



SUSITNA-WATANA HYDRO

Meeting Notes Fish and Aquatic Resources Technical Workgroup meeting 06/24/2013

LOCATION: Alaska Energy Authority – Board Room
813 West Northern Lights Blvd.
Anchorage, AK 99503

TIME: 8:30 a.m. – 2:30 p.m. – (AKST)

SUBJECT: 2013 Quarter 2 Update

Goal: Update on Q2 activities and Q3 schedules

ATTENDEES: Stormy Haught ADF&G, Jeff Davis ARRI, Joe Klein ADF&G, Chris Holmquist-Johnson USGS, Greg Aubel USGS, Mike Buntjer USFWS, Jack Erickson ADF&G, Wayne Dyok AEA, Julie Anderson AEA, Kirby Gilbert MWH, Eric Rothwell NMFS, Lori Verbrugge USFWS, Ellen Bechtel EPA, James Brady HDR, MaryLouise Keefe R2, Michael Link LGL, Betsy McGregor AEA, Matt Love VNF, Dudley Reiser R2, Sue Walker NMFS, Kathryn Peltier McMillen, Mandy Migura NMFS

ON PHONE: Steve Padula McMillen, Becky Long CSDA, Ken Hogan FERC, Dana Schmidt Golder, Alice Shelly R2, Hal Shepard CWA, Kim Sager DNR, Leslie Jensen ARRI, Tim Nightingale R2, Michael Barclay HDR, Dana Postlewait R2, Dave Ward HDR, Matt Nemeth LGL

This was the second 2013 quarterly fish and aquatics resources Technical Working Group (TWG) meeting. The quarterly TWG meetings are intended to provide status on study plan progress, communication and discussion regarding any study plan variances that may be required given actual field conditions, and planned next steps.

The following meeting notes are to capture any significant discussion/information in addition to the materials provided on the Project website (<http://www.susitna-watanahydro.org/>). The meeting agenda and materials are available under the “previous meetings” tab (link provided under the meetings tab) on the Project website.

Following introductions a brief overview regarding overall Project status was provided by Kirby Gilbert. No approved access to CIRI and its associated Village Corporations’ lands, a delayed ice break up, and challenging logistics involved with a remote large field presence have caused some variances from approved study plans which are explained in the presentations and summarized in the following notes. A map of the Project area in relation to CIRI and its associated Village Corporations’ lands will be displayed by AEA to licensing participants.

Fish and Aquatic Resources Presentation

Slides 2-4 provide an overview of the 13 fish and aquatics studies’ activities in the second quarter of 2013 including FERC’s study plan determination. Subsequent slides detail activity specific to each study.

RSP 9.5 & 9.6-Fish Distribution and Abundance studies - MaryLouise Keefe, Slides 5-34

These slides explain the progress in planning and implementing the fish distribution and abundance studies as well as a winter pilot study. Due to the lack of 2013 access to CIRI and its associated Village Corporations' lands, all activities within that portion of the study area are limited to submerged lands (i.e., below the ordinary high water mark) within the navigable portion of the mainstem Susitna River, which is owned by the State of Alaska.

- Slide 6- Jeff Davis asked how multiple subunits will be determined in macrohabitats since the Study Plan Determination (SPD) requires transects to start at the mouth of the unit. MaryLouise Keefe interpreted the SPD differently and Jeff Davis asked that she revisit the SPD to confirm the approved requirements.
- Slide 7- It was clarified that rare habitat will be sampled if it is within 500 meters of a transect.
- Jeff Davis voiced his concern that a clear water plume and backwater were treated as a macrohabitat when selecting sampling sites, rather than classifying them as a mesohabitat which is nested under tributary mouth macrohabitat. A meeting was held during the lunch break on 6/26/13 after AEA provided maps of selected sites for review. Jeff Davis requested that sampling for tributary mouth habitat be extended 200 m downstream. AEA agreed to this request.
- Slide 12 indicates that eight fixed telemetry stations were not installed due to lack of land access in 2013. The slide also illustrates fixed telemetry stations proposed to be moved or added to accommodate for the lack of access. Because of this, additional efforts will be applied to aerial surveys, such as daily flights, for data collection in inaccessible areas.
- Slide 14 illustrates radio tagging goals and bold outlines represent approach altered by FERC's SPD.
- Slides 15-18 address the successful winter pilot study and Slide 18 summarizes the data collected. Backpack electrofishing, minnow traps and underwater video proved to be optimal gear types during the winter season. Underwater video was clear enough to retrieve fish counts – see slide 20 for an example. Note that the video image observed directly on the computer screen is much clearer than that on the slide.
- Slide 19 compares the ARIS sonar (left) to the DIDSON sonar (right). ARIS is clearly more reliable.

