



# Izembek

## National Wildlife Refuge Land Exchange/Road Corridor

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*Draft Environmental Impact Statement*

### Appendix F Mitigation Measures



**APPENDIX F**  
**Mitigation Measures**

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**Table 1: Mitigation Measures**

<p><b>Erosion and Sediment Control Plan</b></p> <p>The applicant will incorporate an erosion and sediment control plan into project plans and specifications. The goal of this plan is to prevent the degradation of freshwater or marine waters from project activities. Examples of techniques to accomplish this are the isolation of in-water work areas from open waters, treatment of unvegetated or recently cleared slopes to prevent erosion, proper installation and maintenance of sediment control fencing at the toe of fill slopes adjacent to wetlands. Soil stabilization practices will maximize the use of native plant species and will avoid the use of any seed mixtures that could result in the establishment of non-indigenous plants in the project area.</p>
<p><b>Storm Water Pollution Prevention Plan</b></p> <p>The construction contractor will prepare and implement a plan showing appropriate erosion and siltation controls that will be used and maintained during construction. The applicant will prepare and implement a plan showing appropriate erosion and siltation controls that will be used and maintained during operation. All exposed soil and other fill will be permanently stabilized at the earliest practicable date.</p>
<p><b>Hazardous Material and Petroleum Product Control Plan</b></p> <p>Hazardous material and petroleum products will be handled in accordance with an approved Alaska Department of Environmental Conservation or the Environmental Protection Agency corrective action plan.</p> <ul style="list-style-type: none"> <li>A. The contractor will develop and implement a plan that will be followed if hazardous material or petroleum products are encountered during construction. This plan will address prevention, containment, cleanup, and disposal of hazardous waste material including petroleum products generated by construction equipment or activities, with the exception of fuel handling.</li> <li>B. The project applicant will develop and implement a plan that will be followed for any hazardous materials or petroleum products used or generated during operations and maintenance.</li> </ul>
<p><b>Fuel Handling and Spill Response Plan</b></p> <p>Spill response supplies adequate in type and quantity for the equipment being used on the project shall be onsite and readily accessible at all times.</p> <ul style="list-style-type: none"> <li>A. The project applicant or contractor will develop and implement a fuel handling and spill response plan throughout project construction.</li> <li>B. The project applicant will develop and implement a fuel handling and spill response plan throughout project operation.</li> <li>C. At least 3 paired sets of heavy duty eyebolts suitable to anchor boom will be installed and maintained in the hovercraft ramps at each ramp in case of an oil or fuel spill (<b>Alternatives 1 and 4</b>).</li> <li>D. Fuel containment boom shall be deployed around the ferry during refueling (<b>Alternative 5</b>).</li> </ul> <p>Spill containment structures to minimize fuel releases to soils during refueling of the hovercraft on land.</p>

### **Fish and Wildlife Protection Plan**

The project applicant will develop a comprehensive plan that will detail specific measures to be implemented to protect important fish and wildlife resources during project construction and operation. This plan will be tailored to the specific alternative selected and will be submitted to the Corps, Service, and National Marine Fisheries Service 90 days prior to initiation of construction. The plan will address:

- A. Fisheries/Stream Crossings: These measures have the common goal of undertaking all appropriate and practicable measures to avoid or minimize impacts to fish and their habitats.
  - i) Construction affecting fish streams will conform to the August 3, 2001 Memorandum of Agreement between Alaska Department of Transportation and Public Facilities and ADF&G regarding streams (ADOT&PF 2001) and will occur during times approved by the State of Alaska. Typically, in-water work is allowed between May 15 and August 7. This in-water work window could be extended beyond August 7 on a case-by-case basis if systematic surveys by the project applicant's environmental monitor (or qualified fisheries professional) indicate no adult salmon are near the in-water work areas and after consultation and approval by the State of Alaska and the Corps.
  - ii) Unavoidable construction within floodplains and stream channels will incorporate the following design and construction measures:
    - a. All culverts will be sized to pass the design flood of Q10 for non-fish streams, and Q50 for fish streams.
    - b. All disturbed stream banks and slopes will be effectively revegetated with native species suited for the area.
    - c. For all in-water work and areas subject to flooding (high water events), only clean rock, gravel, and granular fill will be used. Alaska Department of Transportation and Public Facilities Specifications for Selected Materials are based on the percentage (by weight) of material passing a #200 Sieve. Silts and clays both pass the #200 sieve but the lower the percentage of material passing the sieve, the more resistant the fill would be to erosion. Only granular fill that meets or exceeds Alaska Department of Transportation and Public Facilities Specifications for Selected Material, Type A or better (less than 6% #200 sieve passage) will be used in floodplains not in active channels.
    - d. During culvert installation activities (e.g., during road crossing construction) on any fish stream, the downstream stream flows will be maintained with a sufficient quantity of clean water to support aquatic life found in the stream channel. The design, construction, and maintenance of road crossings shall not disrupt the migration or other movement of those aquatic species of aquatic life inhabiting the water body.
    - e. No vehicles may be operated within fish streams without prior approval from the State of Alaska. Any vehicle permitted to operate in these waters will be free of grease, oils, or other materials that could contaminate the stream. Any petroleum product sheen reasonably associated with a vehicle having been in contact with flowing or standing water would constitute noncompliance.

