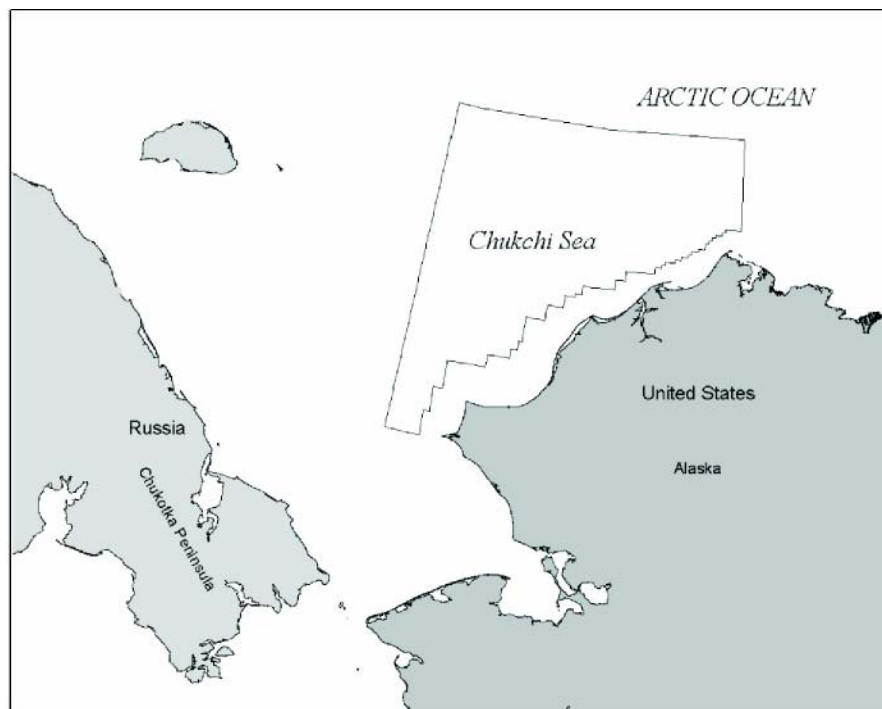


Chukchi Sea Planning Area

Oil and Gas Lease Sale 193

Scoping Report



Scoping Report

Outer Continental Shelf (OCS), Alaska, Region, Chukchi Sea Planning Area Oil and Gas Lease Sales 193

Environmental Impact Statement

Table of Contents

| | | |
|-----------|-----------------------------------------------------------------------------|----|
| I. | Introduction..... | 3 |
| II. | Lease Sale 193 Environmental Impact Statement | 3 |
| II.A | Past Activity | 3 |
| II.B | Current Effort | 4 |
| II.B.1 | Proposed Action..... | 4 |
| II.B.2 | Hydrocarbon Resource Levels | 4 |
| II.B.3 | Exploration and Development Scenario..... | 4 |
| II.B.4 | No Action Alternative | 6 |
| II.C | LS 193 Scoping Process | 6 |
| III. | Results of the Scoping Process | 8 |
| III.A | Accidents | 9 |
| III.B | Sociocultural/Subsistence/Environmental Justice..... | 9 |
| III.B.1 | Sociocultural Systems | 10 |
| III.B.2 | Socioeconomics | 11 |
| III.B.3 | Subsistence..... | 11 |
| III.B.4 | Cumulative Sociocultural Effects..... | 11 |
| III.C | Wildlife and Aquatic Habitat..... | 12 |
| III.C.1 | Terrestrial Mammals | 12 |
| III.C.2 | Fishes | 12 |
| III.C.3 | Bowhead Whales..... | 12 |
| III.C.3.a | Bowhead Whales--Seismic Surveys, Reaction to Noise. | 12 |
| III.C.3.b | Bowhead Whales--Information on Natural History and Migration Patterns | 13 |
| III.C.3.c | Bowhead Whales--Oil Spill Effects | 14 |
| III.C.3.d | Bowhead Whale--Subsistence | 15 |
| III.C.4 | Non Endangered Marine Mammals | 16 |
| III.C.5 | Water Quality | 17 |
| III.C.6 | Physical Oceanography | 17 |
| III.C.7 | Cumulative effects | 18 |
| III.C.7.a | Cumulative Effects—Projects to Include in Analysis | 18 |
| III.C.7.b | Cumulative--Sociocultural. | 19 |
| III.C.7.c | Cumulative—Commercial Fishing..... | 19 |
| III.C.7.d | Cumulative--Climate change..... | 19 |
| III.C.8 | Alternatives to the Proposed Action..... | 20 |
| III.C.8.a | Alternatives recommended for detailed evaluation in the EIS. | 20 |
| III.C.8.b | Alternatives not recommended for detailed evaluation in the EIS | 23 |
| III.C.9 | Mitigation Measures and Stipulations..... | 25 |
| IV. | Incorporation of Scoping Information into the EIS..... | 26 |
| IV.A | Government-to-Government Meetings..... | 26 |
| IV.B | Environmental Justice..... | 26 |
| IV.C | Stipulations | 27 |
| IV.D | Information-to-Lessee Clauses (ITLs)..... | 27 |
| IV.E | Resource Categories to be Examined in the EIS..... | 28 |
| IV.F | Additional Mitigation Measures | 28 |
| IV.G | Issues Eliminated From Detailed Study..... | 28 |
| V. | Cooperating Agencies | 29 |

VI. *Opportunities for Further Public Involvement*..... 30

List of Figures

Figure 1 Previously Leased Blocks and Exploration Wells31
Figure 2 Lease Sale 193, Area of the Proposed Action.....32
Figure 3 Corridor I Deferral33
Figure 4 Corridor II Deferral.....34
Figure 5 Walrus Deferral.....35
Figure 6 Barrow Canyon Deferral.....36
Figure 7 Steller’s Eider Critical Habitat Deferral37

I. Introduction.

In September 2005, the Minerals Management Service (MMS) initiated scoping for the Environmental Impact Statement (EIS) for the Chukchi Sea Outer Continental Shelf (OCS) Oil and Gas Lease Sale 193. This report describes past oil- and gas-leasing activity in the lease-sale area, outlines the proposed action and no-action alternatives, and summarizes the information MMS received during the initial scoping. It provides information regarding the issues, environmental resource categories, alternatives, and mitigating measures that will be analyzed in the EIS. It also provides information about issues and alternatives that will be discussed briefly in the EIS, but that will not be evaluated in further detail in project, alternatives, and cumulative effects sections of the lease Sale 193 EIS.

II.A. Past Activity.

The Chukchi Sea OCS Planning Area experienced a modest level of activity in the late 1980's and early 1990's and renewed interest as an area of potential oil and gas leasing in the last few years.

The current Chukchi Sea Planning Area was divided between two planning areas, the northern portion once being part of the then-Beaufort Sea Planning Area. Portions of the current area were offered in four previous lease sales (Sales 97 and 109 in 1988 and Sales 124 and 126 in 1991). The 483 tracts leased in these four sales (approximately 2.7 million acres) attracted \$512 million in total high bids. Approximately 100,000 line miles of 2D seismic data were collected, with nearly three-quarters of the total line miles acquired between 1980 and 1989. As shown in Figure 1, five large, favorably situated prospects were eventually drilled (Burger, Klondike, Crackerjack, Popcorn, and Diamond). Success in exploring the Chukchi shelf apparently was viewed as highly dependent upon commercial success at these five prospects. Although the five Chukchi shelf wells encountered favorable geology, none discovered commercial quantities of oil or gas, and exploration of Chukchi shelf was abandoned. Through successive rounds of relinquishments, industry lease holdings gradually diminished and, of the 483 leases active on Chukchi shelf in 1992, none remain active today.

In 2002, the Secretary of the Interior issued the Final OCS Oil and Gas Leasing Program for 2002-2007. That document presented her decision to consider annual "special-interest" sales in the Chukchi Sea/Hope Basin OCS Planning Areas. The objective of this "special-interest" leasing option is to foster exploration in a frontier OCS area with potential oil and gas resources but, because of high economic costs, may have minimal industry interest. The general approach for special interest leasing is to query industry regarding the level of interest for proceeding with a sale in an area such as the Chukchi Sea/Hope Basin. We would expect nominations of focused areas of specific industry interest and to offer such areas for lease. Based on the information and specific

nominations received as a result of each Call for Interest and Nominations (Calls), a decision is made whether to proceed with the sale process.

We received no indication of interest in response to the first two Calls for special interest leasing in the Chukchi Sea/Hope Basin published in the *Federal Register (FR)* on March 25, 2003 (68 *FR* 14425), and January 30, 2004 (69 *FR* 4532); therefore, the process was stopped.

II.B. Current Effort.

In response to the third Call published in the *Federal Register* on February 9, 2005 (70 *FR* 6903), industry nominated a substantial portion of the Planning Area. This area was greater than that envisioned in the special interest lease-sale option described above. The MMS concluded that consideration of such a large area had merit in light of the significant resource potential of the area and the Administration's goal to expedite exploration of domestic energy resources. The MMS further concluded that consideration of such a proposed action warranted a more extensive National Environmental Policy Act (NEPA) review than contemplated under the special interest leasing option.

With the publication of a Notice of Intent to Prepare an Environmental Impact Statement in the *Federal Register* on September 14, 2005 (70 *FR* 54406), MMS initiated the process to prepare a comprehensive "areawide" EIS for the so-designated Lease Sale 193. However, the EIS will not be completed in time to allow the Sale during the current 5-Year Program, which expires on June 30, 2007. Lease Sale 193 is tentatively scheduled for November 2007, subject to its retention in the next Five-Year Program for 2007 to 2012 and final adoption of the Program by the Secretary of the Interior.

II.B.1. Proposed Action. The proposed action examined in the EIS is to offer for lease the Chukchi Sea area, shown in Figure 2, which consists of approximately 6,155 whole and partial blocks (about 34 million acres). The stipulations listed below are assumed to be included in the proposed action. The program area excludes a 15- to 50-mi-wide corridor along the coast, the polynya or spring-lead system. Water depths in the program area vary from about 32 feet (ft) to approximately 230 ft. A small portion of the northeast corner of the area drops to approximately 3,000 ft.

II.B.2. Hydrocarbon Resource Levels. The Chukchi OCS is viewed as one of the most petroleum-rich offshore provinces in the country, with geologic plays extending offshore from some of the largest oil and gas fields in North America on Alaska's North Slope. Our current petroleum assessment indicates that the mean recoverable oil resource is 12 billion barrels (Bbbl) with a 5% chance of 29 Bbbl.

II.B.3. Exploration and Development Scenario. The scenario used to describe the potential effects of the proposed action involves the discovery, development, and production of the first offshore oil field in the Chukchi Sea. Ultimately recoverable oil resources from this field are assumed to be 1 Bbbl, as lower oil volumes are not likely to

be economic and larger volumes in a single pool are rare. The total lifecycle (exploration through production activities) of the offshore project could last 30-40 years; oil production could last for 25 years.

All scenarios are hypothetical. They can be categorized as *reasonable* and *speculative*. Reasonable scenarios are extensions of current trends and are more likely to occur within a decade or two. The activities and infrastructure in the scenario include:

- Geological and geophysical seismic surveys.
- Exploratory, delineation, and limited development drilling using drillships with icebreaker-support vessels.
- A single, large, bottom-founded platform used as a central facility for development and production. Subsea wells would be completed in templates (4 wells per template). Production would be gathered to the central platform by flowlines with subsea completions and in-field gathering lines.
- An offshore pipeline 30-150 mi long between the offshore platform and landfall.
- A new onshore facility to support the offshore operations and serve as the first pump station.
- The overland pipeline to the Trans-Alaska Pipeline System or a nearer gathering point.

For the EIS, we consider oil production from the Chukchi shelf as reasonable, because the area has high oil-resource potential, and there is existing transportation infrastructure to move oil from northern Alaska to distant markets. Conversely, we consider natural gas production from the Chukchi Sea as speculative at this time. Although the area has a high potential for natural gas occurrence, there is no existing transportation infrastructure to move produced gas to markets.

The scenario is a hypothetical activity and infrastructure model on which to base analysis of potential and typical effects. The scenario is based on economic factors, industry trends, and professional judgment. Analysis based on the scenario is designed to inform the decisionmaker of estimated potential and typical effects if the lease sale is held.

