

Meeting Summary
Susitna-Watana Hydroelectric Project Licensing
Terrestrial Resources 2012/2013-2014 Study Plan Development
June 6, 2012, 9:00 a.m. – 1:00 p.m.
AEA Project Offices, First Floor Conference Room
411 W 4th Avenue, Anchorage, AK

Attendees:

| Organization | Name |
|-----------------------------|----------------------------|
| ADF&G Wildlife Conservation | Lem Butler |
| ADF&G Habitat Division | Stormy Haught |
| ADF&G Habitat Division | Mark Burch |
| AHTNA | Joe Bovee |
| AHTNA | Bill Simeone |
| AHTNA | Katherine Martin |
| BLM | Dave Mushovic |
| BLM | Sarah Bullock (by phone) |
| BLM | Ben Seifert |
| DNR OPMP | Marie Steele |
| EPA | Matt LaCroix |
| EPA | Lisa McLaughlin |
| EPA | Jennifer Curtis (by phone) |
| Natural Heritage Institute | Jan Konigsberg |
| NPS | Cassie Thomas (by phone) |
| USFWS | Jenny Spagon (by phone) |
| USFWS | Mike Buntjer |
| USFWS | Maureen de Zeeuw |
| USFWS | Bob Henszey (by phone) |
| USFWS | Lori Verbrugge |
| AEA | Betsy McGregor |
| AEA | Wayne Dyok |
| AEA | Emily Ford |
| AEA | Bruce Tiedeman |
| ABR, Inc. | Brian Lawhead |
| ABR, Inc. | Terry Schick |
| ABR, Inc. | Wendy Davis (by phone) |
| ABR, Inc. | Janet Kidd (by phone) |
| ABR, Inc. | Alex Prichard (by phone) |
| ABR, Inc. | John Shook (by phone) |
| Cardno ENTRIX | Lynn Noel |
| E-Terra | Steve Colligan |
| MWH | Kirby Gilbert |
| Solstice AK | Robin Reich |
| TetraTech | Christy Miller |

Presentations

Brian Lawhead (ABR, Inc.)

- Wildlife 2013 Proposed Study Plans

Terry Schick (ABR, Inc.)

- Botanical 2013 Proposed Study Plans

General Questions/Discussion

After introductions, Kirby Gilbert (MWH) gave an overview of all of the comments and study plan requests received from stakeholders, regulatory agencies, and other entities. Kirby said that the team is now reviewing the comments that have been received and trying to address them in the study plans. Kirby said that this meeting was to help clarify agencies comments on the study plans. Kirby encouraged an interactive dialog about the comments and stakeholder input on the study plans.

Wayne Dyok (AEA) said that some agencies submitted formal study request and some just embedded study requests within comment letters. Wayne said that all types of comments on study plans would be considered and addressed. He said that the team would compare what was being developed in study plans with the agency and stakeholder requests.

Lori Verbrugge (USFWS) said that USFWS listed a point of contact for each study that should be consulted regarding questions.

Kirby said that there were a few new studies requested that had not been previously identified. He said that the team was trying to capture all the study requests into the study plans.

Wildlife Study Plans Questions/Discussion

General discussion regarding large mammal, furbearer, and bat study plans

Brian Lawhead (ABR) said that the study requests are currently being developed into 16 wildlife study plans. Brian said that ABR is incorporating an internal review and evaluating all the comments received to modify the study plans. He said that there are a few contradictions among agency comment that need to be resolved.

Brian said that moose and caribou study plans are being developed from the Alaska Department of Fish and Game (ADF&G) proposal. The plan is to collar moose and caribou in the study area. He said that late winter surveys were conducted this year. He said that Alaska Department of Fish and Game (ADF&G) Division of Wildlife Conservation stated that they supported the moose and caribou studies.

Brian said that the bear study plan will be a retrospective analysis of how the existing data affects bears' home ranges and would involve working with ADF&G to get previous telemetry

data. Brian confirmed that ADF&G said that existing information is enough to do the analysis. Brian said that an investigation of bears' use of anadromous streams in the downstream Project area has been suggested to determine the minimum number of bears using the streams. Brian said that ADF&G supported the concept of looking at spawning in streams and an evaluation of berry resources in the inundation zone to understand bears' downstream use areas.

Brian said that one study will focus on estimating wolf and wolverine population density using tracks and aerial survey methods. Brian said that the Project area is in a wolf control area.