- iii) All waters pumped from the work area shall be discharged into a settling basin, a silt fence, or otherwise treated to prevent the release of turbid water back into the fish stream.
- iv) Project personnel, their contractors, and others will not use construction project access to fishing areas that are not open to the general public for fishing or other harvest activities.
- v) Water withdrawal for construction purposes will be done in conformance with a permit from Alaska Department of Natural Resources.
- vi) Water withdrawals from a fish bearing stream will be done in accord with a habitat permit form the State of Alaska.

B. Wildlife Resources: These measures have the common goal of undertaking all appropriate and practicable measures to avoid impacts to wildlife and their habitats.

- i.) No hovercraft will travel north of a straight line between the Northeast Hovercraft Terminal and Cross Wind Cove terminals, except in the case of a life threatening emergency (**Alternatives 1 and 4**). The ferry shall not travel further than 0.5 mile north of the Cold Bay dock, except in the case of a life threatening emergency (**Alternative 5**).
- ii.) All solid or putrescible waste generated during the project activity shall be removed or otherwise disposed of in a method approved by ADEC. All efforts will be made to prevent bears and other wildlife from being attracted to or having access to food or garbage during construction and operation of any transportation link.
- iii.) If threatened or endangered species are observed during project construction, work that could impact these resources shall be stopped and the appropriate resource agency contacted for recommendations prior to proceeding:
  - Steller's Eiders, northern sea otters: Service 1-800-272-4174
  - Steller sea lions, whales: National Marine Fisheries Service 1-907-271-5006
- iv.) Bald eagles nest in the project area March through August. By March 1, the applicant will coordinate with the Service to conduct a raptor survey by March 31 of each construction year. Construction activities shall be consistent with the Service publication, Bald Eagle Basics. Should a suspected eagle nest be found (active or not) during construction, the Service will be contacted at 1-800-272-4174 for recommendations prior to proceeding. The Service will provide recommendations to the applicant within 48 hours of notification.
- v.) All external lighting will be shielded to prevent bird strikes. Shielding means that the fixtures distribute light downward towards the work area, minimizing light directed up or to the sides. All utilities will be buried.
- vi.) Project personnel, their contractors, and others will not use construction project access to hunting and trapping areas that are not available to the general public to support harvest opportunities.

- vii.) Migratory birds, their eggs, and young are fully protected by International treaty. To avoid/minimize the destruction of nests/young, construction related impacts (nesting habitat removal) should occur either before birds have started nesting or after the nesting season is over. This nesting season is typically April 15-July 15. If practicable, tree and shrub nesting habitats will be removed in anticipation of the construction season; this alleviates the potential for nests and young to be destroyed during active construction.

#### **Marine Mammal Protection Plan**

The project applicant will develop a comprehensive marine mammal protection plan that will detail specific measures to be implemented to avoid potential disruption to the normal behavior of marine mammals in the project area during project construction and operation. This plan will be tailored to the specific alternative selected and will be submitted to the Corps, Service, and National Marine Fisheries Service 90 days prior to the initiation of construction for purposes of obtaining the agencies' concurrence on the plan.