The MMS received input during scoping regarding different scenarios that represent the vision of exploration, development, and production of a particular corporation. The MMS analyzed this input and considered this information. We decided to go forward with a scenario that reflected general conditions and one that results in a complete and complex production system that is not reflective of the vision of a single operator.

The MMS has long recognized that different scenarios may be “reasonable” in that they represent different technically and economically feasible and plausible ways to develop an oil and gas field of a given size. However, the scenario does not constitute an alternative that can be selected by the decision maker. While we are required to analyze reasonable alternatives in an EIS, analyzing multiple, marginally different scenarios would result in an overly complex analysis that confounds comprehension while adding no option for the decision maker to consider.

II.B.4. No-Action Alternative. Conceptually, under the no-action alternative, the analysis of effects must recognize that certain OCS-related activities still may occur in the planning area.

Under Council on Environmental Quality (CEQ) guidelines (40 Questions) and the Department of the Interior Manual 516, the No-Action alternative can encompass two sets of circumstances: first, “continuing the present course of action” and second, “the proposed activity would not take place and the resulting environmental effects of taking no action would be compared with the effects of permitting the proposed action to or an alternative to go forward.”

In the first case, both circumstances lead to the same result. If the No-Action Alternative means “the sale will not be held,” OCS oil- and gas-related activities still may occur in the Chukchi Sea Planning Area. First, the 5-year draft proposed program for 2007-2012 considers two sales in the Chukchi Sea Planning Area (including the polynya, which is not included in Lease Sale 193), the first in 2009 and the second in 2011. In the second, in anticipation of these two lease sales, seismic surveys most likely will continue. For example, the scenario developed to analyze the potential effects of Lease Sale 193 estimates that up to 21 seismic surveys could occur between 2007 and 2012; some of these surveys would be 3D seismic surveys, while others would be site-clearance surveys. Under the “no-sale alternative,” we can reasonably expect that a number of the surveys still would take place in anticipation of the future sales. However, as an element of the scenario, the potential effects of these surveys will be analyzed as part of the proposed action. As such, the EIS will consider these continued surveys as part of the proposed action, action alternatives, or the no-action alternatives.

II.C. Lease Sale 193 Scoping Process.

The Notice of Intent provided instructions for interested parties to submit written comments on the scope of the EIS by mail, email, or hand delivery; noted that scoping meetings would be held, as needed, in appropriate locations announced at a later date; and invited inquiries from other Federal, State, tribal, and local agencies interested in becoming cooperating agencies in the preparation of the EIS.

Through scoping, MMS receives information used to determine the issues, alternatives, and mitigating measures that will or will not be analyzed in depth in the EIS. This report presents a summary of the written comments submitted to MMS and comments made in scoping meetings. It does not present an exhaustive list of all the individual comments received. Neither does it present responses to the comments, conclusions, nor decisions related to the content of the comments. Section I.D of the EIS will discuss and evaluate all of the scoping issues and concerns listed in the summary of comments below, and the significant issues will be identified for further detailed analysis in the Section IV (Analysis of Effects) of the EIS.

Comments were received through a variety of channels:

- During the scoping process, interested parties submitted written comments to MMS on the Chukchi Sea Oil and Gas Lease Sale 193 via electronic mail (email delivery), U.S. mail delivery and hand delivery.
- The MMS held open public meetings in Point Hope (January 23, 2006); Point Lay (January 30, 2006); Wainwright (March 10, 2006); Barrow (February 1, 2006); and Anchorage, Alaska (February 9, 2006); and a toll-free phone session (February 10, 2006).
- Government-to-Government meetings with the federally recognized Native Alaskan Tribes: the Native Village of Point Hope (January 23, 2006); the Native Village of Point Lay January 30, 2006, in conjunction with public meeting); the Native Village of Wainwright (March 10, 2006); the Native Village of Barrow (February 2, 2006); and the Inupiat Community of the Arctic Slope (February 2, 2006).
- Contacts with the State of Alaska and local governments.
- Outreach and information meetings with non-government organizations, including the Alaska Eskimo Whaling Commission (AEWC), Alaska Beluga Whale Committee (ABWC), and Alaska Walrus Commission (AWC).
- Voice mail via toll-free telephone number.
- In-house activities including Chukchi Sea Science Update, in which recognized experts made a variety of presentations to MMS staff regarding the physical, biological, and social resources of the Chukchi Sea area.

Approximately two dozen organizations or individuals, including Alaskan Natives, environmental organizations; private industry, and local, State, tribal, and Federal government agencies; and organizations provided written or other input. In addition to written comments received in response to the Notice of Intent to Prepare an EIS, we also examined comments that MMS received during the 5-year program process for relevance to the Lease Sale 193 EIS. We documented comments made during the public meetings. Some commenters submitted input through multiple channels. The comments originated predominantly from within Alaska.

More than 120 persons participated in the public scoping meetings. The meetings were advertised in local media; through notices posted in the villages; announcements made via local communication channels, such as community citizen band radios; and word of mouth (commonly is referred to as “the bush telegraph.”)

During public meetings and Government-to-Government meetings, MMS personnel discussed past lease-sale and exploration activities in the Chukchi Sea, the upcoming Chukchi Sea Lease Sale 193, and other OCS activities including the 5-year draft proposed program process and schedule, the Programmatic Environmental Assessment (PEA) of possible seismic survey activity in the summer of 2006 in the Beaufort Sea and Chukchi Seas, and the potential continuation of that activity in 2007. Inupiat translation was provided where needed. The presentation highlighted our desire to received input on the resources, issues, alternatives, and mitigation measures to be included in the environmental analysis. We emphasized that the EIS is an information document that

discloses the potential effects of the proposed action and alternatives, including potential mitigation measures to the decisionmakers, and that no decision regarding the proposed action had been made.

Information distributed at the meetings included a summary of past activities in the Chukchi Sea Planning Area, maps of the area, copies of the Power Point presentation, and a primer on participation in the scoping process. At these meetings, MMS received and documented input on issues, alternatives, mitigation measures, and environmental justice concerns.

In fulfillment of requests made during scoping meetings, MMS has provided further information including:

- Presentations made at the Chukchi Sea Science Update.
- The EIS for Lease Sale 126 (the last lease sale held in the Chukchi Sea Planning Area).
- Past seismic survey activity on the Chukchi Sea.
- Transcripts of previous public hearings on oil and gas development on the Beaufort Sea and Chukchi Sea.
- Copies of written comments received by MMS in response to the Notice of Intent and the 5-year program.
- Environmental Justice analyses conducted for prior lease sales.
- Update on the Coastal Energy Impact Assistance program implementation (held in abeyance until release of letter to State and boroughs, not sent as of 3/6/06).
- MMS Pacific OCS Region OCS Study, MMS 2000-0019, Monitoring and Mitigating Socioeconomic Impacts of Offshore Related Oil and Gas Development sent to North Slope Borough Planning Department Director.

III. Results of the Scoping Process.

The following section summarizes the comments received during the scoping period. It is a compilation of the remarks received, no attempt is made to analyze, support or refute the information. The wording is intended to categorize and summarize the substance of the comments, not reproduce the exact wording of individual comments. The order in which the issues are presented is not intended to reflect their relative importance. The summary does not evaluate the comments, nor does it attempt to depict any majority opinions or trends. Because of the wide range of interests and opinions about the Chukchi Sea OCS oil and gas lease sales, many of the comments in each issue category are illustrative of the varied, and perhaps contradictory, issues, concerns, and desired future conditions expressed by individuals, organizations, and public agencies. While some overlap between categories is unavoidable, effort has been made to reduce repetition of issues between the categories. Notes of scoping meetings and copies of correspondence received during scoping are available from the Alaska OCS Region's Office of Leasing and Environment.

III.A. Accidents.

Commenters asserted that offshore oil and gas infrastructure is subject to accidents from severe environmental conditions such as coastal erosion and the movement of ice, characterized as a “frozen tsunami.” The ability of operators and the government to respond to prevent or control oil spills was questioned. Commenters expressed attendant concerns about the inability to clean up an oil spill in broken-ice conditions.

- A primary concern is the potential that a significant release of oil into the arctic marine environment will impact the region’s fish and wildlife resources and the essential harvest of those resources.
- Discharges. The MMS must ensure that the risks of oil spill are minimized, that chronic leaks are contained, and that there is no offshore discharge of drilling muds.
- The Native subsistence community is particularly concerned that to date, no reliable method or technology has been proven effective at cleaning spilled oil in broken ice. The MMS must require that operators developing oil in the Chukchi Sea demonstrate that they possess the capability and technology to deploy effective devices to clean up spilled oil in broken ice.
- Oil-spill risk or accidental loss of drilling muds, solvents, or other toxic liquids. What happens when it is released? Where does it go? How do they affect health of the bowhead and the Inupiat who eat them? There is no technology to clean up an oil spill in broken-ice conditions.
- Current measurements show the flow near the bottom. Recent acoustic Doppler current profiler (ADCP) measurements suggest that the near-bottom flow extends close to the surface. However, the ADCP’s do not measure any closer than to within 3 meters of the underside of the ice. The very few ice-drift measurements for the Chukchi shelf suggest that the ice drifts more or less westward (with the wind on average). This implies that there might be a very thin surface layer in the water column that drifts with the ice (emphasizing this is outside of the Barrow Canyon region.) From the oil-spill scenario perspective, this thin layer could be of concern.
- Include a detailed discussion of how potential adverse impacts from oil spills may be lessened by effective containment and cleanup operations. The discussion would include how effective containment and cleanup would be given the conditions in the lease area.
- Include a risk analysis related to oil spills.
- The risk of a spill should be described as distinct from evaluations of the potential impacts of the spills. The low probability of discovering commercial finds should not be equated with insignificant impacts.
- Given the more severe environmental conditions, the spill-risk estimate for a Chukchi Sea sale must certainly be higher.

III.B. Sociocultural/Subsistence/Environmental Justice.

The division of issues on this list is not precise given the often seamless connection between subsistence hunting, primarily of marine mammals; the village and larger Inupiat culture; group and individual sense as a “people” and “self” and the social security net that shared subsistence food and the rituals and practices that surround it provides. Commenters emphasized the importance of subsistence-harvest activities not only as a source of food but as the foundation of the traditional and modern culture and the Inupiat sense of well being. Comments emphasized the importance of the ocean resources, often referred to as “our garden,” for Alaskan Natives. Commenters requested that specific plans be developed to avoid conflicts between exploration and development and subsistence activities and offered a number of deferral alternatives to protect the resources. Commenters also requested that the EIS consider the interconnectedness of subsistence and potential effects on wildlife, a relationship often referred to as the “web of life.”

III.B.1. Sociocultural Systems. Analyze the effect that the sale could have on the ability to support family if the source of food is put in jeopardy. There is no other source of food for the community. The MMS must realize the importance of the beluga hunt to provide food, which is shared with outlying villages. Subsistence provides “cultural medicines” that have been proven to help our community. To lose the ocean as a source of food would be catastrophic.

- There is an obligation to speak up to protect the way of life ancestors fought for. When people can’t get medical assistance from the main village or when western medicine does not work, they rely on old ways—Eskimo food is the medicine.
- Offshore drilling has a serious impact on the community and outlying villages.
- Subsistence hunting has been around for many generations. The people still rely on it year-round. It brings the people to work together and celebrate and thank God. Catching ocean animals keeps them strong and outgoing. The lease sale will greatly affect the next generation.
- The threat of possible activity causes stress and anxiety with regards to subsistence hunting among the people.
- An Inupiat hunter remarked that he is dependent on seasonal marine mammals consisting of bowhead and beluga whales; ringed, spotted, and bearded seals; walrus; and polar bears to sustain his Inupiat identity in perpetuity.
- Public assistance is not a substitute for our traditional way of life, as it does not last when someone spends \$200 to \$300 per visit at the store for food.
- The ocean harvest is the Natives’ livelihood, garden, and their way of life. There is no way to clean up oil spills in broken ice. The activities will only damage the “goods” from the ocean. This is the intent of the Federal Government.
- Analysis must reflect the importance of subsistence resources to the villages, it is more than just food.
- The MMS must make a focused effort to solicit and gather all relevant local knowledge and must do so on terms and within a timeframe acceptable to local people. The EIS should describe actions taken to identify minority and low-income populations, and determine effects from alternatives on these populations, and present opportunities for the communities to have input into the NEPA process.

