

Appendix A: Summary of Comments and Responses

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Appendix A: Summary of Comments and Responses

This appendix summarizes comments submitted during the public comment period, which was from September 30, 2008, through December 1, 2008. Comments could be submitted in writing or as oral testimony. Written comments could be submitted at public hearings, or by mail, email, or fax. Oral testimony was recorded at public hearings, which were held in Anchorage on October 27, 2008; in Wasilla on October 29, 2008; in Kenai on November 3, 2008; and in Homer on November 6, 2008. A total of 19 comments were received, including four through oral testimony and 15 written.

Section A provides summaries and responses to several common issues expressed by commenters. These include concerns about oil spills; information, data, and studies used in the finding; need for additional studies; use of federal environmental impact statements; discussion of effects; effectiveness of mitigation measures; beluga whales; use and lack of economic data; renewable energy; greenhouse gases, climate change, and global warming; and overall costs to the state and other regulatory agencies. Section B provides summaries of comments submitted and responses.

A. Common Issues

1. Oil Spills

Some commenters expressed that there was insufficient discussion of oil spills in the finding. Chapter 6 provides a lengthy discussion of oil spill risk, prevention, and response. Section F1 discusses the history of oil spills in the area; risks at the exploration and production phases; risks associated with pipelines, marine terminals, and tankers vessels; and an ongoing statewide risk assessment of oil and gas infrastructure. Section F2 discusses oil spill prevention, such as blowout prevention and leak detection. Section F3 provides a discussion of oil spill response, including the incident command system, response teams, training, response organizations, and Geographic Response Strategies. Section F4 discusses cleanup and remediation. Section F5 provides information on the federal and state regulation of oil spill prevention and response, a discussion of industry contingency plans, financial responsibilities, and government contingency plans. Finally, Section F6 discusses oil spill mitigation measures included in the finding for Cook Inlet.

Some commenters expressed that current oil spill prevention and response strategies are insufficient, or that mitigation measures are inadequate, particularly in the challenging northern environment of Cook Inlet. Some commenters suggested specific requirements, for example double-hulled tankers, tug escorts for tankers, or a leak detection system capable of detecting one percent loss of throughput. Others stated that specific cleanup plans for inclement weather are needed or that oil spills in icy waters cannot be avoided, minimized, or mitigated.

Chapter 6, Section F1c states that the Oil Pollution Act of 1990 (OPA), which was enacted after the *Exxon Valdez* oil spill, requires that all tank vessels greater than 5,000 gross tons that are constructed or that undergo major conversions under contracts awarded after June 30, 1990, must have double hulls to operate in U. S. navigable waters. Single-hulled tankers must be phased out by 2015. Double-hulled tankers currently transport the majority of oil in Cook Inlet. Information was added to Chapter 6, Section F1c concerning the Tesoro-funded tug stationed in Cook Inlet in 2008 to assist oil tankers docking at Nikiski.

At the lease sale phase, before exploration has been conducted and a commercially exploitable discovery has been made, it is impossible to discuss oil spill prevention, response, and cleanup plans for a specific site or activity. This level of discussion is not possible because it is unknown at this

time at which specific sites activities will occur in the future, which activities will occur, and the specific geophysical and climatic conditions that might exist. In addition, response actions vary greatly with the nature, location, and size of the spill. Thus, it would be inappropriate for the Cook Inlet finding to speculate about future oil spill risks, prevention, and response specific to projects that have not yet been proposed for leases that have not yet been sold.

However, Chapter 6, Section F2 discusses techniques and operating procedures required for oil exploration, development, and production. These include use of existing facilities and roads; waterbody protection, including proper location of onshore oil storage and fuel transfer areas; use of proper fuel transfer procedures; use of secondary containment, such as impermeable liners and dikes; proper management of oils, waste oils, and other hazardous materials to prevent ingestion by bears and other wildlife; consolidation of facilities; placement of facilities away from fish-bearing streams and critical habitats; siting pipelines to facilitate spilled oil containment and cleanup; and installation of pipeline leak detection and shutoff devices. Section F2b provides a lengthy discussion of various methods used to detect leaks. Section F5 discusses in detail the state and federal regulatory requirements concerning oil spill prevention and response.

The finding includes other discussions specific to Cook Inlet oil spill response. For example, Chapter 6, Section F3d includes detailed information about Cook Inlet Spill Prevention and Response, Inc. (CISPRI) which provides personnel and equipment to respond to oil spills in Cook Inlet. It is also important to note that significant advances in oil spill response have been made in Cook Inlet since the previous 1999 best interest finding. Particularly important is the development of Geographic Response Strategies, which are spill response plans specific to individual environmentally sensitive areas. Within the northern Cook Inlet response zone, response strategies have been developed for 17 sites; 22 sites for central Cook Inlet; 18 sites for southwest Cook Inlet; 21 sites for Kachemak Bay; and 22 sites for southeast Cook Inlet. A discussion of Geographic Response Strategies is provided in the finding in Chapter 6, Section F3e, including a series of maps depicting locations for which Geographic Response Strategies have been developed, and an example of a Geographic Response Strategy for a specific site (the Kasilof River).

In addition to other state and federal regulations concerning oil spill prevention and response, mitigation measures included in the finding address facilities and operations, siting of activities, surface entry restrictions, and handling and disposal of fuel, hazardous substances, and waste.

Some commenters requested a risk or gap analysis, or other studies, concerning oil spills. See Section A3 response below. The finding does discuss the Alaska Risk Assessment project that is currently underway to evaluate Alaska's oil and gas infrastructure for its ability to operate safely for another generation (Chapter 6, Section F1d).

After considering the facts known or made known to him, the director believes that the mitigation measures in the Cook Inlet best interest finding, along with other state and federal regulatory protections, are sufficient to protect the habitat, fish, and wildlife of Cook Inlet; and that on balance, Cook Inlet Areawide oil and gas lease sales are in the best interest of the state.

2. Information, Data, and Studies Used in the Finding

Some commenters expressed that information, data, or studies considered and discussed in the finding concerning fish, wildlife, habitats, water quality, effects of oil and gas development, and oil spill risk is insufficient; or that studies included in the finding are inappropriate (for example, too old, from a different location, or inconclusive).

In making a preliminary finding concerning 2009-2018 Cook Inlet Areawide oil and gas lease sales, DO&G requested information from multiple agencies such as ADF&G and NMFS. DO&G dedicated over one year of staff time to gathering and updating information. Considered and discussed in the finding is information from over 50 sources describing the Cook Inlet area, over 120 sources

describing the habitats, fish, and wildlife of the area, over 90 sources describing current and projected uses of the area, and over 90 sources concerning potential effects of oil and gas development.

Although much of the information available to, and considered and discussed by, the director was relatively current, other information was older, unavailable, inconclusive, contradictory, from locations outside the sale area, or for species closely related to those in the sale area but not actually found there. This information was included, with appropriate qualifiers, so that the director had as complete information as possible available to consider, discuss, and weigh in making a finding. In addition, when data are lacking, this is acknowledged frankly in the finding. Nevertheless, this is the large body of information that constituted the facts available to the director, that were considered and discussed by the director under AS 38.05.035(g)(1) to make a finding that on balance, Cook Inlet Areawide oil and gas lease sales are in the best interest of the state.

3. Need for Additional Studies

Some commenters expressed that the state should conduct baseline studies, gap analyses, or risk studies to get more information before proceeding with oil and gas lease sales. The director is not required to conduct studies to obtain new or complete information, nor is the director required to wait until additional research or studies are conducted to make a finding of whether oil and gas lease sales are in the best interest of the state. Rather, the director is required to “consider and discuss...facts that are known to the director...and within the scope of the administrative review...” (AS 38.05.035(g)(1)).

Although some commenters expressed that the director should consider additional, new, or more relevant information, only a few additional sources of information were brought to the attention of the director during the public comment period. Two sources on greenhouse gases were noted by commenters. Roe et al. 2007 was added to the finding in Chapter 8, Section C because it is specific to Alaska. The source *IPCC Fourth Assessment Report: Climate Change 2007* was not included because it deals with worldwide issues which are beyond the scope of review of the best interest finding. One source on oil spill risk analysis for the Beaufort Sea was noted by commenters; it was not included because it is specific to the Beaufort Sea and had little applicability to Cook Inlet. A source for the most current listing of anadromous waterways was noted by ADF&G; it was added to the finding in Chapter 4, Section A2. Several studies concerning brown bears were noted by ADF&G; they were added to Chapter 4, Section B3a. A study of limited utility concerning contaminants in wild foods was noted, which was added to Chapter 8, Section D1.

Therefore, the requirement that the director “consider and discuss...facts that are known to the director...and within the scope of the administrative review...” (AS 38.05.035(g)(1)) has been met.

4. Use of Federal Environmental Impact Statements

Some commenters expressed that federal environmental impact statements (EIS) cited in the finding are faulty and/or that they should not be used in the finding. The finding does cite several federal environmental impact statements. In most cases, these are cited because they do exist and they do come to one conclusion or another, which are facts that were known to the director to consider and discuss. It is appropriate that the director consider and discuss information that other natural resource agencies have compiled, the decisions that those agencies have reached concerning oil and gas development, and the rationale used to reach those decisions. However, it should not be construed that because the director considered and discussed the studies or findings of other agencies that he simply adopted the decisions of those other agencies. As noted directly above in Section A2, DO&G compiled a large and comprehensive body of information that included many sources not found in the federal environmental impact statements. After weighing all the facts known or made known to

him that were within the scope of review, the director has made an independent finding that on balance, Cook Inlet Areawide lease sales are in the state's best interests.

5. Insufficiently Proven or Disproven Effects

Some commenters expressed that effects considered and discussed in the finding were insufficiently proven or disproven, or that effects from specific projects were not considered and discussed. However, the director is not required to prove or disprove effects. Rather, as discussed in the preceding Sections A3 and A4, the director is required to “consider and discuss...facts that are known to the director...and within the scope of the administrative review...” (AS 38.05.035(g)(1)).

Further, DO&G is not required to produce an environmental impact statement with a determination that effects are significant or not, which is a federal requirement relating to federal projects. Environmental impact statements are not required by state law. In fact, the legislative intent language for SB 308 (Eighteenth Legislature) Section 1(7) (Ch. 38 SLA 1994) states:

Analysis comparable to those generally required 42 U.S.C. 4321 – 4370a (National Environmental Policy Act of 1969, as amended) for the preparation of an environmental impact statement under 42 U.S.C. 4332(2)(C) are not required by the state for support of best interest findings issued under AS 38.05 or conclusive coastal zone consistency determinations issued under AS 46.40.

In addition, the director is not required to speculate about possible future effects subject to future permitting that cannot reasonably be determined until the project or proposed use for which a written best interest finding is required is more specifically defined, including speculation about the exact location and size of an ultimate use and related facilities, the economic feasibility of ultimate development, and future environmental laws that may apply at the time of any future development (AS 38.05.035(h)). Many of the analyses and models used in federal environmental impact statements are highly speculative, and although some of these analyses and models are considered and discussed in the state's Cook Inlet finding, the director and DO&G are neither required to use this speculative information nor to develop such speculative analyses and models.

Therefore, Chapter 8 of the finding considers and discusses relevant information and studies concerning, in general, potential reasonably foreseeable effects of oil and gas development in the Cook Inlet area. As noted above in Section A2, although much of the information concerning potential effects that was available to the director was current, other information was older, unavailable, inconclusive, contradictory, from locations outside the sale area, or for species closely related to those in the sale area but not actually found there. These were the facts available to the director concerning potential effects that were considered and discussed.

