Draft Environmental Impact Statement on Effects of Oil and Gas Activities in the Arctic Ocean

Public Meeting
Barrow, AK
February 1, 2012

Office of Protected Resources
NOAA Fisheries
National Marine Fisheries Service

Welcome and Introductions

Michael Payne
Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
Silver Spring, MD

Candace Nachman
Project Manager, Fishery Biologist
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
Silver Spring, MD

Jana Lage
G&G Permitting Coordinator
Bureau of Ocean Energy Management
Anchorage, AK

Amy Rosenthal
URS Project Manager
URS Corporation
Anchorage, AK

Joan Kluwe
URS Public Involvement
URS Corporation
Anchorage, AK

Meeting Agenda

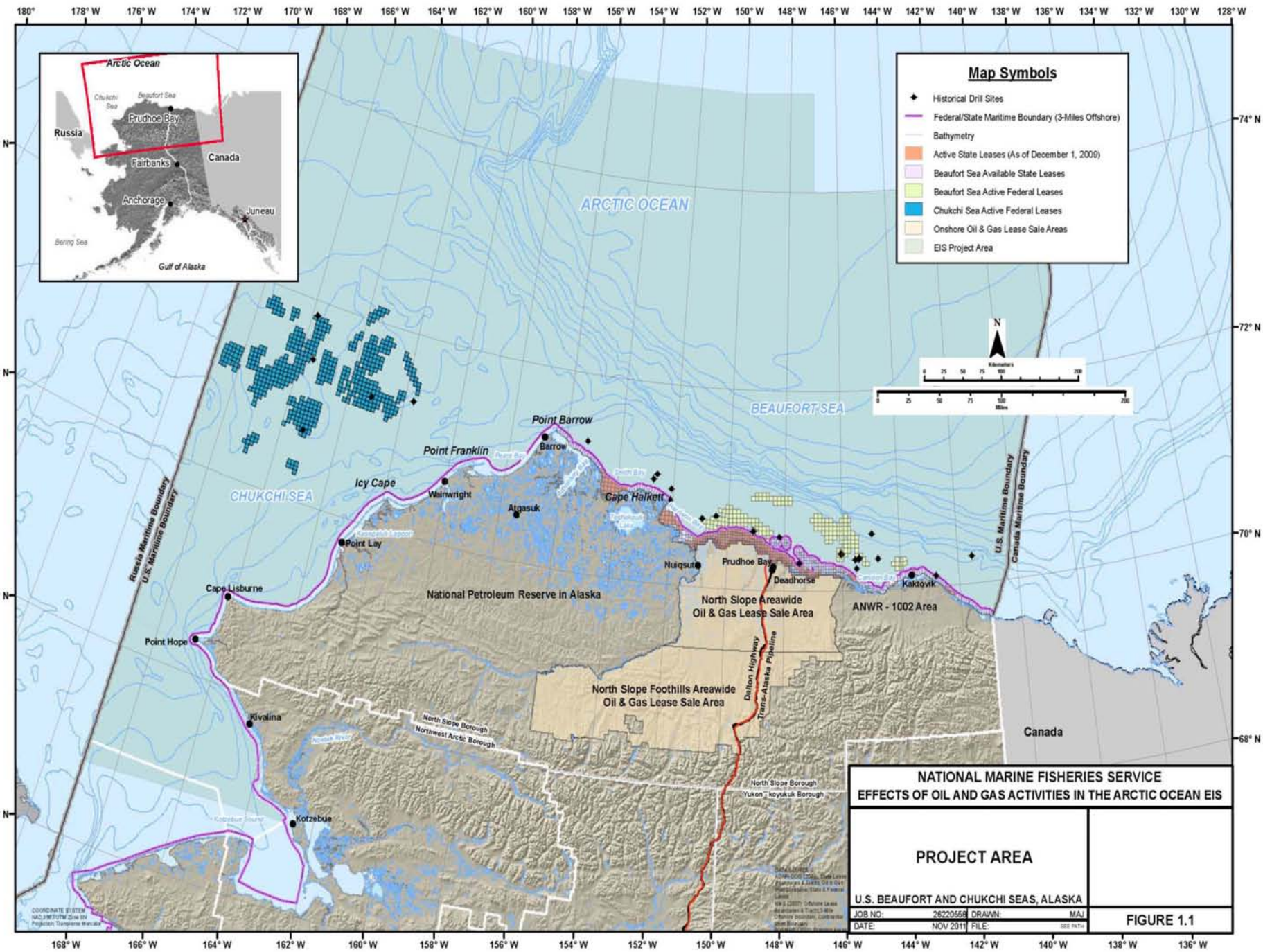
- Purpose of Meeting
  - Review of Proposed Action
  - NEPA Process
- Activities covered by Draft Environmental Impact Statement (DEIS)
- Project Alternatives
- Potential Impacts
- Next Steps
- Public Comment

Proposed Action

- Oil and gas companies exploring the Beaufort and Chukchi seas need Incidental Take Authorizations from NMFS
  - *Taking* - harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal
  - Impact on marine mammal species/stock must be negligible
  - Adverse impact on the availability of marine mammal species or stocks for subsistence must be mitigated

