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FEDERAL LAND MANAGEMENT

Consideration of Proposed Alaska Land Exchanges Should Be Discontinued

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Resources, Community, and
Economic Development Division

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September 29, 1988

The Honorable George Miller
Chairman, Subcommittee on Water
and Power Resources
Committee on Interior and Insular Affairs
House of Representatives

The Honorable James A. McClure
Ranking Minority Member, Committee
on Energy and Natural Resources
United States Senate

This report responds to your requests that we evaluate proposed land exchanges between the Department of the Interior and six groups of Alaskan Native corporations. Specifically, this report assesses Interior's legal authority to conduct the proposed exchanges and the processes, assumptions, and methods on which they were based.

As agreed, unless you publicly announce its contents earlier, we plan no further distribution of this report until 5 days from its issue date. At that time, we will send copies to the Secretary of the Interior and other interested parties and make copies available to others upon request.

This report was performed under the direction of James Duffus III, Associate Director. Other major contributors are listed in appendix III.

J. Dexter Peach

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Assistant Comptroller General

Executive Summary

Purpose

The Department of the Interior has negotiated proposed land exchange agreements with six groups of Alaskan Native corporations. Under the proposed exchanges, the government would acquire lands now owned by the Native corporations that are within the boundaries of wildlife refuges in Alaska, and the corporations would acquire oil and gas rights in the Arctic National Wildlife Refuge (ANWR)—a large wildlife refuge in Alaska that has potentially large oil and gas deposits. The Chairman of the House Subcommittee on Water and Power Resources, Committee on Interior and Insular Affairs, and the Ranking Minority Member of the Senate Committee on Energy and Natural Resources asked GAO to

- assess Interior's legal authority to conduct the proposed exchanges and
- examine the processes, assumptions, and methods underlying the proposed exchanges.

Background

Alaskan Natives own about 15.5 million acres of the land within the boundaries of Alaska's 16 national wildlife refuges. Local and regional Native corporations received these lands, called inholdings, as part of a 1971 settlement of the Natives' aboriginal claims.

Alaska's wildlife refuges contain diverse wildlife, such as bear, moose, caribou, seals, walrus, salmon, eagles, and many kinds of migratory birds. Interior officials believe that acquiring Native inholdings would help protect their habitat from harm resulting from other uses as well as enhance the management of the refuges.

The proposed land exchanges call for Interior to acquire about 896,000 acres of Native inholdings in seven wildlife refuges in exchange for the oil and gas interests on about 166,000 acres of land on the coastal plain of ANWR. The coastal plain of ANWR has been rated by industry and government geologists as the most promising onshore oil and gas exploration area in the United States. Interior has valued both the lands the government would acquire and the oil and gas interests the corporations would acquire at $539 million.

Results in Brief

At the time the exchange proposals were developed, Interior had the legal authority to negotiate and administratively approve the proposed exchanges, if otherwise proper, without congressional approval. However, section 201 of Public Law 100-395, dated August 16, 1988, prohibited the Secretary of the Interior from conveying interests in lands

within the coastal plain of ANWR without prior approval by act of Congress. In addition, the Native corporations could not exercise their rights under the exchanges until the Congress opens the coastal plain of ANWR for oil and gas development.

GAO believes that the proposed exchanges are not in the best interests of the government for the following reasons:

- About three-fourths of the Native inholdings the government would acquire would provide only limited wildlife and habitat protection benefits.
- The negotiated price the government would pay for the inholdings is six times their appraised fair market value.
- The actual values of the oil and gas tracts the corporations would acquire are unknown and the estimated values are highly uncertain because they are based on limited data and may be significantly higher or lower than the actual values. Generally accepted methods for dealing with uncertainty—requiring competitive bidding for the tracts and retaining a continuing interest (royalty) in the actual amounts of oil and gas that may be produced—were not employed.

Principal Findings

At the time the exchange proposals were devleoped, Interior had the legal authority to negotiate and administratively approve the proposed exchanges, if otherwise proper, without congressional approval. However, section 201 of Public Law 100-395, dated August 16, 1988, prohibited the Secretary of the Interior from conveying interests in lands within the coastal plain of ANWR without prior approval by act of Congress. In addition, congressional approval is required before ANWR can be opened for oil and gas development.

Questionable Benefits of Lands to Be Acquired

Although some of the land that would be acquired has been rated by Interior as very important wildlife habitat, GAO found that 76 percent of the lands that the government would acquire would provide limited wildlife and habitat protection benefits. About 279,000 acres (31 percent of all proposed acquisitions) were rated as low priority or unsuitable for acquisition by Interior. About 349,000 acres (39 percent) are already protected from uses that are inconsistent with wildlife refuge purposes. Finally, about 53,000 acres (6 percent) are most threatened by subsurface mineral development, but Interior would not acquire the subsurface rights under the terms of the exchanges.

Price of Lands Being Acquired Not Based on Fair Market Value

Interior appraised the fair market value of the proposed acquisitions at $90 million, but arrived at a negotiated price of $539 million, a six-fold increase, on the basis that the fair market value did not take into account their true environmental or public interest value. In negotiating the exchange price, Interior used some inappropriate comparisons of prices from previous land transactions. For example, two of the comparisons involved lands in other states where land values are generally higher. On the basis of court decisions and Interior appraisal guidelines, GAO believes Interior's valuation of lands offered by the Native corporations should have been limited to fair market value.

Values Assigned to Oil and Gas Tracts Are Uncertain

The values of the oil and gas tracts that the Native corporations would acquire under the exchanges are highly uncertain. The values assigned to these tracts were based on limited geologic information, which GAO believes was inadequate to accurately establish their values. The uncertainty in the tract values was compounded by the uncertainty in economic data Interior used to arrive at individual tract values for the exchanges. The net effect of the geologic and economic uncertainties is that the proposed exchange price of $539 million for the tracts may substantially over- or underestimate the actual tract values. Although Interior did not calculate the ranges within which the actual individual tract values may lie, Interior told GAO that the actual values for the best tracts could be between 0 and 6.5 times the estimated values.

Wells are the best source of data for understanding the oil-bearing characteristics of underground rocks. Interior had no well data from within ANWR to use in its tract valuation process, and it did not have access to data from the one well in the refuge drilled by one of the Native corporations' oil company affiliates.

Generally Accepted Methods for Dealing With Uncertainty Not Employed

Uncertainty is inherent in valuing oil and gas prospects. In lease sales, the government (1) allows the marketplace to value the tracts through competitive bidding and (2) retains a continuing monetary interest in any future oil production through a royalty provision. Under the proposed land exchanges, however, Interior neither required the Native corporations to bid against one another competitively for the tracts nor retained a continuing monetary interest in any future oil production.

Recommendations

GAO recommends that the Secretary of the Interior discontinue consideration of the proposed land exchanges. GAO further recommends that if

the Secretary of the Interior decides to proceed with the proposed exchanges and presents them to the Congress for approval, the Congress should disapprove them.

Agency Comments

Interior disagreed with GAO's recommendation, and also provided lengthy comments on most other aspects of the report. Interior said that the report's recommendation was reached by the oversimplification and misunderstanding of numerous complex issues relating to the exchanges and that it would be shortsighted to foreclose consideration of the proposed exchanges. GAO arrived at its recommendation after carefully considering all the facts, including whether modifications could be made in the exchange proposals to make them workable. Ultimately, GAO concluded, and continues to believe, that the shortcomings of the proposed exchanges are so serious that further consideration of them should be discontinued. As appropriate, GAO clarified its report in response to Interior's other comments. However, GAO disagrees with the bulk of Interior's comments. The entire text of Interior's comments and GAO's point-by-point response to them is included as appendix II.

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Abbreviations

ANCSA	Alaska Native Claims Settlement Act
ANILCA	Alaska National Interest Lands Conservation Act
ANWR	Arctic National Wildlife Refuge
BLM	Bureau of Land Management
FWS	Fish and Wildlife Service
GAO	General Accounting Office
MMS	Minerals Management Service
USGS	U.S. Geological Survey

Introduction

The U.S. Fish and Wildlife Service (FWS) in the Department of the Interior manages more than 400 national wildlife refuges across the country. Varying in size from half-acre parcels to thousands of square miles, these refuges encompass more than 88 million acres of wildlife habitat. Although wildlife refuges are spread across the nation and several territories, 87 percent of the total land they contain is in one state—Alaska.

Alaska's 16 wildlife refuges are vast. Together, they comprise about 77 million acres, an area about the size of New York, Pennsylvania, New Jersey, Connecticut, Maryland, and Delaware combined. The largest of Alaska's 16 refuges is, by itself, nearly the size of South Carolina. Alaska's refuges, shown in figure 1.1, cover a wide variety of terrains, including grasslands, lakes, woodlands, wild rivers, tundra, mountains, and glaciers. Only two—Kenai, near Anchorage, and Tetlin, adjacent to the Alaska highway—are accessible by road. The refuges contain diverse wildlife such as bear, moose, caribou, seals, walrus, salmon, eagles, and many kinds of migratory birds.

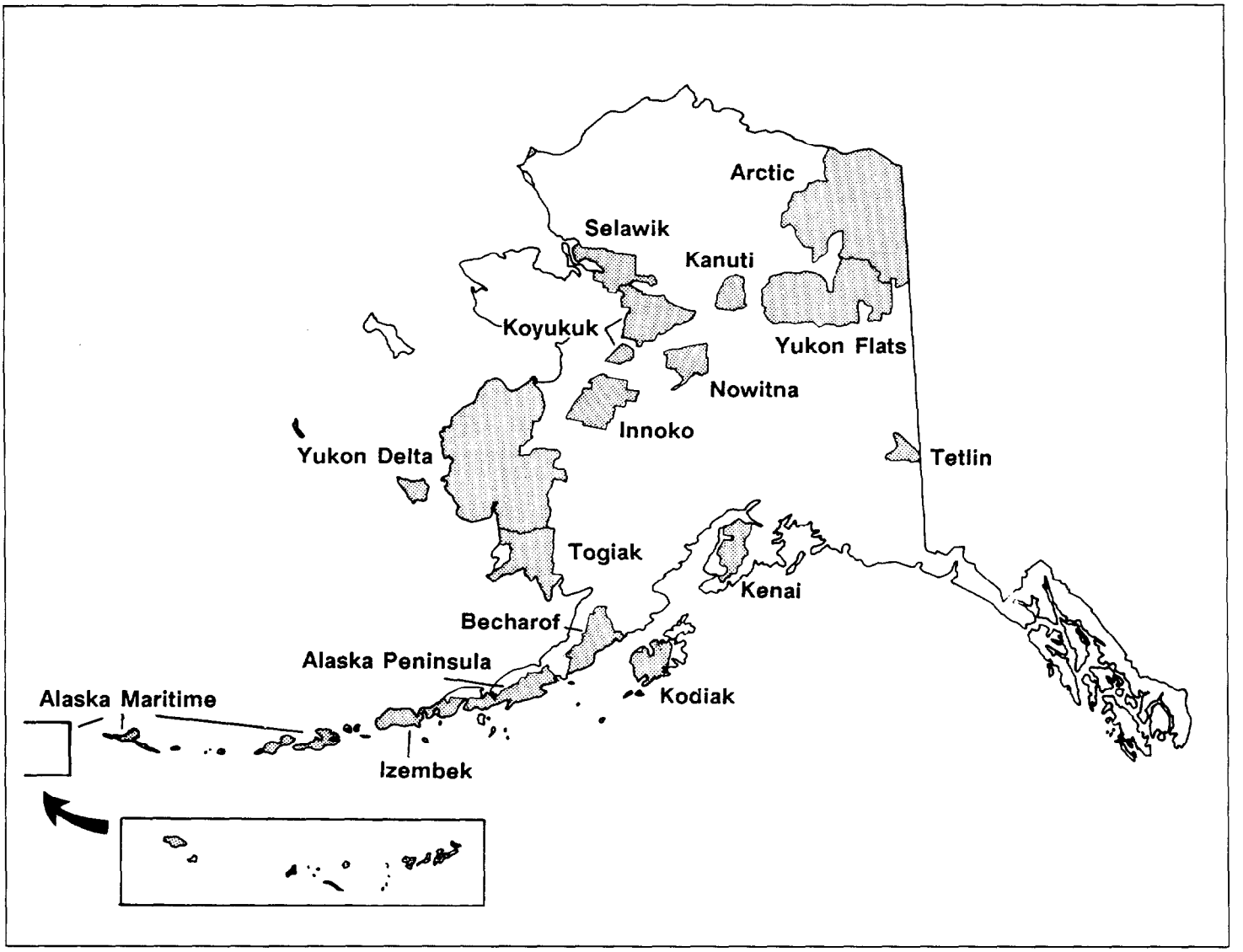
Although some of these lands have been designated as wildlife refuges since the early 1900s, about half of the total area has been so designated for less than a decade. Title III of the Alaska National Interest Lands Conservation Act (ANILCA) (P.L. 96-487, enacted Dec. 2, 1980) created 9 of the 16 refuges and added lands to 6 of the 7 existing ones. Each of these refuges is managed for specific purposes. For example, the purposes of the Arctic National Wildlife Refuge (ANWR) are to conserve fish and wildlife populations and habitats in their natural diversity, to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats, to provide the opportunity for continued subsistence use by local residents, and to ensure, to the maximum extent practicable, water quality and necessary water quantity within the refuge.

Native-Owned Lands Within Federal Wildlife Refuges

The 1867 Treaty of Cession, under which Russia transferred Alaska to the United States, did not clearly define the status of the Natives, their rights, or their land ownership. All of Alaska's lands and waters became public domain, and transfers to private ownership or designation for specific uses required congressional action.

The Alaska Native Claims Settlement Act of 1971 (ANCSA) (P.L. 92-203, Dec. 18, 1971) was enacted to settle land claims made by the various Alaskan Native groups. In return for giving up their aboriginal claims, these Native groups (13 regional corporations and more than 200 village

Figure 1.1: National Wildlife Refuges in Alaska



corporations established under ANCSA) received $962.5 million. In addition, the village corporations and 12 regional corporations within Alaska have the right to choose 44 million acres of land. Some of the land selected by Native corporations under ANCSA was in refuges that had been established before ANCSA. Each village corporation, for example, was required to select land adjacent to its village, and some of the villages were inside existing refuges.

ANILCA increased the acreage of Native lands inside refuges when it expanded the boundaries of existing refuges and created new ones. These "inholdings" (a term used to describe the lands either owned by or selected by Native corporations within boundaries of wildlife refuges) include several million acres. According to FWS, as of February 1988, Alaskan Native corporations owned or had selected about 15.5 million acres of inholdings, or 99.7 percent of the nonfederally owned acres in Alaska's national wildlife refuges.

Native inholdings include some of the most productive fish and wildlife habitat in North America, according to FWS Alaska regional officials. For example, the more than 200,000 acres of Native inholdings in the Kodiak National Wildlife Refuge are considered to be some of the best bear and salmon habitat in the world. In the Yukon Flats National Wildlife Refuge, which FWS officials say contains some of the most productive waterfowl breeding habitat in North America, nearly 75 percent of the breeding habitat is Native-owned.

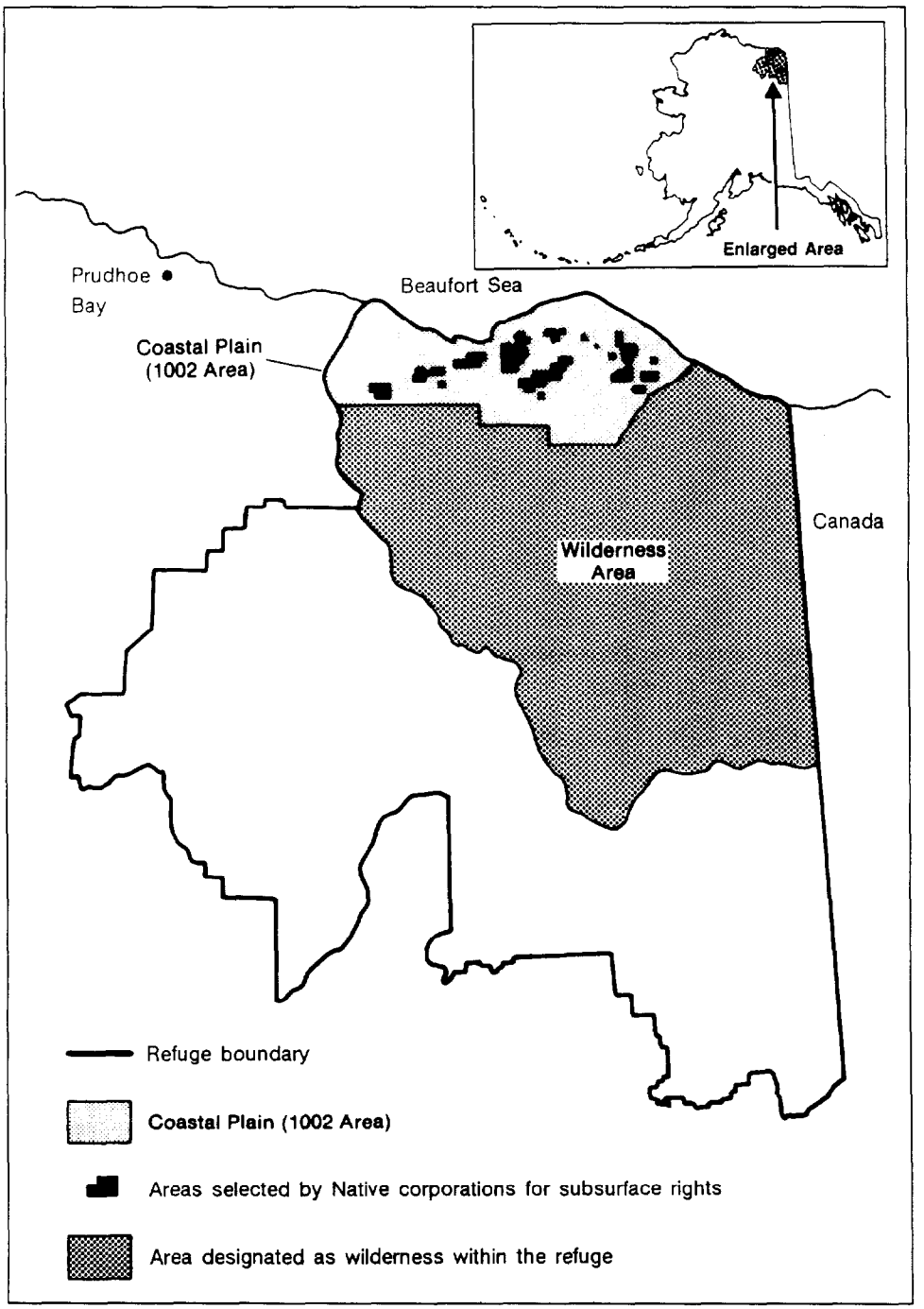
According to FWS Alaska region officials, the number and size of inholdings make it difficult to manage the refuges to meet their established objectives. FWS officials said that in the Kenai and Kodiak National Wildlife Refuges, increased use and development may threaten habitats or populations in the near term. In other refuges, where imminent threats to habitat do not exist because the amount of use or development is low, FWS officials said the possibility exists that such threats may occur in the future. Given these concerns and the high resource value of some inholdings, FWS officials said they consider it wise for Interior to attempt acquisition of high-priority inholdings when the opportunity arises.

Petroleum Potential of ANWR

ANWR is located in Alaska's northeastern corner, next to the U.S.-Canadian border and the Beaufort Sea (see fig. 1.2). The second largest of Alaska's national wildlife refuges, ANWR comprises about 19 million acres, or nearly 30,000 square miles. As the map shows, land within ANWR has several designations. About 8 million acres are designated as wilderness area. To the north of this wilderness area, between the Brooks Range of mountains and the Beaufort Sea, lies an area of about 1.5 million acres designated in section 1002 of ANILCA as the "coastal plain."

According to the Assistant Secretary for Fish and Wildlife and Parks, industry and government geologists have concluded that the coastal plain provides the nation's best single opportunity to increase domestic

Figure 1.2: Arctic National Wildlife Refuge



oil production over the next 40 years. In an April 1987 report to the Congress, the Department of the Interior described the coastal plain as follows:

"It is rated by geologists as the most outstanding petroleum exploration target in the onshore United States. Data from nearby wells in the Prudhoe Bay area and in the Canadian Beaufort Sea and Mackenzie Delta, combined with promising seismic data gathered on the 1002 area [the coastal plain], indicate extensions of producing trends and other geologic conditions exceptionally favorable for discovery of one or more supergiant fields (larger than 500 million barrels)."

In the report, Interior estimates that if economically recoverable oil is present, there is a 95-percent chance for more than 600 million barrels and a 5-percent chance for more than 9.2 billion barrels. The latter amount is nearly equal to the Prudhoe Bay oil field in Alaska, which provides almost one-fifth of U.S. production. ANILCA prohibited leasing or any other development leading to production of oil and gas within ANWR unless the activity was specifically authorized by an act of the Congress.

Objectives of the Proposed Exchanges

Since 1984, Interior officials have been discussing with Native corporations the possibility of exchanging federally owned oil and gas rights to land within the coastal plain of ANWR for Native-owned lands within other Alaska wildlife refuges. According to officials of the Native corporations, they have been interested in acquiring oil and gas interests in the coastal plain as a way for Native corporations to develop opportunities for a strong financial foundation. The corporations seek this opportunity because the standard of living in many rural villages in Alaska is very low, and the Natives who live in them face isolation, poverty, and a harsh environment. Alcoholism and drug abuse have become widespread, and suicide is the highest cause of death among young Native males. Native officials said the exchanges may provide employment and training opportunities, scholarships, and dividends for the shareholders By contrast, these officials said many of the Native-owned inholdings in the other Alaska wildlife refuges, although valuable for wildlife refuge purposes, provide little opportunity for economic development in the foreseeable future.

According to the Assistant Secretary for Fish and Wildlife and Parks, Interior's main objective in the exchanges is to acquire valuable inholdings in Alaska's national wildlife refuges. Our conversations with FWS officials indicated that this meant bringing high-quality wildlife habita

under Interior's control, protecting against threats to the habitat, and enhancing management of the refuges. A secondary objective, according to the Assistant Secretary, was to provide a means for Alaskan Native corporations to meet short-term financial needs and enhance long-term financial security.

Basic Elements of the Proposed Exchanges

In 1987 Interior officials and six entities representing various regional and village corporations negotiated proposed agreements under which the government would acquire approximately 896,000 acres of Native inholdings in seven wildlife refuges in exchange for the oil and gas interests on approximately 166,000 acres on the coastal plain. The main features of the exchanges are as follows:

- The exchanges are designed to be a trading of interests that, taken together, are of comparable value on both sides. In these exchanges, Interior has stated that the prices of the refuge inholdings and the oil and gas interests to be exchanged are each $539 million.
- According to Native officials, acquisition of oil and gas interests on the coastal plain would give the Native corporations an opportunity to sell leases to oil companies on the land. Under the agreements they negotiate, for example, the Native corporations may receive lease payments for the right to drill on the land and royalty payments on any oil and gas the companies find and remove. Native corporations involved in the exchanges have already entered into a number of these agreements in anticipation of approval of the exchanges. The federal government would retain the surface rights to these lands, and all oil and gas activity would be subject to the conditions established for ANWR by federal agencies.
- The Native corporations would give up their surface rights to inholdings in other Alaska wildlife refuges but would retain several other types of rights to these lands. They would, in many cases, retain access for subsistence uses, giving Natives access to the land for such activities as hunting, fishing, and berry picking that sustain a Native way of life. Those Native corporations with subsurface rights would, in most cases, also retain subsurface rights to the land. What they would be giving up is the right to develop the land's surface—for example, building roads, houses, or resorts as well as the right to control access to these lands. It should be noted that of the Native exchange participants, only Alaskan Native regional corporations owned subsurface rights; village corporations did not own any subsurface rights.

