

STUDY TITLE: University Research Initiative on the Effects of Offshore Petroleum Development in the Gulf of Mexico.**Error! Bookmark not defined.**

REPORT TITLE: Social and Economic Impacts of Petroleum "Boom and Bust" Cycles

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BACKGROUND: This study is a continuation of a portion of an earlier investigation of social and economic impacts of petroleum production in the Gulf of Mexico on communities (operationalized as parishes) in Louisiana. The current study adds to the previous investigation and the literature by: (1) completing the preboom to bust and boom to bust comparisons as well as the preboom to boom comparison and (2) using time series regression to analyze the effect of year-to-year changes in petroleum industry activity on year-to-year changes on social problems, educational attainment and strain, and community economic health. The importance of determining the social and economic impacts of OCS petroleum extraction in a region that has rarely been studied prompted MMS to fund such research under the Environmental Studies Program and the University Research Initiative.

OBJECTIVES: To examine from the preboom through the bust the impact of OCS petroleum activity in the Central Gulf of Mexico on social problems, educational attainment and strain, and community economic health in parishes that differed in both their degree and type of involvement in two major ways: (1) by comparing the levels of the impact variables in different phases and (2) by analyzing the effect of the

year-to-year changes in petroleum industry activity on year-to-year changes in the impact variables and considering delays in impacts that might be occurring.

DESCRIPTION: Data from various government agencies were collected and analyzed to examine the effect of petroleum industry activity on three types of impacts: social problems, educational attainment and strain, and community economic health. The data used included two indicators of petroleum industry activity, four measures of social problems, five indicators of educational impacts, and six measures of community economic health. The data for the petroleum activity measures, social problems indicators, and education variables were collected from the late 1950s through the late 1980s while the data for the economic measures were obtained from the late 1960s through the late 1980s. The data for the three types of impacts were collected and analyzed separately for four groups of parishes of which two differed by degree of involvement (highly and minimally involved groups of parishes) and two differed by type of involvement (extraction and related activities groups of parishes). Three primary statistical methods were used: analysis of variance, time series regression, and t-tests for the difference between means. Percentage changes were used for decennial economic data.

SIGNIFICANT CONCLUSIONS: OCS activity has had an impact on social problems, educational attainment and strain, and community economic health. Some impacts are negative, some are positive. The impacts are more complex than expected based on previous studies in that the results for all three types of impacts suggest a cycle of effects besides the obvious boom and bust cycle. The exact mechanism by which the price of oil influences the drilling of wells and social and economic effects is not well understood as yet; more research is needed that traces the effects from the price of oil through the intervening variables to social and economic impacts.

STUDY RESULTS: 1) Rapid increases in petroleum industry activity are associated with increases in social problems, particularly suicides and homicides. The increase in suicides and homicides between the preboom and bust in involved parish groups is greater than would be expected based on the national trends for these variables. (2) Greater petroleum industry activity is associated with higher high school completion, lower enrolling in college, and greater strain in providing educational services. (3) There is some economic gain in involved parishes when petroleum activity is greater, but this improvement in community economic health is transitory. There is more evidence of serious economic problems in the bust than evidence of economic gain during the period of rapid increases in petroleum activity. The increase from the preboom to the bust in income is less than would be expected based on the national trend while the increase in transfer payments is greater than would be expected. (4) Degree of involvement is important. Highly involved parishes experience greater impacts than do minimally involved parishes. The results also suggest that impacts roll out into minimally involved parishes. (5) Type of involvement is important, especially when examining economic impacts. The related activities parishes experienced less extreme economic changes than did the extraction parishes and the related activities parishes fared better during the bust.

STUDY PRODUCT: Seydlitz, R. and S. Laska. 1994. Social and economic impacts of petroleum "boom and bust" cycles. A final report by the Louisiana Universities Marine Consortium for the U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, Louisiana. Contract No. 14-35-0001-30470, OCS Study MMS 94-0016. 133 pp.