

Grant Lake Hydroelectric Project (FERC No. 13212)
Natural Resources Studies Meeting
Residence Inn Midtown, 1025 35th Avenue, Anchorage, AK
December 12, 2012, 8:00 am to 5:00 pm

In Attendance

Dwayne Adams, USKH
Amal Ajmi, ERM *[via phone]*
Audrey Alstrom, Alaska Energy Authority (AEA)
Emily Andersen, Long View Associates (LVA)
Jeff Anderson, U.S. Fish and Wildlife Service (USFWS)
Patti Berkhahn, Alaska Department of Fish and Game (ADF&G) *[via phone]*
John Blum, McMillen LLC (McMillen)
Valerie Conner, Alaska Center for Environment
Ted Deats, Alaska Department of Natural Resources (ADNR) *[via phone]*
Shina Duvall, ADNR *[via phone]*
Gary Fandrei, Cook Inlet Aquaculture Association (CIAA) *[via phone]*
John Gangemi, ERM
Ricky Gease, Kenai River Sportfishing Association (KRSFA) *[via phone]*
David Griffin, ADNR (Alaska State Parks)
Ken Hogan, Federal Energy Regulatory Commission (FERC) *[via phone]*
Jan Konigsberg, Hydro Reform Coalition (HRC) *[via phone]*
Denise Koopman, Army Corps of Engineers (ACOE)
Ginny Litchfield, ADF&G *[via phone]*
Katie McCafferty, ACOE *[via phone]*

Mark Miller, BioAnalysts (BA) *[via phone]*
Monte Miller, ADF&G
Sally Morsell, Northern Ecological Services (NES) *[via phone]*
Travis Moseley, U.S. Forest Service (USFS) *[via phone]*
Paul Pittman, Elemental Solutions (ES) *[via phone]*
Krissy Plett, ADNR *[via phone]*
Eric Rothwell, National Oceanic and Atmospheric Administration (NOAA Fisheries)
Pam Russell, ADNR *[via phone]*
Kim Sager, ADNR *[via phone]*
Mike Salzetti, Kenai Hydro, LLC (KHL)
Charles Sauvageau, McMillen
Lesli Schick, ADNR
Levia Shoutis, ERM
John Stevenson, BA
Ron Stanek, Cultural Resource Consultants, Inc. (CRC) *[via phone]*
Robert Stovall, USFS
Cassie Thomas, National Park Service (NPS) *[via phone]*
Sue Walker, NOAA Fisheries
Cory Warnock, LVA
Mike Yarborough, Cultural Resource Consultants (CRC)

Meeting Summary

Introductions and Agenda

Cory Warnock (LVA) began the meeting with introductions and then reviewed the proposed meeting agenda (see [Attachment 1](#)):

- Project Overview and Update
- Licensing Path Forward
- Natural Resources Studies
 - Aquatic Resources
 - Water Resources
 - Terrestrial Resources
 - Cultural Resources
 - Recreation and Visual Resources
- Closing

Project Overview and History

Mike Salzetti (KHL) presented an overview and history of the Grant Lake Hydroelectric Project (Project) (see PowerPoint included as [Attachment 2](#)). Mike S. gave a general description of the utility, Homer Electric Association (HEA), noting that Kenai Hydro, LLC (KHL), the applicant for the Project, is a wholly-owned subsidiary of HEA (*Slide 3¹*). Mike S. indicated that the purpose for the Project is three-fold (*Slides 4-7*): 1) to meet the Board of Director's goal for an increase in its renewable energy portfolio; 2) to become a more independent utility by adding to its generation capacity, and 3) to create an alternate, reliable energy source in light of the anticipated impending shift to higher gas prices.

Mike S. briefly described the history of the proposed Project to date (*Slides 8-10*), explaining that feasibility studies were conducted for four potential sites (Grant Lake, Falls Creek, Ptarmigan Lake, and Crescent Lake), two of which (Grant Lake and Falls Creek) were carried forward and environmental baseline studies were conducted in 2009. The results of these studies were used in the development of the Pre-Application Document (PAD), filed with FERC August 2009, and in the development of the formal draft study plans.² The study program got underway in 2010, but was suspended by KHL later that year following FERC scoping, which led to significant stakeholder comments on the draft plans, in order to take the comments into consideration and revisit the draft study plans. Since that time, KHL has received a second preliminary permit (March 2012), hired McMillen as the Natural Resources Study consultant, and made significant updates to the study plans to address stakeholder comments.