Early Life History, Upper River – Michael Link, Slides 21-28

- The Tsi Creek drainage includes two lakes with anecdotal information stating sockeye salmon presence.
- MaryLouise Keefe elaborated on slide 27, saying that the majority of adult spawning Arctic grayling were observed at Tsi Creek, and all Dolly Varden were present in the Fog Creek drainage.
- No emergent Chinook salmon were observed in the Upper River during the first ELH sampling event this year. Additional effort during next year's emergence will refine the timing.

Early Life History, Middle and Lower River – MaryLouise Keefe, Slides 29-34

- Land access has eliminated the ability to deploy a screw trap or weir at the dam site.
- Michael Link said that many resident fish had been caught thus far and numbers have decreased, indicating that the resident migration had been captured.

RSP 9.7-Salmon Escapement**Lower River, Jack Erickson, Slides 35-37, 42**

- Slides 36-38 summarize variations to the planned schedule. Changes are mainly due to a late break up. Not only was installation of equipment delayed, but it appears fish migration was delayed implying that data was not sacrificed.
- Slide 37 illustrates the location of the Yentna's new channel. This portion is not inaccessible due to newly submerged trees.

Middle River, Michael Link, Slides 38-44

- The fishwheel that was to be installed and operated to catch Chinook salmon adults below Devils Canyon will not be in 2013 due to lack of land access. To meet the objective of more radio-tagged Chinook salmon potentially migrating higher in the system, the fishing at Curry was increased and a third crew shift has been added to the Curry fishwheel to increase catch with the goal of tagging an additional 160 Chinook salmon adults.
- Variances to the approved study plan are indicated in slide 39.

RSP 9.8 River Productivity – Tim Nightingale, Slides 45-54

- In reference to slide 47, the plankton tow sites will coincide with grab sample sites.
- The target species for this study include adult and juvenile rainbow trout, juvenile Chinook salmon, and juvenile coho salmon.
- Jeff Davis questioned why dye injections were not being conducted to measure growth rates on tagged fish. MaryLouise Keefe understands that UAF, the party responsible for the trophic model, cannot accommodate this data, so the practical need for the data does not exist.
- FERC SPD recommendations are presented in slide 51. Jeff Davis recalled FERC requiring consultation to identify where within the Focus Areas stable isotope sampling will occur. Tim Nightingale explained that sampling will occur at all macrohabitats within the selected Focus Areas. Jeff Davis feels this may not collect sufficient marine derived nutrients. Further consultation will be scheduled with NMFS, USFWS, UAF, and AEA.
- Two candidate locations for the Talkeetna River reference site are illustrated on slides 52-53. Three macrohabitats are proposed to be sampled. Jeff Davis thought FERC requested 5 macrohabitats to be sampled. Tim Nightingale and Jeff Davis will consult further on the specific reference site locations in the field next week.
- The River Productivity Study is affected by the limitations regarding access to CIRI and associated village corporations' land around the established focus areas at Stephan Lake Complex (FA-173) and Tsusena Creek/Watana Dam site (FA-184). Additional access effects include establishing reference sites in the lower Talkeetna, generally in a reach from the USGS gaging station up to the mouth of Clear Creek. In this case, the study has avoided establishing new sites in those areas on the Talkeetna.

RSP 9.9 Habitat Characterization and Mapping Study – Michael Barclay, Slides 55-56

- The Characterization and Mapping of Aquatic Habitats TM was posted on the Project website June 7, 2013 under the documents tab within the fisheries heading. However, it has changed since it was posted. In addition to the 12 primary tributaries that are specified in the TM, AEA has proposed 10 small primary tributaries. Today's discussion was intended to satisfy FERC's SPD recommendation to consult on the methodology for selecting a representative sample of small and lower order tributaries within the inundation zone for habitat characterization.
- Criteria for characterizing the streams and a sampling approach was introduced. The agencies were not ready to discuss this at the meeting and requested the updated TM to be delivered for their review and comment.
- The filing of the final TM with FERC may be delayed to provide additional review time for the licensing participants.

