

Meeting Summary
Susitna-Watana Hydroelectric Project Licensing
Aquatic and Terrestrial Resources Study Planning Meetings
January 26, 2012
AEA Project Offices, First Floor Conference Room
411 W 4th Avenue, Anchorage, AK

Terrestrial Resources Study Planning Meeting, January 26, 2012, 1-4 p.m.

Attendees:

Organization	Name
AEA	Betsy McGregor
USFWS	Mike Buntjer
USFWS	Betsy McCracken
USFWS	Jennifer Spegen (by phone)
NMFS	Susan Walker
NMFS	Eric Rothwell
BLM	Cara Staab
BLM	Ben Seifert
BLM	John Jangala (by phone)
NPS	Cassie Thomas (by phone)
ADF&G	Joe Klein
ADF&G	Mark Burch
ADF&G	Ron Benkert (by phone)
ADNR	Courtney Smith
FERC	David Turner (by phone)
Natural Heritage Institute	Jan Konigsburg
Knikatnu, Inc.	Tom Harris
Knik Tribe	Theo Garcia
Long View Associates	Steve Padula
Long View Associates	Randall Filbert
MWH	Heather Williams
3PPI	Sally Morsell (by phone)
ABR	Brian Lawhead
ABR	Terry Schick
HDR	Anne Leggett
DOWL HKM	Jessica Christianson
DOWL HKM	Hillary Lindh
LGL Alaska	Tamara McGuire
Normandeau Associates	Robert McDonald
E-Terra	Lars Gleitsmann
Van Ness Feldman	Matt Love (by phone)
Nuvista	Chuck Casper

Presentations

- Mark Burch (ADF&G): Susitna-Watana Dam Hydroelectric Project Terrestrial Wildlife Resources
- Lynn Noel (Cardno ENTRIX): 2012 Botanical Studies
- Lynn Noel (Cardno ENTRIX): 2012 Wildlife Studies
- Lynn Noel (Cardno ENTRIX): 2012 Beluga Whale Study

Meeting Summary

1. Steve Padula (Long View Associates) initiated attendee introductions.
2. Betsy McGregor (AEA) provided an agenda overview and highlighted the recent addition of a beluga whale study plan. She verified that all meeting materials, including those most recently added, are available on the project website (<http://susitna-watanahydro.org>).
3. Lynn Noel (Cardno ENTRIX) presented the study plan “F-S6: Cook Inlet Beluga Whale Anadromous Prey Analysis – DRAFT” dated 25 January 2012. Presentation slides and the study plan itself are available at the project website.
 - a. Betsy McCracken (USFWS) noted that eulachon is a state species of concern and that there is a 2006 document containing relevant information.
 - b. Lynn Noel (Cardno ENTRIX) indicated that the team is aware of the 2006 study and additional studies that were not mentioned in the presentation due to time limitations.
 - c. Jan Konigsberg (NHI) indicated that the use of “FERC Study Area” in the F-S6 Figure 1 legend is confusing since that term in this study would refer to a larger study area extending to Cook Inlet. Betsy McGregor (AEA) indicated that she would have it changed for clarity.
 - d. Steve Padula (Long View Associates) commented that the dates shown in F-S6 and other study plans are deadlines for contractor submittals to AEA and are therefore several weeks earlier than the corresponding target dates for AEA submittals to FERC. Betsy McGregor (AEA) added that this will give AEA and other stakeholders time to review. She stated that the study plan process is iterative with multiple opportunities for stakeholder input and revisions.
4. Mark Burch (ADF&G) presented three proposed ADF&G studies. Presentation slides and the project funding proposals themselves are available at the project website.
 - a. Caribou: “Distribution, productivity, and timing of movements of Nelchina and Delta caribou in the vicinity of the proposed Susitna-Watana Hydroelectric Project in Game Management Unit 13E.” 12 January 2012
 - i. What is the range of the Delta herd?
 1. Mark Burch (ADF&G) suggested contacting the area biologists who manage it for further information.

