

2 ALTERNATIVES INCLUDING THE PROPOSED ACTION

The Notice of Intent (NOI) for this draft Programmatic Environmental Impact Statement (PEIS), which was published on April 2, 2010 (75 CFR Part 63: 16828–16829), identified eight OCS planning areas for possible inclusion in the 2012-2017 OCS oil and gas leasing program (the Program), but identified no specific lease sale alternatives. The eight planning areas identified in that NOI were as follows:

- The Beaufort Sea, Chukchi Sea, and Cook Inlet Planning Areas in Alaska.
- The Western, Central, and Eastern Gulf of Mexico (GOM) Planning Areas, with the latter focusing on a small area along the western boundary of this planning area.
- The South and Mid-Atlantic Planning Areas.

Subsequently, on December 1, 2010, the Secretary of the Interior announced an updated oil and gas leasing strategy for the OCS (FR Notice; FR Doc. 2010–33149). Consistent with the Secretary’s direction to proceed with caution and focus leasing in areas with current active leases, the area in the Eastern GOM Planning Area, which remains under a Congressional moratorium (except for the area not restricted from leasing and development per the Gulf of Mexico Energy Security Act of 2006 as indicated in Figure 1-2 of this DEIS), and the South and Mid-Atlantic Planning Areas were dropped from consideration for potential sales and development through 2017, and thus are no longer under consideration in this PEIS.

The following six OCS planning areas are thus considered in this PEIS.

- The Beaufort Sea, Chukchi Sea, and Cook Inlet Planning Areas in Alaska.
- The Western, Central, and Eastern GOM Planning Areas, with the latter focusing only on a small area along the western boundary of this planning area.

This draft PEIS analyzes eight alternatives for the leasing of Federal offshore lands by the U.S. Department of the Interior (USDOJ), Bureau of Ocean Energy Management (BOEM), under the Program.

The draft PEIS analyses assume the implementation of all mitigation measures required by statute, regulation, or lease stipulations. All BOEM sale proposals include rules and regulations prescribing environmental controls applicable to lease operators. Lease stipulations, OCS regulations, and other measures provide a regulatory base for implementing environmental protection on leases issued as a result of a sale. The BOEM Environmental Studies Program and the analyses and monitoring of activities in a sale area provide information used in formulating the Agency’s regulatory control over the activities that occur during the life of the leases. This PEIS also assumes that Bureau of Safety and Environmental Enforcement (BSEE, formerly part

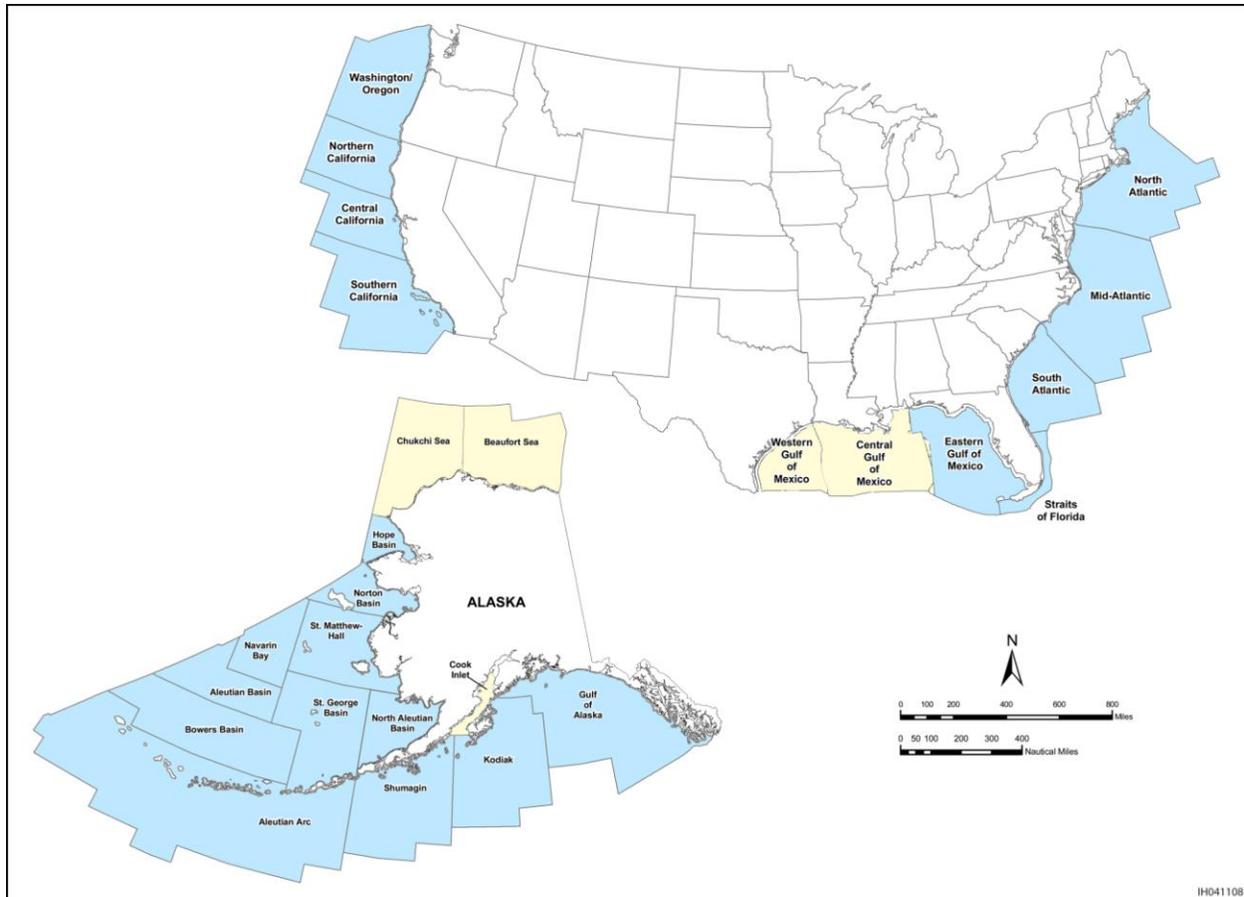
1 of BOEMRE will continue to use its broad permitting and monitoring and enforcement authority
2 to ensure safe operations and environmental protection, including use of the best available and
3 safest technologies and requiring existing mitigations. The PEIS assumes that BOEM will
4 continue to monitor operations after drilling has begun and will carry out periodic inspections of
5 facilities (in certain instances, in conjunction with other Federal Agencies such as the
6 U.S. Environmental Protection Agency [USEPA]) to ensure safe and clean operations over the
7 life of the leases. The 7 action alternatives listed below are not mutually exclusive, and the
8 Secretary has the discretion to combine alternatives. These alternatives include the following:
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10 • Alternative 1 – Proposed Action
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12 Under the proposed action, there would be as many as 15 lease sales distributed among
13 the six OCS planning areas, including 12 sales in the GOM and 3 sales in Alaska. The GOM
14 sales include five annual sales in each of the Central and Western Planning Areas and up to two
15 sales in a small area of the Eastern GOM Planning Area that includes 83 lease blocks being
16 considered for this Program (Figure 1-2). The Alaska sales would include one sale in each of the
17 Beaufort Sea and Chukchi Sea Planning Areas and one special interest sale in Cook Inlet. Under
18 the special interest sale process, BOEM issues an annual request for nominations and
19 information and will move forward with the lease sale process only after consideration of the
20 comments received in response to the annual request. If industry interest reflected in the
21 comments is sufficient, the lease sale process will proceed. If interest is not sufficient to support
22 consideration of a sale, the lease sale process will not proceed and another request will be issued
23 the following year and so through the 5-year schedule, until a sale is held or the 5-year period
24 expires.
25

26 Neither the proposed action nor any alternative to the proposed action includes
27 consideration of leasing in the Pacific or Atlantic OCS regions. The OCS Planning Areas
28 included in the proposed action are shown in Figure 2-1. All the other “action” alternatives,
29 i.e., Alternatives 2 through 7, are the same as the proposed action, except as specified below.
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- 31 • Alternative 2 – Exclude the Eastern Planning Area for the duration of the
32 Program
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- 34 • Alternative 3 – Exclude the Western GOM Planning Area for the duration of
35 the Program
36
- 37 • Alternative 4 – Exclude the Central GOM Planning Area for the duration of
38 the Program
39
- 40 • Alternative 5– Exclude the Beaufort Sea Planning Area for the duration of the
41 Program
42
- 43 • Alternative 6 – Exclude the Chukchi Sea Planning Area for the duration of the
44 Program
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2 **FIGURE 2-1 OCS Planning Areas. Planning Areas in Yellow are under Consideration for**
3 **Inclusion in the 2012-2017 OCS Oil and Gas Leasing Program**

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- Alternative 7 – Exclude the Cook Inlet Planning Area for the duration of the Program
- Alternative 8 – No Action.

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This chapter describes each alternative and summarizes the potential environmental impacts of the alternatives in comparative form. The summary describes the primary impacts based on the detailed analysis of all potential impacts presented in Chapter 4, Environmental Consequences. The impact analyses presented in this PEIS were generated from exploration, development, transportation, and oil spill scenarios developed specifically for analytical purposes.