Mike S. introduced the key parameters of the Project (*Slide 11*), noting that there are currently two proposals under consideration: one with a 2-foot dam, and the other without a dam. He reminded the group that the original proposal, as described in the PAD, was for a 10-foot dam. Mike reviewed a series of aerial views (*Slides 12-17*) showing the location of the proposed Project. The proposed Project is generally located to the west of the Moose Pass area (*Slide 12*). Mike S. noted that the original proposal included two potential transmission line access road options, but that one had since been eliminated ("Option 1" in *Slide 13*) to avoid its running parallel to the proposed path of the Iditarod National Historic Trail (INHT). Mike S. described the general layout of the proposed Project facilities (*Slide 14*). Mike S. pointed out that not all issues related to the INHT have been resolved – the proposed INHT route currently runs through the proposed site of the Project powerhouse – but KHL will be working with the relevant agencies and organizations to come up with a potential re-route of the INHT around the powerhouse area. Mike S. stated that due to a large waterfall on Grant Creek that creates a natural anadromous barrier, no salmonids can access the lake and there are no resident salmonids in the lake. The only know species to inhabit Grant Lake are stickleback and sculpin (*Slide 15*). Mike S. indicated that the need for the Project to have a dam is partially dependent on what is determined to be necessary for bypass flows, but noted that given the relatively steep topography of the lake and shoreline, the impact on resources in the lake due to lake level changes, are expected to be minimal (*Slides 16-17*).

¹ For all PowerPoint presentations given during the meeting, slide numbers refer to the PDF page number.

² In May 2010, a revised Project description was filed with FERC, which indicated that the Falls Creek diversion had been removed from the Project proposal, and the associated impacts for which would no longer be studied.

Mike S. concluded his presentation with a summary of the key benefits for building the Project (*Slide 18*).

- *Comment:* Jeff Anderson (USFWS) asked if the current Project proposal is documented anywhere.
Response: Cory Warnock (LVA) indicated that that the revised study plans contain the current proposal. Mike S. added that the description in the PAD (August 2009) together with the FERC-filed updated Project descriptions (May and August 2010) (available on the Project website), also reflect the changes made to the current to the original proposal.
- *Comment:* David Griffin (ADNR) asked what from the feasibility analysis, led to the ultimate decision to move forward with Grant Lake.
Response: Mike S. indicated that it was a combination of the expected environmental impacts and economical factors. Valerie Conner (Alaska Center for Environment) noted that the other options were viewed as more controversial, primarily due to recreational and visual resources issues.
- *Comment:* Travis Moseley (USFS) noted that, related to the INHT, KHL should anticipate needing to negotiate with ADNR related to rights-of-way and land ownership.
Response: Mike S. agreed and said that he expected the interested parties to include the USFS, ADNR, and Kenai Borough, among others.
- *Comment:* Jan Konigsberg (HRC) asked if the cost of Project construction is yet known or what financing mechanisms may be used. Jan also asked whether the energy generated by the Project would be used for HEA customers or put on the wholesale market.
Response: Mike S. replied that the Project cost will be determined by the yet-to-be hired engineering consultant (a request for proposal (RFP) for which will go out this winter), but shared that the preliminary estimate is approximately \$35 million. Mike S. indicated a portion of the funding may be covered by KHL and some was going to be sought via grants. As for the intended use of the power, Mike S. stated that the energy would primarily be used by their customers.
- *Comment:* Valerie Conner asked the reason why the expected rated generator output to be the same (5 megawatts [MW]) for the originally proposed 10-foot dam and for the currently proposed no dam and 2-foot dam options.
Response: Mike S. clarified that the 5-MW is the maximum capacity for use during peaking periods, but that a Project will typically run at less than full capacity. He noted that a higher dam (10-foot versus 2-foot or no dam), allows for more storage capacity for use during high-use periods.

Licensing Overview

Cory Warnock (LVA) presented an overview of the licensing process (see PowerPoint included by [Attachment 3](#)). Cory briefly reviewed the licensing process to date (*Slides 2-3*), reiterating many of the same points made by Mike S. earlier. Cory noted that when formal stakeholder

comments were filed in April-July 2010, KHL developed a matrix of the comments by resource area, and that since, KHL has updated the matrix with responses that include, as appropriate, cross-references to the relevant page/section of the respective study plan where a given comment is addressed (see Draft Study Plans Comment/Response Table included as [Attachment 4](#)).

- *Comment:* Eric Rothwell (NOAA Fisheries) asked the reason for selection of the Traditional Licensing Process (TLP).
Response: Cory indicated that while the process decision preceded his involvement with the Project, it is his understanding that the decision was made in consultation with stakeholders at the time. Ken Hogan (FERC) added that because the Integrated Licensing Process (ILP) is the default process, an applicant has to file with FERC a request to use the TLP, which FERC then reviews and either denies or approves.

Cory reviewed the main objectives of the meeting (*Slide 4*), which are to: 1) identify and modify, as needed, current stakeholder contacts; 2) introduce the McMillen Natural Resources Studies team; 3) review proposed studies, by resource area, and 4) distribute the final study plans.

