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STUDY TITLE: Economic Impact of Oil Spills on the Texas Coast, FY 1980

REPORT TITLE: IXTOC I Oil Spill Economic Impact Study, Volume I, Volume II: Executive Summary, and Volume III: Input-Output Model for Economic Analysis, Instructional Manual

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SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREA: Western Gulf of Mexico

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PROJECT MANAGERS: C. Restrepo

AFFILIATION: Restrepo & Associates

ADDRESS: P.O. Box 13165, El Paso, Texas 79912

PRINCIPAL INVESTIGATORS*: R. Ditton, C. Gunn, F. Lamphear, J. Nichols, C. Restrepo, L. Restrepo

KEY WORDS: Western Gulf; Texas; socioeconomics; hydrocarbons; oil spill; assessments; modeling; recreation; commercial fishing; tourism; coastal zone

BACKGROUND: An exploratory oil well, the IXTOC I, blew out on June 3, 1979 in the Bay of Campeche, Gulf of Mexico. The IXTOC I was the world's largest and probably most expensive oil spill. The oil released by the IXTOC I was carried by Gulf currents into American waters by August 1979. In addition to the oil from the IXTOC I, the Texas coast was affected by fresh unweathered oil from the sinking of the oil tanker BURMAH AGATE in November 1979. These events had multiple effects on local, State, Federal, and international economies. As a result, an economic assessment of the spills on the Texas coastal region was initiated.

OBJECTIVES: (1) To apply traditional economic methods to assess the events that occurred as a result of the IXTOC I blowout and the sinking of the BURMAH AGATE and, if needed, to develop innovative methods to assign dollar values to the various services, products, and goods that were affected by the oil spills; (2) to measure the economic effects of the IXTOC I blowout and the sinking of the BURMAH AGATE upon

the tourism, recreation, and commercial fishing industries in the Texas coastal region; (3) to document and quantify the economic losses so that the appropriate form of compensation could be made to the affected parties; and (4) to identify and compile the cost of the cleanup procedures to the local, State, and Federal governments.

DESCRIPTION: Nineteen counties along the Texas coast were selected for the three-year (1979-1981) study. These counties were grouped into five subregions. The Texas coastal industries selected for study included: tourism, recreation, and commercial fishing. Two separate analytical models were developed to assess the direct and indirect economic impacts of the spills. Relative density gradient models were used as a mechanism for estimating the relative degree of direct economic impacts to each subregion's industry groups. The use of such models shifted the methodology from an "expenditures" approach to an "output" approach. Onsite interviews with the owners and managers of study site Standard Industrial Classification (SIC) coded businesses were made to obtain qualitative assessments of direct economic impacts. These qualitative estimates were transformed and used within the model to develop impact or lost revenue estimates by industry sector at the subregional level.

Current indirect ("induced by") economic effects were assessed with an input-output model. Current indirect effects were defined as the effects in the industries that are dependent upon, or associated with, the primary direct effect industries. An existing 1972 Texas State Input-Output Model was regionalized and updated to construct the models for the study region and subregions. An instructional manual further discussing the input-output model was developed and included with the study's Final Report. In addition, a general analysis of the role of the media coverage and cleanup costs of the oil spills was made.

SIGNIFICANT CONCLUSIONS: The results of the economic impact analyses conducted following the IXTOC I and BURMAH AGATE oil spills indicated that: (1) the only significant decline in tourism within the 19-county region of the Texas coast was noted in the South Padre Island area; (2) there was no negative impact upon tourism from the BURMAH AGATE spill at the subregional level, while the IXTOC I spill was estimated to have decreased tourist activity by approximately four million dollars; this difference was attributed to the seasons during which the spills occurred; and (3) the estimated costs of the IXTOC I spill to industry and government made it one of the world's most expensive oil spills.

STUDY RESULTS: The study of economic impacts to the tourism industry identified four main modes of tourist activity (Beaumont-Port Arthur, Houston-Galveston, Corpus Christi, and Harlingen-Brownsville) in the 19-county region. Using ratios of auto expense, food, and lodging to total business activity to estimate the amount of county tourism, the only significant decline in tourism was identified in the South Padre Island area. Impact of the IXTOC I oil spill was estimated as a decrease of tourist activity in this subregion that totalled from 3.979 million to 4.444 million dollars. There was no negative impact upon tourism from the BURMAH AGATE spill identified at the

subregional level. The overall indirect economic impacts of the spills related to tourism were quite small.

Data for economic impacts to recreational business indicated that losses were concentrated within a small number of businesses close to the water's edge and in the recreation oriented subregions. The IXTOC I oil spill reached the major effected regions during the height of the summer tourist season and incurred an estimated economic loss to recreational sectors of approximately three million dollars. Oil from the BURMAH AGATE reached the study area during the off-season and had no significant measurable economic impacts to the area. The estimates of indirect economic effects to the recreation industry from the spills were judged insignificant, particularly when examined from the regional level.

There were no significant direct or indirect economic effects of either oil spill on the commercial fishing industry measurable on either the regional or subregional levels.

Estimated costs of the IXTOC I oil spill to private industry and government bodies placed it as probably the world's most expensive oil spill. Costs of the estimated five million barrels of oil, the SEDCO-135 semi-submersible drilling platform, and the PEMEX capping and cleanup operations totaled approximately 498 million dollars. Damage claim suits that were pending in U.S. Courts total in excess of 400 million dollars. Expenses to the U.S. Government and the State of Texas were estimated at over 15.3 million dollars. Extensive media coverage devoted to the oil spills may have influenced the public's viewpoint of the Texas coastal region and economic loss to the tourism and recreational industries along the coastline may have resulted.

STUDY PRODUCTS: Restrepo, C. E., F. C. Lamphear, C. A. Gunn, R. B. Ditton, J. P. Nichols, and L. S. Restrepo. 1982. IXTOC I Oil Spill Economic Impact Study. A final report by Restrepo & Associates for the U.S. Department of the Interior, Bureau of Land Management Gulf of Mexico OCS Office, New Orleans, LA. Vol. I - NTIS No. PB82-217852; Vol. II - NTIS No. PB82-217860. Contract No. AA851-CT0-65. 282 pp.

Lamphear, F. C. and C. E. Restrepo. 1982. IXTOC I Oil Spill Economic Impact Study - Input-Output Model for Economic Analysis. A final report by Restrepo & Associates for the U.S. Department of the Interior, Bureau of Land Management Gulf of Mexico OCS Office, New Orleans, LA. Vol. III - NTIS No. PB82-217878. Contract No. AA851-CT0-65. 110 pp.

Set (3 volumes) - NTIS No. PB82-217845.

*P.I.'s affiliation may be different than that listed for Project Managers.