



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

February 26, 2009

Gary L. Davis, Regional Director
Alaska Department of Transportation and Public Facilities
6860 Glacier Highway
P.O. Box 112506
Juneau, Alaska 99811-2506

RE: Gravina Access Project Pre-screening
Alternatives Memorandum

Dear Mr. Davis:

The National Marine Fisheries Service (NMFS) has reviewed the Gravina Access Pre-Screening Alternatives Memorandum for the Gravina Access project. The purpose of the Gravina Access Project is to improve surface transportation between Revillagigedo Island and Gravina Island in the Ketchikan Gateway Borough. The Memorandum identifies alternatives being evaluated for inclusion in the Supplemental Environmental Impact Statement (SEIS). These include nine bridge alternatives, three ferry alternatives, and a tunnel alternative. NMFS provides these comments under the authority of the Magnuson-Stevens Fishery Conservation and Management Act, Endangered Species Act (ESA), and Marine Mammal Protection Act (MMPA).

NMFS reviewed and commented on the original Gravina Draft Environmental Impact Statement (DEIS) in October 2003 and on the Final Environmental Impact Statement in September 2004. Several of the alternatives proposed for inclusion in the SEIS are similar to those considered in these earlier documents. These include Alternatives C3, C4, G2, G3, G4, F1, F3 and D1. For these alternatives, our comments and concerns remain the same as they were in 2003 and 2004. In particular, we are concerned that the dredging in the West Channel under Alternatives F3 and F3v would require blasting.

The original DEIS estimated blasting and dredging of the West Channel would remove 14 surface acres of subtidal habitat from areas adjacent to Gravina and Pennock Islands, including approximately 0.5 acres of *Laminaria*, 0.03 acres of eelgrass, and 0.75 acres of sea cucumbers (DEIS Appendix O). Blasting and dredging also may impact marine mammals in the area. In response to NMFS comments on the original DEIS dated October 3, 2003, the Alaska Department of Transportation and Public Facilities agreed to change the construction method for the project to reduce the potential for adverse impacts to marine mammals and essential fish habitat. The April 13, 2004, letter detailing these changes is attached. NMFS anticipates that these conservation measures will be carried over into the SEIS. NMFS will provide a detailed review all of the alternatives and minimization/mitigation measures when the SEIS is received.

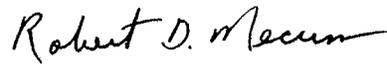
The ESA prohibits injury, harm, or harassment of threatened and endangered species, and the MMPA prohibits injury, harm or harassment of marine mammals. Section 7(a)(2) of the ESA requires action agency consultation with NMFS should the agency



determine that the proposed action may affect threatened or endangered species. ESA listed species in the action area include humpback whales (*Megaptera novaeangliae*) and Steller sea lions (*Eumetopias jubatus*). Should dredging and/or blasting activities be required for the preferred alternative, please be advised that specific conservation measures will be applicable. These may include a requirement for NMFS approved blasting/dredging plans and for marine mammal observers to be present during blasting activities.

Thank you for the opportunity to comment. Please contact Katharine Savage at 907-586-7312 or Katharine Miller at 907-586-7643 if you have any questions.

Sincerely,



Robert D. Mecum
Acting Administrator, Alaska Region

Enclosures

cc: ADF&G, Petersburg, Mark Minnillo
USFWS, Juneau, Steve Brockman
EPA, Juneau, Jennifer Curtis
ADNR, Randy Bates
ACOE, Nicole Hayes

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

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April 13, 2004

RE: Gravina Access Project 67698/ACHP-0922 (5)

Dr. James Balsiger
National Oceanic and Atmospheric Administration- Fisheries
P.O. Box 21668
Juneau, Alaska 99802-1668

Dear Dr. Balsiger:

The Alaska Department of Transportation and Public Facilities (DOT&PF) has reviewed the comments and preliminary recommended conservation measures for the Gravina Access Project in the letter from the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to Reuben Yost (Special Projects Manager) dated October 3, 2003. These measures were discussed with Katherine Miller in a teleconference call January 13, 2004. Recent changes to the construction methods for the Gravina Access Project have reduced the potential for adverse impacts to essential fish habitat (EFH) and marine mammals in the project area, eliminating the need to include all of the preliminary recommended conservation measures.

