

**Cooper Lake Hydroelectric Project Relicensing  
Aquatic Resources Study Planning Discussion  
Final Meeting Summary**

**Thursday August 8, 2002  
9:00–11:45 A.M.  
HDR offices, Anchorage**

**Participants:**

Margaret Beiharz (USFS) – by phone  
Dave Blanchet (USFS) – by phone  
Tom Cappiello (ADFG)  
Karen Demsey (Long View Associates) – by phone  
Clayton Hawkes (ADFG) – by phone  
Jason Kent (HDR)  
Joe Klein (ADFG)  
Glenda Landua (ADFG) – by phone  
Bill Lorenz (USFS)  
John Morsell (HDR)  
Larry Peltz (NMFS)  
Neil Stichert (USFWS)  
Jeff Breakfield (ADFG) – by phone

**Proposed Discussion Outline:**

**I. Cooper Creek Studies**

- A. Discussion of Cooper Creek reconnaissance efforts to date
- B. Aquatic Habitat Description/Mapping
  - 1. Goals/Need/Application to the relicensing process
  - 2. Desirable features of stream habitat description method
    - a. Application to the Cooper Creek environment
    - b. Practicality in rugged terrain
    - c. Integration with hydraulic modeling
  - 3. Method selection
    - a. Discussion of method options
    - b. Group consensus
  - 4. Portions of stream to be surveyed
  - 5. Estimation of habitat surface areas
  - 6. Need for information in 2002
- C. Survey of Fish Abundance and Distribution
  - 1. Goals/Need/Application to the relicensing process

2. Integration with habitat mapping /Density by habitat type
  3. Method selection
    - a. Discussion of method options
    - b. Group consensus
  4. Portions of stream to be surveyed
  5. Estimation of stream-wide abundance
  6. Need for information in 2002
- D. Hydraulic Modeling
1. Goals/Need/Application to the relicensing process
    - a. Describe existing environment?
    - b. Reconstruct historical environment?
    - c. Predict outcome of potential mitigation options?
  2. Level of detail required
  3. Integration with habitat studies
  4. Method selection
    - a. Discussion of method options
    - b. Group consensus
  5. Portions of stream to be modeled
  6. Need for information in 2002

## II. Cooper Lake Studies

- A. Arctic char studies
1. Goals/Need/Application to the relicensing process
    - a. Emphasis on fluctuation zone?
    - b. More general studies-most important aspects?  
Population?  
Life history?
  2. Potential for an integrated study program
  3. Need for information in 2002
    - a. Test capture methods

### Opening

John Morsell (HDR) started the meeting by referring to the proposed discussion outline, which he had distributed by email two days earlier. John noted that this outline reflected the areas where guidance from the agencies was most critically needed for 2002 data collection.

John stated that the immediate difficulty in trying to firm up 2002 data collection plans was that for some study aspects there appeared to be disagreement among the agencies regarding which methods would be most appropriate; more unified direction from the agencies would be helpful, especially before study plans are developed.

Clayton Hawkes (ADFG) reported that the agency representatives had meet two or three times recently among themselves to talk through the issues and come up with a consensus regarding approaches to recommend.

Dave Blanchet (USFS) stated that the agencies had put forward their issues for the relicensing and suggested possible ways to address these issues on a number of occasions, so were now looking forward to seeing study plans from Chugach. Karen Demsey (LVA) reminded the group that Chugach was in the process of finalizing its document to describe the concepts for relicensing studies that it was currently intending to propose (subject to modification based on response from relicensing participants). Chugach's intent is that this document will provide enough detail regarding its proposed studies that it will be of help to agencies as they write their formal study requests. Formal study plan development would follow receipt of the formal study requests, due to Chugach September 9.

## **Proposed Cooper Creek Studies**

### Discussion of Cooper Creek Reconnaissance Efforts to Date

John reported that he and Jason Kent (HDR) had completed a reconnaissance walk of Cooper Creek from the dam to the mouth, and that much of the creek is very difficult to access, especially the upper end, from Stetson Creek to the dam. Based on their observations, Cooper Creek is divided into five very distinct segments:

- from the dam to the first waterfall
- reach comprising a series of five to six impassable falls
- lower end of the falls to Stetson Creek (this reach appears to have some quality habitat, contains some beaver ponds; flow at the time of the visit was about 1–2 cfs)
- canyon reach downstream of Stetson Creek
- alluvial fan reach at the lower end of the creek

John noted that planning for studies on the creek would need to take into consideration the logistics of the field work (e.g., it will be difficult and potentially dangerous to carry heavy equipment to the more inaccessible reaches of the creek).