Proposed Action

- Oil and gas companies exploring the Beaufort and Chukchi seas need Geological and Geophysical (G&G), exploration, and ancillary permits from BOEM
  - Information must be collected in a technically safe and environmentally sound manner
  - Activities cannot cause harm/damage to marine, coastal or human environment
  - Permits can contain conditions of approval to meet these objectives


Map Symbols
Historical Drill Sites
Federal/State Maritime Boundary (3-Miles Offshore)
Bathymetry
Active State Leases (As of December 1, 2009)
Beaufort Sea Available State Leases
Beaufort Sea Active Federal Leases
Chukchi Sea Active Federal Leases
Onshore Oil & Gas Lease Sale Areas
EIS Project Area
Arctic Ocean
Chukchi Sea
Beaufort Sea
Prudhoe Bay
Russia
Canada
Fairbanks
Anchorage
Juneau
Bering Sea
Gulf of Alaska
ARCTIC OCEAN
BEAUFORT SEA
CHUKCHI SEA
Point Barrow
Barrow
Point Franklin
Icy Cape
Wainwright
Atqasuk
Cape Halkett
Point Lay
Nuiqsut
Prudhoe Bay
Deadhorse
Kaktovik
Cape Lisburne
Point Hope
Kivalina
Kotzebue
National Petroleum Reserve in Alaska
North Slope Areawide Oil & Gas Lease Sale Area
ANWR - 1002 Area
North Slope Foothills Areawide Oil & Gas Lease Sale Area
Dalton Highway
Trans-Alaska Pipeline
North Slope Borough
Northwest Arctic Borough
Yukon - Koyukuk Borough
Russia Maritime Boundary
U.S. Maritime Boundary
Canada Maritime Boundary
Canada
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Kilometers
Miles
NATIONAL MARINE FISHERIES SERVICE
EFFECTS OF OIL AND GAS ACTIVITIES IN THE ARCTIC OCEAN EIS
PROJECT AREA
U.S. BEAUFORT AND CHUKCHI SEAS, ALASKA
JOB NO: 26220558
DRAWN: MAJ
DATE: NOV 2011
FILE:
FIGURE 1.1

Why Is This DEIS Important?

- The National Environmental Policy Act requires federal agencies to evaluate the impacts of its actions on the environment (i.e., physical, biological, and socioeconomic resources)
- The DEIS:
  - Looks broadly at potential offshore exploration activities in the Beaufort and Chukchi seas
  - Assesses impacts of multiple exploration programs across multiple years
  - Assesses cumulative impacts across the region
  - Identifies mitigation that avoids or reduces impacts
  - Identifies effective monitoring
- Use results in future permit applications

Who Has Been Involved?

- National Marine Fisheries Service
- Bureau of Ocean Energy Management and the North Slope Borough
- Environmental Protection Agency
- Alaska Eskimo Whaling Commission (through MMPA co-management agreement)
- Public scoping and government-to-government meetings with tribal councils

Topics Identified During Scoping

- Impacts to marine mammals and habitats
- Risks of oil spills
- Effects of climate change
- Protection of subsistence resources and Iñupiat way of life
- Availability of adequate information
- Monitoring requirements
- Mitigation measures
- Concerns regarding the NEPA process

What does the DEIS include?

- Alternatives analyzing potential oil and gas activities in the Beaufort and Chukchi seas
- Effects of both geophysical surveys and exploratory drilling
- Cumulative effects analyses
- Range of mitigation and monitoring measures for marine mammals and their availability for subsistence uses

Development of Alternatives

- Alternatives address a broad range of potential exploration activities and are not specific to any company or exploration project
- Alternatives represent a reasonable range of exploration activities for which permits and authorizations may be requested over a 5-year period
- Alternatives assess a broad range of mitigation measures

Development of Alternatives

- Evaluated alternatives suggested during the scoping period
- Assessed multiple levels of seismic exploration and exploratory drilling activities
- Incorporated Standard Mitigation Measures
- Identified Additional Mitigation Measures