2.1 ALTERNATIVE 1 – PROPOSED ACTION

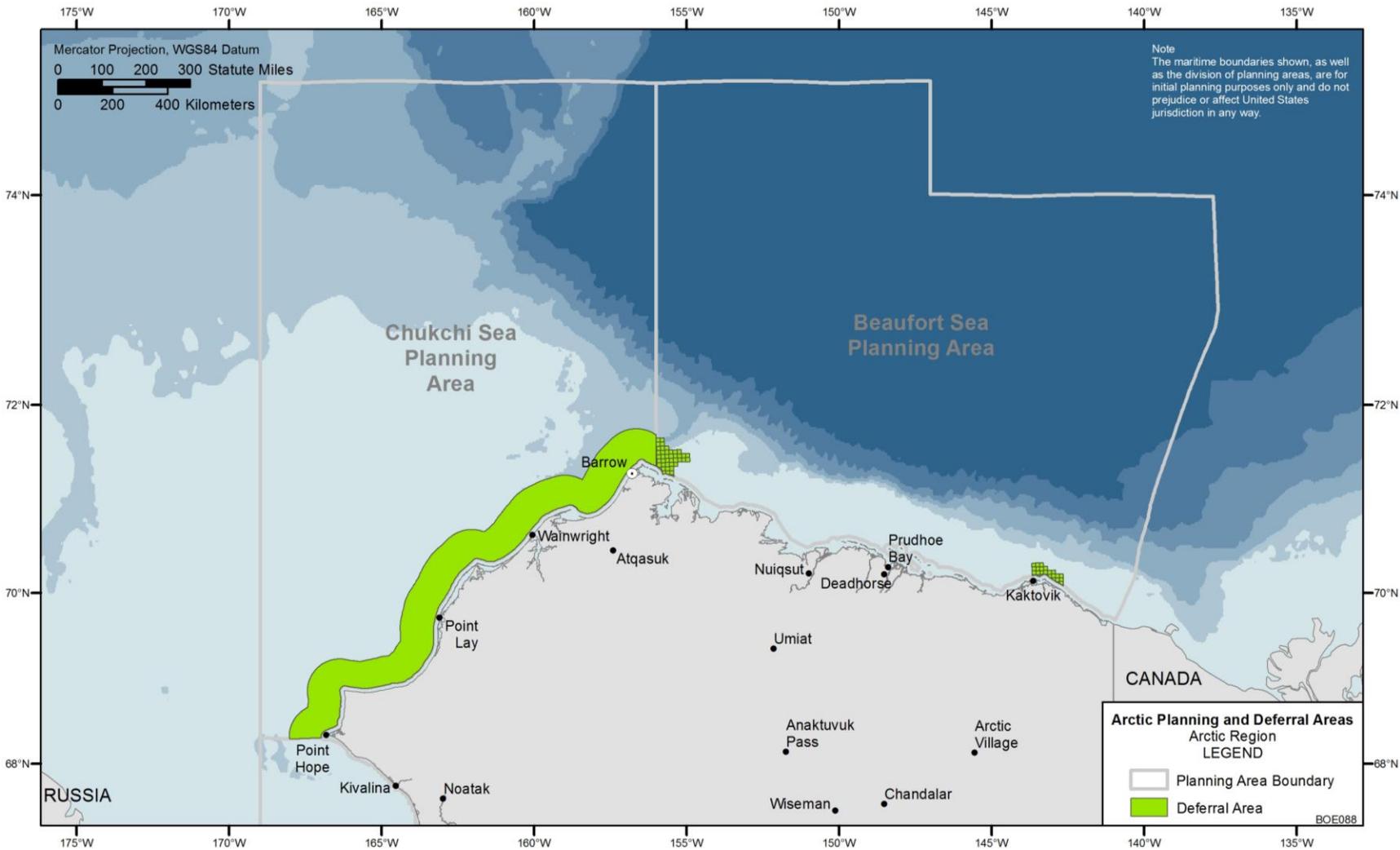
The four OCS regions are divided into 26 OCS Planning Areas (Figure 2-1), and under the proposed action, leasing is considered in two of the four BOEM OCS regions: GOM and

1 Alaska. Within the GOM OCS region, leasing is being considered in the Central and Western
2 GOM Planning Areas, and in a small extreme western portion of the Eastern GOM Planning
3 Area. Because of the small portion of the Eastern GOM Planning Area under consideration for
4 the program, which contains only 83 of the nearly 11,000 lease blocks in the Eastern GOM
5 Planning Area, and because of the relatively small amount of production that might occur in
6 these blocks, the exploration and development and the oil spill scenarios identified for both one
7 and two sales in the Eastern GOM are analytically identical. Therefore, the impact analysis for a
8 proposed action that includes two eastern GOM sales would also apply to a proposed action that
9 included only a single sale. In addition, the USDOJ is considering leasing in 3 of the 15 Alaska
10 region planning areas: Beaufort Sea, Chukchi Sea, and Cook Inlet. No other OCS Planning
11 Areas are analyzed in this PEIS because the USDOJ is not considering those areas for leasing
12 under the Program. The proposed action is the USDOJ's preferred alternative.

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14 Specifically, the proposed action calls for 15 lease sales under the Program:

- 15
16 • Western Gulf of Mexico Planning Area — five area-wide lease sales; one sale
17 annually beginning in 2012.
- 18
19 • Central Gulf of Mexico Planning Area — five area-wide lease sales; one sale
20 annually beginning in 2013.
- 21
22 • Eastern Gulf of Mexico Planning Area — one to two lease sales in the
23 extreme western portion of the planning area; one sale in 2014 and one sale in
24 2016.
- 25
26 • Beaufort Sea Planning Area — one sale in 2015 with a bowhead whale
27 migration deferral, which includes the following areas (Figure 2-2):
 - 28 – The Barrow Subsistence Whaling area that defers 49 whole or partial
29 blocks located at the western border of the planning area
 - 30 – The Kaktovik Subsistence Whaling area that defers 28 whole or partial
31 blocks located offshore of Kaktovik.
- 32
33 • Chukchi Sea Planning Area — one sale in 2016 with a 40 km (25 mi) buffer
34 deferral (Figure 2-2). This alternative considers the impacts associated with
35 not leasing within 25 miles of the Chukchi Sea coast.
- 36
37 • Cook Inlet Planning Area — one special interest sale in 2013.

38
39 Activities that could occur as a result of the 15 lease sales under the proposed action may
40 extend over a period of 40–50 years. The impact-causing factors associated with these activities
41 include the placement, use, and decommissioning of offshore infrastructure such as rigs,
42 platforms, and pipelines, and the expansion or construction of, and use of onshore facilities such
43 as support bases and processing plants, and these impacting factors apply to activities in any of
44 the planning areas that are part of the proposed action and alternatives considered in this draft
45 PEIS. Chapter 4, Environmental Consequences, presents the basic assumptions about anticipated
46 production, exploration, development, transportation, and accidental oil spills used to prepare the
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FIGURE 2-2 Deferral Areas in the Beaufort Sea and Chukchi Sea Planning Areas

1 draft PEIS. The specific estimates of offshore infrastructure required to support exploration and
2 development of the hydrocarbon resources (scenarios) associated with Alternative 1 (the
3 proposed action) are provided in Tables 4.4.1.1-1, 4.4.1.1-3, and 4.4.1.1-4 in Section 4.4.1 of this
4 draft PEIS. Impacting factors and activity-specific impacts are discussed in additional detail in
5 Section 4.1, and in the resource-specific impact discussions presented elsewhere in Chapter 4 of
6 this PEIS.
7

8 Transportation for most oil and gas from the GOM Planning Areas would be
9 accomplished by extending and expanding the existing offshore pipeline systems. Some of the
10 oil in deepwater areas and a small amount of the oil from the nearshore areas of the GOM
11 Planning Areas would be transported by barge or shuttle tanker.
12

13 In the Alaska OCS region, the lifting of the export ban on Alaskan crude oil has led to
14 infrequent and limited shipments to East Asia. However, the vast majority of oil transported via
15 the Trans-Alaska Pipeline System (TAPS) is still being sent to the U.S. West Coast. Oil and gas
16 from the Beaufort Sea and Chukchi Sea Planning Areas would be transported by new subsea and
17 overland pipelines to the TAPS and delivered to the marine terminal facilities in Valdez, where it
18 would be loaded on tankers and shipped primarily to West Coast ports. Oil and gas from the
19 Cook Inlet Planning Area would be transported to shore using new subsea pipelines, with new
20 onshore common-carrier pipeline systems delivering the oil to existing refineries in Nikiski and
21 gas to transmission facilities in the Kenai area.
22

23 24 **2.2 ALTERNATIVE 2 – EXCLUDE THE EASTERN GOM PLANNING AREA FOR** 25 **THE DURATION OF THE PROGRAM** 26

27 Under Alternative 2, the Program would not include new leasing in the Eastern GOM
28 Planning Area. This alternative includes 13 lease sales, with the same number of sales in other
29 planning areas and the same exploration and development and oil spill scenarios as identified for
30 the proposed action. The potentially available resources in the Eastern GOM Planning Area
31 available for leasing are estimated to include no more than 0.1 billion barrels (Bbbl) of oil and
32 0.2 trillion cubic feet (Tcf) of natural gas.
33

34 35 **2.3 ALTERNATIVE 3 – EXCLUDE THE WESTERN GOM PLANNING AREA FOR** 36 **THE DURATION OF THE PROGRAM** 37

38 Alternative 3 has no lease sales occurring in the Western GOM Planning Area, with the
39 resultant Program having 10 lease sales. The potentially available resources in the Western
40 GOM Planning Area include up to 1.0 Bbbl of oil and 4.6 Tcf of natural gas.
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1 **2.4 ALTERNATIVE 4 – EXCLUDE THE CENTRAL GOM PLANNING AREA**
2 **FOR THE DURATION OF THE PROGRAM**
3

4 Under this alternative, there would be no lease sales in the Central GOM Planning Area,
5 and only 10 lease sales under the Program. The potentially available resources in the Central
6 GOM Planning Area include as much as 4.3 Bbbl of oil and 19.1 Tcf of natural gas.
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9 **2.5 ALTERNATIVE 5 – EXCLUDE THE BEAUFORT SEA PLANNING AREA**
10 **FOR THE DURATION OF THE PROGRAM**
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12 Alternative 5 includes a total of 14 lease sales in all OCS Planning Areas identified for
13 the proposed action except for the Beaufort Sea Planning Area. Under this alternative, OCS oil
14 and gas leasing under the Program, and any subsequent exploration and development in the
15 Arctic region would occur only in the Chukchi Sea Planning Area (except in the deferred area).
16 The potentially available resources in the Beaufort Sea Planning Area that would not be made
17 available under this alternative include as much as 0.4 Bbbl of oil and as much as 2.2 Tcf of
18 natural gas.
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21 **2.6 ALTERNATIVE 6 – EXCLUDE THE CHUKCHI SEA PLANNING AREA**
22 **FOR THE DURATION OF THE PROGRAM**
23

24 Under Alternative 6, there would be a total of 14 lease sales held under the Program in
25 all OCS Planning Areas included in the proposed action except for the Chukchi Sea Planning
26 Area. Under this alternative, OCS oil and gas leasing under the Program, and any subsequent
27 exploration and development in the Arctic region would occur only in the Beaufort Sea Planning
28 Area (except in the deferred areas). The potentially available resources in the Chukchi Sea
29 Planning Area that would not be made available under this alternative include as much as
30 2.1 Bbbl of oil and as much as 8.0 Tcf of natural gas.
31
32

