Meeting Summary
Susitna–Watana Hydroelectric Project Licensing
Alaska Energy Authority Main Office
813 West Northern Lights Blvd., Anchorage, AK

Technical Workgroup Meeting on Terrestrial Resources
March 4, 2013, 8:30 a.m.-2:30 p.m.

Attendees:

Organization	Name
ADF&G Wildlife Conservation	Mark Burch
CIRI	Dara Glass (by phone)
Coalition for Susitna Dam Alternatives	Becky Long (by phone)
Natural Heritage Institute (NHI)	Jan Konigsberg (by phone)
USFWS	Bob Henszey (by phone)
AEA	Betsy McGregor
ABR, Inc.	Terry Schick
ABR, Inc.	Brian Lawhead
ABR, Inc.	Alex Prichard (by phone)
ABR, Inc.	Wendy Davis
ABR, Inc.	Susan Ives
ABR, Inc.	John Shook (by phone)
ABR, Inc.	Aaron Wells (by phone)
MWH	Kirby Gilbert
Solstice AK	Jeff Randall
Stoel Rives	Cherise Oram (by phone)
UAF	Laura Prugh (by phone)
Van Ness Feldman	Chuck Sensiba

Kirby Gilbert (MWH) opened the meeting with introductions and overview of the agenda. Brian Lawhead of ABR then proceeded with discussion of the wildlife study program.

Wildlife Studies
Forty four study plans were accepted by FERC in its study plan determination on February 1, including all 16 wildlife study plans. Thirteen of the 16 wildlife study plans were approved by FERC with no changes. The moose, waterbird, ptarmigan study plans were approved by FERC with changes based on agency recommendations.

<u>Moose</u>

Based on comments from ADF&G, the specific date range for daily tracking of radio-collared animals (May 15-31) was removed from the study so that there could be some flexibility in when the sampling is done. Removing the specific date range had been previously agreed to prior to the submission of the RSP to FERC, but all occurrences in the study plan had not been revised in the RSP so this modification will ensure the sampling discussion is consistent throughout the final moose study plan.

Ptarmigan

FERC approved the plan with the following changes: The number of capture sites will increase by between 4-6 sites. Coda net guns and noose carpets will be used instead of mist nets.

Waterbird

The migration study plan component was approved by FERC with changes made based on comments from USFWS. FERC approved the study by accepting the USFWS recommendations to use 4 observers, all of whom would simultaneously observe transects corresponding to the four cardinal directions in spring and fall. During a teleconference among ABR, ADF&G, and USFWS on March 1, 2013, the waterbird migration study methods were clarified by ABR to the satisfaction of the USFWS. USFWS stated during the teleconference that, after receiving this further clarification, they approved the original study plan as proposed and they would provide approval and concurrence of the study plan as written in the RSP after reviewing the meeting notes from the March 1 teleconference.

The migration study component, which is part of the Waterbird Study (RSP Section 10.15), will include both radar and visual observations. The final selection of the radar site will be made in the field, but a ridge location on state-owned has been identified tentatively on the basis of topography and vegetative cover. In addition to the radar/visual migration study component, the study of eagles and other raptors will employ 4 observers to conduct raptor migration watches, and will move around to different locations within the transmission corridors.

Overview of study assignments

ADF&G will be conducting the moose, caribou and Dall's sheep, large carnivore (modeling of bear spatial population density only, with ABR collaborating on hair sampling for analysis of DNA and stable isotopes), wolverine, and ptarmigan Studies. For the large carnivore study, ADF&G is conducting a modeling analysis of spatial population density, based on previous line-transect surveys conducted to sample bear density in and near the study area. ABR will be collecting hair samples downstream from the proposed dam site, along anadromous streams, to determine bear foraging use and diets. For the moose and caribou studies, ABR may assist ADF&G with some analytical work. Laura Prugh, UAF professor, is overseeing the terrestrial furbearer study, which is being conducted by one of her students enrolled in a Master's degree thesis project.

