

Project Name: Pebble Project EIS
Date: November 21, 2019
Time: 10am-5pm
Location: The Megan Room, 6591 A Street, Anchorage
Subject: Cooperating Agency Technical Meetings, Day 4
Introduction: Safety, housekeeping, Opening remarks Ground rules

Attendees and Affiliation:	
AECOM and subcontractors	Bill Craig, Elizabeth Bella, Jessica Evans, Jon Isaacs, Sasha Forland, Wes Cornelison, Cara Wright, Lindsey Flagstad, Arika Mercer, Jonathan King, Mark Allen, Tara Bellion, Jim Munter, Kirk Ranzetta
ACHP	John Eddins
BSEE	John McCall
Curyung Tribal Council	No attendees
EPA	Molly Vaughan, Matt LaCroix, Betsy McCracken, Running Grass, Palmer Hough, Don Clabaugh, Joe Ebersole, Kate Schofield, Patty McGrath, Sue Detwiler, Mike Kravitz, Michelle Davis
LPB (Jade North)	Bob Loeffler
Nondalton Tribal Council (represented by NARF)	Wesley Furlong, Monty Rogers
NPS	Sharon Kim, Susanne Fleek Green, James Lawler, Rachel Mason, Kerensa King, Amy Miller, Krista Bartz, Dan Young, Liza Rupp, Kelsey Griffin, Rachel Mason
State of Alaska (SoA)	Kyle Moselle, Ron Benkert, Kate Harper, Ted Otis, Robin Dublin, Brock Tabor, Lee McKinley, John Evans, Travis Elison, Judy Bittner, Lisa Olson
USACE	Shane McCoy, Katie McCafferty, Sheila Newman, Heather Markway, Brandee Ketchum, Jennifer Moyer, William James, Ryan Winn, Kendall Campbell, Lt. Colonel Bloedel
USCG	David Seris
USFWS	Douglass Cooper, Catherine Yeargan, Melissa Burns, Angela Matz,
USDOI	Steven Wackowski
PHMSA	Robert Guisinger

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Day 4 Agenda

10am: Room open, coffee and tea provided

USACE – proposed change to agenda extending fish discussion after lunch to 13:45. Notified group of RFIs pending and expected dates of availability. Notes from Monday and Tuesday available, will remain in draft.

10am-12pm: Morning Session – Fish Topics

AECOM – explained process of evaluating fish impacts, turned discussion to Lake Iliamna

- Iliamna Lake

SOC: Fish – Impacts Smolt-Iliamna Lake (row 224)

SOC: Fish – Iliamna Lake-Zooplankton (row 229)

AECOM – discussed changes made in section 3.24, increased discussion of fish species, fish habitat and ecology in Lake Iliamna, specifically smolt, juvenile, and adult sockeye, and rainbow trout. For adult salmon: discussion added on annual abundance trends, described migratory behavior, added information on spawning distribution, better described physical habitat with respect to spawning (e.g. substrate, slope, water currents), included PLP site-specific studies at proposed ferry terminal locations, and genetic composition of lake spawning stock. For juvenile salmon: information added on periodicity (i.e. rearing year-round versus passing through from upstream sources), abundance, distribution and migration patterns, feeding requirements (i.e. zooplankton), vertical distribution in water column. For rainbow trout, radio-telemetry study now included. Changes made to 3.24 were propagated as appropriate to 4.24.

USFWS – Thanked AECOM/USACE for these inclusions.

ADFG – was field work completed at the proposed ferry terminals?

AECOM – Yes, helicopter survey, physical environment characterization, seining data, etc.

LPB – asked about information available for the distribution of juvenile salmon under ice. LPB is concerned about increased predation and mortality due to greater boat traffic. LPB has experienced that boats/wakes stun juveniles, which are then eaten by gulls. Noted that this gull behavior could also be attributed to churning of benthos by propellers.

