



United States
Department of
Agriculture

Forest
Service

Alaska Region

P.O. Box 21628
Juneau, AK 99802-1628

File Code: 2770

Date: January 16, 2015

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Submission of Forest Service Comments and Final 4(e) Terms and Conditions for the Sweetheart Lake Hydroelectric Project, FERC Project No. P-13563-003

Dear Ms. Bose:

Forest Service comments on the applicant-prepared environmental assessment (APEA) for the Sweetheart Lake Hydroelectric Project are enclosed (Enclosure 1.) On January 7, 2014, the Forest Service filed with the Commission a schedule for submission of our Forest Plan Consistency Finding and Final 4(e) Terms and Conditions. In that filing, we stated that both documents will be submitted within 60 days of the publication in the Federal Register that the DEA or DEIS is available for public comment. That schedule is also enclosed (Enclosure 2.)

Enclosure 3 is the Certificate of Service.

If you have any questions or comments, please contact Roger Birk of this office at 907-586-8843 or rbirk@fs.fed.us.



Sincerely,

/s/REBACCA NOURSE (for)
BETH G. PENDLETON
Regional Forester

Enclosures

cc: Melissa Dinsmore, Brad Orr

Enclosure 2

SCHEDULE FOR SUBMITTING FINAL 4(e) TERMS AND CONDITIONS

Sweetheart Lake Hydroelectric Project
P-13563

USDA Forest Service
Alaska Region
Tongass National Forest

The following schedule is submitted pursuant to 18 CFR 4.34(b)(1)(i).

Document	Date To Be Submitted To FERC
<ul style="list-style-type: none"> Forest Plan Consistency Finding 	Within 60 days of publication in the Federal Register that the DEA or DEIS is available for public comment
<ul style="list-style-type: none"> Final 4(e) Terms and Conditions 	Within 60 days of publication in the Federal Register that the DEA or DEIS is available for public comment
<ul style="list-style-type: none"> Modified 4(e) Terms and Conditions 	Within 60 days of publication in the Federal Register that the FEA or FEIS is available for public comment.

Enclosure 3

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

IN THE MATTER OF FINAL 4(e))
 TERMS AND CONDITIONS FOR)
 THE SWEETHEART LAKE)
 HYDROELECTRIC PROJECT)

Project Number: P-13563-003

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have served the U.S.D.A. Forest Service's letter on submittal of Final 4(e) Terms and Conditions by electronic filing, with the Federal Energy Regulatory Commission, at www.ferc.gov, and a copy of said documents by electronic mail to the following listed parties:

Party	Primary Person or Counsel of Record to be Served	Other Contact to be Served
Juneau Hydropower, Inc.	Duff Mitchell, Business Manager Juneau Hydropower, Inc. PO Box 22775 Juneau, ALASKA 99802 duff.mitchell@juneauhydro.com	
National Marine Fisheries Service	Susan Walker Marine Resources Specialist National Marine Fisheries Service PO Box 21668 Juneau, ALASKA 99802-1668 UNITED STATES susan.walker@noaa.gov	Thomas Meyer General Counsel NOAA General Counsel PO Box 21109 Juneau, ALASKA 99801 tom.gcak.meyer@noaa.gov
Alaska Electric Light & Power Company	Scott Willis Alaska Electric Light & Power Company 5601 Tonsgard Ct Juneau, ALASKA 99801-7201 UNITED STATES scott.willis@aelp.com	
U.S. Fish and Wildlife Service	Richard Enriquez Juneau Fish and Wildlife Field Office U.S. Fish and Wildlife Service 3000 Vintage Blvd., Suite 201 Juneau, ALASKA 99801-7100 Richard_Enriquez@fws.gov	

United States Department of Agriculture	Dawn M Collinsworth Office of the General Counsel U.S. Department of Agriculture PO Box 21628 Juneau, ALASKA 99802-1628 UNITED STATES Dawn.Collinsworth@ogc.usda.gov	
United States Department of Agriculture	Roger Birk Alaska Region - Public Services PO Box 21628 Juneau, ALASKA 99802-1628 rbirk@fs.fed.us	
U.S. Fish and Wildlife Service, Juneau Fish and Wildlife Field Office	Steve Brockmann Fish & Wildlife Service, Region 1 3000 Vintage Blvd. #201 Juneau, ALASKA 99801 UNITED STATES steve_brockmann@fws.gov	

Dated this 16th day of January 2015

/s/ Roger Birk

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**Comments on Volume 2 PDEA and Appendices of the Final License Application for Sweetheart Lake FERC Project P-13563
USDA Forest Service, Alaska Region, Tongass National Forest**

Archeology / Heritage				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
43	1.3.6 National Historic Preservation Act	“While the archaeologist designated by the Applicant can make recommendations to the SHPO regarding eligibility of properties, the SHPO is the only one who can make determinations of eligibility. These recommendations have been reviewed by the SHPO archaeologist, and the SHPO has made a determination of concurring that a finding of no historical properties affected is appropriate”.	<p>The Federal Agency makes determinations of eligibility and the SHPO comments or concurs with the determinations. The Forest Service and the Office of History and Archaeology have stressed that the identification efforts for this project were not adequate.</p> <p>The Forest Service asserts that inadequate documentation of intensity of inventory was completed for this level of ground disturbance.</p>	The Forest Service is available to consult on the model used and the survey methodology developed to ensure adequate survey of the area. Sensitivity maps that indicate lands within the high sensitivity area of potential effect should be compiled. Adequate survey within those areas (pedestrian transects spaced at 20 m with soil probes and a systematic shovel testing methodology developed) should be completed within the high sensitivity zones. Following the field identification phase adequate maps could be included so that the intensity and location of the transects and soil probes/tests completed within the APE are shown and the reader can evaluate the survey efforts.
548-49	3.3.8. Cultural, Archaeological, and Historical Resources	“For a property to be eligible for the National Register, it must possess integrity of location, design, setting, materials, workmanship, feeling, and association. In addition, the property must have significance under one or more criteria”	For a property to be eligible for the National Register, it must be significant under one of more of the criteria and must have integrity. There are seven aspects of integrity but a property does not have to have all aspects to be National Register eligible.	
549	3.3.8. Cultural,	“The AHRS is primarily a map-	The AHRS is a database that consists of an	

	Archaeological, and Historical Resources	based system that consists of an inventory of all reported historic and prehistoric sites within the State of Alaska.”	inventory of all reported historic and prehistoric sites within the State of Alaska.	
549	3.3.8. Cultural, Archaeological, and Historical Resources	“The fundamental use of the AHRS is to protect cultural resource sites from adverse impacts.”	The fundamental use of the AHRS is to keep an inventory of historic and prehistoric resources documented to date.	
552	3.3.8. Cultural, Archaeological, and Historical Resources	“A full-field archaeological survey was conducted for all infrastructure areas of the Project along with the shoreline of the Project boundary”.	There are archaeological surveys and inventories of varying intensity. We are not aware of “full-field” surveys being conducted and uncertain what it entailed. The Programmatic Agreement between the Forest Service in Alaska and the Alaska State Historic Preservation Officer details Sensitivity Models for the Tongass National Forest, Survey strategies for undertakings and Standards and Guidelines for Conduct of Field Surveys. We suggest these standards be reviewed and adopted or improved upon for the inventories in the Area of Potential Effect (APE).	In May 2011 JHI produced a Draft Cultural Resource Study Plan/Scope of Work. Pages 11- 12 of that document state survey intensity and sub-surface testing methodology to be employed. It states that fieldwork would be recorded with daily survey notes, digital photographs etc. which have not been made available to the Forest Service. Site maps of recorded sites were not completed as detailed in that document.
552	Table 3-67 Area Archaeological and Historical Sites – Concurred Determinations of Eligibility and Effect	SUM-097 Friday Mine	Eligibility for National Register and Criterion - Unknown	It was determined “Not eligible” in 2002.
554	Table 3-67 Area Archaeological and Historical Sites – Concurred Determinations of Eligibility and Effect	“...therefore JHI would prefer to not develop the option of archaeological monitoring at this time. However, JHI has and would continue to consult with the DIA, and prior to road construction, would make arrangements for DIA reconnaissance for the 4,400-foot	The Forest Service has commented on several occasions that the archaeological survey of the area was not documented to be of adequate intensity. If inventory standards are not met, the mitigation that could be considered would be to have an archaeological monitor present during ground disturbing activities. The road and the powerhouse areas area are of	

		roadway and powerhouse area with other agencies invited.	particular concern as they are in high sensitivity areas. The Forest Service would be pleased to invite the DIA to assist a qualified archaeologist in the archaeological monitoring.	
555	Illicit Artifact Collection	Surface or buried cultural resources may attract the interest of non-specialists during construction or operation of the Project. Construction workers, power plant operators, line inspectors, or repairmen may unintentionally discover previously unknown surface or buried cultural resources. Defacing or removing these artifacts or features diminishes the scientific value of prehistoric and historic resources.	Archaeological properties and artifacts located on public lands are protected under the Archaeological Resource Protection Act (ARPA) and physically altering or removing them carry criminal and civil penalties.	
555	Human Remains/Burials	Though unlikely, there is always the possibility that burials or human remains may be encountered during ground-disturbing activities. Alaska state law governs the procedures to be followed in the event of a human remains discovery, regardless of land status.	Native American burial sites, human remains and funerary objects on federal lands are protected under the Native American Graves Protection and Repatriation Act (NAGPRA). In the event that human remains are encountered NAGPRA outlines steps that must occur, including cease work in the area, protect the site, notify the responsible agency, and send written confirmation to the Tribe. Activity in the area can proceed 30 days after the Tribe(s) has received written confirmation of the inadvertent discovery.	
623	Table 5-1 Action vs. No-Action Alternative Table	Proposed Action = No Change	A 'no change' determination is difficult to support without complete inventories in the Area of Potential Effect.	
	Appendix R	Letter from Marti Marshall to	Recommended additional survey and testing	

		Judith Bittner 2012	when the alternatives are developed and identified on the ground.	
Appendix Z – Heritage Resource Plan				
6	4.4. Illicit Artifact Collection	Illicit Artifact Collection	The Archaeological Resources Protection Act protects historic and prehistoric artifacts on public lands. Federal laws prohibit this type of activity suggest this section be rewritten to clearly articulate this.	
6	4.4.1. Human Remains/Burials	Human Remains/Burials	Any project that involves a federal permit, or occurs on federal lands is required to comply with the Native American Graves Protection and Repatriation Act (NAGPRA). These regulations and steps are clearly articulated in the Statue and this section should be re-written to comply with the law.	
7	4.5. Memorandum of Understanding (MOU)	MOU	Needs to be changed to MOA, the correct vehicle for formalizing the mitigation measures that will occur to mitigate adverse effects. Refer to 36 CFR 800.	
7	4.5. Memorandum of Understanding (MOU)	“...first measure develop a Memorandum of Understanding...”	The development of a MOA is not the first step to be taken. The resources needs to be evaluated to determine if considered an historic property (significance) and if significant, consultation should occur to determine if effect to significant historic properties can be avoided or if effects would be adverse. If adverse effects cannot be avoided than a MOA needs to be developed to formalize mitigation measures.	

Botany and Invasive Plants				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
342-344	3.3.4.1 Vegetation and Botanical Resources	N/A	Scientific names are unfamiliar to many non-specialists. Include both common and scientific names for plant species when first introduced.	
342-343	3.3.4.1 Vegetation and Botanical Resources	The following sensitive plants are a subset of that group that are known or suspected to occur in the Juneau Ranger District in the TNF:	Identify which sensitive plant species are known to occur on the Juneau Ranger District, and which are suspected to occur.	
341	3.3.4.1 Vegetation and Botanical Resources	The literature review included E-Flora BC, the Forest Service Sensitive Species List...	Indicate whether or not the Forest Service NRIS TESP-IS database was searched for known sensitive, rare, and invasive plant locations in or near the project area.	The dates the databases were searched should be included in the botany resource reports (Appendix J)
344	3.3.4.1 Vegetation and Botanical Resources	The Juneau Ranger District rare plant species list has changed since its publication in 2009.	Provide a reference for this publication. As far as we know there is no official list of rare plant species for Juneau Ranger District.	
344	3.3.4.1 Vegetation and Botanical Resources	Only one rare plant species – <i>Carex bicolor</i> – from the current Juneau Ranger District rare plant list was found to occur in the surveys conducted in 2010 and 2011.	Rare plants are based on the AKNHP list and this species is not on the 2012 AKNHP rare plant tracking list. Provide the rationale for analyzing it as a rare plant.	
345	3.3.4.1 Vegetation and Botanical Resources	The Project effect on rare plant species is considered insignificant.	State whether the effect is adverse or beneficial.	
345	3.3.4.1 Vegetation and Botanical Resources	The Project effect on rare plant species is considered insignificant.	Using the term 'significant' in this context should be avoided, as it can be interpreted as statistical significance.	Recommend using none, low, moderate, or high.
345	3.3.4.1 Vegetation and Botanical Resources	The FWS lists only one plant species as endangered...	Add "in Alaska" to "endangered".	
345	3.3.4.1 Vegetation and Botanical Resources	The Project effects on Threatened and Endangered species is nonexistent.	Substitute "no effect" for "nonexistent"	Per language specified in FSM 2672.43 (R10 Supplement).
346	3.3.4.1 Vegetation and Botanical Resources	Based on the results of the	State the determination of effects for each	If all sensitive species have the

	Botanical Resources	botanical surveys of the Project-affected area, the only potential Project effect on rare, sensitive, threatened, or endangered plant species...	sensitive species, using language specified in FSM 2672.43 (R10 Supplement).	same determination, then they can be referred to collectively.
346	3.3.4.1 Vegetation and Botanical Resources	All habitats were surveyed, but several habitats within the Project boundary were surveyed more intensively due to the potential for specific species to occur	State whether or not the amount and intensity of survey of habitat in the project area for each sensitive species was sufficient that a risk assessment for that species is not warranted.	See Tongass National Forest Guidance for Biological Evaluations (Dillman et. al 2009), section 3.6.
346	3.3.4.1 Vegetation and Botanical Resources	Although this species is considered rare, the loss of the these plants would not cause the species to be listed as threatened or endangered, and the Project effects would be considered insignificant.	Provide additional rationale for this statement. How is it known that the project would not cause this species to be T&E listed? What about listing as a sensitive species? How would the loss of this population affect viability of this species on the Tongass? According to the project botany resource report (Appendix J), this is the only known occurrence of this species on the Tongass, and a total of five records in SE Alaska.	
347	3.3.4.1 Vegetation and Botanical Resources	The Project effects for introduction of invasive species would not be significant.	Using the term 'significant' in this context should be avoided, as it can be interpreted as statistical significance.	Recommend using none, low, moderate, or high.
347	3.3.4.1 Vegetation and Botanical Resources	The Project effects for introduction of invasive species would not be significant.	State the overall level of risk for introduction of invasive species, and provide the rationale.	Forest Service Manual 2080, Tongass National Forest Supplement 200-2007, Exhibit 4: "The overall risk of invasive plant establishment as a result of the project is high/moderate/low. This determination is based on the following: 1. 2. etc.