At the request of Joe Klein, Jeff Breakfield (ADFG) briefly summarized fish usage in Cooper Creek, based on ADFG's research on Dolly Varden (DV). Jeff mentioned that DV usage extends upstream to Stetson Creek, based on radiotracking and Floy-tagging studies. Other fish species have been observed using the lower portion of the creek. Jeff stated that there was definitely potential spawning habitat in the upper reaches. John Morsell agreed and stated that he had observed abundant juvenile DV in the reach above Stetson. Jeff also mentioned that DV use of Stetson Creek is limited by the impassable falls located about 50 feet up Stetson Creek from its mouth.

### Aquatic Habitat Description/Mapping

John Morsell stated that agencies had indicated mapping of the aquatic habitat in Cooper Creek was a priority but had provided competing suggestions regarding the best protocol to use for the

mapping. John asked the group to clarify goals for the mapping and how the mapping relates to information needs for the relicensing process.

Larry Peltz (NFMS) responded that the main purpose of the mapping is to identify how much potential aquatic habitat there would be at various flow ranges. The creek's potential for fish production needs to be quantified to analyze alternatives/tradeoffs. Joe Klein (ADFG) agreed, and added that ADFG and the other agencies had agreed to recommend use of the USFS habitat mapping protocol (which incorporates the methods that ADFG had previously recommended).

John Morsell asked how the agencies envisioned their proposed habitat mapping approach be incorporated with the hydraulic modeling that may be done. Joe Klein responded that the habitat mapping is the first step in the whole process of instream flow assessment; it is the cornerstone of any instream flow analysis (e.g., it provides the information needed to determine where to place modeling transects).

The group discussed the challenge of using the habitat mapping in studies that will evaluate not only existing but potential alternative conditions, and the utility of hydraulic modeling for this type of analysis.

Bill Lorenz (USFS) explained that the USFS habitat mapping protocol is flow independent (does not matter whether the stream currently has water in it or not). One challenge in using this protocol in this situation will be determining in the field where the "bankfull" water surface elevation would be for a different flow regime; the bankfull elevation for the historic channel will need to be determined as well as possible from field evidence.

***The group confirmed that the USFS methodology was the approach recommended jointly by the agencies.*** Dave Blanchet stated that there still needed to be agreement regarding which "tier" within the USFS protocol to use to map the habitat in Cooper Creek.

Bill Lorenz briefly described the various "tiers" of evaluation in the USFS protocol. Tier 1 is the broadest habitat characterization. Tier 2 consists of counts of habitat units and cross-sectional profiles. Tier 3 involves more detailed measurements of individual habitat units. Tier 4 involves classifying habitat to the level of individual pieces of large wood to assign habitat categories and population assessments in relation to those habitat units; thus, Tier 4 links fish populations to habitat units. Bill noted that a Tier 4 analysis is very intensive. Margaret Beilharz suggested that Tier 1 or 2 would provide habitat classification adequate for an IFIM study; Tiers 3 and 4 would provide information on smaller habitat units to tie into population counts.

John Morsell stated that his reservation about using the USFS protocol was that it appeared to be relatively inflexible in how habitat needed to be mapped. John stated that he hoped to be able to use an approach that could be tailored to the specific reach, depending on physical characteristics of the reach. Bill Lorenz agreed that the selection of appropriate tier depends on objectives. Bill added that in this case there was no point in doing a Tier 4 survey for all five reaches; Tier 4 efforts should be focused on reaches that provide (or could provide) the bulk of fish production.

Bill Lorenz indicated that the USFS would be willing (and considers it essential) to provide expertise in the field at the start of the habitat survey, to help answer questions on use of the USFS protocol.

John Morsell asked whether it would be acceptable to the agencies for only representative reaches to be mapped, or if the whole creek needed to be mapped. Joe Klein stated that ADFG would be looking for the whole creek to be mapped at some level. With this information, future evaluation of different alternatives will be possible. Joe pointed out that Cooper Creek is only a few miles long, so mapping at some level for the whole seems doable. Neil Stichert (USFWS) agreed.