AECOM – yes, winter data is available. Existing research shows very little feeding in winter, looked at Chignik and Black Lakes, both support spawning populations of salmon. Catches low in locations with high DO and cool water, Juvenile avoid light during winter (low temperatures), stay at depth during the day, and are more active, come to shallows in the dark. An ice-free channel could disturb these patterns. Stickleback are abundant and thus a likely prey species for gulls.

LPB – reiterated that two concerns are stunning by propwash, mortality from prop strikes.

AECOM – noted that mitigation for stunning by propwash, mortality from prop strikes have been incorporated in

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App M, Mitigation.

LPB – asked if there are numbers for mortality for prop strikes. If so, requests incorporation of these data.

AECOM – yes, also for beaching due to wakes, could increase information on link between fish size and mortality, however the information reviewed does not indicate that the ferry would adversely impact smolt.

ADFG – Action Item - requested a more complete evaluation of the Gibraltar River with respect to salmon and spawning habitat, as potentially impacted by the proposed crossing of the Gibraltar River.

AECOM – noted that information is included for species presence and abundance in Gibraltar and tributaries.

NPS – requested an explanation of changes made to section 4.24 with respect to fish impacts

AECOM – no major impacts to spawning or habitat due to ferry terminals.

NPS – asked about resident fish species, specifically requested that the lack of data be clearly stated in the document.

AECOM – explained that information on rainbow trout, and stickleback is included, and that resident species are listed but distribution data is not available for all species.

Action Item – explicitly list data gaps for resident fish species in the document

AECOM – moved conversation to zooplankton, explained that information reviewed does not indicate that changes in zooplankton abundance and distribution would have greater food web implications.

USCG Action Item – please include in document the impacts of construction activities related to the bridges and mitigation that other agencies will impose.

- Fish Distribution and Abundance

SOC: Fish – Impacts-Resident Fish (row 222)

AECOM – Discussed resident and anadromous fish additions to the document. For spawning salmon: increased description of annual changes, expanded to tributaries and main stem reaches for high spawning years. For spatiotemporal variability of juveniles: included index sites from R2 for (NFK, SFK and UTC) density data for all fish with greater than 1 fish per m², annual variability in density. Compared densities in main stem and optional habitats. Increased description of spatiotemporal abundances. Also added information on winter sampling. Talked about the effect of groundwater on fish; mapped areas of groundwater influence, added discussion of spawning in relation to groundwater influence.

USFWS – Thanked AECOM/USACE for their work. Voiced concern regarding mercury (Hg) accumulation in fish downstream of mine sites (BIN item from yesterday). Noted that sulfate and an anoxic environment required for the methylation of Hg, further that this bacterial-mediated reaction can occur in waters meeting water quality standards. Action Item - Encouraged inclusion of this potential downstream impact related to bioaccumulation of Hg in the document, especially as Hg is the only contaminant with consumption guidance in Alaska.

EPA – Noted response to SOC, asked how additional potential impacts to resident fish would be handled

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AECOM – explained that they are evaluating life history traits with respect to project impacts (sedimentation, vibration from blasting, changes in flow) and that fish habitat modeling included resident species (habitat modeling for adults was not performed, this has been amended).

EPA – noted that EFH did not address bioaccumulation of methylmercury based on life history traits of anadromous and resident fish species.

USACE – asked ADFG their opinion on what analysis is necessary from their point of view

ADFG – SoA would require additional information (i.e. additional fish survey to document presence, species and abundance) for permitting purposes, specifically at temporary and permanent bridge locations as well as any new road crossings of streams and rivers. Stressed the importance that survey efforts are repeated to capture the temporal use of habitat by fish species. Noted that this level of information is not needed for NEPA but will be required for State permitting.

ADFG – has provided comments on impacts on sedimentation and turbidity, unsure based on SOC response if additional information would be included in next version of the document.

ADFG – noted that warm water from effluent discharge has been ascertained in the document to enhance EFH, Action Item – add discussion of how higher temps could have negative effects on juvenile fish.