In the case of **Alternatives 1, 4, or 5**, which would involve the operation of a vessel (hovercraft or ferry) on the waters of Cold Bay, the plan shall include provisions such as the following when any marine mammal (e.g., whale, Steller sea lion, or northern sea otter) is observed from the vessel: the captain shall (a) not approach to within 100 yards of the marine mammal; (b) change vessel course away from the marine mammal's observed and/or anticipated path of travel; and (c) adjust vessel speed as necessary in order to comply with (a) and (b) above. In those situations in which a marine mammal abruptly and without prior observation surfaces in close proximity of the vessel, the vessel will be in compliance with the plan if the captain takes action to re-establish the required 100 yard distance and otherwise complies with provisions (a) through (c). These provisions would not apply to the extent that a vessel is restricted in its ability to maneuver due to shoreline or navigational hazards, other nearby vessels, or unanticipated conditions, which would create a safety hazard to the vessel, its crew, and/or passengers.

#### **Cultural Resources**

In the unlikely event that ground disturbing or other construction activities result in the inadvertent discovery of archaeological resources, work would be halted in the immediate area, and direct contact made with the landowner and the Alaska State Historic Preservation Office. Work would be halted until such time as further investigation and appropriate consultation is concluded. In the event of the inadvertent discovery of human remains, work would be halted in the area, the discovery covered and secured against further disturbance, and immediate contact established with the landowner, law enforcement personnel, and the Office of the State Archaeologist.

#### **Compliance/Oversight**

An independent Environmental Monitor shall be onsite throughout the construction phase of the project to provide training and guidance to construction personnel concerning various environmental protection plan requirements, permit conditions, and stipulations. This person would be qualified to monitor impacts to fish and wildlife resources. The Environmental Monitor will provide a weekly written report, including digital photographs, directly to the Corps, USFWS, State of Alaska, and AEB and is responsible for documenting compliance or potential noncompliance with permit conditions or stipulations, and environmental protection plans. The Environmental Monitor is responsible for identifying and conveying potential noncompliance issues immediately and concurrently to the project supervisor, the Corps, USFWS, State of Alaska, and AEB, when resource damage is occurring or appears imminent.

**Access and Other Disturbances**

- A. Uncontrolled Motorized Access: The goal of this action is to prevent uncontrolled vehicle access to the Izembek National Wildlife Refuge and Izembek Wilderness lands adjacent to the road.
- i) For **Alternative 2 and 3**, a chain barrier or bollard barrier will be installed by the applicant along both sides of the road corridor to prevent motorized vehicles from leaving the road to enter the Izembek National Wildlife Refuge or Izembek Wilderness lands. This mitigation measure would prevent motorized access from the proposed road to the Izembek National Wildlife Refuge or Izembek Wilderness lands.
  - ii) The applicant shall prohibit use of the hovercraft ramp for public boat launching or retrieval (**Alternatives 1, 4, and 5**).
  - iii) The applicant shall place signs along the road advising the public that no motorized vehicles are allowed to access the Izembek National Wildlife Refuge or Izembek Wilderness lands from the newly constructed road corridor. The applicant and Service will also jointly coordinate development and installation of signs at appropriate locations where notice to the public will be given that no motorized vehicles are allowed to access the Izembek National Wildlife Refuge and Izembek Wilderness lands. The applicant shall be responsible for the cost of signs installed within the road right-of-way (**Alternative 2 and 3**).
- B. Other disturbances:
- i) An earthen berm will be built between the Northeast Hovercraft Terminal site and the adjoining freshwater pond to screen the pond from disturbances (particularly noise and human activity) at the terminal site (**Alternative 1, and 4**).
  - ii) Tundra swans nest in lakes in the upper Cold Bay vicinity. By May 1 of each construction year, the applicant will request the Service conduct a swan survey by June 15 to locate nesting swans that would be in close proximity to the construction project. The Service will make recommendations to the applicant regarding mitigation measures required to protect swans and their nests or broods.
  - iii) Temporary landing sites, staging areas, and other sites outside the footprint of permanent facilities must have completion report submitted to the Alaska Department of Natural Resources and the Corps within 30 days of project completion, termination, or permit expiration. The report must include a statement confirming compliance with site restoration guidelines and photographs certifying that the site was vacated and restored to a satisfactory condition. Site restoration guidelines require all temporary improvements, equipment, solid waste/debris, and other chattels be removed from the permitted site. The site shall be restored to its original condition ensuring that all berm piles, dikes, and other obstructions are eliminated and the site restored to its natural contours. If necessary, gravel shall be removed in shallow, even lifts so as not to create any pits or depressions that could entrap fish after periods of high water. All work below High Tide Line shall occur only when the site is naturally dewatered.

