



SUSITNA-WATANA HYDRO

Agenda and Schedule Fish and Aquatic Resources Technical Workgroup meeting 12/04/2013

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

SUBJECT: 2013 Q3 and Q4 Update

Goal Update on Q3 and Q4 activities

Attendees: Marie Steele DNR, Eric Rothwell NMFS, Steve Padula McMillen, Dudley Reiser R2, Michael Lilly GW Scientific, Marty Bozeman AEA, Doug Ott AEA, MaryLouise Keefe R2, Kathryn Peltier McMillen, Jack Erickson ADF&G, Hal Shephard CWA, Matt Love VNF, Justin Crowther AEA, Betsy McCracken DNR, Cary Feldmann HDR, Michael Link HDR, Stormy Haught ADF&G, Joe Klein ADF&G, Betsy McGregor AEA, Kevin Patron R2, Mandy Migura NMFS, Keri Lestyk NMFS, Richard Yanusz ADF&G

On Phone: Dara Glass CIRI, Greg Aubel USGS, Chris Holmquist-Johnson USGS, Leanne Hansen USGS, John Hamrick Tetra Tech, Iris Vandenharn Denali Nordic Ski Club, Matt Cutlip FERC, Jan Konigsberg AK Hydro, Mike Wood Talkeetna Resident, Dominique Glass Environ, Sarah O'Neal Trout Unlimited, Leah Vanden Busch, Josh Moffi HDR, Eric Rothwell NMFS, Kim Nguyen FERC, Bryan Nass LGL, Dana Postlewait R2, Dave Ward HDR, Jonathan Kirsch HDR, Scott Prevatte HDR, Gerald George R2, Heather Leba HDR, Donald Degan Aquacoustics, Sue Walker NMFS, Greg Reub Environ, Dana Schmidt Golder, Jacob Hyles HDR, Gabriel Kopp HDR, Tim Sullivan R2, Bronwen Lewis Golder, Paul Makowski FERC, Matt LaCroix EPA, Erik Schoen UAF, Laura Arendall R2, Becky Long CSDA, Ryan Aukenok, Leslie Cornick APU

This was the fourth 2013 quarterly Fish and Aquatic Resources Technical Work 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.

After introductions, Steve Padula presented a brief overview of upcoming FERC-related study milestones. These details are in the Study Plan Implementation Presentation. Action items for the three day Q4 aquatics TWGs will be at the end of these meeting notes.

ALL DATA PRESENTED ARE PRELIMINARY AND SUBJECT TO CHANGE DURING THE QA/QC PROCESS.

Fish and Aquatic Presentation

MaryLouise Keefe provided an overview of the fourth quarter activity for each Fish and Aquatic Resource studies on slides 2 and 3. Each study is described in further detail throughout the subsequent slides.

9.5 Fish Distribution and Abundance in the Upper Susitna River – Slides 4-15, Gabe Kopp

- Hal Shephard asked how representative the data appeared to be with the number of samples. Gabe responded that the data will be sufficient to meet the study objectives.
- Variances to the approved study plan are listed in slide 15.