347	3.3.4.1 Vegetation and Botanical Resources	Once either native vegetation Forest Service approved vegetative cover	Add "or" to this sentence.	
347	3.3.4.1 Vegetation and Botanical Resources	Specifically, the following are the proposed measures to address Project-related botanical related terrestrial effects that are included in the above plans...	Why was salvage of the bicolor sedge population and introduction into nearby habitat not listed as a proposed protection measure?	
347	3.3.4.1 Vegetation and Botanical Resources	Specifically, the following are the proposed measures to address Project-related botanical related terrestrial effects that are included in the above plans	Several mitigation measures listed in the project Invasive Plant Risk Assessment (Appendix J) appear to be missing from this section, and they are also not included in the Vegetation Management Plan (Appendix Z).	
347	3.3.4.1 Vegetation and Botanical Resources	JHI proposes to survey Project-disturbed sites every 5 years (per TLMP guidelines) and eradicate any invasive species found the Invasive Species Management Plan (ISMP).	The project Invasive Plant Risk Assessment (Appendix J) states that triennial monitoring surveys will be conducted for the life of the project. The PDEA states that surveys will occur every 5 years until vegetative cover is established, then the surveys would discontinue. Need to reconcile these different versions of monitoring frequency and duration.	

Engineering				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
F	Volume 1 – Exhibit F; Drawings Sheet F-2(7)	In the Drawing, the sediment pond displayed on the drawings shows a base of 20.0 ft MLLW and an overflow elevation of 24.0 ft MLLW. The discharge drainage CPP is shown to have an invert elevation of 19.5 ft MLLW on the	The elevation of the inlet invert should be well above the base of the pond so as to allow time for the sediment to settle. If the drainage pipe is placed above the base of the pond the water will either seep into the soil or rise up and drain out through the pipe. Either way the sediments have a chance to settle out. If the inlet invert	Modify the drawings to accommodate the change in pipe elevation.

Engineering				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		inlet end in the sediment pond.	elevation is at the base of the pond it defeats the purpose of having a pond because the sediments never have a chance to settle.	
F	Volume 1 – Exhibit F; Drawings Sheet F-3(1) & F-2(2)	The drawings make multiple references to adhering to Forest Service design criteria for low-volume roads for the access road construction. In the detail drawings of the road construction they list a base material as simply “NFS Gravel Base”	Indeed a Non-Frost Susceptible Gravel base would be the design intent, but at some point in the design process a reference to a specific material type given in the FP-03 Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects. If designing to Forest Service standards the FP-03 would be the reference specification manual to use.	Modify the design drawings to reference a specific set of standards for materials during construction. The preferred design standard is the FP-03
F	Volume 1 – Exhibit F; Drawings Sheet F-2(2)	They Typical Loading Float Section shows steel pipe for the main float supports.	The Forest Service has not had the best of luck with unprotected steel floats in marine environments. Without any reference to the type of steel, steel protective surfacing or the installation of cathodic protection it would be of concern that the lifespan of the steel floats would be in serious question. It is suggested that the use of High-Density Polyethylene pipe by used instead of steel or some additional considerations be made for the protection of the steel pipes.	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
87	Volume 2 PDEA; Table 2-5	Water Use - Effect on pre-existing Alaska DFG water reservation - No proposed measure. Zooplankton - Seasonal Reservoir	The preceding paragraph states the table includes proposed environmental measures. Yet, for these two environments no measures are proposed.	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		fluctuations- no significant effect		
88	Volume 2 PDEA; Table 2-6	<p>Tributaries of Sweetheart Lake (cont.) - Seasonal Inundation will affect current spawning habitat of rainbow trout and native Dolly Varden species long term effect unknown.</p> <p>Insignificant effect compared to artificial feeding program.</p> <p>1. Some new habitat in Inlet 1 would be created. 2. Encourage continuation of DIPAC rainbow and Dolly Varden trout feeding program from annual sockeye lake stocking program with sockeye smolt collection and transport system. Feed, not spawning habitat, appears to be the limiting factor. Proposed measure is outside the control of the Project.</p>	<p>It is difficult to understand the logic between the effect and the proposed measures. What does “Insignificant effect compared to artificial feeding program” mean? The effect states that spawning habitat is affected, which means that there will likely be less individuals coming into the population due to spawning area being inundated. The document discloses that new “habitat” will be created, but it does not say spawning habitat. Is this spawning habitat? What does “feeding” the fish have to do with spawning area?</p>	<p>Please explain the logic used.</p> <p>How much “new” habitat will be created compared to what is being lost?</p>
88	Volume 2 PDEA; Table 2-6	Sweetheart Lake (cont.) - Seasonal inundation-loss of spawning habitat in the pinch point between upper and lower lake - No proposed measure.	How is this different than the row (2 above) that discusses seasonal inundation and loss of spawning habitat? Duplicate information.	Delete this row in table or previous row.
88	Volume 2 PDEA; Table 2-6	Sweetheart Lake (cont.) - Seasonal inundation may affect nutrient levels and Dissolved Oxygen-no significant effect. - No proposed measure.	Nutrient levels within the lake are related to zooplankton. If nutrients change the number of zooplankton will change. The table states there will be no significant effect to the zooplankton.	Peer reviewed (published) scientific references need to be added to support the conclusion of “no effect”.

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
89	Volume 2 PDEA; Table 2-6	Sweetheart Creek - The Project will change the temperature regime in Sweetheart Creek-not a significant effect. - The temperature-related changes to Sweetheart Creek will not cause a significant impact; no measures are proposed.	Temperature changes can cause growth changes for the fauna that lives in the lake, e.g. zooplankton and fish.	Peer reviewed (published) scientific references need to be added to support the conclusions of "no effect".
107	3.1. GENERAL DESCRIPTION OF THE RIVER BASIN	Access to the lake is limited to float plane or helicopter, and visitors to the area are the rare guided angler or hunter. Sweetheart Lake is used as a nursery area for sockeye salmon.	The way this paragraph is written suggests that anglers are there to catch sockeye. That is not the case. Anglers typically go to the lake to catch rainbow trout.	Have the first sentence be in a paragraph by itself and add information on what the anglers and hunters actually target during their trip.
108	3.1. GENERAL DESCRIPTION OF THE RIVER BASIN	The Alaska DFG applied for water rights...Figure 3-2 provides the exact portion of Sweetheart Creek below the barrier falls. The red line also indicates what would be Alaska DFG water rights distance, instead of the 1.3 miles their application had previously indicated.	This paragraph needs to be written in plain language to be clearer.	Provide information on the actual water rights length.
165	Water Quality Test Results	It is not uncommon for the zooplankton community to have such variation in structure due to seasonal life cycles, diel migration, and predation.	How was this conclusion reached?	Peer reviewed (published) scientific references need to be added to support the conclusions.
165 - 167	Water Quality Test Results including tables	Sampling for zooplankton was conducted at Sweetheart Lake in July 2013 to help determine	This paragraph and others are discussing Tow 1 and Tow 2. If these are single tows for zooplankton it is inappropriate to compare one	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		zooplankton composition and abundance in the system. Samples were collected at two stations in Lower Sweetheart Lake. Tow 1 was at a midway point in the lake, and Tow 2 nearer the connection between the upper and lower lake systems (Figure 3-26). The samples were examined to identify species, determine the density (no/m2), the biomass (mg/m2), and the mean wet lengths (mm) of the zooplankton present.	<p>point of data with other data previously collected.</p> <p>This section contains very poor quality science and uses the information inappropriately. Data comparisons in the Table and the Conclusions are inappropriate.</p> <p>The PDEA needs to address how the water level changes may affect plankton numbers and species composition.</p>	
169-172	Table 3-12, 3-13, 3-14, 3-15		Suggest these tables be removed. Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices.	
175	Water Temperature	Temperatures in Sweetheart Lake were logged hourly from September 2011 to summer 2012 (Figure 3-28 and Figure 3-28) at two sites...	Typo – “(Figure 3-28 and Figure 3-28)”	
176-177	Figure 3-27 and Figure 3-28		Suggest these tables be removed. Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices.	
196	Effects on Water Quality	From two published studies, the variation of water temperature ... would be 0017 °C to .0061 °C...	Insert missing decimal in the 0017 °C	
197	Effects on Water Quality	However each hydropower facility	Offer the following clarification”...be worth	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		is different and it might be worth monitoring gas levels post construction to ensure that there are no issues ...	monitoring dissolved gas levels post construction... “	
198	Zooplankton	There are no adverse effects anticipated by the Project seasonal reservoir fluctuations or operations that would adversely affect the zooplankton densities of Sweetheart Lake. Therefore, there are no proposed measures.	Provide data and peer reviewed (published) scientific references to the zooplankton section to support the conclusions.	
201-215	Fish and Aquatic Resources of Sweetheart Lake Tributaries		This section contains the current habitat conditions; however, the post project conclusions, such as the ones in Table 3-21, are made without any rationale or explanation of why the data is important in this section.	
202	Fish and Aquatic Resources of Sweetheart Lake Tributaries	Increasing the level of Sweetheart Lake is expected to affect some individual Dolly Varden, but the habitat in Inlet 1 will change but not be adversely affected by the Project...	Provide peer reviewed references to support this conclusion.	
202	Fish and Aquatic Resources of Sweetheart Lake Tributaries	Spawning on alluvial fans is a high-risk proposition under the best of circumstances.	Provide peer reviewed references to support this statement.	
204	Inlet 1 – Head of Lake Creek	Inlet 1 has suitable habitat for resident Dolly Varden and rainbow trout (Appendix G).	Clarify what kind of habitat is being referenced in this sentence (spawning?).	
212-215	Table 3-22		It is not clear what the data in this table provides. For example, “Distance” is one of the	