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**Hydro-Acoustic Assessment**

A hydro-acoustic assessment of the hovercraft would be implemented in order to validate the determination that underwater noise would “not likely adversely affect” marine mammals. The plan of study should be reviewed, modified if necessary, and approved by National Marine Fisheries Service, Service, and the Corps at least 45 days prior to the implementation of the study. The approved study plan would be implemented no later than 30 days after commencement of hovercraft operations. The applicant shall submit a draft plan of study at least 90 days after the commencement of hovercraft operations. The assessment will evaluate and measure the characteristics of underwater noise (wave frequency and intensity) from the hovercraft at varying distances as it is operated at varying speeds (stationary hover, normal operating speed, and maximum operating speed). A report documenting the collected information and findings of the assessment shall be provided the Corps, Service, and National Marine Fisheries Service within 90 days after the completed field measurements.

As an alternative to implementing they hydro-acoustic assessment, if an offsite acoustic assessment is completed by others (e.g., the manufacturer) which thoroughly addresses the underwater acoustic signature relative to the same, or equivalent type of hovercraft, that assessment may be substituted for the onsite assessment upon acceptance of the study by National Marine Fisheries Service and Service in coordination with the Corps.

**Acid Rock Testing**

Rock planned for infill of wetlands should undergo analytical testing to determine chemistry of the minerals, to mitigate the potential for acid rock drainage.

**Construction/Design**

Stream crossings would be carefully designed,-constructed and maintained to avoid or minimize any impacts to fish and fish habitat.

To reduce the visual disturbance of the road, the applicant will minimize road cuts by following existing contour.

Implement practices related to construction (numerous inter-visible turnouts for passing (i.e., turnouts that are located the required distance apart where a driver in one vehicle in a turnout can visibly identify a vehicle in the other turnout and vice versa), proposed cut slopes flattened throughout to mitigate snow drifting, limited maximum road grades, maintenance (periodic inspections and repairs of the road and associated structures, including bridges, culverts, barrier, and signage), and use (20 mph speed limit) of the road would help mitigate the incidence of motor vehicle accidents.

**Hydrologic/Structural Monitoring**

- A. The applicant will need to monitor culverts and drainage structures for hydrologic and structural function post storm events and on an annual basis.
- B. Continuous monitoring of turbidity and storm event monitoring of hydrocarbons would occur upstream and downstream of stream crossing of fish bearing streams during construction and for 3 years post construction to ensure the compliance with Alaska Department of Environmental Conservation water quality standards and Alaska Department of Fish & Game standards for fish bearing streams.

**Geotechnical Studies**

Conduct follow-up geotechnical studies to evaluate the intensity and extent of potential ground failure from an earthquake at the Lenard Harbor ferry terminal site and identify necessary engineering controls to abate the potential for catastrophic ground failure.

**Enforcement/Monitoring**

- A. The Service and State shall coordinate the development of an Enforcement/Monitoring Plan identifying existing authorities, delegations of authority needed, availability of law enforcement staff and patrol frequency. Enforcement/monitoring will include traffic enforcement, commercial use enforcement, barrier violations, unlawful stream crossings, as well as compliance with identified mitigation measures and other applicable State and Federal laws and regulations.
- B. Monitoring by camera or personnel will occur and fines/charges will be assigned to perpetrators.

**Restoration Plan**

If damage to the stream occurs during construction or operation, restoration efforts will be conducted to ensure the water quality and functionality of the stream channel.

**Invasive Species Management Plan**

The applicant will request that the Service develop a plan to limit the spread of non-native plant species, including pre-construction rare plant surveys.

**Integrated Pest Management Plan**

The State, as the owner/operator of the road corridor, should be required to develop an integrated pest management plan that includes annual invasive species monitoring and treatment plans in perpetuity for the operation and maintenance of the proposed road.