Cory explained that KHL's general plan is to move forward with the final study plans, which will be implemented in 2013/14, and noted that FERC has been consulted regarding KHL's general approach and has confirmed its consistency with the TLP requirements (*Slides 5-6*). To this end, Cory indicated that some team members (Mike S., John Blum, John Stevenson, Chuck Sauvageau, Gary Fandrei, and himself) were at the Project for an initial site visit the day before (December 11). Cory also laid out the steps and schedule for the 2nd stage consultation (*Slides 7-8*), noting that KHL is currently at the beginning of the stage, with the commencement of the study program, and that it would conclude with the filing of a Draft License Application (DLA) and meeting thereafter to discuss the study results, reports, and DLA (in summer 2014).

- *Comment:* Jeff Anderson asked whether there would be an opportunity to comment on the final study plans. Monte Miller (ADF&G) echoed the need for stakeholders to have an opportunity to submit written comments in light of the time that has lapsed since the draft study plans were discussed, and the significant changes that have since been made to them.
Response: Cory noted that consistent with the TLP, the formal commenting on draft study plans was completed in 2010; that said, Cory added that questions and suggested clarifying edits to study plans would be accepted. Cory encouraged stakeholders to communicate any questions (via email or phone) directly with the appropriate resource area lead as specified in the team organizational chart (see *Slide 11* and [Attachment 5](#)). Ken Hogan emphasized that any suggested substantive edits to study plans should be focused on any proposed significant changes in the status of a particular resource area (RTE designation) since the initial study planning phase, or a significant change in the proposed Project infrastructure that necessitates a corresponding modification to a study plan. Mike Salzetti noted that no significant changes related to RTE species or Project infrastructure existed. Jan Konigsberg pointed out that there is additional opportunity to comment on studies and make additional study requests as part of commenting on the DLA, and Ken Hogan added, also again as part of commenting on the Final License Application (FLA). Monte Miller also noted that if there is a dispute regarding a study

request that FERC does not concur with, the agency or organization requesting the study has the discretion to conduct it at its own expense.

Cory summarized KHL's overarching commitments to making the licensing process a success (*Slide 9*), noted that the Project website will be the conduit for sharing of Project-related materials throughout the process (*Slide 10*), and reviewed once again the Natural Resources Studies Team organizational chart (*Slide 11*).

- *Comment:* Sue Walker (NOAA Fisheries) asked if the Project website includes the formal stakeholder and FERC draft study plan comment letters.
Response: Cory concurred, and stated that the website is currently up to date with all relevant Project materials. Mike S. also noted that historic existing information about the Project is available on the website.
- *Comment:* Monte Miller asked if the Project website has a dedicated area for the public to post comments.
Response: Cory indicated that it currently does not, but noted that it was a good idea, and something KHL would look into the possibility of adding to the website.

Fish and Aquatics

John Blum (McMillen), the Aquatics Resources task lead, started the presentation for the Fisheries and Aquatics Study Plan (see [Attachment 6](#)), by introducing the other members of the Aquatics Resources team and the eight major components of the Aquatics Resources Study (*Slides 2-3*), which include: 1) Fish Weir Installation and Monitoring; 2) Resident and Rearing Fish Abundance and Distribution; 3) Salmon Spawning Distribution and Abundance; 4) Trail Lake Narrows Fish Study; 5) Aquatic Habitat Mapping; 6) Instream Flow Study; 7) Macroinvertebrate Studies, and 8) Periphyton Studies.

Gary Fandrei (CIAA) described the objectives, orientation of the crew, field camp setup, weir installation, monitoring and schedule for the Fish Weir Installation and Monitoring study component (*Slides 4-7*) – field work to occur May through mid-November and comprehensive Aquatics Resources Study report to be submitted January 2014 – and photos of a sample weir and typical field camps (*Slides 8-9*). Gary noted that the monitoring spans a relatively long period of time to try to capture all fish species. He also noted that in the event of a significant flood, the weir pickets would be pulled out.

- *Comment:* Jeff Anderson (USFWS) asked what locations are under consideration for setting up the field camp.
Response: Gary responded that the current plan to set up as close to the weir as possible, probably somewhere in the lower 200 yards of Grant Creek, but not directly on the streambank.

John Stevenson (BA) introduced the Grant Creek Resident and Rearing Fish Abundance and Distribution study component, starting with a review of the available background information, USFWS (1961) and Arctic Environmental Information and Data Center (AEIDC; 1983)(*Slides*

10-13), and summarized the study details of the 2009/2010 KHL work (*Slides 14-23*). John S. noted that the field work in 2010 was suspended early, and therefore, the results for which were incomplete. John S. then outlined the proposed effort for 2013, noting that the intent is to continue the study where it had left off in 2010, conducting field work in the same 5 reaches, with the addition of winter habitat and fish monitoring and rainbow trout habitat use and spawning using radiotelemetry in response to stakeholder comments (*Slide 24*). John S. outlined the proposed data analysis (*Slides 25-27*) and field work and reporting schedule (*Slides 28-29*) – field work to occur February through March (winter work) and May through mid-October and comprehensive Aquatics Resources Study report to be submitted January 2014.