RSP 9.10 Entrainment Study – Slide 57

- This study is a desktop study being rescheduled to 2014 to utilize data being collected in 2013. This will not affect other studies.

RSP 9.11 Fish Passage Feasibility Study, Slides 58-61

- Dana Postlewait is in the process of compiling fish passage participants and their contact information. This will be distributed once complete.

- The site reconnaissance trip is currently scheduled for the week of September 17th.
- Sue Walker asked that dates and locations of meetings be confirmed soon to account for the travel budget allotted for this federal fiscal year.

RSP 9.12 Fish Passage Barrier Assessment – Slide 62

- Consistent with FERC's SPD recommendation, the final Implementation Plan and a comment response table were filed with FERC on June 17, 2013.

RSP 9.13 Aquatic Resources in the Access & Transmission Alignment– Slide 63

- This study is being rescheduled to 2014 to utilize data being collected in 2013 that may refine the corridor locations.

RSP 9.14 Genetic Baseline Study– Slides 64-65

- Samples have been collected by various study teams and provided to ADF&G. Field methods have been improved to include minimal handling.

RSP 9.16 Eulachon Study – Dave Ward, Slides 66-70

- DIDSON observations were consistent with dip net numbers.
- The fixed sonar and dipnet site turned out to be a eulachon spawning site. Numbers were so high that sampling became difficult. Either relocating the site or using a mobile sonar may be necessary in 2014.
- Eulachon radio tagging was conducted May 29-June 15, 2013. The three fixed telemetry stations are located at PRM 17.5, 4 miles up the Yentna, and upstream of Willow Creek. No fish have passed the Willow station.

RSP 9.17 Cook Inlet Beluga Whale Study – Dave Ward, Slides 71-73

- In addition to the four aerial surveys listed in slide 71, surveys were conducted on June 3 and June 27, 2013. Because of the late break up, conditions were not conducive to surveying on the scheduled April 2013 date. An additional survey was conducted in May to compensate.
- Future efforts will be conducted via float plane, allowing for a larger survey area as NMFS has requested.
- Adult beluga whales were observed on every aerial survey, with no calves observed to date. Most belugas were not located near the Susitna River.
- Mandy Migura questioned how long the surveys lasted. Dave Ward said that all previous surveys have been conducted for approximately three hours. This will increase to approximately five hours in the future due to the larger area being covered by the float plane.
- Mandy Migura mentioned that only one survey conducted so far has the potential to overlap with high tide. NMFS receives reports from pilots that whales are in/up the Susitna River at high tide. By not flying at high tide, AEA's study design increases the potential to miss whales that could be present. Dave Ward said that the study is planned to capture all tides and focusing on high tides was not planned. Mandy Migura requested that aerial surveys be conducted at high tide during the peak eulachon run in 2014. AEA agreed to implement this change.
- Mandy Migura stated that NMFS objects to statements in the TWG presentation materials that no calves were present when the aerial survey design does not have the ability to detect calves that may be present given the elevation of the plane. Even NMML, who flies at 800 feet, has to rely on high zoom video cameras and months of effort analyzing the videos to state how many calves are present. NMFS requests that AEA stop stating zero calves were detected and rather put in a qualifier that calves may be present but could not be detected given the survey design. David Ward agreed to replace the "zero" for calf observations with a more appropriate symbol. NMFS also requests that AEA share its sightings data collected during the aerial surveys with NMFS. AEA agrees; given that Cook Inlet beluga whales are ESA-listed, a data sharing agreement will need to be in place.
- Mandy Migura stated that the flight path displayed in the TWG presentation materials as a typical aerial survey track does not encompass the entire survey area as defined in the RSP. David Ward said that the

survey area will be expanded. He explained that the survey area had been limited by the distance over open-water for safety concerns and to stay clear of the Anchorage airport flight paths. A float plane was not initially used due to concern over reduced visibility. However, a float plane will be used for future surveys to expand the survey area. However, the flight paths for the Anchorage airport will be avoided for safety.