The analysis of effects presented is comprehensive and adequate enough for the director to determine whether this sale, as conditioned with mitigation measures and lessee advisories, is in the best interests of the state of Alaska. DO&G has followed the statutory requirements concerning considering and discussing potential effects of oil and gas lease sales. After weighing the facts, including reasonably foreseeable effects, the director has found that on balance, Cook Inlet Areawide lease sales are in the state's best interests.

6. Effectiveness of Mitigation Measures is not Proven

Some commenters expressed that the effectiveness of mitigation measures was not proven, and therefore the finding was flawed, and/or that lease sales should not proceed. As is the case with effects discussed in the preceding Section A5, the director is not required to conduct studies concerning the effectiveness of mitigation measures. However, mitigation measures included in this finding were developed over decades of lease offerings with consultation with ADF&G and other

resource agencies, and provide environmental protections beyond what is required by law. These measures balance environmental concerns, social and economic considerations, and public benefits.

Annually, DO&G is required to call for comments from the public requesting new information that has become available since the most recent best interest finding for that lease sale area was issued. Based on information received, the commissioner determines whether it is necessary to supplement the finding. Thus, there is an annual process for adding or modifying mitigation measures if new information becomes available concerning their effectiveness.

7. Beluga Whales

Some commenters noted that beluga whales are listed as endangered under the Endangered Species Act. The preliminary finding for Cook Inlet was issued on September 29, 2008, before beluga whales were listed as endangered. The preliminary finding states that a final determination on endangered status was scheduled for October 20, 2008. On October 22, 2008, a final determination to list Cook Inlet beluga whales as endangered was issued, with an effective date of December 22, 2008, for the listing. This final best interest finding has been updated to reflect that Cook Inlet beluga whales were listed as endangered under the Endangered Species Act.

8. Economic Data

Some commenters expressed that economic information concerning the tourism and fishing industries is lacking, resulting in misrepresentation of the importance of fishing and tourism to the area. Economic data known to the director are included in Chapter 3, Sections C1b, C2b, and C3b. Statistics for Figures 3.3, 3.4, 3.6, 3.7, 3.8 and 3.9 come from the U.S. Department of Labor, a standard source for information on employment and wages. The U.S. Department of Labor excludes self-employed individuals and fishers in these statistics, which is clearly footnoted on the figures. Additional statistics are provided on the number and value of commercial salmon permits in Chapter 5, Section B1a. Harvest, ex-vessel value, and price per pound by salmon species in lower and upper Cook Inlet are also discussed in Chapter 5, Section B1a. Harvest and value (if available) for other species such as Pacific halibut, Pacific herring, lingcod, Pacific cod, sablefish, rockfish, walleye pollock, clams, crab, shrimp, scallops, octopus, sea urchins, and sea cucumbers are presented in Chapter 5, Section B1b. Economic value of mariculture is discussed in Chapter 5, Section B1c. Participation, value, and harvest of sport fisheries, including angler effort, expenditures for sport fishing, wages and jobs related to sport fishing, and economic impact of sport fishing in Southcentral Alaska are included in Chapter 5, Section B2.

Potential economic costs of an oil spill to the fishing industry are addressed in Chapter 8, Section E1. Information on this topic comes primarily from the *Exxon Valdez* oil spill which occurred in Prince William Sound because similar information was not available for Cook Inlet.

In addition to statistics from the U.S. Department of Labor discussed above which included statistics for the leisure industry, information concerning economic value of tourism is found in Chapter 5, Section H.

Additional statistics, information, studies, or other sources of information concerning economic value of fishing and tourism, or information concerning potential effects of oil and gas development on fishing and tourism, were not made known to the director during the public comment period. The director believes that the information provided in the best interest finding concerning economic importance of fishing and tourism is sufficient to make a finding that on balance, Cook Inlet Areawide oil and gas lease sales are in the state's best interest.

9. Renewable Energy

Some commenters expressed that the state should pursue renewable energy. Renewable energy resources that hold the most potential in the Cook Inlet area include geothermal, wind, and hydropower. The state supports and funds significant renewable and alternative energy programs throughout Alaska. The Alternative Energy and Energy Efficiency (AEEE) program of the Alaska Energy Authority (AEA) promotes the use of renewable energy resources and local sources of coal and natural gas as alternatives to diesel-based power, heat, and fuel production. The AEA manages 33 programs and projects with state and federal funding totaling \$31.5 million, including hydroelectric, wind, biomass, transmission and distribution, geothermal, diesel efficiency, and energy conservation. In 2008, the Alaska State Legislature passed House Bill 152 with the purpose of identifying and developing renewable energy resources in Alaska. The bill created the Renewable Energy Fund, administered by the AEA, to award up to \$250 million in grants over 5 years for feasibility studies and other groundwork to support development of alternative and renewable energy. Up to \$150 million was provided to the fund by the legislature in 2008 for renewable energy projects.

In addition to the Renewable Energy Fund, AEA funds and supports many alternative and renewable energy projects throughout Alaska. Current wind energy projects include a wind power plant in Sand Point that could displace up to 132,000 gallons of diesel annually, a wind power plant in Chevak that could displace up to 63,000 gallons of diesel annually, and 11 additional wind energy projects. A project is underway concerning the potential for in-stream energy conversion through a partnership with AEA, Electric Power Research Institute, Chugach Electric, and ML&P (Municipal Light and Power of Anchorage). AP&T (Alaska Power and Telephone) plans to install a 90 kW hydrokinetic project at Eagle on the Yukon River in 2009 with a \$1.6 million grant from the Denali Commission. In addition, another company has received a preliminary FERC (Federal Energy Regulatory Commission) permit to install a horizontal tidal energy device in Knik Arm in 2009. Other AEA projects are in progress to assess fish oil-based bio-diesel at the University of Alaska Fairbanks, and to assess the feasibility of recovering fish oil for fuel and other uses. Using funding through AEA, the city of Craig has a new sawmill waste-fired heating system, and AEA is working with 30 other communities to develop clean-burning wood-fired community district heating systems. Nearly 40 hydropower projects are licensed in the state. In 2008, DO&G held a geothermal lease sale for the Mt. Spurr area which brought bids totaling \$3.5 million. Sixteen tracts totaling 36,057 acres were sold.

Most renewable energy sources are not without drawbacks. Geothermal plants are relatively expensive to develop, and they may produce some byproduct sludges that require disposal at specially approved sites. Some wind farms may not be cost competitive with conventional energy sources because a higher investment is required than for fossil-fueled generators. In addition, the wind source may be intermittent so that it does not provide a reliable energy source. Wind sources are often found in remote areas far from where they are needed. They may compete with other land uses, produce unacceptable noise levels, and have aesthetic impacts. Birds can be killed by the rotors. During drought, water may not be available for hydropower systems dependant on freshwater sources. Hydropower associated with dams can have serious environmental issues, including impeding fish passage, fish mortality from turbines, impacts on water quality and flow, and impacts on habitat.

Although renewable and alternative energy holds much potential in Alaska and the Cook Inlet area, the director believes it would be premature and imprudent to cancel oil and gas lease sales in the Cook Inlet area at this time.

10. Greenhouse Gases, Climate Change, and Global Warming

Some commenters said that the finding should discuss greenhouse gases, climate change, and global warming. Climate change was discussed in the preliminary finding in Chapter 3, Section E. Global warming, the effects of the world-wide oil and gas industry, and the effects of the use of oil and gas products are beyond the scope of review for the Cook Inlet best interest finding. Effects concerning specific future projects are not included because speculation would be required about possible future effects subject to future permitting that cannot reasonably be determined until a project or proposed use is more specifically defined (AS 38.05.035). Details that are unknown at this time include numbers, sizes, and types of projects, and technology that may be available that could affect emissions. Some general information about fugitive emissions from oil and gas production, processing, transmission, and distribution of oil and gas are available and have been added to the final finding in Chapter 8, Sections C1 and C2. Information was added to Chapter 3, Section E concerning the Alaska Climate Impact Assessment Commission, Climate Sub-Cabinet, and Alaska Climate Change Strategy.

11. Cost to the State and Other Regulatory Agencies

Some commenters said that the state should analyze costs of monitoring and enforcing compliance, and for conducting studies to assess environmental impacts. An analysis of the costs of monitoring, enforcement, and environmental studies is beyond the scope of review of this best interest finding. However, fiscal effects are considered and discussed in Chapter 8, Section G of the finding. Oil and gas revenues to the state comprised approximately 87 percent of the state's general fund in FY07, funding not just monitoring and enforcement activities, but also the state's education, operating, and capital budgets. Net rate of return is available for some industries in the *Alaska Economic Performance Report 2007* (http://www.commerce.state.ak.us/oed/pub/AEPR_2007_Final.pdf), but was unavailable for the oil and gas industry.

B. Summaries of Comments

1. Darby, Lydia

Location: Anchorage **Format:** Written, submitted at Anchorage public hearing

a. Flaring

Comment Summary: *Comments were questions concerning flaring, including what is the historical practice, what is the impact on air quality, and what laws address flaring.*

DO&G Response: Flaring is “the controlled burning of natural gas at a well site or facility; venting is the release of uncombusted natural gas to the atmosphere” (Centre for Energy 2008). Natural gas is occasionally flared for safety reasons. However, operators in Alaska are required to minimize the volume of gas released, burned, or permitted to escape into the air (20 AAC 23.235(c)). Operators must report monthly to AOGCC any flaring event which lasts over an hour. AOGCC investigates these incidents to determine if there was unnecessary waste. In Cook Inlet, 1.07 bcf of gas was flared or vented during 2004, a decrease of 11.3 percent from 2003. This information was added to the finding in Chapter 6, Section C3.

2. Sundog Consultants, Inc. (Rob Lund, Judith Lund, Sharon Brooks, David Schnieder)

Location: Homer **Format:** Written

a. Tourism and fishing

Comment Summary: *That the effects of oil and gas development on tourism and fishing are underestimated; that tourism and fishing are vital to the lifestyle and economy of the Kenai Peninsula; that oil and gas development affect tourism and fishing by depressing their value because of negative effects on scenic values (such as visibility of oil rigs) and contamination.*

DO&G Response: The finding presents the facts concerning effects of oil and gas development on tourism and fishing that were available to the director to consider and discuss under AS 38.05.035(g)(1) in Chapter 8, Section E. This included information available from studies after the *Exxon Valdez* oil spill. No additional sources of data or studies on oil spill effects were provided during the public comment period.

The director agrees that tourism and fishing are vital to the lifestyle and economy of the Kenai Peninsula. In fact, the finding dedicates a whole chapter to discussing uses in the Cook Inlet area (Chapter 5), including 24 tables and figures of statistics on harvest and value of the area's fisheries. Section H of Chapter 5 discusses uses in the area related to recreation and tourism, including economic statistics that were available to the director.

There were few studies or data available to the director concerning whether or not oil and gas development affect tourism and fishing by depressing their value. Information available to the director was provided in Chapter 8, Sections E and H4. No additional data or studies were brought to the director's attention during the public comment period.

b. Spill prevention and response

Comment Summary: *That mitigation measures, legislation, and planning for accidents has been inadequate, such as requirements for double-hulled tankers, tug escorts, and spill response in challenging conditions (inclement weather, darkness, strong currents, sea ice).*

DO&G Response: See Section A1 response.

c. Residents will not benefit

Comment Summary: *That resource extraction companies, non-residents, and the state will benefit from oil and gas development, but that residents will not.*

DO&G Response: Chapter 8, Sections G and H consider and discuss many of the positive benefits that accrue to Alaskans from oil and gas development. These include fiscal benefits such as permanent fund dividends and the Alaska Resource Rebate which are distributed directly to residents, as well as revenue to the state that finances services such as education that benefit Alaskan residents. In addition, benefits such as industry expenditures within the state, employment of Alaskans, and providing affordable natural gas for the residents of the area are considered and discussed.