Mark Miller (BA) introduced the Grant Creek Salmon Spawning and Abundance study component, starting with a review of the available background information, ADF&G (1951/1981) and AEIDC (1983)(*Slide 30*). Mark summarized the study details of the 2009/2010 KHL work (*Slides 31-35*). Mark noted that most spawning ended within Reach 4, and also that escapement estimates for Chinook and sockeye in 2010 (231 and 6,293, respectively) were significantly higher than those from the earlier work (19 and 61, respectively).

- *Comment:* Sue Walker (NOAA Fisheries) asked for clarification regarding the data analysis used for the historical counts compared to that of the 2010 work.
Response: Mark replied that the historical counts were characterized as single time, visual peak counts, whereas, the 2010 work used area-under-the-curve and visual counts collected over a study season.

Mark then outlined the proposed effort for 2013, describing the field work, data analysis, reporting and work schedule (*Slides 25-28*) – field work to occur late July through early November and a comprehensive Aquatics Resources Study report to be submitted January 2014. Mark also reviewed the stakeholder comments that were incorporated into the two fisheries study components (*Slides 39-41*).

Related to the Trail Lake Narrows Fish Study, Mark stated that no previous work has been conducted in Trail Lake Narrows in association with the potential bridge site location (*Slide 42*). Mark outlined the proposed 2013 effort, including the field work, data analysis, reporting, and work schedule (*Slides 43-45*) – field work to occur late July through early August and a comprehensive Aquatics Resources Study report to be submitted January 2014.

John B. introduced the Grant Creek Aquatic Habitat Mapping study component, starting with a review of the study details, including stakeholder consultation during study planning, of the 2009/2010 KHL work (*Slides 46-48*). John B. then outlined the proposed 2013 effort, noting that the intent is to ground truth the 2010 work, and modifying as needed. John showed an aerial photo of the transect locations of key habitats, the work schedule, and reviewed the comments from the draft study plan that were incorporated into the current plan (*Slides 49-53*) – field work to occur April through May and a comprehensive Aquatics Resources Study report to be submitted January 2014.

- *Comment:* Jeff Anderson asked whether a winter survey would be considered in light of the potential change in flows due to Project operations.

Response: John B. indicated that they can utilize the data collected from the Resident and Rearing Fish Abundance and Distribution winter work to evaluate aquatic habitat.

John B. introduced the Grant Creek Instream Flow Study component, starting with a review of the 2009/2010 KHL work (*Slides 54-55*). John B. noted that no high flow water surface area (WSE) measurements were taken and that, as a result, data analysis was not completed. John B. then outlined the proposed 2013 effort, noting that the primary objective is to verify the information collected at the same 18 transects of the 2009-10 effort and determine what has changed since then. John B. described the field work, data analysis, reporting, and work schedule, and showed photos of flows in select reach locations (*Slides 56-62*) – field work to occur April through November and study report to be submitted January 2014. John B. explained that he had discussed the Project with Thomas Payne, to develop an appropriate suite of models for Grant Creek. Also, for Reach 5, they would be utilizing Thompson (1972) to assess connectivity for upstream passage into representative pools (*Slide 58*). John B. pointed out that the study report would be detailed, to include calibration and habitat suitability index (HSI) data, the Instream Flow Incremental Methodology (IFIM) information, and Reach 5 calibration data (*Slide 59*). John B. also reviewed the stakeholder comments on the draft study plan that were incorporated into the current plan (*Slide 63*).

- *Comment:* Eric Rothwell (NOAA Fisheries) noted that he was not familiar with Thompson (1972), and asked 1) without having existing velocity measurements, whether there was a way to verify the use of the Thompson method in Grant Creek; and 2) whether any stream in the Thompson paper was similar to Grant Creek.

Response: John B. indicated that velocity measurements would be taken as part of the 2013 field effort, which could be used to verify the use of Thompson in Grant Creek, and noted that he would locate the paper and forward it to Eric.

- *Comment:* Valerie Conner (Alaska Center for Environment) asked what the threshold is for a “reasonable” impact of a hydropower facility on the surrounding environment and who makes that decision.

Response: Cory Warnock explained that the studies are designed to determine the existing environment and that that the study information coupled with the engineering information should allow for the determination of the Project impact. Ken Hogan added that the “threshold” decision is ultimately FERC’s.