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			<p>columns titles. Distance from what?</p> <p>“Elevation” column is also confusing. Elevation is typically described as the distance above sea level, yet, the table is not comparing their “Elevation” column to sea level.</p> <p>Tables need to be meaningful to what is being presented in the PDEA; otherwise they can remain in the appendices</p>	
219	Figure 3-43		<p>The purpose of the figure is unclear, it is difficult to read and understand what the lines or red area represent. Index information is needed for the reader so they can tell what is being presented.</p>	
221	Seasonal Inundation Analysis	<p>On average, rainbow trout require from 300 to 320 accumulated temperature units (ATUs) to hatch, and from 500 to 580 ATUs to emerge from the gravel.</p>	<p>ATUs are accumulated thermal units not temperature units. Make sure the correct scientific terminology is used.</p>	
223	Seasonal Inundation Analysis	<p>The likely lake surface elevation places the potential spawning area for Sweetheart Lake Inlet 1 (Figure 3-43) spawning Dolly Varden in the lower canyon reach of Inlet 1 as described in Appendix D and Appendix G.</p>	<p>This sentence tells the reader to look for the information in Figure 3-43, but the information is not provided in the figure.</p> <p>See comment above about Figure 3-43.</p>	
229	Seasonal Inundation Analysis	<p>In comparison of the Deer Lake fry feeding information to Sweetheart Lake, it is important to note that prior surveys conducted prior to the initiation of the Alaska DFG and</p>	<p>The sentence structure is awkward. Suggest rewording to make to clear. Provide the reference to the information and peer reviewed references to support the statement.</p>	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		subsequent DIPAC stocking sockeye fry in Sweetheart Lake the lake demonstrated zero to very limited numbers of rainbow trout residing in Sweetheart Lake.		
229	Seasonal Inundation Analysis	In 1989 and 1990, Alaska DFG conducted aquatic studies at Sweetheart Lake related to the stocking of sockeye salmon. In this study Alaska DFG caught (using both gillnet and minnow traps) a total of 442 Dolly Varden and only 8 rainbow trout in a 2-year period of studies (Yanusz and Barto, 1995) No public sport fishery was noted in any Alaska DFG survey.	It is fine to include the actual number of fish caught in the Yanusz and Barto study, but the results should be put into a scientific term of catch per unit effort or similar. Numbers of fish have no value scientifically unless you have an effort. As written there could have been 442 Dolly Varden caught in a one hour period of sampling. Put in the form of effort or a population size estimate.	
229-230	Seasonal Inundation Analysis	Therefore, it is rational to suggest based on direct and empirical evidence that the growth of the current rainbow trout population in Sweetheart Lake is likely due to man-made intervention of stocking salmon fry as is the case in Deer Lake also located in Southeast Alaska. In essence, boosting the feedstock biomass for Sweetheart Lake rainbow trout and Dolly Varden through sockeye fry stocking that would not otherwise naturally exist.	It is not clear how the comparisons are being made. There is a lack of scientific data in the conclusions. Provide peer reviewed references to support the statements.	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
230	Proposed Measure to Address Project Effect on Tributaries	As presented, it would appear from the empirical evidence that the limiting factor for both rainbow trout and Dolly Varden is the artificial introduction of feedstock (sockeye fry) to Sweetheart Lake by the DIPAC hatchery. Therefore, the single most limiting factor for maintaining a population of resident rainbow trout and larger size (compared to pre-stocking) Dolly Varden is a variable outside the control of the Project under terms and conditions. In comparison, the raising of the lake levels and affecting the tributaries is an insignificant adverse effect when juxtaposed against the impact of an independent variable not controlled by the Project – essentially an artificial feeding program.	Re-evaluate this entire section once appropriate scientific methods are established.	
242	Fish Surveys and Trapping at Sweetheart Lake	Per an August 29, 2013, conversation with DIPAC, the estimated successful saltwater migrants is from 20,000 to 60,000 smolts annually.	The same units of measure need to be used in a paragraph where comparisons are being made. This paragraph begins talking about survival of sockeye smolts in percentages then goes to numbers.	
242	Zooplankton Sampling	Zooplankton is important for aquatic resources in Sweetheart Lake. Zooplankton	Inappropriate comparisons are being made with this data. As such, recommend removing this section or collecting data that can be	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		sampling was conducted at two stations in Lower Sweetheart Lake in July 2013 to help determine zooplankton composition and abundance in the system. These data were compared to the extensive Alaska DFG studies that occurred from 1989 to 1993 and reported in the Yanusz and Barto document cited in the PDEA. A more thorough discussion of the 2013 zooplankton studies, correlation with previous studies, analysis, effects and proposed measures are presented in Section 3.3.2 – Hydrology and Water Quality.	compared with the previous ADFG data.	
243	Zooplankton Sampling	Although the zooplankton species have evolved and changed between the Alaska DFG report and the subsequent JHI study, the densities of zooplankton collected during July 2013 appear to be analogous to those recorded in July of 1993 – 20 years ago.	Inappropriate comparisons are being made with this data. As such, recommend removing this section or collecting data that can be compared with the previous ADFG data.	
246	Inundation	The increased lake area is likely to lead to an increase in euphotic volume and therefore the capacity	Provide peer reviewed references to support this statement.	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		of the lake for sockeye rearing.		
260	Fish Surveys and Trapping at Sweetheart Creek	Very few fish were captured in the canyon creek bypass reach (Reach 2) and anadromous reach (Reach 1) during four sampling periods in June, July, and August 2012, perhaps due partly to high flow and low water temperature (4° C [39.2 °F] in June) and partly due to low fish density. Ten rainbow trout and eight Dolly Varden were captured over 3 consecutive days in August 2012 with five large Promar traps set overnight on each occasion. Dolly Varden captured in the lower creek ranged from a fork-length 89 to 160 mm (3.5 to 6.3 inches) while rainbow ranged from 124 to 206 mm (4.9 to 8.1 inches).	It is not clear if the information is being used as a presence for species of fish or to claim that not very many fish use this area. Typically when data is presented, it includes a measure such as catch-per-unit-effort not just numbers of fish.	
262-263	Table 3-29		Missing data in note regarding the * and ** next to life stage of some species.	
268	Outlet of Sweetheart Creek	The emigration timing of smolts is accelerated by warmer water temperatures, which can also lead to reduced marine food availability and higher mortality rates.	Please provide peer reviewed references to support this statement.	.
271	Analysis Project Effects for Bypass Canyon Reach Instream Flow	Char and trout have historically been washed into Sweetheart Creek by high water higher water	This is the first use of the term Char. To be consistent suggest changing this to Dolly Varden since that terminology is used	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		velocity events (Appendix V).	elsewhere.	
275	Analysis of Effects of Maintaining 300 to 486 cfs on Sweetheart Creek Pink Salmon	Of the six variables listed, four (1, 2, 3, and 4) indicate a potential for a marginal increase in pink salmon production; however, variable 5 could have negative effects on any increase in pink salmon production from Sweetheart Creek.	Only five variables are listed in the preceding paragraph.	
302	Analysis of Project Effects on Essential Fish Habitat (EFH)	During the shoreline road construction phase of the project there will be a measurable, but temporary, alteration of water quality in the active construction area, however, no adverse and permanent effects, perhaps even effects beyond a tide cycle should prevail.	We agree that the effects are short term in nature. However, including statements that minimize effects of the project, such as, “perhaps even affects beyond a tide cycle should prevail.” do not belong in the document.	
302	Analysis of Project Effects on Essential Fish Habitat (EFH)	This change may have an effect on those relatively few pink salmon that spawn above tidal influence.	Although, the area is small, and the numbers of pink salmon are not known, it doesn’t mean the area is not important to the pink salmon that spawn there. Delete “relatively few” from the sentence.	
303	Temperature	Personal communication between Duff Mitchell, JHI and Eric Prestegard, Executive Director, DIPAC hatchery on May 12, 2014 reveal that the proposed temperature changes from the Project should have no effect on pink salmon spawning.	Peer reviewed citations would be a better choice for this project. Personal communications can be misquoted, misunderstood or taken out of context.	

Fisheries				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
314	Habitat Modeling	The proportion of flow in the main stream channel and side channel at each flow level was examined with a regression analysis (Figure 3-78).	The section should discuss why the regression is important or why the results are important, and what the results are.	
307-315 and 319-325			There are some page numbering problems throughout this section, i.e. each page after page 307 to page 315 has a page number of 314.	
327	Affected Species: Pacific Herring	As of April 2, 2014, a NOAA press release stated that the Southeast Alaska Distinct Population Segment (DPS) of Pacific herring is not a candidate species that has recently was the subject of a status review (73 CFR 19824).	The wording is clunky.	
674	6.0 FINDING OF NO SIGNIFICANT IMPACT	On the basis of this PDEA, the issuance of an original license for the Sweetheart Lake Hydroelectric Project with JHI's proposed PM&E measures would not constitute a major federal action significantly affecting the quality of the human environment.	Looking at the information provided in this document there is not adequate information to support this conclusion.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Volume 2. – Effects analysis	This is how most of the effects analysis section appear: Current condition, Science used to	What is not in the section are the conclusions, except for the one on page 184, Section 3.3.2.4,	We suggest that after you do the science, you take the next step and write a conclusion.

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		determine current condition, Effects of the proposed action on the resource, Science used to determine the effects, and, in a few cases, Cumulative effects – what other factors may affect the resource.	‘Based on the research conducted to date, the changes in proposed instream flows of 300 to 486 cfs year round would have no significant impact on marine life and organisms inhabiting the Sweetheart Creek estuary and marine zone of Gilbert Bay Flats.’ This one sentence wraps up the resource analysis and lets the reader know the expected results.	The conclusion will help support the contention that there is no effect on the resource.
29	Volume 2 – Alternatives Considered	“...National Environmental Protection Act (NEPA)...”	NEPA is the National Environmental Policy Act – please correct.	
70	Volume 2 - 2.2.1.10. Smolt Reentry Pool		Please show the Smolt Reentry Pool on Figure 2-6. It is discussed right below the figure and readers will look for it.	
85	Volume 2. – 2.2.4. Environmental Measures	“(c) Decide on continuation of compliance monitoring; and”	Ending with the word ‘and’ suggests there should be a letter (d). Please add the letter (d) or delete the word and.	
93	Volume 2. – Table 2-9 Proposed Terrestrial Wildlife Resource Measures	Wildlife Movements – “6. The Project footprint has been designed to use minimal area, and the coastal road/trail minimizes disturbance to the forested area.”	This section discloses how the selection of the coastal road minimizes disturbance to the forested area but contains no discussion on how the coastal road/trail will impact access to the beach and stream areas for terrestrial wildlife. For example, deer use beach areas for food in the winter and bears eat beach grasses when they leave hibernation, the coastal road/trail may limit access to the beach foods. This analysis on impacts to shore access needs to be included.	
112	Volume 2. – Table 3-1 TLMP Taku Snettisham Acreage	WARS Rating	Please add a footnote that explains the WARS rating is out of how many possible points. 24	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			points out a possible 100 is much different from 24 out of a possible 28.	
116	Volume 2. Figure 3-5, Regional Geologic Map (1 of 2)		Please add the project location to the map.	
117	Volume 2. Figure 3-6 Regional Geologic Map (2 of 2)		Please take the north arrow off the Dam Site title to make it easier to find.	
124	Volume 2. – 3.3.1.4. Lineaments, Faults, and Seismicity of Region and Project Area Lineaments	“The largest, the Coast range megalineament...foliation surfaces, and small faults that parallels the tonalite sill/metamorphic belt contact and the north-northwest striking foliation... consists of two nearly parallel northeast striking lineaments...”	Terms that are not common, such as, lineaments, megalineament, striking foliation, and striking lineaments, should be defined in the text.	
124	Volume 2. – 3.3.1.4. Lineaments, Faults, and Seismicity of Region and Project Area Lineaments	“The largest, the Coast range megalineament, is a 2- to 8-mile zone of closely spaced prominent joints, foliation surfaces, and small faults that parallels the tonalite sill/metamorphic belt contact and the north-northwest striking foliation along lower Tracy Arm and lower Endicott Bay where they join Holkham Bay. ...The other, the northeast-trending Whiting River-Sweetheart Lake lineament, consists of two nearly parallel northeast striking lineaments...”	What does this mean for the dam site? Does this increase the probability of failure? This needs to be stated here or reference the location where it is stated.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
127	Volume 2. – Seismicity	“The Fairweather fault system has caused six recent, moderate to large earthquakes: a magnitude 7.1 event in January 1901 (about 150 miles northnorthwest of the site), a magnitude 7.1 in October 1927 (about 90 miles west of the site), a magnitude 8.1 earthquake in August 1949 (about 300 miles south of the site), a magnitude 7.9 event in July 1958 (about 110 miles west of the site), a magnitude 7.6 earthquake in July 1972 (about 120 miles southwest of the site), and a magnitude 7.5 earthquake in January 2013.	For consistency, please add location of the magnitude 7.5 earthquake in January 2013. This is a long sentence (89 words) and may be easier to understand if converted to bullets.	
146	Volume 2. – Figure 3-19 Sweetheart Creek HEC-RAS Model		Please increase the size of the text to make it easier to read.	
162	Volume 2. – Table 3-8 Water Quality Data for Sweetheart Lake – 2011	“Dissolved Oxygen”	Define the metric for this column (mg/L?)	
170	Volume 2. – Table 3-12 Water Quality Data – 1989	“Note: Summary of water quality analysis results within the epilimnion and hypolimnion of Sweetheart Lake during 1989 at SSs 1 and 2.”	Please define epilimnion and hypolimnion.	
178	Volume 2. – Figure 3-29 Water Temperature at Sweetheart Gaging Stations		This table is hard to read with a blue background behind green and blue lines.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	(Celsius) 2011-2012			
210 and 211	Volume 2. – Figures 3-40 and 3-41		The text on the maps is very small making interpretation of the map's content difficult.	
219	Volume 2. – Figure 3-43 Inlet 1 Water Levels and New Spawning Area		The section on the map in pink highlight is not explained in the legend. The text on the map, other than that added as titles, is unreadable making it difficult to see the water elevations.	
245	Volume 2. – Figure 3-56 Area of Inundation around Lake Showing the 25-foot Minimum Inundation Line and the 85-foot Maximum Inundation Line	Paleo Point, Cottonwood Delta, Wishbone Delta, and Outlet Fans	Adding new names to areas for this section is confusing. In the previous sections, these areas were described as inlets. It is difficult to track where these areas are located along the lake because the names do not match the other analysis areas.	
246	Volume 2. – Proposed Measure to Address Project Effects on Sweetheart Lake Inundation	“The Project represents a unique aquatic environment setting – a clear glacial-fed lake that prior to the introduction of rainbow trout and seasonal sockeye stocking and feeding was absent of the current biomass and aquatic life that has been synthetically created today.”	This implies that there was no fish before the introduction of rainbow trout and sockeye. Any naturally occurring fish should be included in this discussion.	
264	Volume 2. – Figure 3-62 Project Area Sampling Locations		Please clarify what these sampling sites represent. The previous table was about fish sampling and this map follows that discussion. Is this map is about saltwater sampling sites?	
287	Volume 2. – Figure 3-64 Coastal Road Plan – Sheet 1-4	Text across the maps	The text on the maps is too small to read.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
291	Volume 2. - Analysis of Project Effects Related to Coastal Road/Trail	“Although the area does not support a relatively high density of shoreline biota, development of a coastal road on the proposed tideland would affect a number of marine communities, including barnacles, blue mussels, and the communities associated with them.”	Please display effects to terrestrial wildlife while looking at the shoreline biota.	
331	Volume 2. - Table 3-38 Benthic Macro invertebrates (BMI) Catches by Percent Composition	“Canyon”	The text on page 329 and in Figure 3-85 both use Upper Sample Location and Lower Sample Location. Table 3-38 uses Canyon and Lower Location - please be consistent with the terminology.	
333	Volume 2. - Table 3-40 Fish and Aquatic Resources Effects and Measures	“Feed, not spawning habitat, appears to be the limiting factor. Proposed measure is outside the control of the Project. ‘	At this time, feed seems to be the limiting factor for rainbow and Dolly Varden populations, however, they have spawning habitat now. This project removes all current spawning habitats and the analysis clearly states that there is only potential new spawning habitat. How can removing most or all the spawning habitat not be a limiting factor? The analysis does not support the conclusion. Yes, eliminating sockeye stocking would have a greater effect but once the dam is built it is not the only limiting factor.	
403	Volume 2. – Sitka Black-tailed Deer	This sentence is not in the deer analysis, “Approximately 13% of the shoreline would be impacted;” but does appear under the river	Deer use beach and estuary areas in high snow winters. The road/trail affects access to this important winter food and this should be analyzed.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		otter analysis.		
482	Volume 2. – TUS LUD Overlay Considerations and Effects on Project Area Recreation	“...in relation to the Forest Service management guidelines and Tongass Land Management and Resource Plan as of 2008...”	Please correct this to read ‘... Tongass Land and Resource Management Plan as of 2008...’	
538	Volume 2. - Roadless Rule History and Discussion	“The question arises: do existing Public Land Order Power Site Classifications constitute a reserved or outstanding right? If Power Site Classifications do constitute a reserved and outstanding right, then Paragraph (b) (3) permits the construction and reconstruction of roads to access and transmit electricity from these Power Site Classifications recognized in Alaska Public Land Orders that predate Alaska Statehood, the Roadless Ruling, and administrative regulations for implementing the Tongass Land and Resource Management Plan.”	This section poses the question but does not supply an answer. The Secretary of Agriculture will make the determination about how this project falls within the Roadless Area regulations.	
542	Volume 2. - JHI Analysis and Response:	“On March 26, 2014, the 9th Circuit Court issued the following order that read: Because we reverse the district court’s findings, we remand the case to the district court to decide whether a Supplemental Environmental	This 9 th Circuit Court Ruling is not the final decision from the court. On December 17, 2014, the full 9 th Circuit Court met to hear the case as an En Banc. Please update the analysis to reflect their decisions.	