NPS – NPS has developed protocol to monitor Hg content in fish for resident fish species – employed in Katmai, can provide dataset. Action Item – NPS to share monitoring protocol and related dataset for methylmercury in resident lake fish species.

SOC: Fish – Habitat Characterization (row 207)

AECOM – discussed the augmented characterization of physical habitat, connection of main stem flows to optional habitat, effort to link habitat characteristics to fish densities

EPA – asked what the source of new habitat data is

AECOM – explained that it is tied to fish sampling sites on the main stem, mesohabitat types ground truthed and mapped with aerial imagery. Data came from the environmental baseline documents (EBD). Noted inclusion of methodology for all studies would be overwhelming in the body of the EIS, and that they have tried to reference the EBDs unless understanding methodology is integral to discussion in the EIS.

Action Item – revisit methodology used to characterize EFH at the mine site

AECOM – discussed optional habitat, areas of groundwater influence indicated by survey of open water in winter.

EPA – asked if habitat types were quantified and how groundwater was related to fish distribution. Regarding information provided in RFI 147, can groundwater be used in EFH modeling? How were physical habitat modeling (PHABSIM) transects located? Asked about including incubation (in addition to spawning) in the periodicity table, noted the importance of considering incubation phase (i.e. egg survival) in fish impacts.

AECOM – answered that yes, we described at what flow levels optional habitat would be available and what the surface area of that optional habitat would be. Characterized relationship between adult spawning and areas of groundwater influence. Explained that groundwater influence is input to surface water modeling, which informed habitat modeling; that transects were located based on physical habitat characteristics and that a footnote has been added to the periodicity table to address incubation.

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USACE – Noted that updated RFI 147 is scheduled for delivery tomorrow.

AECOM – directed group to RFI 48 for explanation of physical habitat modeling process.

AECOM – noted that a technical appendix has been developed to clarify habitat characterization methodology.

Also noted that a much greater effort has been made to explain the relationship between fish density and habitat type.

EPA – Action Item - requested that a statement of assumption and uncertainties that are made for and inherent to all models be included in the EIS.

USFWS – Thanked AECOM/USACE for the inclusions of information, looks forward to reviewing the revised section 4.24.

USDOl (representing NPS and USFWS) – DOIs policy regarding jurisdiction for post ANILCA national parks and refuges is not yet clear.

AECOM – Upwelling has been considered, do we also need to be considering downwelling in groundwater section?

USACE – deferred discussion until after lunch.

12pm-12:30pm: Lunch provided on site

SOC: Fish – Habitat Characterization (row 207) – continued discussion

ADFG – encouraged looking at both upwelling and downwelling of groundwater, noted that PHABSIM accounts for upwelling only. Appreciates the site-specific parameters incorporated to the habitat suitability curves, did not realize that habitat suitability models accounted for groundwater, needs time to review the RFI 147 and will provide feedback.

Action Item – ADFG to provide feedback on RFIs 48 and 147, schedule meeting if necessary.

ADFG – reiterated importance of groundwater up and downwelling

EPA – commented on fish passage, specifically that DEIS stated that free passage of anadromous and resident fish may be temporarily halted during construction but would be reinstated during operation. Wants to know how this will be addressed in FEIS, also how will fish passage be preserved after closure of the mine.

AECOM – culverting and fish passage would meet state standards, discussion has been bolstered by multiple references to scientific literature showing that fish passage is preserved through culverts.

AECOM - to look into how culverts will be maintained after mine closure

ADFG - state recommends bridge construction (preferable to placement of culverts) whenever possible.

Regarding temporary blockages of fish passage – these are expected to be temporary – water would be rerouted during construction. From state perspective impacts to fish passage are expected to be *de minimis*. Noted incorrect link to stream bank restoration webpage provided in DEIS.

SOC: Fish – Marine Derived Nutrients (row 230)

AECOM – discussed impacts to marine derived nutrients at the mine site noting that the upper regions of NFK, SFK, and UTC are headwater systems with little woody debris (to trap salmon carcasses). These reaches already have low levels of nutrients therefore not much change in marine derived nutrients is

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expected.

