United States Department of the Interior

FISH AND WILDLIFE SERVICE
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IN REPLY REFER TO:
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JUN 20 1995

Memorandum

To: Regional Director, Alaska OCS Region
Minerals Management Service

From: Acting Regional Director
Region 7 Richard A. Pospahala

Subject: Section 7 Consultation for Natural Gas and Oil Lease Sale 149, Cook Inlet - Final Biological Opinion

This responds to your March 25, 1993, request for formal section 7 consultation pursuant to the Endangered Species Act of 1973 (Act) (16 U.S.C. 1531 et seq.; 87 stat. 884, as amended) for Lease Sale 149 and associated exploration activities in lower Cook Inlet, Alaska. A chronology of the consultation actions up to present, regarding Lease Sale 149, is provided in Attachment 1. Although this is an "incremental step" consultation on leasing and exploration, information was also provided by your office on potential development and production scenarios so that the U.S. Fish and Wildlife Service (Service) could evaluate the likelihood of the entire action proceeding without violation of section 7(a)(2)[1] of the Act.

For a description and understanding of proposed exploration activities, the Service relied primarily on the January 1993 Biological Evaluation for Threatened and Endangered Species (Biological Evaluation), and subsequent updates, provided by your agency. Representatives of the Service's Anchorage Ecological Services Field Office also discussed the project with Dr. Joel Hubbard of the Alaska Outer Continental Shelf Regional Office.

The following text is organized into three main Sections: Summary, Leasing and Exploration, and Development and Production. Each section describes the

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[1]Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

action, discusses the environmental baseline, and states the Service's biological opinion.

SUMMARY

The Service has evaluated, in detail, the first two increments of the proposed oil and gas development in lower Cook Inlet and found that those two increments would not jeopardize any listed species for which the Service is responsible. Impacts of the full extent of oil and gas development also have been assessed, according to 50 CFR 402.14(k)(5), and the Service has determined there is a reasonable likelihood that the entire action, including development and production, will not violate section 7(a)(2) with regard to listed species.

LEASING AND EXPLORATION

Description of the Proposed Action

Originally, the proposed lease sale area encompassed lower Cook Inlet and Shelikof Strait. We were informed by a February 9, 1994, memorandum from your Acting Regional Director, Alaska Outer Continental Shelf Region, of changes to the proposed lease sale, including deletion of the Shelikof Strait portion. The following project description reflects the most current information available to us.

Lease Sale 149, the fourth sale proposed for the lower Cook Inlet planning area, is tentatively scheduled for 1996. The sale will offer 402 blocks, comprising an area of approximately 2.0 million acres (0.81 million hectares). The lease area is located roughly from Kalgin Island in Cook Inlet, southwest to northern Shuyak Island in the Kodiak Archipelago. The blocks lie approximately 3 to 24 miles (5-40 km) offshore in water depths from 30 feet to greater than 650 feet (10-200 m).

An estimated total of 319 trackline miles (514 km) of shallow-hazard seismic surveys would be conducted, covering an area of approximately 71.2 square miles (184 km^2). Although different levels of activity and a variety of exploration methods are possible, semisubmersible, drillship, or jack-up rig are the most likely drilling platforms for exploration wells. During a 2-year period, a total of 3 exploration and 5 delineation wells would be drilled.

Activities interrelated and interdependent to the proposed action include oil spills originating from platforms, pipelines, or tanker vessels; and the deposition of plastic waste in the marine environment.

Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "...those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation."

State or private actions reasonably certain to occur within or near the proposed sale area would include State of Alaska oil and gas lease sales (67A-W, 76, 78, 85), transport of crude oil between Valdez and Nikiski or to U.S. ports south of Alaska, transport of crude oil or refined petroleum products from Cook Inlet to U.S. ports south of Alaska and to ports in the Far East, transport of liquified natural gas from Cook Inlet to the Far East, commercial fishing operations, recreational and tourist-industry activities, and winter habitat loss or contamination. The State of Alaska is currently considering whether holding Lease Sales 78 and 85 will be in the best interest of the State.