- ii. Is the population truly growing, or could it simply be appearing to grow based on changes in population estimating techniques (i.e. telemetry, etc).
 - 1. Mark Burch (ADF&G) indicated that caribou populations are cyclical, but that these are believed to be actually growing.
- iii. Betsy McGregor (AEA) indicated that it would be very helpful for stakeholders to provide written comments to ADF&G on technical proposal details such as numbers of collars, frequencies, etc. in order to ensure the data gathered will be adequate for project needs.
- iv. Question was asked regarding collar specifications.
 - 1. Mark Burch (ADF&G) relayed information he obtained from area biologist and Principal Investigator Becky Schwanke (ADF&G) indicating that collars are on 5 hrs/day and are rotated in order to cover daily variations. He referred the questioner to the funding proposal for additional detailed collar specifications.
- b. Moose: “Abundance, distribution, productivity, and survival of moose in the vicinity of the proposed Susitna-Watana Hydroelectric project in Game Management Unit 13E.” 18 January 2012
 - i. What is the proposed method of determining calf survival?
 - 1. Mark Burch (ADF&G) referred the questioner to the funding proposal and/or Becky Schwanke (ADF&G).
- c. Ptarmigan: “Population ecology of willow ptarmigan *Lagopus lagopus* in game management unit 13, south-central Alaska.” (undated)
 - i. Cara Staab (BLM) said that proposed sample size of 30 seems small for such a small animal in a large area.
 - 1. Mark Burch (ADF&G) clarified that sample size is 30 per year, per subunit, for a total of 90 per year. The collared birds will also be moved frequently. Increasing sample size is cost-limited due to both collar costs, and costs of moving collared birds.
 - ii. Who is the Principal Investigator?
 - 1. Mark Burch (ADF&G) indicated that it is a cooperative project with UAF, and that Rick Merizon (ADF&G) is the PI.
- d. Questions following all three presentations:
 - i. Betsy McCracken (USFWS) asked how long are the three proposed studies?
 - 1. Mark Burch (ADF&G) indicated that there are tables showing schedule dates in the funding proposals themselves, though he didn’t include that information in the presentation slides.
 - ii. Will bears be studied?
 - 1. No field studies are proposed at this time. Literature and existing data study only.
 - iii. One big data gap from earlier studies is use of the proposed reservoir area during winter, especially severe winters, since the 1980s study years were relatively mild. Is there enumeration planned specific to this

- need? Given that this winter is proving to be severe, can we accelerate the field work to take advantage?
1. Mark Burch (ADF&G) said that GPS collars and flights are thought to be sufficient to address the reservoir area use question. He will look into feasibility of accelerating the field work to capture the current severe conditions.
- iv. Lynn Noel (Cardno ENTRIX) asked whether remote monitoring stations could be used in addition to the proposed telemetry?
1. Mark Burch (ADF&G) said that the limited range of remote monitoring stations makes them cost-prohibitive and that flights are probably more valuable.
- v. Will GPS data be sufficient to determine where animals are crossing the river given small sample sizes?
1. Confidence of obtaining a definitive answer is higher with moose than caribou since caribou tend to roam significantly. ADF&G will attempt to identify and collar caribou that are using the study area, but this is acknowledged to be a risk item. Sample size is limited by collar expense.
- vi. Lars Gleitsmann (E-Terra) asked how hunting effort and harvests have trended over the decades in the area for all species.
1. Mark Burch (ADF&G) said that caribou are migratory and relatively easy to manage. Caribou hunting success tends to fluctuate with the population itself. He believes that the moose population has improved recently, though he is not personally familiar with variables such as predator control, winter severity, etc.
 2. State and federal agencies have management reports that would contain relevant information.
- vii. Will bears and wolves also be counted? Will comparisons be made to new and/or existing bear and wolf population data?
1. Mark Burch (ADF&G) said that there are existing bear population estimates and that wolves are also tracked. General trend comparisons may be possible.
- viii. Will study area be increased per earlier discussions?
1. Mark Burch (ADF&G) confirmed that trend counts will be added back in to one particular area.
- ix. What studies are planned beyond these three near-term studies?
1. Outyear studies have not yet been planned. Generally would get enough information from periodic spot checks.
- x. Is there any existing data on annual caribou crossings?
1. No movement studies have been conducted to date. Currently only radio collars have been implemented, which require flyovers to locate and are not frequent enough to determine movement.