33 **2.7 ALTERNATIVE 7 – EXCLUDE THE COOK INLET PLANNING AREA**
34 **FOR THE DURATION OF THE 2012-2017 PROGRAM**
35

36 Under Alternative 7, no sales would be held in the Cook Inlet Planning Area, resulting in
37 14 sales in the Program. Under this alternative, OCS oil and gas leasing under the Program, and
38 any subsequent exploration and development in the Alaska region would occur only in the
39 Beaufort Sea and Chukchi Sea Planning Areas, except in the deferred areas. The potentially
40 available resources in the Cook Inlet Planning Area that would not be made available under this
41 alternative include as much as 0.1-0.2 Bbbl of oil and as much as 0.7 Tcf of natural gas.
42
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1 **2.8 ALTERNATIVE 8 – NO ACTION**

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3 Alternative 8 is the No Action Alternative. Under this alternative, there would be no
4 lease sales conducted under the Program in any OCS Planning Areas. As much as 8.2 Bbbl of
5 oil and 35 Tcf of natural gas would not be available under this alternative. Energy substitutes are
6 discussed in Section 4.5.6
7

8
9 **2.9 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER**
10 **PROGRAMMATIC EVALUATION**

11
12 Pursuant to the NEPA, BOEM had two public scoping periods, one extending from
13 April 2, 2010, through June 30, 2010, and another from January 6, 2011, through March 31,
14 2011, to solicit comments for the purpose of determining the scope of the PEIS (see Chapter 1).
15 Comments received through scoping were used to identify issues to be addressed and to provide
16 input into the development of the alternatives considered in this draft PEIS. Additional
17 alternatives suggested through scoping that are different from Alternatives 1–8 above include:
18

- 19 • Expand the oil and gas leasing program to include more or all OCS Planning
20 Areas beyond those identified in the NOI.
- 21
- 22 • Hold multiple sales in some OCS Planning Areas.
- 23
- 24 • Delay sales until further data regarding oil spill response and drilling safety
25 are collected and analyzed for the Arctic and GOM areas.
- 26
- 27 • Develop alternative/renewable energy sources as a substitute for oil and gas
28 leasing on the OCS.
- 29
- 30 • Add further spatial and temporal deferrals, such as no leasing in parts of
31 planning areas and seasonally limiting activity in other parts of planning areas.
- 32
- 33 • Reduce the lease sale sizes to smaller than area-wide (less than full planning
34 areas).
- 35
- 36 • Defer deepwater areas in the GOM planning areas.
- 37

38 These alternatives were considered but eliminated from further evaluation in this PEIS for a
39 variety of reasons, and each alternative is discussed separately below.
40

41
42 **2.9.1 Expand the Oil and Gas Leasing Program to Include More or All OCS**
43 **Planning Areas**

44
45 Under discretionary authority conferred by Section 18 of OCSLA, the Secretary of the
46 Interior hosted regional public meetings in Atlantic City, NJ, New Orleans, LA, Anchorage, AK,

1 and San Francisco, CA in April 2009 to gather information and public comment to help build a
2 comprehensive energy strategy for the .Outer Continental Shelf. Invited to each of these
3 meetings were regional governors, elected federal officials, private citizens, interested
4 organizations, energy producers, advocacy groups, and local governments. Using the
5 information that was collected from these meetings, and from the extended comment period, the
6 Secretary decided which planning areas to include.

7
8 The alternatives considered in this draft PEIS (excluding the No Action Alternative)
9 include oil and gas leasing in as many as 6 of the 26 OCS Planning Areas (Figure 2-1).
10 Alternatives that include more OCS Planning Areas (either adding selected individual areas such
11 as the Atlantic Planning Areas, or including all 26 OCS Planning Areas) were not considered in
12 this PEIS for several reasons.

13
14 Most of the Eastern GOM Planning Area, as well as areas of the Central GOM Planning
15 Area within 161 km (100 mi) of the Florida coast, are restricted from leasing and development
16 until 2022 as part of the Gulf of Mexico Energy Security Act of 2006. In Alaska, Bristol Bay in
17 the North Aleutian Basin Planning Area was withdrawn on March 31, 2010, by the President
18 from leasing consideration through June 30, 2017. As a matter of caution, in the aftermath of the
19 DWH event, in April 2010, the Secretary of the Interior announced, on December 1, 2010, a
20 narrowing of the scope of the PEIS by removing the South and Mid-Atlantic Planning Areas
21 from consideration for potential sales and development through 2017. Because of these
22 moratoria and removals, expansion of the Program to all planning areas is not possible, and
23 expanding it to planning areas other than those considered in this draft PEIS is not feasible
24 without further postponement of the Program. Inclusion of all OCS Planning Areas would have
25 been inconsistent with the December 1, 2010, direction of the Secretary of the Interior for the
26 scope of the PEIS to focus on leasing in areas with current active leases. Many of the 26 OCS
27 Planning Areas do not currently have active leases or substantial interest from industry, and were
28 thus not considered for inclusion in the Program, or for evaluation in this draft PEIS.

29 30 31 **2.9.2 Hold Multiple Lease Sales in Some OCS Planning Areas**

32
33 The proposed action identifies 15 lease sales in six planning areas: five sales each in the
34 Western and Central GOM Planning Areas, two sales in the Eastern GOM Planning Area, and
35 one each in the Cook Inlet, Beaufort Sea, and Chukchi Sea Planning Areas. Alternatives with
36 additional sales, such as having more than two sales in the Eastern GOM Planning Area or more
37 than one sale in each of the Alaska Planning Areas, would be inconsistent with the Secretary of
38 the Interior's Program scoping announcement on December 1, 2010, of an updated oil and gas
39 leasing strategy for the OCS that would proceed with caution and focus on leasing in areas with
40 currently active leases and an existing knowledge base. Holding one sale in each planning area
41 is more consistent with a cautionary approach in the Arctic.

1 **2.9.3 Delay Sales until Further Evaluation of Oil Spill Response and Drilling Safety**
2 **Is Completed**
3

4 Following the Deepwater Horizon (DWH) event, there has been considerable activity by
5 not only BOEM but also other Federal and State agencies with regard to the adequacy of past oil
6 spill response plans and drilling safety, as well as the development of new approaches for spill
7 response and increasing drilling safety. BOEM has been active in revising existing regulations
8 and developing new regulations specific to spill response plan requirements and drilling safety,
9 and multiple agencies (including BOEM) are continuing to evaluate these areas. The
10 identification of new approaches to enhance spill response and drilling safety is expected to be
11 an activity that will extend throughout the duration of the Program. Waiting until further
12 evaluation is completed would delay the Program beyond the 5-year revision requirement
13 specified in Section 18 of OCSLA. Inclusion of new information (and any subsequent
14 requirements) related to spill response and drilling safety would be included through the
15 promulgation of regulations, notices to lessees and operators, and site-specific mitigations
16 identified in NEPA analyses at the lease sale and project levels. In addition, at the discretion of
17 the Secretary, any lease sale can be delayed or cancelled for any reason, including a possible
18 need for further evaluation of oil spill response or drilling safety issues.
19
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21 **2.9.4 Develop Alternate/Renewable Energy Sources as a Substitute for Oil and Gas**
22 **Leasing on the OCS**
23

24 Energy use in the United States is expected to continue to increase from present levels
25 through 2035 and beyond (EIA 2011). For example, the U.S. Energy Information
26 Administration (EIA) has projected that U.S. consumption of crude oil and petroleum products
27 will increase from about 18.8 million bbl per day in 2009 to about 21.9 million bbl per day in
28 2035 (EIA 2011). Oil and gas reserves in the OCS (and especially the GOM) represent
29 significant sources that currently help meet U.S. energy demands, and are expected to continue
30 to do so in the future. While alternate/renewable energy sources currently play a role in meeting
31 energy demand in this country, and will continue to do so in the future, such sources could not
32 replace the energy supplied by oil and gas from OCS sources. A more detailed discussion of
33 alternate and other energy substitutes for oil and gas appears in Section 4.5.6, which considers
34 the environmental effects of the No Action Alternative.
35

36 The OCSLA, in conjunction with other statutes, extends broad powers to the President
37 and designated Federal Agencies (such as BOEM) over leasing activities on the OCS.
38 Section 18 of the OCSLA specifically directs the Secretary of the Interior to prepare and
39 periodically revise an oil and gas leasing program to implement the policies of OCSLA, and
40 BOEM conducts oil and gas lease sales and executes leases under the OCSLA. Renewable
41 energy projects on the OCS are also managed in conjunction with other Federal and State
42 authorities. Under the OCSLA, Federal planning does not specifically integrate oil and gas
43 leasing with renewable energy leasing. BOEM has, however, issued a final rule specific to the
44 establishment of a program to grant leases, easements, and rights-of-way for renewable energy
45 projects on the OCS (30 CFR Parts 250, 285, and 290).
46
47

1 **2.9.5 Add Areal and Temporal Exclusion and Restriction Zones around Sensitive Areas**
2 **and Resources**

3
4 BOEM received scoping comments requesting that the PEIS include alternatives that
5 exclude portions of program areas from leasing during the program or that seasonally exclude or
6 restrict drilling in some Arctic areas when ice is present. Specific examples include creating
7 more exclusion areas in the Arctic, particularly in the Hannah Shoals and Camden Bay areas,
8 protecting the Bowhead whale migration corridors, and temporal exclusion or restriction of
9 drilling in the Arctic when ice is present. Other comments suggested exclusion of sensitive areas
10 in the GOM particularly to avoid or minimize contact from a DWH-like discharge event.
11 Specific examples include excluding areas of the GOM OCS in which the Loop Current could
12 transport oil from a large discharge event over great distances, avoiding important ecological
13 areas and features, and developing buffer zones around areas as appropriate, such as coastal
14 migratory corridors, population centers, and critical habitat of listed species.

15
16 The Secretary may carve out deferral areas that are based on specific, established need
17 and supported by adequate information, such as deferral areas selected in previous 5-year
18 program alternatives and needed to continue protection of bowhead whale migration in the
19 Beaufort Sea and coastal subsistence uses in the Chukchi Sea. The Bureau indicated in its April,
20 2010 NOI that other areal or temporal exclusions within planning areas may be considered.
21 After consideration of areas suggested during scoping, BOEM has decided that it is premature to
22 make any decisions as to such exclusions at this early Program stage. The determination of other
23 areal and temporal exclusions and restrictions will depend on the location of specific lease sale
24 areas and whether exploration and development will actually occur in the lease sale area, which
25 is unknown at this time. The exclusion of specific areas or blocks within a planning area is best
26 done at the lease sale stage of the program or when specific OCS projects are being evaluated.