ABR will be conducting the following studies:

- Aquatic Furbearers
- Small Mammals

- Bats
- Eagles/Other Raptors
- Waterbirds
- Landbird/Shorebirds
- Wood Frog
- Wildlife Habitat Evaluation
- Wildlife Harvest Analysis

Mark Burch from ADF&G then discussed some of the big game studies.

Moose

The purpose of the moose study is to assess the potential impacts of the Project on moose. It is thought that moose travel in the proposed inundation zone and to lower elevations during winter, especially when there is a lot of snow. ADF&G's Kimberly King and Becky Schwanke are co-investigators for the project. Forty GPS collars and 10 VHF collars have already been deployed. Another 50 VHF collars will be deployed. Of the deployed GPS collars, 14 are on bulls and 26 are on cows.

Aerial monitoring of moose movement in the inundation zone and transmission corridors will occur daily during calving season, bi-weekly during rutting season, and once a month during the rest of the year. During calving (in spring), flying every day will allow for a productivity assessment (e.g., which cows had single calves or twins). Weights of calves associated with cows at the time of collaring will be recorded.

A geospatial population estimator (GSPE) survey was originally planned for fall 2012, but the weather conditions were unfavorable. ADF&G proposes to conduct the GSPE study during the fall of 2013 (or in March 2014, if conditions are unfavorable in 2013). Surveying in established population trend-count units occurred last fall and will continue this year.

Forty browse study sites downstream and 40 browse study sites upstream have been selected. Sixty percent of the sites have been allocated to a high-density stratum and 40% have been allocated to the low-density stratum. During the browse survey, the helicopter will fly from the plot's northwest corner to the opposite corner to assess the amount of moose browsing activity in the plot. Most study plots are not entirely composed of Native (ANCSA corporation) land. If permission has not been granted to conduct the study on these private lands, then alternative sample plots will be selected. The browse study needs to be conducted before "green-up" and is proposed for March 27-April 5, 2013.

Caribou

ADF&G's Kimberly King and Becky Schwanke are the caribou study co-leads. Some collars have been deployed already and more VHF collars will be deployed in 2103. Observations of antlers and utters will be used to assess productivity. (A slide showing a map of the study area was shown.)

Costs of this study will be shared between the Susitna-Watana Hydro Project budget and the ADF&G operating budget, depending on whether the survey is within the Project area or other areas within the Game Management Unit (GMU). The data from all the locations will complement each other. Overlap between members of the Nelchina and Delta caribou herds is expected. This study should determine which groups move throughout the region. In 2012, some collared caribou individuals traveled to winter ranges as far away as the Yukon Territory in Canada.

Ninety VHF and satellite collars were deployed in 2012. There are 160 existing collars on cows. (A slide designated Table 2-November 2012 showed the number of collars and where they had been found.)

Betsy McGregor (AEA) asked if the GPS collars were detectable via VHF. Mark said that they were, but ADF&G did not plan to look for the GPS collars via VHF because there were so many collars deployed and because there are alternative means (by satellite and subsequent transfer) of accessing GPS collared animals' data. The general approach with collaring is to get coarse-scale movements with the VHF collars and more refined-scale with satellite-linked GPS collars, especially near the inundation zone.

Jan Konigsberg (NHI) asked if you could tell when a collar has just fallen off the animal versus an animal mortality. Mark said that they could tell and will fly to retrieve the collar to reclaim and redeploy it.

The Nelchina herd travels northeast of the Project area in the winter. The travel distance each year depends on snow cover. After a few collaring seasons, ADF&G will understand better which animals are resident and will designate herds based calving areas.

Jan (NHI) asked if the Nelchina and Delta herds were genetically distinct. ADF&G did not know specifically between those two herds, but on a statewide basis, different caribou herds are genetically distinct from each other.

Sheep

ADF&G, led by Kimberly King and Becky Schwanke, will conduct aerial surveys of Dall's sheep in summer 2013. AEA contractors (ABR, Inc.) also will conduct ground surveys of mineral licks. Sheep aerial surveys will be flown north and east of GMU 13E after seasonal snow cover has disappeared in summer 2013. These surveys can usually start in June, but depending on the snow conditions, may need to begin later. The surveys need to end by the start of hunting season, which opens August 10.