- Need to recognize the importance of the bowhead whale (see the list of bowhead scoping comments that relate to subsistence harvest).
- We should consider the long-term effects of the activities and look at the experience of Nuiqsut. They were opposed to development and were not heard.

III.B.2. Socioeconomics.

- Evaluate the socioeconomic effects and benefits of exploration and development of Chukchi leases on the local communities, boroughs, and the State of Alaska. The evaluation should include the benefits of job creation, tax revenue from onshore facilities, electrical power generation from natural gas supplies, and potential Federal revenue sharing.
- Analyze benefits to local communities, boroughs, and the State.

III.B.3. Subsistence.

- Subsistence activities could be affected. The leasing activity represents a trampling of the Natives' subsistence rights.
- Subsistence resources for the communities include beluga whales, salmon, arctic cisco, tom cod, arctic char, whitefish, and eider ducks.
- Fish, whales, beluga whales, seals, bearded seals, all provide nourishment and skins that allow Natives to survive the winter.
- Subsistence communities depend on the health of the bowhead whale, and any evidence that the whales have been oiled or that their food source has been compromised will force people to curtail the hunt, or to stop it altogether for fear of tainted meat.
- A dollar amount cannot be assigned to harvesting resources, but developing this measure would allow people to comment on it.
- The effects of activities on organisms in the food chain ("circle of life") that support subsistence species are important. What is the baseline for these organisms? Monitoring is very important.
- Subsistence fishing occurs in the lagoons and set nets along the coast.
- Of particular concern is the potential for onshore pipelines and other infrastructure associated with offshore Chukchi Sea development to impact the Western Arctic caribou herd and subsistence use of the herd.
- The MMS should adopt standard in the Marine Mammal Protection Act (MMPA), e.g., unmitigable adverse impact, on the availability of a species or stock for taking for subsistence uses. Whenever the potential exists for the take of subsistence resource to fall below the level required to meet subsistence need for a season, the effects must be considered significant

III.B.4. Cumulative Sociocultural Effects.

- Subsistence activity is affected by high fuel costs and restrictions on access by air to hunting camps and potential restrictions for national security. Examine impact assistance and infrastructure improvements to lower cost and increase access.
- Greenland and Canadian Inupiat people are reporting adverse subsistence climatic conditions limiting their ability to hunt and access traditional hunting grounds. The arctic ice pack is melting fast, and each year the ice pack leaves the area and does not return as it did in the past. People are traveling longer distances to harvest marine mammals.
- Fewer walrus are being harvested because of retreating ice, making a difficult situation.

III.C. Wildlife and Aquatic Habitat.

Commenters identified several species, particularly subsistence species that may be affected in varying degrees by offshore oil and gas and other activities. The bowhead whales were the most cited and prominent species mentioned in the comments, particularly their response to potential noise. Other species mentioned included beluga whales, walrus, seals and other marine mammals; terrestrial mammals, especially the Western Arctic caribou herd; fish such as the arctic cisco, tom cod, and other species; and shore-, marine, and coastal birds, especially the various species of eiders and designated critical habitat. Commenters suggested that alternatives be considered that deferred areas critical to wildlife and to the related subsistence use of those species.

III.C.1. Terrestrial Mammals. Of particular concern is the potential for onshore pipelines and other infrastructure associated with offshore Chukchi Sea development to impact the Western Arctic caribou herd and subsistence use of the herd.

III.C.2. Fishes.

- Coastal and onshore fishes. Effects of onshore infrastructure, including the impacts of winter water withdrawal on fish and their food web.
- Effects of a potential oil spill on salmon and snow crabs and the effects this could have on commercial fishing for these species that occurs outside the Lease Sale 193 area.

III.C.3. Bowhead Whales. Comments during scoping addressed the bowhead whales including their reaction to noise, information on their natural history, effects of oil spills, and information on subsistence harvest.

III.C.3.a. Bowhead Whales: Seismic Surveys, Reaction to Noise.

- People feel deeply about protecting the migratory path of the bowhead. If exploration and development could be done without disrupting the whales, then they would support OCS activity. Industrial activity in the ocean makes a lot of noise, the bowheads hear it and it changes their normal patterns of travel and feeding.

- Include a risk analysis of the effects of noise.
- Because seismic testing could occur 8 nautical miles offshore, and because the reach of noise from airgun pulses can affect whales a *minimum* of 12 mi away, MMS must analyze how bowhead whales might react to seismic noise while migrating through the spring lead system. In the case of Barrow, MMS also must include in the EIS an analysis of the effects of seismic noise on fall-migrating whales as they head around the point and continue through the east Chukchi Sea.
- Because the spring hunt occurs in the lead system, which bowhead whales use to surface and breathe, their behavior patterns and migration may be altered in ways MMS has not previously considered. For the sake of the subsistence communities along the western coast of Alaska, MMS must study and analyze the potential effects of noise on the spring bowhead whale hunt.
- If there is any chance that bowhead whales will exhibit avoidance behavior or change their migration patterns so that they will become unavailable for use by our subsistence communities, MMS must implement seasonal restrictions for seismic testing.
- There is abundant evidence that seismic testing has the greatest potential to cause avoidance behavior in migrating bowhead whales from long distances, driving them beyond the reach of whaling canoes or causing unpredictable swimming and diving patterns. Very little is known about the fall migration in the Chukchi, and MMS must pay particular attention in its EIS to the implications of geophysical testing for the Barrow bowhead whale hunt, as Barrow appears to be the village closest to the lease-sale boundary and hunts during both fall and spring.
- The studies on noise pollution and its effect on whales by Don Ljungblad indicate that whales deviate from the noise. (Note: See previous testimony in <http://www.mms.gov/alaska/ref/PublicHearingsArctic/1986%20ANILCA%20Kaktovik.pdf> for the reference).
- The MMS also must analyze the potential adverse effects on the bowhead whale subsistence hunt from noise associated with construction of facilities and oil development, such as pipeline trenching, gravel fill, helicopter, and other vessel traffic.
- Barrow hunters' experience with the Cabot test well in 1988-1991 was offered as an example of potential effects. The rig was left near Cooper Island from 1989-1990, and its presence caused the whales and other marine wildlife to be driven due north 30 mi offshore.
- Have there been any reports of dead or beached whales after seismic activity?
- Whaling captains report that seismic activity resulted in not landing whales at Wainwright. A 55-horsepower engine will scare whales away, what will seismic surveys do by comparison?

III.C.3.b. Bowhead Whales: Information on Natural History and Migration Patterns.

- Bowheads return from the Beaufort toward Russia in the fall via a different route than the spring migration to the Beaufort. Point Hope reports bowhead whales move straight across the top of the Chukchi Sea (approximating the northern boundary of the lease sale area).

- Virtually nothing is known about the fall migration of bowhead whales in the Chukchi Sea. Currently, a research program is under way that has the potential to shed light on the behavior and headings of fall migrating bowhead whales in the Chukchi Sea. This program will derive data from satellite tags attached to whales at Barrow. Vessel traffic and construction activities that result from Sale 193 underscore the importance of the satellite-tagging program, and MMS should be alert for the results.
- Bowhead calving takes place in the polynya and throughout the area.

III.C.3.c. Bowhead Whales: Oil Spill Effects.

- In situ burning leaves chemical residue in the water, which could have harmful effects on the marine environment, including the habitat of bowhead whales and potentially the whales themselves. The sight and experience of the burning oil definitely would affect nearby marine animals, including bowhead whales. The MMS must thoroughly evaluate the effects of in situ burning before it concludes that this method could or should replace mechanical methods of oil recovery.
- If whales swallowed globs of oil, the oil could clog a connecting tube between their stomachs. The MMS has a responsibility to analyze as fully as possible the potential for whales to contact oil and the effects that contact would have on their health and the subsistence hunt.
- Oil-spill effect on the feeding habits of the bowhead and that contamination will deflect them from the feeding area. What are the likely effects of the bowhead's ingestion of contaminated prey?
- The Chukchi Sea is an important feeding habitat for bowhead whales. This past fall hunting season, bowhead whales taken from the extreme eastern Chukchi Sea had food in their stomachs that were likely Chukchi-derived invertebrates and euphausiids. Given that the western and eastern Chukchi Sea are known to be feeding areas to bowheads and that little is known about the importance of the central Chukchi Sea as a feeding area, it is imperative that MMS analyze the risk and effects of bowhead whales ingesting contaminated prey and possibly being displaced from their feeding areas in the Chukchi Sea.
- Evaluate the likelihood that bowheads will encounter spilled oil or other contaminants, either in open water (considering the fall hunt in Barrow) or in the spring lead system (considering the spring hunt in Wainwright, Point Lay, and Point Hope). (Note: While Point Lay is not currently in possession of a quota to hunt bowhead whales through the AEW, it has applied to do so and its application is under consideration.)
- The possibility of spilled oil or other contaminants making their way into the spring-lead system during the bowhead whale migration, with potentially lethal effects. Indeed, MMS should evaluate the potential for oil spill in the Chukchi Sea during all seasons, and the likely effects of spilled oil on bowhead whales.
- AEW reports that subsistence communities depend on the health of the bowhead whale, and any evidence that the whales have been oiled or that their food source has been compromised will force us to curtail the hunt, or stop altogether for fear of tainted meat.

III.C.3.d. Bowhead Whale—Subsistence.

- Major concern was the cumulative effect of noise on bowhead whales. Additional concerns about threats to bowheads: oil spills, commercial fishing, ship strikes, killer whale predation, climate change, and competitors (e.g., gray whales).
- The Village of Point Hope may try fall whaling. Point Lay is seeking a bowhead whale quota. (Are these reasonably foreseeable future actions?)
- Between 1988 and 1990 when a drill rig was parked near Barrow, hunters had to go 30 miles due north of Barrow to get the whales, and the rig was not operational.
- Potential for noise-generating activities in the Chukchi Sea cause bowhead whales to become skittish or alter their migration path so that they are more difficult or impossible for subsistence hunters to take.
- If bowheads are further endangered from industrial activity, the International Whaling Commission (IWC) could restrict or eliminate the quota as the only means available to them of limiting the damage to the species.
- Examine noise from seismic activity, vessel traffic, and construction and development activities and the probability it will cause deflection of whales making them unavailable for the harvest.
- Barrow whalers have encountered unacceptable levels of disturbance from industrial activities where whales were harvested far from normal location. This puts hunters in greater danger. Some boats have succumbed to storms and greater wave actions and sunk; in some cases individuals have lost their lives. After a 12-hour tow or more, the whale gasifies, contaminating the meat to the point it cannot be eaten. This is a direct impact to the feeding of the people who depend on the bowhead whale.
- With effects to habitat from industrial activities, the IWC may have no alternative but to protect the whale the way it has in the past (ban on hunting?), discontinuing a thousand-year-old way of life of the indigenous people hunting to survive.
- Craig George of the North Slope Borough (NSB) Wildlife Department has bowhead whale subsistence-activity map with information for Russia.
- Canadian Inupiat were not allowed to hunt bowheads and they lost a taste for it; now they only hunt beluga.
- Subsistence communities depend on the health of the bowhead whale. and any evidence that the whales have been oiled or that their food source has been compromised will force us to curtail the hunt or stop altogether for fear of tainted meat.
- The MMS must adopt as the significance threshold for subsistence effects the standard in the MMPA, e.g., unmitigable adverse impact on the availability of a species or stock for taking for subsistence uses. Whenever the potential exists for the take of subsistence resource to fall below the level required to meet subsistence need for a season, the effects must be considered significant.
- Accelerating warming of the Arctic may facilitate the near-term opening of a northern sea route that would allow large vessel traffic through the Bering, Chukchi, and Beaufort seas. The potential exists that any perceived threat to the

bowhead whale resulting from increased commercial-vessel traffic in the Bering, Chukchi, and Beaufort seas may elicit action by the IWC to the further detriment of subsistence communities. The IWC has no authority to restrict industrial operations and could see a reduction in the subsistence quota as the only means of providing enhanced protection to a whale population at risk following the establishment of a commercial sea route through the animals' range.