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and Section 7(a)(2) of the Endangered Species Act require Federal agencies to consult with NOAA Fisheries on all actions that may adversely affect EFH or affect marine mammals and their critical habitats, respectively. NOAA Fisheries has outlined preliminary conservation measures, which include measures to avoid, minimize, mitigate or otherwise offset adverse effects. This letter presents the conservation measures proposed by DOT&PF for inclusion into the text of the final EIS.

We transmitted to Joyce Wood on March 2, 2004 a copy of the DOT&PF and Federal Highway Administration (FHWA) initial response to draft EIS comments. This letter corrects some errors in that earlier transmittal. The revised comment-response table is enclosed.

Please review this letter and the enclosed comment-response table and let us know if the conservation measures proposed satisfactorily address NOAA Fisheries concerns.

The following conservation measures are applicable to all project alternatives and are included in the Final EIS:

Essential Fish Habitat Conservation Measures

- At all stream crossings (both culverts and bridge crossings), stream banks would be re-contoured to approximate original conditions and re-seeded with native vegetation to minimize erosion.
- BMPs, developed in accordance with EPA's "Storm Water Management for Construction Activities: Developing Pollution and Prevention Plans and Best Management Practices," EPA Document 832 R-92-005 (EPA 1992), will be employed to minimize the introduction of sediment and minimize siltation of ponds and streams during adjacent fill placement.
- All anadromous fish stream crossings would be designed to minimize impacts on stream function and to provide passage to both anadromous and resident fish. All road structures crossing anadromous fish habitat channels would be designed to provide passage for juvenile and adult salmon per Alaska Statute Title 41 standards.
- In-water work in Tongass Narrows would be restricted, as follows. General use of boats and barges could occur year round for general survey and work on bridge structures above water. Except for blasting, dredging, and pile driving, other work in marine waters could occur July 1-February 28. As further described below, blasting, dredging, and pile driving could occur only November 1-February 28, with the possible exception of mid-channel locations, based on further consultation with the Alaska Department of Natural Resources (DNR), NOAA Fisheries, U.S. Army Corps of Engineers (COE), and U.S. Fish and Wildlife Service (USFWS).
- The following conservation recommendations will be followed with respect to pile driving in Tongass Narrows: A vibratory hammer would be used to drive steel piles instead of an impact hammer. Piles should be driven during low tide when in intertidal and subtidal areas.
- All construction in and around anadromous fish streams will take place when stream disturbances would have the least impact on anadromous fish species. The recommended time period for in-stream construction work in the Ketchikan area is June 15 through August 7. In-stream construction activities should completely avoid the period from August 8 through June 14. For the Ketchikan area, salmon fry generally emerge in the spring from April 15 to May 15, and the adults move into the streams by August 1 and remain through October 31. However, timing of fry emergence and adult spawning depend on the species of fish present in each stream. For example, steelhead spawn in the spring and eggs are generally present in the stream until the middle of July. Fish surveys will be conducted in the summer of 2004 for all streams that will be affected by the project. If additional species are found to be present in the project streams, the existing timing window for in-stream construction (June 15 to August 7) may be modified to protect additional species. Construction work that occurs above the ordinary high water area of the stream and does not include in-stream construction may be conducted throughout the year. In-water work areas, except for stream crossings by construction equipment, will be isolated from flowing waters of all anadromous fish streams