Wolverine

A sample unit probability estimator (SUPE) and occupancy modeling survey is planned for 2013 and 2014, with the order depending on the occurrence of suitable snow and weather conditions. SUPE surveys will be conducted over 4-5 days, about 24-36 hours following a good snow fall.

The occupancy modeling survey will take 1-2 days to fly and may need to be flown twice. The SUPE survey can substitute for one of the occupancy modeling surveys.

Large Carnivores

ADF&G, led by Earl Becker, is conducting one component of the bear study, which is a new analysis of spatial density modeling based on line-transect surveys conducted within the past decade by AD&G. David Miller of the University of Rhode Island is a subcontractor on the study. In 2000, 2001, 2003, and 2004, ADF&G conducted aerial surveys to derive bear population estimates. From those data, modeling can be done to estimate the population density in a spatially explicit model. (A figure of the study area was shown with estimates for black bear and brown bear). The area over which the model will estimate populations remains to be better defined.

Ptarmigan

Rick Merizon, Mark Lindberg, and Graham Fry, researchers from ADF&G and UAF, are heading up this study. One hundred twenty radio collars will be deployed on willow ptarmigan in May 2013. (A map of the sample units was shown). Aerial surveys over a broad area will be conducted for population estimates, apart from radio-tracking.

Funding is an issue because on the original budget accounted for one year of non-resident tuition and one year of resident tuition, but UAF is charging non-resident tuition for two years. It is a difference of $21,086.

Laura Prugh of UAF's Institute of Arctic Biology discussed more on the terrestrial furbearers as follows.

Terrestrial Furbearers

Laura's graduate student, Casey Pozzanghera, is currently working out of the Alpine Lodge on the Denali Highway. He is a master's student who began in September 2012. He began field work in early January 2013. Casey has hired one of the owners of the Alpine Lodge as a field assistant. The owner is familiar with the area and is experienced at overland travel by snowmachine. The distance of the Alpine Lodge to the study site has been an issue. At times they travel 60 miles a day on snowmachines. They are setting up a spike camp farther inside the Project study area.

Currently, Casey is making trails and collecting scats and hair samples. He is putting out lynx hair snags. Casey has not put out any marten hair snags since he hasn't gotten to the inundation zone yet, and that work has been delayed because of issues involving access to ANCSA corporation lands. This year he may only put out a few marten hair traps as a pilot effort, and will put out more next year. He is trying to get permission from some cabin owners to use a cabin closer to the inundation zone. Laura thinks one is a State Trooper cabin. Based on a recommendation from his committee, he is adding and occupancy design of 4x4-kmcells. He will track transects either by a snowmachine or on foot. This study element was added for occupancy modeling due to concern over the potential for low sample sizes.

Casey is collecting lynx and marten hair for DNA analysis. Scat collection has been difficult because it has been snowing almost every day and covers the scat. Brian (ABR) asked if the DNA in scat degrades or if it could be collected once the snow melts. Laura said that more than likely once the scat thaws bacteria will start to degrade the DNA, but collection post-thaw may be a possibility. Laura said because it has been snowing so much they have to re-break their trails each time they go out.

The study team is putting in trails in wooded areas to encourage animals to use the trail, which will allow them to collect more scat. There are not many tracks in the open areas, but in timbered areas the animals do use trails.

Last Tuesday, Laura successfully flew a helicopter survey of aerial transects established in the 1980s study area and flown in November 1980. This work will give good data on habitat associations. When she flew the survey, the survey conditions were good, but it was somewhat difficult to distinguish between coyote and fox tracks. Laura would like to complete three replicate surveys by the end of March 2013.

Communication (emails) regarding flying conditions will occur among the team to help plan other winter and spring aerial surveys.

Brian (ABR) said he was aware of the land ownership pattern and that no marten or lynx sampling will be done on ANSCA Corporation lands until access has been granted. Brian then went on to discuss more on the 2012 studies.