Environmental Baseline

The listed species of concern to the Service during the leasing and exploration phases of Lease Sale 149 are the threatened Aleutian Canada goose (*Branta canadensis leucopareia*) and the endangered short-tailed albatross (*Diomedea albatrus*). Although the endangered American peregrine falcon (*Falco peregrinus anatum*) may occur in the lease sale area during migration, its presence is considered transitory and irregular, and this species would not be affected by the proposal. The Arctic peregrine falcon (*F. p. tundrius*) has recently been removed from the list of threatened and endangered species (59 FR 50796). No other threatened or endangered species for which the Service has responsibility are known to occur in the lease area.

The Service recently proposed that the Alaska breeding population of the Steller's eider (*Polysticta stelleri*) be listed as a threatened species (59 FR 35896). This species occurs during the winter in protected marine waters, including those of lower Cook Inlet. However, limited information is available regarding the numbers of eiders using the lease sale area. Should the Steller's eider become a listed species, the Minerals Management Service (MMS) should consider re-initiating consultation with the Service.

The harlequin duck (*Histrionicus histrionicus*), the Alaska population of the marbled murrelet (*Brachyramphus marmoratus*), and the Kittlitz's murrelet (*B. brevirostris*) are Category 2 candidate species for listing, and may occur throughout the lease sale area. Category 2 candidates are species for which the best scientific and commercial information indicates that the species might qualify for listing under the Act, but the Service needs additional information before the need to list can be determined. Candidate species within the project area are identified for your information and environmental planning.

Aleutian Canada Goose

The Aleutian Canada goose currently nests on nine islands of the Aleutian Chain [Agattu, Alaid, Nizki, Buldir, Little Kiska, Amchitka, and Chagulak islands] and Semidi Islands (Kiliktagik and Anowik islands). The total population is estimated to be 20,000 birds (L. Harb, U.S. Fish and Wildlife Service, Portland, Oregon, pers. comm.). This subspecies nests primarily on vegetated maritime slopes and, unlike many other Canada goose subspecies, does not appear to require proximity to estuarine or fresh water sources. Aleutian Canada geese begin arriving on the breeding islands in late April and depart

during September and October. The migration route to and from wintering grounds in California and Oregon is not fully known, but is presumed to be trans-oceanic.

Although the lease area is generally outside the current range of Aleutian Canada geese, migrating birds have recently been reported as close as the Kalsin Bay area on Kodiak Island. It is also likely that other areas of the Kodiak Archipelago are visited occasionally during migration. This subspecies is not known to rest on salt water during migration, and therefore would not be affected by an oil spill or industrial discharges.

Located approximately 225 miles (360 km) southwest of the southern lease sale boundary, the Semidi Islands are the location of an Aleutian Canada goose breeding population consisting of 132 birds with at least 28 nesting pairs (Anderson et al. 1993). It is possible, given appropriate wind and current conditions, that a large oil spill in the lease sale area could contact the Semidi Islands. Although Aleutian Canada geese normally use only upland habitats during the nesting season, molting geese have been observed to fly from an island and alight on the sea surface when alarmed. In the event an oil spill cleanup was necessary in the Semidi Islands, this type of escape response could be prevented by human avoidance of the nesting areas.

Given the lack of major oil spills associated with exploratory drilling on the U.S. Outer Continental Shelf, the Service concurs that the likelihood of substantial quantities of oil reaching the Semidi Islands or coastal habitats potentially used by geese is negligible.

Short-Tailed Albatross

The short-tailed albatross is a pelagic seabird that nests on two islands in Japan: Torishima and Minami-Kojima in the Senkaku Islands. After being reduced to fewer than 100 birds in the 1930s, the current population has increased to approximately 500 birds with a seven percent yearly growth rate (H. Hasegawa, Department of Biology, Toho University, Japan, pers. comm. 1992).

A combination of additional birds in the population, and a greater number of informed observers has resulted in more frequent and widespread short-tailed albatross sightings in recent years. While the majority of sightings are from fishing grounds of the western North Pacific Ocean and Bering Sea, several sightings have recently been reported from the northern Gulf of Alaska and Kodiak Island continental shelf. We have no records of short-tailed albatross from the lease sale area, however, it is reasonable to assume that low numbers of this wide-ranging seabird may occasionally be present in lower Cook Inlet.

Like other albatrosses, shearwaters, and petrels, the short-tailed albatross is a surface-feeder. Hasegawa and DeGange (1982) report that much surface-feeding occurs at night when squid are close to the surface. Individual birds could potentially be harmed if they come into contact with floating oil or fuel, either from a spill during exploration drilling or leaked from support vessels or rigs.