9.6 Fish Distribution and Abundance in the Middle and Lower Susitna River – Slides 16-34, Jerry George

- In response to a question from Sue Walker, Jerry noted that if macrohabitats in the field appeared inconsistent with the habitat line mapping, they were not reclassified in the field, but differences were documented in field notes. These notes will be reviewed and necessary changes to macrohabitat classification will be made.
- Minnow trapping, electrofishing and snorkeling were attempted at each sample site consistent with the methods/CPUE. Some locations were limited in terms of which methods could be applied, so variation of methods occurred.
- In response to a question from Becky Long, it was noted that backwater was determined by observing changes in turbidity/water clarity, as well as changes in water surface elevation differences between side sloughs and the mainstem.
- The beaver complexes sampled in slide 21 were located in geomorphic reaches 6 and 7. These were the only two reaches where beaver complexes were identified.
- Slide 24 indicates that a stickleback was collected in MR-2. This is a mistake. No stickleback were found upstream of Devils Canyon.
- Non-FA and FA sites were selected using the GRTS sampling method. The ISR will present non-FA and FA results by macrohabitat types.
- The preliminary results on slide 25 include all life stages per species.
- Stormy Haught asked if the resident adults are being adequately represented since the gear types usually target particular life stages. MaryLouise Keefe said that she is very confident that the resident adults are being represented, specifically in the FAs of the Middle River. Jerry explained that the gear types are most limited in the main stem.
- Betsy McCracken questioned why on slide 25 such a high number of Pacific salmon were not identified. Bronwen Lewis explained that fish identified during boat electrofishing operations were difficult to distinguish by species. MaryLouise Keefe said that juveniles seen while snorkeling were also difficult to distinguish by species. Sue Walker expressed concern with such a high number of salmon being unidentified particularly when in hand, such as when using fyke nets. Stormy concurred that it seemed like a high number of unidentified fish for the fyke nets. Jerry commented that there were some locations in the river where the physical characteristics of the juvenile salmon made it very hard to identify to species; sometimes a fish would have three traits that would key them out as one species of salmon and three other traits that key out at a different species. MaryLouise said that plans for 2014 will include collection of fish for voucher specimens.

- Access is being pursued to sites previously unsampled. The GRTS sample offers a balanced approach, and sites inaccessible due to permitting cannot necessarily be replaced by sites elsewhere.

Lower River – Slides 26-32, Bronwen Lewis

- During field activities the disruption of fine-particulate substrate caused an instant increase in turbidity, making snorkeling difficult in the Lower River.
- Unidentified lamprey on slide 31 had not grown teeth, so it was not possible to distinguish species. Unidentified salmon were from either boat electroshocking or drift net and not able to be handled long enough to identify by species.
- If the Lower River transect did not encompass the slough mouth, that mouth was sampled separately.
- “Visual observation from ground”, as indicated in slide 30, was conducted by a member of the field crew while the other member was snorkeling.

Winter – Slide 32, Gerry George

- In the November '13 sampling session a total of 24 sites were sampled.
- No mainstem samples were taken due to safety concerns. Weather hazards did not allow for sampling at 4th of July, Indian, and Whiskers Creeks.
- MaryLouise explained that a subset of the FDA open water sites are planned to be sampled throughout the winter (Jan-April '14). The goal is to characterize fish movement. Because winter conditions do not allow for a large array of sample sites, it is unlikely that distribution and abundance will be established.
- A subset of PIT arrays will be functioning throughout the winter and data downloading will be performed remotely.
- Variances are presented on slide 33.

9.5/9.6 FDA Outmigrant Traps, PIT arrays, and Radio Tagging - Slides 35-44

- Continual operation of the traps was conducted in mid-June and late-Sept '13 to see if a Chinook run event was taking place.
- Unidentified salmonids (slide 39) may have been carcasses or injured fish. Unidentified Pacific salmonids were juvenile fish with conflicting visible characteristics.
- Slide 41 shows the antennas being used to detect PIT tags. AEA plans to repair the antenna on Montana Creek and operated it through the winter.
- Variances to the rotary screw traps are in Slide 42.
- Two sizes of radio tags were used based on the size of the fish. Smaller tags' batteries last for 3-6 months, and the larger tags last for 1-2 years.

9.7 Escapement – Slides 45-66, Jack Erickson (Lower) Michael Link (Middle and Upper)

- Recommended modifications for 2014 are presented in slide 56.
- Michael Link asked that the TWG provide their suggestions on plans for 2014 ASAP since mobilization of field studies will be underway prior to the ISR FERC determination and accommodating changes to the plans will be difficult at that time.
- Sue Walker suggested tagging in the Middle River (MR) closer to Talkeetna to get more complete coverage of MR fish distribution. She would like to see a fish wheel near Devils Canyon, and said that she is uncomfortable with jacks (Chinook less than 50 cm) being included as part of the tag goal. Michael Link explained that jacks make up a large percentage of the population and can be used to identify mainstem spawning areas. Sue suggested that the jacks be examined separately from the adult Chinooks as the jacks

are less likely to pass Devils Canyon. Michael Link agreed and said all results are stratified across the two size classes.