The group discussed using low-level aerial photography to create a basemap, including recommendations for minimizing problems with obscured visibility due to shading and vegetation.

#### Survey of Fish Abundance and Distribution

John Morsell noted that the proposed habitat surveys would tie into the proposed survey of fish abundance/distribution, which would involve estimating the density of fish for different habitat types; selected areas could then be used to represent all habitat types found in the creek and results for these areas could be extrapolated to get total fish density in the creek.

John noted that most fish survey studies done by the Forest Service in the Pacific Northwest have utilized snorkeling as a primary method. Alternative methods may need to be used in this situation, because much of Cooper Creek is not well suited to snorkeling. John suggested electroshocking as probably the most applicable method, but stated he would be interested in hearing other ideas.

Jeff Breakfield agreed that electroshocking seemed like it could be a good method for Cooper Creek studies. Jeff stated that minnow trap depletion had been a relatively successful technique in the Cooper Creek DV studies, but that foot surveying does not work on this stream because of the undercut banks. Jeff noted that pools were the primary areas to focus on for estimating fish abundance in this stream.

Bill Lorenz noted that snorkeling can be done in places with very little streamflow; as long as there is enough water to be able to put in a face mask. Bill added that a snorkel survey would underestimate actual fish abundance, but that the results would be consistent for the entire stream.

The group discussed the timing of fry presence in Cooper Creek and the feasibility of trying to survey for fry. It was noted that it would be difficult to count fry in this system because they typically hide in areas not accessible for snorkel surveying. Clayton Hawkes stated that ADFG would only be interested in having fry distribution documented if this information was going to be used for PHABSIM modeling (i.e., if habitat suitability curves were going to be developed specifically for fry in this system).

Clayton noted that it was important to develop an estimate of fish population/density under existing conditions in part to be able to predict the effects of any modification to the flow regime. In addition, the baseline information would be used for comparison to post-implementation monitoring data of fish populations under any new conditions, to evaluate the changes under the alternative flow regime.

Larry Peltz stated that he was not sure that a population estimate at any one point in time would be very representative; he was not sure the value of the information would be worth the effort. This is especially true for DV, which have very little fidelity to a particular stream year to year. Larry suggested instead that minnow trapping could be used to determine presence/absence.

***The group generally agreed that it would be reasonable to conduct an estimate of fish abundance using a stratified method (similar to the Hankin and Reeves method) for estimating abundance associated with different habitat types.*** ADFG indicated that a population inventory, not necessarily a population estimate, would be adequate. John Morsell noted that the methods would need to be tailored to the particular reach, depending on conditions.

### Hydraulic Modeling

John Morsell stated that hydraulic modeling was being proposed primarily as a method to predict conditions under alternative flows and secondarily to help describe the existing environment in Cooper Creek. Larry Peltz concurred that modeling was an appropriate tool for these purposes.

Dave Blanchet stated that the USFS's interest is in understanding the fisheries potential of Cooper Creek under unregulated flows. Margaret Beilharz added that the USFS's goal is generally restoration of the watershed but that there is some flexibility in this goal. Margaret stated that hydraulic modeling — in particular, use of PHABSIM integrated with the SNTMP temperature model — provides a useful description of conditions over a range of scenarios (existing and potential). (Jason Kent had earlier explained that the SNTMP model can be used in conjunction with IFIM habitat models to determine the effects of different temperatures on fish habitat.)

Joe Klein agreed and suggested that after the habitat mapping is completed (but well before the 2003 field season), it would be appropriate to convene a technical workgroup that would focus on the modeling effort. For example, if PHABSIM is the selected technique, the workgroup would need to discuss and agree on target species and habitat suitability index (HSI) curves, as well as weighting criteria for the various reaches, calibration flows to use for the modeling, and transect selection.

Margaret Beilharz stated that the target species for the PHABSIM modeling should be chinook salmon and rainbow trout; DV also should be considered but should not be the main focus. Clayton Hawkes stated that DV needed to be considered to determine whether any potential change in flow regime would be expected to affect use of Cooper Creek by this species. Joe Klein agreed and added that coho salmon (fall spawner) also should be considered. John Morsell

noted that for all fish species other than DV, HSI curves from other stream systems would need to be used.