2013 Field Studies Overview

Dall's Sheep
For the sheep study, the Jay Creek mineral lick and the Watana Creek mineral lick will be visited in late May to June 2013. The purpose of these visits is to document the location of the licks in relation to the Project inundation elevation and to inspect their current condition.

Large Carnivores
With regard to spatial modeling on large carnivores (bears and wolves), a fair amount of work has been done in in GMU 13E and 16B. The spatial extent of relevant data to the Project needs to be evaluated.

Aquatic Furbearers
Aerial surveys of aquatic furbearer surveys have not yet been conducted but are being planned. The surveys will take place perpendicular to drainages, based on Harold Golden's (ADF&G) recommendation, as well as along streams draining into the proposed reservoir inundation zone. Good snow conditions are needed for this survey.

Hair samples from otter and mink are needed for mercury testing. Otter pelts are required to be sealed by ADF&G, and ADF&G could potentially ask the trappers if some hair could be removed. Hair snags or modified traps may also be used. ADF&G is willing to ask the trappers, but a protocol needed to be developed to inform field offices. The protocol has been requested from the mercury study lead.

Small Mammals

Historical data will be reanalyzed for this study, starting in spring 2013. The original Susitna Hydro Project study put a lot of effort into studying small mammals, and there is no reason to believe that the composition or abundance has changed. This effort is planned as a desktop, office-based analysis only.

Bats

Currently, a review of the geologic information is being conducted to identify potential roosting sites. There is no indication of suitable limestone caves in the area, but bats can roost in small crevices. ABR will seek permission from mine owners and other private property owners to inspect structures for bat occupation.

Acoustic detectors will be deployed in the reservoir and camp areas in 2013 so access to ANCSA land will be important to complete this study.

Eagles/Other Raptors

The migration point counts in the transmission corridors will begin mid-April 2013. In comparison, the radar portion of the migration study for waterbirds will begin around April 18-20, and aerial surveys of waterbirds will begin between April 22-25. The tentative site identified for the radar staging site is not on ANCSA corporation lands.

The migration survey for the transmission corridors near Gold Creek and Chulitna Creek may require access to ANCSA corporation land at some places, so permission would be needed. Specific survey locations cannot be known yet because determinations need to be made in the field. ABR has land ownership data and GPS equipment and if access is not granted in time, ANCSA corporation lands will be avoided.

Waterbirds

This study will initially involve aerial surveys and no landings, except that, later in the year, study teams will return to specific nest sites to collect feathers for mercury testing. ABR will apply for USFWS permits to possess migratory bird parts.

Landbird/Shorebird

Land access of the survey area (inundation zone and transmission corridors) will be neede in mid-May 2013. Vegetation mapping from the 1980s will be used to select the study sites. The map is roughly similar to the Viereck et al. (1992) Level III classes and should work adequately

for plot allocation. New mapping that will be prepared by fall/early winter 2013 will be used to select plots in 2014.

Bird observations will be conducted from the ground. Observers will start as early as 3:30 a.m. and will require dedicated helicopter support each day.

Wood Frog
Study planning is currently underway. Sampling will occur throughout the Project area, and access to some ANCSA corporation lands likely will be needed. Investigators will pre-select waterbody and wetland complexes using GIS and also will deploy several acoustic detectors to assist in quantifying detectability of calling frogs.

Wildlife Habitat Evaluation
A literature review will be conducted to compile a suite of habitat uses among wildlife species. The spatially explicit component of determining use will occur next year.

Wildlife Harvest Analysis
An update for the 2012 harvest data is expected in the 3rd quarter 2013. The existing analysis (2012 tech memo report) was based on data from previous years (2003-2011).

The recreation and subsistence studies for the project are interested in analyzing harvest data also to evaluate community use. ADF&G data can be broken down by community, but a data-sharing agreement will need to be established between AEA and ADF&G to obtain needed information.

Alex Prichard of ABR discussed more on the big game and habitat use studies from 2012.