3. Lund, Rob and Judith Lund

Location: Homer **Format:** Written

a. Tourism and fishing

Comment Summary: *That the effects of oil and gas development on tourism and fishing are underestimated; that tourism and fishing are vital to the lifestyle and economy of the Kenai Peninsula; that oil and gas development affect tourism and fishing by depressing their value because of negative effects on scenic values (such as visibility of oil rigs) and contamination.*

DO&G Response: See response to previous commenter.

b. Spill prevention and response

Comment Summary: *That mitigation measures, legislation, and planning for accidents has been inadequate, such as requirements for double-hulled tankers, tug escorts, and spill response in challenging conditions (inclement weather, darkness, strong currents, sea ice).*

DO&G Response: See Section A1 response.

c. Residents will not benefit

Comment Summary: *That resource extraction companies, non-residents, and the state will benefit from oil and gas development, but that residents will not.*

DO&G Response: See response to previous commenter.

4. Faust, Nina and Edgar Bailey

Location: Homer **Format:** Written

a. Renewable energy

Comment Summary: *That the state should cancel oil and gas lease sales in Cook Inlet and instead should pursue renewable energy sources because they do not jeopardize fisheries, tourism, and wildlife habitat.*

DO&G Response: See Section A9 response.

b. Risks from oil and gas development

Comment Summary: *That oil and gas development contribute too much to the carbon footprint and have serious risks of pipeline leaks, tanker groundings, oil spills, effects on water quality, and damage to domestic water supplies.*

DO&G Response: Concerning carbon footprint, see Section A10 response. Section A1 response addresses pipelines, tankers, and oil spills. In addition, Chapter 6, Section F of the finding addresses oil spill risk, prevention and response. Chapter 8, Sections A1b and A1c address potential effects on water quality and groundwater uses.

5. Marathon Oil Company (Charles A. Underwood, Jr.)

Location: Anchorage **Format:** Written

a. General comments

Comment Summary: *That applying North Slope mitigation measures to Cook Inlet results in onerous and overly burdensome obligations that will limit future Cook Inlet development; and that local hire is a critical issue in Alaska, and that Marathon continues its efforts to hire local Kenai Peninsula residents.*

DO&G Response: These mitigation measures have been developed over the years with input from the state's resource agencies, local governments, the federal government, and industry. They seek to strike a balance between development and environmental protection. Some of these were then applied to other areas of Alaska (the North Slope, Beaufort Sea and Alaska Peninsula).

b. Changes to mitigation measures

Comment Summary – Mitigation Measure A1a: *That notifying affected surface owners is not unreasonable, but that property owners may submit comments back to ADNR; and that the operator and property owner should be allowed to come to independent resolution.*

DO&G Response: ADNR issues the Plan of Operations and owns the mineral estate. Therefore, it is appropriate for it to receive comments from property owners. Having ADNR receive comments from affected property owners will not preclude the comments from being addressed objectively or resolved.

Comment Summary – Mitigation Measure A1c: *That not allowing facilities within one-half mile of the coast is excessive and impractical for Cook Inlet and could result in more or larger pads which could have negative economic impacts on projects; that this mitigation measure could increase cumulative impacts; that there is no immediate pressing problem that this measure would correct; and that it is unclear whether cased wells are considered surface drinking water sources.*

DO&G Response: This mitigation measure has been revised to allow more flexibility in siting facilities in areas classified for or where established usage shows development. Furthermore, facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the director, in consultation with ADF&G, that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred. A cased water well is not a surface drinking water source.

Comment Summary – Mitigation Measure A1d: *That the U.S. Army Corps of Engineers has the sole authority to regulate and approve development in wetlands.*

DO&G Response: Mitigation Measure A1d states:

Impacts to identified wetlands must be minimized to the satisfaction of the director, in consultation with ADF&G and ADEC. The director will consider whether facilities are sited in the least sensitive areas. Further, all activities within wetlands require permission from the U.S. Army Corps of Engineers.

Mitigation Measure A1d acknowledges the role of the U.S. Army Corps of Engineers in managing wetlands. However, as the land owner, ADNR has the authority to impose conditions or limitations on the use of its land, in addition to those imposed by the U.S. Army Corps of Engineers, to ensure

that a resource disposal is in the state's best interests. Further the introduction to the mitigation measures states:

Lessees must comply with all applicable local, state and federal codes, statutes and regulations, as amended, as well as all current or future ADNR area plans and recreation rivers plans; and ADF&G game refuge plans, critical habitat area plans, and sanctuary area plans within which a lease area is located. Lease activities must be consistent with the enforceable policies of the Alaska Coastal Management Program, including statewide standards and the enforceable policies of an affected coastal district, as amended.

Comment Summary – Mitigation Measure A1e: *That disallowing use of gravel for access and pads is not feasible in Cook Inlet; that lack of extended cold weather conditions and high cost of alternate materials preclude other means; that the high costs force operators to use the most effective means, such as previously disturbed locations and public roads.*

DO&G Response: Mitigation Measures A1e and A1f have been rewritten: Construction of temporary drill pads, airstrips, and roads may be allowed.

- e) Exploration activities must be supported by air service, an existing road system or port facility, ice roads, or by off-road vehicles that do not cause significant damage to the vegetation or ground surface. Unrestricted surface travel may be permitted by the director and DMLW if an emergency condition exists. Construction of temporary drill pads, airstrips, and roads may be allowed. Construction of permanent roads may be allowed upon approval by the director.
- f) With the exception of drill pads, airstrips, and roads permitted under A1e, exploration facilities must be consolidated, temporary, and must not be constructed of gravel. Use of abandoned gravel structures may be permitted on a case-by-case basis.

Comment Summary – Mitigation Measure A1g: *That the applicant should have the flexibility to conduct wildlife studies to determine presence of wildlife before having to build pipelines that accommodate wildlife movement.*

DO&G Response: Mitigation Measure A1g requires that pipelines must utilize existing transportation corridors and be buried where conditions permit. In areas with above ground placement, pipelines must be designed, sited, and constructed to allow for the free movement of wildlife. ADNR believes that these are reasonable requirements. There are very few areas in the Cook Inlet area, even urban areas, which have no wildlife present. This mitigation measure allows for flexibility. Whether conditions permit a pipeline to be buried will be determined on a site-specific, case-by-case basis, once a specific project is proposed.

Comment Summary – Mitigation Measure A1i: *That operators must have flexibility to expand gravel operations when necessary; that operators who purchase gravel from privately owned and permitted pits should not be subject to unnecessary or duplicative regulation.*

DO&G Response: Nothing in Mitigation Measure A1i prohibits the expansion of gravel operations where necessary. The mitigation measure only restricts gravel mining sites to the minimum necessary to develop the field efficiently and to minimize environmental damage. Furthermore, this mitigation measure does not subject operators to unnecessary or duplicative regulation if they purchase gravel from privately owned and permitted pits.

Comment Summary – Mitigation Measure A2d: *Marathon is aware of the presence of state lands within the Kenai National Wildlife Refuge and desires to make it known that access to inholdings held by Native corporations is a right specified in the Alaska National Interest Lands Conservation Act (ANILCA). This obligation may be invalid if access to inholdings through adjacent state land is necessary.*

DO&G Response: Mitigation Measure A2d prohibits surface entry on state lands within the Kenai National Wildlife Refuge but does not limit surface entry for access to other private lands within the refuge. The mitigation measure has been rewritten to clarify this.

Comment Summary – Mitigation Measure A2g: *That the USFWS should be involved in the process related to protection of Steller’s eiders.*

DO&G Response: Lessee Advisories 6a and 6c alert operators that Steller’s eiders are protected by the Endangered Species Act and each operator is advised to consult with the USFWS in advance of any activities.

Comment Summary – Mitigation Measure A2i (vii): *That requiring recording of onsite bear activity is excessive.*

DO&G Response: Mitigation Measure A2i(vii) has been rewritten: Lessees are no longer required to provide a systematic record of bears on the site and in the immediate area. They are now required to document and communicate the sighting of bears on site or in the immediate area to all shift employees.

Comment Summary – Mitigation Measure A2m: *That relocating facilities to accommodate bear movement corridors may be uneconomic, and that options should be fully evaluated before requiring significant modifications.*

DO&G Response: Original Mitigation Measure A2m regarding bears has been deleted. Original Mitigation Measure A2l has been rewritten and renumbered. Mitigation Measure A2k now reads:

Recognizing the importance of sufficient vegetative cover and access by Kenai Peninsula brown bears feeding at streams, the director, in consultation with ADF&G, may require lessees to locate exploration and development facilities beyond the 500-foot buffer along anadromous streams during the plan of operations approval stage, except as provided in A1c.

Comment Summary – Mitigation Measure A4b: *That it is assumed that the 1,500 foot setback for fuel does not apply to potable water wells.*

DO&G Response: A potable water well is not considered a surface drinking water source.

Comment Summary – Mitigation Measure A4d: *That the practicality of placing secondary containment under hose fittings should be evaluated by the operator; that weather conditions may prevent placement of liner material; that operators should have the flexibility to determine what protection is best during fuel transfers.*

DO&G Response: ADNDR believes that secondary containment is a reasonable and practical precaution and does not pose an undue burden on the operator.

Comment Summary – Mitigation Measure A4g: *That it should be clarified that this requirement is for crude oil facilities.*

DO&G Response: This mitigation measure is intended to apply to both crude and refined oil.

Comment Summary – Mitigation Measure A4j: *That Marathon currently utilizes permitted Class II disposal wells for disposal of exempt drilling and production waste.*

DO&G Response: Comment noted.

Comment Summary – Mitigation Measure A5a: *That temporary restrictions on use by the public may be necessary and that closures may be required at distances greater than the immediate vicinity of the drilling location or operating pad.*

DO&G Response: Temporary restrictions outside the immediate vicinity of the drilling location or operating pad may be identified in the plan of operations.

Comment Summary – Mitigation Measure A6a: *That this measure is duplicative of A6b. That A6a and A6b should be combined.*

DO&G Response: Mitigation Measure A6a requires lessees to conduct an inventory of prehistoric, historic, and archeological sites within the area affected by an activity. Mitigation Measure A6b provides that the director will direct the lessee as to the course of action to take to avoid or minimize adverse effects to those sites.

Comment Summary – Mitigation Measure A7a: *That requiring a detailed local hire proposal is excessive; that Marathon has a long history of local hire and training.*

DO&G Response: ADNR does not believe that the mitigation measure is excessive.

Comment Summary – Mitigation Measure A7b: *That Marathon notifies affected individuals and communities.*

DO&G Response: Comment noted.

Comment Summary – Mitigation Measure A7c: *That the training required is excessive, overly restrictive, relevant to the North Slope, and is misapplied to Cook Inlet.*

DO&G Response: The training program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job. Environmental, social, and cultural concerns are relevant to the Cook Inlet area as well as the North Slope. The training program is not misapplied to Cook Inlet.