Sally Morsell (NES) introduced the Grant Creek Macroinvertebrate Study and Periphyton Study components, starting with a review of the work completed by KHL in 2009 (*Slides 64-67 and Slides 69-70, respectively*) and then outlined the proposed 2013 efforts. The primary objective of these studies is to replicate the 2009 effort and to combine the two sets of results to further establish the baseline condition. Sally described the field work, sample processing and identification, and data analysis and reporting for both efforts (*Slides 68 and 71, respectively*), the work schedule, and the stakeholder comment that were incorporated into the study plan (*Slides 72-73*) – field work to occur mid-August and a comprehensive Aquatics Resources Study report to be submitted January 2014.

- *Comment:* Monte Miller (ADF&G) asked whether a single sampling in August is a sufficient representation of the stream's productivity, or if potential early season development is not being captured.

Response: Sally replied that because the study is not intended to be a benthic macroinvertebrate ecological study, the single-sample being collected in two different years accomplishes the objective to characterize the macroinvertebrate and periphyton populations.

John B. briefly reviewed the stakeholder consultation that occurred during the development of the draft aquatics study plans in 2009 and 2010 (*Slides 74-77*) and then reviewed the permits anticipated for the various components of the Aquatics Resources Study (*Slides 78-79*) – for weir installation/monitoring and fisheries investigations, ADF&G Fisheries Resource Permit and Fish Habitat Permit, USFS Special Use Permit (SUP), and KPB Floodplain Permit – and asked that if any permits appear to be missing from the list, to inform KHL and/or McMillen.

- *Comment:* Pam Russell (ADNR) stated that she does not see ADNR identified in the presentation, and recommended submittal of a Multi-Agency Permit Application. Jenny Litchfield (ADF&G) added that a permit may be required for the macroinvertebrate study, which does not appear to be included on the current permit lists.

Response: Cory Warnock replied that the plan is to submit a Multi-Agency Permit Application, which is identified in a summary table of 2013 study permitting requirements, available as a meeting handout and on the Project website (see [Attachment 7](#)). Cory added that KHL appreciates any input folks have regarding necessary permits.

Water Resources

Chuck Sauvageau (McMillen), the Water Resources task lead, started the presentation for the Water Resources Study Plan (see [Attachment 8](#)) by introducing the other members of the Water Resources team and the three major components of the Water Resources Study (*Slides 2-5*), which include: 1) Water Quality (WQ) and Temperature Study; 2) Hydrology Study, and 3) Geomorphology Study. Chuck showed a map depicting the location of thermistors, gages, and the natural outlet sampling point for the WQ and hydrology studies (*Slide 6*).

Chuck introduced the Water Quality and Temperature Study component, starting with a review of existing information for Grant Lake, USGS (1950's), AEIDC (1981-1982), and 2009/2010 KHL work (*Slide 7*), and for Grant Creek, USGS (1950-1958), AEIDC (1982), and 2009/2010 KHL work (*Slide 9*). Chuck then outlined the proposed 2013 effort (*Slides 8, 10 and 13*), noting that the September 2013 water quality sampling is intended to complete the data collection efforts that occurred in June/August of 2009 and 2010. Related to collection of water quality and temperature data in Trail Creek Narrows, Chuck pointed out that there is no historical information for that specific area; as such, the 2013 effort would include three water chemistry sampling efforts in spring, summer, and fall (*Slide 12*).

Chuck introduced the Hydrology Study component, starting with a review of the historical work completed (*Slide 14*). He then outlined the proposed 2013 effort (*Slides 15-16*).

- Comment:* Eric Rothwell (NOAA Fisheries) asked whether winter flows would be collected as part of the Hydrology Study.

Response: Chuck indicated that winter flows could be collected provided there are personnel available to do so. Chuck noted that one concern is that the relatively short battery life of the loggers (3-4 weeks) requires regular replacement, which could pose a potential safety concern in light of the inclement weather conditions. Eric suggested point measurements rather than continuous ones, to which, Chuck indicated this would be a possibility.
- Comment:* Eric Rothwell stated that between the Aquatics Resources Study, habitat information is being collected, and Hydrology Study, where discharge measurements are being taken for the development of a stage-discharge rating curve, the studies do not seem to propose a step for conducting an impacts analysis, which might include the development of a routing model and that perhaps it would be worthwhile to consider expanding the 2013 data collection effort, to ensure all necessary data are available for development of such a model, should the need arise.

Response: Chuck replied that the intent of the Water Resources Study is to collect existing information, the initial building blocks of a routing-type model. Cory Warnock pointed out that since operation scenarios have yet to be developed; it might be a challenge to identify all necessary data parameters before the 2013 study effort gets underway.
- Comment:* Sue Walker (NOAA Fisheries) asked if there is an overview of the proposed Project operations that could be shared.