Alternatives

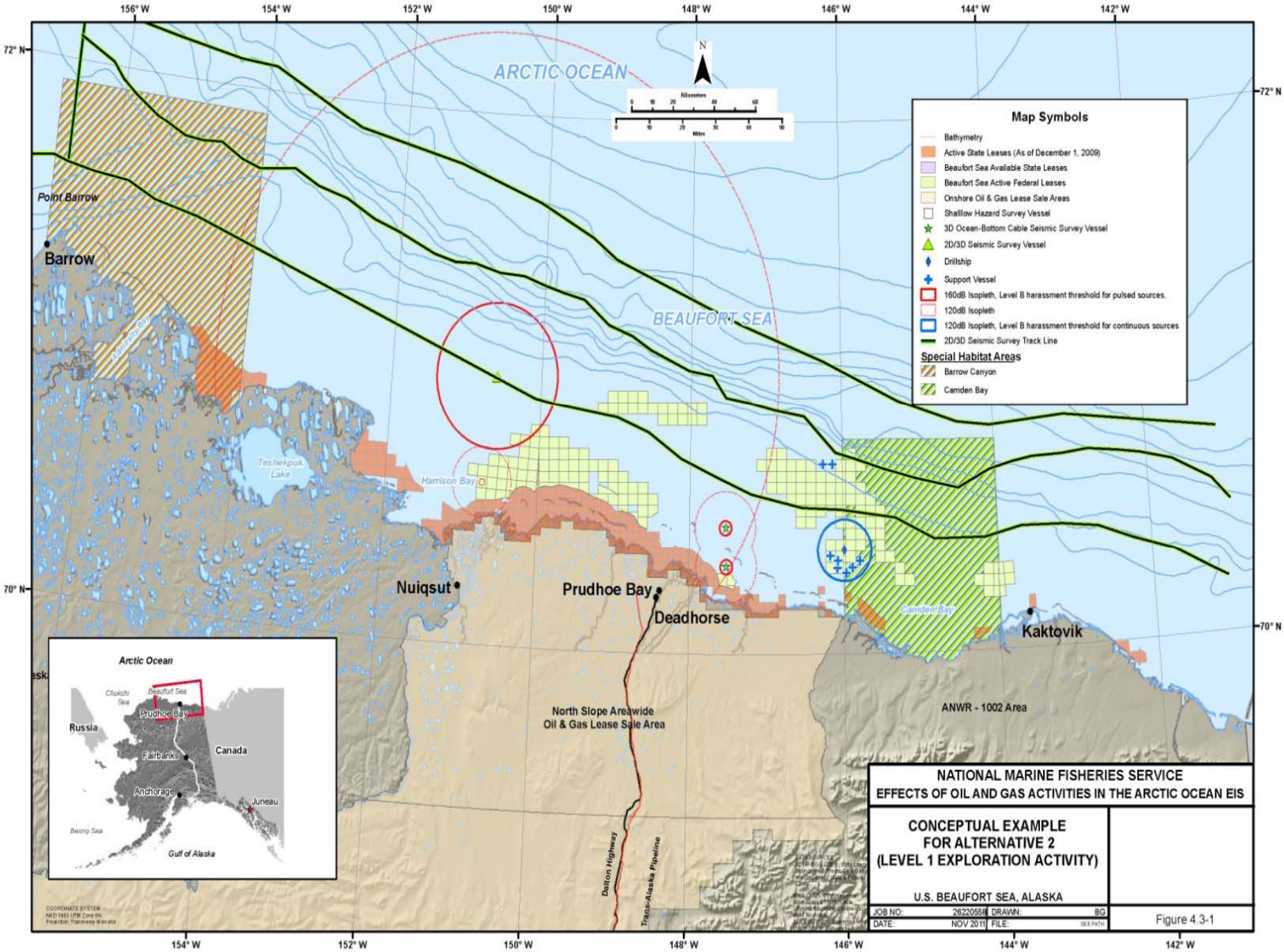
- **Alternative 1** – No Action
- **Alternative 2** – Level 1 Exploration Activity
- **Alternative 3** – Level 2 Exploration Activity
- **Alternative 4** – Level 2 Exploration Activity with additional required time/area closures
- **Alternative 5** – Level 2 Exploration Activity with use of alternative technologies

Alternative 1 – No Action

- No Action alternative must be evaluated
- NMFS would not issue any ITAs under the MMPA for seismic surveys or exploratory drilling
- BOEM would not issue G&G permits or authorize ancillary activities in Beaufort and Chukchi seas
- *This means that no new offshore seismic exploration or exploratory drilling could be approved*

Alternative 2 – Level 1 Activity

- Up to **4 seismic surveys** in the Beaufort Sea and up to **3** in the Chukchi Sea
- **One** survey in each sea could occur in-ice later in the season
- Up to **3 site clearance/shallow hazard** survey programs **each** in Beaufort/Chukchi Seas
- **One on-ice seismic survey** in the Beaufort Sea
- **One exploratory drilling** program **each** in the Beaufort Chukchi Seas
- Standard (**current**) Mitigation Measures