EPA – raised the issue that change in marine derived nutrients was not addressed as additive with effects on downstream systems. Also noted the temporal difference in the contribution of nutrients from spawning depends on river.

ADFG – not aware of studies on marine derived nutrients in SW Alaska

NPS – Affirmed that there are several studies from Wood Tikchik State Park, Iliamna etc.

Action Item – NPS to provide references on marine derived nutrients for SW Alaska.

SOC: Fish – Portfolio Effect (row 220)

AECOM – explained that more information has been added on the portfolio effect, does not appear that impacts associated with project would have synchronous effect on the larger Bristol Bay watershed.

EPA – spoke to general approach on evaluation of impacts – suggested analytical framework should be: 1. is there an impact, 2. what are the environmental consequences? 3. what are the additive effects? Felt that permanent impacts were dismissed in DEIS. Also noted that diversity will be reduced, thus not valid to say that portfolio effect will compensate for this loss.

Action Item – AECOM/USACE to consider how to best discuss additive effects in the EIS, the expansion of additive effects analysis to the project area (i.e. not restricted to the mine site) and how to present additive effects in relation to portfolio effects.

EPA – noted that there is no natural mechanism to correct for the loss of anadromous fish habitat, and that it is disingenuous to conclude no impact on the basis of ecosystem resilience.

ADFG – noted that it feels premature to draw conclusions without consideration of additional data, forthcoming mitigation.

EPA – noted that disruption to groundwater pathways could reduce resiliency provided by portfolio effects

ADFG – urged consideration of impacts of culverts could also reduce resiliency provided by portfolio effects

ADFG – need to also consider spills scenarios in consideration of additive and portfolio effects.

12:30pm-4pm: Afternoon Session

- Commercial Fisheries

SOC: Commercial Fisheries – Lower Cook Inlet (row 80)

AECOM – thanked ADFG – Homer for good comments. Noted that some project area fisheries closed due to low abundance and furthermore that it is hard to calculate impacts in face of uncertainty regarding fishery reopening, and future market values.

ADFG – noted that the Weathervane scallop fishery reopened in 2015 and was active for 3 years. Regarding Salmon fishery in Iliamna Bay, felt that the activity is not fully captured. Noted that habitat is pristine, and stock is expected to recover, especially during the life of the mine, furthermore the average value of the sack row herring fishery is 3 million dollars, notably a value that should not be discounted.

AECOM – explained that the activity of the Weathervane (Scallop) and Cottonwood Creek (purse seine Chum fishery) fisheries have been revised. Voiced concern over the estimation of fishery value without accurate forecast

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of fishery takes from biologists.

Action Item – ensure fishery activity, take, and value is accurately captured in EIS especially the report of no harvest for Diamond Port Subdistrict, coordinate with ADFG as necessary.

ADFG – regarding attention paid to the Diamond Port and approach corridor in DEIS, this is a shallow approach that would potentially require dredging and thus incur greater impact.

USACE – asked about the mention of crab, is this a fishery we should be addressing?

Action Item – ensure that tanner crab fishery in Cook Inlet is discussed, even if it is a historical, inactive fishery, habitat is pristine with potential to recover.

Discussion of the following SOC's was postponed to a later date:

- Commercial Fisheries

SOC: Commercial Fisheries – EPA-Update to 2018 information (row)

- Recreational Fisheries

SOC: Recreational Fisheries – Data and Process (row)

SOC: Recreational Fisheries – Recreation Setting Impacts (row)

(Break 1:40pm-2:00pm)

- Tribes/cultural

SOC: Historic Properties – Identification (row 296)

AECOM – summarized changes, specifically the incorporation of surveys at Amakdedori Port, aerial studies, ferry terminals and river crossings at Gibraltar and Newhalen, review of the Alaska Heritage Resource Survey (AHRs), sites identified through interviews. Also noted that NARF has supplied documents that supported original native land selections that are currently under review by PLP and SRB&A.