The group discussed the potential merits/drawbacks of using the PHABSIM modeling to predict habitat values on the reach above the falls. John Morsell noted that with the current flow (in the range of 1–2 cfs) it would be difficult to develop the information needed to model this reach adequately. Jason Kent agreed that it would be difficult logistically and added that he saw no reason to use the PHABSIM modeling upstream of the first falls (since no resident fish have been observed above the falls). Dave Blanchet stated that based on the original pre-Project drawings of that reach developed for construction of the Project there appears to have been good quality habitat in that reach. Dave agreed that it would be difficult to model this reach (especially with the existing presence of beaver dams and vegetation encroachment) and suggested instead that a similar reach on another stream (e.g., Juneau Creek) should be looked at for comparison.

Joe Klein suggested that any decision on Cooper Creek reaches for modeling be deferred until after the habitat/fish survey data has been collected.

***The group generally agreed that the recommended approach is to complete the habitat mapping (using the USFS protocol), review the information as a group, and collectively determine placement of transects for modeling of representative reaches.***

John Morsell noted that temperature data recording equipment was currently being assembled. The equipment includes a string of thermistors to be installed in the west basin (near the dam) in Cooper Lake; the thermistors will extend to a depth of 50 m. This is currently the only proposed site for installation of a thermistor string in the lake. In addition, temperature/streamflow recorders are proposed to be installed in Cooper Creek upstream of Stetson Creek and in Stetson Creek near the mouth. John noted that a suitable site for the upper Cooper Creek recorder was found during the previous week's reconnaissance trip. However, placing a recorder in Stetson Creek would be more problematic because the stream is swift and steep; it also coincides with an avalanche chute. The group discussed ways to deal with the logistical challenges related to stream data recording.

#### Information Needs/Priorities for 2002

***The group recommended that the habitat survey should be completed this fall, to be used as baseline information for decision making and study planning for 2003.*** Neil Stichert emphasized that data collection this year should only be reconnaissance; the emphasis should be to firm up methodologies/logistics to help with formal study planning for 2003. However, Bill Lorenz reiterated his offer to participate in the habitat survey, to provide direct USFS guidance on application of the mapping protocol. ADFG also indicated interest in participating in the habitat mapping. Clayton Hawkes stated that with this assistance, he saw no reason why the habitat survey could not be officially completed in 2002. The group agreed.

The possibility of completing the low-level aerial photography for the basemap this fall also was discussed. It was noted that shading could be more of a problem, but that avoiding spring high

flows would be an advantage. John Morsell suggested that if the basemap could not be completed in time to use in the field, an acceptable basemap could be developed from existing USGS mapping and aerial photography.

*For the fish abundance/distribution study, the group generally agreed that work in 2002 should focus on testing survey methods.*

## **Proposed Cooper Lake Studies**

### Arctic char studies

John Morsell stated that from a relicensing standpoint, the primary information need regarding Cooper Lake arctic char is the possible effect on this population of the reservoir fluctuation. Neil Stichert agreed that the focus should be on reservoir operations and how fish use the fluctuation zone. Dave Blanchet commented that Chugach would need to define a range over which the reservoir would operate under the proposed dam modifications. Karen Demsey mentioned that an engineering analysis is planned to define the existing and proposed reservoir operations and that this information would be provided to the relicensing participants.

Meeting participants expressed interest in a mark-and-recapture study to develop a population estimate for the arctic char in Cooper Lake. Clayton Hawkes explained that the relevance to relicensing of the population estimate would be as a baseline against which to compare future population status after implementation of the new reservoir operating level that would accompany the proposed dam modifications. Monitoring of the population size after the proposed change in operation would provide a means of determining whether the change was affecting the population, such as by affecting spawning or rearing in the fluctuation zone. Dave Blanchet agreed.

Another component of the proposed arctic char study would be to describe spawning and rearing, with a focus on the reservoir fluctuation zone. John Morsell suggested that technologies such as radiotelemetry or hydroacoustics were possibilities for identifying spawning areas / seasonal distribution, and he asked for feedback from the meeting participants.

Larry Peltz stated that based on his understanding, use of hydroacoustics would probably not work well in this situation. The densities of fish in Cooper Lake are not high enough to yield meaningful information on seasonal distribution (its best use is for locating schools of fish).