The Service concurs with your assessment that due to the low number of individuals that would be expected to be present in the lease sale area, and the industry's record of no major spills during exploration, the potential effects of drilling would be negligible. The Service also believes that albatrosses would avoid noise generating activities, such as seismic work and helicopter traffic.

Many reported sightings of short-tailed albatrosses are of birds that have been attracted to commercial fishing vessels. Like many seabirds, albatross can become habituated to following vessels because they represent a potential food source. As surface feeders, short-tailed albatrosses are also particularly vulnerable to the harmful effects of ingesting discarded waste, particularly plastics, which can resemble natural food items. Ingestion of plastic pollutants has been recorded in 50 species of marine birds, and albatrosses are among those species found to ingest plastics most frequently (Day et al. 1985).

The Biological Evaluation suggests that encounters between short-tailed albatrosses and plastic debris would not take place in the project area because of the expected scarcity of the species. However, floating plastic debris is extremely persistent, and may disperse widely outside the lease area. While there is no reliable method for predicting short-tailed albatross abundance in the lease area over the life of the project, it is reasonable to expect that the overall population will double in 10-12 years, and a greater proportion of its former range will be re-occupied.

Title 2 of Public Law 100-220, Marine Plastic Pollution Research and Control Act of 1987, prohibits the disposal of plastics anywhere at sea. Additionally, it is our understanding that your agency's Consolidated Offshore Operating Regulations (30 CFR 250) which discuss pollution prevention measures, prohibit the disposal of solid waste and other materials at sea. Although these measures directly address the problem, both the new law and the operating regulations may in reality be unenforceable on the high seas. Recently, Robards et al. (1991) reported increased levels of ingested plastic particles in seabirds they studied from 1988-1990.

Progress is being made by the MMS and the petroleum industry to curb the disposal of plastic debris during exploration activities. An example is the Exploration Plan - West Maktar Prospect, Beaufort Sea, Alaska, (Harding Lawson Associates 1990) which specifies that solid, non-combustible waste will be stored on board the drilling unit for land disposal. The MMS plans to adopt a similar plan for Lease Sale 149 should adequately ensure that there will be negligible risk to the short-tailed albatross from plastic pollution as a result of exploratory activities.

Biological Opinion

It is the biological opinion of the Service that the leasing and exploration phases (Incremental Steps 1 and 2) of Natural Gas and Oil Lease Sale 149 are not likely to jeopardize the continued existence of either the Aleutian Canada goose or the short-tailed albatross. No critical habitat for these species has been designated, therefore, none will be affected.

Incidental Take

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement. The Service does not anticipate the proposed action will incidentally take any Aleutian Canada geese or short-tailed albatrosses; therefore no terms and conditions are provided.

DEVELOPMENT AND PRODUCTION

Description of the Proposed Action

Per your March 25, 1993, request for consultation, the Service has also considered the potential effects of the development and production phases of Lease Sale 149. A projected oil volume of 200 million barrels (base case of proposal) was used to project the number of tanker/barge trips and probabilities of a spill occurring. Interrelated, interdependent, and cumulative effects are the same as those identified in the previous section.

Your Biological Evaluation describes a base-case development and production scenario which is based on a composite of feasible options developed through discussions within your agency, other agencies, and industry. It was developed for the purpose of evaluating the potential effects of the entire action associated with Lease Sale 149.

Under the production and development scenario, 567 trackline miles (913 km) of seismic surveys covering 106.5 square miles (276 km^2) would be conducted for the production platforms, with an additional 500 miles (800 km) necessary for offshore pipelines. Over a 3-year period, 3 rigs would drill 48 production and service wells to a target depth of 7,500 feet (2250 m). In general, marine and air support would originate from the Kenai Peninsula.

Undersea pipelines would transport oil from production wells to storage facilities on the Kenai Peninsula. All products would be loaded onto tankers at Nikiski for trans-shipment to processing facilities in Alaska or the lower 48 states. No particular receiving ports along the west coast were specified; however, those currently in use are located in Puget Sound, San Francisco Bay, and Long Beach.