27
28 The PEIS is mainly a planning document that informs “big-picture” decisions about the
29 overall size of the program, the planning areas included in the program, and the number of lease
30 sales that could occur during the program. The ecoregional scale used in the draft PEIS to
31 identify areas where OCS effects and vulnerable environmental resources are likely to interact
32 and where mitigations may need to be developed during the program to reduce potential impacts
33 does not provide the fine scale and detailed information needed to develop protected areas on a
34 block-by-block basis. Furthermore, the lease sale process is an evolving process, and additional
35 site-specific studies, consultations, and analyses may be required before effective mitigations and
36 exclusions can be developed. Indeed, it could be almost foolhardy to include areal or temporal
37 exclusions or restrictions now, armed only with inadequate information. By including entire
38 planning areas in the Program, the USDOJ is attempting to maintain flexibility in fulfilling its
39 mandate to provide for both U.S. energy needs and to protect the marine and coastal
40 environment.

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42
43 **2.9.6 Reduce the Lease Sale Sizes to Smaller Than Area-Wide (less than full**
44 **planning areas)**

45
46 Using an area-wide leasing approach provides greater flexibility to fully consider and
47 balance development, economic, and environmental concerns. While significant domestic

1 energy resources are assumed to be located on the OCS, the precise locations and quantities are
2 unknown because not all promising areas and reservoirs have been fully explored and delineated.
3 One way to optimize discovery of significant oil and gas deposits is to encourage companies to
4 pursue unique and diverse exploration and development strategies based on differing views as to
5 resource location, availability, and extractability. The area-wide process allows lessees to
6 concentrate efforts on tracts they consider most promising as opposed to those pre-identified by
7 the government, unless those areas have been already excluded through pre-lease sale planning
8 and environmental review. The Secretary can reduce the area offered for leasing within a
9 planning area at the lease sale stage of the program based on more information about the location
10 and value of recoverable resources, the potential vulnerability of environmental resources, or
11 other Section 18 concerns. Leasing strategies other than area-wide leasing are described in the
12 Proposed Program.

13 14 15 **2.9.7 Defer Oil and Gas Leasing in Deepwater Areas of the Central and Western GOM** 16 **Planning Areas**

17
18 During the scoping process, several comments expressed opposition to drilling in
19 deepwater areas. The comments expressed general concerns about deepwater drilling in the
20 GOM after the Deepwater Horizon event that occurred on April 20, 2010, and resulted in a
21 discharge estimated to be 4-9 million barrels of oil. The comments did not specify a definition of
22 deepwater to apply to an alternative that excludes certain areas from leasing to reduce the risk of
23 occurrence of a catastrophic discharge event, nor did the comments identify specific risk factors
24 associated with drilling in “deep” water compared to drilling at other water depths. The
25 Secretary defined deepwater in the context of areas of the GOM with potential for increased
26 drilling risk as water depths of 152 m (500 ft) and deeper when he directed BOEM on May 28,
27 2010, to exercise its authority under the OCSLA to suspend certain drilling activities for a period
28 of up to 6 months in those water depths. The Secretary later clarified the suspension to cover
29 deepwater operations that involved the use of certain deepwater technology. On October 12,
30 2011, BOEM lifted the May 28, 2011, drilling suspension on the basis that major issues
31 pertaining to deepwater drilling risk had been addressed through multiple venues in the
32 intervening 5 months.

33
34 The PEIS acknowledges the importance of understanding catastrophic discharge event
35 risk for planning, leasing, and regulatory decisions during the Program. To further this
36 understanding, the PEIS includes in Section 4.3, *Assessment of Issues of Programmatic Concern*,
37 a discussion of the current knowledge of the relative importance of catastrophic discharge event
38 risk factors, and a synthesis of this information to identify catastrophic event risk in different
39 program areas. This section identifies water depth as just one of many risk factors that should be
40 considered with other factors when making specific leasing decisions. This section also
41 describes recent regulatory measures that have been promulgated to improve drilling safety and
42 to reduce the risk of occurrence of catastrophic discharge events.

43
44 Furthermore, to exclude all deepwater areas in the GOM from potential oil and gas
45 exploration and development would not be reasonable in light of the purpose and need for the oil
46 and gas leasing program, which is to help meet the Nation’s energy needs by developing oil and

1 gas resources in a manner consistent with environmental protection and the laws and policies of
2 affected States. Over the last approximately 20 years, leasing, drilling, and production have
3 moved steadily into deeper waters. As of 2009, there were approximately 7,310 active leases in
4 the U.S. GOM, 58% of which were in deep water. Likewise, deepwater oil production rose
5 about 786% and deepwater gas production increased about 1,067% from 1992 to 2007 (Nixon
6 and Shepard 2009). The leasing schedule must ensure a proper balance between oil and gas
7 production and possible environmental impacts, while also considering relative environmental
8 sensitivity among OCS Regions and competing uses of the OCS. Portions of planning areas,
9 such as deepwater areas, can potentially be deferred from leasing during the program at the lease
10 sale level when such analysis and issues are ripe, if there is, for example, a demonstrated and
11 significant relative risk of a spill or blowout associated with certain deepwater areas, the
12 presence of sensitive environmental resources, space use conflicts, or other reasons.

15 **2.10 SUMMARY OF IMPACTS ANTICIPATED FROM THE PROPOSED ACTION** 16 **AND ALTERNATIVES**

17
18 In general, oil and gas development follows a four-phase process, beginning with
19 (1) exploration to locate viable deposits, (2) development of the production well and support
20 infrastructure, (3) operation (oil or gas production), and (4) decommissioning of the offshore
21 facility once it is no longer productive or profitable. Under the proposed action, or
22 Alternatives 2 through 7, routine operations associated with each of these phases will have the
23 same or similar impact-producing factors associated with them (Table 2.10-1), and these have
24 “typical” types of impacts, regardless of location. The magnitude and importance of those
25 impacts on the resource, however, will be very site and project specific. For example, pipeline
26 trenching, regardless of location, will result in disturbance of the sea floor and associated biota
27 and habitats, and generate suspended sediments that will affect local water quality. The
28 importance of such impacts will depend on the types of biota and habitats present (seagrass beds
29 vs. mud bottom; endangered species) and ambient water quality conditions. The types of
30 impacts identified for the proposed action are therefore the same as those expected under each of
31 the alternatives except the No Action Alternative. Table 2.10-2 presents a summary comparison
32 of impacts of all the alternatives, including No Action. The difference in potential impacts
33 among the action alternatives will be in where those impacts may be incurred. Each of the
34 alternatives to the proposed action defers one of the six Planning Areas included in the proposed
35 action from the 2012-2017 OCS leasing program, and most resources in the deferred Planning
36 Area would not be expected to be affected by routine operations in the other Planning Areas.
37 Because routine operations include some impacting factors (such as seismic survey noise and
38 support vessel traffic) that may extend beyond Planning Area boundaries, resources in deferred
39 Planning Areas may be affected by routine operations associated with development in adjacent
40 Planning Areas.

41
42 One potential impact-producing factor of oil and gas development under each of the
43 seven action alternatives is an accidental oil spill. The types of effects such accidental spills may
44 have on specific resources will be similar between the proposed action and the other action
45 alternatives, although the duration and magnitude of the impacts will depend on the location,

1 size, timing, and duration of the spill; the effectiveness of spill containment and cleanup
2 operations; and the biological and cultural resources affected by the spill.
3

4 The evaluation of a No Action Alternative is required by the regulations implementing
5 the National Environmental Policy Act (40 CFR 1502.14(d)). If the Secretary were to adopt this
6 alternative, it would halt OCS presale planning, sales, and new leasing from 2012 to 2017.
7 However, exploration, development, and production stemming from past sales would continue.
8

9 This alternative would shut down the OCS leasing program from mid-2012 through
10 mid-2017. The amounts of OCS natural gas (up to 35 trillion cubic feet) and oil (up to
11 8.1 billion barrels of oil) that could help meet national energy needs would be forgone. That
12 amount of energy would have to be replaced by a combination of imports, alternative energy
13 sources, and conservation.
14

15 Market forces are expected to be the most important determinant of the substitute mix for
16 OCS oil and gas. Key market substitutes for forgone OCS oil production would be imported oil,
17 conservation, switching to gas, and onshore production. For OCS natural gas, the principal
18 substitutes would be switching to oil, onshore production, imports, and conservation.
19

20 In addition to market-based substitutes, the Nation or individual States might choose to
21 encourage or even impose programs designed to deal with the energy shortfall. To replace oil,
22 these programs might favor alternative vehicle fuels such as ethanol or methanol, vehicles with
23 greater fuel efficiency, or alternate transportation methods such as mass transit.
24

25 As a partial replacement for the forgone natural gas, governments might mandate
26 increased reliance on coal, nuclear, hydroelectric, or wind-generated electric power. In addition,
27 governments might give more emphasis to programs encouraging more efficient electricity
28 transmission and more efficient use of gas and electricity in factories, offices, and homes.
29
30

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46

1 **TABLE 2.10-1 Impact-Producing Factors Associated with OCS Oil and Gas Development**

Impact-Producing Factor	Development Phase				
	Exploration		Development	Operation	Decommissioning
	Seismic Survey	Exploration Well			
<i>Noise</i>	X	X	X	X	X
Seismic noise	X				
Ship noise	X	X	X	X	X
Aircraft noise		X	X	X	X
Drilling noise		X	X		
Trenching noise			X		
Production noise				X	
Onshore construction			X		
Platform removal					X
<i>Traffic</i>	X	X	X	X	X
Aircraft traffic		X	X	X	X
Ship traffic	X	X	X	X	X
<i>Drilling Mud/Debris</i>		X	X		
<i>Bottom/Land Disturbance</i>		X	X		
Coring and drilling		X	X		
Pipeline trenching			X		
Onshore construction			X		
<i>Air Emissions</i>	X	X	X	X	X
Offshore	X	X	X	X	X
Onshore			X	X	X
<i>Explosives</i>					X
Platform removal					X
<i>Lighting</i>	X	X	X	X	
Offshore	X	X	X	X	
Onshore			X	X	
<i>Visible Infrastructure</i>		X	X	X	
Offshore		X	X	X	
Onshore			X	X	
<i>Space Use Conflicts</i>	X	X	X	X	
Offshore facilities	X	X	X	X	
Onshore facilities			X	X	
<i>Accidental Spills</i>	X	X	X	X	

2

TABLE 2.10-2 Summary of Potential Environmental Impacts of the Proposed Action and Alternatives for a 2012-2017 OCS Oil and Gas Leasing Program