ARCTIC OCEAN
BEAUFORT SEA
Point Barrow
Barrow
Admiralty Bay
Teshekpuk Lake
Harrison Bay
Nuiqsut
Prudhoe Bay
Deadhorse
Camden Bay
Kaktovik
North Slope Areawide
Oil & Gas Lease Sale Area
ANWR - 1002 Area
Dalton Highway
Trans-Alaska Pipeline
Map Symbols
Bathymetry
Active State Leases (As of December 1, 2009)
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Shallow Hazard Survey Vessel
3D Ocean-Bottom Cable Seismic Survey Vessel
2D/3D Seismic Survey Vessel
Drillship
Support Vessel
160dB Isopleth, Level B harassment threshold for pulsed sources.
120dB Isopleth
120dB Isopleth, Level B harassment threshold for continuous sources
2D/3D Seismic Survey Track Line
Special Habitat Areas
Barrow Canyon
Camden Bay
Arctic Ocean
Chukchi Sea
Beaufort Sea
Prudhoe Bay
Russia
Canada
Fairbanks
Anchorage
Juneau
Bering Sea
Gulf of Alaska
156° W
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144° W
142° W
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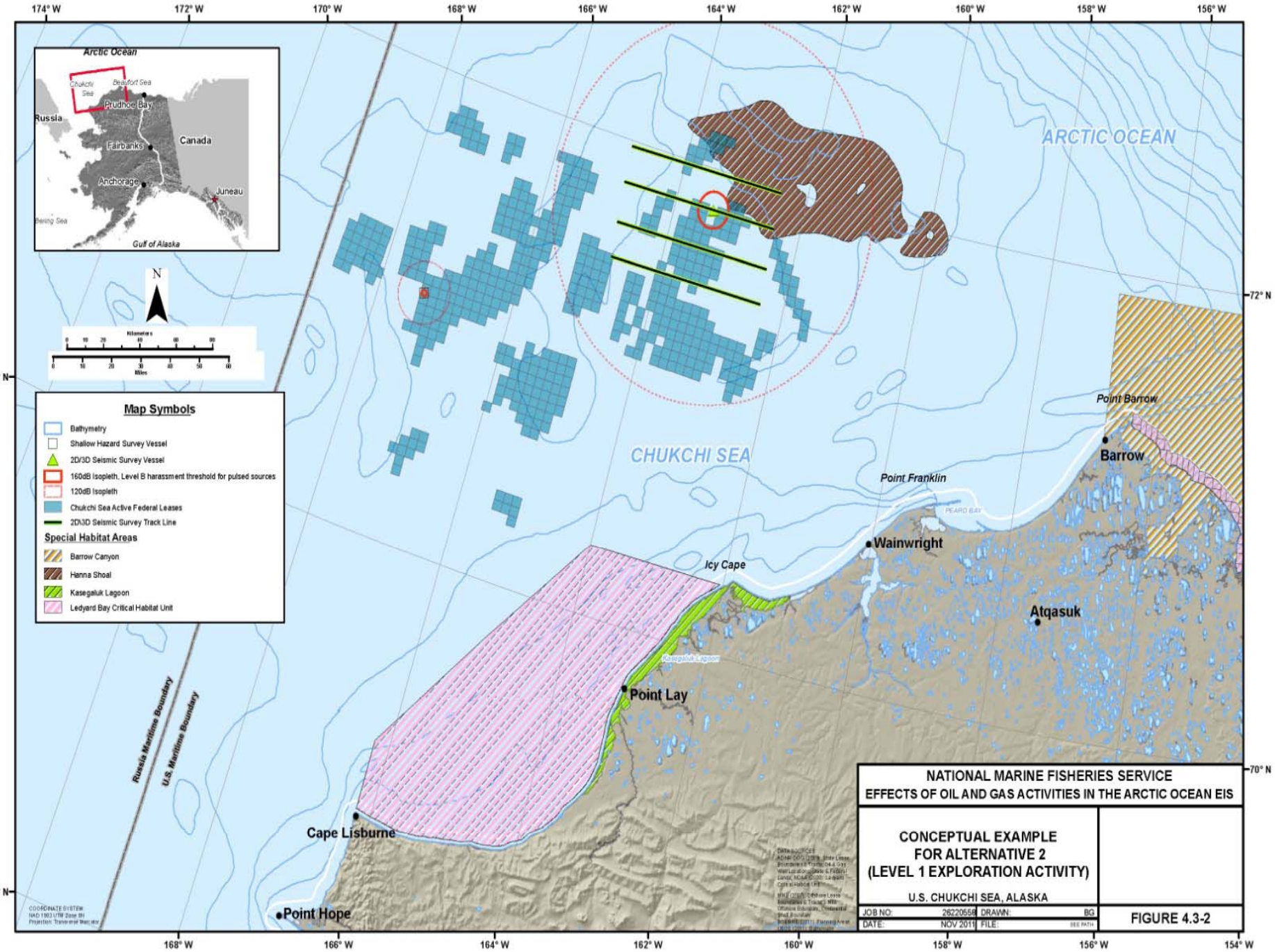
70° N
NATIONAL MARINE FISHERIES SERVICE
EFFECTS OF OIL AND GAS ACTIVITIES IN THE ARCTIC OCEAN EIS
CONCEPTUAL EXAMPLE
FOR ALTERNATIVE 2
(LEVEL 1 EXPLORATION ACTIVITY)
U.S. BEAUFORT SEA, ALASKA
JOB NO: 26220558
DRAWN: BG
DATE: NOV 2011
FILE:
Figure 4.3-1