Forest Plan and Inventoried Roadless				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		Impact Statement is required in the first instance. Reversed and Remanded ³³ ."		

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
32	PDEA Public Involvement and Major Issues Analyzed: Hydrology and Water Quality	Therefore, there are no major issues related to hydrology and no issues providing Alaska DFG 10(j) recommendations for instream flows for the bypass canyon or the anadromous reach.	We don't agree. While there isn't an issue with resident fish in the bypass reach, there is an issue with sediment transport. Due to the lack of sediment transport to the anadromous spawning reach, there will be issues with maintaining the spawning gravels below bypass reach. We understand there is a gravel augmentation plan proposed. However, the plan lack details, methods and peer-reviewed literature citations. Until that information is provided, we assert the potential loss of fish spawning habitat below bypass reach may be significant.	
69	PDEA 2.2.1.9:Tailrace	Downstream of the wildlife crossing, the channel would resemble a natural creek and would provide approximately 250 linear feet of additional channel...	The Forest Service requests to be involved in the design of this channel.	
69	PDEA 2.2.1.9:Tailrace	...discharging into Sweetheart Creek near the base of the anadromous barrier falls.	It would be helpful to know the distance between the falls and the tailrace.	
87	PDEA: Table 2-5 Proposed Water Use and Quality Measures	Water Quality Proposed Measures: Project would institute and follow an approved ESCP and SWPPP.	Many of the resource protection plans, including the storm water and pollution prevention plan (SWPPP), will need to incorporate agency Best Management Practices (BMPs).	
89	PDEA: Table 2-6 Proposed Aquatic	The Project would decrease flows in bypass canyon reach- reduction in	I consider this effect significant. It would be a significant effect to loose spawning habitat in the anadromous section	Because gravel augmentation can

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Resource Measures	sediment mobilization in pink salmon spawning habitat –not significant.	of stream if the gravel augmentation isn't effective. Gravel augmentation is a difficult and complex endeavor challenging the biological, geomorphic, and engineering sciences. Successful projects require extensive geomorphic and biological understanding and experience and are hampered by our current poor understanding of gravel transport processes coupled with a high degree of uncertainty associated with existing computational models.	exert a large influence onto the stream system, engaging in this undertaking requires a deep understanding of geomorphic and biological processes as well as experience in gravel augmentation projects.
98, 102	Table 2-11, Table 2-12	Missing Effect	There is missing Aesthetic impact. Suggest that 3cfs coming down Sweetheart Creek contributes to the loss of the waterfall.	
103	2.2.4.9 Aesthetic Resources	Table 2-14 Proposed Aesthetic Resources Measures, Effect/Proposed Measures	Sweetheart Creek Falls – the loss of water to a waterfall has an effect to the aesthetics.	
247	3.3.3.3. Sweetheart Creek: Bypass Canyon Reaches	Reach 3 description	Please include the average width of this section of stream, as you did you for Reach 2. Include the width and height of the waterfalls.	
251	PDEA 3.3.3.3 Table 3-26		Please cite the sources for the table.	
251	PDEA 3.3.3.3 Geomorphology and Sediment Supply	The substrate composition downstream of the proposed dam, including spawning and rearing habitat in the anadromous reach (Reach 1), is not expected to change.	If the substrate composition is not expected to change from the proposed dam, then why is sediment/gravel augmentation being proposed? The dam will affect the downstream substrate composition. The reduction of cfs in the bypass reach may change the substrate composition- since the bypass reach is a transport stream. Won't the anadromous reach receive less substrate from the bypass reach because of lack of high flow?	
251-	PDEA 3.3.3.3	The effect of the project on the	The tailrace is going to need a sediment supply or it will	

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
252	Geomorphology and Sediment Supply	anadromous spawning areas should be negligible as the tailrace channel is directed cross-channel and not directly into the thalweg of the stream, preventing scouring of the few gravel patches currently used as spawning areas.	over time lose spawning gravel, right? Unless the tailrace will never reach a cfs thrushes hold to transport spawning gravel. Where will the proponent source the substrate for the tailrace? Could the authors include a figure of the spawning habitat assessment areas, sweetheart creek spawning gravel injection locations and detailed figure of the tailrace? These visualizations would be very helpful to explain the intentions. See comments for Appendix W	
253	PDEA 3.3.3.3 Geomorphology and Sediment Supply	Spawning gravels will not persist in place for the optimal 2- to 5-year time frame to serve as spawning habitats.	Please clarify. Is the author trying to say that 2-5 years and there will not be the cfs flows to transport spawning gravels from the bypass reach to the anadromous reach?	
254	PDEA 3.3.3.3 Geomorphology and Sediment Supply	Sediment flows will mobilize spawning-sized gravels at the lower end of the size spectrum after hydropower operations commence to the anadromous reach (Reach 1) of Sweetheart Creek, albeit at a slower pace dictated by high rain events that affect the accretion of the Bypass Canyon Reach.	Please clarify. Table 3-31 (page 270) only shows cfs 'Totals Post-Project Mean Monthly Flow in Bypass Reach' of max 23.1 cfs in June. Please clarify how the project will achieve 400cfs to mobilize spawning-size gravels? Do authors mean they expect spawning gravels from the bypass reach to fill in areas of the anadromous reach? Authors on Page 274 mention that "Therefore, not only would less sediment and gravel material likely reach the anadromous reach (Reach 1), but also less sediment and gravel material will be flushed or removed from the anadromous reach." These two statements don't line up. Please clarify.	
274	PDEA 3.3.3.3 Analysis Project Effect on Bypass Canyon Reach Sediment Mobilization	The Project over time would affect sediment delivery to the anadromous reach as analyzed below and presented in Appendix V.... Removing sediment and spawning gravel from reaching the anadromous reach (Reach 1) could, over time, have a significant adverse effect on future	On page 251 section 3.3.3.3 authors say "The substrate composition downstream of the proposed dam, including spawning and rearing habitat in the anadromous reach (Reach 1), is not expected to change." This statement and the one here on page 274 conflict. Please clarify.	

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		spawning pink salmon.		
		This lack of future sedimentation must also be juxtaposed against the lower-controlled instream release of 300 to 486 cfs, which could also reduce the flushing and removal of spawning gravel from the intertidal area that has been historically occurring with high-volume cfs flood events.	Please clarify. It would be helpful if the authors would mention here that the 300-486 cfs is the flow below the trailrace, right? Please clarify if there are any spawning sites above the trailrace- i.e. below the falls? And if so, clarify that there will not be flows expected above 23.1cfs from Table 3-31 in the bypass reach. Therefore, there will not be mobilization of spawning gravels in the bypass reach and no sediment input below the dam to trailrace. If this is not correct please clarify how spawning gravels will transport through the bypass reach to between the falls and the trailrace.	
274	PDEA 3.3.3.3 Analysis Project Effect on Bypass Canyon Reach Sediment Mobilization	Therefore, not only would less sediment and gravel material likely reach the anadromous reach (Reach 1), but also less sediment and gravel material will be flushed or removed from the anadromous reach.	Please clarify. It would be helpful for the authors to mention when they are referring to below the trailrace or above. As the figures depict, there is anadromous habitat above the trailrace. Below the trailrace with 300-486cfs sediment will transport and overtime will cause winnowing of the bed without the input from a sediment source. Again, what will the sediment source be for within the trailrace? And the section past the trailrace (main channel) and the sediment/gravel augmentation distribution point showed in Figure 2 of Appendix W?	
280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	1. Augmentation with gravel suitable for spawning. The locations, volumes, and size of substrate to be injected into the anadromous reach (Reach 1) will be developed using assessment findings to inform the proposed prescriptions and in cooperation with Alaska DFG.	Please add Forest Service hydrologist to the list of those who will be involved with the gravel augmentation reports and recommendation.	

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
274	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	Since Project aquatic studies indicate that it is likely that most of the anadromous species spawning occurs lower in the anadromous reach (Reach 1) in the intertidal area of Sweetheart Creek, the reduction in mobilization of future spawning gravels may have minimal to no effect on the spawning gravel volume in the intertidal area as these materials are not maintained in the anadromous reach but are flushed out of the anadromous reach (Reach 1).	Please include a reference study to the claim "...most of the anadromous species spawning occurs lower in the anadromous reach (Reach 1)..." Please provide a quantity of potential loss of anadromous habitat in the upper portion of Reach 1.	
278	PDEA 3.3.3.3 Measures Regarding Bypass Canyon Reach 1. Instream Flow	There are no proposed project measures except to safeguard flow with synchronous valve at dam site to regulate instream flow releases and to measure releases.	Would it be possible for JHI to release higher flows to mobilized sediment should there be a large landslide into the bypass reach? There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach.	
279	PDEA 3.3.3.3 Measures Regarding Bypass Canyon Reach1. Instream Flow	Lower water flows are one variable that are favorable for invertebrate production compared to what flows currently exist. There are no proposed measures affecting transport of benthic invertebrates. Lower water flows could be favorable.	Low flows may not always be favorable for invertebrates. Would it be possible for JHI to release higher flows to mobilized sediment should there be a large landslide into the bypass reach? There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach.	
280	PDEA 3.3.3.3 Measures Regarding Effects on the	This plan is identified and outlined in Appendix W, Spawning Habitat	See comments for Appendix W. Revisions are required for clarification.	

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Anadromous Reach (Reach 1)	Assessment and Maintenance (2014),..		
280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).		The document does not mention where the sediment for the augmentation project will come from. How will the gravel/sediment be sorted and distributed? Please site methods and/or publication for this section.	
280	PDEA 3.3.3.3 Sweetheart Creek: Measures Regarding Effects on the Anadromous Reach (Reach1).	2. All bullet points...	Please add Forest Service hydrologist to the list of participants. Please inform Forest Service when there will be an annual gravel assessment, review documents, etc.	
302	3.3.3.5. Essential Fish Habitat (EFH)	Direct adverse effects on EFH by the modification of temperature and flow regimes in Sweetheart Creek should be negligible...	We submit that there is not enough information about sediment supply to tailrace (which will feed spawning areas below) to know if there will be an effect for not. The magnitude of the effect is unknown, that's why the analysis has the tables on page 280 to monitor sediment/spawning issues.	
334	PDEA Table 3-40 Fish and Aquatic Resources Effects and Measures	Effect column: The Project would decrease flows in bypass canyon reach- reduction in sediment mobilization in pink salmon spawning habitat –not significant.	It would be a significant effect to loose spawning habitat in the anadromous section of stream if the gravel augmentation isn't effective. Gravel augmentation is a difficult and complex endeavor challenging the biological, geomorphic, and engineering sciences. Successful projects require extensive geomorphic and biological understanding and experience and are hampered by our current poor understanding of gravel transport processes coupled with a high degree of uncertainty associated with existing computational models.	Because gravel augmentation can exert a large influence onto the stream system, engaging in this undertaking requires a deep understanding of geomorphic and biological processes as well as experience in gravel augmentation

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
				projects.
335	PDEA Table 3-40 Fish and Aquatic Resources Effects and Measures	Effect column: Change in hydrology of Sweetheart Creek-not significant	This effect should be considered <u>significant</u> . By decreasing the flow in the bypass reach all habitat below are affected. There is the possibility of the bypass reach filling in with sediment and causing all surface water to go subsurface and no longer contribute cfs or invertebrate to the anadromous reach. There is also a significant change in the transport of spawning gravels due to the change of flow. If this is not correct please cite the sources for saying there is no significant effect to aquatic resources due to the change in hydrology.	
643	PDEA 5.5.11: Alaska DFG 11. Stream Buffers and Location of Facilities	2. As part of AHRMP, gravel augmentation may eventually be required. As such, JHI would require an exemption from this proposed rule to perform this activity.	Need more details on gravel augmentation project and the work proposed within the 100-foot buffer.	
?	Missing from PDEA		I would like to see a schematic of the tailrace. How will a 30ft deep tailrace join into the main channel of Sweetheart Creek? If the flow of the tailrace is perpendicular to Sweetheart Creek, how will that affect the bank across from the tailrace? It's hard to picture.	
5	Appendix W:Attachments: Figure 1 Spawning habitat study area		This map needs to be more detailed and clarified. It shows Sweetheart Creek of to the West of the tailrace? Shouldn't Gilbert Bay be off to the West? And Sweetheart Creek should come in from the North East? The figure should show more clearly what is water and what is land. The figure should also show where the barrier falls are and if there's any spawning areas near the falls-before the proposed tailrace, quantity? An intertidal line would also be helpful.	