- Any necessary in-water blasting will be performed such that ground vibration (particle velocity) does not exceed 2.0 inches per second and peak water overpressure (instantaneous pressure change) does not exceed 2.7 pounds per square inch. The project will employ monitoring devices to ensure adherence to these standards. If blasting amounts are minor, and if agreed by the agencies, monitoring may not be undertaken.
- The contractor will be required to prepare a blasting plan prior to any blasting activities. The blasting plan will be submitted for review by NOAA Fisheries for both EFH and marine mammal impacts. A fish and invertebrate monitoring program will be required for any proposed blasting activities. A pre-blasting survey will be required to ensure that no fish schools are in the vicinity of the blasting area. If fish schools are detected, blasting will be delayed until they leave. A biologist will check the area and record any kills that are within 100 feet up current and 300 feet down current of the blast area after blasting is completed. Monitoring of the dredge materials may be incorporated into the blasting monitoring plan as a method for documenting organisms injured or killed in the blasting. Measures such as covering the rock to be blasted with sand may be used to dampen blast impact. In-water blasting shall avoid the entire months of March through June to avoid juvenile salmonids and the period from June through October 31 to avoid adult salmon. All project-related activities would conform to the pertinent provisions of the Marine Mammal Protection Act and the Endangered Species Act.
- Dredged debris would be placed onto a barge where it would enter a settling basin and be disposed of on land. Only under Alternative F3, which could require substantial removal of sediment and rock, would ocean disposal be necessary. These operations for Alternative F3 would be consistent with the regulations of Clean Water Act, Section 404(b)(1) (disposal of dredged materials into waters of the U.S.) and Marine Protection, Research, and Sanctuaries Act, Sections 102 and 103. Monitoring of the dredged materials may be incorporated into the blasting monitoring plan as a method for documenting organisms injured or killed in the blasting. Dredging activities will avoid the entire months of March through October.
- All fueling and servicing operations will be conducted at least 100 feet away from all streams and water bodies, and fuel storage will be at least 100 feet away from all wetlands and water bodies.
- All necessary permits and agency approvals will be obtained prior to construction, and any permit stipulations will be incorporated into the contract specifications.
- Perimeter staking will be required on the outside of the disturbance area prior to construction to ensure that there is no additional impact from construction activities.
- Silt fences will be used adjacent to EFH stream channels, just beyond the estimated toe of fill.
- Gravels and streambed material will be used in the bottoms of fish-passage culverts.
- Riprap will be placed along stream banks as necessary to maintain stream bank integrity. Placement of riprap along stream banks to maintain stream bank integrity should include the use of bioengineering techniques to improve habitat value of the riprap, by incorporation of willow stakes or other locally available vegetation.

Threatened and Endangered Species Conservation Measures

- In-water work will occur outside the springtime months, when there is greatest sea lion use of the project area. The EFH work window for in-water work in Tongass Narrows is July 1 to February 28, and this would be followed for marine mammals as well. Major work, such as any dredging or in-water blasting required, would occur only November 1 to February 28. This timing avoids runs of salmon and herring, on which humpback whales and Steller Sea Lions feed.
- Should blasting be necessary, the construction contract will require a blasting plan approved by NOAA Fisheries. Blasting will be performed such that ground vibration (particle velocity) does not exceed 2.0 inches per second and peak water overpressure (instantaneous pressure change) does not exceed 2.7 pounds per square inch. Monitoring devices will be used to measure these parameters. If blasting amounts are minor, and if agreed by the agencies, monitoring may not be undertaken.
- Should dredging be required, the construction contract will require a dredging plan approved by NOAA Fisheries.
- If blasting and dredging are required, the project will ensure use of trained and NOAA Fisheries-approved observers to indicate when mammals are within a 50 m zone around pier work or other in-water work, and activity will wait until the animals move out of the area, or work would be stopped if mammals were to enter the area.
- An in-water warning sound will be issued prior to blasting to allow any marine mammals to voluntarily move to a comfortable distance.
- All necessary permits and agency approvals will be acquired prior to construction, and stipulations will be incorporated into contract specifications.
- If design should change, an incidental harassment authorization might need to be obtained from NOAA Fisheries.
- Mitigation measures will be finalized during the permitting process with input from DNR, NOAA Fisheries, COE, and USFWS.