SHPO – voiced concern over narrow focus towards single property associated with a transportation project, noted that this is an undersurveyed area, further that the summary in document of what is known and what we lack needs improvement. Requested more detail on the types and significance of sites so that impact can be better evaluated. Requested an evaluation of eligibility of known sites for listing. Recommended combining Cultural Resources and Historical Property sections.

Action Item – revisit how cultural resources and historical properties are evaluated and presented.

ACHP – also voiced concern that only one eligible historical property was identified, especially at this (late) stage in the NEPA process

NARF – felt that surveys have been biased towards archeological sites at the expense of the 12,000 ethnographic sites identified. Noted that attention has been too focused on the 43 sites listed in the AHRs. Results give an incomplete picture of cultural heritage.

AECOM – place names now included in document

NARF – would like to see greater effort to connect physical sites (archeologic and historic sites) and places of use (ethnographic), indigenous place names (i.e. all types of cultural resources) to allow a more precise analysis of impacts, notes that historic properties are a type of cultural resource, reiterated that the section split is unusual.

NARF – would like to see a more holistic approach to cultural resources, feels that the individual evaluation of sites is not appropriate. Looks forward to seeing what will be incorporated in the PFEIS.

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Noted that AHRS provides a good starting point but notes that these are not necessarily eligible properties, thus effort should be expanded. Response to SOC could be clarified for those not familiar with NEPA and Section 106 processes. SOC response does not adequately respond to the bias towards archeological sites. Notes that it is often difficult to separate historic properties and cultural resources, combination allows flexibility in analysis and could lend efficiency in the evaluation of impacts.

Action Item – AECOM/USACE to clarify relationship between NEPA and section 106 processes, to provide a more holistic treatment of cultural resources (i.e. ethnographic, archeological, place names) clarification on regulatory timeframe and process (Appendix C, 800 regulations and NEPA), and to consider combining the Cultural Resources and Historical Property sections.

SHPO – noted that a combination of sections would provide a more efficient delivery of information (i.e. reduced cross-referencing) and that NEPA is designed to allow a broad (opposed to compartmentalized) evaluation of cultural resources, stressing that the chance to take a holistic look is now. Approach will invariably be narrowed as project moves to permitting. Also noted that it is difficult to understand which resources will be subject to what regulations.

USACE – agreed that presentation of applicable regulations is confusing.

BSEE – speaking on behalf of their cultural resource specialists, assured group that any sites found in conjunction with placement of the pipeline would be properly treated and reported.

USACE – the programmatic agreement has procedures in place for inadvertent discoveries.

Action Item – USACE and BSEE to coordinate on the programmatic agreement to make sure it addresses ROW notification requirements for incidental finds associated with pipe installation on the outer continental (OCS).

NPS – reminded the group that the 'Respect the Land' document produced by NPS provides good reference for the type of broader analysis being suggested here.

SOC: Cultural Resources – General Impacts (row 90)

AECOM – explained the process for evaluating impacts to cultural resources.

NARF – reiterated that the treatment of cultural resources was cursory, encouraged extending analysis to sacred sites, human remains, subsistence use areas, areas used for teaching of songs, dancing, hunting.

LPB – commented that by such metrics, all of Alaska could be considered a cultural resource also noting that is not a bad thing.

SHPO – reiterated that NEPA provides an excellent opportunity to capture the cultural resources of an area that are known at the time and that this sort of broad assessment should not be deferred to the Section 106 process.

AECOM – welcomed the idea of a diagram (Action Item - to be supplied by NARF – taken from article by Tom King 2002 'what should be the cultural resource element in an EIA')

USACE – noted difficulty in capturing tribal culture and resources in western language. Native Alaskans consider these 'resources' as part of themselves. Admitted that we need help in describing these

NARF – cited Boraas and Nott volume 3 noting that the authors did a good job of translating these ideas.