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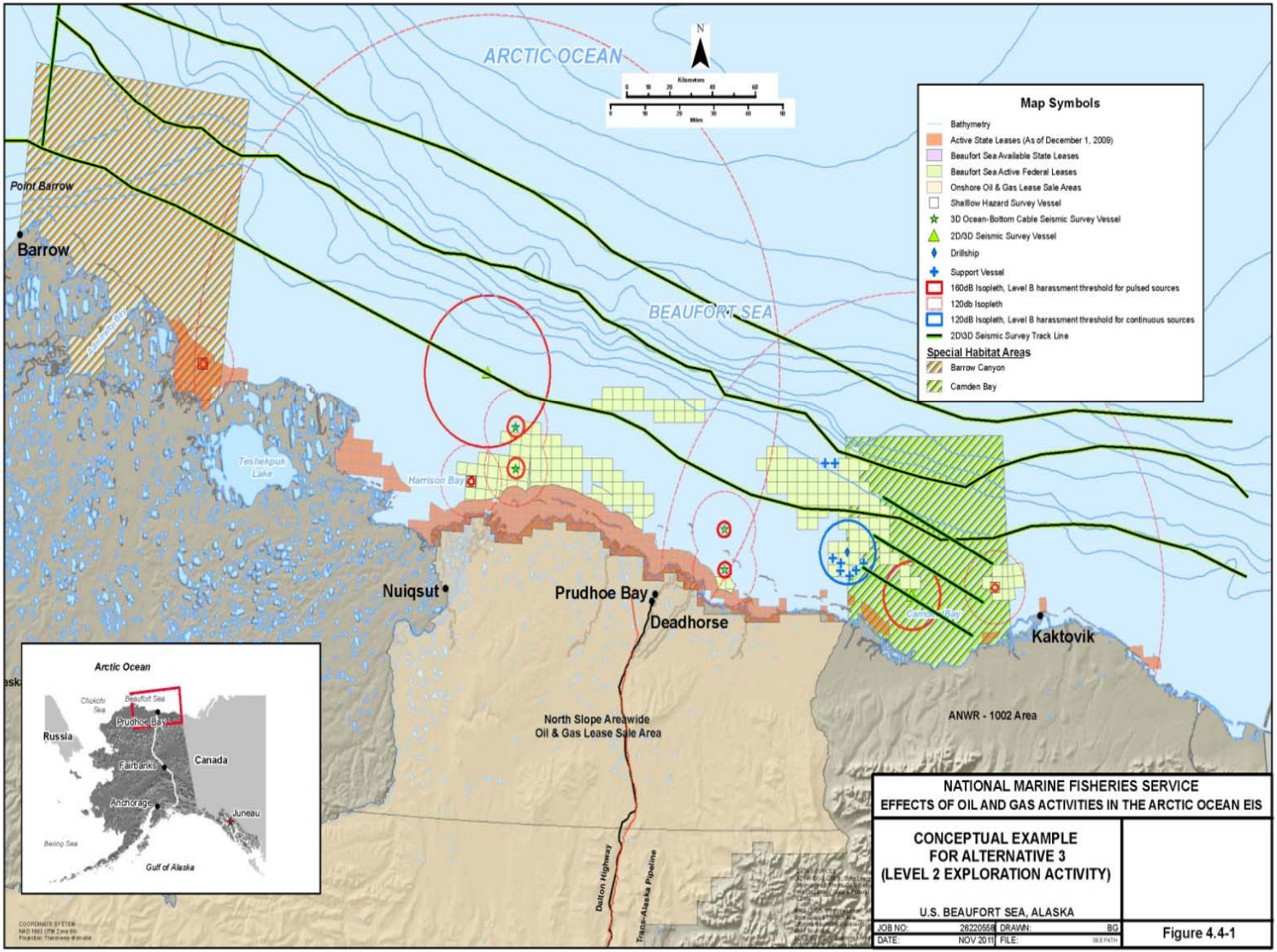
Alternative 3 – Level 2 Activity

- Up to **6 seismic surveys** in the Beaufort Sea and up to **5** in the Chukchi Sea
- **One** survey in each sea could occur in-ice later in the season
- Up to **5 site clearance/shallow hazard** survey programs **each** in Beaufort/Chukchi Seas
- **One on-ice seismic survey** in the Beaufort Sea
- **Two exploratory drilling** program **each** in the Beaufort/Chukchi Seas
- Standard (**current**) Mitigation Measures



NATIONAL MARINE FISHERIES SERVICE
EFFECTS OF OIL AND GAS ACTIVITIES IN THE ARCTIC OCEAN EIS

CONCEPTUAL EXAMPLE
FOR ALTERNATIVE 3
(LEVEL 2 EXPLORATION ACTIVITY)