Response: Referring back to the Overview and History presentation for the key Project parameters (Slide 11), Mike Salzetti explained that the proposal has not changed significantly since the revised Project description was filed in August 2010, with the exception of the proposed access route/transmission line alignment.

Paul Pittman (ES) introduced the Geomorphology Study component, noting that minimal work has been conducted to date for both Grant Lake shoreline erosion or Grant Creek sediment transport (*Slides 17-18*). Paul then outlined the proposed efforts for 2013 (*Slides 17-18*).

- Comment:* Eric Rothwell asked how the impact of Project operations on the existing geomorphic environment would be assessed (e.g., would there be a shear stress analysis to assess shoreline erosion impacts in Grant Lake).

Response: Paul acknowledged that changes to lake elevation could change the littoral zone, and similarly, a change in creek flows could impact the transport processes. Paul indicated that the Shields equation would likely be used to quantify the sediment transport impacts. Eric suggested detailing the equations and impacts analysis in the study plan. Paul and Eric agreed to have a follow up discussion regarding this topic.

Chuck reviewed the permitting needs (Multi-Agency Permit Application for WQ/temperature and geomorphology and a Fish Habitat Permit for hydrology) and work schedule for each of the three Water Resources Study components (*Slides 19-20*) – field work for WQ/temperature to occur September (Grant Lake and Grant Creek) and April through September (Trail Creek

Narrows), for hydrology April through mid-November, and for geomorphology mid-April through mid-June, with a comprehensive Water Resources Study report to be submitted January 2014.

- *Comment:* Katie McCafferty (ACOE) noted that ACOE's oversees permitting related to fill of wetlands, and based on the discussion, it does not appear that such a permit would be applicable to the Water Resources Study. She will, however, plan to review the Multi-Agency Permit Application to confirm.

Response: Cory thanked Katie for the comment.

- *Comment:* Sue Walker asked if temperature monitoring will be done within salmon redds, and if not, whether it could be. Sue added that defining the operational proposal now would be beneficial to allow for study of the potential impact of Project operations on temperature as it relates to redds, noting that spawning is a key resource value, and thus, it is important to assess the Project impacts on upwelling and/or downwelling within spawning redds.

Response: Mike S. stated that it is a challenge to refine the operational proposal before completion of the environmental analysis, specifically before knowing the minimum flows needed in the bypass reach. John Stevenson (BA) commented that monitoring within the redds is not currently planned. He noted concern with potentially disrupting redds, in particular when needing to regularly replace batteries in the sensors, and wondered if it would be acceptable to sacrifice a few redds in order to take the desired measurements. Eric Rothwell reiterated earlier concerns about the need to evaluate the Project impacts. Sue Walker stated that once the initial data are in, the Water Resources Study would possibly need to be expanded to assess egg survival.

- *Comment:* Jeff Anderson (USFWS) noted that the high flow measurement currently planned is for 200 cfs, and asked whether, after initial measurements are taken, the high flow value will be modified, as needed. Jeff also asked if un-manned measurement collection was considered.

Response: John Blum responded yes, the high flow could change, but noted that instream flow can be modeled 2.5 times the high flow value. Chuck indicated that the field crew may utilize an existing cable system and un-manned ADCP to collect high flow discharge data.

<<LUNCH BREAK>>

Terrestrial Resources

John Gangemi (ERM), the Terrestrial Resources task lead, started the presentation for the Terrestrial Resources Study Plan (see [Attachment 9](#)) by introducing the other members of the Terrestrial Resources team and the seven major components of the Terrestrial Resources Study and the study work schedule (*Slides 2-5*), which include: 1) Vegetation-type Mapping; 2) Sensitive Plant and Invasive Plant Survey; 3) Mapping of Wetlands and Other Waters of the

U.S.; 4) Raptor Nesting Surveys; 5) Breeding Landbird and Shorebirds Surveys; 6) Waterbird Surveys, and 7) Terrestrial Mammal Surveys. Field work for the three botanical components to occur July 2013, for raptors June-July 2013 and 2014, for landbirds/shorebirds May-June 2013, waterbirds and terrestrial mammals, November-December 2013 and February-March 2014, and a comprehensive Terrestrial Resources Study report to be submitted January 2014.

In the absence of the study lead, Katy Beck (Beck Botanical Services), John G. introduced the Vegetation-type Mapping and Sensitive and Invasive Plant Survey components, explaining that vegetation type mapping exists for the general Project area (USFS 2007), but that no work has been done to date related to sensitive and invasive plants (*Slide 8*). John G. outlined the proposed 2013 effort, including the goals, study area, pre-field steps, field sampling, data analysis, reporting, intended communications with stakeholders, and work schedule (*Slides 6-7 and 9-12*), pointing out that a Biological Evaluation (BE) would be developed related to the sensitive plants survey and would be submitted as part of a comprehensive Terrestrial Resources Study report in January 2014, then finalized in May 2014 based on USFS' feedback.