**Appropriate Best Management Practices**

The applicant would be required to follow appropriate best management practices, to satisfy Executive Order 11990 (Protection of Wetlands), with stipulation's imposed on permits or other authorizations from the Corps and the Alaska Department of Fish and Game when depositing fill into wetlands or installation of stream crossings.

**Breeding Bird Surveys**

If any construction is to take place during a breeding season, the project proponent would be required to coordinate with the Service, breeding bird surveys before, during, and after construction to minimize the risk of disturbance or injury to breeding birds.

**Road Use Restrictions**

Most commercial use of the road would be prohibited. Guides would not be allowed to use the road for guided hunts or commercial wildlife viewing.

<p><b>Wildlife Monitoring Programs</b></p> <p>A. The applicant should be required to monitor the effect of the road on caribou; if adverse effects are observed, then additional mitigation measures may be implemented such as limiting the number or timing of vehicle use, or plowing paths through roadside snow drifts to facilitate caribou passage.</p> <p>B. During construction, caribou behavior during migration would be monitored. If caribou are present and appear reluctant to move through the area, construction may be temporarily shut down until they have moved through.</p> <p>C. Design and implementation of wolverine and other furbearer population monitoring studies to provide management level information for wildlife managers to regulate harvest limits.</p>
<p><b>Threatened and Endangered Species Protections</b></p> <p>A. Limit human access to important Steller’s Eider habitat north and south of the road corridor.</p> <p>B. Limit human access to important northern sea otter habitat north and south of the road corridor.</p>
<p><b>Fares, Subsidies, and Additional Revenue</b></p> <p>Acquire additional outside funding to cover the operator’s shortfall in operating revenue. This would include adjustments in fares, efforts to increase the hovercraft’s revenues from mail and freight transportation, and external grant sources to subsidize operations. Efforts to increase cargo revenue and recover medical charter costs could also be continued.</p>
<p><b>Cultural Resource Inventory &amp; Evaluation</b></p> <p>An appropriate level of investigation, including intensive surveys; evaluations of all resources potentially eligible for listing on the National Register of Historic Places; assessments of adverse effects; and applicable mitigation of identified impacts, would be completed before any potentially destructive activities could begin.</p>
<p><b>Hovercraft Operations and Maintenance</b></p> <p>Implementation of safety restrictions on the hovercraft to seas that are above 6 feet and/or winds above 30 knots per hour. Required regular maintenance and increased availability of a trained crew to operate the vessel to help reduce the number of days per year that the hovercraft is unavailable.</p>
<p><b>Standard Health and Safety Practices</b></p> <p>Implement standard practices related to worker health and safety could help mitigate the potential public safety impacts to workers from construction of the road and ferry terminal.</p>
<p><b>Limit Construction for Subsistence Harvests</b></p> <p>Limit construction during specific days to allow for subsistence harvests and utilize safety guards on the road to help reduce impacts to subsistence access.</p>
<p><b>Adjustment of Harvest Limits</b></p> <p>The Alaska Board of Fisheries, the Alaska Board of Game, and/or the Federal Subsistence Board to adjust harvest limits where needed if harvests exceed management objectives because of improved access to the resources.</p>