U.S. BEAUFORT SEA, ALASKA

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Figure 4.4-1

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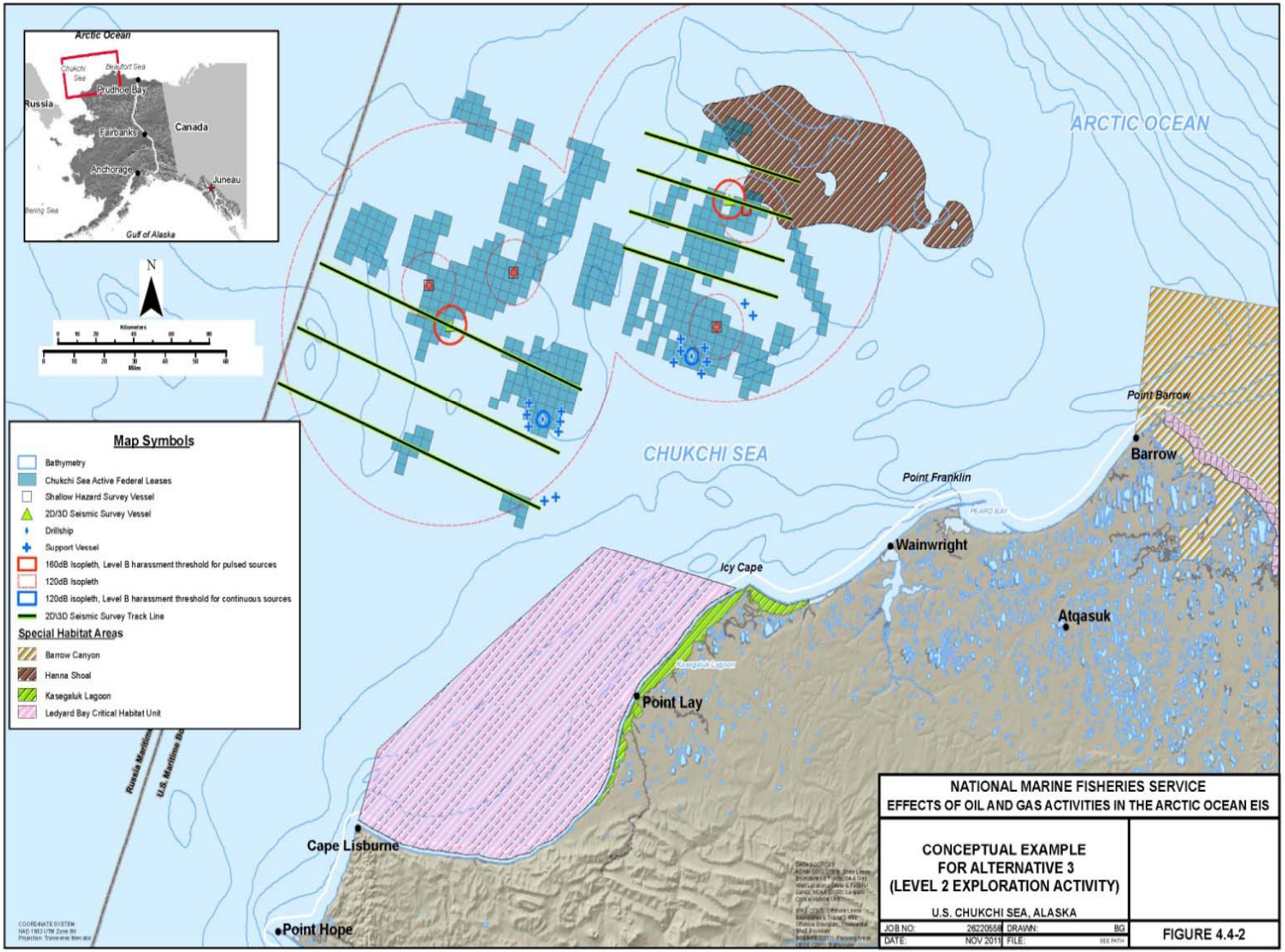

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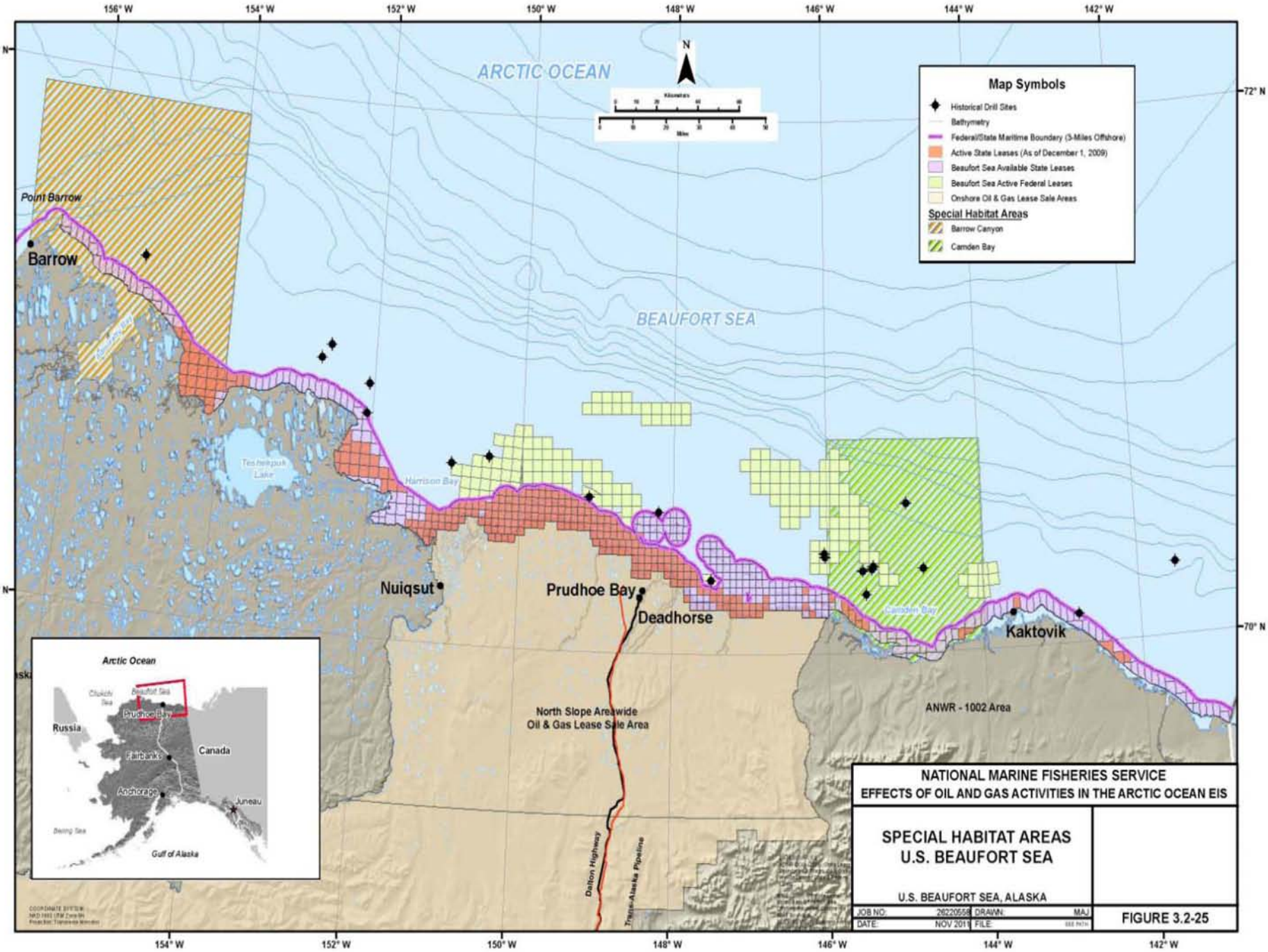
Alternative 4 – Time/Area Closures