ACHP – regarding how to articulate the sites within their living landscape, suggested capturing the connections between place and use. Feels that it is a federal agency responsibility to facilitate the communication of these

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ideas and connections.

AECOM – looks forward to refining process for addressing cultural resources.

SHPO – cautioned mixing terms with regard to areas used for analysis of direct, indirect and cumulative effects (referenced court case in VA).

(Break 3:25pm-3:40pm)

- Subsistence

SOC: Subsistence – Baseline Data (row 535)

AECOM – explained that more recent research has been added to the subsistence section, these studies often include traditional ecological knowledge (TEK) in their methodology (e.g. Burns et al. 2016 re: Iliamna Seals; Van Lanen et al. 2018 re: caribou)

EPA – asked if the studies included harvest levels

ADFG – believes that harvest data is in both studies, noted that ideally, we would have baseline followed by monitoring, however state lacks funding

NARF – noted that it is difficult to meet high-quality NEPA data standards with 15-year-old subsistence data.

NPS – notes that the Mulchatna caribou herd is fairly dynamic in its movement, knowing where caribou are currently harvested could help clarify temporal variability habitat use of caribou

NARF – relayed anecdotal report of shift in caribou, moose and bear in the last 5 years from Nondalton

ADFG – urged use of data and reporting on Mulchatna herd available from state

EPA – reiterated that harvest is dynamic and that harvest data from 2004 should not be applied to describe the current condition or to evaluate impact.

NPS – asked if treatment of mercury in fish and wildlife will be propagated to subsistence

AECOM – yes

SOC: Subsistence – Sharing and Social Networks (row 547)

AECOM – explained that qualitative discussion on sharing and social networks has been added but there has been no change to disclosure of impacts

NARF – in 2011 lack of analysis on subsistence networks was known, voiced disappointment that this knowledge gap has not been closed, noting that tabular data does not adequately capture this data. Feels that subsistence analysis is incomplete without such a study.

ADFG – notified the group that the state is working on a sharing network study for Bristol Bay that is expected to be available in January or early February.

Action Item – AECOM/USACE to rework SOC response to row 547 and include ADFG sharing network study when available.

NPS – noted prior concern over contaminated food, asked how this perception would affect subsistence networks?

NARF – cited changes to Kivalina sharing network as a result of Red Dog Mine development

USFWS – asked how the perception of subsistence resource contamination was addressed

AECOM – explained that they have revised the document to better tell that story, however difficult to find relevant

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literature.

USACE – mentioned Nuiqsut as a village to look to for published literature.

USFWS – see Northway in Upper Tanana Technical Paper 421 harvest and use of subsistence resources 2014.

ADFG – see research conducted Silver Bay in Sitka

EPA – suggested looking for resources outside of Alaska

NPS – asked if the transfer of traditional ecological knowledge and subsistence resources in and out of urban areas is addressed in forthcoming State study.

ADFG – transfer of subsistence resources is addressed, TEK is not

Action Item – revisit text on transfer of traditional ecological knowledge and subsistence goods in and out of urban areas

Action Item NPS to provide a list of TEK resources via email

EPA – Action Item - requested a figure showing overlay of subsistence use areas to identify areas of high ecological, cultural and heritage value.

AECOM – noted that this type of mapping is provided in the document; whereas individual maps are provided in the Appendix

NPS – regarding SOC (row 539), requested clarification on prohibition of subsistence harvest activities while on job, if this refers to the two weeks on shift, then please state that in the text.

EPA – requested that the replacement cost to villages due to loss of subsistence resources, be included

AECOM – noted that NEPA requires the disclosure of impact, also that the valuation of replacement costs is difficult.

Jon Isaacs (AECOM) – noted importance of avoiding speculation in NEPA process, citing other efforts that have failed

ADFG – notified the group that the state is working on a white paper on the replacement costs of food in Alaska and Canada, a 7-year effort.