- According to Interior, the Native corporations would acquire ANWR oil and gas interests, which they would ultimately reconvey to the federal government after reclaiming the tracts.

The following example illustrates how the proposed exchanges would work. The Old Harbor Native Corporation represents Natives in the Kodiak area of southwestern Alaska. Old Harbor has inholdings in two refuges, Kodiak and Alaska Maritime. Under the proposed exchange, Old Harbor would exchange the surface rights to about 90,000 acres of inholdings in the two refuges for oil and gas interests on 57,679 acres of land it selected on the ANWR coastal plain. In a publication explaining the exchange to the corporation's stockholders, Old Harbor's Board of Directors said that the corporation would receive lease payments from an oil company for the right to drill for oil and gas on the ANWR lands as well as for the possibility of significant future income from royalties if oil and gas are found. At the same time, Old Harbor's shareholders and the members of their community would continue to be able to hunt and fish on these lands. However, according to an attorney representing Old Harbor Native Corporation, shareholders would no longer have the ability to exclude others from using the land. Further, the residents of Old Harbor would continue to own the land on which the village of Old Harbor and the homes of its people are located.

Objectives, Scope, and Methodology

In July and August 1987, we received requests to review the proposed land exchanges from both the Chairman of the Subcommittee on Water and Power Resources, House Committee on Interior and Insular Affairs, and the Ranking Minority Member of the Senate Committee on Energy and Natural Resources. The requesters asked us to

- assess Interior's legal authority to conduct the proposed land exchanges (see ch. 2) and
- examine the process, assumptions, and methods used to develop the valuation of the interests to be exchanged (see chs. 3 and 4).

In addition, the House request asked us to review a previously executed land exchange between Interior and the Arctic Slope Regional Corporation in which Interior received 101,000 acres of surface inholdings within the Gates of the Arctic National Park in exchange for the subsurface rights to 92,160 acres within ANWR. As agreed, we will report on this matter separately, at a later date.

We performed work in Washington, D.C., and in various locations in Alaska. We reviewed the laws, regulations, and policies that guide the exchange process and interviewed officials of the agencies and groups involved. These agencies and groups included Interior's FWS and Bureau of Land Management (BLM) headquarters, as well as FWS' Alaska region, other Department of the Interior agencies, the six Native entities involved in the exchange, and the state of Alaska's Department of Natural Resources. Our work was divided into several main parts, as follows:

- To evaluate Interior's legal authority to conduct the proposed exchanges, we reviewed pertinent statutes, regulations, court decisions, and other related documents.
- To evaluate the inholdings that would be acquired in the proposed exchanges, we first examined records and interviewed personnel at the Division of Realty in FWS' Alaska region, where priorities for acquisition were first developed. We interviewed the refuge managers for the seven wildlife refuges in which inholdings would be acquired to obtain their opinions on the inholdings proposed for acquisition. We also discussed the proposed acquisitions and reviewed documents provided by officials of the Native corporations. We also discussed the exchanges with management-level officials at FWS' Alaska region and at FWS and Interior headquarters in Washington, D.C.
- To evaluate the prices negotiated for these lands, we compared the normal practices followed by FWS in acquiring or exchanging land and the applicable laws and procedures for land acquisition with the procedures used in the proposed exchanges. Our analysis of the procedures, methods, and assumptions used was based on a review of files at FWS' Alaska region and on interviews with the Assistant Secretary for Fish and Wildlife and Parks, officials of the Native corporations, and other FWS personnel. Part of the method used for establishing the price of inholdings involved the consideration of prices assigned in other land transactions. To determine whether these transactions were appropriate comparisons, we interviewed officials of FWS, other involved federal agencies, and Native corporations. We also reviewed documentation available that was used as the basis for these transactions.
- To evaluate BLM's geologic analysis of these tracts, we conducted an extensive literature search and interviewed officials of BLM, Interior's Minerals Management Service (MMS), the U.S. Geological Survey (USGS), the state of Alaska, and the petroleum industry. We reviewed and analyzed technical maps, documents, and data from federal agencies. In addition, we reviewed and analyzed BLM's ANWR geophysical data base,

its geological interpretations and derivative maps, supporting documentation on delineation of prospects in ANWR, and supplemental geochemical/paleontological report. To analyze BLM's geologic inputs to the economic evaluation, we reviewed its documentation of risk methodology, engineering assumptions, computer model input data sheets, and derived tract dollar values. We also examined oil company geological and geophysical data and interpretations.

- To evaluate BLM's economic analysis, we reviewed BLM's modeling procedures, major economic inputs, and major economic assumptions. We evaluated the modeling procedure by reviewing BLM's documentation for its ANWR tract valuation model and by comparing this model with other models used by Interior agencies. We evaluated BLM's assumptions about major economic inputs (future oil prices and the discount rate) by reviewing published economic forecasts and interviewing officials of major oil companies. We evaluated other economic assumptions and data by interviewing staff and reviewing information from federal agencies, the state of Alaska, the National Petroleum Council, the University of Alaska, and private consulting firms. Our evaluation focused on the overall methodology and assumptions and did not include verification of the computer code, data entry, and computer programming aspects of BLM's methodology.

We performed our review between October 1987 and April 1988 in accordance with generally accepted government auditing standards. We limited our review of internal controls to those applicable to the FWS Alaska region's real estate acquisition and valuation systems, and BLM's assessment and valuation of prospective oil and gas areas.

We testified on the results of our work before the House Subcommittee on Water and Power Resources, Committee on Interior and Insular Affairs, on July 7, 1988.[1]

[1] Proposed Alaska Land Exchanges (GAO/T-RCED-88-52, July 7, 1988).

Legal Basis, History, and Status of the Proposed ANWR Land Exchanges

The Department of the Interior and the Alaskan Native corporations have explored the possibility of exchanging inholdings in wildlife refuges for oil and gas rights on ANWR's coastal plain since at least the beginning of 1984. Questions have been raised about Interior's legal authority to execute the proposed exchanges prior to congressional opening of ANWR to oil and gas development. We believe that at the time the proposals were developed, Interior had the legal authority to carry out the exchanges, if otherwise proper, without congressional approval. However, section 201 of Public Law 100-395, dated August 16, 1988, prohibited the Secretary of the Interior from conveying interests in lands within the coastal plain of ANWR without prior approval by act of Congress. In addition, the Native corporations would be prohibited from any activities leading to production of oil and gas until the Congress opens the coastal plain of ANWR for oil and gas development.

Even before the current exchanges were proposed, others made efforts to exchange inholdings in wildlife refuges and national parks for other interests held by the federal government. These efforts resulted in several exchange proposals, one of which was completed. The process for the current exchanges has proceeded through the steps of negotiating the inholdings to be acquired and the price to be assigned to them, estimating the value of oil and gas interests for tracts in the coastal plain, and identifying which parcels on the coastal plain were to be exchanged for the inholdings. The negotiations have involved six Native entities representing various regional and village corporations.

Legal Basis for the Proposed Exchanges

In March 1987 the Trustees for Alaska and several other public interest groups filed a lawsuit against the Secretary of the Interior on the basis that Interior had no authority to enter into exchange negotiations unless the Congress first decided to allow oil and gas development in ANWR's coastal plain. The suit was based on section 1003 of ANILCA, which states, "Production of oil and gas from the Arctic National Wildlife Refuge is prohibited and no leasing or other development leading to the production of oil and gas from the range shall be undertaken until authorized by an Act of Congress."

We reviewed Interior's legal authority to carry out the land exchanges as proposed. Our review of the relevant statutes led us to conclude that under section 22(f) of ANCSA and section 1302(h) of ANILCA, Interior had the authority to administratively approve the proposed exchanges, if otherwise proper, prior to congressional opening of ANWR to oil and gas development. However, section 201 of Public Law 100-395, dated

August 16, 1988, prohibited the Secretary of the Interior from conveying interests in lands within the coastal plain of ANWR without prior approval by act of Congress. A draft model agreement, dated June 12, 1987, for an exchange of lands and interests in lands between Interior and a regional Native corporation, states that the exchange is contingent upon the enactment of legislation providing for the opening of the coastal plain for the purpose of further exploration, development, and production of oil and gas. The draft agreement, by its terms, is contingent upon the congressional authorization of oil and gas activities as well as ratification of the agreement itself. We do not believe that negotiations, which might lead to the signing of a similar agreement, would be contrary to section 1003 or would serve to evade its provisions.

Under the provisions of section 22(f) of ANCSA and section 1302(h) of ANILCA, which are applicable only to Alaska, the Secretary of the Interior has the authority to make land exchanges, and to do so without congressional approval, if otherwise proper. Interior is now precluded, however, from exercising its exchange authority for interests in lands within the coastal plain of ANWR without prior approval by act of Congress. In addition, under section 1003 of ANILCA, no production of oil and gas from ANWR is allowed and no leasing or other development leading to production of oil and gas from ANWR is to be undertaken without congressional authorization.

Previous Exchange Efforts Between Interior and Alaskan Native Corporations

Even before the current exchanges were proposed, Alaskan Native corporations had been exploring opportunities to exchange inholdings in wildlife refuges and national parks for interests held by the federal government. In the early 1980s, for example, Koniag, Inc., a Native corporation, began discussions with Interior about exchanging its lands in the Kodiak National Wildlife Refuge for credits it could use to acquire oil and gas interests on Alaska's outer continental shelf. In a letter to Interior, corporate officials indicated that these discussions were motivated by their desire to trade inholdings for more manageable assets that might generate direct benefits to their shareholders. According to the corporation's proxy statement, the House passed a bill authorizing an exchange,[1] but in 1983 Koniag's management changed, and the corporation withdrew its support before the Senate finished consideration.

In another exchange effort, in August 1983 Interior and the Arctic Slope Regional Corporation concluded an agreement (commonly referred to as

[1]H.R. 6471, passed in Sept. 1982.

the Chandler Lake exchange) pursuant to section 1302(h) of ANILCA. Under this agreement, which was administratively approved by Interior, the corporation exchanged 101,000 acres of surface inholdings, including Chandler Lake, within the Gates of the Arctic National Park for the subsurface rights to 92,160 acres within ANWR.

Also in 1983, Interior entered into an exchange agreement with three Native corporations (Cook Inlet Region, Inc.; Calista Corp.; and Sea Lion Corp.) in which Interior exchanged a portion of St. Matthew Island, a wilderness area in the Alaska Maritime National Wildlife Refuge, for various interests the corporations had on land in the Kenai and Yukon Delta National Wildlife Refuges. Under the exchange, the Native corporations would have leased the St. Matthew Island parcel to private companies for construction and operation of support facilities for oil exploration and potential oil development in the Bering Sea. The exchange was challenged in U.S. District Court by a fishermen's association and environmental groups opposed to development of the island.[2] The court found that the Secretary's determination of public interest was in error and overturned the agreement. Specifically, the court found that the exchange would have threatened the wildlife values of St. Matthew Island and that most of the inholdings Interior would have acquired nondevelopment easements for were already protected from development inconsistent with wildlife refuge purposes by section 22(g) of ANCSA.

Initiation of the Proposed Exchanges

Our discussions with Interior officials and our review of the files showed that Interior and Native officials had been discussing the idea of exchanging inholdings in wildlife refuges for oil and gas rights in ANWR's coastal plain for several years. Interior told us that, unlike inholdings in refuges in the other 49 states, Native inholdings in Alaska cannot be acquired through condemnation. Interior told us that this was a factor that led Interior to the negotiating table in 1985 in an effort to acquire Alaskan Native corporation refuge inholdings. Although it is not exactly clear which side initiated the proposed exchanges, we found written evidence that as early as January 1984 officials of Koniag, Inc., and FWS held a discussion about the possibility of such an exchange. The Deputy Chief, Division of Realty, in FWS' Alaska region, however, told us that FWS had originated the idea. The official said that because Native corporations controlled about 15.5 million acres of inholdings within the refuges, FWS was naturally interested in acquiring them. At the same time,

[2]National Audubon Society v. Hodel, 606 F. Supp. 825 (D. Alaska 1984).

Table 2.1: Native Entities Involved in Negotiations for ANWR Land Exchanges

Entity	Native groups involved
Native Lands Group	Two regional corporations: Cook Inlet Region, Inc., and the Aleut Corp. Eleven village corporations: Tyonek Native Corp., Kenai Native Association, Salamatof Native Association, Bethel Native Corp., Sea Lion Corp., Chevak Company Corp., Paimiut Corp., Askinuk Corp., Tununrmiut Rinik Corp., Nanakauiak Yupik Corp., and NIMA Corp.
Doyon, Ltd.	One regional corporation: Doyon, Ltd.
Akhiok-Kaguyak, Inc.	Two former village corporations: Akhiok Native Corp. and Kaguyak Native Corp.
Koniag, Inc.	One regional corporation: Koniag, Inc.
Old Harbor Native Corp.	One village corporation: Old Harbor Native Corp.
Gana-A'Yoo, Ltd.	Successor in interest to the rights of Notaaghleedin, Ltd.; Takathlee-tondin, Inc.; Nik'aghnn, Ltd.; and Mineelghaadza', Ltd.; respectively the village corporations for the communities of Galena, Kaltag, Nulato, and Koyukuk, Alaska.

As of July 6, 1987, Interior and the Native entities had reached agreements in principle on three important conditions: (1) the value, legal description, and acreage that the Native participants proposed to convey to FWS; (2) the basic terms of the proposed exchange agreements; and (3) the process the participants would use to identify and select ANWR tracts. From July 9 through July 11, 1987, participants made their selection of lands on the coastal plain.

Table 2.2 shows the acreage proposed for exchange. In total, the six entities would exchange approximately 896,000 acres of wildlife refuge inholdings for the oil and gas interests of approximately 166,000 acres of the coastal plain. The negotiated price for the inholdings totals about $539 million, as does the price Interior assigned to the oil and gas interests for the lands selected from the coastal plain.

Table 2.2: Acreage and Price of Land to Be Exchanged

(Dollars in millions)

Entity	Inholdings (acres)	Price	Oil and gas interests (acres)
Native Lands Group	298,815	$184	20,898
Doyon, Ltd.	220,545	122	43,367
Ahkiok-Kaguyak, Inc.	115,947	75	19,237
Koniag, Inc.	112,564	77	3,183
Old Harbor Native Corp.	90,355	46	57,679
Gana-A'Yoo, Ltd.	57,397	35	21,914
Total	**895,623**	**$539**	**166,278**

Under the terms of the proposed agreements negotiated between Interior and the participating Native corporations, the exchanges would not take place unless the Congress enacts legislation to open the coastal plain of ANWR to oil and gas exploration and unless it specifically approves the exchange proposals. The Assistant Secretary for Fish and Wildlife and Parks told us that as of March 1988 the exchanges represented proposals within Interior that were being developed for the consideration of the Secretary of the Interior for possible transmission to the Congress for approval.

Interior issued a Draft Legislative Environmental Impact Statement[3] on the proposed exchanges on July 27, 1988.

In the chapters that follow, we examine more closely the lands proposed for exchange on both sides and the prices placed on them. Chapter 3 examines the wildlife refuge inholdings the government would acquire, and chapter 4 discusses the valuation process used by BLM for the oil and gas tracts the Native corporations would receive in exchange.

[3]A Legislative Environmental Impact Statement is the detailed statement required by the National Environmental Policy Act (P.L. 91-190, Jan. 1, 1970) to be included in a recommendation or report on a legislative proposal to the Congress.

Review of Lands to Be Acquired and Prices Negotiated for Them

We found that about 76 percent (681,000 acres) of the approximately 896,000 acres of Native inholdings that would be transferred to Interior ownership under the proposed exchanges would provide limited wildlife and habitat protection benefits. Specifically,

- about 279,000 acres (31 percent of the proposed acquisitions) are rated by FWS as low priority or unsuitable for acquisition,
- about 349,000 acres (39 percent of the proposed acquisitions) rated by FWS as high priority are already protected from uses that are inconsistent with wildlife refuge purposes, and
- about 53,000 acres (6 percent of the proposed acquisitions) rated as high priority are being acquired in such a way that threats to the refuge will not be minimized (according to the refuge manager, the main threat to this land is mineral development, but Interior is not acquiring the subsurface mineral rights to the land).

We also found that Interior used questionable methods to establish the $539 million price for the Native inholdings.

- Fair market value is the only method recognized by the courts for assessing the value of lands to be obtained by the United States. The fair market value of the proposed acquisitions was $90 million, far below the negotiated price of about $539 million. While ANILCA allows the Secretary of the Interior to conduct an exchange of unequal value if it is in the public interest to do so, Interior cannot declare the values to be equal on the basis of public interest considerations.
- The prices developed by Interior as a starting point for negotiations were based, in part, on prices assigned in other land transactions that we believe are inappropriate comparisons to the proposed exchanges.

Process Followed for Identifying Lands to Be Acquired and for Establishing Their Price

The process for identifying the Native lands to be acquired within the wildlife refuges and for establishing their price consisted of the following main steps:

1. In early 1985 the FWS Alaska region classified the Native inholdings in its Alaska refuges according to the relative desirability of acquiring them by using criteria the region developed. Inholdings were categorized as high priority for acquisition, low priority but suitable for acquisition, or unsuitable for acquisition. The Alaska region also started appraising the fair market value of Native inholdings, taking into account both the land's potential for economic development and sale prices for comparable parcels.

2. Using this categorization of inholdings, the Alaska region identified the 60 areas that it desired to acquire, ranking them from first to last in priority. This "list of 60," a term we will use throughout the report to describe the 60 ranked areas, thus reflects the Alaska region's judgment of its highest priorities. FWS circulated this list to interested Native corporations beginning in late 1985 so that the corporations would know which lands were of the greatest interest.

3. The FWS Alaska region officials told us they provided the Native corporations with summaries of FWS' fair market value appraisals of the Natives' inholdings within the wildlife refuges.

4. The Native corporations presented FWS with their proposals, first for the wildlife refuge inholdings they wanted to exchange and subsequently for the price they expected for the land. The corporations indicated that they thought these lands were, for the most part, worth considerably more than FWS' fair market value appraisals, based on studies and appraisals they had prepared for them.

5. In February 1987 the Assistant Secretary for Fish and Wildlife and Parks decided that using fair market value as the measure of worth for these lands did not take into account their true environmental or public interest value as refuge lands. The Assistant Secretary's approach for pricing most of the inholdings being acquired is described in more detail in the next section.

6. Between March 1987 and July 1987, the Assistant Secretary negotiated with representatives of the Native corporations for the specific inholdings to be acquired and the prices to be paid for them.

Concerns About Lands Being Acquired

Agreements reached between Interior and the Native corporations call for Interior to acquire about 896,000 acres of inholdings. These inholdings are within the exterior boundaries of 7 of the 16 national wildlife refuges in Alaska. The acreage ranges from about 33,000 acres in Kenai National Wildlife Refuge to about 264,000 acres in the Kodiak National Wildlife Refuge. (See table 3.1.)

Table 3.1: Lands to Be Acquired in the Proposed Exchanges

Wildlife refuge	Acres to be acquired
Kenai	33,218
Kodiak	264,082[a]
Innoko	125,194
Alaska Maritime	87,634
Yukon Delta	232,747
Nowitna	77,756
Kanuti	74,992
Total	**895,623**

[a]This includes 710 acres that are not within the refuge boundaries.

Refuge managers and other FWS personnel told us that the inholdings to be acquired include some extremely valuable, high-quality wildlife habitat. For example, Interior proposes to acquire a parcel called the Kaiyuh Slough. This area comprises 67,797 acres within the Innoko National Wildlife Refuge. FWS considered it the ninth priority in its list of 60. It has good to excellent habitat for waterfowl nesting and molting, beaver, and marten. It also has a high density of moose.

Although examples of excellent, high-priority lands can be found among the proposed acquisitions, we have a number of concerns about the inholdings Interior is proposing to acquire in the exchanges. Our specific concerns are described in the sections that follow.

Nearly One-Third of Land to Be Acquired Is Categorized as Unsuitable or Low Priority

Of about 896,000 acres of inholdings in the proposed exchange, FWS rated 211,544 acres as low priority but suitable for acquisition and 67,363 acres as unsuited for acquisition. Together, these total 31 percent of the land to be acquired. Here are two examples:

Sitkalidak Island. This island is a semimountainous island of 65,859 acres lying at the southeastern end of Kodiak Island in the Alaska Maritime National Wildlife Refuge. FWS rated the entire island as unsuitable for acquisition. The Alaska Maritime refuge manager said he is not interested in acquiring the island because it has no seabird or marine mammal value. On the other hand, the Kodiak refuge manager said he was interested in acquiring the island, but only if it would ensure acquisition of inholdings he was really interested in on Kodiak Island. Under the proposed exchanges, FWS would receive 54,304 acres of the island from Old Harbor Native Corporation. Sitkalidak Island represents 61

percent of the acreage of the inholdings the corporation proposes to exchange.

In addition to the land being of questionable quality as refuge land, under the exchange proposal the best of it will be retained by the corporation and is potentially subject to development. The corporation will retain 11,555 acres in and around the major bays and valleys. The FWS Alaska region Memorandum of Opinion done for the exchange noted that some of these acres have development potential for recreational homesites and for commercial lodge operations. The memorandum concluded that the corporation "wants to retain the most desirable land, not only in terms of development, but also in terms of hunting, fishing, and access." The attorney representing Old Harbor Native Corporation told us the corporation kept the areas because some of the board members and shareholders like to hunt or fish there and because the board felt shareholders would think that too much of their land was being traded away.

Dall Lake area. The Dall Lake area is located in the Yukon Delta National Wildlife Refuge. It is owned by the Native Lands Group and comprises 107,524 acres, which is 46 percent of all inholdings being acquired in the Yukon Delta National Wildlife Refuge and 12 percent of all inholdings being acquired in the entire exchange proposal. FWS rated the area as low priority but suitable for acquisition. The Yukon Delta refuge manager said he does not know why Interior is proposing to acquire the area and that he would choose instead to acquire additional high-priority coastal areas. The FWS biologist responsible for assessing the suitability of lands for the proposed exchanges described the area as having little value for refuge purposes. The area is not threatened by development; an analysis of the FWS appraisal shows that the land has very little development potential.

Our review of these acquisitions raised questions as to why Interior wanted to acquire these lands rather than lands of higher quality. Interior and FWS officials most directly involved with negotiations said the lands to be acquired represent an acceptable compromise. For example, the Associate Director for FWS Alaska region told us that the final agreements are basically a compromise between what Interior wanted to acquire and what the Native entities wanted to give up. The Assistant Secretary for Fish and Wildlife and Parks, the former FWS Alaska Regional Director, and the FWS Alaska region Associate Director said Interior had to accept a sizeable amount of land deemed low priority or unsuitable in order to acquire some high-priority lands. With regard to

Sitkalidak Island, for example, the Assistant Secretary reported in a memorandum to the file that Old Harbor Native Corporation would not have given up its more desirable inholdings on Kodiak Island unless Interior accepted Sitkalidak Island. Similarly, he said he accepted the Dall Lake area lands out of concern that the two local Native corporations would pull out of the exchange, jeopardizing the acquisition of high-priority Yukon Delta areas offered by other corporations in the Native Lands Group.