Hydrology				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			Figure 2 does a better job of illustrating the area. However, there should be an arrow pointing to Sweetheart Falls, not just the words.	
6	Appendix Z- Aquatic Habitat Restoration and Monitoring Plan (AHRMP) 3.1 first paragraph	JHI will perform an assessment of the relative presence of spawning gravel available for fish.	What methods/protocol will be used to assess spawning gravel (i.e. Wolman pebble count)? Does Alaska DFG have a specific protocol for this sort of evaluation?	
all	Appendix Z- Aquatic Habitat Restoration and Monitoring Plan (AHRMP)		There are no actual methods or publications mentioned in this section on how the plan will be implemented. We are specifically concerned with the lack of information/methods about the plan for gravel augmentation.	

Minerals				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
74	PDEA, Table 2-3	Cut and fill	All mineral materials excavated will need appraisal and sale from the Forest Service with a contract to the purchaser.	Mainly just a clarification/reminder.
5	Appendix Z, SDP, 3.2	Geo tech drilling	Geotechnical drilling will be performed prior to large-scale excavations to allow for testing of material for ARD potential	

NEPA Review				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	General Comment		If this is to be an EIS, it is missing some required NEPA disclosures per CEQ (e.g., Irreversible/Irretrievable Commitments of Resources, Relationship between the Short-term Use of the Environment and the	

NEPA Review				
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			Maintenance of Long-term Productivity, incomplete or unavailable information)	
37	1.2.1. Purpose of Action	This PDEA assesses the environmental and economic effects of the Project... It also considers the effects of the no-action alternative. Several important issues are addressed in this PDEA, including the following: downstream fish passage and survivability; potential effects on personal-use fishery; effects on aquatic life in Sweetheart Lake; Project transmission line effects on marine life and avian species; loss of wildlife habitat; Project effects on threatened, endangered, and candidate species; Project effects on water quality; public access for recreation; and Project effects on the scenic values of the area.	Assessing the effects isn't part of the purpose of the action, nor is identifying the issues for analysis.	
39-45	1.3. STATUTORY AND REGULATORY REQUIREMENTS		What about executive orders? To name a few... EO 11988: Floodplain Management EO 11990: Protection of Wetlands EO 13112: Invasive Species EO 13175: Consultation and Coordination With Indian Tribal Governments EO 13212: Actions to Expedite Energy-Related Projects	

NEPA Review				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
41	Volume 2 PDEA Table 1-1	Section 106 of NHPA	The participation of the Forest Service archaeologist in the analysis and determinations should be disclosed.	
41	Volume 2 PDEA Table 1-1	Coastal Zone Management Program	Recommend removing all reference to this program since it no longer exists.	
43	Volume 2 PDEA Section 1.3.5 CZMA	Coastal Zone Management Program	Explanation why no longer considered. The program has been extinct for long enough now it no longer merits mentioning.	
54	Volume 2 PDEA Section 2.1	No Action Alternative – 3 rd paragraph	Discussion on how the project meets the CBJ Climate Action and Implementation Plan is not appropriate under the No Action alternative.	Move this under the Proposed Action
54	2.2. APPLICANT’S PROPOSAL	The Project boundary <u>encloses</u> <u>approximately</u> 2,058.24 acres of land administered by the Forest Service. <u>Approximately</u> 131.18 acres...”	These appear to be exact acreage figures, not approximate. Suggest the better verb to use in the first sentence would be “encompasses.”	
	2.2.1.12. Marine Access Facilities	“...this area is predominantly under the Inventoried Roadless Area Conservation Rule...”	Take out the word “Inventoried” and replace with “2001.” Also need to provide the reference to this in bibliography.	
84-105	2.2.4. Environmental Measures	Entire section Entire section / Tables	Lots of questionable effects (significant, not significant, negligible) to resources. Disclosing effects in Chapter 2 is procedurally incorrect. Chapter 3 will disclose effects. These tables should also be referred to (not repeated) in Chapter 3 when describing effects. These tables could be greatly shortened to be used JUST for the proposed measures. It is assumed that by placing these in Chapter 2 that these measures would be implemented to minimize or eliminate effects.	

NEPA Review				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
89	Volume 2 PDEA Table 2-6 – Proposed Aquatic Resources	Project’s Coastal Road would affect 4,400’ of intertidal areas – potential not significant	We are not certain that the ensuing analysis supports that the habitat interruption is not significant.	
91-92	Volume 2 PDEA Table 2-9 Terrestrial Wildlife	1 st 2 pages about Marine Mammals	These do not fit the header of Terrestrial Mammals. May need to introduce a new table OR change the header on this one.	
102	Volume 2 PDEA Section 2.2.4.8	Cultural Resources	Interesting representation – no artifacts were found in the APE. Heritage typically refers to sites.	
	Chapter 2	General Comment	At the end of Chapter 2, a table that compares the alternatives by resource or issue (i.e., a summary of Chapter 3) would be helpful.	
112	3.2 SCOPE OF CUMULATIVE EFFECTS ANALYSIS	General Comment	The cumulative effects analysis MUST disclose in this Chapter the spatial and temporal bounds used in the cumulative effects analysis (i.e., scope of the analysis) for each resource (they may be different between resources), any assumptions, as well as what past, present and reasonably foreseeable future actions were considered in the cumulative effects analysis. Then, you must disclose what the cumulative effects are. There are only two more mentions (pp. 344 and 470) of cumulative effects in Chapter 3 and it’s not really an analysis...this is required by the NEPA (40 CFR §1508.7).	
113	3.3. PROPOSED ACTION AND ACTION ALTERNATIVES	“Only the resources that would be affected, or about which comments have been received, are addressed in detail in this PDEA. Based on this,	Some of these item are not consistent with what was stated under PURPOSE (page 37) “Several important issues are addressed in this PDEA, including the following: downstream	

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		we have determined that <u>geology and soils</u> ; hydrology and water quality; fish and aquatic resources, terrestrial resources, threatened, endangered, and candidate species; recreation resources; <u>cultural, archaeological and historical resources</u> ; aesthetic and scenery resources; <u>socioeconomics</u> ; and <u>tribal resources</u> may be affected by the proposed action and action alternatives.”	fish passage and survivability; potential effects on personal-use fishery; effects on aquatic life in Sweetheart Lake; Project transmission line effects on marine life and <u>avian species</u> ; loss of wildlife habitat; Project effects on threatened, endangered, and candidate species; Project effects on water quality; <u>public access for recreation</u> ; and Project effects on the scenic values of the area.”	
195	Volume 2 PDEA Section 3.3.2.4	Effects on Water Quality – Effects on Water Quality	It is anticipated impacts to water quality from initial Project testing start-up would be less than or similar to naturally occurring stream flow impacts.	This is a bit confusing because under Turbidity above, on page 191 it states that Sweetheart Creek transports very few solids into Gilbert Bay.
197	Volume 2 PDEA Section 3.3.2.4	Effects on Water Quality – top of the page	It might be worth monitoring gas levels....	Is this then a mitigation measure? If not, don't mention here.
220-221	Volume 2 PDEA Section 3.3.3.1	It is unknown if warmer inundating water from the dam pool would accelerate embryo development. It is also unknown whether there will be a net positive or negative effect on egg survival following this Project given that there will be changes in water temperature, oxygen, and current (a velocity of a minimum of .3 meters per second	This should be disclosed under the Incomplete or unavailable information section. Also, when referring to effects, not good to use the words “positive” and “negative” in NEPA as they are considered value judgments. Use “beneficial” and “adverse” instead, and disclose how you moved forward w/ the analysis not knowing this (see 40 CFR §1502.22).	

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		(m/s) (.9 ft/s) is generally recognized as a requirement for low-mortality rainbow trout incubation)."		
462	Volume 2 PDEA Section 3.3.6.4	Public Outfitter Guide Services – JHI Analysis & Response	The advent of electrical infrastructure... will either increase or decrease O/G activities in the project area.	What is the point of this section/statement?
470-71	Volume 2 PDEA Section 3.3.6.4	Rec & Tourism – JHI Analysis & Response	Plan to use rock from tunnel to create visual barrier.	Visual simulations might help to determine how long this will take – include an estimate of how long?
483	Volume 2 PDEA Section 3.3.4.6	Roadless Rule Implications on Project Land Use and Prevailing Power Site Classification	This section doesn't address what the unique characteristic are for IRA 302-Taku – Snettisham. The effects to those characteristics are not analyzed through this analysis.	You have done a nice job of identifying how a project can conform to the IRA with minimal impacts for the type of project that it is.
484	Volume 2 PDEA Section 3.3.4.6	Discussion of the use of the tunnel	Sequencing question. The road needs to go in for the equipment to construct the tunnel? What will be done with the tunnel rock – used for the dam? Berm for the tailrace?	This is never really clearly stated that I could find/understand
538	Volume 2 PDEA 3.3.7.2	Land Use Designations	Uncertain of the value of this paragraph. Suggest removal.	
	Chapter 3	General Comment	Many of the effects analysis discussions don't provide a conclusion or answer the "so what" question.	
	Chapter 3	General Comment	For the direct and indirect effects analysis, there should be some discussion about the methodology/approach used for the analysis (see 40 CFR §1502.24 Methodology and scientific accuracy).	

NEPA Review				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			There should be a mention about direct and indirect effects (40 CFR § 1508.8) at the beginning of Chapter 3 so the reader understands the types of effects being analyzed and disclosed.	

Timber				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
969	Special Use Authorization	Preliminary 4(e) Terms & Conditions. Condition #22 Resource Management Plan. Vegetative Management Plan	The Forest Service must be involved when the Vegetative Management Plan is developed. The special use authorization must include the language requiring the owner of the Hydro Project to sign a Timber Settlement Contract with the Forest Service to deal with the inundation/cutting/removal of any merchantable timber in the project area.	

Recreation				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
64	Appendix Q; Recreation Resources Report; 8.5 & 9.0 Cabin	“As stated earlier, JHI proposes to construct and maintain but accepts no liability for a USFS recreational cabin near the dock facility.”	The Forest Service is not in a position to accept maintenance and liability of a recreation cabin.	

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
B-12	Exhibit B. Access Road Alternatives. Table B-1		The stated 0.54 acres of wetland impacted for the coastal road was for a presumed footprint	Suggest updating this number with the actual acres of wetland

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			of only 25 feet wide. The final design is much wider than the delineated 25 feet.	impacted by the coastal road.
	General Comment to the PDEA		<p>The PDEA does not disclose the irreversible/irretrievable effects to the soil and wetland resources. These effects are the acres converted to infrastructure (road, powerhouse, etc.). There needs to be a section included in the document called Irreversible/Irretrievable.</p> <p>All of what the applicant is proposing is reasonable and acceptable.</p>	The applicant should disclose the actually effects to the soil and wetlands resources in acres of "lost" (i.e. converted from forestland/wetland/etc. into infrastructure). Much of what is discussed below in comments is directly related to omission of an accurate accounting of: acres of wetlands lost, acres of soil converted to infrastructure, and indirect effects to the soil and wetland resources from the proposed activities.
	General Comment to the PDEA		<p>This project continues to underestimate the acres of wetlands impacted by the Coastal Road/Trail. It uses the acres from the Wetland resource report (Appendix L) which assumes that the road/trail would only be 25 feet wide. This was pointed out in the previous review (Page 49 of the review section 766-1001 in PDEA, comment # 126) and inadequately addressed.</p>	Recalculate the acres of wetlands impacted by the Coastal Road/Trail based on the new and expected road footprint.
73	2.2.1.13, Coastal Road Trail, Paragraph 1, last sentence	The road/trail would be constructed with clean shot rock and built in accordance with the USACE Coastal Engineering Manual (CEM) principles.	Unable to find any review or discussion on the effectiveness of these CEM principles or what they were comprised of. Several reviewers questioned the impacts of building a road below mean high tide (# 118, page 46; #160,	Please discuss the effectiveness of the CEM principles as related to environmental concerns raised by the reviewers in the document in the appropriate section.