- xi. Is it possible to determine caribou movement from satellite imagery?
 - 1. Lars Gleitsmann (E-Terra) said that satellite coverage is available daily, and of sufficient resolution to see caribou-sized objects, so theoretically yes. Limitations include cost and time involved to obtain and analyze sufficient imagery and likelihood that caribou would be visually camouflaged against surroundings and therefore invisible.
- xii. Tom Harris (Knikatnu, Inc.) asked a question regarding overall impacts to the study area.
 - 1. Betsy McGregor (AEA) answered that additional studies are planned. The three ADF&G studies are components of the overall study plan that will be presented later in this meeting by Lynn Noel (Cardno ENTRIX).
- 5. Lynn Noel (Cardno ENTRIX) presented three wildlife study plans. Presentation slides and the study plans themselves are available at the project website.
 - a. “W-S1: Wildlife Habitat Use and Movement Study - DRAFT” dated 26 January 2012.
 - i. What location defined “upstream” and “downstream” in the historical APA moose studies?
 - 1. The proposed Devils Canyon dam site
 - ii. What census methods were employed in the historical APA moose studies?
 - 1. Gasaway-type aerial survey in addition to telemetry
 - iii. Is presentation information listing existence of recent caribou data accurate?
 - 1. Mark Burch (ADF&G) is not familiar with caribou data. Brian Lawhead (ABR) confirmed that he has seen relatively recent caribou data, from the 2000s.
 - iv. Dave Turner (FERC) requested clarification on what additional work will be done between the current 2012 DRAFT study plan, and the next study plan deliverable. His understanding was that the bulk of the historical data gathering should have been completed prior to the PAD. Concerned about length of historical data gathering process and whether it can be accelerated to better inform stakeholders and study plan development.
 - 1. Lynn Noel (Cardno ENTRIX) said that the level of detail relative to the usability of the historical data will be greater in the next study plan deliverable.
 - 2. Brian Lawhead (ABR) responded that the historical data is in fairly rough shape, and that ongoing historical “data rescue” is being attempted in order to determine usability.
 - 3. Betsy McGregor (AEA) indicated that the information was summarized in the data gap analysis as well as the PAD. The data gathering referred to in the study plan was to collect specific

- data sets and put them in a current digital format for the further analysis. She added that the current schedule for these tasks is very aggressive, with only about a 6 week turnaround time.
4. Brian Lawhead (ABR) said that modern telemetry data analysis techniques may be performed on historical data to yield new information, such as range use for example. Need more work to determine if this is possible.
 5. Dave Turner (FERC) concurred that performing and incorporating new analyses of historical data and documenting in the next study plan deliverable would be useful, but re-summarizing available data would not be as useful.
 6. Betsy McGregor (AEA) said that 13 April 2012 is deadline for identifying what historical data is usable and useful. She has been working with ADF&G to develop a process for data transfer and sharing so that this can be done efficiently.
- v. Brian Lawhead (ABR) asked about Becky Strauch's (ADF&G GIS) availability, since much of the GIS analysis would presumably be tasked to her as the historical data holder.
 1. Betsy McGregor (AEA) said that she and Lynn Noel had met in December with Becky, but does not know her current availability.
 2. Several attendees indicated that Becky has a long waiting list.
 3. Mark Burch (ADF&G) said that availability is a matter of prioritization and those are set by others.
 - b. "W-S2: Past and Current Big Game and Furbearer Harvest Study - DRAFT" dated 26 January 2012.
 - c. "W-S3: Eagle and Raptor Nest Study - DRAFT" dated 26 January 2012.
 - i. Brian Lawhead (ABR) is concerned that the proposed survey period may be too late in the season for eagles, but he would need to check with his raptor expert.
 1. Lynn Noel (Cardno ENTRIX) said that the dates were taken from the original surveys and may need to be adjusted.
 - ii. Is a historical vegetation map available?
 1. There is one, but it may not be available in a usable format in time to support 2012 field work. Looking into other alternatives.
 - iii. Betsy McCracken (USFWS) requested that all proposed project features be shown on nest maps rather than just the reservoir.
 1. Lynn Noel (Cardno ENTRIX) replied that the nest data will be delivered in GIS format, which can be overlaid with other data layers (including project features) for future map production.
 - iv. Betsy McCracken (USFWS) has information on recommended clearing times that should be considered.
 - v. Have there been any indications of a need for additional types of information such as raptor foraging based on new regulations?