We acknowledge that the exchange process involves negotiation and compromise. Our discussions with Native corporation officials indicated, however, that the Assistant Secretary's assumptions about these two parcels had not been tested during negotiations. Old Harbor Native Corporation's attorney said that Sitkalidak Island had not been discussed in such terms and that the corporation's acceptance of the exchange did not depend on whether Sitkalidak Island was included. With regard to the Dall Lake area, Native Lands Group officials said they did not know whether the other corporations would or would not have proceeded with the exchange if Interior had not accepted Dall Lake.

Much High-Priority Land to Be Acquired Is Already Protected From Development

Although the remaining 69 percent of inholdings proposed for acquisition were rated as high priority under FWS' classification system, this percentage alone does not provide a full picture of the merits of acquiring the land. The rating takes into account the value of the acquisitions as refuge land, but it does not take into account the degree to which the acquisitions may already be protected from uses that are inconsistent with wildlife refuge purposes—for example, protected from minerals development or from construction of lodges or other facilities that would increase public use until wildlife was harmed.

Of the 615,955 acres of proposed acquisitions rated as high priority by FWS, 348,779 acres already have protection from such threats. Section 22(g) of ANCSA restricts the types of activities and development on many privately held lands within federal refuges in Alaska.[1] Section 22(g) requires that if a Native corporation is issued a patent (deed) for land in the National Wildlife Refuge System, "the patent shall reserve to the United States the right of first refusal if the land is ever sold by the Village Corporation." The section also requires that the patent "contain a provision that such lands remain subject to the laws and regulations

[1]This provision also applies to 49,987 of the 278,727 acres of low-priority land and lands unsuitable for acquisition already discussed.

governing use and development of such Refuge." In essence, the section provides a "conservation easement" that would restrict use of the land in ways not compatible with the refuge.

Interior's Reasons for Minimizing Section 22(g)'s Protection Do Not Appear Valid

The Assistant Secretary for Fish and Wildlife and Parks told us that Interior did not consider section 22(g) in making decisions about which lands to acquire. He told us that although Interior's Solicitor's Office has not developed a legal opinion on section 22(g), the section provides little protection for the inholdings. Further, he said it has not been fully tested in the courts and the Native groups believe it is overridden by section 103(c) of ANILCA. We believe, however, that section 22(g)'s protection appears firmer than the Assistant Secretary believes to be the case. In the one court case to date, the section was relied on and given effect by the court. We do not believe that ANILCA overrides section 22(g). We also found an Interior Solicitor's Opinion supporting the constitutionality of the section.[2]

- Court decision in support of section 22(g). In 1984 a U.S. district court invalidated an administrative land exchange agreement between Interior and three Alaskan Native corporations. This exchange, discussed previously in chapter 2, would have transferred to the Native corporations a portion of St. Matthew Island, a wilderness area in the Alaska Maritime National Wildlife Refuge, in exchange for various land interests in the Kenai and Yukon Delta National Wildlife Refuges. The court found that most of the lands under the exchange were governed by the requirements of section 22(g) and were thus already protected from incompatible uses. The court ruled that acquiring an interest in such land would not advance national wildlife conservation and management objectives.
- Section 103(c) of ANILCA. ANILCA increased the boundaries of several wildlife refuges and created several new ones. The new refuge boundaries included lands that had already been selected by Native corporations. Section 103(c) provides that Native lands in the expanded areas of the refuge system are not subject to wildlife refuge regulations just because they are within the boundaries of a refuge. Native lands inside the former boundaries of the refuges remain subject to section 22(g), however, if they were conveyed to the corporations with a provision to that effect. The 348,779 acres of inholdings we are questioning were or will be conveyed with such a provision. Thus, we believe that section

[2]Office of the Solicitor memorandum to the Director, Bureau of Sport Fisheries and Wildlife, Sept. 11, 1973.

22(g) is still in effect for them and has not been overridden by section 103(c), contrary to the Assistant Secretary's opinion.

Acquiring lands subject to section 22(g) also runs counter to a recent FWS decision. In March 1988, in an action unrelated to the proposed exchanges, FWS decided not to purchase 176 acres of waterfront property on Olga Bay in the Kodiak National Wildlife Refuge, in part, because the property was subject to section 22(g). The FWS Alaska Regional Director sent a letter to the owner stating that the land was "subject to the laws and regulations governing use and development" of the refuge because it had been conveyed to its former owner, Akhiok Native Corporation, under an interim conveyance with a provision to that effect. The letter stated: "Under that restriction, we would not allow development of the land in a manner that would materially impair the wildlife populations or their habitat in that area." As part of the proposed exchanges, FWS will acquire land in the same area—about 32,000 acres of land owned by Akhiok-Kaguyak, Inc., (a merged corporation of Akhiok Native Corporation and Kaguyak Native Corporation) around Olga Lake and Olga Bay. This land is also subject to section 22(g).

Within the proposed exchanges, we also found that one Native corporation had proposed exchanging land subject to section 22(g) specifically because this provision restricted the corporation's development of the land. According to documents we obtained from Koniag, Inc., the 112,564 acres of Koniag land in the proposed exchange were offered because under section 22(g), they could not be developed. The Governing Board resolution authorizing Koniag's participation in the land exchange contains the phrase, "Whereas, these Bear Refuge lands by virtue of the 22(g) provision are not developable . . ."

Although the full extent of protection afforded by section 22(g) may await further determination by the courts, the extent to which it has been taken into account in other negotiations indicates to us that it should have been a factor in deciding which lands to acquire in the proposed exchanges. Many inholdings are outside the scope of section 22(g), and these inholdings would appear to be at greater risk of being developed and being used in ways detrimental to the refuge.

Remaining High-Priority Acquisitions Would Have Limited Effect

Of the about 896,000 acres of proposed acquisitions, 267,176 acres, or 30 percent of the total, were rated as high-priority acquisitions and were not subject to section 22(g). Our major concern is that such a low percentage of the proposed acquisitions is high-priority acquisitions that are unprotected by section 22(g). However, we are also concerned about one of the acquisitions that meets these criteria. Our examination showed that acquisition of 53,040 of these acres may not eliminate the major potential threat to the acreage.

The acreage involved in this acquisition is within the Kanuti National Wildlife Refuge. It is a high-priority inholding for the refuge—a high-use area for caribou, moose, and black and brown bear. Doyon, Ltd., owns this inholding, known officially as the Sithylemenkat-Tokusatat-quaten Lakes Complex. According to the refuge manager, this inholding also contains known deposits of such minerals as nickel, chromium, and tin. However, the exchanges do not call for transfer of the potentially threatened subsurface to the government.

There are differences of opinion within Interior regarding potential mineral development threats and the importance of acquiring subsurface rights in this area. The Assistant Secretary for Fish and Wildlife and Parks told us that although the area has potential for development, the subsurface rights are not worth acquiring now. He told us he thought it would be uneconomical to mine the area. In addition, Interior told us that Doyon, Ltd., did agree to provide Interior with the opportunity for consultation before any subsurface development. We question the adequacy of an "opportunity for consultation" as a future protection against mineral development, particularly since FWS reported that the area has high potential for mineral development and that mining poses a threat to water quality. The refuge manager told us that acquiring only the surface rights would not eliminate the threat to the area or enhance management of the refuge.

The effect of not acquiring the subsurface rights may not be known for some time. Doyon officials said their chemical analysis of rocks in the area led them to conclude that the area has no major economic development potential. They also said, however, that they are not interested in exchanging the subsurface rights because developable minerals may be found in the future.

Few of FWS' Most Desired Acquisitions Would Be Obtained

We analyzed the proposed acquisitions to determine how closely they relate to the inholdings in FWS' 1985 list of 60 most desirable acquisitions. These 60 areas contain 10,543,100 acres of which FWS would acquire 615,955 acres (or 5.8 percent) in the proposed exchanges. Table 3.2 shows the 10 highest-rated areas on the list, the inholding acreage contained in each, and the acreage that would be acquired. In all, the 10 contain approximately 2 million acres of inholdings. Of these acres, only about 182,000, or about 9 percent, would be acquired. In 5 of these 10 areas, no acreage would be acquired.

Table 3.2: Proposed Acquisitions in FWS' 10 Most Desired Areas

Rank	Description of area	Total inholding acres	Acres in exchange
1	Tustumena/Skilak Lake area	367,000[a]	7,691
2	Moose/Chickaloon River area	398,000[a]	0
3	Karluk Lake and River	45,000	37,678
4	Olga Bay/Station Lakes/ Sakhoi Lagoon	73,000	43,020
5	Swanson River area	209,000[a]	25,527
6	Big John area	29,000	0
7	Dall River area	283,000	0
8	Porcupine/Black River area	590,000	0
9	Kaiyuh Slough	69,000	67,797
10	Tenmile Lake area	12,000	0
Total		**2,075,000**	**181,713**

[a]According to an FWS official, the lands in these areas include parcels that have been selected by the Native corporations but have not yet been adjudicated by BLM as being valid selections. Thus, the Native corporations may not actually acquire title to some of these lands.

The Yukon Flats National Wildlife Refuge illustrates why these areas are considered such important acquisitions. FWS reported that 75 percent of the most productive wetland habitat in the refuge is within the inholdings of several Native corporations. According to a Doyon, Ltd., official, the corporation has approximately 1 million acres of inholdings in the refuge. Two areas within this refuge—the Dall River area[3] and the Porcupine/Black River area—are among FWS' 10 highest priorities. An FWS biologist responsible for assessing the suitability of lands for the proposed exchanges singled out Yukon Flats as the first refuge in Alaska in which he believes FWS should acquire inholdings.

[3]This area should not be confused with Dall Lake, a parcel discussed earlier. It is a totally separate area in another refuge.

Acquisition of inholdings in this refuge is important not only because they are productive wetland habitat but also because they may be subject to oil and gas development. Doyon officials told us they did not offer any of their lands in the refuge because of, in part, the high potential for oil and gas development. According to a Doyon official, in 1987 the corporation and several village corporations entered into agreements that will allow two oil companies to explore for oil in the Yukon Flats National Wildlife Refuge.

Questionable Prices Have Been Set for Inholdings That Would Be Acquired

Under the proposed exchanges, the total price for the inholdings being acquired is $539 million. Table 3.3 shows the acreage that would be acquired in each of the seven refuges, the values determined for the acreage through FWS' fair market valuations, and the prices negotiated by the Assistant Secretary for Fish and Wildlife and Parks. The negotiated price of $539 million is far above the fair market value of about $90 million for the inholdings being acquired as calculated by FWS based on its appraisals of the areas. On a per-acre basis, the fair market value is approximately $100, while the negotiated price averages about $600. On an individual refuge basis, the negotiated prices range from about 2 to 14 times the fair market value.

Table 3.3: Fair Market Value and Negotiated Price of Inholdings, by Refuge

National wildlife refuge	Acres in exchange	Fair market value	Negotiated price
Kenai	33,218	$15,603,353	$30,009,087
Kodiak	264,082	35,124,270	167,354,257
Innoko	125,194	7,642,565	78,896,015
Alaska Maritime	87,634	3,676,815	52,987,716
Yukon Delta	232,747	16,747,220	131,987,184
Nowitna	77,756	5,598,432	47,431,160
Kanuti	74,992	5,399,424	30,400,320
Total	**895,623**	**$89,792,079**	**$539,065,739**
Average dollars per acre		$100	$602

According to our analysis of the appraisals, the average fair market value of $100 an acre for the Native inholdings reflects the isolated nature of the land in most of the refuges and the fact that most of it cannot be developed because of its terrain (for example, much of it is mountains or wetland) or because one or more sections of ANCSA restricts its development. According to the Assistant Secretary for Fish and Wildlife and Parks, using fair market value as the measure of worth for

these lands does not take into account their true environmental or public interest value. The Assistant Secretary told us he decided to use fair market value as the basis for establishing price only where he considered that a bona fide real estate market existed—that is, where a road system existed and where commercial sales were sufficient to provide comparisons. Only one refuge, Kenai, had inholdings that were considered by the Assistant Secretary to meet his criteria. For the inholdings in other refuges, the Assistant Secretary developed another pricing approach, which can be summarized as follows:

- Inholdings offered for exchange were evaluated by FWS' Alaska region and the Assistant Secretary and placed into one of four classes. (See table 3.4.) These classifications reflected the judgments of the FWS Alaska regional staff and refuge managers as to the relative significance of the inholdings. Class I lands, for example, were considered to have resource values and public benefits of "world class significance." FWS regional officials said that they did not develop any criteria (other than the definitions shown in table 3.4) for making these decisions, nor could they provide documentation supporting how the classification decisions were made.
- Using prices applied to refuge lands acquired in other FWS and Alaska transactions, the Assistant Secretary established a starting-point price for each class of inholdings. These prices ranged from $700 per acre for Class I lands to $150 per acre for Class IV lands. The Assistant Secretary told us that the $150-to-$700-per-acre range of prices he assigned to the inholdings was meant to provide sufficient incentive for the Native corporations to exchange higher quality lands.
- The starting values were discounted if the Native corporations retained an access easement for subsistence use[4] and if the land was subject to the restrictions of section 22(g) of ANCSA.
- During negotiations with the Native corporations, the Assistant Secretary increased his starting prices for some inholdings by creating subclasses within the four classes. The subcategories were given such names as "premium Class I" or "superlative Class IV." For example, some parcels were redesignated superlative Class I and were increased in price from $700 per acre to $1,000 per acre. Similarly, in some cases Class IV lands were redesignated superlative Class IV and were increased in price from the initial $150 per acre to $300 per acre. The

[4]"Subsistence use" means the customary and traditional use by rural Alaska residents of wild, renewable resources for direct personal or family consumption such as food, shelter, fuel, clothing, tools, or transportation.

Assistant Secretary provided no criteria or documentation supporting how such classification decisions were made.

Table 3.4: Classes and Starting-Point Prices Established for Proposed Acquisitions

Class	Description	Price per acre
Class I	Resource values/public benefits are of world class significance and/or land acquisition would be highly responsive to recognized resource and public needs and the mission/objectives of the FWS and refuge system.	$700
Class II	Resource values/public benefits are of international significance and/or land acquisition would be very responsive to recognized resource and public needs and the mission/objectives of the FWS and refuge system.	$600
Class III	Resource values/public benefits are of national significance and/or land acquisition would be responsive to potential resource and public needs and the mission of the FWS and refuge system.	$400
Class IV	Resource values/public benefits are of regional significance and/or acquisition would be responsive to potential resource and public needs and the mission/objectives of the refuge system.	$150

The Assistant Secretary said that a Legislative Environmental Impact Statement, a draft of which was issued on July 27, 1988, will provide a formal, if brief, administrative record of the negotiations. In commenting on a draft of this report, Interior said that the Legislative Environmental Impact Statement is only part of the administrative record of negotiations. However, at the time of our review, the only available records of his initial valuation of the inholdings and of subsequent negotiations of exchange prices were in correspondence files at FWS' Alaska regional office and in some correspondence files at Interior headquarters. We found that these files provided an overall picture of the negotiations (for example, dates that actions were taken and copies of documents) but did not always fully explain how the final exchange prices were arrived at.

Our analysis of the prices and the process by which they were derived raised a number of concerns. These are discussed in the sections that follow.

Inholdings to Be Acquired Should Be Priced at Fair Market Value

On the basis of our review of court decisions and Interior appraisal guidelines, we believe that fair market value is the only recognized method for determining the price of lands to be obtained by the United States. Consequently, we believe that the price of lands offered by the Native corporations should be based on fair market value.

This does not mean that because the values are unequal, the proposed exchanges cannot be conducted. ANILCA allows the Secretary of the Interior to conduct an exchange of unequal value if it is in the public's interest to do so. However, the disclosure of the fair market values would be appropriate under the circumstances. The law does not allow the Secretary to declare the values to be equal on the basis of public interest considerations. Public interest is a separate criterion that cannot easily be assigned a dollar value. In this instance, for example, the Secretary can decide to exchange inholdings with a fair market value of $90 million for oil and gas interests with an estimated value of $539 million, but he cannot assign a value of $539 million to the inholdings.

Interior has referred to this exchange as an "equal-value-for-equal-value" exchange and as a "comparable-value" exchange. Interior has not made it clear, however, whether it intends to present the proposal to the Congress as an equal-value exchange or a public-interest exchange. In March 1988 the Assistant Secretary for Fish and Wildlife and Parks told us he had not made a final recommendation on this matter. Our reading of the law indicates that if the exchange is presented as an equal-value exchange, Interior cannot exchange more in oil and gas interests in ANWR than the fair market value of the inholdings—$90 million. As a public-interest exchange, $539 million worth of oil and gas interests could be traded for $90 million worth of Native inholdings. However, if the Secretary chooses to enter into a public-interest exchange, we believe he should disclose to the Congress the actual fair market value of the lands that would be acquired and justify why the terms of the exchange are in the public's interest.

Land Transactions Used as Comparisons Do Not Appear to Be Appropriate

The Assistant Secretary based his starting prices for negotiation primarily on what he considered to be comparable transactions in other states and on congressional precedents from recent land transactions in Alaska. He cited as comparables 121 transactions during 1986 for migratory bird conservation lands in which Interior agencies paid an average of $665 per acre and 45 transactions from the Land and Water Conservation Fund for which Interior paid an average of $1,227 per acre. These transactions involved lands in other states where, according

to FWS Alaska region's realty division officials, land values are generally higher because of higher demand. He also cited five federal land transactions in Alaska in which the purchase price or exchange value ranged from $635 to $1,123 per acre. On the basis of these transactions, he said, he assigned a starting price of $700 per acre for inholdings rated Class I.

We examined the transactions and found they involved circumstances substantially different from those associated with the proposed exchanges. Accordingly, we believe they were inappropriate as a basis for pricing the proposed acquisitions.

Four of the Alaska transactions were of questionable comparability because one contained timber resources; one was a small, prime piece of acreage in a national park; one was based on land values in the Cook Inlet Basin area (to the west of Anchorage, Alaska); and one was based on a rough estimate of fair market value, which a subsequent FWS appraisal showed to be four times the actual fair market value. In our view, these examples are not valid comparisons. They are, in fact, the result of applying the fair market value to situations substantially different from the proposed exchanges.

The remaining transaction involved land priced, in part, to compensate for past injustices. This was an acquisition of 8,247 acres of cliffs in the Pribilof Islands for $635 an acre ($767 in 1987 dollars). Although FWS officials told us that a record no longer existed showing how this price was established, they told us that the price was as much a social settlement meant to compensate the Natives for past injustices as it was for acquisition of the land.

Examination of Final Negotiated Prices Raises Additional Concerns

In two instances, our review of the final negotiated prices raised additional concerns about the merits of the agreements that had been made.

Yukon Delta parcels. In the Yukon Delta National Wildlife Refuge, after Interior had substantially increased the price of low-priority land during negotiations, the Native corporations added about 33,000 more acres of low-priority land to the exchange agreement. Negotiations for inholdings in this refuge, which include the low-priority Dall Lake area discussed earlier, began with the two sides far apart in the price assigned to the land. For the low-priority land, the Assistant Secretary's opening position was $150 an acre, while the Native Lands Group's opening position was $600 an acre. The Assistant Secretary said it became clear to him that unless Interior offered more than $150 an acre for these lands,

the village corporations that owned them would drop out of the exchange and the entire Yukon Delta exchange would fall apart. (As we pointed out in our earlier discussion of the Dall Lake area, this assumption was never actually tested during negotiations.)

The Assistant Secretary told us that to deal with the perceived danger to the exchange, he negotiated an exchange price of $301 an acre for these Class IV lands. Further, in their tentative agreement with Interior, the two Native corporations offering this land added about 33,000 acres of low-priority lands to the original 75,000 acres offered. This resulted in the government's obtaining more land of limited worth as refuge land and paying a high price for it.

Russian/Kenai River site. This site is located at the convergence of two rivers in the Kenai National Wildlife Refuge. Located not far from Anchorage, it is part of a highly popular recreational fishing area. The Native Lands Group offered Interior 1,600 acres of this site for $14.6 million, or $9,125 per acre. During negotiations, the size of the parcel was reduced from 1,600 acres to 526, because the original proposal, according to an FWS official, included lands that were within a national forest rather than within the wildlife refuge. The two parties negotiated a price of $5.25 million, or $9,981 an acre, for this smaller parcel.

The Assistant Secretary said that Interior rejected all efforts by the Native Lands Group to secure a higher price and that the Native Lands Group eventually acquiesced. The $9,981 an acre, however, is even more than the amount the Native Lands Group initially asked for. This occurred because the Assistant Secretary gave the 526-acre parcel the full $4.5-million price that originally had been assigned to all 1,600 acres, even though much of the acreage reduction included lands that were adjacent to the rivers and a highway, and, as such, were substantially more valuable than more remote acreage.

Data Limitations Make Oil and Gas Tract Values Highly Uncertain

Under the proposed exchanges, the Native corporations were allowed to select oil and gas tracts in ANWR with a total estimated value equal to the price of the inholdings they were exchanging. The values of the individual tracts in ANWR were established by BLM. Interior and the corporations did not negotiate the prices of these tracts, nor did the corporations competitively bid against one another for the tracts, except in one case in which two of the corporations selected the same tract.

The tract values established by BLM are estimates that were based on limited information about the actual oil and gas potential of ANWR. The geologic information BLM used was so limited, in fact, that the estimated tract values are highly uncertain. The uncertainty in BLM's tract valuation process was compounded by the uncertainty in the economic data (such as forecasting what oil prices will be far into the future) used to estimate tract values for the proposed exchanges. The effect is that although BLM placed an estimated value on the exchange tracts of $539 million, their actual value could vary by hundreds of millions of dollars.

When leasing federal lands for prospective oil and gas development, the government generally (1) allows the marketplace to price the tracts through competitive bidding and (2) retains a continuing monetary interest in any future oil or gas production through a royalty provision. Under the proposed land exchanges, however, Interior neither required the Native corporations to bid against each other competitively for the tracts nor retained a continuing monetary interest in any future oil or gas production from the tracts through a royalty provision.

Overview of the ANWR Tract Valuation Process

Section 1002 of ANILCA required Interior to prepare a report to the Congress that (1) identified areas on the coastal plain of ANWR with oil and gas production potential, (2) estimated the volume of the oil and gas, and (3) recommended whether the Congress should permit further oil exploration and development in ANWR. Section 1002 also required that Interior use techniques other than drilling wells to evaluate the oil and gas production potential of ANWR. Interior completed the report (commonly referred to as the 1002 report) in April 1987, several months before the Native corporations selected the ANWR tracts they would receive under the proposed exchanges.

In conducting the study for the report, USGS, BLM, and oil company personnel collected data on the ANWR coastal plain during the period 1983 to 1985. This effort included the collection of, among other types of information, seismic data, which is produced by generating shock waves

that travel through individual rock layers underground and are reflected and refracted back to the surface. A total of 1,336 line miles of seismic data were collected in ANWR in a criss-cross pattern spaced so the lines were in a grid averaging 3 miles by 6 miles apart.

Using the data collected, BLM mapped 26 prospects[1] with oil and gas production potential underlying the 1002 lands.[2] All but one of the prospects were mapped in rocks believed to be 360 million years old (Middle Paleozoic age) or older. BLM also identified a large area of younger rocks ranging in suspected age from 2 to 100 million years old (Tertiary to Upper Mesozoic age) with potential for oil accumulations but which BLM staff believe is less likely to contain economic amounts of oil than older layers.[3] BLM used the information that had been obtained in the 1002 study process to establish the values of specific oil and gas tracts overlying the 26 prospects for the proposed exchanges with the Native corporations.