Brian said that Dr. Laura Prugh at University of Alaska Fairbanks is developing a study plan for terrestrial furbearers including coyotes, lynx, red fox, and martin using fecal and hair sampling to get density estimates. Brian said that ADF&G supports this methodology. Brian said that a prey abundance study by UAF graduate student is beginning this summer. He said that ADF&G did have comments for improvements to this study.

Brian said that ADF&G commented that they were not certain that an aquatic fur bearers study was necessary for use of the mainstem river. Brian said that U.S. Fish and Wildlife Service (USFWS) commented that they wanted to see detailed methods for studying aquatic furbearers on the mainstem. BLM commented that they would be interested in the over-winter survival of beavers in the area with changes in the flow regime after the Project was constructed.

Brian said that the small-mammal community is pretty well understood. He said that more sampling is planned to get information on populations in habitat that might be directly impacted by the project. Brian said that he had not seen any comments on the small-mammal study plan.

Brian said that there were several comments from ADF&G and BLM which supported the general approach for studying bats and included improvements to the study plan, which will be addressed. Brian said that aspects of the study plan that require work are related to passive acoustic monitoring arrays to understand bat occurrences and the habitat investigation planned for the second year. He said that ADF&G commented on the need understanding potential habitat for bat roosting and hibernation. Brian said that the ABR Team is looking at a desktop study of geologic information with the potential for some field survey work to determine bat roosting and hibernation.

Brian said that the moose browse survey that ADF&G requested is similar to what has been used in the rest of the State. He said that the question is whether it gets lumped into the overall moose plan or is a separate plan. Brian said that the BLM requested a study to understand the carrying capacity in the inundation zone and road corridors.

Matt LaCroix (EPA) said that he needed more details on the moose-browse study. Brian said that the study looks at removal of current annual growth to quantify browse within the inundation zone. Mark Burch (ADF&G) said that the study should be broader to understand what would be available to moose after the inundation zone is filled. He said that this would also help to guide mitigation for impacts to moose. Betsy McGregor (AEA) asked whether the study

should extend to the riparian area below the inundation zone. Mark said that he didn't recall the ADF&G comment but thought that it might be in the immediate area around the inundation zone.

Matt said that operations of the reservoir will have impacts on the riparian zone and icing. He said that the floodplain is important to moose and other species, and changes in flow might change access and availability of that type of habitat, including moose and other species' browse. Matt said that the Project needs to understand these changes.

Terry Schick (ABR) said that the riparian study should provide information on baseline moose habitat availability downstream of the inundation zone. He said that the riparian study is focused on mapping successional vegetation. In that study, ABR will map riparian ecotypes and wildlife habitat types. He said that the riparian study does not focus specifically on moose, but that a specific moose habitat map for the downstream areas could be made if desired.

Matt asked whether there would be an analysis that ties the riparian study together with questions regarding browse. Wayne Dyok (AEA) said that how all the information fits together would be included in the entire study plan. Matt said that the EPA's comments state that the agency expects to see the National Environmental Policy Act (NEPA) document quantify the effects of the Project. Matt said that maps and numbers are great, but the EPA is interested in what this means in terms of likely effects. Terry said that the ultimate goal (in the riparian study) is to link information on geomorphology, icing, flow, and other downstream effects to wildlife habitat use and to predict the potential changes in wildlife habitat availability.

Kirby said that the Federal Regulatory Energy Commission (FERC) also asked to see study linkage information. Kirby said the front of the study plan will call out the early linkages, and the linkages will be listed in multiple places. He said that showing linkages is complicated but would be done.

Dave Mushovic (BLM) asked where the moose-browse survey would occur. Mark Burch said that ADF&G is interested in looking at the road corridor areas. Dave said that this is a particular interest to the BLM. Kirby said that it should include the downstream area and Betsy agreed. Mark said that it might be easier to combine the moose-browse study with the moose study. Wayne said that the moose browse information would help create habitat mitigation measures. Wayne said that the study plan goal is to inform the creation of protection, mitigation, and enhancement (PME) measures. Wayne said that the measures would be included in the hydroelectric project license application. Wayne said that the study plans will help to determine how to develop to the PME measures.