Comment Summary – Lessee Advisory B2a: *That natural gas exploration and development project can be exempted from the Financial Responsibility and Oil Spill Contingency Plan requirements.*

DO&G Response: Pursuant to AS 46.04.030, lessees are required to have an approved oil discharge prevention and contingency plan (C-Plan) before commencing operations. The provisions of AS 46.04.030 and 46.04.040 do not apply to a natural gas exploration facility if the Alaska Oil and Gas Conservation Commission has determined under AS 31.05.030 (1) that evidence obtained through evaluation demonstrates with reasonable certainty that all of the wells at a natural gas

exploration facility will not penetrate a formation capable of flowing oil to the ground surface. If the drilling of a well at an exploration facility exempted under this subsection does penetrate a formation capable of flowing oil to the surface, the owner or operator shall submit an oil discharge prevention and contingency plan and proof of financial responsibility to the department to meet the requirements of AS 46.04.030 and 46.04.040. For purposes of this subsection, "natural gas exploration facility" means a platform, facility, or structure that, except for storage of refined petroleum products in a quantity that does not exceed 10,000 barrels, is used solely for the exploration for natural gas.

Comment Summary – Lessee Advisory B2b: *That air permit needs must be evaluated and that a permit must be in place only if it is required.*

DO&G Response: Lessee Advisory B2b requires lessees to follow state and federal laws and regulations. If air permits are not required by ADEC and EPA, then the lessee will not have to obtain them.

Comment Summary – Lessee Advisory B4a: *That Marathon objects to reporting requirements for wages, which is unnecessarily burdensome and provides no direct benefit to the state.*

DO&G Response: Encouraging Alaska hire is a benefit to the state. Electronic unemployment insurance reporting does not pose an undue burden. Lessees are not required to disclose the names of individuals or any confidential information.

6. Aurora Gas, LLC (Bruce D. Webb)

Location: Anchorage **Format:** Written

a. General comments

Comments Summary: *That the proposed mitigation measures have ambiguities that need to be clarified so that interpretation is not left up to individual state employees who have obstructionist attitudes that will not encourage exploration and development.*

DO&G Response: Mitigation measures are written to give state permittees flexibility when approving development plans. This flexibility allows for consideration of the environmental effects on a case-by-case basis.

b. Changes to mitigation measures

Comment Summary – Mitigation Measure A1c: *That this mitigation measure does not take into consideration existing facilities, despite ADNRC preferring that facilities be consolidated; that the following change is suggested: “Additionally, with the exception of proposed facilities on existing pads, to the extent practicable, the siting of facilities will be prohibited within one-half mile of...”*

DO&G Response: Mitigation Measure A1c has been rewritten as follows:

The siting of onshore facilities, other than roads, docks, utility or pipeline corridors, or terminal facilities will be prohibited within one-half mile of the mean high water of Cook Inlet except where land use plans classify an area for development, or established usage and use history show development. Furthermore, facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the director, in consultation with ADF&G, that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred.

Comment Summary – Mitigation Measure A1f: *That this mitigation measure and Mitigation Measure A1e are ambiguous and subject to various interpretations; that measure A1f has been abused by ADF&G to restrict responsible exploration and development; that it was meant to prevent long, linear gravel roads that would have significant impacts during exploration, but that it was meant to allow gravel pads and airstrips; that the following change is suggested:*

Gravel drill pads, airstrips, and access roads between these drill pads and airstrips are allowed for exploration activities. Roads which are permitted under A1e above are allowed on a case-by-case basis. All other exploration facilities must be consolidated, temporary and not be constructed of gravel. Use of abandoned gravel structures, including those within one-half mile of the water bodies listed in A1c above, are also allowed to promote consolidation of facilities and minimize additional surface impacts.

DO&G Response: Mitigation measures are written to give state permittees flexibility when approving development plans. This flexibility allows for consideration of the environmental effects on a case-by case basis.

Comment Summary – Chapter 7, Section 2, Plan of Operations Approval: *That the ability of DO&G to exercise its authority beyond the lease boundary contradicts the statute and its intent, resulting in unnecessary redundancy and burden on the applicant; that lease operation approvals should focus on the lease activity, not activities regulated by other governmental agencies.*

DO&G Response: The commenter appears to disagree with regulations concerning plans of operations approval, which is set out in state regulation 11 AAC 83.158. Amending regulations is beyond the scope of this finding.

7. ConocoPhillips (Michael Nelson)

Location: Anchorage **Format:** Written

a. **Changes to mitigation measures**

Comment Summary – Mitigation Measure A1b: *That a definition of "areas of high residential, commercial, recreational or subsistence use" should be added to Section 8 (e.g., in the form of population density, pre-identified areas of high subsistence use, etc.), or change language to "urban" and "rural" and refer to the definitions of the U.S. Census Bureau.*

DO&G Response: Areas of high residential, commercial, recreational, or subsistence use are constantly changing and will be determined at the plan of operations phase, on a case-by-case basis, when a specific project is proposed and will depend on the type of activity and its location.

Comment Summary – Mitigation Measure A1c: *That the measure should be reworded to: "The siting of onshore facilities, other than roads, docks, utility or pipeline corridors, or terminal facilities will be prohibited within 1/2 mile of the coast, barrier islands, reefs, and lagoons; 500 feet of all fish-bearing catalogued streams and waterbodies; and..."; and that the reference to catalogued streams should be included in Section 8.*

DO&G Response: This mitigation measure is designed to protect all fish bearing streams not just catalogued streams.

Comment Summary – Mitigation Measure A1g: *That the first sentence of the 2nd paragraph, "Offshore pipelines must be located and constructed to prevent obstruction to marine navigation and fishing operations," should be moved to A1h which deals with offshore pipelines.*

DO&G Response: Adopted.

Comment Summary – Mitigation Measure A2i (vii): *That the purpose of "providing a systematic record" is unclear, as is to whom the record will be provided; and that the following change is suggested: "Develop a mechanism to communicate the siting or presence of bears on site or in the immediate area to all shift employees."*

DO&G Response: Adopted.

Comment Summary – Mitigation Measure A2n-q: *The commenter asks, "Are the seasonal habitats and calving areas of the Kenai Lowlands Caribou Herd mapped/documented," and states that if so, this area should be defined and referenced in Section 8.*

DO&G Response: The habitat use areas of moose and caribou on the Kenai Peninsula have been documented, including core calving and summer use areas. Core areas are used seasonally by a high concentration of moose or caribou. Disturbances in core areas can disrupt important life stages such as calving or winter feeding and can cause changes in population size. Documents delineating the core habitat areas are available from the Soldotna ADF&G office (phone 907-262-9368).

Comment Summary – Mitigation Measure A4: *That a definition of "hazardous substances" should be added by incorporating a reference to EPA or OSHA standards.*

DO&G Response: AS 46.09.900 defines hazardous substances as: (A) an element or compound that, when it enters into or on the surface or subsurface land or water of the state, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found; or (B) a substance defined as a hazardous substance under 42 U.S.C. 9601 - 9657 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); "hazardous substance" does not include uncontaminated crude oil or uncontaminated refined oil; This definition has been added to Section 8.

Comment Summary – Mitigation Measure A4f: *That the measure should be revised as follows: "All independent fuel and hazardous substance containers shall be marked with the contents and the lessee's or contractor's name ~~using paint or a permanent label~~ at all times."*

DO&G Response: Permanent marking is a necessary and reasonable requirement to identify the owner and contents of fuel and hazardous substance containers.

Comment Summary – Mitigation Measure A4g: *That this measure should be remove or revised because it is too prescriptive and narrow to apply to general oil and gas operations; that not all "above-ground liquid hydrocarbon storage facilities" are regulated by ADEC, and that at a minimum, this measure should refer to the volume of the storage facility for which a monitoring well is required.*

DO&G Response: This mitigation measure was revised. A freshwater aquifer monitoring well, and quarterly water quality monitoring, may be required down gradient of a permanent above-ground liquid hydrocarbon storage facility.

Comment Summary – Mitigation Measure A4h: *That this measure is too prescriptive and narrow to apply to general oil and gas operations; that not all facilities are equipped with incinerators, and ADEC air permits for incinerators are difficult to obtain because they are heavily regulated at the federal level; that the measure should be revised as follows: "...Garbage and domestic combustibles must be ~~incinerated whenever possible~~ or disposed of at an approved site in accordance with 18 AAC 60."*

DO&G Response: This mitigation measure was revised. Garbage and domestic combustibles must be incinerated or disposed of at an approved site in accordance with 18 AAC 60.

Comment Summary – Mitigation Measure A4j: *That not all facilities own and operate underground injection disposal wells; that whether or not a well can be used for disposal of drilling muds and cuttings is determined by EPA or AOGCC, and is based on the formation into which a lessee proposes to inject; that some lessees may not have this alternative; and that EPA currently allows for discharge of drill cuttings and water-based drilling mud into Cook Inlet by NPDES permit. That the measure should be revised as follows:*

Drilling muds and cuttings may be disposed via underground injection in accordance with programs administered by the AOGCC or EPA, drilling waste monofills as permitted by ADEC, or in some cases discharged as permitted by EPA. Drilling muds and cuttings cannot be discharged into lakes, streams, rivers, or important wetlands.

Also, that a definition of "hazardous substances" should be added by incorporating a reference to EPA or OSHA standards.

DO&G Response: This mitigation measure has been revised:

Wherever practicable, the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection. Other methods of disposal shall be allowed only upon approval by the director, in consultation with ADEC and ADF&G.

8. Pioneer Natural Resources Alaska, Inc. (John Hellén)

Location: Anchorage **Format:** Written

a. Support of the finding

Comment Summary: *That Pioneer Natural Resources Alaska supports the finding that Cook Inlet Areawide oil and gas lease sales will be in the best interest of the state.*

DO&G Response: Comment noted.

b. Changes to mitigation measures

Comment Summary – Mitigation Measure A1c: *That the one-half mile prohibition on facilities is excessive and would bias development away from extended reach drilling in favor of platforms.*

DO&G Response: This mitigation measure has been revised to allow more flexibility in siting facilities in areas established or classified for industrial development. Furthermore, facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the director, in consultation

with ADF&G, that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred.

Comment Summary – Definition of Secondary Containment: *That the requirement for 12 inches of freeboard is unnecessary and potentially hazardous; that the definition be revised to be consistent with state or federal spill prevention regulations.*

DO&G Response: The requirement for 12 inches of freeboard has been removed from the definition of secondary containment.

Comment Summary – Lessee Advisory B4a: *That Pioneer Natural Resources Alaska supports local hire, but that they object to the requirement to report individual wages; that the language of the advisory gives the incorrect impression that it is a requirement.*

DO&G Response: Facilitating Alaska hire is a benefit to the state. Electronic unemployment insurance reporting does pose not an undue burden. Lessees are not required to disclose the names of individuals or any confidential information.

Comment Summary – Lessee Advisory B6c: *That the advisory needs to clarify that it applies to activities within 3 miles seaward of the coast, and that onshore activities would not have the potential to affect Steller’s eiders.*

DO&G Response: Lessee advisory B6c has been rewritten to more clearly describe habitat used by Steller’s eiders in Cook Inlet, which includes areas both onshore and offshore. It states:

The USFWS has determined that oil and gas exploration and development activities **within three miles seaward or within one-half mile landward of the eastern shore of Cook Inlet**, from Clam Gulch to the southern bounds of the lease sale area, are likely to adversely affect (take) Steller’s eiders. Each operator is advised to consult with the USFWS well in advance of any activities in this area.