Alterations to the construction methods include eliminating use of impact hammers. The piles for the project will now be driven using a vibratory hammer, significantly reducing adverse noise impacts to fish and marine mammals. Also, clamshell dredges will now be used for all dredging operations eliminating the potential for entrainment of pelagic fish such as salmonids. Due to these changes, the following conservation measures are no longer pertinent to the project and will not be included the Final EIS:

- A fish and hydroacoustic monitoring program should be developed that includes the following:
 - a. Underwater sound measurements at various distances and depths from pile driving operations

Dr. James Balsiger

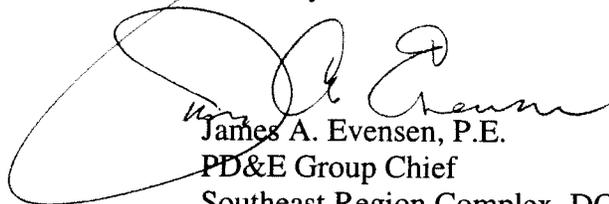
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- b. Evaluation of fish mortality and injury rates. This could be accomplished through the use of caged fish at various distances and depths from pile driving operations.
 - c. Observation of bird predation and behavior
- Implement measures to attenuate the sound pressure levels should sound pressure levels exceed the 180 dB threshold. Methods to reduce the sound pressure levels include, but are not limited to, the following:
 - a. Surround the pile with an air bubble curtain system or air-filled coffer dam.
 - b. Use a smaller hammer to reduce the sound pressure. The sound produced has a direct relationship to the force used to drive the pile.
 - c. Use a hydraulic hammer if impact driving cannot be avoided. The force of the hammer blow can be controlled with hydraulic hammers; reducing the impact force will reduce the intensity of the resulting sound.
 - A “dry fire” of the hammer should be performed prior to operating at full capacity. A “dry fire” occurs when the hammer is raised and dropped with no compression of the pistons which produces approximately 50 percent of the maximum in-air noise level. This dry-firing should allow sea lions in the area to voluntarily move from the area and should expose fewer animals to loud sounds both underwater and above water.
 - If suction dredges are used, the draghead of dredges shall be operated with the intake at or below the surface of the material being removed.

If there are any questions regarding this letter please contact me at the letterhead address or at (907) 465-1851.

Sincerely,



James A. Evensen, P.E.
PD&E Group Chief
Southeast Region Complex, DOT&PF

Attachment: National Oceanic and Atmospheric Administration – Office of Program Planning & Integration
Dated October 3, 2003

Cc: Mark Dalton, HDR
Bill Ballard, DOT
Tim Haugh, FHWA

NMFF Comment

National Oceanic and Atmospheric Administration - Office of Program Planning & Information, 1315 Jefferson Davis Highway	
1. The Essential Fish Habitat (EFH) Assessment (Appendix O) acknowledges that the culvert proposed for crossing the anadromous stream southeast of Government Creek would result in a direct loss of EFH, but does not explain why a culvert is being proposed instead of a bridge.	A field evaluation of all stream crossings in the project area was conducted and it was determined at the time of that field evaluation that this unnamed stream southeast of Government Creek was small and that fish passage could be maintained through the use of a Tier 1 Crossing. The discussion in the EFH Assessment (Appendix O, Section 4) and the EIS (Section 4.15.4.4) has been revised to state that, in accordance with the memorandum of agreement between DOT&PF and ADF&G, the culvert crossing would be designed to a Tier 1 stream simulation design level and would maintain natural stream conditions such as flow, substrate, and existing fish passage efficiency. There would be no permanent loss of EFH resulting from the culvert crossing. Figure 8 in the EFH Assessment shows a conceptual drawing of the culvert structure.
2. The DEIS provides the amount of eelgrass and kelp that will be impacted only for the channel modification activities in Alternative F3.	Acreages of impacts to kelps and eelgrass for all alternatives have been specified and added to Sections 4.15.1.2, 4.15.3, 4.15.3.6, and 4.15.4.4 of the EIS, and to the EFH Assessment (Appendix O, Section 1, Table 1-1).
3. Table 1-1 (Appendix O) should specify acreage of impacts by habitat type of eelgrass, kelp, and wetlands. The table shows a wetlands category, but only a general "marine" category for all other EFH.	Table 1-1 of the EFH Assessment (Appendix O) has been revised to more fully characterize laminarian kelp and eelgrass impacts for each alternative.
4. The DEIS lacks site-specific information on the type and extent of EFH in the project area and the potential impacts of each of the alternatives on EFH.	The type and extent of EFH in the project area are discussed in Section 3.15.4.4 of the EIS and impacts to EFH are discussed in Section 4.15.4.4. Appendix O provides more detailed descriptions of impacts to EFH.
5. The DEIS does not link site-specific analyses of environmental conditions and the type and extent of fish habitat at the proposed location of each alternative to the magnitude and extent of actions associated with each alternative (pile driving, dredging, etc.).	Sections 4.15.4.4 and 4.25.12.2 have been revised to provide more detailed discussions of EFH impacts from each alternative. Also see Appendix O.
6. The DEIS does not identify the amount of dredging that may be required, the number of pilings that would need to be placed, or the amount of in-water blasting that might be required under each of the alternatives.	Some of the information requested has not been determined for the alternatives. At this stage of project development, the FHWA and DOT&PF preferred alternative does not require in-water blasting. If blasting is determined to be necessary, then the issue will be revisited. Blasting would be conducted consistent with the state blasting standard. If blasting is required, blasting will be performed such that ground vibration (particle velocity) does not exceed 2.0 inches per second and peak water overpressure (instantaneous pressure change) does not exceed 2.7 pounds per square inch. The project will employ monitoring devices to ensure adherence to these standards, unless the need for blasting is small and NOAA Fisheries agrees monitoring is not necessary (Appendix O Chapter 5.0 and EIS Section 4.25.12.3). The amounts of dredging required for Alternatives G2, G3, and G4 and potentially required for Alternative F3 are included in EIS Section 4.15.4.4 and EFH