**Table 2: Mitigation Measures by Resource and Alternative**

<p><b>Air Quality</b></p> <p>Alternative 1: No mitigation measures identified          Alternative 2: No mitigation measures identified          Alternative 3: No mitigation measures identified          Alternative 4: No mitigation measures identified          Alternative 5: No mitigation measures identified</p>
<p><b>Climate</b></p> <p>Alternative 1: No mitigation measures identified          Alternative 2: No mitigation measures identified          Alternative 3: No mitigation measures identified          Alternative 4: No mitigation measures identified          Alternative 5: No mitigation measures identified</p>
<p><b>Geology and Soils</b></p> <p>Alternative 1</p> <ul style="list-style-type: none"> <li>• Mandated and approved Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Storm Water Pollution Prevention Plan</i></li> <li>○ <i>Fuel Handling and Spill Response Plan</i></li> </ul> </li> <li>• Additional Recommended Mitigation Measures             <ul style="list-style-type: none"> <li>○ None</li> </ul> </li> </ul> <p>Alternative 2:</p> <ul style="list-style-type: none"> <li>• Mandated and approved Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Erosion and Sediment Control Plan</i></li> <li>○ <i>Storm Water Pollution Prevention Plan</i></li> <li>○ <i>Hazardous Material and Petroleum Product Control Plan</i></li> <li>○ <i>Fuel Handling and Spill Response Plan</i></li> </ul> </li> <li>• Additional Recommended Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Acid Rock Testing</i></li> </ul> </li> </ul> <p>Alternative 3: Same as described under Alternative 2</p> <p>Alternative 4</p> <ul style="list-style-type: none"> <li>• Mandated and approved Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Erosion and Sediment Control Plan</i></li> <li>○ <i>Storm Water Pollution Prevention Plan</i></li> </ul> </li> <li>• Additional Recommended Mitigation Measures             <ul style="list-style-type: none"> <li>○ None</li> </ul> </li> </ul> <p>Alternative 5</p> <ul style="list-style-type: none"> <li>• Mandated and approved Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Erosion and Sediment Control Plan</i></li> <li>○ <i>Storm Water Pollution Prevention Plan</i></li> </ul> </li> <li>• Additional Recommended Mitigation Measures             <ul style="list-style-type: none"> <li>○ <i>Geotechnical Studies</i></li> </ul> </li> </ul>

### Hydrology/Hydrological Processes

#### Alternative 1

- Mandated and approved Mitigation Measures
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
- Additional Recommended Mitigation Measures
  - None

#### Alternative 2

- Mandated and approved Mitigation Measures
  - *Erosion and Sediment Control Plan*
  - Storm Water Pollution Prevention Plan
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
- Additional Recommended Mitigation Measures
  - *Hydrologic/Structural Monitoring*
  - *Enforcement*
  - *Restoration Plan*

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 1

Alternative 5: Same as described under Alternative 2 for construction of facilities and; Same as described under Alternative 4 for operation and maintenance.

### Hazardous Materials

#### Alternative 1

- Mandated and approved Mitigation Measures
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
- Additional Recommended Mitigation Measures
  - None

#### Alternative 2

- Mandated and approved Mitigation Measures
  - *Fuel Handling and Spill Response Plan*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 1

Alternative 5: Same as described under Alternative 2 for construction of facilities and; Same as described under Alternative 4 for operation and maintenance.

### Noise

Alternative 1: No mitigation measures identified

Alternative 2: No mitigation measures identified

Alternative 3: No mitigation measures identified

Alternative 4: No mitigation measures identified

Alternative 5: No mitigation measures identified

### **Terrestrial and Aquatic Plant Communities**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - *Invasive Species Management Plan*
  - *Integrated Pest Management Plan*

Alternative 3: Same as described under Alternative 2

Alternative 4

- Mandated and approved Mitigation Measures
  - None
- Additional Recommended Mitigation Measures
  - *Invasive Species Management Plan*

Alternative 5

- Mandated and approved Mitigation Measures
  - None
- Additional Recommended Mitigation Measures
  - *Invasive Species Management Plan*

### **Wetlands**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
  - *Appropriate Best Management Practices*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4: No mitigation measures identified

Alternative 5

- Mandated and approved Mitigation Measures
  - *Appropriate Best Management Practices*
- Additional Recommended Mitigation Measures
  - None

### **Fish and Essential Fish Habitat**

Alternative 1

- Mandated and approved Mitigation Measures
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
  - *Hydro-Acoustic Assessment*
  - *Access and Other Disturbances*

- Additional Recommended Mitigation Measures
  - None

Alternative 2

- Mandated and approved Mitigation Measures
  - *Erosion and Sediment Control Plan*
  - *Storm Water Pollution Prevention Plan*
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
  - *Construction/Design*
  - *Hydrologic/Structural Monitoring*
- Additional Recommended Mitigation Measures
  - Adjustment of harvest limits

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 1

Alternative 5

- Mandated and approved Mitigation Measures
  - *Fuel Handling and Spill Response Plan*
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - None

**Birds**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Fish and Wildlife Protection Plan*
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - *Breeding Bird Surveys*

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 2

Alternative 5: Same as described under Alternative 2

**Land Mammals**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Fish and Wildlife Protection Plan*
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - *Road Use Restrictions*
  - *Wildlife Monitoring Programs*

Alternative 3: Same as described under Alternative 2

Alternative 4

- Mandated and approved Mitigation Measures
  - *Fish and Wildlife Protection Plan*
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - None