9. Cook Inlet Regional Citizens Advisory Council (Steve Catalano)

Location: Anchorage **Format:** Written

a. Mitigation of oil spills

Comment Summary: *That the finding has significant deficiencies regarding up-to-date information about oil spill mitigation; that additional analysis of oil spill risk is needed such as one performed by MMS for the Beaufort Sea; that a gap analysis should be conducted; and that the state should require all undersea pipelines associated with oil production to have a leak-detection system capable of detecting one percent loss of throughput.*

DO&G Response: See Section A1 response.

b. Impacts on fish, wildlife, and habitats

Comment Summary: *That the sections describing Cook Inlet’s physical and biological environments are lacking, particularly concerning middle and upper Cook Inlet, and appear to have been rewritten from earlier state and federal documents; that the state should support Cook Inlet water quality studies on oil and gas infrastructure; that Chapter 8 cites an MMS environmental*

impact study; and that the finding needs to reflect that beluga whales are listed as endangered under the Endangered Species Act.

DO&G Response: See response A2 and A3 concerning lack of information and need for studies. Some information was retained from the previous 1999 best interest finding if no new or updated information was available. See response A2 concerning the large number of information sources used for the current finding. See response A4 concerning use of federal environmental impact statements. See response A7 concerning listing of beluga whales.

c. Funding for CIRCAC

Comment Summary: *That successful bidders should be required to provide funding to the Cook Inlet Regional Citizens Advisory Council to improve their capacity to prevent, mitigate, and respond to oil spills.*

DO&G Response: Cook Inlet Regional Citizens Advisory Council already receives its base annual funding from the operators in Cook Inlet. The director believes requiring companies to provide funding at the lease sale phase, before any exploration, development, or production has occurred, would pose an undue burden.

10. Trustees for Alaska (Michael J. Frank)

Location: Anchorage **Format:** Written

a. Phasing

Comment Summary: *That phasing is applied inappropriately to the lease sale phase; that there are concerns about the constitutionality of phasing; that there is insufficient review at later phases; and that ADNR should conduct a best interest finding process for all post-lease phases.*

DO&G Response: Phased review is discussed in detail in Chapter 2, Section G. Under AS 38.05.035(e)(1)(C), the director may, if the project for which the proposed disposal is sought is a multiphased development, limit the scope of an administrative review and finding for the proposed disposal to the applicable statutes and regulations, facts, and issues that pertain solely to the disposal phase of the project when:

- (i) the only uses to be authorized by the proposed disposal are part of that phase;
- (ii) the disposal is a disposal of oil and gas, or of gas only, and, before the next phase of the project may proceed, public notice and the opportunity to comment are provided unless the project is subject to a consistency review under AS 46.40 and public notice and the opportunity to comment are provided under AS 46.40.096(c);
- (iii) the department's approval is required before the next phase may proceed; and
- (iv) the department describes its reasons for a decision to phase.

The conditions under which phasing may occur have been met for Cook Inlet Areawide oil and gas lease sales addressed in this best interest finding.

Deciding on constitutionality of phasing is beyond the role of ADNR and beyond the scope of review of the best interest finding. ADNR is following the statutory framework established by the legislature.

Conducting a best interest process for post-lease phases is not required by statute. In addition, the legislative intent language for SB 156 (Twenty-second Legislature) Section 1(f)(1) states that "no other best interest finding is required after the disposal phase."

SB 156 Section 1 (c) and (d) discusses the legislature’s purpose in amending AS 38.05.035 in 1994. In (c) it says “Although the legislature did intend that there would be a detailed review of the project at any later phase, the legislature did not intend that the Department of Natural Resources would have to issue another best interest finding as part of the review.” In (d) it says, “When passing the 1994 amendments, the legislature was aware that the post-disposal phases, which are exploration, development, and transportation, would be subjected to numerous federal, state, and local laws, regulations, policies, and ordinances; reviewed by numerous agencies; and subjected to public review and comment.” Applications for permits and plans of operation generally require public notice and opportunity for public input. Chapter 7 describes many of the other permits and approvals required by local, state, and federal agencies for oil and gas exploration, development, and production.

b. Discussion of impacts

Comment Summary: *That the finding’s discussion of impacts is largely generic and uninformative; that ADNDR is not obligated to engage in studies of potential impacts and is required only to analyze “known” information.*

DO&G Response: The director agrees with Trustees that ADNDR is not required to engage in studies of potential impacts, and is required to consider and discuss facts known or made known to the director. The legislative intent language for SB 156 (Twenty-second Legislature) Section 1(f)(2) (Chapter 101, SLA 2001) states that “the best interest finding shall be based upon known information or information that is made available to the director, even if all potential cumulative impacts of the project are not known.”

Chapter 8 discusses reasonably foreseeable effects of leasing and subsequent activity. Best interest finding are not required to speculate about possible future effects subject to future permitting that cannot reasonably be determined until the project or proposed use is more specifically defined (AS 38.05.035(h)). However, Chapter 8 discusses facts known or made known to the director concerning reasonably foreseeable effects of leasing and subsequent activity, as required by statute. This 23-page discussion includes references to over 90 sources concerning these effects. The director has taken a hard look at the facts presented, considered, and discussed in Chapter 8, and believes that they are sufficient for finding that oil and gas lease sales in Cook Inlet are in the best interest of the state.

c. Lease terms

Comment Summary: *That including the phrase “and insofar as is constitutionally permissible” in lease term #26 is unnecessary, does not protect the best interests of the state, and should be deleted from the lease.*

DO&G Response: Noting that state action is limited by the constitution is appropriate.

d. Use of the term “significant”

Comment Summary: *That ADNDR must explain and justify its use of the term “significant”.*

DO&G Response: The purpose of the term “significant” in Chapter 2, Section F is to assist interested parties with understanding the concept of reasonably foreseeable effects. This text represents an ongoing working explanation that has been used in various ADNDR documents to provide examples of the types of effects that are discussed in best interest findings. The common definition of the term significant is the meaning intended: “having or likely to have influence or effect: important”, “of a noticeably or measurably large amount” (Merriam-Webster 2008).

e. Citations for studies

Comment Summary: *That inadequate citations are provided for studies cited in the finding.*

DO&G Response: The Name Year format used for citing studies and other sources in the finding is a standard format. See for example:

CBE (Council of Biology Editors)

1994 Scientific style and format: the CBE manual for authors, editors, and publishers, *sixth edition*. Style Manual Committee, Cambridge University Press, New York.

A complete listing of sources cited is provided at the end of each chapter. In addition to standard bibliographic information included in the references section at the end of each chapter, DO&G provides URL addresses so that the reader can go directly to the source if it is available online. DO&G spent considerable effort to ensure that sources used in the finding were properly cited, including purchase and use of bibliographic software to keep track of sources and to link text citations to lists of sources at the end of each chapter.

f. Use of environmental impact statements

Comment Summary: *That a federal environmental impact statement cited to support ADNR's claim of no significant impacts should cite to specific pages, that the citation does not cover the area of the state's proposed Cook Inlet Areawide oil and gas lease sales, and that the areas cited in the environmental impact statement differ in kind, quality, and natural attributes from the state lease sale area. That ADNR should engage in a federal environmental impact statement-like process for best interest findings.*

DO&G Response: Concerning citing to specific pages, see preceding response. Concerning including references to federal environmental impact statements, DO&G makes no claim or determination that Cook Inlet lease sales will or will not have significant effects. Federal environmental impact statements may require such a determination, but the director is not required to prepare an environmental impact statement (see Section A5 above). Rather, the director is required to consider and discuss the available facts and to make a finding whether oil and gas lease sales are in the best interests of the state. Concerning the use of information that is from areas outside the Cook Inlet Areawide oil and gas lease sale area, or that may differ in various ways from the area, see Section A2 above.

DO&G is not required to produce an environmental impact statement with a determination that effects are significant or not, which is a federal requirement relating to federal projects. Environmental impact statements are not required by state law. In fact, the legislative intent language for SB 308 (Eighteenth Legislature) Section 1 (7) states:

Analyses comparable to those generally required by 42 U.S.C. 4321 -4370a (National Environmental Policy Act of 1969, as amended) for the preparation of an environmental impact statement under 42 U.S.C. 4332(2)(C) are not required by the state for support of best interest findings issued under AS 38.05 or conclusive coastal zone consistency determinations issued under AS 46.40.

g. Beluga whale listing

Comment Summary: *That the finding needs to reflect the federal listing of beluga whales as endangered under the Endangered Species Act; that tracts designated as Type 1, 2, or 3 should be removed from the Cook Inlet Areawide lease sale area in anticipation of critical habitat area*

designations by NMFS, or by including a provision in the lease that prohibits any surface activity on any leased lands that NMFS designates as critical habitat before or after the sale.

DO&G Response: See Section A7 concerning listing of beluga whales. The director believes it would be premature to remove tracts from the lease sale area and/or to add prohibitions on surface activity in anticipation of critical habitat designations by NMFS. NMFS has one year to make critical habitat designations, a process which includes analysis of economic impacts and public comment. NMFS did not submit requests for tract removals or additional mitigation measures during the public comment period for the Cook Inlet best interest finding. In Chapter 9, Section B6, potential lessees are advised of the beluga listing and their responsibility to comply with applicable laws and regulations of other agencies, including NMFS, the Endangered Species Act, and the Marine Mammal Protection Act.

h. Habituation of beluga whales

Comment Summary: *That faulty conclusions were reached concerning habituation of beluga whales to oil and gas activity; and that the definition of habituate is unclear.*

DO&G Response: The finding makes two statements about habituation of whales to anthropogenic activities. The purpose of both of these statements is to provide available information to the director that can be used in finding whether Cook Inlet oil and gas lease sales are in the best interest of the state. The purpose is not to make definitive conclusions on habituation of beluga whales to anthropogenic activities. The first statement brings to attention that research is lacking: “Research is also lacking on whether or not some species may become habituated to, and stop being affected by, certain kinds of sounds, or on whether certain species may become more sensitive to sounds with increased exposure (Hofman 2003)”. The second statement provides a conclusion made not by the director, but by NMFS beluga whale experts in a published scientific journal article about beluga whales and disturbances: beluga whales “continue to occupy upper Cook Inlet despite oil and gas development, vessel and aircraft traffic, and dredging operations, and based on a review of available information, Moore et al. (2000) concluded that belugas appear to have become habituated to offshore oil and gas activities in central Cook Inlet.”

Concerning the definition of “habituate”, the standard definition is intended: “to make used to something ; accustom” (Merriam-Webster 2008). Therefore additional explanation is unnecessary.

i. Essential Fish Habitat

Comment Summary: *That federal recommendations for mitigation measures as listed in Essential Fish Habitat legislation should be used to guide mitigation measures for Cook Inlet Areawide oil and gas lease sales; that tracts containing kelp beds should not be included in lease sales; and that eulachon and other fish spawning areas should not be included in lease sales, or that surface activity in them should be prevented; that commercial eulachon harvest should be included at a minimum.*

DO&G Response: Essential Fish Habitat (EFH) is discussed briefly in Chapter 4, Section A3. However, EFH is a federal designation that is considered by federal agencies during the review process of federal projects. Chapter 9, Section B6f notifies potential lessees that their activities may be subject to federal consultation concerning EFH. Many of the mitigation measures provided in the Cook Inlet Areawide best interest finding were developed to ensure protection of important habitats. Mitigation measures that will provide protection to fish, wildlife, and habitat were developed in consultation with ADF&G, as well as with input from NMFS. These agencies did not request removing tracts with kelp beds or fish spawning areas. The director believes that the mitigation measures included in this finding are sufficient to protect fish, wildlife, and their habitats.

j. Legislatively Designated Areas

Comment Summary: *That legislatively designated areas should be removed from the lease sale; and that buffers should be added to legislatively designated areas and to federally-protected areas within and near the lease sale area.*

DO&G Response: The director believes that legislatively designated areas are adequately protected by mitigation measures and other regulatory requirements, and thus, it is unnecessary to remove the areas from the lease sale area or add buffers. The director believes that federally-protected areas near state tracts are adequately protected by mitigation measures in the Cook Inlet best interest finding, as well as by other state and federal regulatory requirements.

k. Steller's eiders

Comment Summary: *That areas used by Steller's eiders should be eliminated from the lease sale, or that lease-related surface activities should be prohibited in areas when Steller's eiders are present; and that Chapter 9 does not specify which measures are intended to target Steller's eiders.*

DO&G Response: Most identified Steller's eider habitat is outside the Cook Inlet lease sale area (see Figure 4.2). Mitigation Measure A2g, which was developed in consultation with ADF&G and USFWS, addresses Steller's eiders. It says:

The director, in consultation with ADF&G, shall restrict or modify lease related activities if scientific evidence documents the presence of Steller's eiders from the Alaska breeding population in the lease area and it is determined that oil and gas exploration and development will impact them or their over-wintering habitat in the near-shore waters of Cook Inlet.