	Assessment (Appendix O), Section 4. Section 4.0 of the EFH Assessment discusses proposed in-water work requirements including blasting, dredging, drilling, and pile driving. Refer to NOAA Fisheries comment 26 for in-water blasting response.
7. The proposed locations of pile driving, dredging, and blasting are not identified and no discussion of EFH within the impacted areas is provided.	Proposed locations for piers (and associated drilling), dredging, and blasting are approximated for all alternatives. Preliminary bridge and pier foundation locations are shown in Figures 2.6 – 2.11 and 2.17 – 2.19. Refer to the EFH Assessment (Appendix O) for potential dredging and blasting locations for Alternative F3. A more detailed discussion of EFH in the proposed areas of dredging, blasting, and drilling for pilings is located in Section 4 of the EFH Assessment.
8. Without more specific information on the particle size of the substrate being dredged and the currents in the project area, the conclusion that the impact of dredging on biota will be minimal appears to be largely conjecture.	Discussion of substrate to be dredged and temporary impacts to the currents in the project area are included in Section 4.0 of the EFH Assessment (Appendix O).
9. The DEIS needs to identify the scope and extent of potential impact to EFH from pile driving, dredging, blasting, and other activities; the probable locations of these activities; the environmental conditions (currents, substrates, etc.) in the vicinity of these activities, and the EFH that could be affected.	Sections 4.15.4.4 and 4.25.12.2 have been revised to include more discussion of potential impacts on EFH to reflect additional details as requested in NOAA Fisheries comments 4 – 8.
10. Conclusions regarding construction and operational impacts on EFH should be provided for each alternative.	Construction and operational impacts are discussed in Chapter 4 of the EIS and in the EFH Assessment (Appendix O, Section 4.0, 18). In accordance with a November 3, 1999, DOT&PF and NMFS agreement on EFH consultations (EFH Assessment Attachment A) for projects involving an EIS, DOT&PF, on behalf of the FHWA, has determined that this project may cause permanent and temporary adverse effects to EFH (Appendix O).
11. The revised EIS should include detailed information on the activities that may affect marine mammals and should differentiate the magnitude of the effects among alternatives.	Sections 4.15.4.1, 4.25.12, and 4.25.15 have been revised to reflect that the potential for impact is greatest during construction. Also refer to Marine Environment Impact Assessment Technical Memorandum (Appendix N) for a discussion of impacts to marine wildlife. Mitigation measures detailed in Section 4.25.12 include provisions for monitoring marine mammal activity and construction work windows to avoid construction activity when these animals are present.
12. The EIS should state how construction impacts or other associated project activities that may result in harassment of marine mammals (as defined at 50 CFR 216.3) would be mitigated.	A discussion of construction impacts on marine mammals and mitigation measures is included in Sections 4.25.12.3 and 4.25.15. These sections recognize there could be harassment of marine mammals (as defined at 50 CFR 216.3) if certain activities took place while mammals were present, but that measures to avoid harassment of marine mammals would be implemented. It is also noted in the text that an Incidental Harassment Authorization (IHA) could be required if impacts could not be avoided. The measures to avoid harassment of marine mammals are described in Section 4.25.12.3.