Bruce Tiedeman (AEA) asked whether there are agreements with Native landowners on how studies would be conducted on their lands. Mark Burch said that much of the work will be conducted by planes or helicopters that will not land. Mark said that ADF&G did understand that the landowner has to be involved. Bruce said that as AEA's native liaison for the project, it was his job to encourage involvement by Native landowners. Betsy said that AEA has been working with all the Native corporations that own land in the area to obtain land-use permits.

Dave Mushovic said that many of the studies would be conducted on Federal Native-selected lands. Dave said that most activities would be defined as casual use according to BLM. Dave said that more intrusive work could require a permit from BLM, which is a timely process. Kirby said that the study plan should have enough information to determine whether a land-use permit would be needed, and permitting requirements would be listed in the study plan.

Aquatic furbearers and mercury study plan discussion

Brian Lawhead said that the ADF&G and USFWS have differing comments on the aquatic furbearer study. Brian said that the USFWS has requested a population estimate of mink and river otter, and ADF&G didn't think that these species needed more study. Lori Verbrugge said that they had no time to discuss their comments with ADF&G prior to submitting their comments. Lori said that the impacts of mercury on aquatic furbearers are a concern and that the study request is extensively referenced. Lori said that maybe after ADF&G reads the USFWS' request, they might agree the Service's study request. Brian asked whether there were ADF&G river otters and mink experts. Mark Birch said that Howard Golden is in a different region but he is knowledgeable about these species.

Mark said that he did not think that direct population effects needed work, but he did not integrate the mercury concern. Lori said that maybe the ADF&G contaminate expert should review the study request. Mark said that ADF&G would take a look at the USFWS study request and see how it fits with their study requests. Brian requested that Lori and Mark meet with him to work through the differences.

Brian asked what the risk to otter and mink would be if the mainstem river is not important habitat for the species (more foraging by these species occurs in clearwater habitats). Lori said that the information is references in the study request and that there have been otter and mink documented with higher mercury levels. Matt LaCroix asked whether there was baseline information that shows that these species use tributaries more than they use the mainstem. Matt asked whether AEA was planning on completing a baseline survey of the mainstem to understand how otter and mink might be impacted. Matt said that a survey might not be needed, but prior to saying that the study is not important, we should figure out whether it is an important issue.

Lori said that the impact of mercury depends on the project design, and it is not the same for all projects. Lori said that the methods recommended for getting a population estimate are similar to Dr. Prugh's methods for the terrestrial mammal surveys. Lori questioned why the Project was more interested in completing a terrestrial mammal study when aquatic species might be at more risk.

Brian said that he did not know whether the survey method for terrestrial furbearers would work for aquatic furbearers. He said that pelts from hunters might be able to be used and that the focus of the efforts would be along long stretches of stream. Brian said that the work would have to be conducted in the winter, and snow machine access would be difficult. Lori said that Dr. Prugh should be consulted or used for the field effort.

Betsy asked whether a mark/recapture study could be conducted in the middle Susitna River to understand terrestrial furbearers. Lori said that her study request did not go into that detail, but that the study area is probably larger than needed. Lori said that her office does not have river otter and mink experts and that the team needed to work together to develop the best study. Kirby said that the study area could be established from another study going on to see whether mercury bioaccumulation would be important. Lori said that the literature already indicates that mercury will be a problem. Lori said that a population assessment needs to be done to see whether otter and mink would be impacted by the bioaccumulation. Mark Burch asked whether determining presence or absence would be enough. Brian asked whether a population estimate could be done from existing roads. Matt said that agencies need to understand numbers, where the species are, what the accumulation of mercury levels would be, and whether mercury could affect a species to completely understand the issue. Matt said that this is a “trigger” model.

Betsy asked how the team would determine how far downstream to study. Matt said that the Project will need to understand fish moving downstream of the reservoir to determine the study area size. Matt said that bioaccumulation delivery methods need to be determined. Lori said that it is different for different species and their diet. Lori said that some of the papers referenced in USFWS’ study request have models, which could be used. Wayne said that most of the impacts would be immediately downstream of the dam because with the reservoir’s elevation change and 500 feet of head, it would be difficult for fish to survive and because surviving fish would be stunned and could be eaten right away (e.g., by predatory fish, birds, and/or mammals).