Resource	Alternative	Potential Impacts
Water Quality	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations that could result in minor to moderate, localized, short-term impacts include structure placement and construction (pipelines, platforms) and operational discharges (produced water, bilge water, drill cuttings) and sanitary and domestic wastes. Structure placement and removal could increase suspended sediment loads, while operational discharges, sanitary and domestic wastes, and deck drainage could affect chemical water quality. Compliance with NPDES permits and U.S. Coast Guard (USCG) regulations would reduce most impacts of routine operations. The effects of accidental oil spills will depend upon material, spill size, location, and remediation activities. Small spills would likely result in short-term, localized impacts. Impacts from a large oil spill (including those from a very large spill associated with an unlikely catastrophic discharge event [CDE]) could persist for an extended period of time if oil were deposited in wetland and beach sediments or low-energy environments because of potential remobilization.</p> <p>Alaska: Routine operations would result in minor to moderate, short-term, localized impacts such as disturbing sediments and increasing turbidity near construction sites and altering water chemistry from operational discharges. In the Arctic Planning Areas, minor water quality impacts could also occur from fluids entrained in ice roads when they break up in the spring. Compliance with NPDES permits and USCG regulations would reduce impacts of routine operations. The effects of accidental oil spills will depend upon material, spill size, location, season, response, and remediation activities. In the presence of cold temperatures and ice, cleanup activities would be extremely difficult. Small spills would likely result in short-term impacts. Impacts from a large oil spill (including those from a very large spill associated with an unlikely CDE) could persist for an extended period of time if oil were deposited in wetland and beach sediments or low-energy environments because of potential remobilization. Spills under ice could affect water quality for relatively long periods.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to water quality in the Eastern GOM Planning Area from routine operations. Accidental oil spills (especially very large spills) in the other GOM planning areas could potentially affect water quality in the Eastern GOM Planning Area if transported there by GOM currents.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to water quality in the Western GOM Planning Area from routine operations. Accidental oil spills in the other GOM planning areas could potentially affect water quality in the Western GOM Planning Area if transported there by GOM currents, especially in the event of a very large oil spill.</p> <p>Alaska: Same as Alternative 1.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Water Quality (Cont.)	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to water quality in the Central GOM Planning Area from routine operations. Accidental oil spills in the other GOM planning areas could potentially affect water quality in the Central GOM Planning Area if transported there by GOM currents, especially in the event of a very large oil spill.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1 except that no impacts would be expected in the Beaufort Sea Planning Area. Accidental oil spills in the Chukchi Sea Planning Area could affect water quality in the Beaufort Sea, depending on the location, size, and duration of the spill as well as on the effectiveness of containment and cleanup operations (especially under winter, ice cover conditions).</p>
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1 except that no impacts would be expected in the Chukchi Sea Planning Area. Accidental oil spills in the western portion of the Beaufort Sea Planning Area could affect water quality in some portions of the eastern Chukchi Sea, depending on the location, size, and duration of the spill as well as on the effectiveness of containment and cleanup operations.</p>
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1 except that no impacts would be expected in the Cook Inlet Planning Area.</p>
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Air Quality	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations are expected to result in only minor impacts to air quality. Sources of air pollutants (NO₂, SO₂, PM₁₀, and CO) associated with OCS oil and gas development include diesel and gas engines, turbines, and support vessels. Routine operations would not result in exceedance of the NAAQS or impact visibility. Increases of ozone, if they occur, would be about 1% of total concentrations. Small accidental oil spills could have localized and temporary impacts. Pollutant levels from very large spills (including accidental spills associated with an unlikely CDE) and associated <i>in situ</i> burning, if used, would generally be small. Plumes from <i>in situ</i> burning could temporarily degrade visibility in PSD Class I areas.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Air Quality (Cont.)		Alaska: Routine operations are expected to result in only minor impacts to air quality. Routine operations would not result in exceedance of the NAAQS in public access areas or impact visibility. Smaller oil spills could have localized and temporary impacts. Pollutant levels from very large spills (including accidental spills associated with an unlikely CDE) and associated <i>in situ</i> burning, if used, could be major during the initial leak and again during cleanup efforts (plumes from <i>in situ</i> burning could temporarily degrade visibility), but eventually, air quality is expected to return to normal or near normal. The long-term effects associated with a spill and cleanup would be minor.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to air quality in the Eastern GOM Planning Area from routine operations. Depending on the strength, duration, and direction of prevailing winds, <i>in situ</i> burning of a spill in the Central GOM Planning Area could affect air quality in the Eastern GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to air quality in the Western GOM Planning Area from routine operations. Depending on the strength, duration, and direction of prevailing winds, <i>in situ</i> burning of a spill in the Central GOM Planning Area could affect air quality in the Western GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to air quality in the Central GOM Planning Area from routine operations. Depending on the strength, duration, and direction of prevailing winds, <i>in situ</i> burning of a spill in the other GOM planning areas could affect air quality in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1 except no impacts to air quality in the Beaufort Sea Planning Area. Depending on the strength, duration, and direction of prevailing winds, <i>in situ</i> burning of a spill in the Chukchi Sea Planning Area could affect air quality in nearby areas of the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1 except no impacts to air quality in the Chukchi Sea Planning Area. Depending on the strength, duration, and direction of prevailing winds, <i>in situ</i> burning of a spill in the Beaufort Sea Planning Area could affect air quality in nearby areas of the Chukchi Sea Planning Area.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Air Quality (Cont.)	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Acoustic Environment	Alternative 1 – Proposed Action	Gulf of Mexico and Alaska: Routine operations in the GOM and Alaska OCS Planning Areas could affect ambient noise conditions, and impacts to ambient noise levels are expected to be minor. Noise generating sources associated with routine operations include seismic surveys, drilling and production, infrastructure placement and removal, and vessel traffic. Depending on the source and activity, changes in ambient noise levels could be short-term and localized (e.g., from vessel traffic), long-term and localized (from production), or short-term and less localized (from seismic surveys). Seismic surveys could result in short-term changes in ambient noise levels, but the changes could extend well beyond the survey boundary.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except no changes in local ambient sound levels in the Eastern GOM Planning Area from routine operations. Seismic surveys conducted in the eastern portions of the Central GOM Planning Area could temporarily increase ambient sound levels in portions of the Eastern GOM Planning Area.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except no changes in local ambient sound levels in the Western GOM Planning Area from routine operations. Seismic surveys conducted in the western portions of the Central GOM Planning Area could temporarily increase ambient sound levels in portions of the Western GOM Planning Area.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except no changes in local ambient sound levels in the Central GOM Planning Area from routine operations. Seismic surveys conducted in the western portion of the Eastern GOM Planning Area or the eastern portion of the Western GOM Planning Area could temporarily increase ambient sound levels in portions of the Central GOM Planning Area.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except no changes in local ambient sound levels in the Beaufort Sea Planning Area from routine operations. Seismic surveys conducted in the western portion of the Chukchi Sea Planning Area could temporarily increase ambient sound levels in portions of the Beaufort Sea Planning Area.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Acoustic Environment (Cont.)	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except no changes in local ambient sound levels in the Chukchi Sea Planning Area from routine operations. Seismic surveys conducted in the eastern portion of the Beaufort Sea Planning Area could temporarily increase ambient sound levels in portions of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico and Alaska: Same as Alternative 1, except that no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Coastal and Estuarine Habitats	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations would result in minor to moderate localized impacts primarily due to facility construction, pipeline trenching and landfalls, channel dredging, and vessel traffic. The effects of accidental oil spills will depend on the specific habitat affected; the size, location, duration, and timing of the spill; and on the effectiveness of spill containment and cleanup activities. Small spills would likely result in short-term impacts while large spills (including CDE-level spills which are not expected) could incur both short-term and long-term impacts depending on habitat type and location and effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Routine operations would be expected to result in minor to moderate localized impacts primarily due to pipeline, road, and onshore facility construction and vessel traffic. These operations could have a major effect on the local indigenous residents most proximate to development if it interferes with their subsistence practices for the greater part of a season. The effects of accidental oil spills will depend on habitats affected; the size, location, duration and timing of the spill; and on the effectiveness of spill containment and cleanup activities. Large (including CDEs which are not expected) and small spills could result in long-term and short-term impacts, depending on the habitats affected; the duration and size of the spill, and on the effectiveness of spill containment and cleanup activities.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to habitats in the Eastern GOM Planning Area from routine operations. Accidental spills in the Central GOM Planning Area could potentially impact habitats in the Eastern GOM Planning Area if carried there by GOM currents.
		Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Coastal and Estuarine Habitats (Cont.)	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to habitats in the Western GOM Planning Area from routine operations. Accidental spills in the Central GOM Planning Area could potentially impact habitats in the Western GOM Planning Area if carried there by GOM currents. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to habitats in the Central GOM Planning Area from routine operations. Accidental spills in the other GOM Planning Areas could potentially impact habitats in the Central GOM Planning Area if carried there by GOM currents. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to habitats in the Beaufort Sea Planning Area from routine operations. Accidental oil spills in the Chukchi Sea Planning Area could potentially impact habitats in the Beaufort Sea Planning Area if carried there by coastal currents.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to habitats in the Chukchi Sea Planning Area from routine operations. Spills in the Beaufort Sea Planning Area could potentially impact habitats in some portions of the eastern Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to habitats in the Cook Inlet Planning are expected.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine Benthic Habitats	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations could result in moderate and long-term impacts to benthic habitats, primarily soft sediments. Benthic habitat could be disturbed by platform and pipeline placement, dredging, and operational discharges (produced water and cuttings). Soft sediment habitats can recover within a few years from most disturbances. Existing mitigation measures should eliminate most direct impacts to sensitive and protected benthic habitats. Marine benthic habitat could be affected by a large oil spill, including CDE-level spills which are not expected. Impacts could be long-term and range from small to medium, depending on the habitat affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities. Impacts to HDDC from routine operations and accidental spills are unlikely, but may be permanent if they do occur.</p> <p>Alaska: Routine operations associated with platform and pipeline placement could result in moderate and long-term impacts to benthic habitats, primarily soft sediments. Existing mitigation measures should eliminate most direct impacts to sensitive boulder habitats. Accidental releases of oil could be long-term and range from small to medium depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill. Impacts to boulder habitats from routine operations could result in moderate and long-term impacts to benthic habitats, primarily soft sediments.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. Marine benthic habitat in the Eastern GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Impacts could be long-term depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. Marine benthic habitat in the Western GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Impacts could be long-term depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operations. Marine benthic habitat in the Central GOM Planning Area could be affected by a large oil spill in the Western or Eastern GOM planning areas. Impacts could be long-term depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill.</p> <p>Alaska: Same as Alternative 1.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine Benthic Habitats (Cont.)	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except that no impacts would be expected in the Beaufort Sea Planning Area. A large oil spill in the eastern portion of the Chukchi Sea Planning Area could affect benthic habitat in the western portion of the Beaufort Sea Planning Area, Impacts could be long-term depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill.</p>
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except that no impacts would be expected in the Chukchi Sea Planning Area. A large oil spill in the western portion of the Beaufort Sea Planning Area could affect benthic habitat in the eastern portion of the Chukchi Sea Planning Area, Impacts could be long-term depending on the habitat affected, cleanup method, and the size, duration, timing, and location of the spill.</p>
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.</p>
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Marine Pelagic Habitats	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations could result in negligible to minor short- and long-term impacts to pelagic habitats, primarily from operational discharges and turbidity generated during infrastructure placement. Effects of accidental oil spills, including CDE-level spills which are not expected, could result in small to large impacts to pelagic habitats, depending on the location, size, duration, and timing of the spill; the habitats affected (e.g., <i>Sargassum</i>), and the effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Routine operations could result in negligible to minor, short-term to long-term impacts to pelagic habitat. The effects of accidental releases of oil, including CDE-level spills which are not expected, could result in minor, but long-term impacts to pelagic habitat and sea ice habitat, depending on the size, duration, timing, and location of the spill; the habitat affected; and the effectiveness of spill containment and cleanup activities. Severe winter weather and ice cover may be expected to limit containment and cleanup in winter.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine Pelagic Habitats (Cont.)	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. A large oil spill in the Central GOM Planning Area could affect some pelagic habitats in the Eastern GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. A large oil spill in the Central GOM Planning Area could affect some pelagic habitats in the Western GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operations. A large oil spill in the Western or Eastern GOM Planning Areas could affect some pelagic habitats in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Beaufort Sea Planning Area. A large oil spill in the eastern portion of the Chukchi Sea Planning Area could affect some pelagic habitats in the western portion of the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Chukchi Sea Planning Area. A large oil spill in the western portion of the Beaufort Sea Planning Area could affect some pelagic habitats in the eastern portion of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine Pelagic Habitats (Cont.)	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Essential Fish Habitat	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations could result in no more than moderate, short- and long-term impacts to EFH and managed species. Existing mitigation measures should eliminate most direct impacts to coral EFH. Impacts from accidental oil spills, including CDE-level spills which are not expected, could be long-term, depending on the size, duration, timing, and location of the spill; the habitats affected; and the effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Routine operations could result in no more than moderate short- and long-term impacts to EFH and managed species. Accidental releases of oil could result in moderate and long-term impacts. Impacts from accidental oil spills, including CDE-level spills which are not expected, could be long-term depending on the size, duration, timing, and location of the spill; the habitats affected; and the effectiveness of spill containment and cleanup activities, which could be hampered by extreme winter conditions and ice cover.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. Some EFH and managed species in the Eastern GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Impacts could be long-term depending on the habitat affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. Some EFH and managed species in the Western GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Impacts could be long-term depending on the habitat affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operations. Some EFH and managed species in the Central GOM Planning Area could be affected by a large oil spill in the Western or Eastern GOM planning areas. Impacts could be long-term depending on the habitat affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Same as Alternative 1.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Essential Fish Habitat (Cont.)	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except that no impacts would be expected in the Beaufort Sea Planning Area. A large oil spill in the eastern portion of the Chukchi Sea Planning Area could affect EFH and managed species in the western portion of the Beaufort Sea Planning Area, Impacts could be long-term, depending on the habitats affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities, the latter of which could be hampered by extreme winter conditions and ice cover.</p>
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except that no impacts would be expected in the Chukchi Sea Planning Area. A large oil spill in the western portion of the Beaufort Sea Planning Area could affect EFH and managed species in the eastern portion of the Chukchi Sea Planning Area, Impacts could be long-term depending on the habitat affected; the size, duration, timing, and location of the spill; and the effectiveness of spill containment and cleanup activities, the latter of which could be hampered by extreme winter conditions and ice cover.</p>
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.</p>
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Mammals	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Impacts to marine mammals from routine operations include noise disturbance from seismic surveys, vessels, helicopters, construction and operation of platforms, and removal of platforms with explosives; potential collision with vessels; and exposures to discharges and wastes. Impacts to cetaceans could range from negligible to moderate, with species or stocks inhabiting continental shelf or shelf slope waters most likely to be affected. The West Indian manatee and rare or extralimital whale species are not likely to be affected. Meeting the requirements of the ESA and Marine Mammal Protection Act would reduce the likelihood and magnitude of adverse impacts from routine operations to most species. A large accidental oil spill, including CDE-level spills which are not expected, would have minor to moderate impacts to marine mammals; impacts from spill response activities are expected to be minor. No impacts from routine operations to endangered beach mice subspecies or the Florida salt marsh vole are expected. A large oil spill, especially during a tropical storm, could contaminate their habitats.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Mammals (Cont.)	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Alaska: Impacts to marine mammals, especially cetaceans, from routine operations would be similar to those for the GOM (negligible to moderate). Collisions with OCS-related vessels may injure or kill some individuals, although the incidence of such collisions is expected to be low. Vessels, construction of ice roads, on-ice vehicles, and aircrafts have been known to temporarily disturb some individuals (e.g., polar bears may abandon dens), but these effects would likely be short-term and mitigation can reduce the disturbance. Sea otters appear to habituate to regular human activity, and routine operations would have a negligible impact on their populations. A large oil spill (including CDE-level spills which are not expected) in Cook Inlet Planning Area could cause impacts similar in nature to those which occurred from the <i>Exxon Valdez</i> spill. In the Arctic, marine mammals would most likely be impacted by oil-contaminated ice leads, polynyas, rookeries, beaches, and haulouts. Impacts to terrestrial mammals from routine operations would be negligible. Disturbance from noise sources is the most likely impact. Negligible to minor impacts to species occurring along the Beaufort Sea from disturbance or habitat loss from construction and operation of onshore pipeline. A Cook Inlet oil spill that contaminates beaches and shorelines could impact terrestrial mammals such as the grizzly/brown bear and river otter that forage in intertidal habitats. A spill in the Arctic, especially from an onshore pipeline, could contaminate habitats used by caribou, grizzly/brown bears, Arctic foxes, and muskoxen. Coastal beaches are particularly critical to species (including caribou) seeking relief from mosquitoes.</p> <p>Gulf of Mexico: Same as Alternative 1, except no impacts to habitats or individuals in the Eastern GOM Planning Area. A large accidental oil spill in the Central GOM Planning Area could affect mammals and their habitats in the Eastern GOM Planning Area. Impacts to endangered rodent species similar to Alternative 1.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to habitats or individuals in the Western GOM Planning Area. A large accidental oil spill in the Central GOM Planning Area could affect marine mammals and their habitats in the Western GOM Planning Area. Impacts to endangered rodent species similar to Alternative 1.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to habitats or individuals in the Central GOM Planning Area. A large accidental oil spill in the Western or Eastern GOM Planning Areas could affect marine mammals and their habitats in the Central GOM Planning Area. Impacts to endangered rodent species similar but less than under Alternative 1, because no large accidental oil spill would occur in the Central GOM Planning Area.</p>
		Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Mammals (Cont.)	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Impacts to marine mammals from routine operations similar to Alternative 1, except no impacts would be expected to resident marine mammals or their habitats in the Beaufort Sea Planning Area. No impacts from routine operations would occur to seasonal species while migrating through or inhabiting the Beaufort Sea. Accidental oil spills in the Chukchi Sea Planning Area could impact marine mammals in the Beaufort Sea and affect seasonal migration. Impacts from routine operations and oil spills to terrestrial mammals similar to Alternative 1 except no impacts to species and their habitats along the Beaufort Sea.</p>
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Impacts to marine mammals from routine operations similar to Alternative 1, except no impacts would be expected to resident marine mammals or their habitats in the Chukchi Sea Planning Area. No impacts from routine operations would occur to seasonal species while migrating through or inhabiting the Chukchi Sea. Accidental oil spills in the Beaufort Sea Planning Area could impact marine mammals in some portions of the eastern Chukchi Sea and affect seasonal migration. Impacts from routine operations and oil spills to terrestrial mammals similar to Alternative 1 except no impacts to species and their habitats along the Chukchi Sea.</p>
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.</p>
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Marine and Coastal Birds	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations may result in negligible to moderate localized short-term impacts; impacts associated primarily with infrastructure construction, and ship and helicopter traffic. Impacts of routine operations to important coastal habitats such as nesting areas and overwintering sites could result in greater, more long-term and potentially population-level impacts should normal breeding and nesting activities be disrupted. Small accidental oil spills are expected to have largely local, small effects. Large spills, including CDE-level spills which are not expected, may result in large, long-term, and possibly population-level effects. The magnitude of the effects will depend on the size, duration, and timing of the spill; the species and habitats affected; and the effectiveness of spill containment and cleanup activities.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine and Coastal Birds (Cont.)		Alaska: Similar to the impacts identified for the GOM. Because of the importance of certain habitat areas for some migrating and breeding birds, spills affecting those birds and habitats could result in long-term population level impacts for some species if the spills affect important nesting colonies, migratory staging areas, or wintering grounds.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. An accidental spill in the Central GOM Planning Area could affect coastal habitats and birds, as well as sea birds foraging in marine waters, of the Eastern GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. An accidental oil spill in the Central GOM Planning Area could affect coastal habitats and birds, as well as sea birds foraging in marine waters, of the Western GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. An accidental oil spill in the Eastern or Western GOM Planning Areas could affect coastal habitats and birds, as well as sea birds foraging in marine waters, of the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts in the Beaufort Sea Planning Area from routine operations. An accidental oil spill in the western portion of the Chukchi Sea could affect birds and habitats in the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts in the Chukchi Sea Planning Area from routine operations. An accidental oil spill in the western portion of the Beaufort Sea could affect birds and habitats in some portions of the eastern Chukchi Sea Planning Area.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Marine and Coastal Birds (Cont.)	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Fish	Alternative 1 – Proposed Action	Gulf of Mexico: Negligible to minor impacts to fish, and negligible impacts to threatened or endangered fish species are expected from routine operations. A large accidental oil, including a CDE-level spill which is not expected, spill is not expected to result in population level impacts except potentially for spills that significantly affect overfished species and their spawning grounds. Oil contacting shoreline areas could result in large-scale lethal and long-term sublethal effects on early life stages of some species, but no permanent population level effects are expected. Alaska: Negligible to minor impacts to fish are expected from routine operations. The impact magnitude of a large oil spill, including a CDE-level spill which is not expected, would depend on the location, timing, and size of the spill, and the distribution and ecology of affected fish species. Oil contacting shoreline areas could result in large-scale lethal and long-term sublethal effects on early life stages, but no permanent population level effects are expected.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operation. Fish in the Eastern GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operation. Fish in the Western GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operation. Fish in the Central GOM Planning Area could be affected by a large oil spill in the Western or Eastern GOM Planning Areas. Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Fish (Cont.)	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Beaufort Sea Planning Area. A large oil spill in the eastern portion of the Chukchi Sea Planning Area could affect fish in the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no 2012-2017 OCS program-related impacts would be expected in the Chukchi Sea Planning Area. A large oil spill in the western portion of the Beaufort Sea Planning Area could affect fish in the eastern portions of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Reptiles	Alternative 1 – Proposed Action	Gulf of Mexico: Routine operations would result in minor to moderate localized impacts primarily due to seismic exploration, facility construction, pipeline landfalls, channel dredging, and vessel traffic. Accidental oil spills could result in large impacts depending on the size, location, duration and timing of the spill, and on the effectiveness of spill containment and cleanup activities. Small spills would likely result in short-term impacts while large spills (including CDE-level spills which are not expected) could incur both short-term and long-term impacts depending on the species and habitat type affected, and on the size and duration of the spill. Alaska: No impacts.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to reptile species and habitats in the Eastern GOM Planning Area from routine operations. Accidental spills in the Central GOM Planning Area could potentially impact species and their habitats in the Eastern GOM Planning Area. Alaska: No impacts.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Reptiles (Cont.)	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to reptile habitats in the Western GOM Planning Area from routine operations. Accidental spills in the Central GOM Planning Area could potentially impact species and their habitats in the Western Planning Area. Alaska: No impacts.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except no impacts to reptile habitats in the Central GOM Planning Area from routine operations. Spills in the other GOM Planning Areas could potentially impact species and their habitats in the Central Planning Area. Alaska: No impacts.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 Alaska: No impacts.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 Alaska: No impacts.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Invertebrates and Lower Trophic Levels	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations could result in negligible to moderate impacts to primarily benthic invertebrates, primarily from habitat disturbance associated with infrastructure placement, and from routine discharges. Recovery could be short-term to long-term. Large accidental oil spills, including CDE-level spills which are not expected, could measurably depress invertebrate populations especially in intertidal areas, but no permanent impacts are expected.</p> <p>Alaska: Routine operations could result in negligible to moderate impacts to primarily benthic invertebrates. Recovery could be short- to long-term. Large accidental oil spills, including CDE-level spills which are not expected, could measurably depress invertebrate populations, especially in intertidal areas. However, no permanent impacts are expected.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. Invertebrates in the Eastern GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. Invertebrates in the Western GOM Planning Area could be affected by a large oil spill in the Central GOM Planning Area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operations. Invertebrates in the Central GOM Planning Area could be affected by a large oil spill in the Western or Eastern GOM Planning Areas.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except that impacts would be expected in the Beaufort Sea Planning Area. A large oil spill in the eastern portion of the Chukchi Sea Planning Area could affect invertebrates in the Beaufort Sea Planning Area.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Invertebrates and Lower Trophic Levels (Cont.)	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Chukchi Sea Planning Area. A large oil spill in the western portion of the Beaufort Sea Planning Area could affect invertebrates in the eastern portion of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Areas of Special Concern (AOC)	Alternative 1 – Proposed Action	Gulf of Mexico: Impacts resulting from routine activities are expected to be negligible to moderate because of the existing protections and use restrictions. Large accidental oil spills, including CDE-level spills which are not expected, reaching AOCs could negatively affect fauna and habitats, subsistence use, commercial or recreational fisheries, recreation and tourism, and other uses. Alaska: Impacts resulting from routine activities are expected to be negligible to moderate because of the existing protections and use restrictions. Impacts from large accidental oil spills, including CDE-level spills which are not expected, reaching AOCs could negatively affect fauna and habitats, subsistence use, commercial or recreational fisheries, recreation and tourism, and other uses.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Eastern GOM Planning Area from routine operations. AOCs in the Eastern GOM Planning Area could be affected by a large accidental oil spill in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except that no impacts would be expected in the Western GOM Planning Area from routine operations. AOCs in the Western GOM Planning Area could be affected by a large accidental oil spill in the Central GOM Planning Area. Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Areas of Special Concern (AOC) (Cont.)	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico – Same as Alternative 1, except that no impacts would be expected in the Central GOM Planning Area from routine operations. AOCs in the Central GOM Planning Area could be affected by a large accidental oil spill in the Western or Eastern GOM Planning Areas. Alaska – Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Beaufort Sea Planning Area. A large accidental oil spill in the eastern portion of the Chukchi Sea Planning Area could affect AOCs in the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except that no impacts would be expected in the Chukchi Sea Planning Area. A large accidental oil spill in the western portion of the Beaufort Sea Planning Area could affect AOCs in the eastern portions of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Population, Employment, and Income	Alternative 1 – Proposed Action	Gulf of Mexico: Direct expenditures associated with routine operations would result in negligible impacts from small increases in population, employment and income in each region over the duration of the leasing period, corresponding to less than 1% of the baseline. Given existing levels of leasing activity, impacts on property values would be negligible. In areas where tourism and recreation provide significant employment, accidental oil spills, including CDE-level spills which are not expected, could result in the short-term loss of employment, income and property values. Expenditures associated with spill cleanup activities would create short-term employment and income in some parts of the affected coastal region(s).

