

STUDY TITLE: Economic and Demographic Systems Impact Analysis for Diapir Field, Kodiak, St. George, Barrow Arch, Shumagin and 1985 and 1986 Statewide Analyses.

REPORT TITLE: Alaska Statewide and Regional Economic and Demographic Systems: Effects of OCS Exploration and Development, 1985.

CONTRACT NUMBER(S): MMS: 14-12-0001-30139; Technical Report No. 115.

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APPLICABLE PLANNING AREA(S): Kodiak; Shumagin; St. George Basin; Chukchi Sea; Beaufort Sea.

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KEY WORDS: Kodiak; Shumagin; St. George Basin; Chukchi Sea; Beaufort Sea; Alaska; economics and demographics; model; modeling; forecast; leasing; exploratory drilling; development; development scenarios; cumulative impact; employment; human population; expenditures; Kenai Peninsula; Anchorage; Matanuska; Susitna.

BACKGROUND: The University of Alaska, Institute of Social and Economic Research developed the Man-in-the-Arctic Program (MAP) system of econometric models to project economic and demographic effects of the Federal Outer Continental Shelf (OCS) oil and gas leasing program in Alaska. This report includes projections of effects on Alaska's Southcentral Region as well as the State as a whole. For this study, the Southcentral Region included the Kenai Peninsula Borough, the Matanuska-Susitna Borough, and Anchorage, but not the Valdez and Copper River areas.

OBJECTIVES: (1) To project and analyze the economic and demographic effects of the Federal OCS oil and gas leasing program in Alaska.

DESCRIPTION: The manner in which the MAP model system was used to project the Alaska statewide and Southcentral Region economy and population was summarized and discussed in the methodology section. Effects of OCS oil and gas development were analyzed by projecting economy and population under two alternative scenarios. These scenarios consisted of identical assumptions about future economic and demographic variables, except that one excluded future OCS development. The projections, including OCS development, assumed a scenario of plausible petroleum exploration and development activities occurring in areas included in the five-year lease sale schedule and currently leased areas. The alternative scenario, excluding OCS development, assumed no development and no further exploration on the OCS, even in already leased areas. These two scenarios did not include development of natural gas resources on Alaska's North Slope and the Federal OCS. Appendix G contained an alternative set of projections of Alaska economy and population, including and excluding OCS development, assuming that natural gas becomes feasible to market by 1995.

SIGNIFICANT CONCLUSIONS: Projected cumulative effects of the OCS program included an increase of approximately 3.5% in State population and employment and a modest decline in real per capita State expenditures. Statewide employment and population effects grew as OCS development proceeded but diminished very slowly as construction employment declined in late 1990. Effects grew more slowly in

the Southcentral Region, continuing to increase until 2000 to reach or exceed the same percentage increases in population and employment as observed for the State as a whole. The delayed response was due to the importance of the support sector in projected Alaska economic growth, especially in the Southcentral Region.

STUDY RESULTS: According to model projection results, the Alaska economy will go through a period of cyclical growth and recession before resuming steady growth around 2000. The principal causes of cyclical instability were the pattern of resource development activities (mainly petroleum development) expected to occur over the next decade, and projected decline in State spending due to declining oil revenues. After a recession in the late 1980s, private sector growth led by petroleum development is expected to take over the slack in the economy left by declining State spending. The economy again suffered a projected recession in the mid-1990s as petroleum development activities were completed, and as State revenues continued to fall. Steady growth resumed in the late 1990s, as upward trends in national wages and per-capita income caused Alaska wage rates to rise, stimulating support-sector growth.

OCS development activities appeared to contribute to the cyclical instability projected for the Alaska economy. The surge in employment in development of offshore oil fields was likely to coincide with similar types of development activities occurring onshore. Because the schedule of major OCS construction and development drilling operations also coincided with the schedule of major development work on the North Slope, OCS development both added to the peak and trough of the petroleum development cycles projected for the early 1990s.

OCS development resulted in significant new revenues to State and local governments. However, the increase in revenues was not sufficient to offset the increased demand on public services created by the influx of new residents, an influx which occurred at a time of severe State fiscal pressure.

The long-term effect of OCS development on Alaska statewide population and employment rose steadily to around a 3% difference of the total before the end of the century. For the Southcentral Region of the State, the long-term effect (largely indirect) of OCS development rose more slowly, but again reached nearly as large a percentage difference by 2010, the end year for the projection. The effect of OCS activities in contributing to the projected cyclical instability of the Southcentral Region population and employment was not as great as the statewide effect, due to the lags in the multiplier process producing these largely indirect effects.

STUDY PRODUCT(S): Berman, M., S. Colt, and T. Hull. 1985. Alaska Statewide and Regional Economic and Demographic Systems: Effects of OCS Exploration and Development, 1985. A final report by the Institute of Social and Economic Research, University of Alaska for the U.S. Department of the Interior, Minerals Management Service Alaska OCS Region, Anchorage, AK. NTIS No. PB87-207239. Social and Economic Studies Program Technical Report No. 115. MMS Report 85-0030. Contract No. 14-12-0001-30139. 148 pp.

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