III.C.4. Nonendangered Marine Mammals.

- Point Hope reports killer whales, bowhead whales, and beluga whales are in the area between the lease-sale area and the shore (polynya). Plankton loss in areas to the south is causing grey whales to come north.
- Some Point Hope residents recalled that seals harvested during this time would sink rather than float, a phenomena caused by starvation. They originally attributed this to concurrent activity at the Red Dog mine.
- Point Lay reports that beluga whales are present throughout the lease-sale area and have calving grounds in the area north of Point Lay. One group of belugas is resident in the Chukchi Sea, while another migrates between the Chukchi Sea and the Beaufort Sea.
- Point Lay relies on the harvest of beluga for subsistence. One participant noted: "it is not only what we eat, it is our medicine." The beluga hunt occurs from June to mid-July, but is usually done by July 4.
- The potential for exploration and development to occur and cause impacts within any area known to be critical to the success of the subsistence harvest of bowhead and beluga whales and other marine resources is the central concern of our Chukchi Sea community.
- Wildlife used for subsistence includes walrus and seals.
- When the area in front of the gravel pit near Barrow was dredged, the bearded and ring seal relocated.
- For polar bears, there are no current approvals for incidental take during oil and gas operations. The Center for Biological Diversity has petitioned the Fish and Wildlife Service to list polar bears as "threatened" under the Endangered Species Act (ESA); the petition is for worldwide designation, based on climatic change and reduction in habitat.
- Disturbance and the effects of oil releases to the Pacific walrus is a major concern.
- Cumulative effects to beluga whales include noise, oil spill, climate change, commercial fishing, and overhunting.
- A hunter reports that he saw many beluga whales while whaling near Kivalina in 1999. Since the Red Dog mine has begun operation, the whales have gone farther offshore.
- Fewer walrus are being harvested because of retreating ice, making a difficult situation.
- When analyzing effects, look at the food web. Ocean wildlife feeds on clams, fish, and krill.

III.C.5. Water Quality. Commenters highlighted the concerns over contamination of sediments, the water column, and the food chain that may be associated with offshore oil and gas development.

- Describe existing physical, chemical, and biological characteristics of the Chukchi Sea. Data from relevant sampling and other research and monitoring efforts should be included as part of the affected environment. Discussion should identify the amount and quality of the available resource information, including data gaps and needs.
- Oil-spill risk or accidental loss of drilling muds, solvents, or other toxic liquids. What happens when it is released? Where does it go? How do they affect health of the bowhead and the Inupiat who eat them? There is no technology to clean up an oil spill in broken-ice conditions.
- The MMS must ensure that the risks of oil spill are minimized, that chronic leaks are contained, and that there is no offshore discharge of drilling muds.
- The current structure north and east of Hanna Shoal is poorly known. The models suggest that there will be an eastward flow around the north side of the shoal and southwestward along the east side of the shoal. Mike Spall's model suggests that water may move west of Hanna Shoal before turning southward then eastward further south of the shoal. Eventually, this recirculated water will merge with the outflow through Barrow Canyon. A researcher measured the eastward flow (well to the south of Hanna Shoal) in earlier measurements, but we do not know anything about the flow on the north side of the shoals (including the shelf break, where the currents are likely very swift) or the recirculation cell. The pollutant concern is that material will be trapped to the vicinity of the shoal or brought back to the Barrow area.
- The flow on the north side of Hanna Shoal (including the shelf break) would bring material and water from the central and western Chukchi back toward the head of Barrow Canyon. From there it would then flow northeastward toward the Beaufort slope.

III.C.6. Physical Oceanography. Commenters offered a number of perspectives about the physical oceanographic regime including the effects of winds and currents on circulation and sea ice within the Chukchi Sea.

- What information do we have on current and ice for the Chukchi Sea? Current studies are needed prior to leasing.
- A report of the Marine Mammal Commission entitled, *Impacts of Oceanography, Sea Ice, Climate Change. Changes in Sea Ice and Other Environmental Parameters in the Arctic*, December 2000, may provide the most recent information.
- Currents and physical oceanographic data may be available from the Alaska Coastal Ocean Observing System and at the Barrow Cabled Observatory. Bernie Coakely, may be a source of information.

- The Chukchi Sea generally presents deeper waters than the Beaufort Sea, more extreme ice conditions, stronger currents, and greater distance from existing infrastructure.
- Currents on the southwest side of Barrow are very strong.
- Multiyear ice is still occurring; must account both for it and effects of warming.
- The EIS need to consider the extent of sea-ice coverage and recent changes.
- The ice dynamics in the vicinity of Pt. Franklin to Barrow and offshore to the west side of Barrow Canyon are likely very complex due to large currents with large horizontal shears in these currents. The ice probably does not simply drift with the winds in this area. Ice ridging and gouging will be a big issue near the coast.
- Currents drive the ice, not the winds.
- To see the extent of ice-sheet travel and problems that it presents, look at the experience and path of the *Polar Sea* that was stuck in ice in 1992.
- Ice is a “frozen tsunami” that can affect infrastructure.
- Pressure ridges come up to 100 ft high that could affect facilities placed on the ocean. Have the recent ice sheets coming onshore affected Northstar in any way? Northstar protective armor is deforming and may need a major overhaul. (FO informs me that Northstar experienced no effect from recent ice event and that armoring is replaced as needed as part of routine maintenance.)
- Strong currents and ice buildup make it impossible to cap a well and clean up an oil spill.
- Currents will carry any spilled oil toward Kivalina and the Russian coast. Inner current goes east while an outer current along the Chukchi coast goes west.

III.C.7. Cumulative Effects. Commenters identified a number of projects and activities temporally and spatially proximate to potential OCS oil and gas development in the Chukchi Sea that should be considered in the cumulative effects analysis. Commenters identified the effects of climate change on several resources as a major concern.

III.C.7.a. Cumulative Effects—Projects to Include in Analysis.

1. Upper-end scenario for oil and gas development of the South, Northeast, and Northwest National Petroleum Reserve-Alaska (NPR-A) including roads, pipelines, port and coastal staging area facilities, and marine transport.
2. Upper-end scenario for Beaufort Sea oil and gas development and the MacKenzie River area of the Canadian Beaufort.
3. Expansion of the DeLong Mountain Terminal port site or Red Dog Mine.
4. Spur road from Red Dog Mine to Noatak.
5. New jet-capable airport at Noatak.
6. Hard-rock mining in Ambler Mining District.
7. Construction of road linking Dalton Highway to Red Dog Mine and Nome.
8. Coal and mineral development within and outside of the NPR-A.
9. Effect due to Arctic warming including near-term potential for a northern sea route, thawing of permafrost, shifts in plant and animal species abundance and distribution, increased incidence of severity of ocean storms and coastal erosion,

loss of ice cellars to thawing and need for more frequent hunts, and shorter tundra travel openings and other technological challenges.

10. Increasing onshore and offshore industrialization and commercialization of the eastern Russian Arctic. U.S. Arctic Research Commission has information on the commercialization of Arctic waters.
11. Red Dog Mine, operations in the Beaufort and the Chukchi seas and onshore, which means accounting for the effects of barging.

III.C.7.b. Cumulative—Sociocultural.

- Level of activity is contributing to the sense that communities are being surrounded.
- Climate change—much of what is occurring is outside the bounds of traditional knowledge.

III.C.7.c. Cumulative—Commercial Fishing.

- Changes in distribution of marine species could lead to expansion of commercial fishing into the Arctic Ocean, with corresponding application of quota system for catch. The northern expansion of commercial fishing into the Chukchi Sea could have associated impacts to marine mammals and subsistence. Barrow whalers already have observed endangered bowhead whales entangled in commercial-fishing rope. Point Hope has observed and photographed gear and other material from fishing vessels that have come ashore on area beaches.

III.C.7.d. Cumulative—Climate Change.

- It is important to understand, however, that these “typical” conditions are changing. The measurable trend has been toward a shortening of the solid-ice season; slower forming thick and stable ice; longer periods of open water, broken ice, and instability; and more frequent dramatic and destructive ice events. This has not, but must, be fully addressed by MMS in assessing the risks associated with continued Beaufort Sea leasing, exploration, and development. For subsistence hunters, ice-based seal species have been more difficult to access and harvest. The longer duration and greater expanse of open water has meant a greater frequency and severity of high-impact storms. More storms have meant greatly accelerated coastal erosion. The implications for the design, protection, and operation of industrial facilities are complex, in most respects troubling, and deserving of comprehensive treatment.
- Effect of arctic climate change, including reports that animal movement is changing; people have seen changes in where the animals go. Are timeframes used in analysis in synch with these changes? The EIS must identify trends in the wildlife resource numbers, health, and distribution associated with warming.
- The loss of coastal lands through erosion is an important occurrence that should be documented and compared with any incremental projected effects from leasing and development.

- Accelerating arctic warming may facilitate the near-term opening of a northern sea route that would allow large vessel traffic through the Bering, Chukchi, and Beaufort seas. Any perceived threat to the bowhead whale resulting from increased commercial vessel traffic in the Bering, Chukchi, and Beaufort seas may elicit action by the IWC to the further detriment of subsistence communities. The IWC has no authority to restrict industrial operations, and could see a reduction in the subsistence quota as the only means of providing enhanced protection to a whale population at risk following the establishment of a commercial sea route through the animals' range.
- Greenland and Canadian Inupiat people are reporting adverse subsistence climatic conditions limiting their ability to hunt and access traditional hunting grounds. The arctic ice pack is melting fast, and each year the ice pack leaves and does not return as it did in the past. People are traveling longer distances to harvest marine mammals.
- Fewer walrus are being harvested because of retreating ice, making a difficult situation.

III.C.8. Alternatives to the Proposed Action. The CEQ regulations for implementing NEPA (40 CFR 1502.14) address alternatives, including the proposed action. Agencies must “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.”

According to the Interior Department Manual for Implementing NEPA (516 DM 4), the range of alternatives is “all reasonable alternatives that will be rigorously explored and objectively evaluated as well as other alternatives that are eliminated from detailed study after providing reasons for their elimination.” “Reasonable alternatives” are those “alternatives that are technically and economically practical or feasible and that meet the purpose and need of the proposed action.”

Consistent with stated purpose of past lease sales in the Alaska OCS Region, the purpose of this Federal action is to offer for lease areas on the Chukchi OCS that might contain economically recoverable oil and gas resources. The need for the action arises from the scheduling of lease sales in the Final Outer Continental Shelf Oil and Gas Leasing Program 2002-2007 and the possible inclusion of Chukchi Sea Lease Sale 193 in the 2007-2012 program. (The circumstances that caused the carryover of the lease sale are described above in the Current Effort section.) These 5-year programs and subsequent actions to implement the programs are the means by which the Secretary of the Interior oversees the OCS oil and gas program, balancing orderly resource development with protection of the human, biological, and human environment, as required by the OCS Lands Act, as amended.

III.C.8.a. Alternatives recommended for detailed evaluation in the EIS. The following alternatives were identified during scoping. For the reason indicated under each, they are recommended for detailed study in the EIS. Please note that if the Whale Road Deferrals

(Corridors I and II) are selected for detailed evaluation, they will encompass the Barrow Canyon, Wildlife, Steller's Eider Critical Habitat, EPA Polynya, NSB Point Barrow Spring Lead, and the General deferrals. If the Whale Road Deferrals (Corridors I and II) are not selected, the listed deferrals still appear to be reasonable and are recommended for detailed evaluation.

III.C.8.a.1. Whale Road Deferral. This deferral is designed to protect the bowhead whale's migratory path through the Chukchi Sea Lease Sale area and is conceptually a subset of the Whale Country Deferral, which encompasses portions of the Beaufort Sea. The AEWG suggested that:

Deferral areas, when properly delineated, can provide a buffer between the bowhead whale migration and the noise of industrial activity associated with construction of facilities, and development and production of oil. When MMS designs the final boundaries of Sale 193, it should consult the villages of Barrow, Wainwright, Point Lay and Point Hope to create effective deferral areas.