- The graph on slide 59 compares the 2013 Lower River wheels (green), 2013 Curry wheel (red), and 2012 Curry wheel (black).
- Variances are presented on slide 60.
- Slides 61-66 present proposed modifications to the 2014 field season.
- In response to a question from Matt Cutlip, Michael indicated that counts using ARIS sonar at Curry would not be complete counts as the technology will only survey the area in the vicinity of the fish wheel and not across the entire river. In addition, only the river's right bank is being ensounded.
- Sue Walker suggested using drift gill nets in Devils Canyon to capture fish for tagging if fishwheels cannot be used. Michael Link suspects that drifting gillnets would be a challenge in Devils Canyon for a few reasons; fish would be very bank oriented and safely drifting along the shore of DC would be difficult. He added that the fish are already far along in their migration and mortality and changes in behavior will likely be more of an issue if fish are caught in Devils Canyon than at Curry. Instead of efforts in Devils Canyon, AEA proposes additional Chinook salmon tagging in Curry. In doing so, the team believes more tagged fish will approach the impediments in Devils Canyon, thereby increasing the sample sizes to infer DC passage rates and fish behavior.
- Sue Walker expressed concern with a reduced effort on resident fish. Bryan Nass indicated that there will be information on resident fish from the radiotagging effort.
- Michael Link asked Matt Cutlip for his view on the proposed plans for 2014. Matt appreciated AEA reaching out prior to the ISR and based on his initial assessment, thought AEA was doing a good job to adapt the methods to improve the study results.

9.8 River Productivity – Slides 67-87, Tim Nightengale

- Slide 73 presents preliminary data of 16 sites.
- All dashed cells in slide 74-75 should be a "0" except those Montana Creek, which were not sampled.
- After the emergence traps' results are available, use of the traps will be reevaluated and modified as necessary for use in the main channel.
- The FDA field crew collected samples for DNA analysis, PIT tags, and River Productivity. Indicated in slide 76, River Productivity did not receive as many samples as needed, so added 2014 efforts will ensure that River Productivity receives the requisite number of fish samples. It is important to note that this slide does not include sites where FDA sampling occurred but no River Productivity target fish species were found.
- In response to a question by Greg Rueb, Tim indicated that temperature and turbidity data were collected at the emergence trap sites.
- Lab analysis of all samples is scheduled to be completed by April '14.
- Variances are presented in slides 83-85.

9.9 Habitat Characterization and Mapping Study – Slides 88-97, Laurie Marzak

- Variances are provided in slide 96.

9.11 Fish Passage Feasibility Study – Slide 98, MaryLouise Keefe

- There has been no additional consultation since the last TWG meeting.
- A January 16 web meeting is planned along with a fish passage workshop on March 18-20, 2014 in Seattle.
- There has only been a variance in the schedule, not the methods.
- Fish passage meetings are open to the public. AEA will communicate how the public can access these meetings once the logistics are planned.

9.12 Fish Passage Barriers – Slides 99-104, Kevin Patron

- Images in slide 100 show the thalweg with red dots and spot measurements in blue dots. The blue shading is the zone of hydrologic influence.
- In response to a question from Joe Klein, Kevin indicated that information from the tributary mouth surveys will be incorporated into the project datum and be available for use in operations modeling.
- This study will look at flow dependencies/thresholds necessary for fish passage. Dudley Reiser explained that operations can be manipulated or adjusted based on passage flow needs.
- Sue Walker asked if there would be consultation regarding appropriate species and criteria for fish barrier assessment. It was indicated that a plan should be in place soon.
- Eric Rothwell asked whether there will be information that allows the barriers assessment to be conducted in the lower river. It was indicated that this information should be available in January and discussed at the April TWG meeting.
- Variances are presented on slide 104.