2012 Wildlife Study Review
The Big Game and Habitat Use (literature review), Past and Current Big Game and Furbearer Harvest Analysis (literature review), and Eagles and Other Raptors (field study) were conducted in 2012.

Big Game Movement
The first objective of this study was to gather as much relevant data from ADF&G and the 1980s studies, which included telemetry data for caribou, moose, black and brown bears. (The 1980s wolf and wolverine data could not be obtained.)

The next objective of this study was to determine what new types of analysis could be conducted with available data to add to current knowledge of big game movement.

VHF data showed that
Nelchina Herd; n=92
Moose; n=211, 69 > 30 locations
Brown Bear; n=90, 39 > 30 locations
Black Bear; n=74, 42 > 30 locations

*Sample size, numbers of individuals that occurred in more than 30 locations.

More recent ADF&G data were not included in this analysis. A fixed-kernel density analysis of the Nelchina herd seasonal range and of individual moose and bears was conducted. These estimates can be used to determine how much time individual animals spend within the Project footprint.

Caribou Nelchina Herd
Based on 1980-1985 data, there was some use of the Project area all year long, but higher densities of individuals occurred south of the Project area. There were also seasonal changes. (Maps showing density estimates during each of the four seasons during calving and during rutting was shown.)
The highest use of the Project area occurred during autumn and the second highest use occurred during the calving season.

Moose
Based on 1976-1984 data, 74% of moose home ranges overlapped with the Project area, averaging 12% among different individuals. (A map showing all of the home ranges was shown.)

Where individual moose occurred was partly a function of where they were collared; however, it is illegal to release collaring location information to prevent hunters from using telemetry data to hunt big game animals. There could be study bias in overlapping home ranges based on where the animals were collared.

Brown Bear
Based on 1978-1985 data, 82% of brown bear home ranges overlapped the Project area, averaging 8% use among different individuals. The area with the greatest use was the inundation zone (72%), which could reflect, in part, where the animals were collared. Up to 16 home ranges overlapped the Project area. Overlapping ranges are not unusual for bears. Male brown bears have larger home ranges, and they often overlap with the home ranges of several females. During breeding season the bears can travel very far to mate.

In 2013 and 2014, the study will look at bear use of salmon-spawning streams downstream from the proposed dam site. The collaring conducted in the 1980s did not cover the downstream reaches.

Black Bear
Based on data collected from 42 radio-collared individuals, black bears were found mainly in riverine corridors at lower elevations. Sixteen home ranges overlapped in one area. Seventy-four percent overlapped the Project area with an average use of 23% among individuals. Sixty-seven percent of bears occurred in the proposed reservoir area for an average of 14% of the time. (A figure of the average area home range by sex was shown.)

Study Summary

The Nelchina herd used the Project area to some degree all year. Black bears were restricted to forested habitat and lower elevations. The Project area, especially the inundation zone, provides important winter habitat for moose and is extensively used by black and brown bears.

2012 Wildlife Harvest Analysis

Data for this study, including harvest date, species taken, transport method, number of days hunted, and location of the take, were from 2003 to 2011 and were compiled by ADF&G. (The location of the take can be imprecise because the hunters don't always have a GPS with them and just give a general description.) USFWS data from 1994-2011 for subsistence activities on Federal land was also examined. While ADF&G also has data on actual harvests versus efforts to harvest that were not successful, this analysis was mostly focused on actual harvests.

An objective of this study is to look at the hunters' access, harvest rate, and harvest locations. This study also assesses if the spatial scale of available data is adequate to evaluate Project impacts.

Three levels of precision were examined including GMU subunit; aggregate of major reporting units; and aggregate of 13 uniform coding units (UCUs).

Based on gathered numbers, the mean annual harvest numbers since 2003 were 392 caribou, 146 moose, 68 black bear, 58 brown bears, and 22 Dall's sheep. Fewer beavers, river otters, wolves, and wolverine were harvested. The mode of access to harvest most animals was 3 or 4-wheelers, except successful hunts for Dall's sheep mostly used aircraft access. (A table showing summary of harvest by access type was shown.)