<p>13. If disruption of marine mammal behavior (such as feeding or migration) cannot be avoided, Section 101(a)5 of the Marine Mammal Protection Act contains provisions for obtaining a permit authorizing harassment of marine mammals incidental to specific activities.</p>	<p>The project team discussed permit authorization with Ken Hollingshead of NMFS. Section 4.25.15 contains language that recognizes that there could be harassment of marine mammals (as defined at 50 CFR 216.3) if certain activities occurred while mammals were present and that an Incidental Harassment Authorization could be required if impacts could not be avoided.</p>
<p>14. More detailed information on the length of the construction period for each alternative is necessary before the impacts to marine mammals can be adequately assessed.</p>	<p>A discussion on the approximate duration of construction activities for specific water body modification activities was added to Sections 4.25.12.3 and 4.25.15. In addition, specific construction timeframes for blasting, drilling, and potential dredging activities for Alternative F3 can be found in the EFH Assessment (Appendix O). Refer to Appendix N for additional information on impacts to marine mammals.</p>
<p>15. The DEIS should be revised to contain more in-depth information on the population status and trends of marine mammals that occur in the project area.</p>	<p>Discussion of the status and trends of marine mammals that occur within the project area are addressed in Section 3.15.4.1. For status and trends of threatened and endangered species, see Section 3.20. Information for status and trends was obtained, in part, from the NOAA Fisheries' Stock Assessment Reports.</p>
<p>16. FHWA should request consultation with NMFS under Section 7 of the ESA.</p>	<p>Formal consultation is not required. Since publication of the DEIS, as continued informal consultation, DOT&PF sent to Brandee Gerke at NOAA Fisheries a biological assessment that includes status and trend information for listed species in the project area, as well as a finding that the project would not likely have an adverse effect on threatened and endangered species,. FHWA sent a letter January 26, 2004 requesting concurrence that the project is not likely to result in an adverse effect on T&E species, and NOAA Fisheries concurred on February 17.</p>
<p>17. If adverse effects to listed species are identified, NMFS and FHWA may try to eliminate those effects by revising the proposed action.</p>	<p>This comment is noted, and no action is required at this time.</p>
<p>18. Adverse effects on listed species may be avoided by the use of seasonal work windows and observers to monitor the presence of listed species and suspended action until the animals have cleared the area.</p>	<p>See response to NOAA Fisheries comment 11, above.</p>
<p>19. The DEIS needs to be revised to include information on the approximate number of Steller sea lions in order to adequately assess the impacts of the proposed action on this species and to facilitate the consultation process.</p>	<p>Refer to Sections 3.15.4.1 and 3.20.2 for a discussion of Steller Sea Lion population status in the project area.</p>
<p>20. The DEIS should be revised to include the following humpback whale information:</p> <ul style="list-style-type: none"> - the International Whaling Commission (IWC) first protected the species from commercial whaling in 1965 - they were listed as endangered under the ESA in 1973 - commercial whaling of humpback whales in the North Pacific ceased in 1965 with protection 	<p>The EIS has been revised to include the additional humpback whale information (Section 3.20.1).</p>