We received two variations of this deferral:

Corridor I. Comments to the 5-year program suggested an area 3 to 60 mi in the Chukchi Sea to Beaufort Sea should be protected from oil development because of importance to bowhead as primary habitat. As shown in figure 3, the approximately 60 statute mile arc from shoreline defines the deferral area and comprises approximately 1649 blocks.

Corridor II. In the most recent (1987) Biological Opinion for the Chukchi Sea, the National Marine Fisheries Service (NMFS) suggested that:

either (1) the lease blocks within 25 miles of the nearshore lead system should be deferred from the lease sale [for example see the Coastal Deferral Alternative VI (MMS 1987a) for Lease Sale 109 and the Barrow Deferral Area identified by MMS during consultation for Lease Sale 97] or, (2) if these blocks are leased, development and production activities should not be approved unless and until further consultation results in a no jeopardy opinion."

As shown in figure 4, the combined deferral areas identified by NMFS results in an area comprising approximately 795 blocks. Much of the area described by NMFS is landward of the LS 193 program area. The portion that remains in the Lease Sale 193 area is encompassed by the Corridor I deferral. In other words, the Corridor II deferral is a subset of the Corridor I deferral.

III.C.8.a.2. Walrus Deferral. A commenter in Barrow noted that important walrus hunting occurs within the lease-sale area, and the sale area should be removed before leasing. Information from the Fish and Wildlife Service indicates that walrus hunting occurs in a radius approximately 40 mi around the villages. As shown in figure 5, this deferral would result in four deferral areas; comprising approximately 592 blocks as follows: Point Hope, 82 blocks; Point Lay, 67 blocks; Wainwright, 196 blocks; and

Barrow, 249 blocks. (Note that Wainwright and Barrow areas share a two-block overlap.)

III.C.8.a.3. Barrow Canyon Deferral. A commenter in Barrow requested we avoid activity over Barrow Canyon. No geographical definition of the Barrow Canyon was offered by the commenter, although the area is generally discernable on bathymetric maps. Using ARC-GIS, MMS defined the geographic extent of this alternative, which encompassed the north side of the submarine canyon. The shoreward, south side of the canyon is outside the Lease Sale 193 program area. As shown in figure 6, this deferral would result in four deferral areas; comprising approximately 182 blocks.

III.C.8.a.4. Wildlife Deferral. A commenter in Barrow requested we avoid leads used by beluga, eider, and seals but did not specify the geographic extent of the area. Using environmental resource areas and other data, most of the area envisioned by this comment is not in the Lease Sale 193 program area, with the balance subsumed under other deferrals, such as the Steller's Eider Critical Habitat Deferral and the Whale Road Deferral.

III.C.8.a.5. Steller's Eider Critical Habitat Deferral. Defer Steller's eider critical habitat in Leynard Bay designated in 66 FR 9182. A portion of the defined critical habitat extends into the Lease Sale 193 area. As shown in figure 7, this deferral comprises approximately 72 blocks.

III.C.8.a.6. Polynya Deferral. The EPA recommend protection of polynya area in the Sale 193 EIS. No geographic definition of the polynya was offered by the EPA. While the extent of the spring open-lead system varies, a large portion of the polynya is shoreward the Lease Sale 193 program area. The Whale Road Deferral options appear to encompass the balance.

III.C.8.a.7. Point Barrow Spring-Lead Deferral. The NSB suggested the spring-lead system and eastern Beaufort Sea should be deferred from leasing and continuation "at the very least" of deferrals adopted under the current program. The importance and sensitivity of the Barrow-area lead system and the eastern Beaufort Sea offshore of the Arctic National Wildlife Refuge has been recognized in recent OCS lease sales, and the areas have been deferred from leasing. No new information has been generated that would indicate that these areas are less important than has been thought. No new technology has been developed that would render industrial operations in these areas safe or mitigate the potential impacts of those operations. The spring-lead system around Point Barrow concentrates and renders highly vulnerable a variety of arctic marine resources. It is a critical subsistence-use area. Neither recent Federal lease sales nor the State's most recent Beaufort Sea Areawide lease sale offered these waters for lease. As we have repeatedly stated, this area should never be leased, and the Borough will oppose the placement of any permanent industrial facilities within or in close proximity to the spring-lead system. The permitting of any permanent facility siting or nonwinter exploratory operations in this area would be inconsistent with the Borough's Land Management Regulations and North Slope Borough Coastal Management Program.

While the extent of the spring open-lead system varies, a large portion of the area is shoreward the Lease Sale 193 program area. The Barrow Canyon Deferral option described above encompasses the balance of the Point Barrow Spring Lead.

III.C.8.b. Alternatives not recommended for detailed evaluation in the EIS. The following alternatives were identified during scoping. For the reason indicated under each, they are not recommended for detailed study in the EIS. However, they must be briefly discussed in Section I of the EIS along with the reason they were not recommended for detailed study.

III.C.8.b.1. Public Land Order 324 Deferral. A statement in one meeting in Barrow indicated the belief that Public Land Order 324 gave subsistence-hunting rights to Natives 50 miles out into the ocean, and that if still valid, the right-of-way should be applied. On further investigation, this Order appears to be related to the following statement found in Indian Affairs: Laws and Treaties compiled by the Government Printing Office. If so, the offshore area reserved is outside of the lease sale area, occurring within State waters.

Subject to valid existing rights and to existing withdrawals, the following described public lands in Alaska are hereby temporarily withdrawn from settlement, location, sale, or entry and reserved for the purpose of classification and proposed designation under section 2 of the act of May 1, 1936, 49 Stat. 1250 (U.S.C., Title 48, sec. 358a), as a native reservation for the use and occupancy of the native inhabitants of the native village of Barrow and vicinity, Alaska:

Beginning at a point on the Arctic Ocean 30 miles southwest of Point Barrow, air line, approximate latitude 71°05'27" N., approximate longitude 157°10' W., running thence in a southeasterly direction of McTavish Point; thence following along the coast of Dease Inlet, Elson Lagoon, and the Arctic Ocean, including Point Barrow, to the place of beginning, and including the waters adjacent to the above-described area extending 3,000 feet from the shore at mean low tide, all as shown on the Reconnaissance Map of Northwestern Alaska, 1930, prepared by the United States Geological Survey in cooperation with the Bureau of Engineering, Department of the Navy, containing approximately 750 square miles of land and approximately 50 square miles of water.

(http://digital.library.okstate.edu/kappler/vol7/html_files/v7p1459b.html)

III.C.8.b.2. Chukchi Sea/Beaufort Sea Deferral. The North Slope Borough suggests it is appropriate to defer from leasing the entire Chukchi Sea Planning Area, and those portions of the Beaufort Sea Planning Area described above that are critical to the subsistence harvest of bowhead whales and other marine species. For Lease Sale 193, this deferral should not be recommended for further consideration, as it approximates the no-sale alternative, which will be discussed in the EIS.

III.C.8.b.3. Cancel the Sale. This alternative was the overwhelming favorite of those expressing a preference. At the Barrow public meeting, we received a suggestion to drill for oil and gas on land first and exhaust the availability of land-based oil and gas reserves prior to exploration, development, and production of offshore oil and gas reserves. For Lease Sale 193, this deferral should not be recommended for further consideration as it approximates the no-sale alternative, which will be discussed in the EIS.

III.C.8.b.4. Directional Drilling Alternative. A commenter in Barrow requested that only areas that could be directionally drilled from onshore be included in the lease sale. The Lease Sale 193 sale area appears to be beyond the limit of present and reasonably foreseeable advances in technology for extended-reach drilling from shore. The MMS, Alaska OCS Region, Field Operations provided information on the present horizontal distance achievable by extended-reach drilling, the distance envisioned by one operator to develop Liberty in the Beaufort Sea, and an anticipated 10-year maximum theoretical distance of 50,000 ft. While this approach constitutes a useful oversimplification of the complexities of extended-reach drilling, the information indicates that the area that could be reached by the greatest of these three values is outside the Lease Sale 193 program area.

III.C.8.b.5. Seismic Survey Timing. At Point Lay, MMS discussed the potential of timing seismic surveys starting in the southern portion of the lease-sale area before moving up the coast (north) behind the beluga movement. We were advised not to do this, as the seismic activity to the south will make the whales skittish and could affect their coming close to shore. Assuming the validity of local traditional ecological knowledge, unless our analysts have evidence to the contrary, this alternative should not be recommended for further consideration.

III.C.8.b.6. Delay the Sale. A comment in Barrow suggests that the lease sale should be delayed until the report from the National Science Foundation on its findings on the state of natural resources from its cruise on the U.S. Coast Guard Cutter *Healy*. Anadarko Petroleum suggests that we delay the sale to allow “other potential lessees sufficient time to obtain modern seismic data, explore opportunities to form partnerships, and develop a competitive knowledge that will aid in the realization of the full potential of this area. Either circumstance could delay the lease sale approximately 2 years, until 2009. The current draft proposed program tentatively has Chukchi Sea Planning Area lease sales scheduled in 2009 and 2011. As such, this alternative should not be recommended for further consideration, unless the delay would be less than 2 years or the 5-year program does not schedule a Chukchi Sea Planning Area lease sale in 2009.

III.C.8.b.7. General Deferral. The EPA suggested MMS consider removal of additional areas with sensitive fish and wildlife, subsistence, and cultural resources, at a minimum deferring areas until further research and studies are conducted to ensure development can occur without significant impacts to critical resources. As the EPA suggestion identified no specific areas, the other deferrals appear to address the suggestion, or the resources are outside the Lease Sale 193 program area.

III.C.8.b.8. Whale Country Deferral. The NSB suggested that any framework designed to protect areas critical to subsistence must encompass four geographic components: harvest areas, subsistence-use areas, areas of influence, and areas critical to the welfare of the subsistence species themselves. These typically are areas where the species are concentrated and particularly vulnerable to disturbance, such as calving areas, molting and brooding areas, and feeding areas. The Beaufort Sea is seasonal habitat for polar bear, seals, fish, and waterfowl. It also is critical habitat of the endangered bowhead whale, which migrates, feeds, and rears newly born calves throughout the region. Our latest best information indicates that rather than functioning simply as a migratory path within which intermittent feeding takes place, the Beaufort Sea is for bowhead whales a feeding area, within which intermittent migrating takes place. This new understanding has not been adequately acknowledged and addressed by MMS, particularly as it relates to the exposure of the species to risks throughout its Beaufort Sea range.

The extent of this deferral area is large; it is actually a network of deferrals. The Whale Road Deferral options (Corridors I and II) discussed above appear to encompass the portion of the network that is in the Chukchi Sea Lease Sale 193 program area. The balance of the network is in the Beaufort Sea OCS Planning network or beyond.

III.C.9. Mitigation Measures and Stipulations.

- Stipulations 4, 5, and 6 included in recent sales provide for an industry site-specific bowhead whale-monitoring program, a conflict avoidance mechanism to protect subsistence activities, and a zone around Cross Island within which permanent facilities are restricted, respectively, and are the product of lengthy negotiations involving the Borough, AEWC, Federal Agencies, and industry. If the OCS leasing program continues in the Arctic, the NSB will insist that these stipulations be included in and enforced under any future lease sale.
- Examine operations in other offshore arctic environments (Canada, Russia, North Sea) to identify the more efficient and cost-effective measures and stipulations. Any mitigation measures should be directed towards the minimization of impacts to identifiable resources from drilling operations.
- It is imperative that MMS continue to require lessees to carry out the Industry Site-Specific Bowhead Whale Monitoring Program, which is a critical element to the development of effective mitigation for subsistence communities.
- The MMS would do well to implement in the Chukchi Sea all lease stipulations and Information To Lessees (ITL's) that are currently in place for lessees in the Beaufort Sea, as well as establish deferral areas around the villages of Barrow, Wainwright, Point Lay, and Point Hope.
- Stipulation 5, Conflict Avoidance, should be incorporated into our regulations as stipulations are, by nature, impermanent. The MMS' confidence in this stipulation to smooth relations between subsistence marine mammal hunters and industrial operators should be reflected in formal agency rules, and we encourage MMS to consider this course of action.
- Drilling and seismic operations have displaced bowhead whales as far as 12 miles from source as direct deflection point. As far as 20 mi from the point, whales are

observed as disturbed. There must be made a special habitat for the entire route of the whale.