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Population, Employment, and Income (Cont.)		Alaska: Direct expenditures associated with routine operations would result in minor impacts from small increases in population, employment and income in each region over the duration of the leasing period, corresponding to less than 5% of the baseline. Given existing levels of leasing activity, impacts on property values would be negligible. In areas where tourism and recreation provide significant employment, accidental oil spills, including CDE-level spills which are not expected, could result in the short-term loss of employment, income and property values. Expenditures associated with spill cleanup activities would create short-term employment and income in some parts of the affected coastal region(s).
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except likely slightly smaller increases in population, employment and income in the Eastern GOM Planning Area, as existing coastal infrastructure could be used to process oil and gas from the other GOM Planning Areas. A large accidental oil spill in the Central GOM Planning Area could affect employment, income, and property values. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except likely slightly smaller increases in population, employment and income in the Western GOM Planning Area, as existing coastal infrastructure could be used to process oil and gas from the other GOM Planning Areas. A large accidental oil spill in the Central GOM Planning Area could affect employment, income, and property values. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1, except likely slightly smaller increases in population, employment and income in the Central GOM Planning Area, as existing coastal infrastructure could be used to process oil and gas from the other GOM Planning Areas. A large accidental oil spill in the Western or Eastern GOM Planning Areas could affect employment, income, and property values. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except likely slightly smaller increases in population, employment and income in the Beaufort Sea Planning Area, as coastal infrastructure in the corresponding coastal region would be used to process oil and gas from the Chukchi Sea Planning Area. A large accidental spill in the eastern Chukchi Sea Planning Area could affect employment, income, and property values in some portions of the western Beaufort Sea Planning Area.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Population, Employment, and Income (Cont.)	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska – Same as Alternative 1, except no increases in population, employment and income in Chukchi Sea Planning Area. A large oil accidental spill in the western portion of the Beaufort Sea Planning Area could affect employment, income, and property values in some portions of the eastern Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no population, employment, and income impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Land Use and Infrastructure	Alternative 1 – Proposed Action	Gulf of Mexico: Negligible to minor impacts on land use, development patterns, and infrastructure from routine operations. Existing infrastructure generally would be sufficient to handle exploration and development associated with potential new leases. Projected impacts from an accidental oil spill, including a CDE-level spill which is not expected, would likely include stresses of the spill response on existing infrastructure, and restrictions of access to a particular area while the cleanup is being conducted. Impacts would be expected to be temporary and localized. Alaska: Minimal to moderate impacts to land use, development patterns, and infrastructure. The construction and operation of offshore facilities would expand the area potentially at risk from accidental oil spills, along with the requirement to maintain oil-spill response equipment. An accidental oil spill, including a CDE-level spill which is not expected, could alter land use temporarily but would not likely result in long-term changes. The magnitude of the impacts would depend on the size and location of the spill.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts to land use, development patterns, and infrastructure in the Eastern GOM Planning Area. A large accidental oil spill in the Central GOM Planning Area could affect land use in the Eastern GOM Planning Area; the level and duration of effects will depend on the size, location, duration, and timing of the spill, and on type and effectiveness of spill containment and cleanup activities.
		Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Land Use and Infrastructure (Cont.)	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1 except no impacts to land use, development patterns, and infrastructure in the Western GOM Planning Area. A large accidental oil spill in the Central GOM Planning Area could affect land use in the Western GOM Planning Area; the level and duration of effects will depend on the size, location, duration, and timing of the spill, and on type and effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1 except no impacts to land use, development patterns, and infrastructure in the Central GOM Planning Area. A large accidental oil spill in the Western or Eastern GOM Planning Areas could affect land use in the Central GOM Planning Area; the level and duration of effects will depend on the size, location, duration, and timing of the spill, and on type and effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except no impacts in the Beaufort Sea Planning Area. An accidental oil spill in the Chukchi Sea Planning Area could affect land use in the Beaufort Sea Planning Area.</p>
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1 except no impacts in the Chukchi Sea Planning Area. An accidental oil spill in the eastern Beaufort Sea Planning Area could affect land use in the western portion of the Chukchi Sea Planning Area.</p>
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1, except no land use and infrastructure impacts would be expected in the Cook Inlet Planning Area.</p>
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Commercial, Recreational, and Subsistence Fisheries	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations would have a minor impact on subsistence fishing, the cost of commercial fishing, or on the number of recreation fishing trips, in each region over the duration of the leasing period. Large accidental oil spills (including CDE-level spills which are not expected) may have small to medium, short-term impacts on fisheries resources (lethal and sublethal toxic effects on exposed eggs, larvae, juveniles, and adults) and small to medium impacts on commercial, recreational, and subsistence fishery activities (e.g., trawling, charter fishing). The magnitude and duration of effects will depend on the location, size, duration, and timing of the spill; the fisheries affected, and the duration and effectiveness of spill containment and cleanup activities.</p> <p>Alaska: Similar to the effects for the Gulf of Mexico.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1 except no impacts in the Eastern GOM Planning Area. An accidental oil spill in the Central GOM Planning Area could reduce or stop commercial, recreational, and subsistence fishery activities in the Eastern GOM Planning Area if the spill enters coastal and marine waters associated with that planning area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1 except no impacts in the Western GOM Planning Area. An accidental oil spill in the Central GOM Planning Area could reduce or stop commercial, recreational, and subsistence fishery activities in the Western GOM Planning Area if the spill enters coastal and marine waters associated with that planning area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1 except no impacts in the Central GOM Planning Area. An accidental oil spill in the Western or Central GOM Planning Areas could reduce or stop commercial, recreational, and subsistence fishery activities in the Central GOM Planning Area if the spill enters coastal and marine waters associated with that planning area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1.</p> <p>Alaska: Same as Alternative 1 except no impacts in the Beaufort Sea Planning Area. An accidental oil spill in the Chukchi Sea Planning Area could affect fisheries resources in the Beaufort Sea Planning Area.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Commercial, Recreational, and Subsistence Fisheries (Cont.)	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1 except no impacts in the Chukchi Sea Planning Area. An accidental oil spill in the western portion of the Beaufort Sea Planning Area could affect fisheries resources in the eastern Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to fisheries would be expected in the Cook Inlet area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Tourism and Recreation	Alternative 1 – Proposed Action	Gulf of Mexico: Routine operations would produce minor impacts to beach recreation, sightseeing, boating, and fishing, while offshore structures would create positive impacts to diving and recreational fishing. The impact of an accidental oil spill (including a CDE-level spill which is not expected) on tourism and recreation will depend on the size, location, duration, and timing of the spill, as well as on the effectiveness and timeliness of spill containment and cleanup activities. Alaska: Similar to the impacts identified for the Gulf of Mexico.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts on tourism and recreation in the Eastern GOM Planning Area. An accidental oil spill in the Central GOM Planning Area could affect tourism and recreation in the Eastern GOM Planning Area and associated coastal areas. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts on tourism and recreation in the Western GOM Planning Area. An accidental oil spill in the Central GOM Planning Area could affect tourism and recreation in the Western GOM Planning Area and associated coastal areas. Alaska: Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Tourism and Recreation (Cont.)	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts on tourism and recreation in the Central GOM Planning Area. An accidental oil spill in the Western or Eastern GOM Planning Areas could affect tourism and recreation in the Central GOM Planning Area and associated coastal areas. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts on tourism or recreation in the Beaufort Sea Planning Area. An accidental oil spill in the Chukchi Sea Planning Area could affect tourism and recreation in the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts on tourism or recreation in the Chukchi Sea Planning Area. An accidental oil spill in the western Beaufort Sea Planning Area could affect tourism and recreation in the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts on tourism or recreation would be expected in the Cook Inlet.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Sociocultural Systems	Alternative 1 – Proposed Action	Gulf of Mexico: Because of the well developed and long established oil and gas industry in the Gulf of Mexico, routine operations may be expected to have minor impacts on sociocultural systems of the region. Expansion of deep water development could lead to longer offshore work shifts, which could increase stress to workers, families and communities. Impacts from accidental oil spills would be small, except in the case of very large spills. Very large spills, including CDE-level spills which are not expected, may temporarily halt and impact economies associated with the oil and gas industry, but also in other sectors of the economy. Depending on the duration of such halts and the magnitude of economic impacts, this could result in social and cultural stress, leading to possible social pathologies.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Sociocultural Systems (Cont.)		Alaska: Cook Inlet as an established oil and gas industry, and routine operations associated with the proposed action are expected to have no more than minor impacts on social and cultural systems. Potential impacts of routine operations can range from minor to major on sociocultural systems in the Arctic Planning Areas, depending on shore base infrastructure and proximity to existing communities. Accidental oil spills (including CDE-level spills which are not expected) may however, result in more serious impacts, especially in the Arctic where impacts to subsistence could result in large impacts to affected communities.
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts in the Eastern GOM Planning Area. An accidental spill in the Central GOM Planning Area could affect individuals, families, and communities in the Eastern GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts in the Western GOM Planning Area. An accidental spill in the Central GOM Planning Area could affect individuals, families, and communities in the Western GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1 except no impacts in the Central GOM Planning Area. An accidental spill in the Western or Eastern GOM Planning Area could affect individuals, families, and communities in the Central GOM Planning Area. Alaska: Same as Alternative 1.
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1 except no impacts in the Beaufort Sea Planning Area. A large accidental oil spill in the Chukchi Sea Planning Area that enters the Beaufort Sea Planning Area could result in major impacts to individuals, families, and communities that rely on marine resources in those portions of the Beaufort Sea affected by the spill.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Sociocultural Systems (Cont.)	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1 except no impacts in the Chukchi Sea Planning Area. A large accidental oil spill in the Beaufort Sea Planning Area that enters the Chukchi Sea Planning Area could result in major impacts to individuals, families, and communities that rely on marine resources in those portions of the Chukchi Sea affected by the spill.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.
Environmental Justice	Alternative 1 – Proposed Action	Gulf of Mexico: Because of the long-established and well developed oil and gas industry present in the Gulf of Mexico and the non-coastal location of the majority of low income and minority population groups, routine operations are not expected to add additional environmental justice concerns and impacts would be negligible. Impacts of accidental oil spills, including CDE-level spills which are not expected, would be minor, primarily affecting subsistence activities. Alaska: Routine operations could result in negligible to minor impacts depending on the proximity of onshore pipelines or offshore infrastructure to existing communities and/or subsistence harvest areas. Impacts of accidental spills could be large (including CDE-level spills which are not expected), primarily to subsistence resources and users, given the coastal location of the majority of low income and minority population groups and the very heavy reliance of individuals, families, and communities on subsistence resources (especially in Arctic areas).
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. An accidental oil spill in the Central GOM Planning Area could result in environmental justice concerns, associated primarily with a potential reduction of subsistence activities in portions of the Eastern GOM Planning Area affected by the spill. Alaska – Same as Alternative 1.

