

MINUTE ITEM

This Calendar Item No. 42
was submitted for information
only, no action thereon
being necessary.

MINUTE ITEM

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Geophysical Survey Permit Study Program

During consideration of Informational Calendar Item 42 attached, the Commission commended Robert Faber, Assistant to the Executive Officer for Energy and Mineral Resources, for his outstanding work during his 8 1/2 year tenure with the Commission. Bob has left state service to pursue a career in private industry. The Commission wished him well in his new endeavor.

No further action was needed regarding this item.

Attachment: Calendar Item 42.

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INFORMATIVE
CALENDAR ITEM

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A 2, 9, 12, 15, 16, 17, 28, 29, 33,
35, 36, 43, 44, 45, 51, 52, 57, 58, 69, 70, 74, 77, 79

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GEOPHYSICAL SURVEY PERMIT STUDY PROGRAM

INTRODUCTION

During the early 1970's and continuing to the present, scientists evaluated the effects of oil exploration and new geophysical research technology (compressed air) on fish and their eggs, crustaceans, and marine mammals. Recognizing the importance of environmentally sound resource management, the Commission encouraged the Minerals Management Service (MMS) to include geophysical operations in their 1983 Bolt, et al. study of the California Gray Whale and Sea Otter.

At its May 24, 1984 meeting the Commission instructed staff to report within six months on current and suggested research regarding the effects of geophysical testing. They also asked staff to work with the Department of Fish and Game (DFG) to identify peak fishing seasons by utilizing catch data.

STUDIES

Staff of the Commission convened three meetings of a "Geophysical Studies Group," one each in Long Beach, Sacramento, and Santa Barbara. Invited were representatives of the petroleum industry, the fishing industry, environmental groups, DFG, MMS, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS) and the Lieutenant Governor's Office. Some members of the group were also members of the Fish Dispersal Steering Committee (geophysical operators, commercial fishermen, MMS, DFG, SUC and NMFS), established by the fishing and oil industries' Joint Committee of Santa Barbara.

(NON-SUBSTANTIVE REVISION 03/27/85) -1-

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A representative of environmental groups who expressed interest at the May 24, 1984 Lands Commission meeting attended the first meeting but not subsequent ones. Phone contact was difficult requiring staff to make additional requests in writing. Even so, limited response occurred.

Fishermen, although invited, did not attend the geophysical studies meetings. They indicated time to attend both the Steering Committee and the Geophysical Studies Group was not available.

SUMMARY

As a result of study meetings and independent staff research, a number of existing and planned investigations on the effects of geophysical testing were identified. It was the consensus of the group that the current course of study was appropriate and could profitably be supplemented by the new or additional research described below. They agreed that future studies may be required based on findings of current and planned research. A status review of the current investigations in the areas of fish dispersal, effects on fish eggs and larvae, fish catch data retrieval, and effects on marine mammals follows.

FISH DISPERSAL

The Steering Committee contracted for a pilot field study: "Possible Effects of Seismic Acoustic Signals on Commercially Viable Rockfish Sites". The field work is to be conducted between September 24 and November 15, 1984. The geophysical industry will provide approximately \$35,000 for the study. Atlantic Richfield Company has committed \$150,000 of geophysical ship time, and the commercial fishermen will furnish five fishing vessels. The final report should be available by the end of December 1984. MMS identified several hundred thousand dollars or more in Fiscal Year 85 for two studies: "Effects of Seismic Operations on Fish", and "California OCS Fisheries Database". The first study will provide a concise, detailed synthesis and analysis of existing information. The reports resulting from this study will include: 1) the population and ecology of the fish associated with California offshore oil and gas rigs and platforms;

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2) habitats and migratory patterns of important Central and Northern California migratory fish; and 3) summary and analysis of California trawl fisheries data. The second study will determine: 1) the effect; if any, of seismic operations on fish dispersal; 2) the short-and-long term effects; if any, of seismic operations on fish of various age classes (larval, juvenile, subadult). The results of the Steering Committee's pilot field study will be coordinated with MMS to prevent duplication of effort.

EFFECTS ON JUVENILE FISH

The American Petroleum Institute (API) committed \$70,000 to fund a pilot field study in January 1985: "Effects of Seismic Energy Releases on Fish Eggs, Fish Larvae and Plankton". ARCO is providing additional support through scientific personnel and equipment. The study will evaluate effects of seismic energy pulses on fish embryology, fish egg hatching success and incidence of abnormalities in hatched fish larvae as a function of distance and energy level. API is represented on the Steering Committee. Results of the API study will be monitored to prevent duplication of effort in the studies undertaken by that committee and the Minerals Management Service.

The Fish Dispersal Steering Committee broadened its evaluation to follow up on the eggs and larvae question. They will decide on the types of research necessary to determine the effects of seismic exploration on fish eggs and larvae. If an effect is identified they will examine relationships between impacts to juveniles and consequential effects to adult populations.

The commercial fishing industry has requested that the Commission seek funding from the Legislature for additional studies on the effects of geophysical operations to larval stages of fish. SLC staff submitted a Budget Change Proposal for Fiscal Year 85-86 to help fund any recommended studies.

DEPARTMENT OF FISH AND GAME COMMERCIAL FISHERIES CATCH DATA

The Department of Fish and Game collects and maintains fish catch records. These data, if accurate and precise, could be used to identify peak fishing areas and seasons. This information would also be useful to geophysical operators when planning future surveys. Staff met extensively with DFG personnel and analyzed the type of fish data available, their precision and accuracy. DFG determined that their data were not readily accessible. They will lease/purchase a computer to gather all the commercial fisheries data in one database, and are exploring funding sources to get the available raw fisheries data onto the new computer. As a short term solution they will develop a memorandum of understanding with the Northwest and Alaska Fisheries Center of NMFS to put the commercial fisheries data on the existing NMFS database. This powerful database is already set up to provide the type of information concerned parties are looking for.

MARINE MAMMALS

NMFS is monitoring gray whales and has a longterm database. The whales appear to be reaching pre-commercial exploitation levels with a net annual population increase of about 2%. NMFS found continuing growth to be a significant indicator of species health. The study by Bolt et al "Investigation of the Potential Effects of Underwater Noise from Petroleum Industry Activities on Migrating Gray Whales", commissioned by MMS, was extended for a second year and includes humpback whales. Final reports will be available in January 1985. MMS may undertake a study in Fiscal Year 86 on the effects of OCS activities to marine mammals that will address "cumulative effects".

The Environmental Coalition was represented at the first Studies Group meeting. The cumulative impact of seismic testing on marine mammals was discussed in conjunction with the wide variety of other activities occurring on the OCS. The Coalition subsequently agreed that on-going research regarding the gray whales is appropriate at this time and is congruent with the type of research they would suggest. They indicate that they may have other comments after review of final reports. Additional suggestions may be offered after that review.

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On the issue of the sea otter, a consensus was reached with U.S. Fish and Wildlife Service personnel and Friends of the Sea Otter that further studies on the effects of geophysical research on sea otters are not warranted at this time. To maximize the amount of ongoing information for all parties the Commission staff have proposed to notify the DFG or the USFWS to see if an observer is available to be put on board when acoustic geophysical exploration is conducted within 1/2 mile of shore between Ano Nuevo and Point Sal. Staff will also contact Friends of the Sea Otter at that time so that their help can be enlisted.

CONCLUSION

Commission staff will continue to monitor these research projects through their participation on the Steering Committee and management of the geophysical program. In addition all interested parties have been asked to continue providing regular input and participation on proposed research.