Kirby asked whether there was an established study methodology and trigger mechanism that could be used. Brian asked whether they could use a phased approach and do a portion of the study during year 1 and the next steps during year 2. Lori said that with such a short time period for studies to be conducted, a phased approach would be difficult. Betsy said that the fish study is looking at background levels of mercury this year. Lori said that in addition, her agency is interested in how mercury would bioaccumulate. Matt said that the EPA has experts that can discuss this with USFWS.

General discussion regarding bird study plans

Brian said that the USFWS developed study requests for eagles, raptors, and landbirds/shorebirds. The requests mostly revised the AEA study plans, but there were some modifications.

Brian said that BLM requested that their agency be involved in the eagle and raptor consultations and stated that an avian production plan would be needed on BLM lands. Brian said that BLM had comments on the ptarmigan study design, which will be directed to Richard Merizon at ADF&G, since they are conducting the study.

Brian said that since the last terrestrial group meeting, the Project Team had additional consultation with USFWS. He said that ABR had conducted raptor nest surveys and that more nests were found than in the 1980s. Brian said that the study team is considering what would be

needed to determine eagle take to determine study area size. He said that right now they are surveying a 2-mile buffer around the project components. Brian said that the USFWS requested a 10-mile buffer study area for next year around the reservoir in order to understand golden eagles and habitat take by the Project.

Brian said that a 15-mile buffer around the reservoir was requested for understanding other species. Lori said that part of the concern with the reservoir is that it would be an attractive nuisance and would collect water birds that currently use lakes and ponds nearby. Maureen de Zeeuw (USFWS) said that she would get back with Brian about the basis for the study area size.

Brian said that the use of the reservoir shoreline by nesting waterbirds would not be an issue since the area would not be vegetated and because the reservoir would be filling during nesting season. Wayne added that the shoreline would have steep slopes. Matt LaCroix said that there might be nest losses if shorebirds ground nests are inundated. Brian said that it is more likely that the reservoir would be used as a staging area for migrating birds. Wayne said that the upstream ends of the reservoir are usually more important bird habitat because there is less water level modulation in these areas. Kirby said that combining GIS data with the topographic information could help understand the lakeshore and its potential for providing nesting habitat. Brian said that they would plan a meeting with USFWS to address this issue.

Brian said that USFWS was interested in determining the relative importance of the area as a migration corridor related to power line placement. Maureen said that there could be about 100 miles of new power lines and collisions could be avoided if it is understood where potential collision areas exist. Kirby said that the transmission line could be placed in a different location based on the bird study. Wayne said he understood that baseline information was needed to determine the best location for the lines.

Maureen said that bird collisions with lighting at the dam site could also be an issue; however, the Project could plan ahead for bird safe lighting and a study would not be needed. Wayne said that lighting mitigation could be incorporated as long as human safety is protected. Maureen said that the USFWS would need to know details of the lighting. She said that two years of bird studies might not be enough to understand migration routes and that there could be a tragic event years after the Project is constructed.

Wayne said that lighting could be more of an issue during construction, especially in the spring and fall. He said that once the Project is constructed, lighting would be less likely to attract migrant birds. Maureen said that the Project should investigate construction lighting options, since many construction lights are not suited to protect migrating birds. Wayne said that the Project would work with USFWS on this issue. Kirby said that they might be able to time construction activities to avoid peak periods of bird migration.

Maureen said that she was more concerned with habitat fragmentation than with bird strikes. She said that the cuts of vegetation for the power lines would end up being used recreationally, which could affect birds. Maureen said that creating openings will increase the spread of

wildlife that like habitat edges. Maureen said that these birds could outcompete other birds and change the local assemblage of breeding bird species.

Maureen said that there should be more emphasis in the study plan on “oddball” birds that might not be captured during the proposed bird surveys (especially point counts for breeding landbirds and shorebirds). She said that examples of those birds are wintering dippers, mergansers, kingfishers, and tree-nesting ducks. She said that USFWS was particularly interested in those birds that would be affected in the inundation zone. Lori said that based on other studies, mercury might affect kingfishers the most. Brian said that these birds might be captured in the existing studies. Maureen confirmed that USFWS would probably be satisfied with brood-rearing surveys for tree-nesting ducks instead of searching every tree for nests, but that some effort should be spent on surveys for the riverine-specific species, at least in the inundation zone.