from the IWC.	
21. The DEIS should provide additional discussion of the need for proposed fill in Government Creek (i.e., why is it only required for Alternatives G2, G3, and G4 if all alternatives have the same roadway crossing of Government Creek?).	The statement that all alternatives would cross Government Creek and require fill in Government Creek is not accurate. Alternatives C3(a), C3(b), C4, D1, G2, and G4 would not cross Government Creek. Alternatives F1, F3, and G3, approaching the airport from the south, would cross Government Creek using a clear span bridge to avoid fill and EFH impact. The EIS has been revised to clarify these impacts. See Sections 4.15.1.2; 4.15.1.3, 4.15.1.4, 4.15.4.2, and 4.15.4.3.
22. The DEIS does not indicate the type of pile driving equipment that is proposed for use, number of piles to be driven under the various alternatives, the depth to which the piles will be driven, the amount of time needed to drive the piles, or the nature of the substrate into which the piles will be driven. No mitigation is proposed for adverse impacts to EFH from pile driving.	All alternatives may require limited pile driving to penetrate any existing sediment in the area and enable the pile to bear on or within rock. In these locations, a vibratory hammer would be used to advance the steel pile through the existing sediment until it reached bedrock, and then reverse rotary drilling would be employed to penetrate the rock and/or install the piling or rock anchors in the rock formation (see Section 4.15.4.4). Table 4-1 of the EFH Assessment and Section 4.15.4.2 of the EIS identify the number of bridge piers required for each alternative. Refer to the EFH Assessment (Appendix O, Section 4.0) for descriptions of the effects of pile driving and drilling piles on EFH. The following conservation recommendations will be followed with respect to pile driving: <ul style="list-style-type: none"> - A vibratory hammer would be used to drive steel piles instead of an impact hammer. - Piles should be driven during low tide when in intertidal and subtidal areas. - All pile driving activities would be conducted between November 1 and February 28.
23. Impacts to EFH from pile driving need to be evaluated based on <ul style="list-style-type: none"> - size and force of hammer strike - distance of fish from pile - depth of water around the pile - bottom substrate composition and texture - size and species of fish in the project area 	The DEIS discussed use of an impact hammer for pile driving. This will not be necessary. A vibratory hammer will be used, if needed, to advance piles through soft sediments to rock. A reverse rotary drill will be used to drill shafts for piles into rock. Therefore the EIS does not discuss the size and force of hammer strike. The exact locations, depth of water, and precise bottom surface at piling locations will not be known until design. Fish habitat is assumed in for any in-water work, and all bridge alternatives involve piers both in shallow and deeper waters. The EIS in Section 4.15.4.4 and the EFH Assessment address the types of fish and habitats likely to be found in the vicinity of the various alternatives and the impacts of the alternatives.
24. Consider the provided list of EFH conservation measures for pile driving for all alternatives (five items listed).	The EIS now explains that any pile driving would make use of a vibratory hammer. The referenced conservation measures have been considered, and applicable recommendations have been added to the EFH Assessment (Appendix O, Section 5) and EIS. The conservation recommendations listed above under response to comment #23 will be followed with respect to pile driving. Based on consultation, because an impact hammer will not be used, a bubble curtain will not be necessary.
25. Consider the provided list of marine mammal conservation measures for pile driving for all	The EIS now explains that any pile driving would make use of a vibratory hammer, not an impact