- Same levels of activity as Alternative 3
- Standard mitigation measures
- New required specific time/area closures
  - important to **biological productivity**, life history functions for specific species of concern, and **subsistence activities**
- Buffer zones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ARCTIC OCEAN
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EFFECTS OF OIL AND GAS ACTIVITIES IN THE ARCTIC OCEAN EIS
SPECIAL HABITAT AREAS
U.S. BEAUFORT SEA
U.S. BEAUFORT SEA, ALASKA
JOB NO: 26220556
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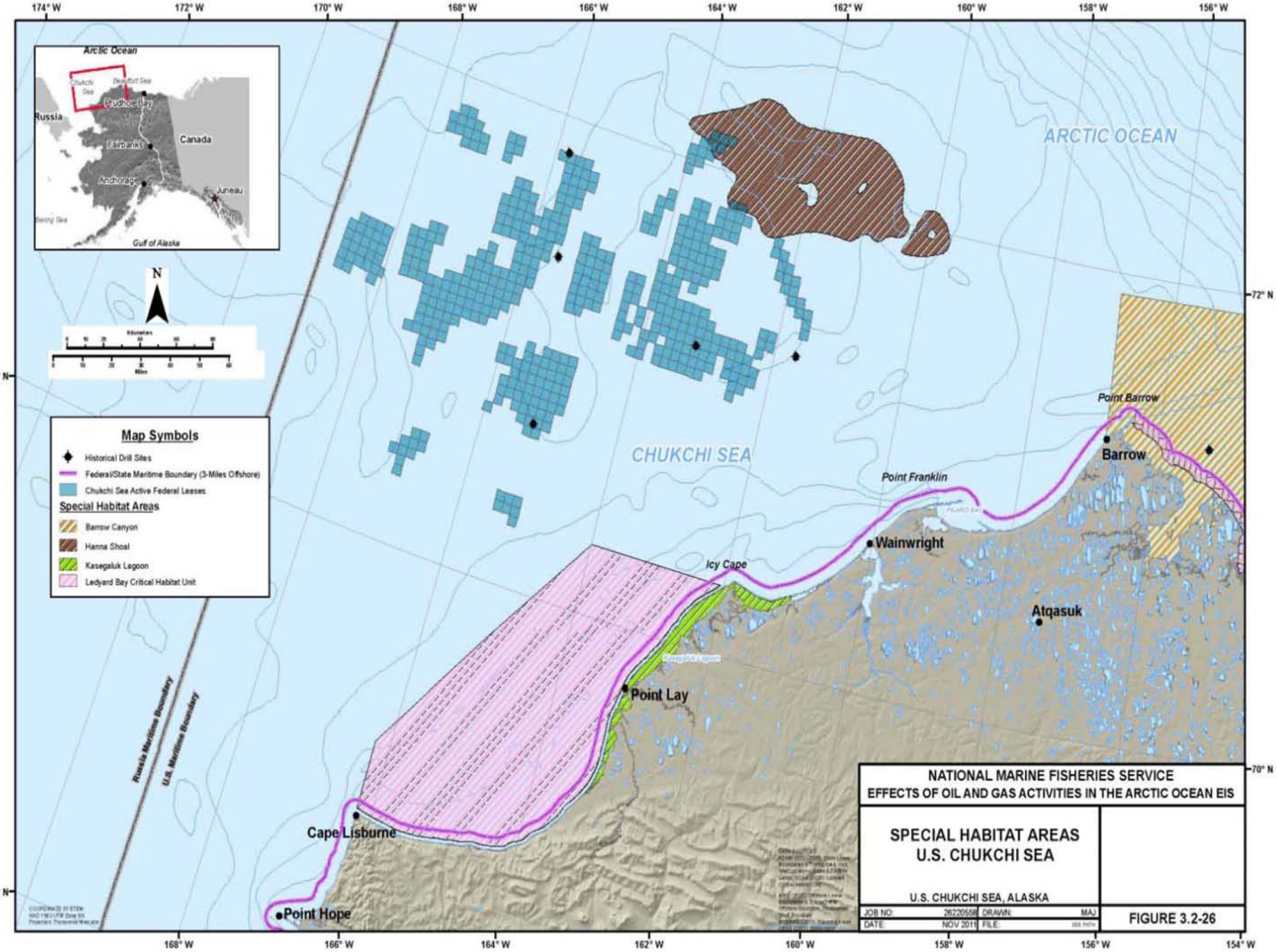
FIGURE 3.2-25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Arctic Ocean
Chukchi Sea
Beaufort Sea
Prudhoe Bay
Russia
Canada
Fairbanks
Anchorage
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ARCTIC OCEAN
CHUKCHI SEA
Point Barrow
Barrow
Point Franklin
Wainwright
Icy Cape
Atqasuk
Point Lay
Cape Lisburne
Point Hope
Russia Maritime Boundary
U.S. Maritime Boundary
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Barrow Canyon
Hanna Shoal
Kasegaluk Lagoon
Ledyard Bay Critical Habitat Unit
NATIONAL MARINE FISHERIES SERVICE
EFFECTS OF OIL AND GAS ACTIVITIES IN THE ARCTIC OCEAN EIS
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U.S. CHUKCHI SEA
U.S. CHUKCHI SEA, ALASKA
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FIGURE 3.2-26