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			page 65; page 128 #341). The responses from the document preparers were to reference these CEM principles but not discuss any effects to shoreline processes or coastal erosion.	
74	2.2.1.13, Figures 2-7 through 2-10		<p>These figures are very helpful.</p> <p>Would it be possible to overlie the road impacts with the wetland delineation? This way it would be clear how much estuarine wetland is impacted by this new road alignment. The wetland effects section does not have a map of the current proposed road with wetlands.</p>	
86	2.2.4.1, Table 2, First Row		Keeping slopes vegetated is generally considered an ideal practice for preventing and reducing surface erosion.	Please discuss why removing vegetation protects soils from erosion here where elsewhere in the document encouraging vegetation protects soil from vegetation
91	2.2.4.1 Table 2-8		Add a section on the design standards for the road here and how they address resource concerns.	This would be a good place to discuss that the Coastal Road/Trail would be designed to not dam tidal or freshwater wetlands. This practice is often referenced in the response to comments but not disclosed anywhere else in the PDEA.
138	3.3.1.7	General Comment	Is there a section for coastal erosion from the Coastal Road/Trail? This is a good section	It would be helpful to have a similar discussion related to

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			describing the effects to the lake shore.	coastal shoreline erosion.
138	3.3.1.7	General Comment	Converting soils from their natural state into infrastructure is suitable and appropriate for this project. It is important to disclose the acres that will be converted. The number can be rounded (i.e. if there are 47 acres of proposed road/buildings/dam/etc. estimating 50 acres is appropriate). These should be disclosed as irreversible/irretrievable effects to resources. While the entire footprint of the project will not permanently inhibit a soil from producing desired vegetation, it is reasonable to assume the road, dam, and powerhouse will.	Please disclose the acres of land (soil) that will be converted from their natural state into infrastructure. These are the effects to the soil resource, which are not discussed at all in section 3.3.1.7.
142	3.3.1.8, Table 3-2		Effects to soils and geology from the road are missing in this table.	Consider disclosing the effects to soils and geology from building the road. Consider displaying the acres of soils lost in this table. (This would be in addition to discussion of effects in the previous section.)
360	3.3.4.2 Gilbert Bay Wetlands, paragraph 5	“The coastal road/trail is 4,400 feet long and affects 0.29 acres of forested wetland, 0.25 acres of estuarine wetland, and 25 feet of stream.”	This is a serious underestimate of impacts to wetland from the coastal road/trail. These acres are based on a 25-foot wide total footprint of the road, not the currently proposed road which is 25-feet wide at the top of fill.	Please revise these numbers to reflect the actual acres of wetlands impacted based on the wider road. (This could be accomplished once Figures 3-97 and 3-98 are revised as suggested below.)
362	3.3.4.2 Gilbert Bay Wetlands, Figure 3-97		It appears that the proposed road/trail alignment fills all of es3 and the northern portion of es2.	Please redo this figure with the current coastal road/trail alignment. Figures 2-7 through 2-

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
				10 would be a good template to use.
363	3.3.4.2 Gilbert Bay Wetlands, Figure 3-98		It appears that the road fills in a large portion of es2.	Please redo this figure with the current Coastal Road/Trail alignment and infrastructure. Figures 2-7 through 2-10 would be a good template to use.
368	3.3.4.2, project-related effects on wetland resources	Slopes subject to erosion and disturbed surfaces would be re-vegetated to minimize storm water pollution.	Here, re-vegetation is proposed to prevent erosion while in the geology/soils section vegetation removal is proposed to prevent erosion.	Please clarify this apparent conflict.
372	3.3.4.2, Table 3-45		There are more effects to wetlands than stated here. There is no discussion of indirect effects to wetlands or effects to adjacent wetlands. (Sometimes roads or other infrastructure can dam a wetland, separating it hydrologically. Disclose that this can happen and what this project is doing to avoid this.)	Consider disclosing the effects of the road to adjacent wetlands. Show how the chosen construction techniques minimize the effects to adjacent wetlands.
5.3	Unavoidable Adverse Effects		While taking several acres of soils out of productivity may not be seen as an Unavoidable Adverse Effect by the applicant, it is considered an Irreversible/Irretrievable effect to the resource.	Please disclose the acres of soils taken out of productivity by the proposed actions under a heading of Irreversible/Irretrievable Effects.
49 (766/1 001)	Response to Comments # 126		This response does not actually estimate the acres of wetland impacted by the road, simply the acres of federal vs state land.	Please provide estimates of the quantity of wetland impacted by this new road alignment.
67 (784/1 001)	Response to Comments #292 3.3.1		3.3.1 There are irreversible/irretrievable effects to the soil resource: you are removing several acres from productivity to become road/dam/powerhouse. This is appropriate	Please disclose how many acres are impacted by the proposed activities.

Soils & Wetlands				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			use.	
67 (784/1001)	Response to Comments #292 3.3.3.4		Converting these lands to infrastructure is acceptable; simply disclose how many acres are affected. The effects are generally not considered temporary from a soil and wetland perspective.	3.3.3.4 Please explain how filling an area with permanent rock fill, to be used as a road as long as the dam is operation is a temporary effect to the soils or wetlands.
page 118 (835/1001)	Response to comments #313	The road will be constructed in such a way that there will be no damming of freshwater or tidal water in either direction.	There is not any discussion or citations in the preceding document that supports this statement.	Please disclose how the applicant would ensure that wetlands would not be dammed. This could be included under the conclusions and recommendations or as design criteria for wetlands.
page 118 (835/1001)	Response to comments #314	The road will be constructed in such a way that there will be no damming of freshwater or tidal water in either direction.	See previous comment	Please disclose how the applicant would ensure that wetlands would not be dammed. This could be included under the conclusions and recommendations or as design criteria for wetlands.

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
34	Volume 2 PDEA; Aesthetic and Scenery Resources, Line 6	“...Scenery Management and Monitoring ... details the improvements and maintenance necessary to sustain the visual quality of the area through ...repainting of structures (<u>if necessary</u>)”	Phrases like the one underlined here occur many times in the scenery portion of the document. Clearly state when the mitigation measures will be required.	
98	Volume 2 – PDEA; Table 2-	“The <u>finalization of visual landform</u> ”	Plase clarify what “finalization” entails, i.e.	

Scenic Resources				
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	11; Proposed Measures	<u>barriers</u> would be completed within 1 year of COD.”	shaping, planting, or something else?	
98	Volume 2 – PDEA; Table 2-11; Construction vessel ramp and Boat Dock; Proposed Measures	Entire text in “Proposed Measures.”	The measures proposed don’t address aesthetics.	Include discussion of color and materials.
98	Volume 2 – PDEA; Table 2-11; Construction of Boat Dock; Proposed Measures	Entire row	Appears to have been addressed in previous row.	Eliminate
99	Volume 2 – PDEA; Table 2-11; Improved Public Access	“Mooring buoys would be ... maintained in good working condition.”	Include the fact that JHI will maintain these through the life of facility operation.	
103	Volume 2 – PDEA; Table 2-14; Site Structures	“JHI would attempt to soften edges of the clearing limits...”	A Forest Service landscape architect can be available for consultation during final design.	
560	Volume 2 – PDEA; 3.3.9.1	3 rd paragraph; “As shown on Figure 2-1, new construction in the Sweetheart Lake watershed would include a dam...”	Figure 2-1 doesn’t show the level of detail described in the text.	Please supply and reference a more detailed illustration.
560	Volume 2 – PDEA; 3.3.9.1	3 rd paragraph; “...visual impacts resulting from raising the lake levels are located in an <u>unseen</u> landscape.”	Recommend “unseen/seldom seen” wording as used elsewhere or even, “unseen/seldom seen landscape where the only recreation-related viewers would be traveling off-trail through difficult terrain.”	
560	Volume 2 – PDEA; 3.3.9.1	4 th paragraph; “...the travel VPUs and use areas...”	Typo - Should this be VPRs?	
563	Volume 2 – PDEA; 3.3.9.1; VCU 570; 1 st paragraph	“...powerhouse and switchyard would be located in a <u>partially excavated area</u> ... The material excavated to construct the powerhouse would be recycled	Providing a section through the proposed excavated areas showing back wall height, structures, and screening elements would be super helpful. Now that the proposed agency recreation cabin has been dropped, will the	Can proponent provide a section through the proposed excavated areas showing back wall height, structures, and screening elements?

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
		during the construction of an access road... <u>excavation</u> would occur within the caretaker's area..."	excavation around the caretaker's area be smaller?	
563	Volume 2 – PDEA; 3.3.9.1; VCU 570; 2 nd paragraph	Transition facility (mentioned twice)	What will these look like? Recommend PDEA include drawings or photos of similar structures.	
569	Volume 2 – PDEA; 3.3.9.2; 2 nd paragraph	5 th line down, "...unseen landscape..."	Change to "unseen/seldom seen" as used elsewhere.	
572	Volume 2 – PDEA; 3.3.9.2; 4 th paragraph	"The balance of the simulations do not depict the proposed measures."	Insert the word "mitigation" to read, "proposed mitigation measures."	
574-577	Visual Simulations	none	When printed at two rows per 8.5x11 page size, the photo size doesn't portray an appropriate viewing distance.	Suggest the final document print these at one viewpoint per 11x17 page size.
578	Volume 2 – PDEA; 3.3.9.3; VCU 610	"No visual impacts are expected in VCU 610."	There will be effects that are visible if someone chooses to hike back there, and given the LUD, the assumption is that they might. Maybe the more accurate statement is that, "No visual impacts within this VCU would be seen from VPRs."	
578	Volume 2 – PDEA; 3.3.9.3; VCU 610	"Expected SIO effects would be within an unseen landscape."	Please change to read "unseen/seldom seen." If helpful, clarify by stating, "an unseen/seldom seen landscape where the only recreation-related viewers would be traveling off-trail through difficult terrain."	
578	Volume 2 – PDEA; 3.3.9.3; VCU 570	"Additionally, the Sweetheart Creek Falls in this VCU would be unseen..."	After "unseen" please add, "from a VPR" or some similar wording, since you state elsewhere that some people do hike in to look at the falls and have expressed concern for the	

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
			flow rate.	
579	Volume 2 – PDEA; 3.3.9.3; VCU 610	“In VCU 610, no visual impacts are expected. Expected Scenery Integrity effects would be within an unseen landscape.”	Please change as above for page 578, VCU 610 “...visual impacts are not expected to affect VPRs... unseen/seldom seen...”	
580	Volume 2 – PDEA; 3.3.9.4; 1 st paragraph	“Further, JHI is proposing more <u>scenic avoidance</u> through design and minimization measures <u>to avoid and or minimize scenic impacts</u> than many developments in the TNF. JHI has worked closely with its scenery contractor during the permitting process and has gone to great lengths to reduce and minimize scenic impacts <u>compared to other projects in the TNF.</u> ”	Redundant within and between sentences. Is the statement regarding extent of effort a fact?	
581	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures	“JHI would configure the layout of the upland facilities to maximize opportunities for vegetative screening between the water’s edge and the caretaker facilities.”	Take advantage of any opportunity to construct vegetated earthen berms within this excavated area to help screen the caretaker’s facilities. If the excavation is not a quarry, and not sized to provide a certain volume of rock, can it be down-sized to be just large enough to accommodate the caretaker’s facilities?	
582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 3 rd bullet from top of page	“JHI <u>would use rounded natural rock and stone</u> along the coastal road where fill would be exposed to Gilbert Bay...”	Where will this rounded rock come from? This doesn’t sound like excavated crushed rock. Is it necessary to use rounded rock (if not practical or economical)? Elsewhere it’s stated that oversized rock or boulders would be randomly placed on these fill slopes to break up the even	

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			texture of consistently-sized riprap. This may be more effective than using round rock.	
582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 4 th bullet from bottom of page	“JHI would excavate and... construct the powerhouse ‘in ground/partially buried’... <u>and/or</u> use reclaimed rock... to construct a visual barrier mound around the powerhouse switchyard area...”	The drawings and other text all indicate that the “visual barrier mound” is included in the design. Please replace the “and/or” with an “and.”	
582	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 3rd bullet from bottom of page	“...using as much existing vegetation as possible.”	If vegetation removed from excavated areas will be replanted elsewhere, please plan for appropriate “holding areas” where these plants can be kept in a healthy condition so re-vegetation efforts are successful.	
583	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; 2 nd paragraph from top	“JHI would select appropriate colors to paint the structures (towers and transition facilities) to match the surrounding landscape...”	Please include wording to indicate that a landscape architect will be consulted in the selection of colors.	
583	Volume 2 – PDEA; 3.3.9.4; Project-Wide Measures; paragraph above Table 3-72	“...JHI has proposed additional recreation improvements... <u>but JHI has not been requested in the Forest Service in their Preliminary 4e conditions...</u> ”	As written this sentence is confusing. Please rewrite.	
8	Appendix T: Final Scenery Res. Report, March 2014; VCU 570, 1 st paragraph	“Some excavation will occur within the Caretaker’s area (See Appendix A-4 and B-2).”	The reference to Appendix A-4 & B-2 appears to be incorrect. Should this refer to <u>Exhibit A</u> , Figure A-4? If so, then this figure shows project elements at a quad map scale, which is insufficient detail for what’s being described. If the reference to Figure B-2 means to look in Exhibit. B, that section has no Figure. B-2 – it	

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			starts with Fig. B-5.	
18	Appendix T: Final Scenery Res. Report, March 2014; Distance Zones, bottom of page	"As an aside, over 64% of VCU 610 is classified as <u>unseen</u> , but not included in calculation."	Should read, "...classified as <u>unseen/seldom seen</u> ,"	
19	Appendix T: Final Scenery Res. Report, March 2014; Distance Zones, Fig. 5	Distance Zones **  Not Seen	Should read, "... <u>Not seen/seldom seen</u> ,"	
24-25	Appendix T: Final Scenery Res. Report, March 2014; Visual Absorption Capacity. See also page 40, 3 rd paragraph under "Design Activities."	Visual Absorption Capability:	Typo in the title and the table on this page, and the Figure 7 map on page 25; VAC is "capacity" not "capability." Easy mistake – I do it too. See also page 40 as noted.	
41	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects, VCU 570, 1 st paragraph	"The powerhouse and switchyard will be in a partially excavated area..." The caretaker's facility is also said to be located in an excavated area.	Why has proponent dropped the mention of quarries, and even says quarries are no longer needed, when the drawings and text still discuss "excavated areas" which are the same size as in previous versions of the document? Technically they still appear to be rock pits (or quarries).	
41	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects, VCU 570, last line on page.	"...transmission corridor will travel north <u>perpendicular</u> to the shoreline..."	Should this read "parallel to"?	
41-42	Appendix T: Final Scenery Res. Report, March 2014; Scenery Effects	General comment	What will typical towers, and overhead/submarine transition facilities look like in terms of overall shape, materials, and colors?	
43-45	Appendix T: Final Scenery	General comment re information	It may be helpful to include SIO as a bullet	

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Res. Report, March 2014; Prominence & Sensitivity of Proposed...	given in bullet statements.	statement, even if the in-depth discussion follows in the next section. ISA is not necessary in my opinion, and could be dropped, unless the author is seeing a purpose for having it here that's not clear to me.	
43	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed..., VCU 610, P&S of this Segment	• Dam, penstock and elevated lake levels: Unseen/seldom seen landscape, High ESI (Class 1), Distinctive ISA, High VAC.	These points are listed individually in the other VCU discussions. A consistent format would be helpful.	
43	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed..., VCU 610, P&S of this Segment	• Due to facilities being in an unseen/seldom seen landscape and having a High VAC, the sensitivity of these facilities in a High ESI and Distinctive ISA are negligible.	The other VCUs do not draw a conclusion. This could be removed to be more consistent, as this discussion of negligible effects is addressed elsewhere.	
44	Appendix T: Final Scenery Res. Report, March 2014; Prominence & Sensitivity of Proposed..., E. Side of Gilbert Bay...	"...the two lane gravel access road will be decommissioned to a one lane gravel service road and the pullouts also decommissioned and re-vegetated."	Will the inside (land side) of the road be decommissioned or the outside (water side)? Decommissioning the outside lane is recommended for scenery reasons as this would help screen the road from the water.	
47	Appendix T: Final Scenery Res. Report, March 2014; Landscape Character Effects	"The Project effects to these identifiable landscape characteristics... determine the extent and magnitude of the deviation from the Landscape Character; and if these impacts meet the Scenic Integrity Objectives (SIO..."	Nicely stated. In general, this report is quite well done.	
49	Appendix T: Final Scenery	"...considered on a case-by-case	Missing rest of sentence.	

