

**- Final -
CRCIP AMT Quarterly Meeting Notes
November 13, 2013**

The CRCIP Adaptive Management Team held its quarterly scheduled meeting from 9:30 am – 3:30 pm on November 13, 2013 at the Portland District Corps office. The following AMT members participated in person:

Greg Smith, USACE	Shyam Nair, E2	Steve Bartell, Cardno
Greta Smith, USACE	Jeff Fisher, NMFS	ENTRIX
Jessica Stokke, USACE	Paula Calvert, ODEQ	Richard Mraz, WDOE
Kathy Roberts, FWS		

September 2013 AMT Meeting Notes

The draft September 2013 meeting notes were provided to the AMT prior to the November quarterly meeting. There were no suggested revisions and the meeting notes were finalized by the AMT at the meeting. The finalized meeting notes will be posted to the E2 CRCIP web site prior to the January 2014 meeting.

The following topics were addressed by the AMT participants during the November 2013 quarterly meeting:

AEM Workbook 3rd Quarter Review for 2013

The following relevant components of the CRCIP AEM Workbook were discussed at the November 2013 quarterly meeting.

MA-1 CORIE Analyses

The available data for the November 2013 AMT meeting reflect the previous and current status of the CORIE (CMOP) stations required for the MA-1 analyses. The following data were available for analysis prior to the November meeting:

- grays: temperature, salinity and depth (September through October 2013)
- tansy: temperature and salinity (September through October 2013)
- woody: temperature (September through October 2013)
- cbnc3: temperature and salinity (reconstructed through early October 2013)
- dsdma: salinity (September through October 2013)

Temperature

Daily median water temperature values calculated for the tansy station for the September – October 2013 period were generally within the 80th and 95th percentile decision criteria

for September and the first half of October. Temperatures appeared somewhat elevated during this time month. The values for the remainder of October were between the 20th and 80th decision criteria.

For the September – October 2013 period, daily median values of water temperature computed for the grays station demonstrated a temporal pattern similar to the tansy station, although somewhat less elevated than tansy. Temperature values at grays were generally within the 20th and 80th percentile decision criteria. However, daily values for the first half of September slightly exceeded the 95th percentiles.

Temperature data for cbnc3 were reconstructed for September through early October 2013. The daily median values for early September, similar to the grays station, somewhat exceeded the 95th percentile decision criteria. However, computed values for the remainder of September and early October returned to within the 20th – 80th percentile range.

The availability of September – October temperature data from the woody station permitted the development of normalized water temperature plots for this time period in 2013. The plots were constructed for the tansy, grays, and cbnc3 stations. Inspection of the normalized temperature plots for 2013 indicated that the comparisons were consistent in the overall pattern defined by the pre-Project (1996-2004) normalization.

The monthly averaged median temperature values for tansy were within the 80th – 95th decision criteria for September 2013. The October 2013 values were within the 20th – 80th percentile decision criteria. The monthly averaged median temperature values for grays were within the 80th – 95th percentile decision criteria for the September 2013, October 2013 values were within the 20th – 80th percentile decision criteria. The monthly averaged median temperature values for cbnc3 were within the 80th – 95th decision criteria for September 2013. The October 2013 values were within the 20th – 80th percentile decision criteria.

Analysis of the post-Project construction CORIE data available through October 2013 continues to suggest that the channel improvements did not have any measurable impact on water temperatures recorded at the MA-1 stations.

Salinity

The September - October daily median salinity values computed using data available for the tansy station ranged from approximately 4 to 21 psu. While highly variable, the median values were generally within the 20th-80th percentile decision criteria for these two months. However, many of the daily median values for early October were between the 5th and 20th percentile criteria values. No values exceeded the 5th or 95th percentile decision criteria.

Daily median values calculated for salinity data available for September and October 2013 for the grays station were mainly distributed between the 20th and 80th percentile decision criteria. Values for early October were within the 5th - 20th percentile decision criteria. No values exceeded the 5th or 95th percentile decision criteria.

The September - October daily median salinity values computed using data available for the cbnc3 station ranged from approximately 0.1 to 6 psu. The median values were generally within the 20th-80th percentile decision criteria for these two months. No values exceeded the 5th or 95th percentile decision criteria.