IV. Incorporation of Scoping Information into the EIS.

The information gathered during scoping provides direction for the preparation of the EIS through the identification and issues and concerns. The information collected has helped MMS identify the alternatives, mitigating measures, resource topics, and issues to be evaluated in the EIS.

IV.A. Government-to-Government Meetings.

The MMS held Government-to-Government meetings with Tribal Council of the Native Village of Point Lay, Native Village of Point Hope, Native Village of Barrow, Native Village of Wainwright, and the Inupiat Community of the Arctic Slope. Summaries of the Government-to-Government meetings conducted during the scoping period will be documented and will be included in the Indian Trust Resources portion of Section I of the EIS.

IV.B. Environmental Justice.

Environmental Justice activities to identify and engage low-income and minority communities during scoping included:

- Open public meetings in the affected communities of Point Hope, Point Lay, Wainwright, and Barrow with translation available where requested. Notice of meetings was provided within the community and to media outlets. Each meeting included a fairly detailed overview of the activities that could occur in the area, provided information on the environmental review of each activity, and identified opportunities for public participation in the process.
- Briefings and other interaction with organizations that represent subsistence-resource users including the AWC, the AEW, and the ABWC.
- Presentation of information about public participation in the EIS process was given at the Alaska Forum on the Environment in Anchorage as part of community NEPA-related training and was offered to the community of Point Hope and Point Lay.
- Handout on the public participation in the scoping process was distributed at the public meetings.
- Information regarding past OCS activities in the Chukchi Sea Planning Area was provided at each meeting, with more detailed information on past seismic surveys provided as follow up.

Summaries of these activities will be incorporated into the Environmental Justice analysis in the EIS.

IV.C. Stipulations.

As suggested by commenters during the scoping process, the EIS will analyze the seven stipulations listed below that were adopted for the recent Beaufort Sea Oil and Gas Lease Sale 195. Analysis of the stipulations performed during internal scoping has identified instances where content and applicability of the stipulations may be adjusted during the EIS process to reflect unique circumstances in the Chukchi Sea. These stipulations will be considered to be part of the proposed action.

Stipulation No. 1. Protection of Biological Resources

Stipulation No. 2. Orientation Program

Stipulation No. 3. Transportation of Hydrocarbons

Stipulation No. 4. Industry Site-Specific Bowhead Whale-Monitoring Program

Stipulation No. 5. Conflict Avoidance Mechanisms to Protect Subsistence Whaling and Other Subsistence-Harvesting Activities

Stipulation No. 6. Pre-Booming Requirements for Fuel Transfers

Stipulation No. 7. Lighting of Lease Structures to Minimize Effects to Spectacled and Steller's Eiders

IV.D. Information-to-Lessee Clauses.

The EIS will contain a number of ITL clauses, some of which were included in the recent Beaufort Sea Oil and Gas Lease Sale 195. Internal scoping indicated that some of the Sale 195 ITL's were applicable only to the Beaufort Sea Planning Area locales, such as the Kaktovikmuit *Guide In this Place*, Nuiqsutmuit Paper, and Importance of Cross Island to Nuiqsut Subsistence Hunters. These location-specific ITL's will not be considered for inclusion in the Lease Sale 193 EIS. While ITL's can be included if similar information exists or is developed for Chukchi Sea locales, scoping did not reveal the availability of this information. Internal scoping identified instances where content of the ITL's may be adjusted during the EIS process to reflect unique circumstances in the Chukchi Sea.

No. 1 – Information on Community Participation in Operations Planning

No. 2 – Information on Bird and Marine Mammal Protection

No. 3 – Information on River Deltas

No. 4 – Information on Endangered Whales and MMS Monitoring Program

No. 5 – Information on the Availability of Bowhead Whales for Subsistence Hunting Activities

No. 6 – Information on High-Resolution Geological and Geophysical Survey Activity

No. 7 – Information on the Spectacled Eider and Steller's Eider

No. 8 – Information on Sensitive Areas to be Considered in Oil-Spill-Response Plans

No. 9 – Information on Coastal Zone Management

No. 10 – Information on Navigational Safety

No. 11 – Information on Offshore Pipelines

- No. 12 – Information on Discharge of Produced Waters
- No. 13 – Information on Use of Existing Pads and Islands
- No. 14 – Information on Planning for Protection of Polar Bears

IV.E. Resource Categories to be Examined in the EIS.

The EIS will include description and analysis of effects of the proposed action and cumulative activities to the physical, biological, and human environment. The following categories will be included in the EIS for detailed analysis:

- **Physical Environment:** Water quality and air quality as well as description of quaternary geology, climate and meteorology, oceanography, and sea ice in support of the analysis.
- **Biological Environment:** Lower-trophic-level organisms, fishes, essential fish habitat, endangered and threatened species, marine and coastal birds, marine mammals, terrestrial mammals, and vegetation and wetlands.
- **Social Systems:** Economy, subsistence harvest, sociocultural systems, archaeological resources, land use and coastal management, and environmental justice.

Resource categories that have been included in some Alaska OCS Region EIS include Visual Effects, Tourism and Recreation, and National and State Parks, and other Special Areas. We received no comments during scoping to indicate that potential effects to these resource areas from the proposed action were a significant issue. Effects to the commercial-fish species, the snow crab and salmon will be examined as part of the Fishes section with potential effects, if any, addressed in the Economy section. As such, Commercial Fishing as a separate resource will not be included in the EIS.

IV.F. Additional Mitigation Measures.

Additional mitigation measures, including proposed stipulations, may be developed and evaluated during the EIS process. The following mitigation measures were suggested during scoping:

- Require demonstration of the capability to clean up an oil spill in broken-ice conditions.
- Establish a 20-mile activity exclusion zone around bowhead whales to prevent deflection and disturbance from offshore-activity related noise.

IV.G. Issues Eliminated From Detailed Study.

As part of the scoping process, MMS must identify and eliminate for detailed study those issues (raised in scoping) that are not significant issues related to the proposed action or that have been covered by prior environmental review. This process is sometimes described as "scoping out." Those issues are covered below. The scoping issue as

described in the scoping meetings is provided in the first column. The second column describes our rationale for not recommending them for further study. The elimination of these issues from detailed study will be described in Section I of the EIS.

The issues raised in scoping that will be not be considered from detailed study in the EIS include the following items, which address administrative, policy, or process issue but inherently do not affect the environmental analysis.

- An assertion that Arctic Research Policy Act of 1983 (P.L. 183), Section II.B, provides a definition of the “Arctic.” Alaska State government only has power below the Yukon River. The Native Village of Barrow is the authority in the Arctic area.
- Native Villages do not recognize the power of the Alaska Native Claims Settlement Act corporations.
- The Alaska State Constitution gave ownership of the North Slope to the Natives.
- The Bureau of Indian Affairs recognized a 100-mile radius around the village as a subsistence-use area. There could be a lot of lawsuits on whether or not this extends to the OCS.
- OCS revenue sharing is necessary to help compensate for restrictions on access to traditional subsistence-harvest areas, deflection of resources out of those areas that can be accessed, increased air pollution, creation of navigational hazards, and monumental demands on the time of community officials and individuals compelled to participate in the planning processes associated with a never-ending succession of lease-sale and project proposals.
- Impact funds are needed by the community to respond to effects of expansion of oil and gas activities. Revenues do not go to the Tribal governments. Leasing is the biggest land steal.
- The conflict avoidance stipulation should be incorporated into our regulations. Stipulations are, by nature, impermanent. The MMS’ confidence in this stipulation to smooth relations between subsistence marine mammal hunters and industrial operators should be reflected in formal agency rules, and we encourage MMS to consider this course of action.
- The MMPA and ESA have an effect on quotas for subsistence harvest. The MMS is obligated to observe these laws. The bowhead whale is still on the list, and effects from the lease sale will lead to its extinction. One contention is that the ESA prevents the Federal Government from taking any action that would threaten the bowheads until they are removed from the list.

V. Cooperating Agencies.

The Notice of Intent invited Federal Agencies and others to become cooperating agencies. The MMS received informal indications from the NMFS that it would like to be considered as a cooperating agency. As a result of the follow up discussion, NMFS opted to first be a cooperating agency with MMS on the Programmatic Environmental Assessment for Arctic Ocean Outer Continental Shelf Seismic Surveys 2006. The PEA analyzes seismic surveys in the Beaufort Sea and Chukchi Sea that may occur in 2006 in

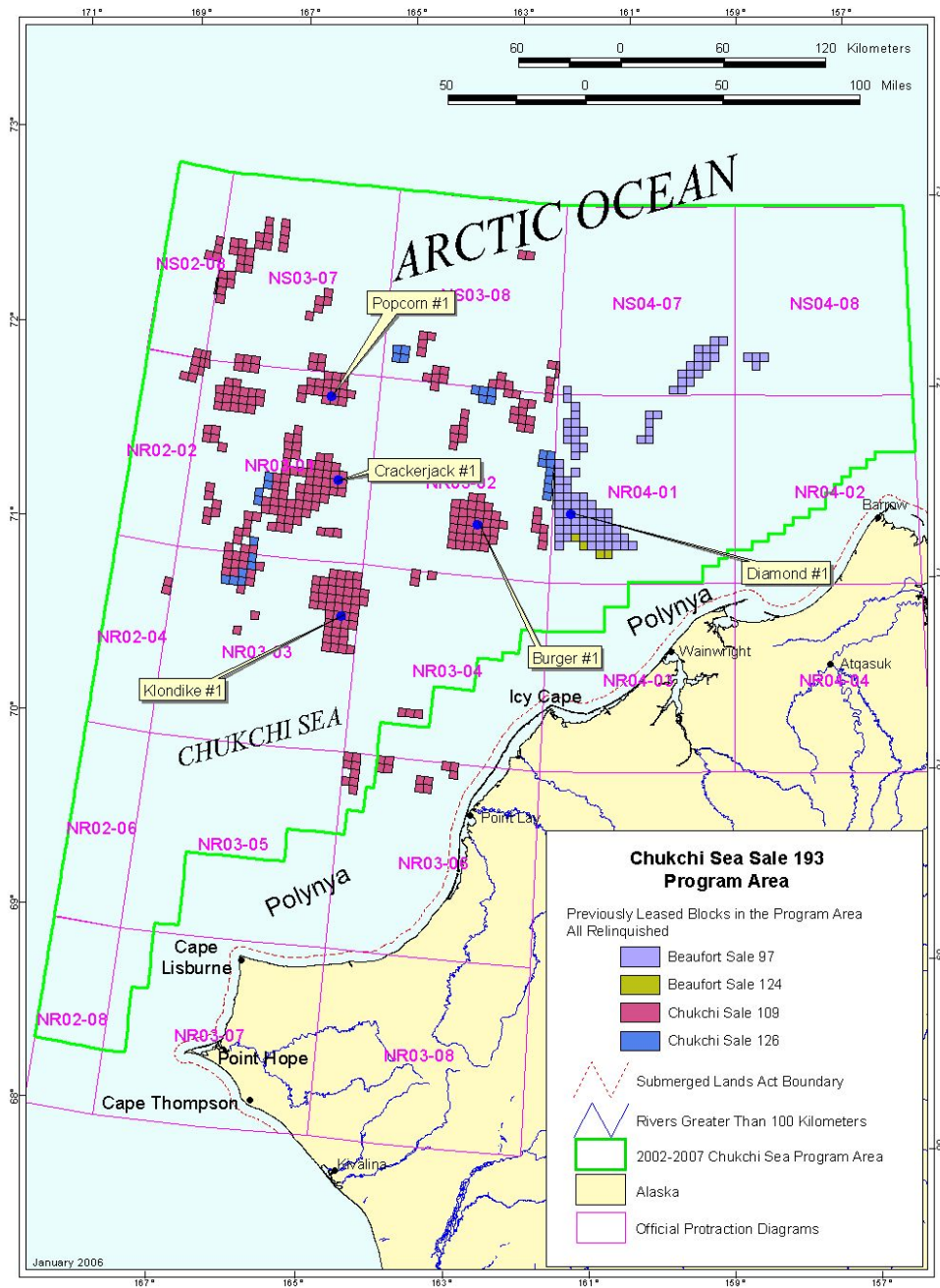
advance of Lease Sale 193. By a mutually tacit agreement, NMFS' status as a cooperating agency is being held in abeyance until the completion of the PEA.