Unlike the prices of the refuge inholdings discussed in chapter 3, Interior and the Native corporations did not negotiate the price of the ANWR oil and gas lands that the Native corporations would receive under the proposed exchanges. Instead, BLM estimated the tract values, using a process similar to that which it has previously used to value federal lands for oil and gas leasing. In lease sales, the amount of revenue the government realizes can differ from estimated values since competitive bidding is generally used to set the prices of tracts. For the proposed exchanges, however, Interior agreed with the Native corporations that the corporations would not competitively bid against one another for tracts. Instead, the tracts would be traded to the corporations at the BLM-established values except for some situations in which two or more corporations selected the same tract. Only one conflict in the exchange process was resolved by bidding.

[1]Commercial deposits of oil and gas are found underground in the pore spaces of various kinds of rocks. Water, gas, and oil are arranged in layers, with gas filling the pores at the highest levels of the container, oil the middle level, and water the bottom level. Such a container is called a trap. One or more traps may be found in several of the prospects mapped by BLM.

[2]Detailed discussions of the petroleum potential of ANWR can be found in chapter 3 of Interior's April 1987 Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment, or the U.S. Geological Survey's Petroleum Geology of the Northern Part of the Arctic National Wildlife Refuge, Northeastern Alaska, Bulletin 1778 (1987).

[3]Rocks of intermediate age between the oldest and youngest rock layers (360 to 100 million years ago) are believed by Interior to have large oil production potential for ANWR. The extent to which they are present in ANWR is uncertain, particularly in eastern ANWR. For tract evaluation purposes, BLM assumed that they were present.

To estimate the value of oil and gas tracts for lease sales, BLM commonly uses one of two approaches: a comparable sales approach or an income approach. Under a comparable sales approach, BLM bases its estimated tract values on comparable lease prices or sales in public and private markets for similar tracts. The income method, also called a discounted cash flow method, estimates the value of tracts on the basis of how much income an oil company would receive by producing oil or gas from the tract.

According to the BLM Assistant District Manager for Minerals in Anchorage, since Interior, the state of Alaska, and private landholders had not leased or sold any tracts comparable to ANWR, BLM used the income approach to value the tracts for the proposed exchange. To estimate the net income that would be realized from each tract in the proposed exchanges, BLM used computer models to estimate the amount of oil in ANWR and then to determine the value of the right to explore for and produce oil on the individual tracts.

BLM's economic evaluation model combined the geologic inputs from the 1002 report, updated to be consistent with the most current information at the time BLM estimated the tract values, with economic inputs to arrive at individual tract values. BLM's economic analysis used a discounted cash flow model to convert future revenues and costs associated with the production of ANWR's expected oil resources to present (1986) values. The discounting was necessary because it would take several years of exploration and development before any oil could be sold from the tracts and most of the revenues generated from the sale of this oil would occur after the year 2000. As a result, BLM discounted the value of all future costs and revenues from producing oil on the tracts to convert them to a current sale value for each tract.

To estimate tract values, the model calculated the annual costs and revenues associated with developing oil and gas on each prospect, discounted these costs and revenues to the present (1986) to provide an estimate of the current expected value of the prospect, and allocated the expected value from each prospect to individual tracts. Specifically, the model contains inputs for the following economic factors:

- the price of oil in the year 2000;
- the real growth rate in the price of oil after the year 2000;
- a discount rate to convert future costs and revenues to present values;
- exploration, development drilling, production facility, operating, depreciation, transportation, and reclamation costs; and

- state and federal taxes.

Analyses of potential oil and gas production (particularly in a frontier area) routinely address the issue of uncertainty. Uncertainty exists because the geological and economic data required for this type of analysis are both limited and largely unknown. To deal with the problem of uncertainty, BLM used a generally accepted "Monte Carlo" random sampling technique for such factors as the amount of recoverable oil, price of oil in the year 2000, and drilling and production costs. However, other variables, such as the real growth rate of the oil price, discount rate, transportation costs, and production rates, were input as single values (fixed point estimates).

The Monte Carlo technique is one approach to handling the problem of uncertainty in input values. Rather than using one value (point estimate) for an uncertain input variable, a range of values and a probability distribution is assumed for each input. For example, BLM assumed that the oil price in the year 2000 would be (with equal probability) between $22 and $42 in real 1986 dollars, and allowed the computer model to randomly select any value for this factor that was within the $22 to $42 range. The computer model then calculated the value of each prospect 1,000 times (iterations). In each iteration, the model selected a single value from a range of values that had been input into the model for the amount of recoverable oil, the price of oil in the year 2000, and drilling and production costs. This process culminated with the model arriving at an average expected value for each prospect based on the assumption that there was economically recoverable oil in the prospect. The final value assigned to each prospect was first calculated by averaging the value of the prospect if oil was found and the exploratory well costs if no oil was found, with both cases weighted by their respective probabilities. Then the total dollar value was distributed among the tracts according to the amount of the prospect overlain by each tract.

The final values for the tracts in the proposed exchange do not include any value for natural gas that may ultimately be produced. BLM concluded that it would be uneconomical to produce natural gas in ANWR on the basis that (1) ANWR lacks a system that can transport the gas to markets at competitive prices and (2) Prudhoe Bay gas would be marketed and depleted before ANWR gas would be marketed, so any gas development would occur in the distant future and would not justify economic consideration in the analysis.

Geologic Analysis Based on Limited Data

BLM's valuation of the tracts that would be traded to Native corporations in the proposed exchange is highly sensitive to BLM's assumptions about oil resources in ANWR. BLM relied heavily on seismic and other survey information to establish tract values. However, the seismic data BLM used in its geologic analysis was insufficiently detailed to estimate the oil potential of the individual tracts involved in the proposed exchange with a high degree of certainty. Data from wells are the best source of information for estimating the petroleum potential of unexploited areas. Although BLM had no well data from within ANWR and was prohibited from drilling wells, it did have some well data from outside ANWR that it used in evaluating the oil potential of the refuge. BLM also had information on surface and near-surface rock and oil samples to analyze. One of the Native corporations' oil company affiliates, however, did have well data from an ANWR test well.

We also found that BLM did not map in detail potential oil-bearing rock layers and prospects identified by oil companies and the state of Alaska. As a result, we believe it is possible that BLM may have undervalued some of the tracts in the proposed exchange.

Seismic Data Insufficient to Establish Tract Values With Certainty

Data from exploratory wells provide valuable information in estimating the oil-bearing potential of unexploited oil and gas lands. In addition to well data, geologists use seismic and other survey data to assess an area's oil and gas potential. Accordingly, BLM relied heavily on seismic and other survey information, which it had obtained during Interior's overall assessment of ANWR's oil potential for the 1002 study, to establish the values at which oil and gas tracts would be traded to Native corporations under the proposed exchanges.

Geologists collect seismic data along relatively straight lines on the ground, with the lines intersecting to form a grid. The smaller the distance between the data collection lines (resulting in a tighter grid), the more detailed, and better, the coverage. (For example, a 1-by-1-mile grid provides more detailed data than a 3-by-3-mile grid.) BLM's previous Chief, Division of Minerals, Alaska State Office, supported a 3-by-3-mile grid for the section 1002 overall assessment of ANWR. A USGS summary of the 1983-84 applications to conduct seismic work at ANWR showed that of the nine companies submitting requests for that year's work, six had proposed grids of 2 by 3 miles or closer (2 by 2 miles or 1 by 1 mile), two did not specify a grid size, and one company proposed a 4-by-4-mile grid. The closer spaced grids were ruled out by Interior for the 1002

study to minimize surface environmental disturbance in the refuge. Ultimately, a 3-by-6-mile grid was developed for the limited (nonleasing) purposes of the report to the Congress.

To evaluate the appropriateness of using a 3-by-6-mile seismic grid to estimate values for the proposed exchanges, we examined BLM guidelines on oil and gas tract evaluations. We found that BLM has no nationwide standards for rating the adequacy of geophysical data, including seismic grid spacing. Instead, site-specific standards may be used.

For the ANWR exchange evaluation, BLM used a series of score sheets to rate the accuracy of geophysical prospect mapping. In essence, the score sheets gave a numerical value that reflected the likelihood that prospects were mapped accurately—the better the geophysical coverage and data quality, the higher the chance that the prospect was mapped accurately. Although the document does not use descriptive text to state the adequacy or inadequacy of the existing geophysical data grid, the chance that all of BLM's prospects were mapped accurately averaged less than 28 percent for the 26 mapped prospects. Given the extremely low ratings for some prospects and the fact that BLM claimed it could not map prospects in the Tertiary- and Upper Mesozoic-age rocks, we are not convinced that the grid was adequate to map prospects accurately or to reliably determine specific tract values. BLM did take into consideration the wide spacing of data lines in its tract economic evaluations by increasing the risk of not finding oil in each prospect. The net effect of increasing prospect risk is to reduce the economic value of tracts as mapped.

In evaluating the sufficiency of the existing seismic data, we spoke with a U.S. Minerals Management Service (MMS) official about seismic grid sizes. (MMS leases federal offshore oil tracts in Alaska.) In estimating pre-sale tract values on the outer continental shelf of Alaska, MMS's Regional Supervisor for Resource Evaluation considers a 2-by-2-mile grid appropriate. For the Alaska offshore area, oil-bearing prospects must contain significantly larger amounts of oil than onshore prospects to be economically developable given the extreme costs of offshore operations. In our opinion, using wider-spaced data to evaluate onshore tracts, where it would be economical to develop smaller prospects containing less oil, adds greater uncertainty to tract mapping and values.

Thus, by comparison, in a situation that would normally call for more detailed data than MMS uses in offshore Alaska, BLM actually used less detailed data to place values on the tracts for the proposed exchanges,

thereby increasing the uncertainty of the BLM values. The average grid-line spacing of 3 by 6 miles, which BLM used to establish the values for the tracts, could cause errors in (1) mapping the size and continuity of faults, which, in many cases, were mapped by BLM as prospect boundaries, (2) determining the most valuable parts of prospects, and (3) mapping the closure of prospects to trap oil and gas.

According to Interior's 1002 study, geophysical data, such as seismic data, provide clues as to the existence and location of possible traps and their general dimensions, but geologic data on the quality of potential oil-bearing rocks are usually absent or limited. The report also states that an exact prediction of resource quantities under such conditions is impossible because the uncertainties in the input data translate to uncertainties in the answers.

Because BLM's tract valuation model is extremely sensitive to oil resource estimates, and because of the limitations of the geophysical data available to it, BLM's estimated tract values are highly uncertain.

ANWR Well Data Not Available

Wells are the best data source for understanding the age, depth, thickness, types, porosity and permeability (interconnectivity of pores), and oil-bearing characteristics of underground rocks. BLM had no well data from within ANWR to use in its analysis of either the overall resource potential of the ANWR coastal plain or the values of the individual tracts for the proposed exchanges.

Two oil companies had drilled one well on a Native corporation inholding in ANWR at the time BLM estimated the tract values. Under the terms of a 1983 land exchange, Interior did not retain access to the data from the well. As a result, important data that would have been valuable in assessing the resource potential of both the ANWR coastal plain and the individual tracts involved in the proposed exchange were unavailable to Interior. The owners of this information filed suit to prevent public disclosure of the information by Alaska State officials, stating that they would lose substantial profits if the well data were made public. They also said that with the exclusive use of the data, they are in a better competitive position to decide whether and how much to bid in state and federal oil and gas lease sales in the vicinity of the test well. The court granted a preliminary injunction, which prevents disclosure pending trial of the case. Interior internal documents on this subject pointed out that knowledge of the results of this test well may substantially alter estimated reserve values.

A group of oil companies will finish drilling another well on a tract just offshore of ANWR in 1988. The companies obtained the tract in a previous outer continental shelf lease sale held by MMS. An MMS official told us that BLM has requested access to the data from this test well, which will become available to the federal government when the well is completed—likely in 1988. We believe this test well data will improve BLM's (1) understanding of the geology and oil-bearing potential of the eastern part of ANWR and (2) ability to estimate the value of some of the tracts in the proposed exchanges.

BLM May Have Underestimated the Petroleum Potential of Some Tracts

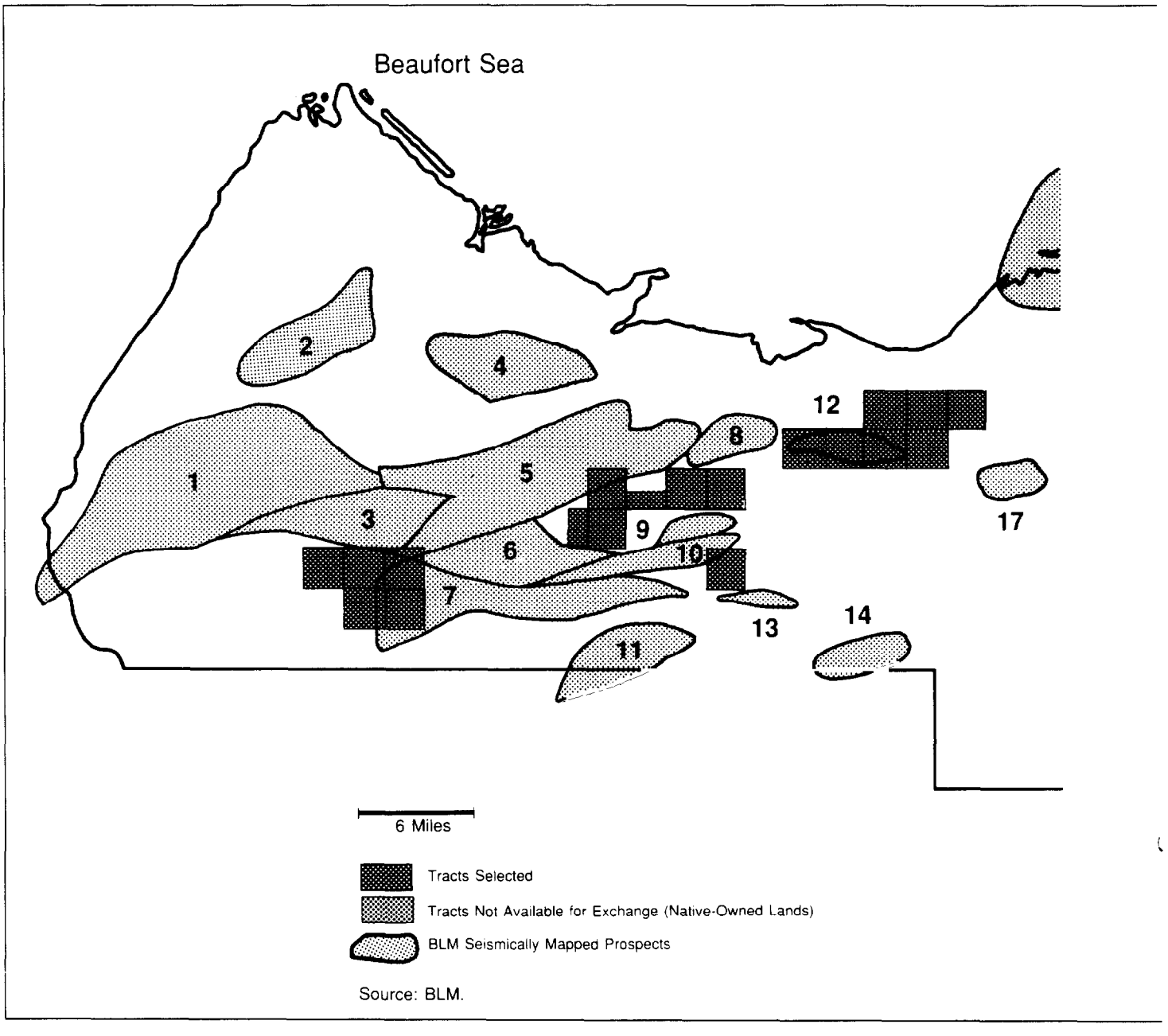
In its overall assessment of the oil resource potential of ANWR, Interior identified 26 prospects as having the highest potential for oil discoveries. For the proposed exchanges, which used the same data, BLM placed the highest values on those individual tracts of land that overlie these prospects. To identify these 26 prospects, BLM concentrated almost exclusively on mapping some of the oldest rock layers in ANWR—the rock layers of Middle Paleozoic age, believed to have been deposited over 360 million years ago. In essence, BLM's geologists believe that if recoverable quantities of oil exist in ANWR, they are most likely in rocks of this age.[4] In valuing tracts overlying the 26 mapped prospects, BLM used USGS estimates of oil contained in Paleozoic as well as overlying younger rock layers (of Tertiary and Upper Mesozoic age, believed to have been deposited between 2 million and 100 million years ago) and estimated how much oil was in each prospect.

The rock layers that were deposited more recently (of Tertiary and Upper Mesozoic age) may also have oil potential. However, BLM geologists told us that they believed the Tertiary-and Upper Mesozoic-age rocks were less likely to contain economic amounts of oil than the older rocks. For exchange purposes, if a tract selected by a Native corporation did not overlie one of the 26 BLM-identified prospects, BLM placed a minimum value of $300 per acre on the tract, or about 1 percent of the value of the highest-priced tracts in the exchange. Of the 73 tracts selected by the corporations, 29 do not overlie any of the BLM-identified prospects but do overlie Tertiary and Upper Mesozoic rock layers and would be traded to the Native corporations for the minimum value under the proposed exchanges. (See figs. 4.1 and 4.2.) BLM staff told us that they

[4]Because of the lack of confirming well data and the variable quality of geophysical data, BLM staff were uncertain in many areas if the rock layers they were mapping were of Middle Paleozoic or Upper Mesozoic age (100 million years ago) and older. Rocks of Upper Mesozoic age and older produce all of the oil of the Prudhoe Bay-Kuparuk River fields.

believed many of the tracts selected not overlying prospects were chosen because of their lower dollar value and the fact that they overlie the trend of Tertiary- and Upper Mesozoic-age rocks.