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Res. Report, March 2014; Landscape Character Effects; N. of Port Snettisham; Scenery	basis. Use designs and materials that”(end of paragraph)		
52	Appendix T: Final Scenery Res. Report, March 2014; Landscape Character Effects; Project Wide; Scenery	“Desired Conditions and Scenery Requirements establish acceptable aesthetic conditions allowable and an acceptable range (if any) in which the Project effects may deviate from the Landscape Character.”	To clarify we suggest the following - “Desired Conditions and Scenery Requirements <u>establishes acceptable aesthetic conditions SIOs establish the allowable and an acceptable range (if any) within which the Project project</u> effects may deviate from the Landscape Character.”	
55	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects	“Scenic integrity represents the landscape at a <u>micro level</u> from areas of concern.”	Not sure what this means. Maybe it’s straight from a reference book and I’m not recognizing it, but will the public understand the meaning?	Delete sentence?
55	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; last lines in paragraph above VCU 570	“No visual simulations were developed for VCU 610 as the proposed facilities are located in an unseen/seldom seen landscape. <u>Additionally, there are no VPRs that provide visual access to the Project facilities in VCU 610 from which to base the visual simulation.</u> ”	Would it be better to explain the subtleties of this VCU by saying: “Additionally, Because the Semi-Remote Recreation LUD in this VCU is intended to manage for random recreational use which may follow no established travel route, there are no VPRs that provide visual access to the Project facilities in VCU 610 from which to base the visual simulation.” ...or something to that effect.	
58	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 550; Sentinel Point-South etc.; top of page 58	“Poles will be steel T and straight-shaped towers.”	Someone unfamiliar with types of power line poles will wonder if these are two different types or one. Photos of similar structures would be helpful. Same comment for transition facilities.	
59	Appendix T: Final Scenery Res. Report, March 2014;	3 rd bullet statement says, “...effects will be consistent with a Low	If the design does not take advantage of existing pattern and texture, it most likely will	

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Scenic Integrity Effects; VCU 550; Impacts to Scenic Integrity etc.	...SIO... and will not exceed the visual impacts for a Very Low SIO as allowable in the Forest Plan.” And yet 4 th bullet statement says, “Expected impacts do not take advantage of existing... pattern and texture... This is not consistent with the Forest Plan.”	not meet SIOs. If there’s a reason to state the effects the way they are worded in the document, please explain. In other words, how can it both meet the SIO but not meet Forest Plan design requirements?	
59	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 610, Visual Sim. Photo Points	“There are no VPRs that <u>provide</u> a typical Forest user <u>to view</u> the facilities associated with the Project in this VCU.”	Typo – “ <u>provide... a view of</u> ” might work better. Also, it may help to briefly explain the LUD within this VCU by saying something like, “While there are no designated VPRs in this VCU, the intent of a Semi-Remote Rec LUD is to provide natural-appearing landscapes in which recreationists may explore. To allow for this random recreational experience, the adopted SIO is Moderate for all distance zones. It is assumed that the presence of a large man-made structure near an area of known sports fishing use (lower creek) may attract adventuresome hikers to take a look, even though the terrain is challenging.” And go on to say, “...no visual simulations were created... although effects are discussed in terms of the expected appearance of proposed structures.” (color, size, shape/form, etc.)	
61	Appendix T: Final Scenery Res. Report, March 2014; Scenic Integrity Effects; VCU 610, Impacts to Scenic	“• Dam, penstock and elevated lake levels will be not visible from VPRs.”	...but may be seen if a determined recreationist chooses to make the difficult hike in to see it.	

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Integrity of VCU 610 etc., 2 nd bullet statement			
62	Appendix T: Final Scenery Res. Report, March 2014; Cumulative Effects, bottom paragraph, last line	"...the clearing limits will be the main visual modification."	Suggest it would be more accurate to say, "...clearing limits <u>and towers</u> will be..."	
63	Appendix T: Final Scenery Res. Report, March 2014; Cumulative Effects, middle of 2 nd paragraph	"...will meet the requirements for <u>Class 3, Moderate</u> , where the modifications begin to dominate the landscape."	If the intersection of the proposed line and the existing Snettisham line is an obvious "T" due to vegetative clearing, and if the proposed transition station is obviously visible, then it may be a Class 4. Low.	
63	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, 1 st paragraph	"where appropriate or feasible" ... "if required"	Again, when will this be decided? How do we know full effects of the proposal if we don't know which mitigation measures will be adopted? Mitigation should include color recommendations with enough specificity to convey intent (i.e., not just 'grey' but 'medium grey').	
63	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, 3 rd paragraph	"feather edges" ... "hardline clearing"	Do these terms need to be defined to insure the person laying out the work understands what is being asked for? If everyone understands this, then no worries.	
64	Appendix T: Final Scenery Res. Report, March 2014; Scenery Protection Measures, etc.; Project-Wide, bottom paragraph	"Allow vegetation to reestablish ...facilities."	After this sentence I would suggest adding something like, "If larger trees must be removed, only take those necessary to maintain access to buried lines; require selective tree removal to avoid creating a perfectly straight cleared corridor."	
4	Appendix T: Final Scenery	" <u>Utilize natural rock and stone</u>	What is meant by this? Would this be rock	

Scenic Resources				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Res. Report, March 2014; Scenery Protection Measures, etc.; VCU 570	along the coastal road where fill will be exposed to the Gilbert Bay”	other than from excavation, i.e., beach rock?	
6	Appendix Z: Scenery Mgmt. & Monitoring Plan; 2.0 Project Description; end of top paragraph	“... (13) A shelter facility at the dam site; (14) appurtenant facilities.”	Please provide information about structures proposed to remain after initial construction activities are complete; size, materials, color(s), etc.	
7	Appendix Z: Scenery Mgmt. & Monitoring Plan; 4.4. Switchyard	“...next to the Existing Snettisham Transmission lines.”	Will this facility be visible, and if so, please indicate its location in the corresponding visual simulation.	
7	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.3. Powerhouse; 3 rd bulleted statement	“Rock spoil... used to create a visual screen berm <u>may create a visual</u> that can be seen from the VPR...”	Suggest “...may contrast with the characteristic landscape when viewed from...”	
8	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.3. Powerhouse; 3 rd bulleted statement	“...newly exposed rock that does not have a weathered patina...”	Drawings of this berm show and describe it as being vegetated. (see PDEA, p.497, Fig. 3-121, Note 1).	
8	Appendix Z: Scenery Mgmt. & Monitoring Plan; 5.4. Transmission Line Poles and Corridor Clearing; 2 nd bulleted statement	“Clearing of vegetation along the transmission route will be necessary to not just install the transmission line but also to keep in place a single-lane access road for maintenance.”	This makes it sound as though a maintenance road will be constructed for all power line routes, but this isn’t mentioned anywhere else for the west side of Gilbert Bay. Will a maintenance road be built there?	
9	Appendix Z: Scenery Mgmt. & Monitoring Plan; 6.0 Project Wide Proposed Mitigation Measures; 1 st bulleted statement	“Prior to beginning construction... verify Project conditions... Modifications, including minor ones...may have a... scenery impact.”	Please add: “Verify with landscape architect that changes will comply with scenery management standards, or incorporate appropriate modifications to achieve the desired result” (or similar wording).	
9	Appendix Z: Scenery Mgmt.	“Plant vegetative screening	Would a raised berms with vegetation (similar	

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	& Monitoring Plan; 7.0 Specific Mitigation Measures, 2 nd paragraph	between the water's edge and the caretaker's facilities."	to the one proposed at the powerhouse) be appropriate here to partially screen the facility from the water?	
9	Appendix Z: Scenery Mgmt. & Monitoring Plan; 7.0 Specific Mitigation Measures, 3rd paragraph	"Utilize rock along the coastal road where fill would be exposed to Gilbert Bay."	Is a particular kind of rock meant?	
All	Appendix Z: Scenery Mgmt. & Monitoring Plan; 7.0 Specific Mitigation Measures, 3rd paragraph	"Use the correct native plants for the soil available."	If vegetation removed from excavated areas will be replanted elsewhere, please plan for appropriate "holding areas" where these plants can be kept in a healthy condition so re-vegetation efforts are successful.	
	General	Mitigation	Need to be clear what mitigation will be required so this section can be more definitive.	

Wildlife & Subsistence				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
29	Volume 2. Executive Summary, Alternatives Considered, Alternative Comparison Table, Terrestrial Resources, Wildlife, Proposed Action	No change	The analysis indicates that there will be changes to wildlife resources (e.g., loss of habitat, disturbance, etc.), although they may not be substantial.	Change "No change" to other wording indicative of the level of effect.
29	Volume 2. Executive Summary, Alternatives Considered, Alternative Comparison Table, Threatened, Endangered and Candidate Species, Proposed Action	No change	The analysis indicates that there will impacts to whales.	Change "No change" to other wording indicative of the level of effect

Wildlife & Subsistence				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
33	Volume 2. Executive Summary, Threatened, Endangered, and Candidate Species	Only one threatened species...	The western DPS of Steller sea lions is considered to occur regularly in northern SE AK, including the project area	Include reference to the endangered western DPS of the Steller sea lion here.
42	Volume 2: 1.3.3. Endangered Species Act	"... The western Steller sea lion ... are not found within the proposed Project boundary."	NMFS considers western DPS sea lions to occur all year throughout northern SE AK waters	See white paper on western DPS sea lions in southeast AK on NMFS website for more information
44	Volume 2: 1.3.9.1. ANILCA	Whole section	ANILCA did much more than designate public lands.	Expand to include different parts of ANILCA that apply to this project
44	Volume 2: 1.3.9.2 Subsistence Resources	Whole section	This section mixes discussion of Federal (ANILCA) subsistence law with State subsistence law. It is thus, rather confusing.	Discuss Federal and State law separately
92	Volume 2: Table 2-9. Marine Mammals	In water pile driving ... would stop if marine mammals enter the 100-yard safety zone.	Larger exclusion zone may be appropriate. Provide rationale for 100 yard zone.	Larger exclusion zone may be appropriate. Provide rationale for 100 yard zone, I could not find it anywhere in the document.
96	Volume 2: 2.2.4.5. Threatened and Endangered Species	... one endangered species for the Project: humpback whales	NMFS considers that the Western DPS of the Steller sea lion, while uncommon, occurs throughout northern southeast AK waters all year. Thus, the WDPS of the Steller sea lion is an endangered species occurring within the project area.	Include the Western DPS of the Steller sea lion in the list of endangered species occurring in the project area, and provide analysis of project effects on the species.
97	Volume 2: Table 2-10. Humpback Whale Collision Avoidance	In water pile driving ... would stop if marine mammals enter the 100-yard safety zone.	Provide rationale for 100 yard safety zone, a larger safety zone may be appropriate.	
101	Volume 2: Table 2-12	Buried transmission line is laid ... and Old-growth Habitat LUD.	The OG LUD is mentioned in passing but apparently no measures for mitigation or protection are proposed in this LUD.	Clarify that OG LUD occurs in the project area (it appears that the north shore where the transmission line joins the

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
				Snettisham line is in OG LUD. Clarify whether or not mitigation measures will be developed for the OG LUD.
110-112	Volume 2: 3.1.1 Land Use	Whole section	While the climate information presented in this section is pertinent to the project, it isn't Land Use. There are only a couple of sentences related to Land Use, which is inadequate.	Move this information to an appropriately named section and include information in this section on Tongass National Forest land use designations and management direction as well as State management direction for State lands.
327	Volume 2: 3.3.3.6. Special Status Species	As of April 2, 2014, a NOAA press release stated that the Southeast Alaska Distinct Population Segment (DPS) of Pacific Herring is not a candidate species that has recently was the subject of a status review.	This sentence is confusing.	Please revise. This DPS was listed as a candidate while it was under review, but NOAA/NMFS has determined that this DPS does not warrant listing under the ESA.
375	Volume 2: 3.3.4.3 Wildlife Resources, Existing Wildlife Habitat	It should be noted that there are no special interest areas, legacy forest structure, or old growth reserves within the analysis area.	There are Old-growth reserves in VCU 550 and 570.	Correct this statement.
377-380	Volume 2: 3.3.4.3 Wildlife Resources, Figure 3-104. 3-105, 3-106, and 3-107	Low Value POG, High Value POG	The correct terminology is Low and High <u>Volume</u> POG	Correct terminology.
381	Volume 2: 3.3.4.3. Wildlife Resources, Analysis of Project Effects	Whole paragraph	Uncertain of the intent of this paragraph. The verbiage is not introductory in nature and it doesn't even begin to summarize the projects effects.	Keep the heading and delete the paragraph, or make the wording appropriate.
381	Volume 2: 3.3.4.3. Wildlife	Whole section	This section is essentially cut and pasted from	Apply comments from Appendix U

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Resources, Sensitive Species		Appendix U.	sensitive species section (see below) to the sensitive species section of the PDEA also.
387	Volume 2: 3.3.4.3. Wildlife Resources, Management Indicator Species	Whole Section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U management indicator species section (see below) to the management indicator species section of the PDEA also.
411	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals	Whole Section	The Project Effects discussions are exceedingly brief. While this may be suitable for species that are not in the range of the project, it is not acceptable for those that may be encountered by project activities.	Include more in depth discussion on project effects for species in the range of the project. Just saying we'll implement mitigation measures is not a sufficient analysis.
414	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Dalls Porpoise, Project Effects	This dolphin species is found in areas along the shipping routes from Seattle to Juneau and likely to be encountered by vessels transporting materials to the project site in Gilbert Bay. This species is attracted to fast moving vessels and commonly bow ride.	This paragraph does not contain a project effects analysis.	Discuss project effects on the species.
415	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Harbor Porpoise, Project Effects		This paragraph does not contain a project effects analysis.	Discuss project effects on the species.
417	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Pacific white-sided dolphin, Project Effects	It is unlikely that the project would affect this species of dolphin. Pacific white-side dolphins are primarily pelagic species and	They are generally known as pelagic but this species definitely occurs in the inside waters of southeast Alaska.	Further research and analysis on this species may be needed to accurately portray the project risk.