VI. Opportunities for Further Public Involvement.

Scoping is an ongoing process. During meetings in the communities we pointed out that input about issues, alternatives, mitigation, and information would be welcomed throughout development of the EIS. Similarly, we recognize that Government-to-Government exchanges are part of the ongoing relationship with Tribes. The exchanges are not limited to input on EIS or subject to deadlines for input published in the Notice of Intent to Prepare and EIS.

Additional opportunities for public involvement will be provided during the preparation of the EIS. The next public comment period will commence with publication of the draft EIS, tentatively scheduled for fall 2006.

The MMS appreciates the publics' and interested organizations' participation and comments during the scoping process and welcomes their continued involvement in the next stage of the EIS process.



MMS U.S. Department of the Interior
Minerals Management Service
Alaska OCS Region

Figure 1. Previously Leased Blocks and Exploration Wells.

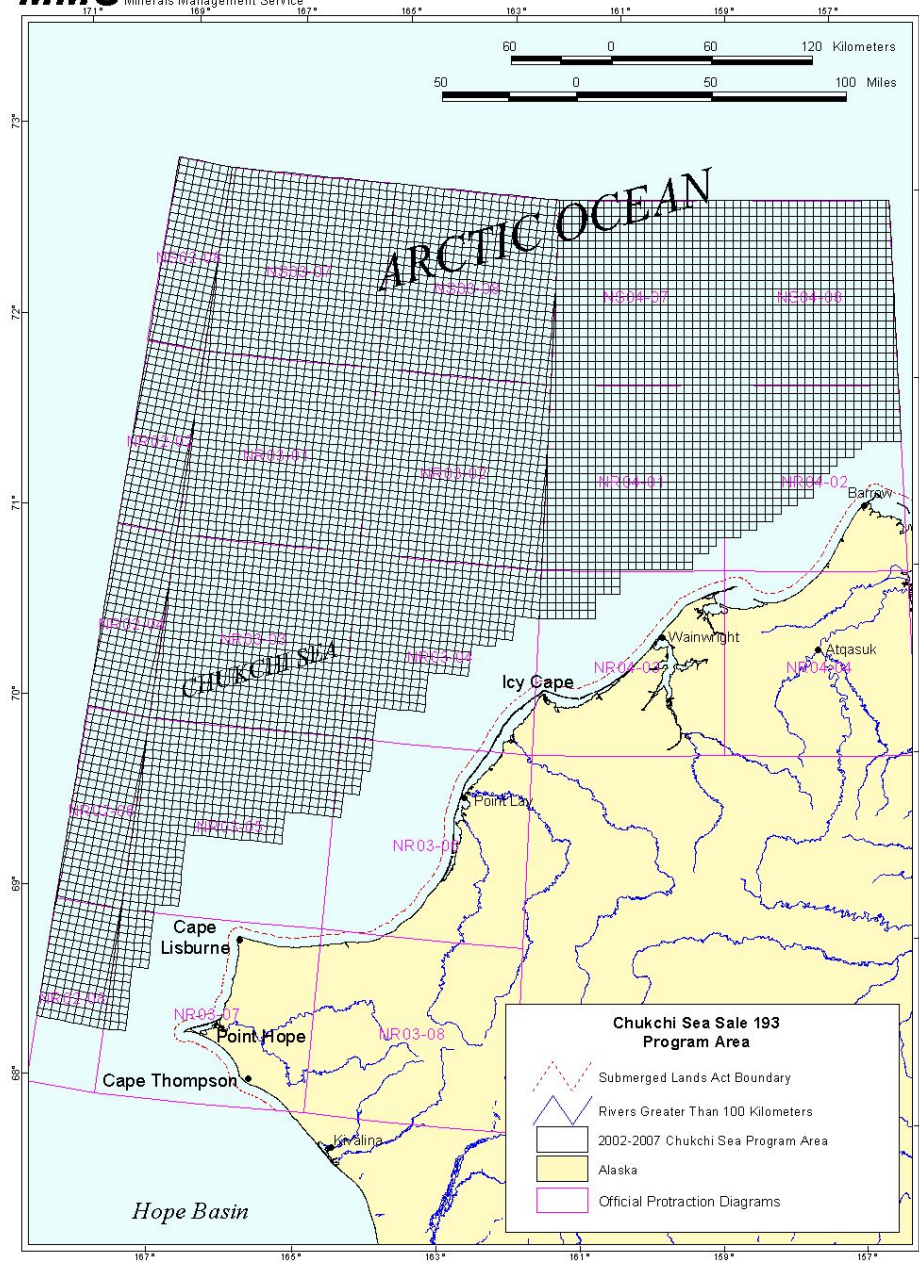


Figure 2. Lease Sale 193, Area of the Proposed Action

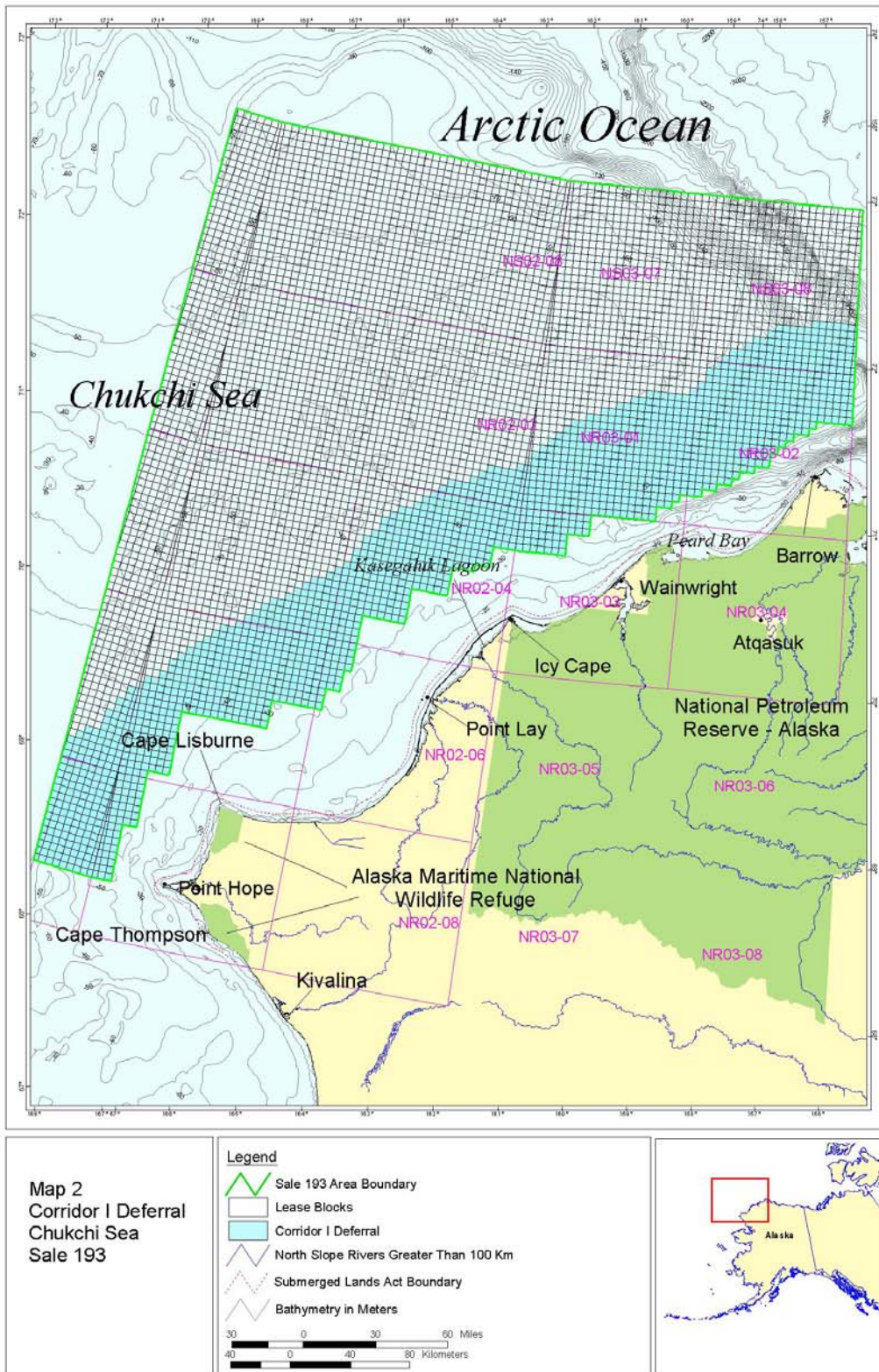


Figure 3. Whale Road 1 Deferral

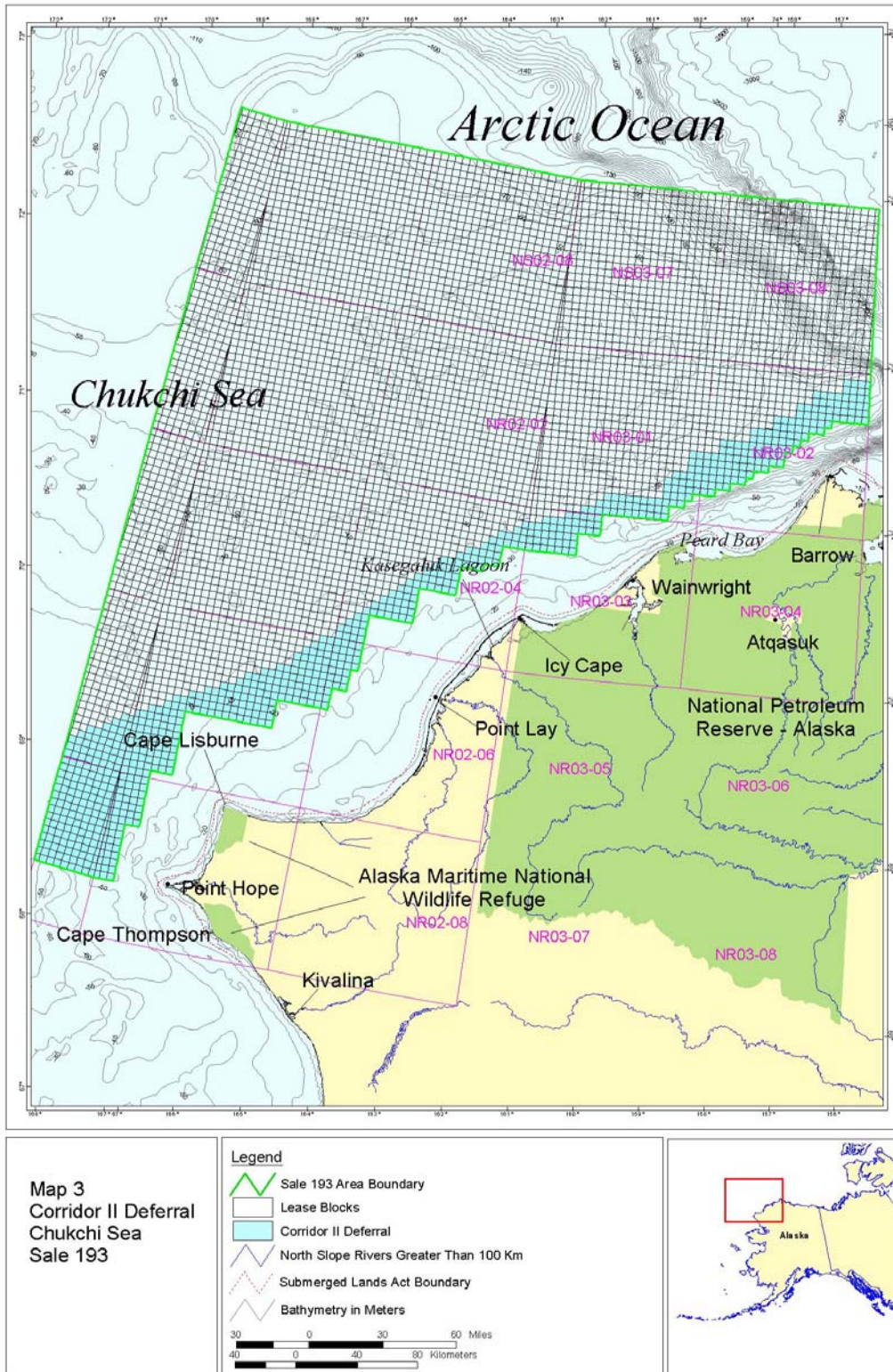


Figure 4. Whale Road II Deferral

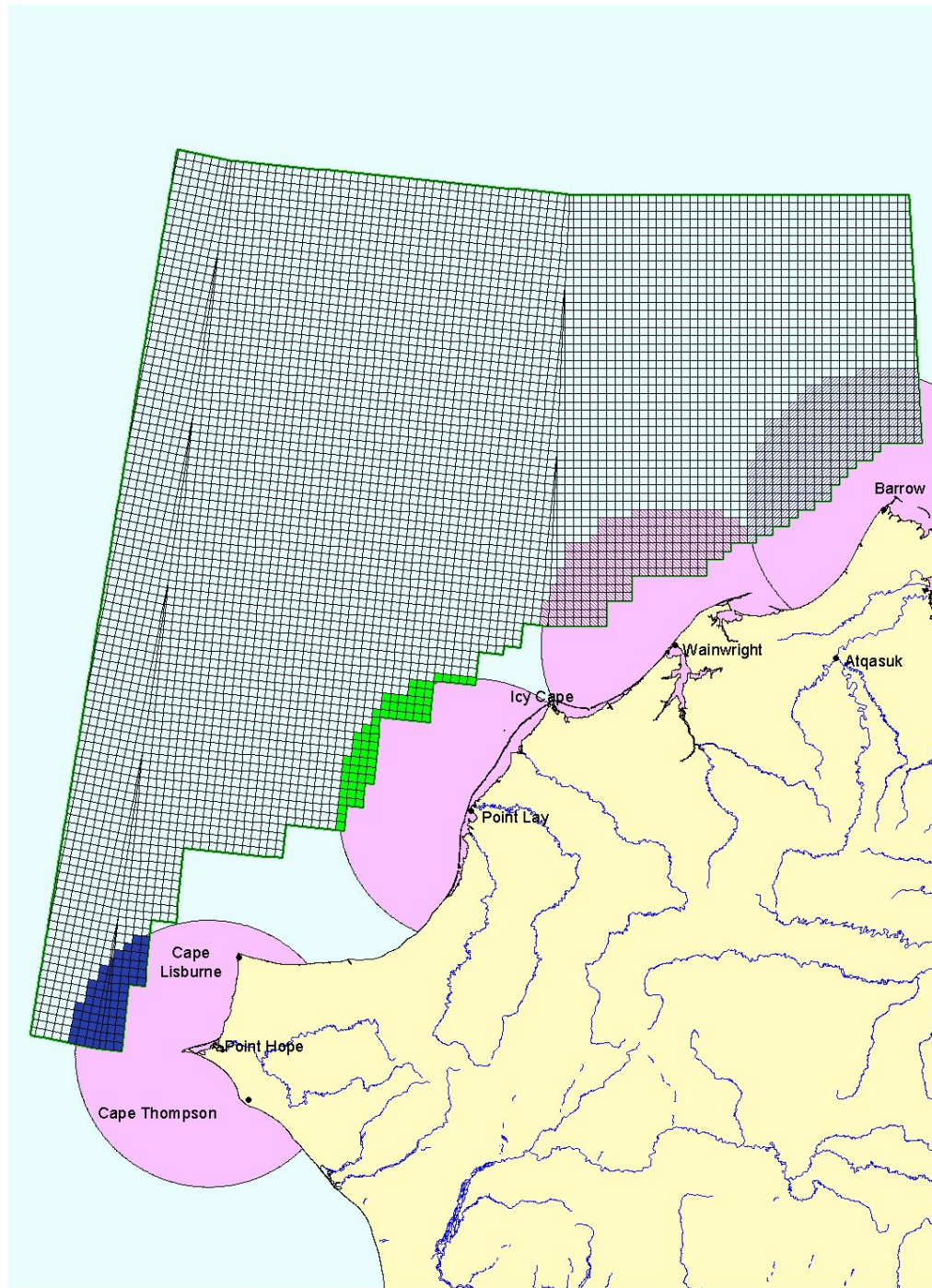


Figure 5. Walrus Deferral

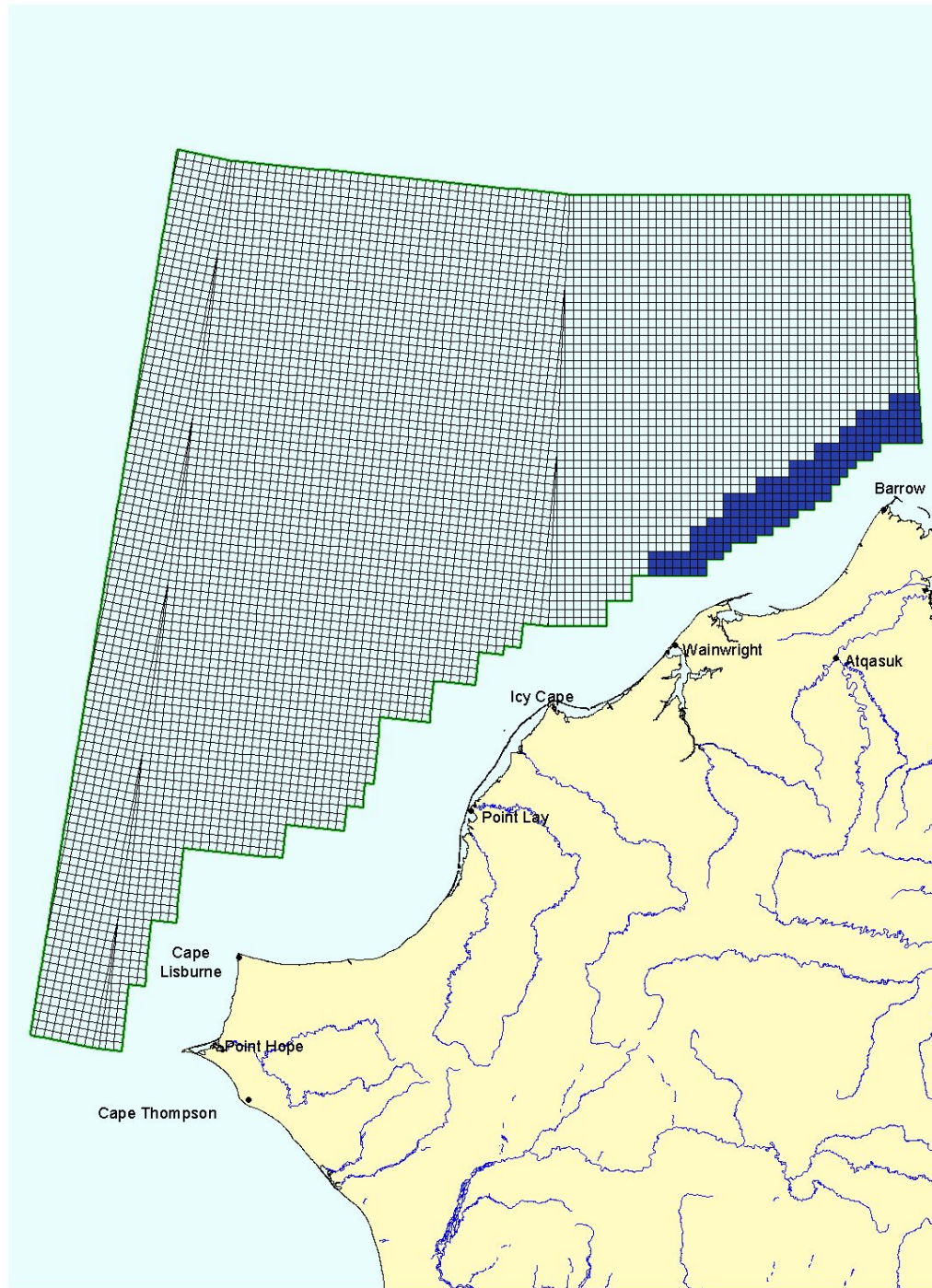


Figure 6. Barrow Canyon Deferral

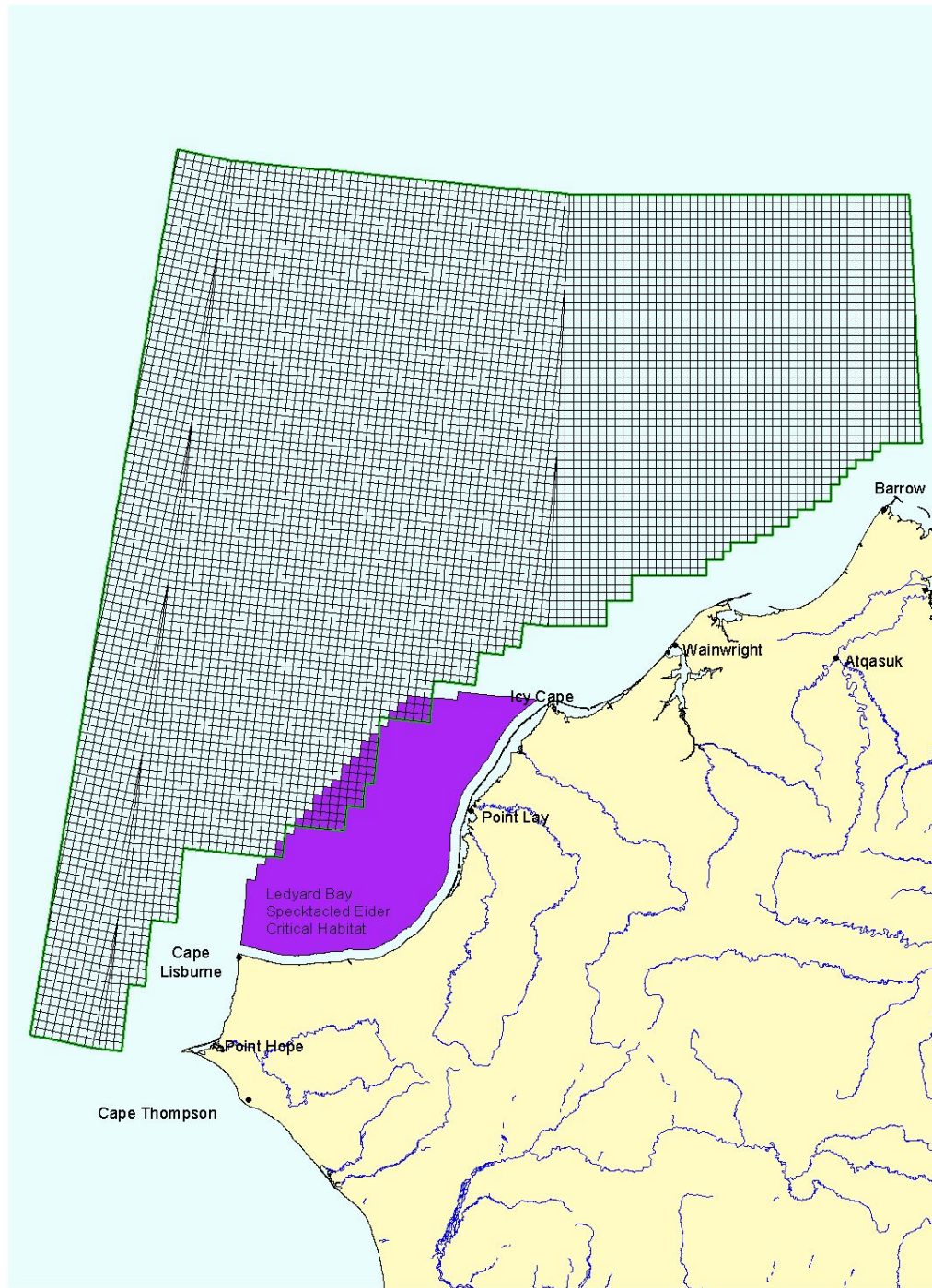


Figure 7. Steller's Eider Critical Habitat Deferral