Levia Shoutis (ERM) introduced the Mapping of Wetlands and Waters of the U.S. component, starting with a description of the goals and assessment area of the mapping exercise (*Slides 15-16*), and then a review of the 2009/2010 KHL work (*Slides 17-19*). Levia then outlined the proposed 2013 effort, including pre-field tasks, field sampling, data quality control, reporting, communication with stakeholders, and work schedule (*Slides 20-24*).

Amal Ajmi (ERM) introduced the four terrestrial wildlife study components, describing the objectives, the 2009/2010 KHL work, and proposed 2013 effort for each (*Slides 25-37*). Cory Warnock noted that due to the summer 2014 goshawk nesting survey work, and the winter 2013-2014 waterbird and terrestrial mammal surveys, the data for these components would be submitted as an addendum to the already completed Terrestrial Resource Report (January 2014).

Cultural Resources

Mike Yarborough (CRC), the Cultural Resources task lead, started the presentation for the Cultural Resources Study Plan (see [Attachment 10](#)) by introducing the other members of the Cultural Resources team and the two major components of the Cultural Resources Study (*Slide 2*), which include: 1) Cultural Resources, and 2) Subsistence Use.

Mike Y. reviewed the cultural resources work conducted in the Project area to date USFS, CH2M Hill (1980), AEDIC (1983), and EBASCO (1984), and most recently, the work that commenced in 2010, but was suspended after initiation of Section 106 consultation (*Slides 3-4*). Mike Y. then outlined the proposed 2013 effort, which will start with a re-initiation of the Section 106 consultation, to define the Area of Potential Effect (APE)(*Slides 5-6*). Mike Y. pointed out that related to historic trails, there are two pieces to assess relative to cultural resources: the commemorative INHT, as well as other trails that may run through the Project area.

Mike Y. showed a map of the study area and reviewed the work schedule (*Slides 7-9*) – literature review and Section 106 consultation to occur early 2013, field work summer 2013, draft Historic

Properties Management Plan (HPMP) in winter 2013/2014, and a comprehensive Cultural Resources Study report January 2014. Mike Y. explained that the USFS' probability model (developed through a Programmatic Agreement with the State Historic Preservation Office [SHPO]) would be utilized for the historic and archaeological field study. Mike Y. noted that field work would commence once the ground was thawed and there was no snow, typically before vegetation begins to fill in.

Mike Y. reviewed the stakeholder comments received on the draft study plan and KHL's responses as well as the permitting requirements (USFS and ADNR)(*Slides 10-12*).

In the absence of the study lead, Ronald Stanek (CRC), Mike Y. introduced the Subsistence Use Study component, starting with a general definition of subsistence and noting that from a regulatory perspective, it is defined under both federal and state laws, the Kenai Peninsula being mostly a "non-subsistence area" by state law, and a "rural area" by federal law (*Slides 13-14*). Mike Y. stated that there had been no previous work done on subsistence use relative to the Project area, but that there is some relevant work that has been done on the Kenai Peninsula (Reed, Seitz et al. 1994, and Fall et al. 2000) and near the Project area (Davis, Fall, and Jennings 2003, and Fall et al. 2004) (*Slide 16*). Mike showed a data table and maps of the type of information that is collected for a subsistence use study (*Slides 17-19*). Mike then outlined the proposed 2013 effort, including the literature review, stakeholder comments received on the draft study plan, and work schedule, noting that no permits are required for the study (*Slides 20-23*) – literature review/field work to occur 2013 and a comprehensive Cultural Resources Study report to be submitted January 2014.

- *Comment:* Valerie Conner (Alaska Center for Environment) asked whether the Kenai River will be included as part of the study area and whether the APE to be defined as part of the Cultural Resources component, will be applied across all resource areas.
Response: Mike Y. replied that the Kenai River will be taken into consideration as part of the information gathering effort of the Subsistence Use Study component. Regarding the APE, Mike Y. stated that the APE is specific to cultural resources, which are focused on historic resources, whereas, other resources are of the present, and therefore, the study areas for each study will be defined as such. (*Ron Stanek joined via phone*) Ron added that as part of the information gathering, he will follow up with all communities that qualify as subsistence areas, either by federal or state law.
- *Comment:* Travis Moseley (USFS) noted that as a cooperating agency related to tribal consultation, maybe there should be a call with the USFS to discuss the study area relative to subsistence use.
Response: Mike Y. noted that as part of the Section 106 consultation, KHL will be already be talking with all interested tribes, native organizations, and village corporations at which point, subsistence use can also be discussed.