<p>alternatives (four items listed).</p>	<p>hammer, eliminating much of the concern for high sound pressure impacts to mammals. Use of timing to avoid marine mammals' higher use periods is the primary mitigation commitment for marine pile driving. This is described in 4.25.15.</p>
<p>26. The DEIS does not contain any information on the amount of blasting that may be required for each alternative, duration of blasting, size of charge, detonation velocity of charge, etc.</p>	<p>At the current stage of design, only Alternative F3 is certain to require blasting, and then only if the channel widening modifications in West Channel were implemented. Dredging for Alternatives G2, G3, and G4 may require a small amount of blasting (refer to EFH Assessment, Appendix O). A discussion of blasting durations, charges, and impacts is contained in the EFH Assessment (Appendix O). If blasting were required, it would be performed such that ground vibration (particle velocity) would not exceed 2.0 inches per second and peak water overpressure (instantaneous pressure change) would not exceed 2.7 pounds per square inch.</p>
<p>27. The DEIS does not contain an evaluation of the specific EFH and fishery resources in the vicinity of the proposed blasting operations.</p>	<p>No site-specific surveys of fish likely to be present in the vicinity of dredging and blasting are available, nor were any conducted. A discussion of specific EFH resources that are likely to be present in the area of blasting has been added to the EFH Assessment (Appendix O) and the EIS, Section 4.15.4.4.</p>
<p>28. To adequately evaluate the potential impact of possible blasting activities on EFH and to design mitigation measures to reduce adverse impacts, site-specific data on the marine resources in the vicinity of potential blasting areas should be collected and included in the revised EFH assessment.</p>	<p>A discussion of marine resources that are likely to be present in the vicinity of blasting was added to the EFH Assessment (Appendix O) and the EIS, Section 4.15.4.4.</p>
<p>29. The type of dredging equipment to be used and the potential for entrainment of fish in the dredging equipment is not addressed.</p>	<p>Use of a clamshell dredge is the most likely method of dredging. A discussion of clamshell dredges and their potential for entrainment of fish is included in the EFH Assessment (Appendix O, Section 4).</p>
<p>30. The DEIS does not contain any conservation recommendations with respect to dredging, other than the use of BMPs when placing fill next to streams.</p>	<p>Additional conservation recommendations with respect to dredging have been incorporated into the EFH Assessment (Appendix O, Section 5) and EIS. Dredge timing windows would be incorporated into the dredging program to eliminate potential effects to sensitive life stages of fish and invertebrates. The dredged debris would be placed onto a barge where it would enter a settling basin and be disposed of according to normal dredge disposal regulations. Disposal of dredged and blasted material would follow the Environmental Protection Agency's (EPA) Guidelines for disposing of dredged and blasted material (40 CFR Parts 220-238) (Ocean Dumping) and would be consistent with the regulations of Clean Water Act (CWA) Section 404(b)(1) [disposal of dredged materials into waters of the U.S.] and the Marine Protection, Research, and Sanctuaries Act (MPRSA) Sections 102 and 103. All dredging activities would be conducted between November 1 and February 28 only, with the possible exception of mid-channel locations, based on further consultation with NOAA Fisheries. NOAA Fisheries may alter these timing window based on additional details developed during the design and permitting phase.</p>

<p>31. Site-specific information is needed on the environmental conditions, including the potential for any contaminated sediments, and the type and extent of fish habitat in the areas where dredging may occur.</p>	<p>The type and extent of fish habitat that occurs in the areas potentially affected by dredging that may be required under Alternative F3 and the ferry alternatives is discussed in Sections 4.15.3.7, 4.15.3.8, and 4.15.3.9 of the EIS, and in the EFH Assessment (Appendix O, Section 4). The Alaska Department of Environmental Conservation list of contaminated sites does not show any contamination in this area of Tongass Narrows. No other sampling of substrate is known that would indicate potential for contaminated sediments in this area.</p>
<p>32. The revised EFH assessment should also identify the magnitude and extent of dredging associated with each alternative, the type of dredging equipment that will be used, and options for disposing of dredged material.</p>	<p>Currently, Alternatives G2, G3, and G4 will require dredging and Alternative F3 is likely to require dredging. The EFH Assessment (Appendix O, Section 4) discusses the magnitude and extent of dredging and the guidelines for disposing of dredged and blasted materials. A discussion of clamshell dredges and their impacts also are included in Chapter 4 of the EIS and in the EFH Assessment (Appendix O, Section 4).</p>
<p>33. The following conservation recommendations should be considered with respect to dredging for all alternatives:</p> <ul style="list-style-type: none"> - dredge timing windows should be incorporated to eliminate potential effects to sensitive life cycle stages of fish and invertebrates - a dredge barge should be used to retain dredged material to minimize turbidity - presence of fish and invertebrates should be monitored during dredging; dredging should be curtailed if significant numbers of fish/invertebrates appear in spoils - if suction dredges are used, the draghead shall be operated with the intake at or below the surface of material to be dredged 	<p>These conservation recommendations have been incorporated into the EFH Assessment (Appendix O, Section 5), where applicable. Dredge timing windows and disposal operations are discussed in the EFH Assessment (Appendix O, Section 5) and EIS. See response to comment #30 above. Suction dredges could be used in areas where thick layers of loose sands and soft silts are found (i.e., near the ferry terminals), in which case the draghead intake would be operated below the surface of the material to be dredged.</p>