1. Lynn Noel (Cardno ENTRIX) said that the 2012 study goal is to identify nests so that other 2012 field investigations can avoid them as appropriate. The nest data will need to be communicated to other field teams almost real-time due to schedule constraints. More comprehensive regulatory compliance reviews will be conducted during 2013-2014 study plan development. Requirements may include electrocution analysis/mitigation for transmission line corridors.
2. Betsy McCracken (USFWS) has pertinent regulatory compliance information in rough format that she is compiling for Lynn.
- vi. Terry Schick (ABR) indicated that some raptor habitat data can be obtained from the proposed habitat studies that will be discussed later in the meeting.
 1. Lynn Noel (Cardno ENTRIX) added that some of the NWI mapping has been digitized and may be available soon to help inform study plans.
6. Lynn Noel (Cardno ENTRIX) presented three botanical study plans. Presentation slides and the study plans themselves are available at the project website.
 - a. "B-S1: Vegetation and Wildlife Habitat Mapping Study - DRAFT" dated 26 January 2012.
 - b. "B-S2: Riparian Study - DRAFT" dated 26 January 2012.
 - c. "B-S3: Wetland Mapping Study - DRAFT" dated 26 January 2012.
 - d. Discussion following presentation of all botanical study plans:
 - i. Did 1985 vegetation map incorporate 1982 data?
 1. Lynn Noel (Cardno ENTRIX) said yes, for the overlapping portions. The 1982 data is not available digitally.
 - ii. Advantages and limitations of imagery datasets shown on B-S2 Figure 2 and in the presentation slides were outlined.
 1. SPOT5 data is not useful for direct impact level analyses, might be useful for basin-wide analyses.
 2. Lars Gleitsmann (E-Terra) explained the three datasets his firm has procured for the project: Upper/Lower/Middle Susitna, primarily leaf-off for elevation contour generation, not as useful for vegetation mapping.
 3. Brian Lawhead (ABR) asked if AeroMetric is going to fly additional aerial imagery?
 - a. Betsy McGregor (AEA) said that they will and that exact needs are being defined now. Geomorph needs multiple flights at different river flows, so trying to ascertain if other needs can be piggy-backed on one of those flights for efficiency.
 - b. Lars Gleitsmann (E-Terra) cautioned that geomorph flights at specific river flows may yield narrower corridor than would be required for other purposes such as flood

- zones, and that the specific flow requirements might fall on poor weather days when vegetation would not be visible. Studies of riparian corridor might be compatible use, depends on required corridor width.
4. Mat-Su LIDAR is thought to be generally the best dataset, but it is not processed yet and has some limitations since it was flown on multiple dates at different leaf-out stages, etc.
 5. 2004 imagery is thought to have very limited value.
 6. Lars Gleitsmann (E-Terra) said that as far as he knows, the 1980s aerial imagery is in the form of contact prints and that the calibration sheet has been lost, making ortho-rectification impossible. It is still useful for visual comparisons, change studies, etc.
 7. Anne Leggett (HDR) raised the issue that imagery availability can impact study schedules significantly.
- iii. Betsy McCracken (USFWS) suggested that the Corps of Engineers and the EPA should be contacted to determine 404 permitting requirements.
 1. Betsy McGregor (AEA) and Lynn Noel (Cardno ENTRIX) believe that this is addressed already in the study plan.
 - iv. Anne Leggett (HDR) asked if sensitive plant studies would be conducted.
 - v. Betsy McGregor (AEA) stated that an RFP will come out with details of study scopes including rare plants, invasive weeds, and revegetation plans for impacted areas.
 - vi. Ben Seifert (BLM) asked if there will be a study to quantify forest resources within the reservoir inundation zone and whether the plan is to clear prior to reservoir inundation?
 1. No decision has been made whether to clear prior to inundation and therefore no quantification is planned at this time.
 2. Ben indicated that quantification will likely be needed to determine fair market value of the public resource, whether or not clearing occurs prior to inundation. Also need to discuss resource salvage options if clearing is selected.
 3. Lars Gleitsmann (E-Terra) mentioned that some quantification may be possible using the recent imagery obtained by his firm as one option.
 - vii. Anne Leggett (HDR) asked when the Mat-Su LIDAR will be available.
 1. Betsy McGregor (AEA) said that the North Susitna block is last, around May or June 2012. The aerial imagery may be available earlier than the LIDAR.
 - viii. Anne Leggett (HDR) asked if there will be field verifications this year?
 1. Betsy McGregor (AEA) responded that there would be field verification of the aerial imagery interpretation these are iterative, multi-year studies that will require coordination