Clayton Hawkes suggested that radiotagging of individual fish could be useful in tracking fish to locate spawning areas. However, Dave Blanchet recalled that Jack Dean (USFWS, retired) had indicated arctic char in Cooper Lake spawn at the time that ice is forming on the lake, which would complicate the logistics of tracking them during spawning season. The group discussed that given the detection range for this technology and the fact that arctic char likely spawn relatively deep, it would be unlikely that radiotracking of the fish could be done from any distance. Similar logistical problems were noted for use of sonic tags. Bill Lorenz added that thermal stratification of a lake also tends to complicate tracking using sonic tags.

Bill Lorenz mentioned another possible technology: “pop-up” tags that record the depth to which a fish has traveled. Bill suggested that this type of data could be useful for determining what depths are critical to arctic char behavior. John Morsell responded that this sounded like a technology worth looking into but that it would probably be prohibitively expensive.

Bill Lorenz suggested that, as an alternative, information on behavior of arctic char in other lakes could be collected. He suggested contacting experts such as Fred Decicco (ADFG) and Jack Dean and reviewing any “gray literature” that may be available on the subject. Bill noted that there may be a compensatory aspect to Cooper Lake arctic char behavior, in that the population may have adjusted to avoid use of the reservoir fluctuation zone for spawning, and that comparison to char in other lakes could provide insight into this possibility.

Clayton Hawkes stated that the objective of such an information review would be basically to put together an HSI curve for arctic char and that this would be useful for defining the physical boundaries of useable habitat characteristics (e.g., depth, temperature, substrate) for this species. Tom Cappiello, however, commented that arctic char are very plastic in their life histories and adapt to local conditions. John Morsell noted that summary of existing information would certainly be a part of any study on arctic char in Cooper Lake.

Clayton Hawkes suggested that doing a field study to determine arctic char behavior in Cooper Lake would be valuable, but that the level of effort of such a study should be in proportion to the need to develop new information. If it turns out that tracking the fish in Cooper Lake is infeasible and/or disproportionately costly, Clayton would recommend focusing the effort on developing a good population estimate for the char in Cooper Lake.

#### Information Needs/Priorities for 2002

John Morsell suggested that the fall 2002 field season could be used to test potential non-lethal capture/sampling methods for the arctic char studies, such as seines and shoreline-oriented trap nets; the point would be to try a few different methods to see what works. In the process, char would be marked for the purposes of recapture in 2003 to develop a population estimate. John requested comments from the group on this suggestion.

Clayton Hawkes indicated that he would not have any concerns with this proposed plan of action, as long as the appropriate methodology for developing a spawning index is used. Clayton suggested referring to ADFG’s accepted methodology for mark-and-recapture studies (Rosencrantz et al.). Clayton cautioned that not following this methodology would risk coming up with a biased population estimate.

Regarding potential capture methods, Clayton suggested baited fish traps, which he has found to be very effective for brook trout in lakes. Tom Cappiello suggested hoop nets as a convenient and potentially effective alternative. Bill Lorenz suggested the possible use of winged fike nets that are baited and tied with leads to the shoreline.

***The group generally agreed that capture methods would need to be tested and that doing so would be a valuable effort for the 2002 field season.***

*In addition, it was generally agreed that assembling existing information on arctic char would be valuable to complete in 2002.*

### **Other Suggested Studies**

John Morsell noted that the discussion had reached the end of his proposed outline of topics, and asked if there were any additional comments or suggestions.

#### Entrainment

Clayton Hawkes mentioned that ADFG will be requesting a study to evaluate possible entrainment at the intake structure in Cooper Lake. Clayton suggested that the evaluation could be conducted in conjunction with other studies in Cooper Lake, and that he would be open to considering whatever methods sounded appropriate. Clayton noted that entrainment evaluations have been done at numerous hydro projects, and that the studies yield site-specific information regarding the size, numbers, and species of fish entrained.

John Morsell mentioned that Chugach would be proposing a paper study to evaluate the potential for entrainment in Cooper Lake based on existing information regarding the bathymetry in the vicinity of the intake, dimensions of the structure, generation flows, species present, etc. This would be a first-level study to determine whether there is a need to do further (field) study, and if so, would help focus the scope of the field study.

Clayton indicated that ADFG would be willing to agree to this approach as a first level of analysis; however, whether the results are ultimately deemed sufficient for the entrainment analysis will depend on the level of detail that can be provided for the species that are in the lake. If there are other projects for which it can be shown that there are similar species at the same depths and where the level of entrainment risk has been shown to be low, the paper analysis may be sufficient. If not, then field studies will be needed.