- Mandy also received feedback prior to the meeting that the survey tracks should be spaced closer together. The track lines depicted appear to be roughly 2 miles apart, suggesting the surveys may miss beluga whales, especially small groups. According to NMML, an observer can only realistically see belugas $\frac{1}{4}$ mile from the plane's windows, which would suggest tracks of roughly $\frac{1}{2}$ miles apart are necessary to reduce the likelihood of missing beluga whales due to survey design. In the survey presented in the TWG presentation materials, the only animals sighted appear to be on or very near (possibly within a $\frac{1}{4}$ mile) the track line. Dave indicate that they would modify the survey path.
- Michael Link asked for Mandy Migura to provide NMML's flight path. Mandy Migura agreed to do so with the caveat that NMML conducts their surveys for a different purpose; abundance rather than AEA's presence/absence objective.
- Mandy Migura confirmed with Dave Ward that the remote cameras are installed, but not yet operational. Dave Ward said that installation was delayed due to later than expected break up and they should be operational today after final testing (6/24/2013). Mandy Migura noted that AEA has not adhered to the schedule outlined in the RSP. She asked if remote video observation will be extended into 2015 to compensate the lost time, stating this should be a future discussion point with AEA.
- Still cameras have been installed, but not downloaded yet. Dave Ward explained that monthly downloads are the planned schedule, and the still camera has not been operational for a complete month yet, due to the late break up. Dave Ward added that the eulachon field crews have been conducting their surveys in the same area as the cameras and have not documented belugas. Betsy McGregor added that beluga whales were not observed in the river during aerial surveys for radio-tagged eulachon.
- The Water Surface Elevation (WSE) model is being rescheduled for 2014. Mandy Migura noted that the RSP states the WSE model was planned to occur in 2013 with analysis in 2014. She asked when analysis will occur with the reschedule. Betsy McGregor indicated that since the RSP, it was decided to extend the sediment transport and open-water flow routing models from ~PRM 80 to PRM 29.9. Accordingly, the need for the WSE model near the mouth of the river will be reevaluated after the results of those models are available towards the end of 2013.

General Discussion

Sue Walker and Mike Buntjer expressed frustration that the presentations were updated just prior to the meeting. AEA explained that the updates consisted of the most current information for studies currently being implemented (e.g., photos, number of fish caught, equipment installed, etc.) with the goal of providing the participants with the most current information possible at the meeting. It was agreed that AEA would provide handouts of material that was updated within a week of the TWG meeting.

Ken Hogan said that FERC expects all studies to be implemented as per the approved study plans. If there are variances to an approved plan, these variances and reasons for them must be specified in the ISR. If these variances result in the inability to achieve the studies' objectives, FERC will request revisions to the study and/or schedule. All variances from approved study plans will be specified in the ISR, due to be filed with FERC on February 3, 2014.

Betsy McGregor confirmed that Final Study Plans will be provided on the Project website but not filed with FERC. Any implementation plans or supplemental filings required by FERC are considered a part of the related study plan and details within those additions to the study plans will take precedence over details in the RSP. Some technical team meetings have been held during the second quarter of 2013. Licensing participants have provided comments in

regards to these meetings. Unless directly commenting on a FERC SPD requested supplemental filing, in which case a comment-response table is provided, these comments are acknowledged by AEA during implementation of the relative study and are discussion topics for ongoing dialogue. However, a formal response will not be provided to comments provided beyond what FERC has required in the Study Plan Determination recommendations.

Action Item	Responsibility
Post ownership maps to show CIRI lands	AEA
Provide handouts to TWG of any slide(s) that have been updated within one week of the meeting.	AEA
Schedule a River Productivity Technical Team meeting for the following topics <ol style="list-style-type: none"> 1. Trophic model, why UAF's model does not accommodate fish <50 mm 2. Location within FA for stable isotope sampling 3. Talkeetna River reference site location and sampling approach. 	AEA/NMFS/USFWS
Post revised Characterization and Mapping of Aquatic Habitats TM and provide additional time for licensing participants to comment.	AEA
Provide AEA with NMML flight paths.	Mandy Migura
Modify CIBW aerial survey path spacing.	Dave Ward
Fish distribution and abundance sampling at tributary mouth habitats will be extended 200 m downstream.	AEA