- between contractors to determination appropriation sampling strategy to meet the data collection needs for multiple resources. She used riparian modeling component as an example.
- ix. Lynn Noel (Cardno ENTRIX) commented that the reservoir operations modeling needs to be considered as well vs. botanical life cycle timing (wet/dry riverbed conditions during seed germination times, etc).
 - x. Relationships between wildlife habitat mapping and vegetation mapping were discussed. Betsy McGregor (AEA) said that responsibility for coordinating that effort will fall into the wildlife habitat mapping task. Tom Schick (ABR) confirmed that it is appropriate for wildlife biologists to verify that vegetation mappers are using appropriate scales for study species.
 - xi. Anne Leggett (HDR) asked when the RFP will be made public?
 - 1. Betsy McGregor (AEA) said botanical resources RFP will hopefully be out next week. There are likely to be multiple awards since it is a large amount of work. The RFP will include a task for a contractor to compile the individual Technical Memos that result into a comprehensive FERC license application section.
 - xii. Anne Leggett (HDR) asked if decisions have been made on how to coordinate field logistics?
 - 1. Betsy McGregor (AEA) said that AEA will provide helicopter support and AEA is looking into lodging options and boat access logistics for some areas also. AEA will also provide a site logistics coordinator.
 - xiii. Lars Gleitsmann (E-Terra) asked if it might be feasible and cost-efficient to use the existing trail/road off the Denali Highway that was used by military contractors recently to remediate a jet crash site relatively close to the proposed dam site.
 - 1. Betsy McGregor (AEA) said that AEA is working on lodging options and hasn't fully considered travel logistics yet. Jim Gill is looking into the other logistics at this time.
 - 2. Ben Seifert (BLM) said that he helped permit that access route for the Air Force and could speak to the question. The route is road-like for some distance from the Denali Highway intersection and then becomes more and more trail-like as you approach the Watana Canyon area. The remediation camp is shut down and will be fully removed this spring. The trail/road mostly follows an older trail used by placer miners. Ben thinks that there is potential for this project to use the trail/road.
 - xiv. Anne Leggett (HDR) asked if ADNR is still coordinating GIS data sharing.

1. Betsy McGregor (AEA) said yes and introduced Courtney Smith (ADNR GIS) who will be compiling and serving GIS data for the project.
7. General Questions and Next Steps
 - a. Will the calendar showing FERC deadlines be posted?
 - i. Betsy McGregor (AEA) said that yes, there is already an action item from another session to do so. Also working to get a Sharepoint site set up that would include a calendar function.
 - b. Betsy McGregor (AEA) said that AEA is trying to post meeting notes and conclude action items within two weeks of meetings.
 - c. AEA would appreciate written comments on all documents and study plans within two weeks of meetings to help support the overall project schedule.
 - d. Next meeting series is tentatively 27 to 29 February 2012. Terrestrial resource meeting will likely be 29 February 2012.

Action Items

1. AEA will re-label the orange boundary depicted on F-S6 Figure 1 for clarity since the beluga whale study area extends to Susitna River confluence with Cook Inlet.
2. Betsy McCracken (USFWS) to provide data on recommended clearing times, and recent raptor regulation compliance requirements.