Figure 4.1: Tracts Selected and BLM Seismically Mapped Prospects



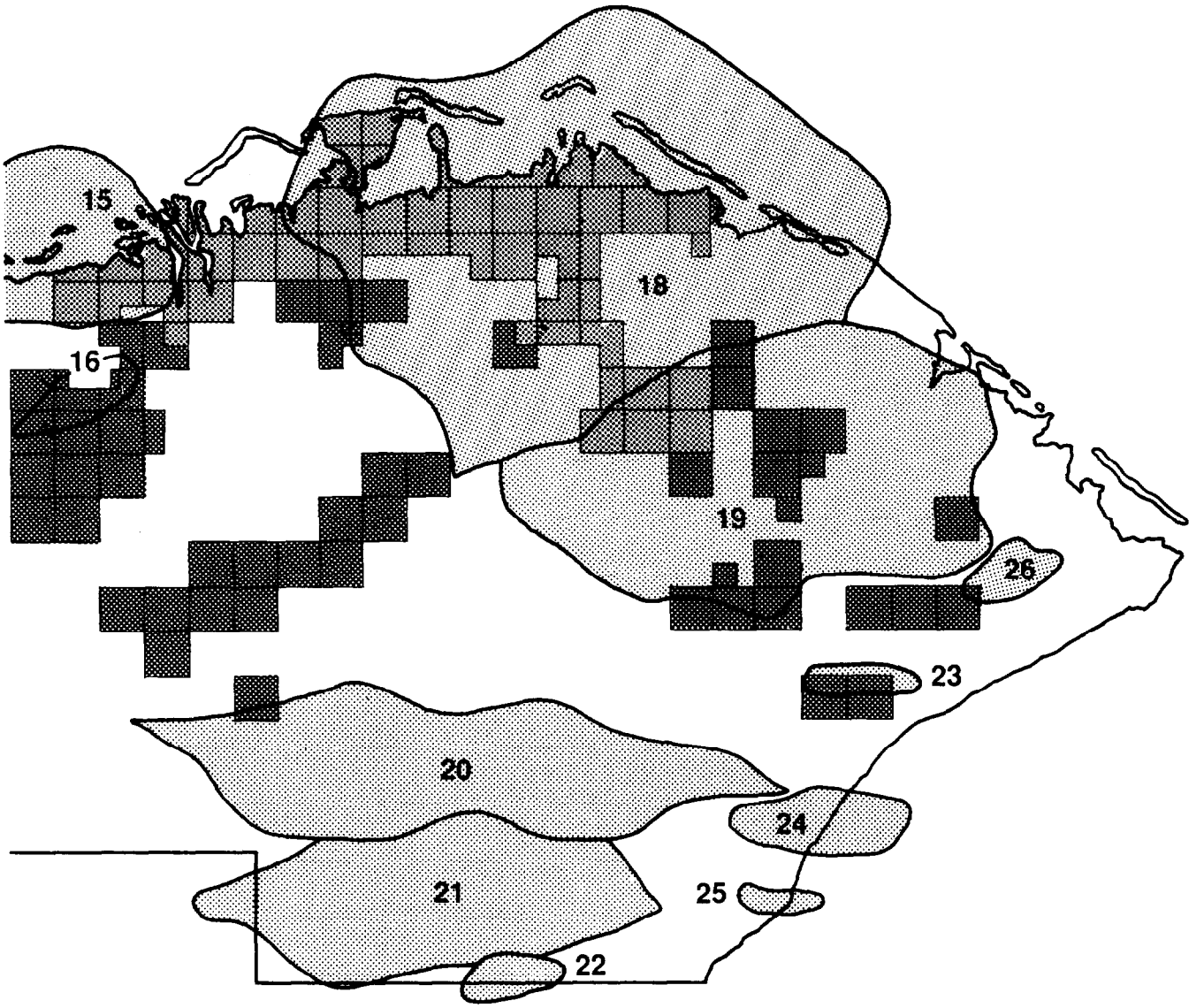

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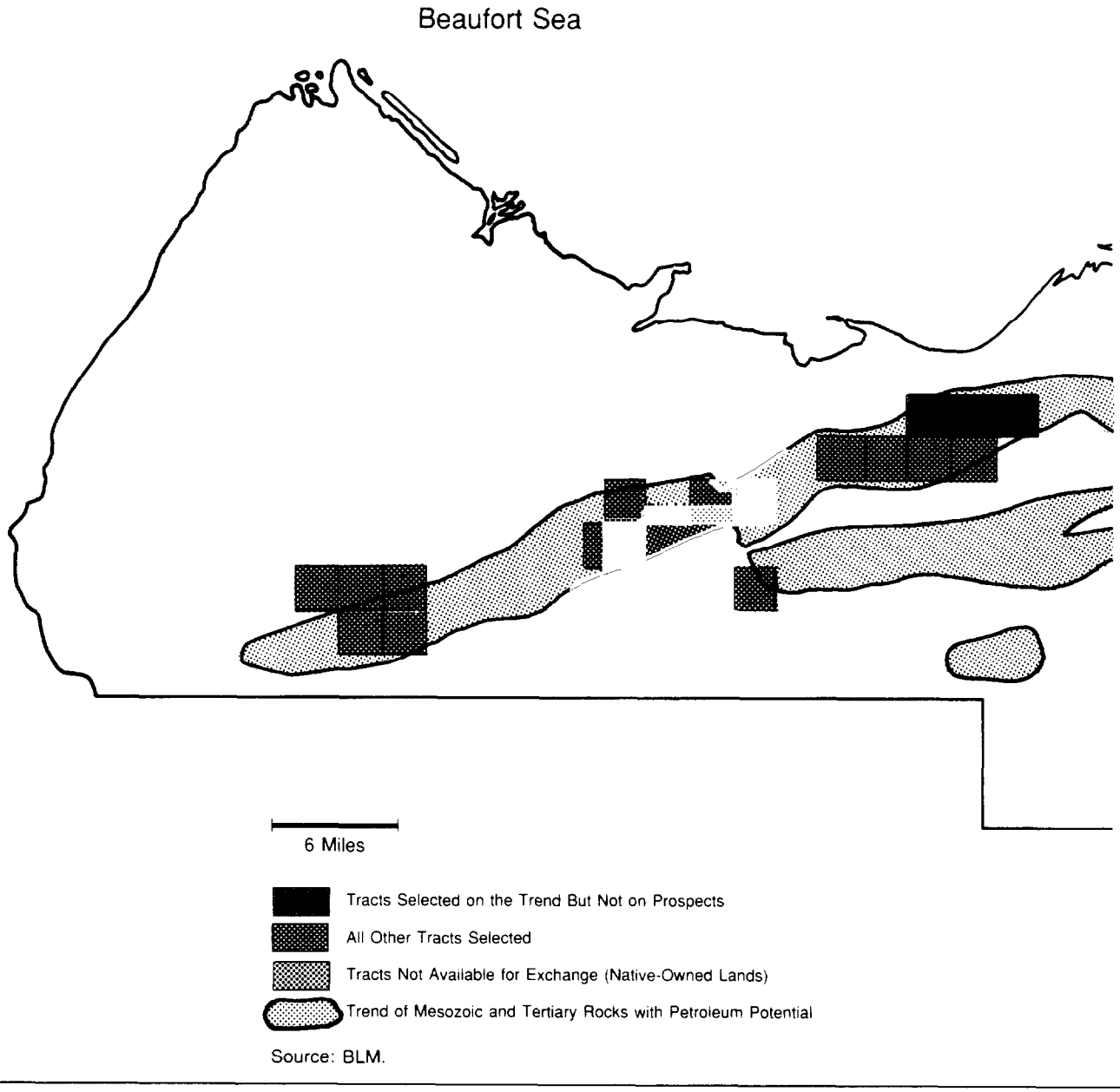
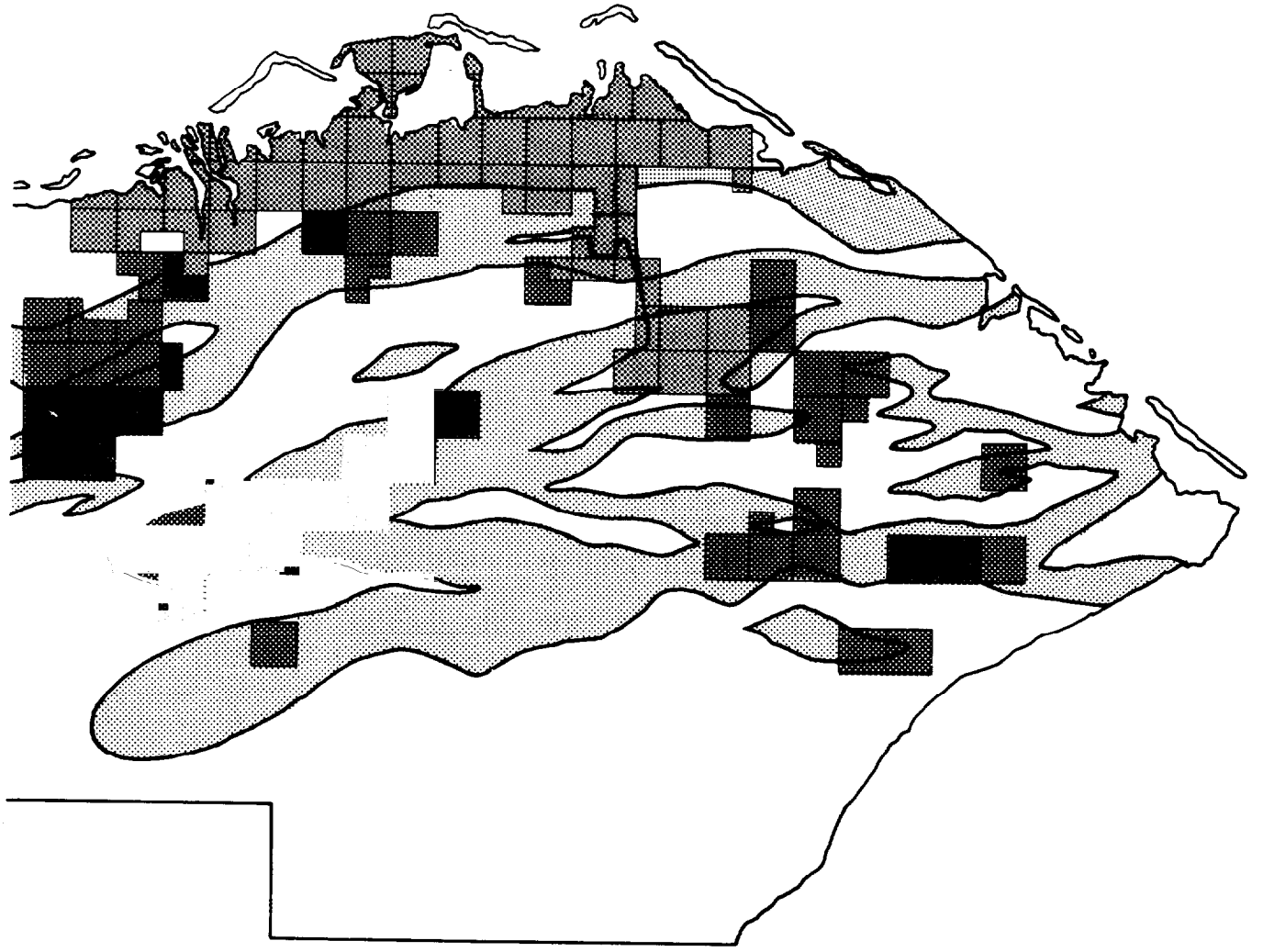
Figure 4.2: Tracts Selected and BLM-Identified Trend of Tertiary- and Upper Mesozoic-Age Rocks





The minimum value of these tracts is far above that which the state of Alaska and MMS set as the minimum bid level for potentially valuable oil and gas lands. However, since bidding was not required in an openly competitive market for the exchange, BLM cannot state with certainty that $300 per acre is the fair market value of these tracts.

Although BLM placed minimum values on tracts overlying these more recent rock layers, evidence exists that these rock layers may have prospects for oil development. MMS' Regional Supervisor for Resource Evaluation in Anchorage told us that MMS mapped three to four potential oil-bearing layers from the geophysical data obtained for lease sale tracts in the Beaufort Sea just offshore of ANWR. In addition, discussions we had with oil company and state of Alaska Division of Oil and Gas officials, as well as our own review of oil company geophysical interpretations, showed that the companies had mapped more than one potential oil-bearing layer in the eastern part of ANWR, including the Tertiary- and Upper Mesozoic-age rocks, and had mapped sizeable prospects in those rocks.

Until BLM has well data from within ANWR, it will not know for certain whether the Tertiary and Upper Mesozoic rock layers contain recoverable oil. However, BLM may have undervalued 29 tracts overlying these rock layers that the Native corporations selected for the proposed exchanges because BLM assumed minimum value for these areas even though they have been identified as prospective by BLM and others.

Economic Data Limitations Compound Uncertainty in Tract Valuation

Because of data limitations and the assumptions it used, BLM placed values on the ANWR tracts in the proposed exchanges that are highly uncertain. BLM arrived at the values through a process that combined the limited geologic information on potential oil quantities in ANWR (discussed previously) and other economic assumptions and data about future oil prices; oil exploration, production, and transportation costs; and the discount rate used to convert future costs and revenues to present value.

Our evaluation of BLM's tract valuation process showed that, given the current state of economic modeling and the availability of the relevant data, the basic thrust of BLM's valuation approach (the Monte Carlo discounted cash flow method discussed earlier in this chapter) was an appropriate methodology for the evaluation of oil and gas rights.

Although this economic modeling process dealt with the uncertainty surrounding several of the variables, the process did not address uncertainty in a number of other variables and could not eliminate the uncertainty in the final estimation of the tract values.

Although BLM used the Monte Carlo discounted cash flow approach to ultimately arrive at point value (average) estimates of the value of the tracts for exchange purposes, the estimated value of the tracts should be presented as a range of values within which the true value is likely to be. Given the uncertainty involved in the valuation process, a presentation of the uncertainty in the estimated values would have been appropriate because the true value of the tracts could vary from BLM-estimated values by several hundred million dollars. BLM, however, has not developed the ranges and associated probabilities of possible values (confidence intervals) for the values of the specific tracts involved in the proposed exchanges.

Furthermore, for some variables in the valuation process (the discount rate, the real growth rate in the price of oil, transportation costs, and oil production rates), BLM used a single fixed value, which did not incorporate the impact of the uncertainty in these values. For some of these variables, use of alternative assumptions and/or a Monte Carlo procedure could have significantly changed the final estimated range of tract values.

BLM Valuation Methodology Appropriate, but Uncertainty in Estimated Tract Values Not Quantified

The basic thrust of BLM's tract valuation methodology, a Monte Carlo discounted cash flow analysis, is appropriate for the valuation of oil and gas rights. Private companies and MMS have commonly used this method to estimate the value of potential oil leases. However, the accuracy of the final outcome of such an analysis depends on the availability and the quality of the data on potential oil resources; future oil prices; exploration, production, and transportation costs; and the discount rate.

BLM's final estimated value of ANWR oil and gas rights of $539 million for the proposed exchange is a point estimate representing the average value of all possible outcomes of its analysis. Point estimate values, without some measure of possible associated error or a measure of confidence in their accuracy, can be misleading. Statistical estimates of value such as the ones generated by BLM's Monte Carlo technique are commonly accompanied by a range of values together with some measure of assurance that the true value lies within the given range. As the size of the range increases around the estimated value, the reliability of

the average value as a good estimate of the true value is reduced. BLM did not, however, develop such ranges. Because of the uncertainties involved, and the data limitations affecting BLM's analysis, these ranges could be very large, and thus the actual value of the tracts may be substantially lower or higher than the estimated values.

Given that BLM had not calculated confidence intervals around the average values for individual tracts, we asked BLM officials whether they could provide some indication of the magnitude of the resulting uncertainty in the tract values. BLM officials replied that generally the variability in resources, costs, and prices results in a wide and skewed distribution of possible values. They said that for the high-value tracts on the best prospect in ANWR, the true value could range from 0 to 6.5 times the estimated value. While this information cannot be extrapolated to all of the tracts for the proposed exchanges, it does indicate that the estimated values of the tracts in the proposed exchanges are highly uncertain. Although BLM has not calculated the ranges for the tract values and they are therefore unknown, the total value of the tracts could vary from the estimated values ($539 million) by hundreds of millions of dollars.

BLM Did Not Address Uncertainty in All Variables

For several variables included in the tract valuation process, BLM did not use the Monte Carlo technique or otherwise address the uncertainty involved in these factors. Instead, BLM used single point estimates for these variables (the discount rate, the real growth rate in the price of oil, transportation costs, and oil production rates). By using single point estimates for uncertain variables, BLM inferred a level of precision in the values for these factors that does not exist.

A way of determining the effect on estimated tract values of alternative point estimates for these variables would have been for BLM to conduct sensitivity analyses.[5] However, BLM did not conduct such analyses for the tracts in the proposed exchange. Alternative, equally plausible values for these variables could have been used and might have had a significant effect on tract values. The following discussion expands on this concern for one of the four variables—the discount rate used to convert future revenues and costs to present value.

[5]Sensitivity analyses are designed to show the effect of small changes in the value for one variable while holding all other variables constant.

BLM's analysis of individual tract values for the proposed exchange assumed a real, after-tax discount rate of 10 percent for converting future revenues and costs of oil production to present value. BLM used the 10-percent rate as a point estimate and did not use sensitivity analysis to investigate the impact on the final values with respect to changes in this rate.

Our review of related literature and similar studies suggests that a 10-percent real, after-tax rate of discount is higher than the rate used by private companies in similar evaluations and by MMS in its evaluations of outer continental shelf leasable oil. Since the purpose of using discount rates is to evaluate the resources from the perspective of the energy industry, the appropriate discount rate would have been the rate used by the energy industry in its evaluation of oil and gas investments. A recent study[6] surveying the 19 largest U.S. oil and gas producers revealed that the average rate used by these oil and gas companies in evaluations of their investments was equivalent to a real, after-tax rate of 7 percent (in 1983). Similarly, MMS used a discount rate in the range of 6 percent to 8 percent in its evaluation of the leasable oil and gas in the outer continental shelf planning areas.

A small reduction in the discount rate BLM used to establish tract values could have resulted in a significant increase in the final estimated tract values. However, because BLM did not investigate the impact of alternative discount rates in its analysis, the exact effect of a reduction in the discount rate, from the 10-percent rate used by BLM to alternative rates of 8 percent or 7 percent, is not known. The magnitude of the impact for such a change can be significant, as demonstrated by the sensitivity analysis performed by MMS in evaluation of leasable oil in the outer continental shelf planning areas. On the basis of an MMS analysis, a 2-percent point drop in the discount rate (from 8 percent to 6 percent) would result in a 77-percent to 99-percent increase in the economic value per barrel of leasable oil in the Chukchi Sea outer continental shelf planning area; and a 72-percent to 83-percent increase in the value per barrel of leasable oil in the Beaufort Sea planning area.[7]

[6]Hugh F. Boyle and George K. Schenck, "Investment Analysis: U.S. Oil and Gas Producers Score High in University Survey," Journal of Petroleum Technology (Apr. 1985), pp. 680-690.

[7]The impact of the drop in the discount rate varies depending on the assumed starting price of oil and the real rate of growth of the price of oil. MMS performed sensitivity analyses with respect to both of these variables.

Although BLM had not calculated the effect of alternative discount rates on the tracts for the proposed exchanges, we asked BLM to provide some indication of the effect alternative discount rates would have on tract values. BLM told us that according to their calculation, for a 2-percent change in the discount rate, the value of the best prospect in ANWR would change by about 30 percent. It would be incorrect to imply that the possible effects of alternative discount rates discussed previously are applicable to the individual tracts involved in the proposed exchanges. However, the magnitude of these impacts indicates that significant effects could have occurred had BLM used alternative discount rate values in computing tract values.

Generally Accepted Methods for Dealing With Uncertainty Were Not Employed

Although the federal government frequently enters into land exchanges, it normally does not trade away oil and gas rights on public lands. As a result, there are few precedents to use to determine the actions that should be taken to protect the public interest. The closest parallel is the government's program of oil and gas lease sales. As discussed earlier, the values BLM placed on the oil and gas tracts for the proposed exchange are highly uncertain because of limited geologic data and uncertain economic assumptions. Uncertainty is an inherent element in the oil and gas leasing process.

The Mineral Leasing Act, as amended in December 1987, generally requires that the marketplace value onshore oil and gas tracts through competitive bidding. Under the proposed land exchanges, however, Interior did not require the Native corporations, except in the case of one tract, to competitively bid against one another for the tracts. In lease sales the federal government also usually retains a continuing monetary interest in any future oil and gas production through a royalty provision. By doing so the government is willing to share the risk with the developer by accepting a smaller up-front payment and potentially receiving no royalties in exchange for what it hopes will be a greater return through the royalty in the event of a large find. Under the proposed land exchanges, however, Interior did not retain a continuing monetary interest in any future oil production.

Interior has stated that ANWR has been rated by geologists as the most outstanding petroleum exploration target in the onshore United States, and indications are that it may be exceptionally favorable for discovery of one or more supergiant oil fields. In view of this, it seems inconsistent to us that Interior would accept a marginally higher up-front price on the exchange tracts rather than retaining a continuing monetary interest

that would provide a bigger payment to the government in the event of a very large oil strike.

Competitive Bidding Not Used to Set Tract Values

The Mineral Leasing Act, as amended, generally requires that onshore oil and gas lands available for leasing be subject to competitive bidding in order to ensure that the federal government will receive fair market value for oil and gas tracts. According to a member of Interior's ANWR negotiating team, Interior decided not to use competitive bidding to set the values of the tracts the Native corporations selected in the proposed exchange because some of the corporations might not have participated if a bidding system had been used. Instead, Interior set the values using a process discussed earlier in this chapter.

A discussion paper on the proposed exchanges by Interior's Deputy Assistant Secretary for Policy states, "As has been noted, on numerous occasions, appraisals in and of themselves do not ensure receipt of fair market value. Receipt of fair market value can be ensured under adequate, open competition among willing but not obligated buyers and sellers." We believe that competitive bidding is particularly important in a situation in which the government does not have all the information on the value of a tract that those interested in acquiring it have. As previously noted, at least one of the exchange participant's oil company affiliates had access to well data that BLM did not have access to.

During the tract selection process, Interior did provide for price competition among the Native corporations if they selected the same tract. This process was only once used, however, and the net result was that one of the Native corporations bid $204,000 more than the BLM-established value of $9,297,000 for that tract.

The Mineral Leasing Act, as amended, does not apply to exchanges but only to the leasing of mineral rights. Accordingly, tract selection under the proposed exchanges was not subject to a requirement for competitive bidding and award to the highest bidder. However, competitive bidding on the tracts in the proposed exchange may have provided additional assurance that the government would receive fair market value (possibly higher or lower than exchange value) for the tracts.

Royalties Not Retained

Interior ordinarily retains a continuing interest in leased federal oil and gas tracts by providing that a royalty be paid. A royalty provision retains for the government a share of the revenues for any oil and gas

that is ultimately produced from a leased tract in exchange for a lower up-front bonus and the risk of receiving no royalties if no oil is produced from the tract.

Interior had discussed retaining a percentage royalty on oil production from the exchange tracts with some of the participating Native corporations. However, the Assistant Secretary for Fish and Wildlife and Parks told us that a royalty provision would not be included in any final agreements with the Native corporations. According to the Assistant Secretary, the BLM-estimated tract values incorporate an "up-front" royalty. In essence, BLM's tract values incorporated an up-front payment in lieu of a royalty as opposed to retaining a continuing monetary interest in any future oil production.

With the usual royalty provision, the government would share the risk of production with the lessees in exchange for retaining its interest in any future finds. If no oil or less oil than estimated were discovered, the larger up-front bonus payment would result in higher government revenues than the royalty system. On the other hand, where data limitations lead to highly uncertain estimates of potential oil, by taking a risk and receiving a smaller up-front payment, the government can retain the opportunity for much larger returns if a major oil discovery is made.

Interior has stated that ANWR has been rated by geologists as the most outstanding petroleum exploration target in the onshore United States, and indications are that it may be exceptionally favorable for discovery of one or more supergiant oil fields. In view of this, it seems inconsistent that Interior would accept an up-front payment on the exchange tracts rather than a continuing monetary interest that would provide a bigger payment to the government in the event of a very large oil strike.

Conclusions and Recommendation

We have concerns about several aspects of the proposed exchanges. We question the wildlife and habitat protection benefits of three-fourths of the Native inholdings the government would acquire as well as the high price the government would be paying for them. We are also concerned because the prices Interior assigned to the oil and gas tracts that the Native corporations would receive in the exchanges are highly uncertain, and Interior did not employ generally accepted methods for dealing with uncertainty—requiring competitive bidding for the oil and gas tracts and retaining a continuing monetary interest in any future oil production through a royalty provision. In view of these concerns, we believe that the proposed land exchanges are not in the best interests of the government.

Legal Basis for the Exchanges

On the basis of our review of pertinent laws, we believe that at the time the proposals were developed, Interior had the legal authority to execute the proposed land exchanges, if otherwise proper, and to do so without congressional approval. However, section 201 of Public Law 100-395, dated August 16, 1988, prohibited the Secretary of the Interior from conveying interests in lands within the coastal plain of ANWR without prior approval by act of Congress. In addition, congressional action opening the ANWR coastal plain for any oil and gas development would be required before the Native corporations could actually develop the oil and gas interests they would obtain under the proposed exchanges.

Lands the Government Would Acquire

Under the proposed exchanges, Interior would acquire the surface ownership of 896,000 acres of land in Alaska, which are now owned by the Native corporations but lie within the boundaries of several wildlife refuges in the state. We believe the acquisition of 681,000 of these acres, or 76 percent of the total, is of questionable value because

- 279,000 acres (31 percent) were rated by FWS as low priority or unsuitable for acquisition;
- 349,000 acres (39 percent) are already protected by law from uses that are inconsistent with wildlife refuge purposes; and
- 53,000 acres (6 percent) are threatened by subsurface mineral development, but Interior would not acquire the subsurface estate under the terms of the exchanges.

Furthermore, we believe that Interior arrived at the exchange prices of the Native inholdings inappropriately. Fair market value is the only recognized method for determining the value of land to be obtained by the

United States. The appraised fair market value of the 896,000 acres that the government would acquire was $90 million. Instead of using the appraised values, Interior negotiated exchange prices of $539 million for the Native inholdings, or about six times the appraised values. We also believe that the negotiations that increased the price Interior would pay for the Native inholdings were based on inappropriate comparisons to previous land transactions.

Because of the limited wildlife and habitat protection benefits of much of the lands that the government would acquire and the high prices the government would be paying to acquire them, we believe that proposed exchanges would not be in the government's best interests.

Oil and Gas Interests the Native Corporations Would Acquire

Under the proposed exchanges, the Native corporations used the negotiated exchange price of their inholdings of $539 million to select oil and gas tracts in ANWR valued by Interior at an estimated $539 million. In estimating tract values, Interior relied heavily on widely spaced seismic information. The seismic information, while useful in conducting a broad-scale assessment of the resource potential of ANWR, was, in our opinion, insufficient to establish individual tract values with certainty. Wells are the best data source for understanding the oil-bearing characteristics of underground rocks. However, Interior had no well data from within ANWR to use in its tract valuation process, and it did not have access to data from the one well in the refuge drilled by one of the Native corporations' oil company affiliates. In addition, Interior may have undervalued 29 of the 73 tracts selected by the Native corporations because it assumed minimum value for these areas while others have identified them as prospective.

The uncertainty in the tract values was compounded by limitations in economic data Interior used to arrive at individual tract values. The net effect of the geologic and economic uncertainty is that the final value of $539 million for the exchange may substantially overestimate or underestimate the actual tract values.

Uncertainty is inherent in valuing oil and gas prospects. In lease sales, the government (1) allows the marketplace to price the tracts through competitive bidding and (2) retains a continuing monetary interest in any future oil production through a royalty provision. Under the proposed land exchanges, however, Interior neither required the Native corporations to bid against one another competitively for the tracts nor retained a continuing royalty interest in any future oil production.

By relying on a single estimate for the value of the individual oil and gas tracts for the proposed exchanges, Interior is inferring a greater degree of certainty about tract values than actually exists. Ultimately, the tract values may prove to be substantially more or less than these estimates, because while ANWR has been rated as the most promising onshore oil and gas exploration area in the United States, it may also contain no economically recoverable resources. Given this situation, we believe that if the Congress decides to open ANWR for oil and gas development, it would be more prudent to do so under its usual oil and gas leasing program in which the marketplace sets the prices of the tracts and the government shares in both the risks and benefits of the actual resources that are ultimately produced. In any event, we believe that there are enough concerns with the proposed land exchanges that further consideration of them is not warranted.

Recommendation

We recommend that the Secretary of the Interior discontinue consideration of the proposed land exchanges. We further recommend that if the Secretary of the Interior decides to proceed with the proposed exchanges and presents them to the Congress for approval, the Congress should disapprove them.

Agency Comments and Our Evaluation

In commenting on a draft of this report, Interior disagreed with our recommendation that consideration of the proposed exchanges be discontinued. Interior said that the report's recommendation was reached by the oversimplification and misunderstanding of numerous complex issues relating to the exchanges. Interior said it would be shortsighted at this early stage to foreclose consideration of the proposed exchanges.