Maureen said that Rock Sandpipers feed on *Macoma* clams during the winter in the Susitna River flats area. Maureen said that understanding how *Macoma* clams would be affected by changes in flow is important. Terry said that nearly the entire population of the Bering Sea subspecies of Rock Sandpiper winters in Cook Inlet and that they use the mouths of several rivers in upper Cook Inlet when feeding on ice-scoured gouges in the mud. Maureen said that we already know that the sandpipers use the area and a bird survey isn't needed; the question is how a new flow regime would impact the clams that are important to their diet. Betsy said that answers to this question would come from modeling hydrology and the invertebrate study. Betsy said that this topic needs to be included in the macroinvertebrate study plan.

Maureen said that the study plans need to propose methods to get density information for breeding birds. Terry said that ADF&G has valid concerns over the statistical issues with determining reliable density estimates, especially if sample sizes are small. Brian said that regardless of these questions, we need to use existing study methodology and that ABR would like to use the Alaska Landbird Monitoring Survey. Maureen said that there are issues with that methodology, but she was willing to accept its use because it is a standard. Maureen said that she was open to discussing other methodologies.

Maureen said that the productivity estimates for water and landbirds were downplayed in the study requests and that productivity needs to be a focus in the study plans. Maureen said that the permanent loss of bird habitat and its long term effects needs to be addressed. Maureen said that additional surveys (e.g., brood-rearing surveys) may be needed for lake-nesting birds. Brian said that we need to determine what question we are trying to answer and more discussion was needed with USFWS. Maureen said that she was interested primarily with loons and grebes.

Brian said that BLM had concerns with the Ptarmigan study plan that ABR is addressing.

Wood frog study plan discussion

Brian said that ADF&G had some comments related to using waterbody habitat modeling to determine survey areas for wood frogs. Brian said that ADF&G was interested in sampling waterbodies for a fungus that might be affecting amphibian populations. Betsy said that this

could be an incidental sampling effort. Lori said that Meg Perdue is an expert at USFWS (Anchorage Field Office) and that she might know more about the fungus. Wayne asked whether understanding the fungus was really important to understanding the impacts of the Project. Kirby said that the Team would consult literature and talk with experts to determine how to move forward.

Brian said that ADF&G suggested putting the landbird/shorebird, bat, and frog surveys into one study plan; however, this may not be feasible because of seasonal and diurnal differences. Marie Steele (ADNR-OPMP) asked whether there might be linkages between the species and their survey methods. Brian said that the bird, bat, and frog study teams would be out in the field at the same time (roughly), but that there are few things that in common with the study methods.

Brian said that the wildlife habitat evaluation and developing the habitat map is vital to the wildlife impact assessment. Brian said that ABR would be creating the mapping for multiple species and would build a matrix of the mapped habitats and categorized habitat values for the species of concern. He said that by doing this assessment in the context of GIS, the Project Team will be able to quantify project impacts on wildlife habitats.

Brian said that ADF&G requested using the statewide Gap Analysis model outputs as a framework for data collection and reporting; however, he believes that a more detailed and project-specific (local-scale) assessment would be better than using the broad-scale statewide model. Terry said that ABR was not sure that the statewide model would apply specifically and accurately to the project area. Matt LaCroix said it is likely that the ADF&G is interested in having the Project baseline data incorporated into the Gap Analysis program. Betsy said that the Project should be able to share the data. Matt said that EPA would support integrating data with the statewide effort where this is possible. Terry said that the ADF&G actually was recommending that the Project use the statewide Gap Analysis model outputs to predict which waterbodies could support wood frogs because they thought the sampling, as proposed, would result in insufficient data to evaluate wood frog habitat use in the area. Matt said that the EPA is also interested in the statewide Gap Analysis program. Terry said that they needed to discuss this comment with ADF&G because there appear to be differing opinions at ADF&G. Brian said that using the statewide Gap Analysis framework may not change the way the teams would collect the data. Kirby said that the data could be delivered differently to ADF&G. Terry said that ABR would discuss the comment with Dave Tessler at ADF&G. Wayne said that this is a good action item to follow up with ADF&G, but that the study team might not be able to get resolution.

Botanical Resources Study Plans Questions/Discussion

Terry Schick said that the botanical resources work involves five study plans. He said that ABR prepared study requests and is currently working to incorporate comments on the requests into the study plans. He said that two study plans have been completed and that ABR would like to revise them with the additional comments received.