Recreational and Visual Resources

Dwayne Adams (USKH), the Recreational and Visual Resources task lead, started the presentation for the Recreational and Visual Resources Study Plan (see [Attachment 11](#)) by

introducing the other members of the Recreational and Visual Resources team and the two major components of the Recreational and Visual Resources Study (*Slide 2*), which include: 1) Recreational Use Study, and 2) Visual Resources Study.

Dwayne described the general study area for both study components, noting that it will likely be more expansive than the area being assessed in the other studies, and that it will be informed by a scenic viewing analysis (*Slide 3*). Dwayne also reviewed the work conducted in the area to date, most of which was done in association with the INHT (*Slide 4*). Dwayne then outlined the proposed 2013 effort (*Slides 5-9*), noting that the effort will be a continuation of the work started but then suspended in 2010 as well as focus on the Trail Lakes Narrows access route.

- *Comment:* Monte Miller (ADF&G) asked if there would be field cameras deployed on the trails.
Response: Dwayne responded that the plan is for the field crew to be on the trails at opportune times to determine use at high use periods and to interview some users; therefore, there is no need for cameras.

Dwayne explained that one of the stakeholder comments received on the draft study plan was to include the INHT for access and routing for effects on users, and that KHL planned to study that as a separate effort, the steps of which, Dwayne outlined (*Slides 11-14*).

Dwayne reviewed the balance of draft study plan comments received and KHL's corresponding responses and anticipated permit needs (i.e., a Special Use Permit [SUP] from the USFS) (*Slide 15*).

- *Comment:* Cassie Thomas (NPS) asked if an assessment of the natural soundscapes would be part of the Recreational Use Study and if so, what would be the methodology used to determine baseline conditions, similar to the use of key observation points (KOP) in visual impacts assessments.
Response: Dwayne indicated that noise would be part of the Recreational Use Study, specifically the impact of Project construction and operation on quality of life characteristics; however, taking baseline noise readings in the field was not currently planned, though it would not be significantly more effort to do so. Dwayne noted that the assessment could not be completed, however, until the Project operational scenario is better understood. Cassie suggested looking at the Visual Resources Study Plan proposed for the Susitna-Watana Hydroelectric Project (P-14241).
- *Comment:* David Griffin (ADNR) asked if KHL knows yet by what modes of transportation the Project area will be accessed by for the various studies.
Response: Mike S. responded that a helicopter will be used to drop off equipment, a boat will be used on the lake, and a floatplane may be used to move equipment to and from the lake.
- *Comment:* David Griffin (ADNR) asked if geotechnical work is planned yet.

Response: Cory Warnock indicated that such an effort may be a component of the future engineering study. Mike S. added that some work has already been done by Jacobson during the 2009/2010 work.

Closing

Cory Warnock stated that the draft notes from the meeting would be issued in approximately two weeks, at which time, KHL would request that stakeholders provide by January 20, 2013 comments on the meeting notes as well as comments/questions/points of clarification on the final study plans (ideally, as a single comprehensive response from each agency/organization), and suggested edits/additions to the Permitting Requirements table. Cory reiterated that all materials discussed during the meeting, including the final study plans, are available on the Project website.

- *Comment:* Monte Miller (ADF&G) asked when the next study plan meetings would be held.
Response: Cory replied that if and when additional meetings are warranted, is dependent on the input provided by the stakeholders related to the final study plans.

Action Items

- **KHL** to consider developing a section of the project website for the public to post comments regarding the project, licensing process, study program, etc.
- **John Blum (McMillen)** to locate Thompson (1972) and provide to Eric Rothwell (NOAA Fisheries).
- **Paul Pittman (ES) and Eric Rothwell (NOAA)** to have a follow up conversation about possible equations to include in the Water Resources study plan that might be used to estimate the potential change in sediment transport processes resulting from Grant Lake Project operations.
- **Cory Warnock (LVA)** to email stakeholders about providing by January 20: 1) comments on meeting notes; 2) comments/questions/requests for clarification on study plans; and 3) suggested modifications to the Permitting Requirements table.

Attachments

Attachments are available on the Natural Resources Studies Meeting (December 12, 2012), Work Groups page at www.kenaihydro.com.

- Attachment 1: Meeting Agenda
- Attachment 2: Grant Lake Project Overview and History PowerPoint presentation
- Attachment 3: Licensing Overview PowerPoint presentation
- Attachment 4: Draft Study Plans Comment/Response Table (dated 12/1/12)
- Attachment 5: Grant Lake Team Organization and Contact Chart
- Attachment 6: Fisheries and Aquatics PowerPoint presentation
- Attachment 7: 2013 Study Permitting Requirements
- Attachment 8: Water Resources PowerPoint presentation
- Attachment 9: Terrestrial Resources PowerPoint presentation
- Attachment 10: Cultural Resources PowerPoint presentation
- Attachment 11: Recreational and Visual Resources PowerPoint presentation