Alternative 5: Same as described under Alternative 4

**Marine Mammals**

Alternative 1

- Mandated and approved Mitigation Measures
  - *Erosion and Sediment Control Plan*
  - *Storm Water Pollution Prevention Plan*
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
  - *Fish and Wildlife Protection Plan*
  - *Marine Mammal Protection Plan*
  - *Access and Other Disturbances*
  - *Hydro-acoustic Assessment*
- Additional Recommended Mitigation Measures
  - None

Alternative 2

- Mandated and approved Mitigation Measures
  - *Erosion and Sediment Control Plan*
  - *Storm Water Pollution Prevention Plan*
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
  - *Fish and Wildlife Protection Plan*
  - *Marine Mammal Protection Plan*
  - *Access and Other Disturbances*
  - *Hydro-acoustic Assessment*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 1

Alternative 5: Same as described under Alternative 1

**Threatened and Endangered Species**

Alternative 1

- Mandated and approved Mitigation Measures
  - *Erosion and Sediment Control Plan*
  - *Storm Water Pollution Prevention Plan*
  - *Hazardous Material and Petroleum Product Control Plan*
  - *Fuel Handling and Spill Response Plan*
  - *Fish and Wildlife Protection Plan*
  - *Marine Mammal Protection Plan*

<ul style="list-style-type: none"> <li>○ <i>Access and Other Disturbances</i></li> <li>○ <i>Hydro-acoustic Assessment</i></li> <li>● Additional Recommended Mitigation Measures <ul style="list-style-type: none"> <li>○ None</li> </ul> </li> </ul> <p>Alternative 2</p> <ul style="list-style-type: none"> <li>● Mandated and approved Mitigation Measures <ul style="list-style-type: none"> <li>○ <i>Erosion and Sediment Control Plan</i></li> <li>○ <i>Storm Water Pollution Prevention Plan</i></li> <li>○ <i>Hazardous Material and Petroleum Product Control Plan</i></li> <li>○ <i>Fuel Handling and Spill Response Plan</i></li> <li>○ <i>Fish and Wildlife Protection Plan</i></li> <li>○ <i>Marine Mammal Protection Plan</i></li> </ul> </li> <li>● Additional Recommended Mitigation Measures <ul style="list-style-type: none"> <li>○ <i>Access and Other Disturbances</i></li> <li>○ <i>Threatened and Endangered Species Protection</i></li> </ul> </li> </ul> <p>Alternative 3: Same as described under Alternative 2  Alternative 4: Same as described under Alternative 1  Alternative 5: Same as described under Alternative 1</p>
<p><b>Land Ownership and Use</b></p> <p>Alternative 1: No mitigation measures identified  Alternative 2: No mitigation measures identified  Alternative 3: No mitigation measures identified  Alternative 4: No mitigation measures identified  Alternative 5: No mitigation measures identified</p>
<p><b>Socioeconomics</b></p> <p>Alternative 1</p> <ul style="list-style-type: none"> <li>● Mandated and approved Mitigation Measures <ul style="list-style-type: none"> <li>○ <i>Fares, Subsidies, and Additional Revenue</i></li> </ul> </li> <li>● Additional Recommended Mitigation Measures <ul style="list-style-type: none"> <li>○ None</li> </ul> </li> </ul> <p>Alternative 2: No mitigation measures identified  Alternative 3: No mitigation measures identified  Alternative 4: Same as described under Alternative 1  Alternative 5: Same as described under Alternative 1</p>
<p><b>Transportation</b></p> <p>Alternative 1</p> <ul style="list-style-type: none"> <li>● Mandated and approved Mitigation Measures <ul style="list-style-type: none"> <li>○ <i>Fares, Subsidies, and Additional Revenue</i></li> <li>○ <i>Fuel Handling and Spill Response Plan</i></li> <li>○ <i>Access and Other Disturbances</i></li> </ul> </li> <li>● Additional Recommended Mitigation Measures <ul style="list-style-type: none"> <li>○ None</li> </ul> </li> </ul>

Alternative 2

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
  - Regular maintenance of the road to ensure safety
  - *Compliance/Oversight*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4: Same as described under Alternative 1