Action Item – ADFG to send white paper on food security

NARF – mentioned the Subsistence harvest study done in Little Diomed by USACE

NPS – noted that the store in Nondalton is now closed, so replacement costs need to include freight and expedition.

SOC: Subsistence – TEK (row 549)

NARF – Why is TEK not included in sections outside of Subsistence?

AECOM)– Appendix K 3-1 is used as a source for all SMEs to reference and incorporate TEK into their individual sections.

Action Item – more explicit incorporation of TEK in resource sections.

NARF – asked for clarification on the term of subsistence use areas, encouraged inclusion of subsistence use areas as cultural resources

AECOM – have moved to the concept of traditional use areas, which is more inclusive (?).

Action Item – consider including subsistence use areas under discussion of cultural resources.

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NARF – response to SOC (row 549) what does propriety information mean? Intent is to keep ethnographic sources anonymous.

Action Item – AECOM/USACE will check on SRB&A proprietary citation.

Action Item - NPS recommends tying in socioeconomics with subsistence

AECOM – explained that discussion of socioeconomics has been augmented and a new section has been added.

- Transportation and Navigation

SOC: Transportation – Vessel Traffic (row 640)

EPA – asked if vessel traffic addressed the winter ice breaking ferry

USACE – needs to look into the question.

BSEE – noted that dredging requirements for pipe laying are not currently known, but will be the subject of future meetings

USCG – noted that ferry traffic is not expected to be an issue in ports.

USACE – announced that discussion on remaining SOC's will need to be rescheduled. These include:

- Public Health

SOC: Public Health – Baseline Health Disparities (row)

SOC: Public Health – Potential Impacts to Children (row)

SOC: Public Health – Protection of Public Safety (row)

SOC: Public Health – Increase in Crime and Drug Use (row)

SOC: Public Health – Food security (row)

- Aesthetics

SOC: Aesthetics or Visual Concerns – Lighting (row)

SOC: Aesthetics or Visual Concerns – Flight Paths (row)

SOC: Aesthetics or Visual Concerns – KOPs (row)

4:45pm-5pm: Listening session and close

Action Items

Topic	Actions
Fish – Iliamna Lake	Revisit discussion of baseline and environmental impacts of Gibraltar River crossing.
Fish – Iliamna Lake	Revisit discussion of resident fish in Iliamna Lake and identify where data on species is lacking.
Fish – Gibraltar River	Verify that construction-related impacts associated with bridges over navigable waters under USCG's jurisdiction (Newhalen and Gibraltar rivers) are documented in the EIS. Include a mitigation measure in Appendix M associated with in water construction windows.
Fish/Subsistence	Revisit analysis on methyl mercury to see if bioaccumulation in resident fish and downstream effects are addressed.
Fish - Mercury	NPS to share dataset and sampling protocol for monitoring methyl mercury in resident lake fish.
Fish – Habitat	Verify equal treatment of positive and negative effects of warmer temperature from WTP effluent discharge on juvenile fish.
Fish – Habitat	Revisit the methodology to characterize habitat data in Section 4.24 to make sure it is described, where appropriate, to support data being used in the EIS.
Fish - Habitat	Consider including information on critical model assumptions and uncertainties in the body of Section 4.24 rather than the technical appendix to help the reader understand the