Alternative 5 – Alternative Technologies

- Same levels of activity as Alternative 3
- Standard mitigation measures
- Includes specific additional mitigation measures that focus on the use of alternative technologies
  - potential to augment or replace traditional airgun-based seismic exploration activities

Why are Mitigation Measures Important?

- Reduce near-source acoustic exposures/impacts on marine mammals within a given distance of noise source
- Reduce the severity of acoustic impacts on marine mammals, reduce overall numbers taken by acoustic sources
- Reduce/lessen non-acoustic impacts on marine mammals
- Ensure no unmitigable adverse impact to subsistence uses

Application and Analysis of Mitigation Measures

- Standard mitigation measures are *required* for all activities
- Additional mitigation measures may be required on a case-by-case basis through the MMPA ITA process
- All standard and additional mitigation measures are analyzed in the context of:
  - The manner and degree to which the measure is expected to lessen impacts to the resource;
  - Its likely effectiveness; and
  - The practicability of implementation

Analysis of Potential Impacts

- Marine mammals
  - All Alternatives - Impacts from temporary disturbance, possible ship strikes, and habitat degradation
  - Alternative 4 – Reduction in adverse impacts from time/area closures
  - No population level effects
- Subsistence
  - Alternatives 2, 3, and 5 - Impacts on subsistence activities depending on mitigation measures implemented from disturbance
  - Alternative 4 – Reduction in adverse impacts from time/area closures
  - Impacts to availability of marine mammals to subsistence activities can generally be mitigated

How will this EIS be used?

- NMFS will use this EIS to assist in its MMPA decision-making process and as required NEPA documentation related to ITAs in the Beaufort and Chukchi seas
- BOEM will use this EIS to tier future NEPA documents from, or to incorporate by reference in future NEPA documents related to exploration surveys

Next Steps in EIS Process

- Review comments received during meetings and comment period
- Issue Comment Analysis Report and develop responses to comments (Spring 2012)
- Prepare Final EIS based on comments received (Summer 2012)
- Issue Final EIS (late Summer 2012 with 30-day wait period)
- Issue Record of Decision (September 2012)

DEIS Meeting Locations

- January 30 – Wainwright
- January 31 – Barrow
- February 1 – Kaktovik
- February 2 – Nuiqsut
- February 6 – Kivalina
- February 7 – Kotzebue
- February 7 – Point Hope
- February 8 – Point Lay
- February 13 - Anchorage

DEIS Meeting Procedures

- Oral Comments
  - Please sign in at the registration table
  - Please be clear and concise
  - Please keep comments to **4 minutes**
  - Transcripts of today's meeting are being prepared

DEIS Meeting Procedures

- Written Comments
  - Comments due no later than **February 28, 2012**
  - May be turned in today, mailed, e-mailed, or faxed
  - Submit e-mail comments to: *arcticeis.comments@noaa.gov*
  - Submit written comments to:

James H. Lecky, Director
Office of Protected Resources

National Marine Fisheries Service
1315 East-West Highway, Room 13705
Silver Spring, MD 20910-6233

Fax: (301) 713-0376

Additional Information

DEIS is available on NMFS web page:

http://www.nmfs.noaa.gov/pr/permits/eis/arctic.htm

Executive Summary also available for download on the NMFS web page

Thank You for Participating

in the
Effects of Oil and Gas Activities
in the Arctic Ocean
DEIS Public Meeting