Alternative 5: Same as described under Alternative 1

**Public Health and Safety**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Standard Health and Safety Practices*
  - *Construction/Design*
  - *Enforcement/Monitoring*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4

- Mandated and approved Mitigation Measures
  - *Hovercraft Operations and Maintenance*
- Additional Recommended Mitigation Measures
  - None

Alternative 5

- Mandated and approved Mitigation Measures
  - *Standard Health and Safety Practices*
- Additional Recommended Mitigation Measures
  - None

**Environmental Justice**

Alternative 1

- Mandated and approved Mitigation Measures
  - *Hovercraft Operations and Maintenance*
- Additional Recommended Mitigation Measures
  - None

Alternative 2

- Mandated and approved Mitigation Measures
  - *Standard Health and Safety Practices*
  - *Construction/Design*
  - *Enforcement/Monitoring*

<ul style="list-style-type: none"><li>• Additional Recommended Mitigation Measures<ul style="list-style-type: none"><li>○ <i>Limit Construction for Subsistence Harvests</i></li></ul></li></ul> <p>Alternative 3: Same as described under Alternative 2</p> <p>Alternative 4: Same as described under Alternative 1</p> <p>Alternative 5</p> <ul style="list-style-type: none"><li>• Mandated and approved Mitigation Measures<ul style="list-style-type: none"><li>○ <i>Standard Health and Safety Practices</i></li></ul></li><li>• Additional Recommended Mitigation Measures<ul style="list-style-type: none"><li>○ None</li></ul></li></ul>
<p><b>Public Use</b></p> <p>Alternative 1: No mitigation measures identified</p> <p>Alternative 2</p> <ul style="list-style-type: none"><li>• Mandated and approved Mitigation Measures<ul style="list-style-type: none"><li>○ <i>Access and Other Disturbances</i></li><li>○ <i>Enforcement/Monitoring</i></li></ul></li><li>• Additional Recommended Mitigation Measures<ul style="list-style-type: none"><li>○ None</li></ul></li></ul> <p>Alternative 3: Same as described under Alternative 2</p> <p>Alternative 4: No mitigation measures identified</p> <p>Alternative 5: No mitigation measures identified</p>
<p><b>Subsistence</b></p> <p>Alternative 1: No mitigation measures identified</p> <p>Alternative 2</p> <ul style="list-style-type: none"><li>• Mandated and approved Mitigation Measures<ul style="list-style-type: none"><li>○ <i>Access and Other Disturbances</i></li><li>○ <i>Enforcement/Monitoring</i></li><li>○ <i>Fish and Wildlife Protection Plan</i></li></ul></li><li>• Additional Recommended Mitigation Measures<ul style="list-style-type: none"><li>○ None</li></ul></li></ul> <p>Alternative 3: Same as described under Alternative 2</p> <p>Alternative 4: No mitigation measures identified</p> <p>Alternative 5: No mitigation measures identified</p>
<p><b>Cultural Resources</b></p> <p>Alternative 1: No mitigation measures identified</p> <p>Alternative 2</p> <ul style="list-style-type: none"><li>• Mandated and approved Mitigation Measures<ul style="list-style-type: none"><li>○ <i>Cultural Resource Inventory &amp; Evaluation</i></li></ul></li><li>• Additional Recommended Mitigation Measures<ul style="list-style-type: none"><li>○ None</li></ul></li></ul>

Alternative 3: Same as described under Alternative 2  
Alternative 4: No mitigation measures identified  
Alternative 5: Same as described under Alternative 2

**Visual Resources**

Alternative 1: No mitigation measures identified

Alternative 2

- Mandated and approved Mitigation Measures
  - *Construction/Design*
  - *Erosion and Sediment Control Plan*
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4: No mitigation measures identified

Alternative 5: No mitigation measures identified

**Wilderness**

Alternative 1

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
  - *Enforcement/Monitoring*
- Additional Recommended Mitigation Measures
  - None

Alternative 2

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
  - *Invasive Species Management Plan*
  - *Additional Staff*
- Additional Recommended Mitigation Measures
  - None

Alternative 3: Same as described under Alternative 2

Alternative 4

- Mandated and approved Mitigation Measures
  - *Access and Other Disturbances*
- Additional Recommended Mitigation Measures
  - None

Alternative 5: Same as described under Alternative 4

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