9.13 Genetics – Slides 105-108, MaryLouise Keefe

- Samples were collected by FDA crew and ADF&G for genetic analysis.
- Follow up with the agencies is planned for early Q1 2014 regarding the applicable analyses, given the degree of available genetic data.
- Variances are provided on slide 107.

9.16 Eulachon – Slides 109-110, Dave Ward

- A goal for 2014 is to identify spawning locations more efficiently.
- Variances are provided on slide 110.

9.17 Cook Inlet Beluga Whale Study – Slides 111-118, Dave Ward

- Aerial surveys generally flew to PRM 20. On two occasions, they flew to PRM 50. Mike Wood suggested flying upstream to the Yentna, as he has seen seals there in the past.
- There was discussion of changing semantics throughout the presentation and the ISR to clarify that individual whales or seals observed on different days may not actually be distinct individual animals (many animals are seen on multiple occasions).
- The map on slide 114 will be provided in the ISR with tide distinctions for each sighting. Mandy suggested the ISR also distinguish which observations included grey/dark grey whales. She requested a recount since she counted more than 42 circles.
- Mike Wood suggested positioning the camera on the right bank between the mouth and Ivan River. He has seen beluga which would not be captured with the current camera positioning. Dave Ward will inform the AK Sealife Center (responsible for the camera positioning).
- Mandy asked what the detectible sighting distance was for the cameras. Dave Ward said that this will be discussed with the Sealife Center and they have plans to evaluate sighting distance in 2014. Mandy requested that the detectible sighting distance be overlaid on future maps.
- The largest CIBW group size sighted was of 115 individuals on August 15, 2013.
- Seals were counted from still photos taken during the surveys. The highest number estimated at a single haul out location was approximately 700. Two additional groups were seen that day; 16 and 4.
- Mandy pointed out that the last observed CIBW was on August 30th and a survey was not conducted again until September 20th. She voiced concern in the time gap between surveys and cautioned against concluding that belugas were not present as of August 30th.

- Since Apache Corporation is also conducting marine mammal studies in Cook Inlet, a data sharing contract is under discussion. This data is to supplement AEA data, not to be pooled with it.
- Variances are provided on slide 118.

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Action Item**Responsibility**

A number of action items were completed throughout the duration of the December 2 -4 TWG meetings.

November TWG meeting notes have been posted.	AEA
Clarification of ISR distribution methods <ul style="list-style-type: none"> • FERC eLibrary • Project website • CDs will be provided to everyone on the distribution list. Contact Justin Crowther at jcrowther@aidea.org to be added to the list. 	AEA
Michael Lilly followed up with Mike Bruen regarding geologic surveys at the dam site. <ul style="list-style-type: none"> • Alluvial fill is present at the dam site and is approximately 80 feet thick with some deeper holes. • With acquisition of land access, borings and wells will be instrumented. • Some geotechnical drilling is planned on proposed road corridors, but no wells are expected. 	AEA
The ISRs will describe clearly any variances in 2013, reasons for them, how they affect the achievement of the study objectives, and any proposed modifications to the study plans.	AEA
Consultation for the following topics is needed: <ul style="list-style-type: none"> • Representative years (week of January 6th) • Winter studies TM, River Productivity rationale for locations, Barriers target species and criteria, and screw trap locations (week of January 6th) • Genetics 2014 IP (late January) 	AEA
Finalize plans for a meeting on RIFS modeling	AEA

[Note that the dates discussed in the December 2013 TWG meetings preceded the Governor's announcement of the FY2015 Capital Budget. Accordingly, the schedule for the licensing of the Project has changed since these meetings.]