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts	
Environmental Justice (Cont.)	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. An accidental oil spill in the Central GOM Planning Area could result in environmental justice concerns, associated primarily with a potential reduction of subsistence activities in portions of the Western GOM Planning Area affected by the spill. Alaska – Same as Alternative 1.	
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. An accidental oil spill in the Western or Eastern GOM Planning Areas could result in environmental justice concerns, associated primarily with a potential reduction of subsistence activities in portions of the Central GOM Planning Area affected by a spill originating in the Central GOM Planning Area. Alaska: Same as Alternative 1.	
	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1. An accidental oil spill in the Chukchi Sea Planning Area could result in environmental justice concerns, associated primarily with a potential reduction of subsistence activities in portions of the Beaufort Sea Planning Area affected by the spill.	
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Alaska: Same as Alternative 1. An accidental oil spill in the Beaufort Sea Planning Area could result in environmental justice concerns, associated primarily with a potential reduction of subsistence activities in portions of the Chukchi Sea Planning Area affected by the spill.	
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.	
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.	
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TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Archeological and Historic Resources	Alternative 1 – Proposed Action	<p>Gulf of Mexico: Routine operations could affect significant archaeological and historic resources (especially offshore resources), with construction activities such as platform and pipeline construction, and dredging, potentially damaging or destroying affected resources. Onshore impacts (resource damage or loss; visual impacts) are possible from pipeline landfall, onshore pipeline, and road construction. Anchor drags could affect seafloor resources such as shipwrecks. Impacts could range from negligible to major depending on the presence of significant archaeological or historic resources in the area of potential effect. Most resources are expected to be avoided. Accidental oil spills (including CDE-level spills which are not expected) could impact archaeological and historic resources, depending on the spill location, size, and duration, as well on the effectiveness and nature of spill containment and cleanup activities.</p> <p>Alaska: Routine operations could affect significant archaeological and historic resources (especially in offshore locations) through construction activities such as platform and pipeline construction. Onshore impacts (including visual impacts) are also possible from pipeline landfall, onshore pipeline, and road construction. Anchor drags could affect seafloor resources. Impacts could range from negligible to major, depending on the presence of significant archaeological or historic resources in the area of potential effect. Most resources are expected to be avoided. Accidental oil spills, including CDE-level spills which are not expected, could impact archaeological and historic resources, depending on the spill location, size, and duration, as well on the effectiveness and nature of spill containment and cleanup activities.</p>
	Alternative 2 – Defer the Eastern Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to archaeological and historic resources in the Eastern Planning Area from routine operations. Accidental oil spills in the Central GOM Planning Area could potentially impact archaeological and historic resources in the Eastern GOM Planning Area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 3 – Defer the Western Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to archaeological and historic resources in the Western GOM Planning Area from routine operations. Accidental oil spills in the Central GOM Planning Area could potentially impact archaeological and historic resources in the Western GOM Planning Area.</p> <p>Alaska: Same as Alternative 1.</p>
	Alternative 4 – Defer the Central Planning Area for the Duration of the 2012-2017 Program	<p>Gulf of Mexico: Same as Alternative 1, except no impacts to archaeological and historic resources in the Central GOM Planning Area from routine operations. Accidental oil spills in the Eastern or Western GOM Planning Areas could potentially impact archaeological and historic resources in the Central GOM Planning Area.</p> <p>Alaska: Same as Alternative 1.</p>