We arrived at our recommendation only after carefully considering all the facts obtained during our review. In fact, as part of our deliberations in arriving at this recommendation, we considered whether modifications could be made in the exchange proposals to make them workable. Ultimately, we concluded that the exchanges, as proposed, are so seriously flawed as to be unworkable. Some of the facts that led us to this conclusion follow:

- Most of the lands that the government would acquire under the exchanges would provide only limited wildlife and habitat protection benefits. We recognize that the acquisition of an inholding in any wildlife refuge would likely improve the management of that refuge. However, we have serious questions about (1) how serious the threats are to

the lands that would be acquired, (2) whether the acquisition of these lands would eliminate those threats, and (3) whether the lands are not already sufficiently protected from development that would be inconsistent with wildlife refuge purposes. Another way of judging the management benefits of the proposed land exchanges is to ask the question—If Interior had $539 million to spend on wildlife refuge acquisitions, how much of it, if any, would be spent on the lands that would be acquired in the proposed exchanges? Recent FWS lists of national land acquisition priorities included only one in Alaska, and those lands would not be acquired under the proposed exchanges.

- The prices Interior negotiated for the lands it would acquire are six times their appraised fair market values. We recognize that Interior does not have condemnation authority for Native-owned land in Alaska national wildlife refuges, that the proposed exchanges present a potentially unique opportunity to acquire them, and that the absence of condemnation authority would tend to have an increasing effect on the negotiated price of the land. Again, however, we question the need for Interior to avail itself of this potentially unique opportunity because (1) these are not high-priority acquisitions from a national perspective and (2) in times of tight budgetary constraints governmentwide, Interior would be paying six times the appraised fair market value of the lands.
- If Interior were to modify the exchanges to acquire only those parcels that it had ranked as high priority (in Alaska) on the list of 60 and that were not already protected from adverse development by law, and to pay only fair market value for them, their combined exchange value would be insufficient to purchase even one of the highest-value ANWR oil and gas tracts at its Interior-established price. Under these circumstances, we question the viability of proceeding with those portions of the exchanges that would remain.
- Given the uncertainty of the value of the oil and gas tracts that the Native groups would receive in the proposed exchanges, we believe that if the Congress chooses to open ANWR to oil and gas development, fair market value of the tracts should be established through a competitive bidding process and that it would be prudent to retain a royalty in any oil and gas that is ultimately developed. This approach seems particularly prudent in light of the fact that ANWR has been rated as the best onshore oil and gas prospect left in the country. Although Interior could have retained a royalty in the proposed exchanges, we believe it is doubtful whether a sufficiently competitive marketplace would exist to ensure the receipt of fair market value because all interested bidders would not have been allowed to bid for the tracts.
- Taken together, the concerns and facts discussed above drew us to the conclusion that the proposed exchanges are so seriously flawed that any

attempt to overcome their shortcomings would not likely be fruitful. Instead, we believe that if the Congress chooses to open ANWR to oil and gas development, it would be more prudent to do so under its usual oil and gas leasing program. If Interior still believes that there is a need to acquire some or all of the Native inholdings that would be acquired in the proposed exchanges, Interior can list and rank them along with other proposed wildlife refuge acquisitions nationwide. In this manner, the proposed exchange acquisitions would more likely reach their proper place in a rank order priority system in which the limited resources available for wildlife refuge acquisitions are spent on only the highest priority needs. If the Native groups in the exchanges wish to participate in ANWR's oil and gas potential, they can sell their wildlife refuge inholdings to Interior and then use the proceeds in any subsequent lease sales in ANWR, if and when the Congress chooses to open it for oil and gas development. These alternatives, we believe, would be superior to the proposed exchanges in protecting the best interests of the government because Interior would acquire only those inholdings it truly needs, and Native groups would acquire oil and gas interests through lease sales in competition with others interested in the tracts.

Interior also extensively questioned the accuracy of specific information in the report and our characterization of Interior's process for evaluating the proposed exchanges. These comments and our responses are detailed in appendix II.

Request Letters

July 23, 1987

Mr. Charles A. Bowsher
Comptroller General of the United States
General Accounting Office
Washington, D.C. 20548

Dear Mr. Bowsher:

The Subcommittee on Water and Power Resources is conducting a series of hearings concerning the Secretary of the Interior's report and recommendations to Congress on the Arctic National Wildlife Refuge, Alaska (ANWR). In the course of the Subcommittee's hearings to date, it has become apparent that the Interior Department's efforts to execute land exchanges involving the ANWR coastal plain are of significant concern to the Congress and a matter that requires GAO investigation.

Section 1003 of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), P.L. 96-487, expressly prohibited "leasing or other development leading to production of oil and gas" from ANWR until authorized by Congress. Yet in 1983, Secretary Watt approved a land exchange agreement with the Arctic Slope Regional Corporation, an Alaskan Native entity, that conveyed 92,000 acres of ANWR subsurface estate along with the right to conduct exploratory drilling. I have recently learned that the mineral estate was valued by the Bureau of Land Management at $388.5 million and the Federal government in return received 101,000 acres of land within the Gates of the Arctic National Park valued at only $5.1 million.

The Department's ongoing efforts to execute additional ANWR land exchanges with certain Alaska Native groups raises a number of questions in light of the questionable legal authority and uncertain valuation of the 1983 exchange. In what has been labeled the "mega-trades," the Interior Department has apparently finalized agreements with selected Natives groups whereby Native inholdings within Alaska wildlife refuges would be exchanged in return for mineral rights within the ANWR coastal plain. I would like to request GAO's assistance to investigate the Department's legal authority for the land exchanges, their process, and methods of valuation for both the 1983 exchange and the current mega-trade proposals.

Mr. Charles A. Bowsher
July 23, 1987
Page 2

The Subcommittee intends to use the results of a GAO investigation in its process of considering whether Congress should authorize oil and gas development in ANWR and, if so, under what terms and conditions.

ANWR is one of the most important natural resource issues before the Congress and the Department's approach to land exchanges may have serious implications, fiscal and otherwise, for the Federal government and the State of Alaska.

Thank you for your assistance. If you have any questions, please don't hesitate to get in touch with Jeff Petrich of the Subcommittee staff concerning this investigation.

Sincerely yours,

GEORGE MILLER, Chairman
Subcommittee on Water and
Power Resources

United States Senate

COMMITTEE ON
ENERGY AND NATURAL RESOURCES

WASHINGTON, DC 20510-6150

August 7, 1987

The Honorable Charles A. Bowsher
Comptroller General of the United States
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Bowsher:

The Arctic National Wildlife Refuge (ANWR) in Alaska may contain one of the largest untapped oil and gas deposits in the United States which could help substantially in reducing our dependence on foreign oil. Whether this area should be opened for oil and gas production or maintained exclusively as a wildlife refuge has been a matter of debate for several years.

Recently, the Department of the Interior has been negotiating with several native corporations in Alaska for the purpose of exchanging oil and gas interests in ANWR for the surface rights to land owned by the corporations which lies within other wildlife refuges in the State. These proposed exchanges have intensified the debate and controversy on whether, and under what conditions, ANWR should be opened for oil and gas development.

To assist the Congress in our deliberations of this matter, I am requesting that GAO analyze the proposed land exchanges between the Department of the Interior and Alaskan Native Corporations. While I am interested in an overall review of the proposed exchanges, my particular concern is whether the assumptions and methods in developing the valuation of the tract to be exchanged are well-founded and based upon appropriate factors.

Thank you for your assistance in this matter of great importance to the Nation.

Sincerely,

James A. McClure

James A. McClure
Ranking Minority Member

Comments From the Department of the Interior

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

June 28, 1988

Mr. James Duffus, III
Associate Director
RCED Division
General Accounting Office
Washington, D.C. 20548

Dear Mr. Duffus:

Thank you for your letter of June 17, 1988, that transmitted the draft report, Federal Land Management: Consideration of Proposed Alaska Land Exchanges Should Be Discontinued (GAO/RCED-88-179). We have reviewed the report as requested and our comments are attached.

We appreciate the opportunity to correct both the facts and misunderstandings found in the report and to express our concerns with the conclusions and recommendations included therein. We urge you to amend the report to reflect our concerns. If you are unable to do so, we request that our views be included as an addendum to your final report.

See Comment 1.

Please let us know if we may be of further assistance.

Sincerely,

Susan E. Recce

Susan E. Recce
Deputy Assistant Secretary for
Fish and Wildlife and Parks

Attachment

DEPARTMENT OF THE INTERIOR'S COMMENTS ON THE DRAFT REPORT OF THE GENERAL ACCOUNTING OFFICE ENTITLED "CONSIDERATION OF PROPOSED ALASKA LAND EXCHANGES SHOULD BE DISCONTINUED"

We have serious concerns with, and objections to, the proposed report of the General Accounting Office (GAO). We believe the report's recommendation that the proposed exchanges be summarily discontinued was reached by the oversimplification and misunderstanding of numerous complex issues relating to the proposed exchanges. Nowhere in the report is there any recognition of the serious considerations that gave rise to the exchange process: the management problems inherent in 20 million acres of Alaskan Native inholdings in Federal wildlife refuges in Alaska; Congress's past decision to withhold condemnation authority while providing detailed exchange authority for the acquisition of these inholdings; and the unique, perhaps one-time, opportunity to exchange limited subsurface interests on the coastal plain of the Arctic National Wildlife Refuge (ANWR) for title to 891,000 acres of Native inholdings.

We further believe that the GAO recommendation to discontinue this process at this point is a disservice to the Alaskan Natives, the fish and wildlife of Alaska's world class refuges, the many professionals of this Department, and the Congress. While you may actually believe that these exchanges are so flawed that none of them is salvageable in any form, the considerations and values at stake are simply so important, and the procedural status so early, that further review and understanding is imperative. While Congress may ultimately accept all, some, or none of these proposals, we believe it would be irresponsible to dismiss them out of hand on the basis of GAO's cursory review to date.

The exchange proposals are by no means final. They are subject to further Department review, full public review of the legislative environmental impact statement (LEIS), revisions resulting from those reviews, and full Congressional scrutiny. Indeed, each of the draft exchange agreements includes an understanding that the Congress has the right to alter the terms and conditions of the proposed agreements, individually or collectively. Should Congress do so, the parties would return to the bargaining table to determine if the new terms and conditions are mutually satisfactory before consummating the exchanges.

We believe that, if GAO has serious concerns with aspects of the proposed exchanges, GAO should recommend that Congress consider making specific alterations if and when proposed exchanges are transmitted for Congressional approval. It is shortsighted for GAO to recommend at this early stage that the

See Comment 2.

Administration and the Congress foreclose consideration of proposals with such major public policy implications.

BACKGROUND

See Comment 3.

Alaskan Natives will eventually own approximately 20 million acres of land within the National Wildlife Refuge System in Alaska. That land includes the most important habitat for some species, such as the Kodiak brown bear, for which Alaska is known worldwide. The most efficient and effective management of habitat within the refuge system occurs when inholdings are diminished and jurisdictions are consolidated under a single ownership. It was this fact that led us to the negotiating table in 1985 when a unique opportunity arose to acquire Alaskan Native corporation refuge inholdings.

Congress has provided to the Secretary of the Interior broad exchange authority under section 22(f) of the Alaska Native Claims Settlement Act (ANCSA) and section 1302(h) of the Alaska National Interest Lands Conservation Act (ANILCA). Unlike inholdings in refuges in the other 49 States, Native inholdings in Alaska cannot be acquired through condemnation. The Native corporations involved must be willing sellers if refuge inholdings are to be acquired. It is impossible to overestimate the significance of this factor in the negotiating process.

See Comment 4.

In the usual situation, the concepts of fair market value and independent appraisals have direct applicability because all parties to the negotiation are aware that the government ultimately can resort to the appraisal/condemnation process. Where this is not true, as in the case of Native inholdings in Alaska, the negotiating climate is radically altered in favor of the seller. GAO appears to have ignored this very real and practical consideration. Because of the vast amount of Native inholdings in Alaska and the prohibition on the use of condemnation, the cost of acquiring these inholdings with appropriated funds is not realistic. The prospective opening of ANWR coastal plain to oil and gas leasing, therefore, presented us with a unique, perhaps one-time, opportunity to exchange Federal oil and gas interests on the refuge for Native corporation inholdings elsewhere in Alaska.

See Comment 5.

GENERAL OVERSIMPLIFICATIONS AND MISUNDERSTANDINGS IN THE REPORT

Before addressing the findings of the proposed GAO report in detail, we would like to point out several general concerns that arise throughout the report. First, there appears to have been little awareness of the specifics and scope of the actual exchange contracts that have been negotiated. Consequently,

there is no recognition of the contractual context in which exchange values were negotiated. The value of the interests to be exchanged must include consideration of all of the limitations imposed by the contracts on those interests. For example, the oil and gas interests proposed for conveyance may only be enjoyed within the strict and extensive terms and conditions imposed by the exchange contract. The report leads the reader to believe that the proposal is little more than a simple swap. This is not the case.

This oversimplification is apparent in the description of the "main features" of the exchanges beginning on page 15 of the proposed report. The report should, for example, recognize that the refuge inholdings would be acquired in perpetuity while the oil and gas interests exchanged to the Natives would be ultimately reconveyed to the Federal Government following reclamation of the ANWR tracts. It is also important to recognize that the Federal Government would receive all technical data from oil and gas activities on the exchanged lands. Moreover, in that discussion, the report should state that all oil and gas activities would be subject to the conditions established for a Federal leasing program on ANWR and note that in the interim the detailed terms and conditions of the exchange contract would dictate the conduct of oil and gas activities until a leasing program is established.

See Comment 6.

This discussion is also in error when it refers to the retention of subsistence rights. The actual property right being retained by some Native corporations is that of access for subsistence uses to the extent that those uses are permitted under Federal and State law. Further, it should be recognized that the Service would have the power to close those lands to such uses for reasons of public safety, administration or wildlife conservation. It is therefore clearly erroneous to state, as the report does, that the Old Harbor community would be able to hunt, fish, and otherwise use the Old Harbor lands "just as they do now." Also, no subsistence access easements are being retained on three of the seven refuges (i.e. Kenai, Kanuti, and Nowitna) involved in the proposed exchanges.

See Comment 7.

Second, the proposed report fails to acknowledge the statutory prohibition on condemnation of lands owned by Native corporations. This prohibition has a major impact on the negotiating stances of the parties. The proposed report does not even allude to this major consideration and we see no evidence that it was taken into account in the GAO analysis.

See Comment 4.

Third, we recognize that in preparing its report, GAO was required to assimilate an enormous amount of very complex material, a difficult task even for those already familiar with

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the intricacies of the complicated statutes involved, the range of approaches to fish and wildlife management, the variables of oil and gas leasing programs, and the political realities of negotiating with a wide variety of interested parties. However, we have identified a number of instances in the proposed report, several of which will be discussed further below, where GAO has misinterpreted the comments of Department officials, has failed to acknowledge significant information that supports the Department's actions, and inappropriately presents the reviewers' opinions as fact in situations where reasonable professionals may differ. We would appreciate having a further opportunity to clarify these instances with you.

GAO'S PRINCIPAL FINDINGS

I will now address the Principal Findings of the proposed GAO report as they appear in the report's Executive Summary. They are as follows:

1. Legal Authority: **Interior has the legal authority to negotiate and administratively approve the proposed exchanges. However, congressional approval is required before ANWR can be opened for oil and gas development. Interior plans to make the exchanges contingent on congressional approval.**

We agree with this finding. We are pleased that GAO recognizes our authority to negotiate and administratively approve exchanges under section 22(f) of ANCSA and section 1302(h) of ANILCA. Because of the important public policy issues involved in the proposed exchanges in question, we decided that these exchanges should not be implemented without express Congressional ratification. We have pointed out to the Congress on numerous occasions that Congress would have the opportunity to modify the terms and conditions of the exchanges and that the Native corporations would have the right to disagree or agree to any modifications.

2. Questionable Benefits of Lands to Be Acquired: **Although some of the land that would be acquired has been rated by Interior as very important wildlife habitat, GAO found that 76 percent of the lands that the government would acquire would provide limited wildlife and habitat protection benefits.**

We disagree with this finding. We believe that GAO errs when it states that 76 percent of the inholdings that would be acquired by the government provide limited wildlife and habitat protection benefits. We also disagree with GAO's conclusions that Interior rated 31 percent of the proposed acquisitions as low priority or "unsuitable for acquisition," that 39 percent

See Comments 8 through 13.

of the proposed acquisitions are "already protected" from uses inconsistent with refuge purposes, and that 6 percent of the proposed acquisitions are most threatened by subsurface development that would not be precluded under the exchanges. We will address each of these categories separately.

Lands Rated as Low Priority or Unsuitable for Acquisition

GAO's first category of lands includes approximately 279,000 acres of land that GAO states were rated as "low priority or unsuitable for acquisition by Interior". On page 32 of the draft report, GAO states that 211,544 acres of the 279,000 were rated by FWS as low priority but suitable for acquisition; 67,363 acres were rated as unsuited for acquisition.

In coming to this conclusion, GAO has placed too much reliance on the "list of 60" the report references. It is essential to recognize that the classification on which GAO bases its conclusions is a "first cut" attempt to classify the lands. That is, it was prepared at the Fish and Wildlife Service staff level and was intended to represent only a gross approximation of then-current (1985) interest in various acquisitions.

The initial listing was intended simply as a very general guide for the Service in developing acquisition initiatives. Thus, none of the lands in the lowest classification were the target of a Service acquisition initiative in the exchange process. As the report recognizes, however, it cannot be expected that the Native parties to the exchange negotiations will agree to transfer all the high priority lands they possessed and no others. In actuality, the Natives were unwilling to offer a number of high priority tracts, but they did propose, and we certainly considered, the exchange of some lower priority lands as part of the compromise inherent in any negotiating process. It should be noted that offerings from Native corporations that contained only lower priority inholdings were rejected.

The fact that an inholding was not of the highest priority possible did not mean that there was no value in its acquisition. All of the land under consideration for acquisition was placed in the National Wildlife Refuge System by the Congress because the Congress believed it contained refuge values. Moreover, there should be a presumption that all lands within the statutorily mandated boundaries of a wildlife refuge are suitable for acquisition. While GAO has quoted individual refuge managers who appear to disagree with Congress's decision, the fact remains that, if the opportunity arises to acquire any inholding within the system and thus consolidate and confirm FWS management of the area, the opportunity is given serious consideration. Moreover, it is

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See Comment 8.

important to remember that the fact that this acreage was not in the highest category of priority was later reflected in the value assigned to it. The valuation process will be discussed further below.

See Comment 9.

We note that GAO's discussion of one specific area in this section, Sitkalidak Island, misstates the situation. The report states that the Service rated the entire island as unsuitable for acquisition and that the Alaska Maritime refuge manager said he is not interested in acquiring the island. The report fails to explain that the island was proposed for acquisition based on its potential contribution to the purposes of the Kodiak refuge and the Service is on record as supporting a change in boundaries of that refuge to incorporate it should the exchange take place. The Kodiak refuge manager does want the island acquired for that refuge and it is our understanding the GAO was advised of this. Moreover, the report fails to acknowledge the granting of a public access easement over some of the lands being retained by the Native corporation involved.

High Priority Land Already Protected from Development

The second category of land addressed by GAO includes 349,000 acres of land rated by FWS as high priority that GAO concludes is already protected from uses that are inconsistent with wildlife refuge purposes. GAO notes that section 22(g) of ANCSA restricts development on many Native inholdings within Federal refuges in Alaska. GAO then states that the Assistant Secretary for Fish and Wildlife and Parks said that Interior did not consider section 22(g) in making decisions about which lands to acquire. GAO believes that the 1984 U.S. district court decision on the St. Matthew Island exchange definitively established that section 22(g) protects refuges from all incompatible uses.

The Department is, of course, aware of which lands being offered for acquisition are subject to section 22(g), but we are not as confident as GAO about the protection provided by section 22(g). Moreover, the Department did discount the value of the inholdings subject to section 22(g). It is generally agreed among parties familiar with the issue that section 22(g) is an unknown quantity. The section has not been tested in court and, due to the diversity of habitat and of potential development, the Department's efforts to develop regulations to implement 22(g) have not succeeded. Further, some Native groups question whether section 103(c) of ANILCA supersedes section 22(g) by virtue of its later enactment. We note here that the statement on page 35 of the report that the Assistant Secretary said that section 22(g) is overridden by section

See Comment 10.

See Comment 11.

103(c) is inaccurate; the Assistant Secretary was merely noting the Natives' belief on the issue.

In our view, section 22(g) focuses on economic use and development rather than a multitude of other land uses, including those resulting simply from general social growth. To further complicate the issue, we point out that the Alaska Native Claims Settlement Act (ANCSA), in which section 22(g) is contained, also prescribes that one of the purposes of the lands received by the Natives is to accomplish a settlement "in conformity with the real economic and social needs of the Natives, without litigation, with maximum participation by Natives in decisions affecting their rights and property." Therefore, conflict exists even within the Act itself over the limits of development that may be allowed.

See Comment 10.

Moreover, public and management interests in refuge inholdings go beyond the form and extent of any development or use made of these lands by the Native corporations. GAO fails to recognize that section 22(g) does not provide for the public access that would be available if the lands are acquired by the Federal Government nor does it provide for positive management of the lands for fish and wildlife purposes. That is, the Service cannot conduct programs such as those for research, fire management, or predator control unless the Natives first consent to such programs. Some of these habitats are currently critical to species experiencing population declines, but our lack of control over the lands could prevent us from implementing positive programs to counter these declines. Finally, section 22(g) can give rise to complicated administrative burdens. If the lands are subdivided among many multiple owners, as has been suggested on Kodiak, the Service's burdens in reviewing all proposed activities on the lands would multiply accordingly.

See Comment 12.

Further, the GAO's reliance on the 1984 decision is misplaced. That decision in no way delineated the extent to which the Alaska Natives' rights to use their land to advance their social and economic welfare can be regulated in an effort to preserve the wildlife value of the lands. A well-established principle of Indian law is that Indian grants are construed in favor of Indians and all ambiguities are resolved in their favor. The constitutionality of 22(g) or the power of this Department to adopt regulations has never been questioned. What has been questioned is how far the Department can go to protect wildlife when that objective conflicts with the economic opportunity of the Alaskan Natives involved. Litigation is expensive and risky and will certainly occur over this issue as the Natives pursue development activities. The proposed GAO report failed even to acknowledge this issue.

See Comment 10.

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See Comment 10.

In addition, the proposed report incorrectly states that the St. Matthew Island decision upheld the validity of section 22(g). Section 22(g) was not in controversy before the court. The court, on its own motion, made a series of erroneous assumptions of fact and law concerning what was and was not permissible on refuges and then stated that section 22(g) protected these lands by prohibiting various activities that, in actuality, are not prohibited.

Remaining High-Priority Acquisitions Will Have Limited Effect

The third category of lands addressed by GAO includes 267,176 acres of land rated as high priority and not subject to section 22(g). GAO states that acquisition of 53,040 of these acres may not eliminate the major potential threat to the acreage, which GAO believes is the potential development of mineral deposits.

See Comment 13.

This acreage, known as the Sithylemenkat-Tokusatatquaten Lakes Complex, is located within the Kanuti refuge. The Native corporation involved, Doyon, was unwilling to negotiate the exchange of any subsurface interests. However, Doyon did agree to provide the opportunity for consultation before any subsurface development. Therefore, we believe that acquiring the surface estate provides an opportunity to influence subsurface development. We note that a recent reassessment of the area suggests a low potential for mineral development.

See Comment 6.

