminals, show a statistically significant high Houma Indian population around them. Conversely, the Asian and Hispanic populations were much more geographically dispersed, while the African-American population clustered in urbanized areas of north Lafourche, where OCS-related activities are minimal.

STUDY RESULTS: Though inequities were found in the distribution of OCS-related industries in Lafourche Parish, the research did not seek the causes. This study has established the relationship between infrastructure location and socio-economic conditions, but not established causality. Nonetheless, this research does provide the Minerals Management Service and other agencies involved in the planning process with valuable information as to the potential impacts of increasing OCS activity on various socioeconomic groups. Since minority groups are disproportionately affected by OCS-related industry it is important that federal agencies such as MMS ensure that environmental regulations are uniformly enforced, regardless of race or class in order to ensure that risk to these communities is minimized.

Areas of Potential Environmental Justice Concern
Settlement History
The Community

- Native Americans
- Caucasians
- African-Americans
- Asians
- Hispanics
- Renewable Natural Resources
 - Trapping and Hunting
 - Fisheries

OCS-Related Environmental Hazards

- Frequency of Occurrence
- OCS-Related Activities
 - Transportation Corridors
 - Refineries and Gas Processing Plants
 - Pipelines, Pumping Stations and Oil Storage Facilities
 - Shipyards and Shipbuilding Yards

Hazardousness of Place Model

- Zones of Biophysical Vulnerability
- Zones of Social Vulnerability
- Zones of Place Vulnerability

Statistical Analysis

- Contingency Analysis
- Discriminant Analysis
 - Block Level Analysis
 - Block Group Level Analysis
- Multiple Regression Analysis

Summary and Conclusion

- Summary of Findings
 - OCS-Related Impacts
 - Analysis of High Risk Areas
- Conclusion

STUDY PRODUCT: Hemmerling, S.A. and C.E. Colten. 2003. Environmental Justice Considerations in Lafourche Parish, Louisiana: Final Report. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2003-038. 348 pp.