In addition, potential lessees are advised in Chapter 9, Section B6a and B6c that Steller's eiders are listed as threatened under the Endangered Species Act and that lessees need to contact the appropriate federal agency to ensure that their activities do not result in taking of Steller's eiders. The director believes that Steller's eider habitat is adequately protected by mitigation measures and other regulatory requirements, and thus, it is unnecessary to remove additional areas from the lease sale.

l. Steller sea lion

Comment Summary: *That habitats used by Steller sea lions should be eliminated from the lease sale area.*

DO&G Response: Most important Steller sea lion habitat is located outside the Cook Inlet lease sale area (see Figure 4.11). However, potential lessees are advised in Chapter 9, Section B6a and B6b that Steller sea lions are listed as endangered under the Endangered Species Act, and that potential lessees must comply with requirements of the Endangered Species Act and the Marine Mammal Protection Act. The director believes that Steller sea lions and their habitat are adequately protected by mitigation measures, the Endangered Species Act, the Marine Mammal Protection Act, and other regulatory requirements, and thus, it is unnecessary to remove additional areas from the lease sale.

m. Effectiveness of mitigation measures

Comment Summary: *That there is no analysis of the potential effectiveness of mitigation measures.*

DO&G Response: See Section A6 response.

n. Oil spills

Comment Summary: *That current oil spill prevention and response strategies are ineffective; that tankers in Cook Inlet should be required to be accompanied by a suitable escort tug; and that comments submitted by Cook Inlet Regional Citizens Advisory Council are incorporated by reference.*

DO&G Response: See Section A1 response.

o. Greenhouse gases and global warming

Comment Summary: *That the finding fails to estimate and discuss current and future greenhouse gas emissions from Cook Inlet oil and gas activities; and that the finding does not discuss adverse effects of global warming on oil and gas activities.*

DO&G Response: See Section A10 response.

11. Ground Truth Trekking (Erin McKittrick and Bretwood Higman)

Location: Seldovia **Format:** Written

a. Oil spill risk

Comment Summary: *That a statistical analysis of oil spill risk, similar to the MMS Beaufort Sea environmental impact statement, should be included; that performance of all proposed spill prevention and response plans should be analyzed; and that the state should conduct studies to determine impacts of previous oil spills.*

DO&G Response: See Section A1 response.

b. Oil spill cleanup

Comment Summary: *That plans for spill cleanup in inclement weather should be included.*

DO&G Response: See Section A1 response.

c. Fish, wildlife, and habitats

Comment Summary: *That past impacts of oil and gas development on Cook Inlet fish, wildlife, habitats, and industries are not adequately addressed, and that the state should study impacts of past oil and gas development on fish and wildlife.*

DO&G Response: Chapter 8 discusses potential effects of oil and gas development in Cook Inlet. The chapter includes over 90 sources concerning impacts of oil and gas development. Additional sources of information were not brought to the attention of the director during the public comment period. See also Section A2 and Section A3 responses above concerning additional studies.

d. MMS environmental impact statement

Comment Summary: *That an MMS environmental impact statement for the Outer Continental Shelf is cited frequently in the chapter on effects, but that findings of that impact statement are irrelevant to the state's Cook Inlet Areawide oil and gas lease sales.*

DO&G Response: See Section A2 and A4 responses.

e. Water quality

Comment Summary: *That water quality information provided in the finding is insufficient and does not prove a lack of water quality impacts from oil and gas development; and that the state should conduct studies to assess impacts of oil and gas development on Cook Inlet water quality.*

DO&G Response: See Section A3 and A4 responses, and Section B10I response.

f. Geologic hazards

Comment Summary: *That the finding does not adequately address geologic hazards, particularly earthquakes, floods, erosion, volcanoes, tsunamis, landslides, and climate change.*

DO&G Response: Chapter 3, Section G discusses these potential geologic hazards. This section was reviewed and updated by professional geologists. This is the information that was available to the director to be considered and discussed in weighing whether Cook Inlet Areawide oil and gas lease sales are in the best interest of the state. Additional information or sources were not made known to the director during the public comment period.

See Section A10 response concerning climate change.

g. Costs to regulatory agencies

Comment Summary: *That the state should analyze costs of monitoring and enforcing compliance, and for conducting studies to assess environmental impacts.*

DO&G Response: See Section A11 response

h. Effects of seismic surveys

Comment Summary: *That an analysis of impacts of seismic surveys on the fishing industry should be included.*

DO&G Response: Chapter 8, Section B1 addresses potential effects of seismic surveys and other noises. A discussion is included concerning an experimental study on cod and haddock, important commercial species in the Barents Sea. However, this section also discusses the lack of research concerning these effects, as well as the inconclusive and contradictory results of available studies. Additional studies were not made known to the director during the public comment period.

i. Fiscal effects on fishing industry

Comment Summary: *That fiscal costs to the fishing industry should be included in an analysis of oil spills, habitat loss, and other potential environmental costs.*

DO&G Response: Potential economic costs of an oil spill to the fishing industry are addressed in Chapter 8, Section E1. Information on this topic comes primarily from the *Exxon Valdez* oil spill

that occurred in Prince William Sound, not Cook Inlet. Additional studies were not made known to the director during the public comment period.

j. Revenue to the state

Comment Summary: *That fiscal statistics provided are primarily for the North Slope; that an approximate estimate of expected production and expected revenue should be provided; that the finding should discuss how well the 1999 best interest finding for Cook Inlet did in predicting benefits; and that the standard economic benefit-cost and statistical decision theory used by the state to determine the value of hydrocarbon resources should be provided in the finding.*

DO&G Response: Most statistics available for fiscal effects are statewide statistics. For example, property taxes collected by the Municipality of Anchorage are not categorized by whether the oil and gas company operates on the North Slope or Cook Inlet. Statistics for spending by the oil and gas industry, payroll, and numbers of jobs are also available primarily for the whole state. See Chapter 8, Section G.

Projected oil production for Cook Inlet is provided in Figure 8.3; projected natural gas production is provided in Figure 8.4. Predictions of revenue were not made by DO&G because of the many variables and uncertainties required to make such predictions. The 1999 best interest finding for Cook Inlet did not attempt to predict benefits to the state in future years. The 1999 finding provided one graph from the Alaska Department of Revenue showing a forecast for oil and gas revenues, and the finding provided a general discussion of decreasing trends in revenue and production.

Chapter 10 has been changed to more accurately reflect the process for determining the bidding method and lease terms.

k. Natural gas supplies

Comment Summary: *That an approximate estimate of the expected increase in natural gas supplies from the lease sales should be provided; that how demand is forecast should be included in the finding; and that information should be included on how well the 1999 best interest finding did at predicting how much revenue and supplies would be generated from previous lease sales.*

DO&G Response: Providing estimates of increases in natural gas supply if the sale goes through would require speculation about possible future effects subject to future permitting that cannot reasonably be determined at this phase (AS 38.05.035). Information about future demand for natural gas came from four sources: Thomas et al. 2004; NETL 2006; Saylor and Haley 2006; and Holland 2008. See preceding response concerning the 1999 best interest finding.

l. Immediate versus future development

Comment Summary: *That consideration should be given to reserving some oil and gas resources for future leasing, when their value may be higher and when better technology for preventing negative impacts might be available.*

DO&G Response: Exploration and development is needed now to replace declining reserves and develop long-term supplies of natural gas. Although technology will probably continue to improve, measures provided in Chapter 9 of the finding, along with regulations imposed by other state, federal, and local agencies, are expected to avoid, minimize, and mitigate potential negative environmental effects.

12. Kachemak Bay Conservation Society (Roberta Highland and Elise Wolf)

Location: Homer **Format:** Written

a. Restrictions on leasing

Comment Summary: *That only minimal leasing should take place; that leasing should not occur on the eastern side of Cook Inlet, adjacent to any critical habitat or recognized areas, along salmon streams or creeks, or ecologically sensitive areas.*

DO&G Response: Chapter 9 provides comprehensive mitigation measures that were developed in consultation with ADF&G to protect habitat, fish, wildlife, and their uses in the Cook Inlet Areawide oil and gas lease sale area. The director believes that these mitigation measures, along with regulations imposed by other state, federal, and local agencies, will avoid, minimize, and mitigate potential negative effects of oil and gas lease sales.

b. Renewable energy

Comment Summary: *That the state should fund renewable energy and sustainable industries such as tourism and fishing.*

DO&G Response: See Section A9 response.

c. Phasing

Comment Summary: *That phased review does not allow for adequate assessment of cumulative impacts, and that phasing allows the state to commit to a lengthy and costly process that may or may not be in the best interest of the state.*

DO&G Response: See Section B10a response.

d. Economic data on fishing and tourism

Comment Summary: *That economic data (such as income and wages) about fishing and tourism are not included and/or are improperly used, that impacts of oil and gas development and oil spills on fishing and tourism are not adequately considered, and that this results in misrepresentation of the importance of fishing and tourism to the Kenai Peninsula and Matanuska-Susitna boroughs.*

DO&G Response: See Section A8 response.

e. Other costs and analysis of future scenarios

Comment Summary: *That the costs for oversight of the oil and gas industry are not included, and that costs for various scenarios of holding versus buying back leases are not analyzed.*

DO&G Response: See Section A11 response. Analysis of multiple scenarios concerning buying back leases is beyond the scope of review of the best interest finding.

f. Foreign corporations, GATT, and NAFTA

Comment Summary: *That oil and gas leases will probably be bought by foreign corporations that are not held to the same environmental standards as American companies; that there is not a*

discussion of state costs for cleanup when non-American companies refuse to abide by state and federal environmental laws; that a discussion of GATT and NAFTA should be included in the finding.

DO&G Response: All lessees must comply with terms of the lease, including mitigation measures, as well as all other local, state, and federal regulatory requirements, whether they are U.S. or foreign companies. Financial responsibility requirements are discussed in Chapter 6, Section F5d. Operators must provide proof of financial responsibility ranging up to \$100,000,000 for crude oil vessels and barges. Regardless of the required bond amount, and the bond amounts required by other state agencies, the lessee is still fully liable for cleanup and rehabilitation of any disturbed areas.