The GAO report is inaccurate in stating, on page 41, that Interior did not negotiate to acquire any of Doyon's high priority areas within the Yukon Flats refuge. Interior did indeed negotiate with Doyon for their surface acres within that refuge. Early in the negotiations it was determined that it would be highly desirable to acquire the high waterfowl use areas owned by the Natives within that refuge. Discussion between the Regional Director and representatives of Doyon brought to the surface Doyon's desire to exchange, but it felt it had to have concurrence from the village corporations before it could offer regional lands. With this in mind the Service wrote letters to all Native village corporations requesting an opportunity to discuss the exchange in hopes that some would agree to exchange, thereby providing Doyon the opportunity to offer some of its surface ownership. The Regional Director made two trips to meet with village corporation representatives, but had little success in persuading them to become involved in the exchange.

We note that the GAO report does not clearly describe the complicated situation relating to ownership of surface and

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subsurface interests in Alaska. For example, on page 10, the report states that inholdings "included the right to any subsurface minerals." This is misleading. Not all corporate inholdings include such a right. Where Natives selected lands from within pre-ANCSA refuges, the village corporations got the surface estate and the regional corporation had to take in-lieu subsurface interests outside of the refuge. An example is Karluk and Larsen Bay on Kodiak Island. Those villages got the surface, but their region, Koniag, had to take in lieu subsurface interests off the refuge. So, the subsurface underlying those lands belongs to the United States. Koniag acquired the surface estate of these two village corporations when they merged with it and it is these lands, in part, that Koniag now proposes to convey. The United States still owns the subsurface and therefore will own the entire fee, subject to the subsistence access easement, if the exchange takes place.

See Comment 6.

Similarly, on pages 15 and 16, the report states that the Natives would, in most cases, retain the subsurface rights. The report should acknowledge that none of the village corporations involved in the exchange hold the subsurface rights. Consequently, the majority of the subsurface interests involved in the exchange either are now owned by the Federal Government or belong to corporations either not interested in exchanging their subsurface rights or not a party to the exchange negotiations.

Now on p. 13.

See Comment 6.

3. Price of Lands Being Acquired Not Based on Fair Market Value: Interior appraised the fair market value of the proposed acquisitions at $90 million, but arrived at a negotiated price of $539 million, a six-fold increase. Interior used some inappropriate comparisons of prices. GAO believes that Interior's valuation of Native lands should be limited to fair market value.

We disagree with this finding. The proposed GAO report criticizes the way that the values of the native-owned lands proposed for acquisition by the United States have been established. The report asserts that fair market value appraisals provide the only recognized means for establishing the price of these lands. The report also asserts that the law does not allow the Secretary to declare the values of the interests to be traded to be equal on the basis of public interest considerations. Therefore, GAO suggests that the proposed exchanges cannot qualify as equal value exchanges and that they must, if pursued, be characterized as exchanges of unequal value that are nonetheless justified for other reasons that are in the public interest. While providing no specific

See Comment 14.

See Comment 15.

citations, GAO states that its conclusions are based on its review of court decisions and Interior appraisal guidelines.

Acquisitions by the Department using appropriated funds follow the Uniform Appraisal Standards for Federal Acquisitions. These standards were written in anticipation of the exercise of the Federal Government's eminent domain power in the acquisition of real property. In the exercise of that authority, the Constitution requires the United States to pay just compensation when property is taken for a public purpose. Under case law, the measure of just compensation is the fair market value of the property at the time of the taking. Therefore, the standard appraisal process is designed to ascertain a property's fair market value. The Federal Government's appraisal of fair market value is the minimum the Federal Government must offer, but higher values can be established through the eminent domain process. In practice, courts considering eminent domain cases often provide for compensation in excess of the Government's appraised fair market value.

See Comment 16.

The authorities for and the limitations on the acquisition of Native-owned lands in Alaska are unique. When Congress passed ANILCA in 1980, it took away the Secretary's ability to condemn Native-owned inholdings. Specifically, section 1302(b) of ANILCA prohibits the Secretary from acquiring lands within a conservation system unit (CSU) that are owned by a Native corporation without the corporation's consent. Accordingly, the Department can acquire the Native inholdings offered for exchange only on a willing-seller basis. As noted above, the report does not acknowledge the importance and impact of this very significant fact.

See Comment 4.

In section 1302(h) of ANILCA, Congress gave the Secretary of the Interior the authority, "notwithstanding any other provision of law," to exchange lands within CSU's with Native corporations "on the basis of equal value . . ., except that if the parties agree to an exchange and the Secretary determines it is in the public interest, such exchanges may be made for other than equal value." In explaining section 1302, the Senate Energy and Natural Resources Committee said that this exchange authority should be used as the major tool for acquiring lands in Alaska:

> The Committee has adopted a unique approach to land acquisition because of the special nature of the Alaska situation. The intent of this approach is to maximize the use of exchange authority and minimize the use of condemnation authority wherever possible. (S. Rep. No. 96-413, 96th Cong., 1st Sess. 304 (1979)

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Similar exchange authority is provided in section 22(f) of ANCSA, as amended. The proposed exchanges rely on these novel authorities. Thus, the uniform appraisal standards, which are based on an inapposite premise, i.e., that if necessary the government has the authority to compel the conveyance of title to the United States, are of limited relevance in this context.

The GAO report also misapprehends the roles that monetary valuation and public interest analysis have played in the exchange negotiation process. The district court in the St. Matthew island exchange litigation construed the public interest standard in section 1302(h) of ANILCA as broadly encompassing both monetary and nonmonetary considerations. From the outset, the parties to the exchange negotiations contemplated that the natural resources of the lands being acquired, as well as the environmental standards designed to protect ANWR from the impacts associated with commercial oil and gas development, would enable the Secretary to conclude that the proposed exchanges are in the public interest. Monetary valuation became a useful tool for determining how many acres of dissimilar interests would be traded. Thus, as the negotiation process unfolded, monetary values enabled the parties to identify and approximately equate the parcels to be proposed for exchange. For this reason, although the parties have always contemplated basing the proposed exchanges on the public interest to be served, the Department has yet to decide whether also to assert that these exchanges are warranted because they involve trading interests of equal economic values.

In ascertaining a property's economic value, the government usually does use a fair market value analysis. And, in fact, fair market value appraisals were done for the lands being acquired and were used where a bona fide market for land acquisition exists in Alaska. However, in most instances, fair market value was only one of the factors give consideration. Other considerations included the environmental and public use benefits attributable to the lands being offered, transactional savings to the United States, and past congressional and administrative precedents. As both sections 1302(h) and 22(f) are silent as to how "value" shall be established for the purpose of exercising the exchange authority granted therein, and as the exchange authority granted in section 1302(h) in particular is given to the Secretary expressly "notwithstanding any other provision of law," GAO's conclusion that fair market value appraisals provide the only basis for ascribing value to Native-owned refuge inholdings is an unduly narrow reading of Congressional intent and Secretarial authority. For this reason, although the Department has made no final decision in

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this regard, we firmly disagree with the conclusions that the proposed exchanges cannot qualify as equal value exchanges and that, if pursued, they can only be characterized as unequal exchanges that are in the public interest by reason of nonmonetary considerations. Finally, we note that since the exchanges are contingent on Congressional ratification, Congress has the ultimate perogative to decide whether it should accept the valuation process used by the Department.

See Comment 14.

We would also like to address several more specific questions raised by the proposed report. On page 43, the report states that Interior provided no criteria or documentation supporting our classification of exchange lands into general value-related categories. That classification was conducted by the Alaska regional staff of the Fish and Wildlife Service and the affected refuge managers. The collective judgment of these professional biologists was the sole basis for the application of the land classification system to the lands in question. While the Native corporations were provided an opportunity to offer information to support higher classifications, there was no negotiation of the assignment of classifications beyond the Alaska regional office of the Service.

Now on p. 33.

See Comment 6.

Similarly, on page 44, the report states that the Assistant Secretary provided no information on subclassifications within the classifications discussed above. The Assistant Secretary used the land classifications and values ascribed to each as a starting point in face-to-face negotiations with Native corporations. The value figure for each land tract, based on the Service's classification, represented a negotiating "floor" and the values assigned to the next higher classification represented a "ceiling." For example, Class II lands were valued at between $600 and $700 (i.e., "floor" of Class I lands), depending on the outcome of the negotiating process. (The "ceiling" for Class I lands was established at $1,000 per acre.) The Assistant Secretary did not arbitrarily "increase his starting prices for some inholdings" as is indicated on page 43.

Now on p. 34.

See Comment 17.

In several places in the proposed report, GAO mischaracterizes, and thereby unjustifiably trivializes, the basis on which the Assistant Secretary established his starting prices. In developing comparables for purposes of valuation, two types of transactions were used. First, in the lower 48 States, the average costs of acquisitions under two Federal acquisitions programs were used. Page 47, among others, refers to this as "two transactions" involving land from other States. The "two transactions" were in fact the average of two sets of data concerning multiple transactions. One set consisted of all transactions during 1986 involving refuge lands acquired in

Now on p. 35.

other States out of the Land and Water Conservation Fund. This involved 45 transactions covering 28,150 acres, with an average price of $1,245 per acre. The other set involved all transactions during 1986 out of the Migratory Bird Conservation Account. This involved 121 transactions covering 21,984 acres, with an average price of $666 per acre. These averages provided insight into the price the government was willing to pay for refuge lands having similar, but less substantial, attributes to the inholdings being offered in exchange. Since these acquisitions were generally based on willing seller situations, we believe that it can be said that the associated cost was in the public interest.

See Comment 18.

Second, Interior reviewed the cost of Congressionally authorized acquisitions in Alaska to ascertain the price of past Alaska acquisitions for conservation purposes. Since, these costs do not reflect fair market value, they provide valuable insight into the price that Congress felt was appropriate to bring these Alaskan lands back into public ownership.

See Comment 19.

The report questions the negotiated valuation of the Russian/Kenai River site. The value of this parcel is primarily associated with public fishing access and use that is restricted to a few acres of the site. GAO's value analysis is flawed in that it does not recognize that most of the value is concentrated on a small portion of the site. The report erroneously assigns an average fixed dollar amount to each acre of the tract. Regardless of the appraisal methodology used, the value of lands adjacent to roads and rivers is of substantially higher value than more remote acreage. Since the appraisal method that was used assessed the downstream economic values of public access and use of the river sites, any analysis should be based on how the reduction in acreage from 1,600 to 526 acres actually impact downstream economic uses of those river sites. In this case, the Assistant Secretary judged that there was a nominal effect on overall value.

See Comment 20.

GAO also asserts that because the land must be maintained so as to preserve its historical and cultural significance, it is already protected. The historical and cultural significance is not the basis on which the area was proposed for acquisition. Rather, the proposed acquisition is intended to provide for the long-term availability of public access and use of this popular recreational fishing site. The Native corporation could, without affecting the cultural significance of the site, develop the area in a way that does not support basic refuge purposes.

See Comment 6.

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Now on p. 34.

See Comment 6.

Finally, we note that on page 46 the report indicates that GAO understood the Assistant Secretary to say that the LEIS will provide a brief formal administrative record of the negotiations. The LEIS is only one part of the administrative record of negotiations. It will, however, provide a synopsis of the generic negotiation process and associated results.

4. Values Assigned to Oil and Gas Tracts Are Uncertain: The values assigned to these tracts were based on limited geologic information that GAO believes was inadequate to establish accurate values and was compounded by other uncertainties.

While we agree that values assigned to oil and gas tracts are necessarily uncertain, we disagree with GAO conclusions that values were based on inadequate information.

In general, the proposed report fails to reflect all of the geological and geophysical information made available to GAO. In several places, the proposed report omits information that explains and, in our view, provides professionally justifiable support for the approach taken by Interior. In a similar vein, we believe that GAO too often presents professional opinions as fact so that the report fails to recognize that reasonable professional differences of opinion exist and must be taken into account.

See Comment 21.

The Bureau of Land Management (BLM), which was primarily responsible for assigning these values, believes that the uncertainty associated with this evaluation is equivalent to other professional evaluations of this type. In frontier areas such as ANWR, wide variance in value estimates is to be expected. We note also that a lease sale or exchange in a frontier area is based on resources, not reserves as GAO states. Reserves can only be determined after oil is discovered. Resources in any frontier area are highly speculative. This is a circumstance understood and accepted by both the government and industry.

See Comment 22.

See Comment 6.

In its review of the valuation process, GAO points out that BLM used the income approach and computer modeling to value tracts. The report should note as well that tract values were also compared to Beaufort Sea sales and were found to be in a value range comparable to tracts sold in that area.

See Comment 23.

The proposed report also leaves the impression that BLM inappropriately ignored values for natural gas. At present, there are approximately 30 trillion cubic feet of gas at Prudhoe Bay that has no market. Most probably, this resource would be marketed and depleted before ANWR gas would be marketed. Therefore, we believe any gas development at ANWR

See Comment 6.

See Comments 24 and 25.

See Comment 25.

See Comment 26.

See Comment 27.

would occur in the distant future and, with discounting, would not justify economic consideration in the analysis. We believe the report should reflect these considerations.

Finally GAO fails to describe adequately the fact that BLM placed a minimum value on any tract proposed for exchange as further buffer against the uncertainty of value. BLM recognized the entire potential of ANWR and assigned the highest risk, unmappable area a value of $300 per acre, even though an appraisal would result in a zero value. By comparison, this value is far above what the State of Alaska normally assigns to potentially valuable lands (a rate of $2 to $10 per acre) and what the Federal Government normally uses on the OCS (a rate of $25 to $150 per acre).

Analysis Based on Limited Data

With respect to the sufficiency of data, GAO notes that BLM did not map in detail potential oil bearing rock layers and prospects identified by oil companies and the State of Alaska. The report does not mention, however, that very few of the 14 oil companies involved actually carried out such detailed mapping. The vast majority of the companies interpreted the area using a method similar to BLM's that involved less detailed mapping. The State's interpretation has not been made available to anyone, including GAO. The BLM is confident in its interpretation. It has been publicly available since the release of the 1002 study and has received no substantive challenges containing verifiable documentation of new data. Further, we believe that forcing an interpretation as suggested by GAO would be both unprofessional and unjustified.

The report notes that BLM had no well data from the 1002 area. That is the case because Congress has not authorized the Department to authorize the drilling of wells within the coastal plain of ANWR. In addition, we do not have data from the private well drilled on Alaskan Native lands because the owner of that data and its oil company partners gave valuable consideration in order to preserve its confidentiality. However, BLM has nearby well data outside the boundaries of the 1002 area and used it in its analysis. As a comparison, the recent Chukchi Sea sale had no well data available within the basin. The closest well was in National Petroleum Reserve-Alaska (NPR-A), up to 240 miles away from some of the tracts. The first Federal Eastern Beaufort sale used well data 50-170 miles from the tracts offered. Some of these same wells are much closer to ANWR and were used in our analysis.

The report states that GAO found that BLM has no nationwide standards for rating the adequacy of geophysical data. Due to

See Comment 6.

the diversity of oil province conditions, the BLM prepares site specific standards rather than relying upon broad national standards which may prove inadequate for use in all circumstances. BLM's Alaska office does, however, have standards for ANWR that were provided to GAO. Further, these standards provided the basis for establishing the dry hole risk percentages that were used for calculating the value of ANWR tracts.

See Comment 28.

GAO also criticizes BLM's use of a 3-by-6-mile seismic data grid. BLM believes that this seismic grid was fully adequate for interpretation. Areas of the NPR-Alaska have, for example, been offered for lease with a seismic grid of 6-by-6-miles and areas of the Beaufort have been offered and sold using such a grid. MMS has also used a wider grid in some instances. Further, the proposed report fails to explain the detailed economic analysis BLM did which shows that structures not revealed by this seismic coverage would be uneconomic. In ANWR only very large discoveries are likely to be economic. The seismic grid used by BLM is fully adequate in these circumstances.

See Comment 29.

Economic Data Limitations Compound Uncertainty in Tract Valuations

GAO states that there was a great deal of uncertainty in the economic inputs to the oil and gas value calculations; that all economic inputs should have been subjected to Monte Carlo techniques; and that the resultant values should have been presented as a range. We believe that for purposes of an exchange or lease sale, the mean values are the only relevant numbers. This is the same as any appraisal for any other exchange or for estimates of value used in OCS sale offerings. We recognize that tracts with substantial amounts of oil could be worth many times the expected value, however, it is more probable that any individual tract does not contain any economically recoverable amounts of oil. A range of values is meaningless without the associated probabilities and, in any case, not relevant to this purpose. Moreover, it would be of no use in helping the Department identify particular parcels to be traded.

The report also criticizes the use of single point estimates for uncertain variables. Whenever performing a simulation, decisions must be made as to the level of complexity that will be modeled. This is a balance between the level of complexity and the information to be gained. For example, the real growth rate in the price of oil after the year 2000 presents a variable for which the information added by using a range of values would be negligible. A 2 percent increase per year is a

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See Comment 30.

figure that is typical of other long-range forecasts. Monte Carlo techniques would require specifying the price increase from the present to 2000. Sensitivity analysis demonstrated rates of 0 and 4 percent affected the final estimates of value by several percentage points only and there was virtually no impact on the mean when the range of 0 to 4 percent was used. Therefore the effect on the estimates of using the 2% value was negligible.

See Comment 31.

It was not necessary to apply the Monte Carlo techniques to transportation costs. Experience with the TransAlaska Pipeline System provided the framework for establishing the majority of these costs. The major variable affecting transportation costs is the amount of recoverable oil found in ANWR. This factor dwarfs other variables that may affect the cost. Since that variable is incorporated in the Monte Carlo analysis, the transportation costs are likewise adjusted.

See Comment 32.

Additionally, oil production rates are a function of the recoverable reserves and, to that extent, are already incorporated in the Monte Carlo analysis. However, it is true that the timing and distribution of production relative to reserves did not vary. The production profile that was used is considered the most optimistic and thus would maximize tract values. Large reserve fields will probably take longer to reach peak capacity and small fields probably would not develop until after the large fields. In either case, the estimated tract values would decline from the BLM estimates.

GAO stated that the 10 percent discount rate used by BLM in its analysis was higher than that used in other analyses and that the industry rate should be used instead. We agree that a rate similar to that by industry should be used, but disagree that the 10 percent rate is higher than that used for similar evaluations by industry. The study cited by GAO (Boyle and Schenck, 1985) uses a 1983 inflation rate of 9 percent in its analysis. That rate is incorrect. Using the GNP price deflator, the inflation rate was actually 4 percent. While other relevant indexes will give different results, most were lower than the price deflator in 1983 and some were actually negative. Oil prices and drilling costs were declining from their peak in 1982. Making the calculation with the corrected inflation rate results in a real after-tax rate of 12 percent. By the corrected calculation in the GAO-quoted study, the rate used by BLM was too low, not too high.

Further, in 1982, inflation was over 6 percent and, in 1983, expectations for future inflation were in the 5.5 to 6 percent range. Weighting the inflation rate by these numbers will result in a real after-tax discount rate of slightly over 10

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See Comment 33.

See Comment 34.

See Comment 35.

percent. Thus, the Boyle and Schenck study confirms the 10 percent rate used by BLM to evaluate the ANWR tracts. MMS generally uses 8 percent as the discount rate in its lease sale planning process, but this is done primarily to facilitate review, at the planning stage, of the potential benefits to the nation accruing from conducting a lease sale. However, for purposes of bid evaluation, MMS uses a range of discount rates from 6 to 10 percent.

5. Generally Accepted Methods for Dealing with Uncertainty Not Employed: Uncertainty is inherent in valuing oil and gas prospects. However, in leases sales, the government allows the marketplace to value tracts through competitive bidding and the government retains a continuing monetary interest through a royalty provision. GAO points out that the proposed exchanges did not require the Native corporations to bid against each other nor did the government retain a continuing monetary interest.

In its discussion of the value of competitive bidding in the exchange process, GAO states that the Mineral Leasing Act, as amended, generally requires that the marketplace value onshore oil and gas tracts through competitive bidding. This reference should acknowledge that the amendments imposing this requirement were enacted in December 1987, after the values of the ANWR tracts were calculated for the exchange proposals. Therefore the reference is misleading and not germane to the process being reviewed.

GAO further states that it is inconsistent that Interior would accept a higher up front price on the exchange tracts rather than retaining a continuing interest in a potentially large oil strike. There is, however, no inconsistency. On an expected net present value basis, the government receives the same value. The combination of bonuses, rents, royalties, income taxes, production taxes, and other taxes or fees will be the same. Under an analysis performed on a conditional basis, this would not be true; the analysis here was, however, performed on a risk basis. In sum, without a royalty, if there is a large oil find, then the government would receive less. If tracts are dry, the government receives more. The probability of the latter is much greater than that of the former.

The GAO report goes on to refer to a statement in an internal Department discussion paper on the proposed exchanges by Interior's Deputy Assistant Secretary for Policy that receipt of fair market value "can be ensured under adequate, open competition among willing but not obligated buyers and sellers." GAO uses this statement as a basis for its conclusion that only competitive bidding will result in the

receipt of fair market value. This statement, appearing in a footnote to a parenthetical argument, was only tangentially related to the subject of the document. It is merely a restatement of one way in which fair market value may be achieved, but not a statement of a necessary criteria for receipt of fair market value. GAO's use of this statement is misleading and should be placed in context. The subject of the paper was whether selection constraints should be placed on the tract identification process to ensure consistency with other Interior program objectives such as "ensuring receipt of a fair return for the mineral resource."

The Deputy Assistant Secretary strongly recommended constraints for these purposes and described how the constraints should be implemented. The cover memorandum from the Assistant Secretary for Fish and Wildlife and Parks that transmitted the paper to the negotiating team, stated his full concurrence with the constraints as recommended. The Assistant Secretary further emphasized the importance of the constraints by stating that they should be considered to have the force of Departmental policy. The constraints were implemented as directed as verified by the professional staff recommending them. We believe the report should reflect this very important feature of the exchange negotiation process.

See Comment 36.

GAO'S RECOMMENDATION

We strongly disagree with the recommendation of the GAO that consideration of the proposed land exchanges be discontinued. The proposed GAO report completely overlooks the fact that this may be the last opportunity for the Federal Government to acquire a significant amount of Native inholdings in Alaska's national wildlife refuges. As we stated at the opening of this letter and as we have shown above, numerous complex issues, such as the application of section 22(g) of ANCSA, the restrictions on the ANWR subsurface interests being conveyed, and the nature of the subsistence access right retained by the Natives to name a few, have been misconstrued and used to condemn the exchange process. As a result, we do not believe that the proposed report provides the Congress with an objective examination of the processes, assumptions, and methods underlying the proposed exchanges, as requested.

We also believe that GAO's recommendation that Congress disapprove the proposed exchanges if they are presented by the Secretary of the Interior for approval is premature and misleading. If these proposed exchanges are presented to the Congress, we are hopeful that the Congress will take a comprehensive approach to their review. First, the exchange concept itself should be considered seriously. We would

provide to the Congress our reasons for believing that the process we have undertaken is in full keeping with Congress's past intent and policy on this issue. Once Congress has reviewed the exchange concept, it is then appropriate to review the specifics of the exchange agreements.

In short, we do not believe that the recommendation contained in the proposed report is supported by any detailed analyses or facts contained in the report. We therefore believe that its presentation to the Congress would be a disservice to all those who have dealt with the complex issues inherent in these exchanges and to the Congress which has become increasingly interested in exchanges as an alternative to land acquisition with appropriated funds.

See Comment 2.

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The following are GAO's comments on the Department of the Interior's letter dated June 28, 1988.

GAO Comments

1. We have analyzed Interior's detailed comments on a draft of this report and have made a number of revisions and clarifications in the final report based on them. However, we continue to believe there are serious shortcomings in the proposed exchanges and thus have not revised our conclusions and recommendation. We have included Interior's detailed comments in this appendix. Our analysis of the comments follows.