Wetlands study plan discussion

Terry said that most of the focus has been on the wetland mapping study. He said that there have been smaller meetings with EPA, the U.S. Army Corps of Engineers (USACE), and USFWS. He said that there has been considerable interest in using the Cook Inlet (Wetland) Classification System, which is a methodology primarily focused on lowland wetland types in the Matanuska-Susitna Borough (MSB) and on the Kenai Peninsula. He said that ABR is proposing a hybrid classification system, which would be “cross-walkable” with the Cook Inlet Classification. The MSB is interested in the Project using the Cook Inlet Classification and being able to incorporate the data collected for this Project into their existing GIS system. Terry said that ABR developed a system that is similar to the Cook Inlet Classification, but will allow the flexibility to address the different wetland types that will be encountered at higher elevations in the upper Susitna basin. Matt LaCroix said that EPA is very comfortable with what ABR is developing and appreciates that the Project is involving Mike Gracz in the methods discussion.

Terry said that the wetlands functional assessment methodology is being refined. Terry said that there are a number of approaches, most of which focus on habitats that have been significantly altered (e.g., developed for applications in the lower 48 states), and that many of those methods are not ideally suited to work in the remote and primarily undisturbed Project area. He said that ABR was planning on one more meeting to go through the final list of wetland functions and proposed field measurements before starting the field effort. He said that the goal was to send out a list of wetland functions and get responses in advance of the meeting.

Janet Kidd (ABR) said that ABR received good feedback on the functional assessment at the last (wetland-focused) agency group meeting and that ABR started to develop a list of parameters following the Hollands-Magee Method. Janet said that there are no cultural or social parameters in the Hollands-Magee approach. She said that ABR proposes examining data collected by other field efforts for the Project and incorporating those data into the wetlands functional assessment product.

Matt said that EPA would like to see the list of proposed wetland functions. Matt said that part of the reason that the EPA and USACE have funded the wetlands work in the MSB is because they believe that there is a lot that can be done with GIS. Matt said that cultural and aesthetic functions are something that do not need to be measured in the field; instead this information could be incorporated into the assessment as a GIS layer (i.e., after the field surveys).

Bob Henszley (USFWS) asked to see the wetland functions list.

Riparian vegetation study plan discussion

Terry said that questions arose as to whether jurisdictional wetlands need to be mapped as a part of the riparian vegetation study. Betsy said that the USACE has said that the wetlands below the dam do not need to be delineated because they will not be filled. Matt said that the wetlands below the dam do not need to be assessed using the three-parameter wetland assessment. He said that the EPA, however, does want to see wetland maps generated to identify wetlands using

the same classification system as the rest of the Project area. Matt said that it is not necessary to complete a preliminary jurisdictional determination; instead EPA is interested in baseline mapping with some field data points that ground-truth the vegetation work. Janet confirmed that the entire vegetation map of the study area would be seamlessly integrated.

Bob Henszey asked whether the areas would be identified as wetlands and whether there would be formal data on the sites. Matt said that the EPA is assuming that there would be some wetlands ground-truthing, but the majority of the area would not be field checked. Terry said that the ABR team could map wetlands throughout the Project area, but that they would prefer not to conduct USACE-approved wetland determination plots (because they are very time consuming and doing so would reduce the number of sites that can be visited). Terry said that for the riparian effort, they would produce fine-scale mapping of the riparian area in order to predict changes due to altered flow, icing, and geomorphology. Betsy added that the mapping would also be good enough to model vegetation changes due to groundwater changes.

Bob said that he was trying to figure out the riparian study outcomes. Terry said that the riparian vegetation study would be examining vegetation age structure and size to add to the understanding of vegetation succession. He said that the team would spend a lot more time at each plot to collect the data to conduct both fine-scale mapping of successional vegetation and broad-scale mapping of wildlife habitats. Terry noted that the riparian study will occur in 2 phases. First, they will map riparian ecotypes and wildlife habitats, then, in phase 2, they will work with the instream flow, ice processes, and geomorphology researchers to predict changes in riparian habitats from development of the Project.