TABLE 2.10-2 (Cont.)

Resource	Alternative	Potential Impacts
Archeological and Historic Resources (Cont.)	Alternative 5 – Defer the Beaufort Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to archaeological and historic resources in the Beaufort Sea Planning Area from routine operations. Accidental oil spills in the Chukchi Sea Planning Area could potentially impact archaeological and historic resources in the Beaufort Sea Planning Area.
	Alternative 6 – Defer the Chukchi Sea Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts to archaeological and historic resources in the Chukchi Sea Planning Area from routine operations. Accidental oil spills in the western portion of the Beaufort Sea Planning Area could potentially impact archaeological and historic resources in the eastern portion of the Chukchi Sea Planning Area.
	Alternative 7 – Defer the Cook Inlet Planning Area for the Duration of the 2012-2017 Program	Gulf of Mexico: Same as Alternative 1. Alaska: Same as Alternative 1, except no impacts would be expected in the Cook Inlet Planning Area.
	Alternative 8 – No Action ^a	There would be no impacts from a 2012-2017 OCS oil and gas leasing program.

^a Exploration, development, and production would continue under past sales, and could affect resources in the Gulf of Mexico and Alaska. See the 2007- 2012 OCS oil and gas leasing program PEIS (MMS 2007) for a discussion of potential impacts associated with that OCS leasing program.