2. Our analysis of Interior's comments on our recommendation is presented at the end of chapter 5.

3. GAO does not dispute the fact that it is more efficient to manage lands that are owned as opposed to managing fish and wildlife habitat that includes lands owned by others. However, we believe that other factors are equally important in making decisions on which lands to acquire and how to acquire them. These factors, discussed in the report, deal with the need for the lands, the extent to which they are threatened, the extent to which they are already protected, and the prices that the government would pay to acquire them.

4. The report has been revised to acknowledge that, unlike inholdings in refuges in the other 49 states, the federal government cannot acquire Native-owned inholdings in Alaska through condemnation. While this is a factor, we believe that the lack of condemnation authority should be viewed within the context of whether the proposed acquisitions are threatened, whether they are already protected by existing law, and what prices would be paid to acquire them. We question whether Interior should have placed such importance on the lack of condemnation authority without first considering the need for the land to be acquired, its acquisition priority, and the prices that would be paid. Furthermore, the clear purpose for the prohibition of federal condemnation of Native lands was to preclude the government from taking them without the owners' agreement. This is separate and apart from any consideration of the price the government would pay for the lands. According to Interior, Native-owned lands in Alaska may be obtained only on a willing-seller basis. However, this is the very basis used in fair market value determinations—what a willing buyer would pay to a willing seller.

5. We do not recommend that Interior attempt to acquire the inholdings with appropriated funds. However, we believe that such an alternative would have certain advantages. Namely, by using this approach we believe there would be greater assurance that Interior would acquire only lands that it truly needs since the proposed acquisitions would have to compete with other proposed acquisitions in a priority system for the limited land acquisition funds that are available.

6. The report has been revised on the basis of Interior's comments.

7. The report has been revised to reflect a technical point relating to the fact that the Native corporations would retain access for subsistence purposes, rather than the subsistence rights themselves. The statement regarding Old Harbor's continuing rights has been revised to eliminate the implication that none of their rights would be affected by the exchange.

8. The Alaska Acquisition Priority System was developed by the Division of Realty in FWS' Region 7 (Alaska) to rank 60 areas designated by refuge managers as high-priority acquisition areas within Alaska refuges (the list of 60). After completion of the first draft of Alaska Acquisition Priority System, the system was reviewed by various regional staff to see how consistently the criteria would be interpreted by persons from diverse backgrounds. The group made several changes to the original system. However, in an October 22, 1985, memo prepared by the Alaska Regional Director to the FWS Director regarding Alaska Acquisition Priority System, the Regional Director stated that "the Alaska Acquisition Priority System has served the Region well by helping to rank the many refuge inholdings for various land exchanges and especially for the ANWR land exchange now being considered."

Although Interior states that the list of 60 represents only a gross approximation of then current (1985) interest in various acquisitions, Interior distributed this list, along with acquisition priority maps, to each of the Native exchange participants so they would know which lands FWS was interested in acquiring.

During our review we validated the data used to develop the list of 60 by having the refuge managers review the data.

9. We believe that our discussion of Sitkalidak Island fairly presents the relevant facts. Regarding the acquisition of the island to be part of the Kodiak Refuge our discussions with the Kodiak Refuge manager

revealed that he had not listed the island as an acquisition priority, and that he was interested in acquiring the island only if it would ensure acquisition of inholdings he was really interested in acquiring on Kodiak Island. Furthermore, the FWS Alaska Regional Associate Director told us that when he was first notified that the island was being included in the exchange, he informed Old Harbor Native Corporation that Interior was not interested in acquiring it. He stated that after discussions with Native Corporation representatives and refuge managers, Interior finally agreed to take the island. The report has been revised to indicate the Kodiak Refuge manager's interest in the island as well the context in which he was interested. Our report does not acknowledge a public access easement Interior would acquire on the island because this fact is not germane. The easement is relevant only if the island is acquired, and serious questions exist about the need to acquire any interest in the island.

10. The basic tenor of Interior's argument is that the ANCSA section 22(g)'s effectiveness in protecting lands is suspect because it has not yet been challenged. However, ANCSA has not been overturned either judicially or legislatively and remains in effect. Accordingly, we question the logic of Interior's decision to expend substantial amounts of federal funds on the speculation that this legislative provision, which has been in effect for 17 years and remains so today, may not be effective.

Our position on section 22(g) is founded on the following:

- In 1973 Interior's Office of the Solicitor expressed its opinion that section 22(g) is constitutional.
- In a 1984 judicial decision (St. Matthew Island) the court relied, in part, upon 22(g) in invalidating an exchange that was before it and found that refuge lands governed by 22(g) were protected from uses incompatible with refuge purposes. In doing so, the court, in substance, upheld the provision. Although Interior has stated that the court made a series of erroneous assumptions of fact and law in this instance, Interior has not, to date, appealed the decision.
- In reviewing Interior records in Alaska, we found that as recently as March 1988, Interior relied on the protection of section 22(g), in part, as a reason for not acquiring a wildlife refuge inholding offered for sale by the owner.

11. We have revised the report to reflect that the Assistant Secretary was relating the Native groups' opinion that section 22(g) may have been overridden by section 103(c) of ANILCA.

12. We agree that acquiring title to the inholdings would provide public access benefits and would enable the government to conduct research, fire management, and other programs on the inholdings. However, we question whether acquiring the inholdings (particularly at the prices Interior would pay to acquire them) for these purposes is a high priority from a national acquisition standpoint since none of them appear on FWS' national acquisitions priority lists.

13. The report has been revised to reflect Interior's position. However, we find it paradoxical that Interior would rely on "an opportunity for consultation" as adequate protection against subsurface mineral development while it questions its ability to rely on a long-standing legislative provision (ANCSA section 22(g)), which has neither been challenged in the courts nor overturned legislatively.

14. We are not persuaded by Interior's arguments, and stand by our original position. On the basis of our review of applicable laws and guidelines, we believe that fair market value is the appropriate standard for valuing properties that the government proposes to acquire and that if Interior wishes to acquire lands at prices higher than fair market value, the Secretary of the Interior do so, but only after making a public interest determination supported by an administrative record that addresses all relevant factors. The Secretary of the Interior has not made such a determination to date.

15. Court decisions upon which we base our position are as follows:

- United States v. Miller, 317 U.S. 369, 374-5 (1943);
- Welch v. Tennessee Valley Authority, 108 F. 2d 95, 101 (1939), cert. denied, 309 U.S. 688 (1940);
- Baetjer v. United States, 143 F. 2d 391, 396-7 (1944), cert. denied, 323 U.S.C. 772 (1944);
- United States v. Branch Coal Corporation, 285 F. Supp. 514, 518-19 (1968), aff'd., 411 F. 2d 601 (1961).

16. As stated in our draft and final reports and in Interior's comments, the measure of just compensation is fair market value at the time of the taking. This is the central theme of the point we are making on this issue. We recognize that in eminent domain cases the government at times pays more than its estimate of fair market value, but this is usually done to avoid the costs involved in litigating such cases. Eminent domain is not directly relevant to the proposed exchanges because the government cannot condemn the Native lands. However, we also noted

that over the last several years the incremental cost above estimated fair market value in eminent domain cases has caused the Fish and Wildlife Service to pay an average of 35 percent more than appraised value. Even if Interior could justify paying a premium to acquire the Native inholdings, the 500-percent premium Interior is proposing to pay for the inholdings in the proposed exchanges far exceeds the 35-percent premium it has experienced in other acquisitions.

17. Our draft report did not state that the Assistant Secretary "arbitrarily" increased his starting prices for some inholdings. Rather, we said that the Assistant Secretary's actions were and remain undocumented.

18. We have revised our draft report to make it clear that Interior considered the average cost per acre of all 1986 Land and Water Conservation Fund Acquisitions and the average cost per acre of all 1986 Migratory Bird Conservation Account transactions. More pertinent than the number of transactions, however, is the fact that these transactions were in the other 49 states where land values are generally higher. In making such comparisons, Interior inappropriately focused on transactions involving lands being acquired for the same purposes rather than focusing on recent transactions of similar parcels in the same geographic vicinity, as provided for in The Uniform Appraisal Standards for Federal Land Transactions.

19. As discussed in the report, these other transactions were not comparable to the proposed acquisitions and did not appear to be appropriate comparisons. Consequently, we believe these transactions do not provide insights into appropriate prices to pay for the proposed acquisitions.

20. According to an FWS official, when Interior reduced the size of the parcel it planned to acquire at the Russian/Kenai River site from 1,600 acres to 526 acres, the value of the parcel dropped significantly even though the negotiated price remained the same. We recognize that the lands adjacent to roads and rivers are more valuable than remote acreage and have modified the report accordingly. When Interior agreed to reduce the acreage to be acquired from 1,600 acres to 526 acres, much of the reduction involved lands adjacent to roads and rivers. Consequently, we believe that the price of the remaining lands should have been reduced accordingly. Furthermore, we question the need to acquire any part of the Russian River parcel since public access to the river already exists in a Forest Service camping and fishing campground located in this same area.

21. We do not believe that we omitted information supporting Interior's positions. Obviously, Interior's proprietary documentation could not be discussed in detail in the report. Interior's stated positions and rationales were, however, included in chapter 4 whenever possible to balance the discussion. As necessary, we have included clarifications to those positions in response to Interior's review of our draft report. Because of the limited and uncertain nature of the available geologic and economic data, Interior's staff had to make numerous assumptions to derive tract values. Although we recognize that professional judgments had to be made and stated that different interpretations existed for ANWR, professional judgments cannot overcome inadequate data. In that regard, we believe our opinions and conclusions are well supported by the factual information—much of it provided by Interior in its own published and publicly available documents.

22. We agree that the uncertainty involved in evaluating the ANWR coastal plain was not unlike the uncertainties of evaluating other frontier areas. However, in this instance Interior did not retain a royalty interest in the lands or require the Native corporations to bid competitively for the ANWR tracts as is generally required through lease sales.

23. As we stated in chapter 4, BLM's Assistant District Manager for Minerals in Anchorage told us that BLM used the income approach to value tracts for the exchanges because Interior, the state of Alaska, and private landholders had not leased or sold any tracts comparable to the ANWR tracts. He could not provide us with documentation on a comparable sales analysis. For Interior now to suggest that the ANWR tract values are comparable to Beaufort Sea offshore tract values or that Interior made such a comparison is inconsistent with that position and the information provided to us. Even if Interior has since prepared such an analysis, we question its relevance because the price of oil has changed significantly since the dates of the lease sales and the costs of oil and gas development offshore are different from onshore costs.

24. Interior states that the minimum value was a buffer against uncertainty in tract values. However, our review of agency memoranda on this subject indicates that the purpose of the increased minimum tract value was to recognize (and thus compensate for) an absence of a royalty provision. We agree that the $300-per-acre minimum value for higher risk tracts is substantially more than current minimum bid values for state of Alaska or federal outer continental shelf lands and have added that statement to the text. However, since bidding was not allowed in an openly competitive market for the exchange tracts, BLM

cannot state with certainty that $300 per acre is their fair market value. As BLM did not map some prospects that were selected in the exchange process, it also did not appraise them and therefore cannot state with assuredness that their appraisal would result in a zero dollar value.

25. In our review of company geological and geophysical data submitted to Interior last year, only one company had provided mapping on the level of detail that Interior had developed. On the other hand, that company and others had traced on seismic lines more than one potential oil-bearing layer in the eastern part of ANWR. Oil company officials we spoke with all told us that they had mapped rock layers in the Tertiary trend of the eastern part of ANWR. We do not know, nor does Interior, whether the submitted data represent all the actual detailed mapping of ANWR's geology that oil companies have done. Furthermore, the fact that several Native corporations (and their oil company affiliates) selected 29 tracts that did not overlie BLM-mapped prospects, in essence, is a bona fide challenge to BLM's interpretation.

While it is true that the state of Alaska has not shown its maps to us or to Interior, state officials told us that they had mapped rock layers in the Tertiary and Upper Mesozoic rocks and provided some confirming details. The Director of the Alaska Division of Oil and Gas told us he is bound by law not to reveal his mapping to Interior or anyone else. Our concern is that just because Interior did not map these rock layers does not mean that it cannot be done or that others have not done it. In fact, during congressional testimony on this subject on July 7, 1988, the Director of the Alaska Division of Oil and Gas testified that all 73 tracts selected by the Native corporations overlie prospective oil-bearing structures. This information raises serious questions about not only the adequacy of Interior's data and analysis, but also the minimum values Interior assigned to many tracts.

The Director of the Alaska Division of Oil and Gas placed this in perspective by stating that: "Relatively small but well-informed selections, or even fortuitous selections, could effectively result in the exchange of all or most of the area's potential oil and gas reserves. If this is the case, the impact of these exchanges would be extreme. The federal government will have non-competitively transferred public oil and gas resources to a few select, for-profit Native corporations and their industry partners. The federal government will have assumed extreme risk on the part of the public it represents by exchanging unknown, but highly prospective oil and gas lands, and by not capturing a fair share of the upside potential."

26. We take exception to Interior's comment. In chapter 4 we did not recommend that Interior re-map the Tertiary- and Upper Mesozoic-age rock layers. Instead, we provided information obtained during the course of our work indicating that (1) other interpretations exist of ANWR's geology, differing from Interior's, (2) Native corporations were willing to trade their own lands for lands in ANWR that Interior assigned minimum values to, and (3) several of the tracts selected overlie sizable prospects Interior had not mapped. Since Interior had not mapped these rock layers in detail, particularly in eastern ANWR, it did not conduct detailed economic evaluations of 29 tracts that were selected. Interior cannot state with certainty that it did not undervalue those tracts.

27. We agree that for frontier petroleum exploration areas there may be little or no well data to rely on. Lack of well data increases the risk of using seismic interpretations. However, the lack of specific well data from within the complex geological area of ANWR; the use of widely spaced seismic data, which even Interior had stated in the past was not sufficient for resource assessment according to industry consensus; and the uncertain economic data that was used in the tract evaluations, all support our belief that the tract values assigned by Interior were uncertain.

Although Interior also may have had no well data or had limited well data for other recent lease sales, such sales are conducted competitively, and the government retains a royalty on the actual amount of oil and gas that is ultimately produced. In the proposed exchanges, Interior did not use the normal safeguards and, in our opinion, this renders data limitations of lease sales incomparable to those of the proposed exchanges.

28. For the reasons already discussed in the report, we believe that the 3-by-6-mile seismic grid used by Interior was inadequate to establish tract values with certainty. With regard to BLM and MMS uses of widely spaced seismic grids for lease sales, we disagree with the contention that since lease sales have been held by MMS and BLM using widely spaced grids, the current grid is appropriate. GAO has long maintained that Interior must utilize adequate seismic and geological data to evaluate lease sale and exchange tracts (even when the competition and royalty safeguards are present). For example, in a 1978 report on exploration at the National Petroleum Reserve-Alaska, we stated that geological and seismic data were limited and resulted in erroneous prospect interpretations.[1] In examining a 1977 outer continental shelf lease sale in the

[1]EMD-79-13, Dec. 5, 1978.

Lower Cook Inlet, we agreed with Interior, even then, that a 2-by-2-mile seismic grid was required to identify and evaluate those Alaska prospects.[2]

Interior's statement that the seismic grid was fully adequate is inconsistent with the stated position of BLM's former Chief, Division of Minerals, Alaska State Office, who supported a 3-by-3-mile seismic grid for ANWR. It also contradicts the analysis of the Alaska BLM minerals office in a memorandum included in an option/decision document to the former Deputy Under Secretary of the Interior in 1983. In that document BLM said, "Industry consensus seems to be that between 2,000 and 3,000 line miles of seismic data would be required for an adequate assessment of the resource potential of the study area." In addition, MMS considers a 2-by-2-mile grid appropriate for economic evaluations of Alaska offshore areas, where oil fields must be even larger than onshore fields to be economic. The inference is that if a 3-by-6-mile seismic grid is inadequate for evaluating economic prospects in Alaska offshore areas, it would be inadequate for evaluating economic prospects onshore. Finally, in testifying on the proposed exchanges at congressional hearings, the Director of the Alaska Division of Oil and Gas stated that: "Such a large grid size, when combined with the lack of well data control and the extremely complex geology, virtually guarantees that many potential oil and gas traps of significant size may not be recognized." The large size of a prospect does not necessarily mean that less seismic data are needed to map it for tract evaluation. For example, the seismic grid used over the giant Prudhoe Bay prospect prior to the 1965 state of Alaska lease sale was 2 by 2 miles.

29. We disagree that for the purposes of an exchange the estimated mean tract values, without associated confidence intervals, "are the only relevant numbers." We recognize that information about the reliability of the estimated tract values would not have helped Interior to place a single value on parcels to be traded under the proposed exchanges. We believe, however, that by estimating a single number, BLM has developed a "most likely value" and it is highly unlikely that the "actual" value will exactly equal BLM's estimate. Providing the range and probability of other values would have helped both Interior and the Congress to recognize that there is no single correct value and to evaluate the uncertainties associated with a decision to go forward with the exchanges.

[2]EMD-78-48, June 8, 1978.

We acknowledge that BLM usually does not develop confidence intervals when estimating tract values for exchanges. However, we note that BLM usually does not exchange oil and gas interests in frontier areas.

30. Interior stated that for certain variables the benefits to be gained by modeling the uncertainty are not worth the additional complexity involved. However, without either modeling the uncertainty in the variable or performing sensitivity analyses, Interior has no analytic basis on which to reach conclusions on the effects.

Interior stated that for the real growth rate in the price of oil after the year 2000, sensitivity analyses showed that the effect of modeling uncertainty in this variable would have been negligible. However, during our review we found that Interior had not performed a sensitivity analysis with respect to this variable before establishing the tract values for exchange purposes, but rather performed the analysis after we had questioned Interior about it. Interior's statement that the uncertainty associated with this variable would have contributed little to changes in the estimated tract values is inconsistent with information provided to us during our review. This information, provided by BLM's Division of Minerals Policy Analysis and Economic Evaluation, showed that for the best prospects in ANWR, a 2-percent change in the real growth rate in the price of oil after the year 2000 would result in a 10-percent change in tract values. We believe that given the magnitude of the dollar amounts involved in the proposed exchanges, a 10-percent change in tract values is not negligible.

In addition, Interior stated that the 2-percent real annual growth rate is typical of other long-term forecasts. We disagree. We found that of 10 forecasts of the real growth rate in the price of oil after the year 2000, eight assumed higher rates, ranging up to 5 percent. Had Interior used a higher rate, the estimated values of the oil and gas tracts Interior proposes to exchange would have increased.

It should be noted that Interior did not either model uncertainty in or perform sensitivity analysis with respect to the discount rate it used in estimating ANWR tract values. The effects of changes in this variable could be substantial.

Furthermore, BLM stated that using a single value rather than a range for a variable will not significantly affect the results. We believe the shortcomings of Interior's use of a point estimate for some variables are important for two reasons. First, because of the structure of BLM's

model, using a range of values will result in a different outcome than if the single mean value of the range is used. Second, by presenting the estimates of several variables as single values rather than as variables that can take on a range of values with associated probabilities, BLM's method reduces the confidence interval of the final value and, thus, erroneously increases the reliability associated with the final value.

31. Interior's statement may be true that the effect of uncertainty in transportation costs on tract values is less significant compared with the influence of the amount of recoverable oil found in ANWR, but variation in transportation costs could still influence tract values and Interior has not presented any evidence to the contrary. We are aware that transportation costs for the ANWR oil are primarily influenced by the amount of oil discovered in ANWR. However, the transportation costs could vary from the fixed point estimates Interior used for a number of other reasons. For example, our review indicated that for the Trans-Alaska Pipeline System segment of the transportation cost, Interior used estimates of Trans-Alaska Pipeline System tariffs from the Department of Justice. A comparison of the actual Trans-Alaska Pipeline System tariffs with the estimates since 1985 shows that Justice estimates have been consistently above actual Trans-Alaska Pipeline System tariffs. Although this means that for some ranges of ANWR reserve estimates the assumed tariff is too high, for some ranges of ANWR reserve estimates the tariff is too low because Interior did not assume the costs of building a new pipeline or enhancing the capacity of Trans-Alaska Pipeline System for possible ANWR reserves that would exceed its capacity. Because of uncertainty in the estimated transportation costs, we believe Interior should have incorporated a cost contingency factor for them in its valuation model, as Interior did for most other costs.

32. Interior's statement that oil production rates are a function of recoverable reserves is an oversimplification. The document from which Interior drew its assumed production rate noted that actual performance in an area depends on reservoir characteristics, productivity of wells, and drilling schedules—all of which are at this point unknown for the ANWR tracts in the proposed exchanges. By using a point estimate for a variable based on uncertain factors, and by not dealing with that uncertainty through Monte Carlo modeling or sensitivity analyses, Interior inferred a greater degree of precision in its estimates for this factor than actually exists.

33. Discounted cash flow analyses of the type Interior performed are extremely sensitive to the choice of the interest rate. However, as our

survey of related studies indicated, at least three other interest rates (6 percent, 7 percent, 8 percent) could have been used that other analysts believe are as appropriate as the 10-percent rate Interior used. In addition, MMS comments on Interior's economic evaluation of ANWR for the draft 1002 report stated that MMS believed Interior should have used a discount rate of from 0 percent to 8 percent, rather than 10 percent.

Interior maintains that the 10-percent rate is the most appropriate rate to be used in this type of analysis. Our position, however, is that there is sufficient uncertainty associated with the appropriate rate of interest to warrant use of other rates which, as shown by MMS analysis, other studies, and even BLM are equally possible. In other words, Interior should have recognized the possibility of these other interest rates and should have performed sensitivity analysis with respect to changes in this variable.

34. We have added language to the report to clarify this point. However, we disagree with Interior's comment that our reference to the act is not germane to our review of the proposed exchanges. To the contrary, we believe that the Congress' recent action to amend the act to generally require competition on onshore oil and gas tracts—rather than only on those tracts within the known geologic structures of producing fields—merely serves to underscore the importance that the Congress attaches to the role of competitive bidding in setting the values of oil and gas tracts, and is relevant to the proposed exchanges because they are not yet executed.

35. Our point here is that while there is a greater chance of finding no economically recoverable oil in ANWR than of finding it, Interior has recommended that ANWR be opened to oil and gas development because it has been rated the best oil and gas development prospect remaining in the onshore United States and because of its potential to significantly increase domestic oil production. This seems inconsistent with Interior's decision to exclude royalties from the proposed exchanges. Excluding royalties would make the proposed exchanges financially beneficial to the government only if little or no oil is found.

36. The footnote that we quoted from Interior's issue paper on the exchange followed this statement: "The Secretary has a stewardship responsibility with respect to the management of the public lands. For this reason, and to avoid political allegation of 'give-away' by program critics, it is important to make sure that we [Interior] have safeguards to ensure that we [Interior] receive a fair return for ANWR oil and gas rights.

. . . Much of the rationale for a competitive selection process . . . is grounded in the need to ensure receipt of fair market value."

The issue paper went on to state that "the significant uncertainty regarding the presence of oil and gas makes this issue even more important since competitive bidding and retention of a royalty interest would not be fully utilized in the exchanges." The issue paper argued that the application of constraints on the value and acreage of the tracts the Native groups could select in ANWR would likely mitigate this problem.

We do not believe that Interior's constraints were an adequate substitute for competitive bidding because Interior had inadequate geologic and economic information to ensure that the tract selections met the constraints. As a result, we believe that competitive bidding by all interested parties is necessary to ensure that the government receives fair market value on the ANWR tracts.

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