Matt asked the current status of developing the vegetation mapping line work. Matt said that spending time in the field without having line work done might not be helpful. Terry said that the ABR team would be using the 1987 vegetation mapping and NWI mapping lines to help with their efforts. Terry said that they had not been able to do preliminary mapping because of the limited availability of aerial imagery. Matt said that the Team needed to understand the degree of diversity of the vegetation communities. Terry said that one of the first riparian study goals is to find and visit plots that were studied in the 1980s to document changes. Terry said that they are working with the instream flow and geomorphology teams to co-locate study plots. Matt said that it will be important to see the vegetation boundaries line work this winter. Matt said that there may be specific habitat types that need to be better understood. Terry said that there are areas that were sampled well in the past (in the 1980s). He said that the team needs to determine which areas were not sampled well in the past so those areas can be adequately studied now. The riparian study report for 2012 will include recommendations for study improvements, if needed, for 2013 and 2014.

Bob said that USFWS put in study requests for riparian vegetation, wetlands, and vegetation. He said that the Service did not have any major changes from the AEA's study requests. Terry said that the ABR team would review the USFWS study requests to see the changes. Wendy Davis (ABR) said that there was the request to coordinate with the statewide Gap Analysis program. Terry said that ABR would meet with ADF&G to discuss this request, but that the Project data could be shared with the statewide effort after mapping has been completed.

Invasive and rare plants study plan discussion

Terry said that they were working on rough drafts of the invasive and rare plants study plans, but that they had not received any comments of these study plans specifically.

Matt LaCroix said that the EPA did not submit comments on the invasive species plan specifically, but that the agency did have comments that would need to be addressed in the NEPA document. Matt said that invasive species issues raised in the EPA comments are consistent with nationwide and regional EPA comments and may not be specific to the Project. He said that, for example, feral cats are a regional issue, and although they are not a high priority issue in Alaska, they would need to be addressed.

Terry said that The Nature Conservancy (TNC) brought up aquatic invasive species as an issue. Matt said that invasive terrestrial plant species could be an issue. Matt said that invasive species are found on braid points on the Matanuska and Knik Rivers, and the Palmer Soil and Water Conservation District has had weed-pull efforts. Matt said that invasive species becoming established by construction activities is an operational issue that does not need to be studied. Terry said that one of the objectives of the study is to develop a method to minimize the spread of invasive plants. Janet said that along the Parks and Denali Highways there has been documentation of invasive species, but that management practices that could limit invasive species from becoming established. Matt said that that Project would need to quantify the likely risk of establishing invasive species.

Terry said that ABR is preparing the rare plant study plan and has requested a list of rare plant species from the Alaska Natural Heritage Program. Terry said that the rare plant study would interact heavily with riparian vegetation and wildlife habitat mapping studies. Matt asked whether there was documentation of rare plants in the 1980s work. Terry said that there was a rare pond weed species recorded from Watana Lake. Terry said that ABR would focus their rare plant survey effort on appropriate habitats where rare plant species could be directly affected within the Project footprint.

Betsy said that the Project might need to look at the potential for recreation to affect rare plants. Matt said that the BLM would get the data from the studies and would need to figure out how to manage activity and species on their lands. Terry questioned the rare plants survey study area. Kirby said that the study area is pretty big and perhaps the focus of the rare plant survey should be only within the inundation zone and dam site. Terry said that ABR will first determine whether there are suitable habitats available for the set of potential rare species within the Project footprint. He said that the 2013 study plan proposes completing the rare plant survey in the dam/reservoir area. Terry said that when the access road alignment is determined, the team would complete a survey along the centerline footprint (in suitable habitats).

General comments

Wayne said that AEA had 1980s photographs of sloughs in the downstream Project area taken at different flows. He said that these sloughs could be visited to see how the conditions have changed.

Wayne said that the EPA, Rural Utilities Service (RUS), and the USACE have requested cooperating agency status on the Project. He said that BLM has not made a decision about whether they would be cooperating agency.

Matt said that by law, the EPA is required to review all Environmental Impact Statements, and is requesting cooperating status to facilitate the process. Matt said that there was some discussion about whether the EPA would become a cooperating agency because they are not issuing a permit for the project, but given the project scope and the level of controversy, it makes sense for the EPA to be a cooperating agency.

Wayne said that related to the climate-change comments, AEA has taken a more open process than the FERC usually employs. Matt said that the Council on Environmental Quality (CEQ) has information on how to incorporate the analysis of climate change into a NEPA document. Matt said that the EPA does feel that climate change is very relevant to this project, especially looking ahead in the licensing period and the potential for climate change to change the water levels. Wayne said that AEA was thinking about addressing the climate-change issue in the water resources study plan.