Discussions of GATT (General Agreement on Tariffs and Trade) and NAFTA (North American Free Trade Agreement) are outside the scope of review for the Cook Inlet Areawide best interest finding.

g. Use of Environmental Impact Statements

Comment Summary: *That the MMS environmental impact statement's finding of no significant impact is not reconciled with the finding's statement that there is a "lack of conclusive results"; that inadequate or insufficient evidence does not lead logically to "no impacts" or ability to "avoid" impacts.*

DO&G Response: See Section A4 and A5 responses.

h. Inappropriate use of science, poor logic

Comment Summary: *That the finding's use of science is selective and sometimes inappropriate; that the finding is not fair and impartial; that the finding does not use logical reasoning; that conclusions have no bearing in objective science or logical reasoning.*

DO&G Response: In this comment, the commenter did not provide specific examples. Specific instances identified by the commenter are addressed separately. In response to this general concern, the finding presents a wide range of information relevant to topics that AS 38.05.035(g)(1)(B) requires best interest findings to consider and discuss. The director has not limited that consideration and discussion to only studies or information that supports one point of view or another. Rather, some available information was inconclusive or contradictory. This information was included in the finding, with appropriate qualifiers, so that the director had as complete information as possible available to consider, discuss, and weigh in making a finding. Including such information does not make the finding unfair or illogical. See Section A2 response also.

i. Mitigation measures

Comment Summary: *That the finding does not explain how mitigation measures can be effective if basic data on populations is lacking and if state agencies do not conduct adequate studies of the area.*

DO&G Response: See Section A3 and A6 responses.

j. Use of studies from outside the sale area

Comment Summary: *That studies from outside the sale area are included in the finding.*

DO&G Response: See Section A2 response.

k. Impacts from the petroleum industry

Comment Summary: *That the statement “the petroleum industry has functioned in the Cook Inlet without significant environmental damage since its beginning in 1957” is untrue.*

DO&G Response: This statement is found in the finding in Chapter 1, Section A, and Chapter 3, Section G. The context is a conclusion made by a geologic expert concerning potential geologic hazards that exist in the area. The finding cites the expert’s conclusion that despite the area’s proximity to volcanoes, position in a highly seismically active region, and other potential geologic hazards oil and gas development has occurred “without significant environmental damage.” Additional evidence for this conclusion include that most fish and wildlife populations in the area are healthy, PCBs and other contaminants are lower in Cook Inlet belugas than other Alaska beluga populations; and available water quality data do not indicate negative effects from oil and gas development.

l. MMS 2000 study

Comment Summary: *That this study is improperly applied to upper Cook Inlet; that before leasing, ADNR and other state agencies should conduct thorough studies of Cook Inlet sediments, animals and fish, waters, and subsistence foods.*

DO&G Response: This comment concerns the research study, “Sediment quality in depositional areas of Shelikof Strait and outermost Cook Inlet,” which was funded by MMS (MMS 2000). The study, conducted in 1997 and 1998 and published in 2000, is discussed in Chapter 8, Section B1b. This study is highly applicable to the best interest finding for Cook Inlet Areawide oil and gas lease sales. According to the study, outermost Cook Inlet (including Kamishak and Kachemak bays) and Shelikof Strait are considered potential areas for long-term deposition of pollutants from oil and gas exploration, production, and transportation activities in upper Cook Inlet. The study states [italics added]:

Interactions of tides and geostrophic, baroclinic, and wind-induced currents with the topography of outermost Cook Inlet and Shelikof Strait provide a complex hydrographic regime that determines the distribution and eventual deposition of particle-associated contaminants released from offshore production platforms in *upper Cook Inlet*.

The purpose of the study was to: 1) evaluate the Shelikof Strait and outermost Cook Inlet as potential depositional areas or "traps" for oil industry contaminants; 2) determine whether contaminant concentrations in sediments of these areas pose an environmental risk; 3) determine whether contaminants in these areas have accumulated relative to pre-industry concentrations; 4) determine whether any increases can be correlated with specific discharge events or activities (e.g., the *Exxon Valdez* oil spill); and 5) determine the importance of other hydrocarbon and metal sources to the sediments.

The study noted that there are multiple sources of similar pollutants in the area: natural oil seepages, oil spillage, tremendous quantities of suspended material swept into the region from glacial runoff with associated metals and hydrocarbons, municipal discharges, and other permitted industrial (e.g., seafood processing) discharges. Therefore, the study was designed to identify the sources of contaminants deposited in outermost Cook Inlet and Shelikof Strait.

Source samples were collected from a wide range of potential contaminant sources which included oil and gas activities, oil seeps, coals, municipal discharges, boat harbors, and riverine and coastal input, to compare to concentrations and distributions in the sediments of the depositional areas of Shelikof Strait and outermost Cook Inlet. Of particular relevance to the Cook Inlet Areawide best

interest finding, source samples were collected to represent oil and gas production activities in upper Cook Inlet, including crude oil source samples from the Unocal Trading Bay Production Facility and the Swanson River Field, and produced water from the Unocal Trading Bay Production Facility. Thus, contrary to the commenter's statement, this study directly involved upper Cook Inlet oil and gas activities and attempted to determine if contaminants from upper Cook Inlet oil and gas activities are a source of pollution that is deposited in outermost Cook Inlet or Shelikof Strait.

Following are the findings of the study [italics added]:

...the surface sediments of outermost Cook Inlet and the Shelikof Strait are traps for fine-grained sediment and are potential traps for contaminants from oil and gas production activities in *upper Cook Inlet*. However, based on evaluations of the organic and inorganic data, no contamination in the surface sediments from oil and gas production activities in upper Cook Inlet was identified. Elevated Hg concentrations were identified in Kachemak Bay. However, the present-day Hg levels are comparable to values observed throughout the twentieth century, suggesting that the results are typical for the region.

...the concentrations of metals and organics (i.e., PAHs) in sediments in outermost Cook Inlet and Shelikof Strait have not increased significantly since offshore oil exploration and production began in Cook Inlet (circa 1963).

...the composition (source[s]) of metals in the sediments of outermost Cook Inlet and Shelikof Strait do not appear to have changed since offshore oil exploration and production began in Cook Inlet (circa 1963). The composition of hydrocarbons in sediment cores show subtle changes over the past 25 to 50 years, but these changes do not appear to be correlated with petroleum production activities or spills.

...the comprehensive findings of this two-year investigation indicate that the current concentrations of metals and PAHs in the Shelikof Strait and outermost Cook Inlet are neither linked to oil and gas development in the upper Cook Inlet, nor to the Exxon Valdez oil spill. The residues that are present, from a combination of natural sources – river inputs, oil seepages, etc. – pose no significant risk to the biota and the benthic environment of outermost Cook Inlet and Shelikof Strait. The degree of current risk is indeed very low and is similar to non-impacted coastal regions in Alaska and elsewhere.

m. Need for studies

Comment Summary: *That ADNR and other state agencies should conduct thorough studies of Cook Inlet sediments, animals and fish, waters, and subsistence foods.*

DO&G Response: See Section A3 response.

n. Oil spills

Comment Summary: *That oil spills in Cook Inlet, particularly in icy conditions, cannot be avoided, minimized, or mitigated.*

DO&G Response: See Section A1 response.

o. Seismic studies

Comment Summary: *That there are many more studies on effects of seismic surveys than those cited in the finding; that anecdotal information should be used in the finding; that many studies are done but are not published by state and federal scientists, and that many studies conducted by industry contain proprietary information and so are not published; and that the finding should be logical, rational, and unbiased in making determinations about impacts.*

DO&G Response: Potential effects from seismic surveys, as well as from other noise sources, are discussed in Chapter 8, Section B1a(i). Although the commenter states that there are far more studies on seismic than those cited in the finding, no additional sources were made known to the director during the public comment period, either by this commenter or others. The finding discusses frankly the lack of research in this important area, including that attempts to draw conclusions about noise effects have been hampered because the available information consists primarily of anecdotal observations, unpublished reports, and non-peer reviewed research. These categories of information are considered to be less credible scientifically than research that has been formally published in peer-reviewed journals. Issues concerning scientists and industry not publishing research is beyond the scope of review of the best interest finding.

Information that was known to the director concerning seismic surveys and other noise sources was sometimes inconclusive, incomplete, or contradictory. However, it is appropriate that the director consider and discuss this information. Doing so does not make the finding itself illogical, irrational, or biased. See Section A5 above for additional response concerning potential effects.

p. State and federal oversight

Comment Summary: *That state and federal agencies lack the ability to adequately oversee oil and gas development.*

DO&G Response: Chapter 7 gives information on the wide range of state and federal agencies that are tasked with overseeing the oil and gas industry. The director believes that the state has sufficient authority through general constitutional, statutory, and regulatory empowerments, the terms of the lease sale, the lease contract, and plan of operations permit terms to ensure that lessees conduct their activities safely and in a manner that protects the integrity of the environment.

q. Phasing

Comment Summary: *That mitigation measures need to be based on a full understanding of all the cumulative impacts (environmental, social, and economic) which cannot be understood by using a phased approach.*

DO&G Response: See section B10a response.

13. Kachemak Bay Conservation Society (Roberta Highland)

Location: Homer **Format:** Oral Testimony

a. Renewable energy

Comment Summary: *That renewable energy is preferable to fossil fuels.*

DO&G Response: See Section A9 response.

b. Energy costs

Comment Summary: *What is the energy cost is to develop oil and gas?*

DO&G Response: ADNR is not required to produce an analysis of the total energy costs to develop oil and gas. There are a number of variables such as the size, location, technology used, and proximity to existing infrastructure of a potential development, as well as the cost of energy itself, which fluctuates greatly. Such an analysis would be speculative and is beyond the scope of this finding.

c. Urban development and pollution

Comment Summary: *That there are a lot of effects from urban development, as well as pollution from the oil and gas industry.*

DO&G Response: AS 38.05.035(g)(1)(B)(vi) specifies that reasonably foreseeable cumulative effects of exploration, development, production, and transportation for oil and gas or for gas only on the sale area are to be considered and discussed. Therefore, urban development and pollution from urban sources are beyond the scope of review of the best interest finding. Potential effects of oil and gas lease sales and subsequent activities are discussed in Chapter 8.

d. General opposition

Comment Summary: *That she opposes Cook Inlet Areawide lease sales.*

DO&G Response: Comment noted.

14. Kenai Peninsula Borough (Marcus A. Mueller)

Location: Soldotna **Format:** Written

a. Description of lands and estates to be leased

Comment Summary: *That the language describing which lands and/or estates will be leased is confusing.*

DO&G Response: This language has been revised for clarity.