Current access to the Project area is relatively difficult. ORVs were the most common mode of access, but boats and planes were also used. Development of the Project could increase access to the site.

John Shook of ABR then discussed more about the eagles and raptor studies.

2012 Surveys of Eagles and Other Raptors

For this study, existing information was compiled and the relatively small number of nests documented previously were re-visited. An intensive survey for additional nests was conducted within a 2-mile buffer around the corridors and reservoir, starting in April and continuing into May2012. Productivity (a count of the number of young) was conducted in July 2012.

Aerial surveys of staging bald eagles were conducted from a helicopter in late fall/early winter 2012 to look for concentrations. Nest locations were compiled into a geodatabase. To determine nesting habitat, aerial photos, GIS analysis of digital elevation models and remote-sensing data for vegetative biomass were used. Those data gave a sense of where suitable cliffs were located. More information on the methods is available in the technical memo. Based on the 2012 survey,

99 Golden Eagle nests were identified, and of these only 6 were successful. In addition, 41 Bald Eagle nests were identified, and of these only 8 were successful.

Large owls were not observed during the survey, primarily because the 2012 surveys of cliff areas were completed to look for eagles. In 2013 and 2014, surveys of forested habitats, where owls are more likely to occur, will be conducted. During the 2012 survey, only one red-tailed hawk nest was found, but during the forest surveys in 2013 and 2014 more are expected. The numbers of Peregrine Falcons have increased in comparison to historical data, which probably resulted from range expansion as the population recovered after DDT was banned. (In the 1980s study, the nearest Peregrine falcon nest was along the Tanana River near Nenana.) No Ospreys were observed during the surveys in 2012.

Bald Eagles had a higher productivity success rate compared to Golden Eagles. Bald Eagle productivity is tied more to salmon availability, whereas Golden Eagle productivity is tied more to snowshoe hare availability. Bald Eagle nest density was higher near Portage Creek and the Susitna and Indian Rivers, which is where salmon occur more frequently. Some Bald Eagle nests occurred upstream in the reservoir area. Golden Eagle nests were distributed widely within cliff habitats within the Project area. Very few raptors occurred on the steep cliffs in the Devil's Canyon stretch.

Bald eagle nest success was not highly correlated with either salmon presence or with upstream or downstream reaches of the Susitna River. Some successful nests occurred upstream where salmon may not occur. More work needs to be done to correlate Bald Eagle productivity success with salmon density.

There is no good way to determine nest age. Based on weather, a nest that is only a couple of years old may look like a nest that is 20 years old. The study describes the condition of the nest as either good, poor, or remnant.

Based on the 2012 study, there is substantial habitat available for use by raptors. For the Golden Eagle habitat assessment, slope from a Digital Elevation Model (DEM) was used to calculate cliff slope. Normalized Difference Vegetation Index (NDVI) data were used to estimate areas with little vegetation. These data were used to delineate areas of possible habitat.

For the Bald Eagle habitat assessment, proximity to waterbodies used for foraging and areas that near larger trees were identified. A ½-mile buffer around streams and waterbodies were applied to map areas of expected habitat use. (A map showing the areas of possible habitat was shown.) Only one Bald Eagle nest occurred outside of the area defined by the habitat assessment.

Winter Survey Results

In October 2012, a small concentration of Bald Eagles was found near Stephan Lake and Prairie Creek (9 birds). Other Bald Eagles were seen at Portage Creek and Indian River. During the December 14, 2012 survey, no Bald Eagles were seen. No salmon carcasses near the shores were

observed, but large floods in fall 2012 could have washed them out. No moose or caribou carcasses were seen, but those can sometimes create a concentration of eagles.

Botanical Studies

Terry Schick of ABR discussed the 2012 botanical resources studies and 2013 study program.

Summary Botanical 2012 Studies
The wetland mapping in the upper and middle Susitna basin, vegetation and wildlife habitat mapping, and riparian vegetation study downstream of Project site were initiated in 2012. For these studies, field ground reference data were collected to match up with high resolution (≤ 1 m pixels) and photo and imagery signatures (summer 2012). Integrated Terrain Unit (ITU) mapping of individual terrain units (e.g. geomorphology, physiology, vegetation, wetland type) was initiated and will continue into 2014. In addition, the Rare Plant Study and Invasive Plant Study were planned.