Environmental Baseline

In addition to the species discussed above, the Service evaluated nine listed species that may be affected by the development and production phases of Lease Sale 149, particularly through the transportation of oil. Those species are the southern sea otter (*Enhydra lutris nereis*), brown pelican (*Pelecanus occidentalis*), California clapper rail (*Rallus longirostris obsoletus*), light-footed clapper rail (*R. l. levipes*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), marbled murrelet, and bald eagle (*Haliaeetus leucocephalus*). The Service concentrated its evaluation on the southern sea otter and marbled murrelet, two species which would be most directly affected by a tanker-related oil spill. Measures taken to protect these species should also protect other listed species along the coasts of Washington, Oregon, and California. In depth analysis of the brown pelican, California clapper rail, western snowy plover, California least tern, and bald eagle may be necessary as the consultation progresses.

Southern Sea Otter

The southern sea otter was listed as threatened primarily due to its small population size, extreme vulnerability to hypothermia if its pelage is oiled, and the high probability that a tanker spill would contact its limited range. Minimizing the risk of oil spills, and the effects those spills would have on the southern sea otter are among the primary objectives of the Sea Otter Recovery Plan.

Based on tanker traffic within the southern sea otter's range during 1987, the U.S. Coast Guard predicts 3 to 4 tanker spills may occur over the next 30 years (U.S. Fish and Wildlife Service 1987). Along the coast of California, the probability of a spill on the scale of the Exxon Valdez (11 million gallons) is estimated at once every 69 years (S.L. Ross Environmental Research LTD 1990). Under current traffic patterns, it is estimated that there is a 13.4 percent chance that more than 5 percent of the current southern sea otter population would be lost in a tanker spill (Public Draft, San Miguel Project and Northern Santa Maria Basin Area Study EIS/EIR, Vol. 1, Table C2.4.3-6, 1985). There is a 1 in 67 chance (1.5 percent) that more than 40 percent of the population would be lost due to spills from tankers alone. If a spill occurred in the northern half of the southern sea otter range, at least 50 percent of the breeding females would be lost (U.S. Fish and Wildlife Service 1987).

Under current vessel traffic patterns, it is questionable if an emergency response vessel could arrive in time to aid a distressed vessel. Sea-going emergency response vessels currently in service are stationed in San Francisco Bay and at Port Hueneme, California. Under the best of conditions, response times to reach a disabled tanker along the southern sea otter range could approach 17 hours (Texaco 1989). About 14 percent of the time a disabled tanker would drift to shore in about 18 hours from 15 miles out, but this figure would drop to less than 1 percent if vessels were 40 miles or further from shore (Texaco 1989). The Service is currently attempting to model oil

spill movement through the range of the southern sea otter as a function of spill time and distance from shore.

It is clear that depending on the size, location, and a variety of other factors, an accidental oil spill could have very serious adverse effects on the environment, and could result in injury or death to a significant proportion of the southern sea otter population as well as large numbers of other species (U.S. Fish and Wildlife Service 1993). It is therefore of great interest to the Service, where and how far offshore tanker traffic will occur.

Marbled Murrelet

The marbled murrelet is a small seabird of the family Alcidae that feeds in marine waters and nests onshore in old growth forests. The population segment that inhabits coastal Washington, Oregon, and California is listed as a threatened species (57 FR 45328). According to the "Ecology and Conservation of the Marbled Murrelet" (Ralph et al. 1995) marbled murrelet populations appear to be declining rapidly in California, Oregon, and Washington. They estimate the 3-state population to currently number between 18,500 and 31,950 birds, with 6,450 birds in California; 6,600 to 20,000 birds in Oregon; and 5,500 in Washington. Censuses of juvenile birds indicate that recruitment rates are extremely low throughout the range. Population models using the ratio of juveniles to adults to derive reproductive parameters indicate the populations are declining between 4 percent and 12 percent annually. These rates of decline suggest that in 20 years the marbled murrelet population in the three-state area could be reduced to less than one-half to one-twelfth of its current size (U.S. Fish and Wildlife Service 1995).

Marbled murrelets have a high susceptibility to mortality from oil spills because they tend to spend most of their time swimming on the sea surface and feeding in local concentrations close to shore. Depending on the location, extent, and season of an oil spill, significant adverse effects could occur to local or regional populations of marbled murrelets. Local populations were adversely affected by the Exxon Valdez oil spill of 1989, and marbled murrelets were subjected to proportionately higher mortality than other seabirds inhabiting Prince William Sound (Piatt et al. 1990).