15. Archibald, Robert

Location: Homer **Format:** Oral Testimony

a. Exploration

Comment Summary: *That companies come in for exploration and then leave.*

DO&G Response: All lessees must comply with terms of the lease, including mitigation measures, as well as all other local, state, and federal regulatory requirements. Financial responsibility requirements are discussed in Chapter 6, Section F5d. Operators must provide proof of financial responsibility ranging up to \$100,000,000 for crude oil vessels and barges. Regardless of the required bond amount, and the bond amounts required by other state agencies, the lessee is still fully liable for cleanup and rehabilitation of any disturbed areas.

b. Important biological areas

Comment Summary: *That the Cook Inlet basin has important biological resources, including habitat and whales.*

DO&G Response: The director agrees with this statement. Chapter 4 discusses habitat, fish, and wildlife of the area, including whales. Chapter 5 discusses current and projected uses in the area, including importance of habitat for fish and wildlife, value of fisheries, and participation in hunting. Chapter 8 discusses reasonably foreseeable effects on the area's biological resources. Chapter 9 is a listing of mitigation measures and other regulatory requirements that will ensure that potential negative effects will be avoided, minimized, or mitigated.

c. Oil and gas potential

Comment Summary: *That oil and gas potential is only moderate to low.*

DO&G Response: The finding states that the area considered "has low to moderate petroleum exploration potential", that "some portions of this area have higher potential...while other portions of the area may have lower potential", but that "areas with lower potential may still contain hydrocarbon accumulations." After considering the petroleum potential of the Cook Inlet basin, potential fiscal effects of oil and gas lease sales, and other information relevant to topics required by AS 38.05.035(g)(1)(B), the director made the finding that, on balance, Cook Inlet Areawide oil and gas lease sales are in the best interest of the state.

d. Technology

Comment Summary: *That better technology needs to be developed for exploration that does not use air guns and explosives.*

DO&G Response: Chapter 6, Section C2a discusses geophysical exploration. Many advances have occurred in the field of geophysical exploration. These include conducting surveys in winter to avoid potential effects to habitat, fish, and wildlife; use of GPS; use of heli-portable crews and backpack units; narrow tracked vehicles; and vibroseis. Permits are required that may place restrictions on the exploration including duration, location, and intensity. Technology continues to develop in this area.

16. Wolf, Elise

Location: Homer **Format:** Oral Testimony

a. Economic data

Comment Summary: *That economic data do not include self-employed individuals, which means that the tourism and fishing industries are not correctly represented.*

DO&G Response: See Section A8 response.

b. Oil spills

Comment Summary: *That there needs to be more discussion of the effects of an oil spill or contamination on fish and the consumer.*

DO&G Response: Chapter 8, Sections B1b, D1, and E1 discuss potential effects of an oil spill on fish and fisheries. Most information known to the director concerning this issue came from studies related to the *Exxon Valdez* oil spill. Additional information was not made known to the director during the public comment period.

c. Contaminants

Comment Summary: *That there was an EPA study that documented tainted salmon in subsistence harvests that should be included.*

DO&G Response: The commenter provided no details on the title, year, authorship, or other information that would assist DO&G in obtaining a copy of this study. In searching for the study mentioned by the commenter, DO&G found an EPA study entitled, “Survey of chemical contaminants in seafoods collected in the vicinity of Tyonek, Seldovia, Port Graham and Nanwalek in Cook Inlet, Alaska” (EPA 2003; study number EPA 910-R-01-003). This study analyzed concentrations of 161 chemicals in seven fish species, eight invertebrates, and three plant species traditionally used by members of four Alaskan tribal villages, Tyonek, Seldovia, Port Graham and Nanwalek. Only Tyonek is within the Cook Inlet Areawide sale area. Comparisons were made to published contaminant data for market basket food, and to Columbia River (in Washington, Oregon) Chinook salmon. The study concluded that, with few exceptions, contaminant concentrations in Cook Inlet area species were similar or lower than comparison samples.

Although this study provides important baseline information about contaminants in wild food sources of the Cook Inlet area, its usefulness in discussing potential effects of oil and gas development on wild foods is limited. The study compared Cook Inlet samples to contaminated samples from elsewhere, which only allows a conclusion of whether the Cook Inlet samples were more or less contaminated than the contaminated samples from elsewhere, and more importantly, the study did not attempt to determine the source of contaminants in the Cook Inlet samples. This is an important weakness of this study relative to the Cook Inlet best interest finding, because there are many other potential sources of contaminants in the Cook Inlet area in addition to oil and gas development, and also because many of the chemical compounds analyzed in the study occur naturally. Another limitation of the EPA study relative to the Cook Inlet finding is that contaminants found in salmon harvested in Cook Inlet may reflect conditions on the high seas where they spend a large portion of their life span, rather than conditions in Cook Inlet through which they migrate en route to and from spawning grounds. Although it has limited utility for the Cook Inlet best interest finding, it has been added to Chapter 8 as an additional fact that has been made known to the director for consideration and discussion.

d. Cost analysis

Comment Summary: *That an analysis of costs to the state should be included, for example how much has been spent on the Exxon Valdez oil spill.*

DO&G Response: See Section A11 response

e. MMS evaluation of noise and seismic

Comment Summary: *That there was a meeting that included MMS, NMFS, Fish and Wildlife, and all the industry companies; that they looked at research about seismic, including a study from the Mackenzie Delta in Canada, and ocean acidification; that the study cited in the finding concerning sperm whales in the Gulf of Mexico has important differences from Cook Inlet; that the MMS findings of no significant impact are faulty; and that the Cook Inlet finding says there are few published studies on the effects of noise so the finding cannot come to a conclusion of no significant effects.*

DO&G Response: The commenter provided no details that would assist DO&G in obtaining the proceedings or other information about the meeting. The commenter provided no details concerning the Mackenzie Delta study that would assist DO&G in obtaining a copy on the study, such as title, year, authorship, or other information. In searching for the study mentioned by the commenter, DO&G found a study entitled, “Effects of exposure to seismic airgun use on hearing of three fish species” (Popper et al. 2005) that was conducted on northern pike, broad whitefish, and lake chub in the Mackenzie River Delta. This experimental study exposed fish held in cages to two levels of airgun shots; a control group was held in cages but not exposed to airguns. The higher level of airgun exposure was considered to be a worst case scenario, an exposure level that it was highly unlikely that fish would actually experience. The study concluded that it is unlikely that the three species would be substantially impacted by exposure to an airgun array used in a seismic survey in a river. This study has been added to Chapter 8, Section A1a as an additional fact that has been made known to the director for consideration and discussion.

The commenter provided no details about the relevance of ocean acidification to the Cook Inlet finding, nor details about studies concerning ocean acidification, that would assist DO&G in addressing this concern.

Concerning the MMS study on sperm whales in the Gulf of Mexico (Jochens et al. 2008), the director agrees that there are differences between the MMS study and Cook Inlet. For example, the study was conducted in the Gulf of Mexico rather than Cook Inlet; and the study examined effects on sperm whales rather than beluga whales. However, the director does not agree that these differences make the study irrelevant to the finding. Sperm whales are related to beluga whales, seismic techniques used in one location are similar to techniques used in others, and this was important information available to the director to consider and discuss.

Concerning MMS determination of no significant impact (the commenter is probably referring to a federal environmental impact statement), see Section A4 response.

Concerning that it is unjustified that the Cook Inlet finding made a determination of no significant impact for seismic surveys, the Cook Inlet finding does not make such a determination. See Section A4 and A5 responses.

f. Cook Inlet water quality data

Comment Summary: *That comprehensive baseline data on water quality are needed before mitigation measures can be developed and implemented; that the MMS 2000 study about water quality that is cited is too old; that water quality data are used incorrectly.*

DO&G Response: See Section A2 and A3 responses.

g. Oil spills

Comment Summary: *That there is not enough oversight to prevent future issues such as the Exxon Valdez oil spill.*

DO&G Response: See Section A1 response.

17. Cook Inlet Keeper (Bob Shavelson)

Location: Homer **Format:** Oral Testimony

a. Public hearing attendance

Comment Summary: *That Cook Inlet Keeper could have filled the whole auditorium, but that the members do not believe that it is worth their effort to attend the public hearing because they believe the decision has already been made.*

DO&G Response: Comment noted.

b. Previous law suits

Comment Summary: *That Cook Inlet Keeper sued over a previous Cook Inlet finding.*

DO&G Response: Comment noted.

c. Climate change

Comment Summary: *That the finding should address climate change.*

DO&G Response: See Section A10 response.

18. Alaska Department of Fish and Game (Kimberly Klein, Sean Farley)

Location: Anchorage **Format:** Written

a. Corrections to statutes and OHMP

Comment Summary: *That there are several instances where statute numbers have changed; that OHMP has moved to ADF&G.*

DO&G Response: These corrections are reflected in the final finding.

b. Anadromous streams catalogue

Comment Summary: *That the catalogue has been updated and a new table and reference are provided.*

DO&G Response: The new citation and table are incorporated in the final finding.

c. Susitna River sockeye

Comment Summary: *That Susitna River sockeye salmon have been designated a stock of concern.*

DO&G Response: This information has been added to the final finding.

d. Beluga whales

Comment Summary: *That beluga whales are now listed as endangered under the Endangered Species Act; that references to the history of the listing and objections to the listing by the state should be deleted.*

DO&G Response: See Section A7 response. The history of the listing and objections of the listing by the state are recent, important facts that help to describe the controversy surrounding listing of beluga whales as endangered under the Endangered Species Act, and should remain in the finding.

e. Miscellaneous corrections

Comment Summary: *That there are several corrections needed to information about fish species, fin whales, and humpback whales.*

DO&G Response: When supported by available information sources, these corrections have been made to the final finding.

f. Legislatively designated areas

Comment Summary: *That additional information about these areas should be provided; that there are some corrections needed to the information in the finding.*

DO&G Response: Information about the background and purpose of legislatively designated areas is provided in Chapter 4, Section A4. Corrections to Chapter 5, as noted by ADF&G, were made to the final finding.

g. Changes to mitigation measures

Comment Summary – Mitigation Measure A1d: *That a definition of “identified” wetlands should be included; that additional requirements on development in wetlands should be included.*

DO&G Response: Wetlands are discussed in Chapter 4, Section A1d. The definition of “identified” has been added to the definitions section of the mitigation measures (Chapter 9, Section A8). This definition explains that “identified” refers to areas that have been identified as wetlands by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. A footnote has also been added giving the federal definition of wetlands. The director believes that protections provided for wetlands with this mitigation measure, as well as the many other protections provided through other state and federal regulatory requirements, are adequate.

Comment Summary – Mitigation Measure A1e: *That construction of roads during the exploration phase should not be allowed.*

DO&G Response: A blanket prohibition of road construction during the exploration phase is excessive for the Cook Inlet area. Allowing construction of temporary or permanent roads associated with oil and gas exploration may be in the best interest of the state in some cases.

Comment Summary – Mitigation Measure A1i: *That measures concerning gravel mining should be more restrictive, and should prohibit gravel mining in floodplains.*

DO&G Response: A blanket prohibition of gravel mining in floodplains is excessive for the Cook Inlet area. This mitigation measure offers adequate habitat protection by restricting gravel mining sites to the minimum necessary; and by allowing gravel mining in floodplains only if there is no practicable alternative or if the site would be compatible with fish and wildlife habitat after mining operations are completed and the site is closed.

Comment Summary – Other regulatory requirements: *That some corrections are needed to this section, including that beluga whales are now listed as endangered species, and that a definition of “take” under the Endangered Species Act should be added.*

DO&G Response: Corrections noted by ADF&G have been made to the final finding; information about “take” has been added.

Comment Summary – Brown bear movement corridors:*That thorough studies identifying all travel/movement corridors of brown bears in the Cook Inlet area have not been completed; that minor changes to Mitigation Measure A2i are needed; that major changes to Mitigation Measure A2l are needed; that and Mitigation Measures A2k and A2m should be removed.*

DO&G Response: Most requested changes to Mitigation Measures A2i and A2l have been made to the final finding. Original Mitigation Measures A2k and A2m regarding bears have been deleted. (Original Mitigation Measure A2l has been renumbered A2k in the final finding.) Map 4.8 of the preliminary finding, depicting brown bear movement corridors, and references to movement corridors in Chapter 4, Section B3a have been removed from the final finding.

Comment Summary – Brown bear information:*That a 2001 conservation assessment of Kenai Peninsula brown bears is now available, as well as several research studies.*

DO&G Response: Reference to the conservation assessment report and research studies have been added to the final finding.

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