	level of confidence associated the PHABSIM modeling. This applies to all models used to support the EIS.
Fish - Habitat	ADF&G to review RFI 48 and RFI 147 response and provide feedback to team; schedule followup discussion as needed.
Fish - Freshwater	Revisit EIS to verify that impacts associated with culvert blockage in post-closure are adequately addressed.
Fish – Marine Derived Nutrients	NPS to provide references on marine derived nutrients from studies in the Wood-Tikchik State Park and Iliamna.
Fish – Portfolio Effect	Take closer look at impacts analysis in Section 4.24 to make sure additive impacts to natural ecosystem are being considered for the project (all project components; culverts were mentioned), and how those additive effects might change the portfolio effect. Revisit SOC response 220. Coordinate with Spills SME on portfolio effect for spill scenarios in Section 4.27.
Commercial Fisheries	<p>AECOM to coordinate with ADFG (Homer office) to make sure their concerns regarding recovery of fisheries is addressed.</p> <ul style="list-style-type: none"> • Recent activity in the weather vane scallop fishery (using most current data) • Iliamna Bay/Cottonwood Creek chum salmon fishery (document harvest) • Pacific herring fishery (stock depleted but habitat is intact and would support productivity) • Diamond point subdistrict fishery (reporting no harvest – verify accuracy) • Tanner crab fishery (stock depleted but habitat is intact and would support productivity)
Cultural Resources	Revisit the context of cultural vs. historic resources and the separation of these sections. Need to verify there is adequate information on the natural or cultural time periods to help understand the significance of the sites.
Cultural Resources	Revisit how place names, AHRs sites, IICRs are addressed in the EIS to make sure the effects analysis is holistic.
Cultural Resource	Revisit comment #8 on pg 6 of Tech Memo 2 submitted by Nondalton: Regarding point locations of indigenous place names (frying pan lake and Groundhog mountain).
Cultural Resources	Revisit responses to all historic prop SOCs to make it clear to the general public what the different processes are and how they relate (e.g., Section 106, NHPA, and NEPA). It was also noted that the response does not respond to the particular point about the focus of surveys on archaeological sites rather than ethnographic sites
Cultural Resources	Clarification of regulatory processes/framework in the EIS (Appendix C 800 regs and NEPA)
Cultural Resources	USACE and BSEE to coordinate to make sure the PA addresses BSEE ROW notification requirements for potential inadvertent finds associated with pipeline installation in the OCS.
Cultural Resources	Nondalton will send article that contains the cultural resources ven diagram: Thomas King, <i>What Should be the “Cultural Resources” Element of an EIA</i> , which contains the cultural resources ven diagram. Note: sent during the meeting
Subsistence	Look back at reference material to apply a better qualitative analysis of the social sharing network.
Subsistence	When available review ADF&G sharing network study for Bristol Bay; expected to be available in January or early February 2020.
Subsistence	Rework response to SOC 547 regarding sharing and social networks
Subsistence	Revisit text on transfer of TEK and subsistence goods in and out of urban areas (between Anchorage and rural villages); the Bristol Bay study addresses sharing of TEK of elders.
Subsistence	Address perception of the quality of food and how it relates to subsistence sharing network. Look into published information/studies references for Red Dog Mine and Kivalina; Nuiqsut; published information on upper Tanana (Northway); Sitka (Silver Bay); could extend research reach outside of Alaska. TECHNICAL PAPER 421, NORTHWAY 2014
Subsistence	NPS to re-send list of documents for TEK.
Subsistence	Consider overlaying subsistence harvest maps to identify key areas of high ecological,

	cultural, and traditional value.
Subsistence	ADF&G to share white paper on food security and effort to identify replacement costs for traditional subsistence foods.
TEK	Take a look at explicitly calling out TEK throughout all resource sections.
TEK	Consider including subsistence use areas under the discussion of cultural resources
TEK	SOC response 549: check citation for SRB&K, Proprietary
TEK	Tie in socioeconomics with subsistence

Additional Notes

Parking Lot:

- Commercial Fisheries

SOC: Commercial Fisheries – EPA-Update to 2018 information

- Recreational Fisheries

SOC: Recreational Fisheries – Data and Process

SOC: Recreational Fisheries – Recreation Setting Impacts

- Public Health

SOC: Public Health – Baseline Health Disparities

SOC: Public Health – Potential Impacts to Children

SOC: Public Health – Protection of Public Safety

SOC: Public Health – Increase in Crime and Drug Use

SOC: Public Health – Food security

- Aesthetics

SOC: Aesthetics or Visual Concerns – Lighting

SOC: Aesthetics or Visual Concerns – Flight Paths

SOC: Aesthetics or Visual Concerns – KOPs