Vegetation and Wildlife Habitat Mapping and Wetland Mapping
The current accuracy of historical 1987 vegetation mapping was assessed and imported into GIS by ADF&G. At Viereck et al. 1992 Level IV, there was not a lot of accuracy. At Level III, those data were deemed valuable by overlaying the mapped data with imagery. High-resolution imagery for the whole project area is underway. More recent satellite data and some LiDAR data will be available in 2013.

Riparian Vegetation Study
The riverine physiography was mapped to the provisional lateral boundary in 2012, and the study will continue to work with the agencies to refine the lateral boundary. The Riparian Vegetation Study is coordinating with the Instream Flow Study and the Fluvial Geomorphology Study to determine the Study's downstream extent. FERC will have the study plan determination by April, 2013.

Bob (USFWS) asked how far downstream AEA was proposing. AEA is proposing to study downstream to Susitna Station to correspond with the geomorphology study. The Focus Area Memo on the Project website gives details. A technical memo coming out this week will act as a crosswalk between the RM and the PRM.

The search area for rare plants is being refined, and the species list is being provided by the Alaska Natural Heritage Program, based on rare plants have been recorded in the area. The next stage is to ask the Heritage Program what rare plants have been recorded in a larger area. The study will have two different sets for rare plant species, including those that occur in the Project footprint and those in a larger area surrounding the Project area.

ITU MAPPING
For this study, ABR will collect existing ground reference information and other GIS information that can help verify aerial photography, compile data, and interpret images and

boundary determination. Field verification will be conducted for the next two years. When substantial mapping in each study area has been conducted, ITU variables will be compiled for each map polygon. An initial study report will be prepared for agency review in Quarter 1 of 2014.

Vegetation information collected to date will be used to determine point count locations for the Landbird/Shorebird Study. The 2012 Mat-Su LiDAR data covered a big portion of the inundation zone. Moderate resolution RapidEye satellite data was also obtained.

As of February 2013, the following information has been gathered.

	# of Field Points	Acres
Riparian Vegetation Study	88	6,300
Wetland Study	361	40,203
Vegetation and Wildlife Habitat Map	361	40,203

The Supplemental 3-1 filing related to the Riparian Vegetation Study has been submitted to FERC. Agency comments on the supplemental are due by March 18, 2013, and the FERC determination will be made April 1, 2013.

Closing

Concurrence on the bird migration study component of the waterbird study will be referenced in the Initial Study Report. The Final Study Plans with the exception of Riparian, which needs to be submitted, are moving forward.

A schedule of the TWG quarterly meetings will be posted online soon. The tentative dates of the TWG meetings are June 14, September 10, and November 19, 2013.

Action Items

- Finalize the notes of the teleconference with USFWS and ADF&G regarding the bird migration study component and distribute the notes seeking further consensus and confirmation from USFWS.

- ADF&G will re-deploy some caribou collars in April 2013.

- Continue to have study/field leads communicate with all other aerial survey leads regarding helicopter flights and conditions.

- Obtain a protocol from Paul Dworian (URS) for obtaining hair samples for mercury testing and provide to ADF&G.

- Apply for USFWS permit to collect and possess feathers from migratory birds for mercury sampling.

- For Large Carnivores, ABR and ADF&G will determine the polygon for which the spatial population density model will pertain.

- Confirm whether the ptarmigan study will include Willow Ptarmigan only or Rock Ptarmigan.

- Resolve budget issue for the ptarmigan study resulting from UAF charging two years non-resident tuition verses one.

- Summarize wolf data based on existing ADF&G data.

- Obtain permission from private landowners and mining claim holders to conduct bat surveys in structures in the bat study area.

- Establish a data-sharing agreement between ADF&G and AEA to ensure all studies receive the same data sets for harvest data.

- Refine lateral boundary for the Riparian Vegetation Study.