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		unlikely to occur in the narrow passages of the shipping routes to Port Snettisham and Gilbert Bay		
421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Humpback whale, project effects	Whole section	This paragraph does not contain a project effects analysis.	Summarize and refer to analysis in the biological evaluation in Appendix U. Apply comments below relating to humpback whales in Appendix U.
421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Harbor seal, project effects	Whole section	This paragraph does not contain a project effects analysis.	Discuss project effects on the species.
421	Volume 2: 3.3.4.3 Wildlife Resources, Marine Mammals, Steller sea lion, project effects	Whole section	There really is no discussion of effects here, just potential and mitigations.	Discuss project effects on the species. Apply comments below relating to Steller sea lions in Appendix U.
428	Volume 2: 3.3.4.3 Wildlife Resources, Subsistence	Whole section	This section is essentially cut and pasted from Appendix U.	Apply comments from Appendix U Subsistence section (see below) to the subsistence section of the PDEA also.
432	Volume 2: 3.3.4.3 Wildlife Resources, Other species of concern, Harbor Seal	Whole section	Seems like this discussion could be incorporated into the harbor seal discussion in the marine mammal section	
433	Volume 2: 3.3.4.3 Wildlife Resources, Other species of concern, Great Blue Heron	However, collisions may still occur during period of low visibility and therefore there may be some collision related great blue heron mortality. This Project effect is considered to be minor.	Mortality of individuals would meet the definition of moderate effect described in Appendix U.	Change effect determination.
439	Volume 2: 3.3.5. Threatened	Whole section	This section is essentially cut and pasted from	Apply comments from Appendix U

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Endangered and Candidate species		Appendix U.	Threatened, Endangered and Candidate species section (see below) to this section of the PDEA also. Need to include a discussion of the Western DPS of Steller sea lion.
App U	Volume 5: Entire Appendix		The misused word forms, missing words, extraneous words, and mangled sentences detract from its readability and add confusion.	Please subject this Appendix to a thorough proofreading and editing.
2	Volume 5, Appendix U: 1.0 Introduction	One exception is Pacific herring, which is listed as a candidate species under the Endangered Species Act (ESA).	The final determination on Pacific Herring was made in April 2014. They are no longer a Candidate species.	Update this information. Also, Southeast AK Pacific Herring is no longer required to be addressed in the biological evaluation.
6	Volume 5, Appendix U: 2.2 Proposed Mitigation and Protection Measures	Establish a marine mammal safety zone of 100 yards around in water construction activities	What is basis for 100 yard protection zone? Other similar projects have used greater distances. One hundred yards is less than the disturbance distance information provided in the analysis.	Please provide the rationale for the 100 yard zone.
9	Volume 5, Appendix U: 3.1 Description of the Analysis Area	It should be noted that there are no special interest areas, legacy forest structure, or <u>old growth reserves</u> within the analysis area.	There are old-growth reserves in VCU5 550 and 570.	Correct this statement.
12-15	Volume 5, Appendix U: 3.1.1 Wildlife Habitats, Figures 4a, 4b, 5, 6	Low <u>Value</u> POG High <u>Value</u> POG	The correct terminology is high and low <u>volume</u> POG	Change value to volume on each figure.
18	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Effects of the Action	One endangered, managed by NMFS know to occur in Gilbert Bay and vicinity: humpback whale (endangered).	Western DPS Steller sea lions are also assumed to occur in the project area based on a white paper by NMFS.	Include WDPS sea lions in the list of species occurring in the project area and complete an analysis of project effects on the DPS.
18	Volume 5, Appendix U: 3.2.1	The humpback whale (endangered)	Western DPS Steller sea lions are also assumed	Change or delete this sentence as

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
	Threatened and Endangered Species, Humpback Whale	is the only species listed under the ESA know to occur in Gilbert Bay and vicinity.	to occur in the project area based on a white paper by NMFS.	appropriate.
18	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale	Although humpback whales are currently listed as endangered, the NMFS has announced a 90-day finding on a petition to identify the North Pacific population as a DPS and delist the DPS and have initiated a status review under the ESA (FR Doc. 2013-21066. Filed 8-28-13).	This information needs to be updated as a second petition has been filed and 90 day finding has been done.	Update.
19	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale	While a population trend for the central North Pacific Stock has not yet been estimated, it is clear that the abundance has increased in southeast Alaska (Allen and Angliss 2012a)	A population trend has been estimated. See Allen and Angliss 2013. Also, Hendrix et al 2012 estimated the population trend for humpback whales in southeast Alaska.	Update information.
19	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Action Area	...protection zone of 250 yards into Gilbert Bay	This is the only location that discusses the 250 yard zone; all other references are to a 100 yard zone.	Make consistent. None of the proposed safety zones appear sufficient based on information presented.
21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	Humpback whales would only be exposed to Level B noise if they were within 2,625 feet of vibrating pile driving or 1,148 feet of impact pile driving during the construction of the Project landing and dock facilities. Humpback whales within	This paragraph indicates humpbacks could be affected at rather greater distances than are proposed for the mitigation measure of stopping in-water construction activities when they are within 100 yards.	Adjust mitigation distances or justify the shorter distance.

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		these distances would be exposed to underwater sound thresholds that could have an effect on individual humpback whales.		
21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	It is expected that if the noise generating activities occur before whales are in the areas of construction, than whales would avoid the area during the noise generating activities and the Project construction would have no effect	Avoidance is an effect.	Revise discussion to acknowledge effect.
21	Volume 5, Appendix U: 3.2.1 Threatened and Endangered Species, Humpback Whale, Analysis of Project Effects, Construction Noise	Safety zone of 100 yards	Based on information presented earlier, the 100 yard safety zone is insufficient.	Justify use of 100 yard zone, or change to larger distance.
25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	There is one candidate species for listing under the ESA, Pacific herring	Candidates are not a category under the ESA; they are an agency (FWS & NMFS) designation. Herring are no longer a candidate species. The pinto abalone is now a candidate species that occur in SE AK and may or may not have habitat within the project area.	Correct wording and update the list. The project may still want to keep Herring in the analysis but it is no longer required to be in the biological evaluation.
25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	... four sensitive species identified by the US Forest Service for the Tongass NF in Region 10 (USDA Forest Service 2008a)	Sensitive species are identified by the Regional Forester, not the Forest Plan. The R10 list has five species, the four listed plus Kittlitz's murrelet (which is no longer a Candidate species but is still on the Regional Foresters Sensitive species list). The correct reference for the sensitive species list is Goldstein et al 2009.	Use correct reference and include Kittlitz's murrelet in the analysis. Also, the Eastern DPS of Steller sea lions is considered a sensitive species based on its recent delisting from the ESA. Please include it in the list of sensitive

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Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
				species.
25	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species	The (proposed action/alternative) may adversely impact individuals but not likely to result in a loss of viability in the <u>Project affected area</u> , nor cause a trend toward federal listing for the species; and The (proposed action/alternative) is likely to result in a loss of viability in the <u>Project affected area</u> , or in a trend toward federal listing for the species.	The wording for these determinations is incorrect.	Change “Project-affected area” to “Planning Area”. The Planning Area refers to the Forest Plan (i.e. TNF) not the project analysis area. Planning Area viability is ensured by making sure the <u>project</u> is consistent with Forest Plan standards and guidelines. Note: there are numerous other places in the document where this erroneous wording is used. Please correct them all.
25-26	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Table 9, Black oystercatcher, Dusky Canada goose, Queen Charlotte goshawk	The proposed Project may adversely impact individuals but not likely to result in a loss of viability in the <u>Project affected area</u> , nor cause a trend toward federal listing for goshawk.	The wording for these determinations is incorrect.	Change “Project-affected area” to “Planning Area”.
26	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Pacific Herring	Whole section	Pacific Herring is no longer a Candidate species and therefore, no longer required to be addressed in the biological evaluation.	This section may be deleted (or kept). If kept, please update the status.
27	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Steller sea lion	...the Mist haul-out which is actually located on the northern shore Port Snettisham <u>west</u> of Mist Island	The haul-out is <u>east</u> of Mist island	Change west to east.
28	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Steller sea lion,	Whole section	There is no analysis here. There is a list of possible effects and a conclusion. The last sentence makes no sense.	Display analysis of potential effects. Clarify effect level (last sentence).

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	Analysis of Project Effects			
28	Volume 5, Appendix U: 3.2.2 Candidate and Sensitive Species, Black oystercatcher	and may nest in the rocky intertidal habitat area	As pointed out later in the paragraph, they do not nest in the intertidal area.	Delete this wording as it is unnecessary and incorrect.
32	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Alexander Archipelago Wolf	A healthy beaver population occupies Sweetheart Lake and tributary streams.	No mention is made of what effect the project will have on the beaver population and indirectly on the wolf population. We may expect substantial disruption if not elimination of the beaver population.	Include discussion of effects on beaver related to wolves.
36	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Bald Eagle, Analysis of Project Effects	The FWS National Bald Eagle Guidelines for complying with the Bald and Golden Eagle Protection Act recommend a 330 foot buffer (no construction) from a nest when the activity cannot be seen from the nest, and 660 foot buffer from the nest when the activity can be seen from the nest (FWS 2007).	The Guidelines also include a ½ mile buffer for blasting and other loud intermittent noises.	Include information on the ½ mile blasting buffer zone.
37	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Black Bear, Analysis of Project Effects	would remove approximately 440 acres of potential black bear denning habitat	How is denning habitat defined in this analysis? Why are these acres different than the affected acres in the previous paragraph?	Define analysis criteria.
38	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Black Bear, Analysis of Project Effects	Construction noise from drilling, blasting, and use of heavy equipment at the dam site would occur during.	Incomplete sentence	Complete the sentence.
39	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Brown Bear, Analysis of Project Effects	The effect of mortality through defense of life interactions would be considered minor.	Based on the definitions of level of effect, DLP mortality would be considered moderate – i.e. “long-term consequences to individuals” and “negative impacts to feeding, reproduction or	Revise

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			other factors affecting short-term population levels”	
39	Volume 5, Appendix U: 3.2.3 Management Indicator Species, Brown creepers, Hairy woodpeckers and/or Red-breasted sapsuckers, Analysis of Project Effects	such as vegetation clearing and noise producing activities during nesting season would also be considered minor	The analysis suggests that vegetation clearing during nesting season could result in nest destruction. By definition this would equate to a moderate effect.	Revise
44	Volume 5, Appendix U: 3.2.3 Management Indicator Species, River otter, Analysis of Project Effects	Therefore, the Project, <u>regardless of alternative</u> would remove	There are two alternatives, one of which would not remove any POG.	Reword
51	Volume 5, Appendix U: 3.2.5 Subsistence	Gilbert Bay/Sweetheart Creek falls within District 11 of the federal subsistence regulations and there is no subsistence fishing with the district.	This is incorrect. District 11 is included in “Remainder of the Southeastern Alaska area”. This area has a customary and traditional use determination of “Residents of Southeastern Alaska and Yakutat areas” for Dolly Varden, trout, smelt and eulachon. For salmon the C&T determination is All rural residents.	Revise
51	Volume 5, Appendix U: 3.2.5 Subsistence	While it cannot be determined if the harvest was under subsistence or sport hunting regulations, the harvest report lends to the likely low use of the Project affected area by all harvesters.	The 2008 Forest Plan Amendment FEIS provides information on important subsistence deer hunting areas. This is the standard reference for whether a project area is an important subsistence area.	Refer to community discussions starting on page 3-576 of the 2008 Forest Plan FEIS. Ensure that the project area is not within the community use area of any subsistence community. Also, refer to the deer harvest table for each subsistence community to ensure that the project WAA is not one of the WAA for which residents obtain approximately 75% of their

Wildlife & Subsistence				
Page	Section and Header	Key Phrase	Review Comments	Notes & Suggestions
				average annual deer harvest (i.e. it's not an important deer harvest area).
52	Volume 5, Appendix U: 3.2.5 Subsistence, Analysis of Project Effects	This analysis of the Sweetheart Lake Hydroelectric Project concludes that the proposed effects to subsistence would be minor.	Forest Service handbook direction requires a Finding using specific language. Also note that the actual analysis is written before this section.	Change this paragraph to the following: "This evaluation concludes that the action shall not result in a significant restriction of subsistence uses."

Document Content(s)

fs_ltr_apea_comments.DOC.....1-2

Encl 2 -- Schedule Final 4(e)s Sweetheart Lake.DOC.....3-3

Encl 3 -- Certificate of Service Sweetheart_Lake.DOC.....4-5

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