Marbled murrelets are found both during the nesting season and during winter within areas affected by oil shipments. Of the three-state area inhabited by the threatened population segment, the Puget Sound area is of particular concern. Oiled marbled murrelets have been reported from previous oil spills in Washington (Leschner and Cummins 1990). Because the populations in Oregon, Washington, and California are small and locally concentrated, oil spills could result in local extirpations. Critical habitat has been proposed for marbled murrelets (59 FR 3811).

Reasonable Likelihood Determination

Under the regulations governing incremental step consultations, an agency action cannot proceed until the Service determines there is a reasonable likelihood that the entire action could proceed without violation to section 7(a)(2) of the Act (50 CFR 402.14(k)(5)). For the development and production

phases, this determination is founded on assumption-based scenarios, and our current understanding of natural conditions, both of which are subject to change prior to initiation of development and production. A thorough evaluation of impacts from development and production is not possible because any analysis would be speculative without a more definitive development scenario.

The Service was initially concerned that the transportation of oil associated with Lease Sale 149 to ports along the Pacific Coast might result in a violation of section 7(a)(2) of the Act, in regard to southern sea otters and marbled murrelets. The MMS subsequently coordinated with the U.S. Coast Guard (USCG) to obtain the most recent information on that agency's progress toward reducing the threat of tanker-related oil spills. Much of the current momentum centers around provisions of the Oil Pollution Act of 1990 (OPA 90) which mandate adoption of new regulations for improved tanker safety, pollution prevention, and response preparedness. In response to the OPA 90, the USCG has taken or proposed the following actions (U.S. Coast Guard 1994):

1. Single hull tankers must be accompanied by two tow vessels when in Prince William and Puget sounds (a public comment period on the proposed regulation closed January 30, 1995).

2. Oil carrying vessels operating within the U.S. Exclusive Economic Zone must, according to a phase-in schedule based on age and size of vessels, be equipped with a double hull or double containment system between 1995 and 2015. The proposed regulation was included in a Federal Register notice which was published in December 1994.

3. Single-hulled tanker vessels must have equipment necessary to affix emergency lightering equipment for removing oil from ship storage tanks. A final rule containing this regulation was published in the Federal Register on August 5, 1994.

4. The qualifications of individuals applying for USCG licensing and certification to pilot oil-carrying vessels will be subject to a more rigorous review. The USCG anticipates publishing a Federal Register notice announcing the revised review requirements in 1995.

5. Tankers must have warning devices installed to detect overfills of tanks (which would likely result in leaks) by 1999. The USCG anticipates publishing a Federal Register notice announcing this proposed regulation in 1996.

6. Tankers must carry oil removal equipment on board in order to respond to spills. The USCG anticipates publishing a Federal Register notice announcing this proposed regulation in 1995.

7. Response plans will be required for tanker vessel and onshore facilities worst case discharge emergencies. The USCG anticipates publishing a Federal Register notice announcing this proposed regulation in 1996.

8. A tanker navigation safety study, and a report on the study, are due to be completed in 1995. The study will include analyses of appropriate crew size, extent of crew training, adequacy of navigation equipment, navigation procedures, potential tanker-free zones, inspection standards, effectiveness of simulator training, and a 20-year risk analysis.

The measures identified in the OPA 90 address the Service's concerns relating to the potential for spills during oil transport. Although some important measures will not be phased in entirely until as late as 2015, most of the measures will be in effect before the onset of oil production for Lease Sale 149 in 2002.

Because the OPA 90 requires regulatory agencies such as the USCG to adequately address tanker passage routes, navigation equipment and safety procedures, and other precautions, the potential for oil spills should decrease, and the ability for rapid containment of spills to limit their effect on coastal wildlife should increase. Additionally, the USCG and the National Oceanic and Atmospheric Administration are conducting a study to evaluate the need for vessel routing measures in the approaches to California ports and the regulation of vessel traffic in offshore marine sanctuaries (58 FR 44634). Therefore, the Service has determined that there is a reasonable likelihood that the entire action associated with Lease Sale 149 could proceed without violation to Section 7(a)(2) of the Act.

Thank you for your cooperation in the development of this biological opinion. If you have any comments or require additional information, please contact Ann Rappoport or Brian Anderson, Anchorage Ecological Services Field Office, at (907) 271-2888.

Attachment

cc: Regional Director, Region 1

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