#### Transmission Line

Clayton Hawkes stated that another ADFG concern is related to the effect of the Quartz Creek to Anchorage transmission line corridor on streams that cross the corridor. There is not a good understanding regarding whether transmission line maintenance activities or ATV use related to the corridor affect these streams. Information will likely be needed to characterize the stream crossings, define effects of the crossings on habitat, find out what fish inhabit these streams, etc. Clayton noted that an evaluation of the corridor's possible effect on wildlife will also be a relicensing study that ADFG will request.

#### Paired Stream Analysis

Neil Stichert returned to the issue of comparative studies between Cooper Creek and other similar streams (as reference sites). Bill Lorenz had earlier suggested that if survey data were available for other streams, it would be possible to compare fish use of different stream channel types, to get a qualitative idea of potential fish use in Cooper Creek under different flows. It

would also provide an example of an endpoint in the spectrum of potential future mitigation. Juneau and Ptarmigan creeks were mentioned as possibilities for such a comparison. Dave Blanchet stated that Juneau Creek would be a good analog; based on watershed size, flow in Juneau Creek should be quite similar to unregulated flow in Cooper Creek. In addition, the alluvial fans in these two creeks are remarkably similar, although Cooper Creek has been mined whereas Juneau Creek has not.

John Morsell noted that the Chugach study team has discussed this possible approach and has not considered it the best approach or even likely to yield results that would ultimately be useful for the impacts analysis or evaluation of potential alternatives. John described factors that would complicate such an analysis (primarily, lack of comparability). In addition, paired stream analysis would be most appropriate for evaluation of historical conditions, whereas existing conditions are the relevant baseline for the relicensing assessment. Karen Demsey added that using paired stream analysis to assess potential conditions under an alternative flow regime would have the same objective as the hydraulic modeling that was being proposed. Of the two, the study team considered that modeling would be the better approach in that it would provide more reliable results, given the questions regarding comparability and the qualitative nature of the results of the paired stream analysis.

Dave Blanchet responded that PHABSIM modeling only provides gross-level habitat information and that comparative stream surveys would be a low-cost means of providing an example of stream habitat / fish use under unregulated flow conditions. Margaret Beilharz added that the USFS also sees the comparative approach as a good way to provide examples of potential restoration scenarios (modification of physical habitat) that might be modeled. Margaret continued that there is not currently much comparative information from that geographic area (i.e., characteristics of undisturbed alluvial fans and associated fish production in the area) to know what restoration options might be appropriate.

### Kenai River Studies

Joe Klein stated that ADFG was interested in an analysis of the effect of Project generation flows on the Kenai River. He suggested looking at the percentage of total river flow comprised by the generation (especially during the winter low flow period) on a daily timestep, to evaluate what effect power generation may have on fish production downstream of the Kenai Lake outlet. John Morsell indicated that Chugach would be proposing a study along these lines.

### Other Cooper Creek Flow Issues

Dave Blanchet noted that Chugach is proposing to operate the reservoir up to the level of the spillway following the proposed dam modifications, and that this change in operation would create a potential for periodic overflow from the dam that does not exist under current operations. The USFS will therefore want the potential effects on the channel of periodic spill-related flooding to be assessed.

Dave indicated that the USFS will likely also want to see an analysis of whether the lack of flushing flows in the creek (due to impoundment) has created a higher concentration of fine-grained sediment within the stream gravels that would impair the habitat quality of these gravels.

Clayton Hawkes and Joe Klein added that in addition to an assessment of flushing flows, ADFG would be asking Chugach to evaluate what the channel maintenance flows should be for this system; this should be information that can be developed in conjunction with the hydraulic modeling. Joe Klein mentioned that there are numerous methodologies that can be used to assess geomorphic flows in conjunction with PHABSIM modeling (including Reiser et al. 1989).

### **Closing**

Clayton Hawkes indicated that there were other areas that ADFG would be requesting studies to address, but stated that with the list discussed today, the Chugach study team already has a large amount of work to do this year. John Morsell thanked the group for meeting and providing guidance on specific, time-critical issues. The meeting attendees expressed thanks for the opportunity to discuss these topics as a group.

The meeting ended at about 11:45 A.M.