Salinity data were available for the dsdma station during September – October 2013. Therefore, normalized salinity plots were developed for this time period. The plots were constructed for the tansy, grays, and cbnc3 stations. Inspection of the normalized temperature plots for 2013 indicated that the comparisons were consistent in the overall pattern defined by the pre-Project (1996-2004) normalization.

The monthly averaged daily median values of salinity for the tansy station were within the 20th – 80th percentile decision criteria for September and October 2013. The corresponding monthly averaged values for grays were also within the 20th – 80th percentile decision criteria for September and October 2013. The September 2013 monthly averages for cbnc3 were within the 20th – 80th percentile decision criteria. However, the monthly average value for October 2013 was 0.1 psu, slightly less than the 5th percentile decision criterion of 0.2 psu.

The post-Project construction CORIE data available through October of 2013 continue to suggest that the channel improvements did not result in significant saltwater intrusions at the MA-1 stations.

Depth

Depth data were available for only the grays station from September through October 2013. Daily median depths were well within the previously established AMT decision criteria. The monthly average values calculated for this time period were within the corresponding 20th and 80th percentile decision criteria.

Extended Time-Series Plots

Shyam Nair (E2) continued the multi-year time series plots of temperature, salinity, and depth for the MA-1 CORIE stations. These plots were updated based on data available through October 2013 and presented at the November 2013 meeting.

The results of the 3rd quarter 2013 MA-1 analysis have been posted in the MA-1 folder of the AEM Workbook on the E2 CRCIP web site.

MA-3 Crossline Surveys

The erosion variance determined at CRM 41.5 (Wanna Driscoll) seemed unusually high compared to recent previous years (2007-2012). At the same time, this 2013 exceedance did not seem substantial when viewed in relation to the entire variance envelope for CRM 41.5, which was calculated using data from 1996-2006.. To further address this issue, the AMT requested that crossline surveys be plotted for all available years for CRM 41.5 for review and discussion at the November AMT.

The USACE provided the requested analysis for CRM 41.5 based on data from 1981 – 2013. Following discussion, the AMT concluded that the erosion reported for 2013 was not related to MA-3, but rather a result of bedload (sand wave) movement, consistent with the dynamic nature of this river reach, potentially exacerbated by high flows. There was consensus among the AMT members that no further actions were required concerning MA-3. The primary intention of MA-3 was to monitor the potential impacts of CRCIP construction and operation on channel erosion and accretion, specifically side-slope adjustments adjacent to the navigation channel. The results of the MA-3 monitoring and analysis indicate that the Project has not altered the pre-construction patterns of sediment dynamics within the Lower Columbia River and estuary.

MA-4 Habitat Analyses

The November 2013 meeting focused on review and discussion of the analysis of habitat requirements for MA-4 that was presented at the September 2013 meeting by Drs. Antonio Baptista (OHSU) and Dan Bottom (NWF). (See separate MA-4 agenda item below.)

MA-6 Fish Stranding

At the November 2013 meeting, Kathy Roberts requested that the 2013 (or final) Annual Report include a full explanation of the process that led the AMT to reach consensus agreement concerning the resolution of MA-6 terms and conditions at the April 2013 quarterly meeting.

MA-4 Discussion of Modeling Results Presented in September

The majority of the November 2013 AMT meeting focused on the preliminary MA-4 results presented by Drs. Baptista and Bottom at the September meeting. The objective of the discussion was to provide these investigators with specific recommendations for completing the MA-4 analysis and summarizing the results in a form useful to the AMT for decision-making. The discussion addressed which simulations best characterized the potential project impacts on juvenile salmon, which model outputs best captured the

results of interest, what summary statistics should be used, relevant spatial-temporal scales for analysis, and specific formats for presenting and documenting the model results. The AMT will use this information to guide further discussions concerning MA-4 objectives in relation to the CRCIP Adaptive Environmental Management Plan.

The AMT discussed which of the presented simulations should be emphasized in further analysis and summarization. The overall recommendation was to focus on the results of Option B (using the difference between 2003 bank-to-bank bathymetry and 2012 channel bathymetry imposed on 2003 bank-to-bank bathymetry to define changes directly attributable to CRCIP) simulations for all modeled years: 1999, 2001, 2011, and 2012.

The AMT requests the initial model analysis and summary of model results to focus only on the calculated values of (1) shallow water habitat (SWH) and salmon habitat opportunity (SHO).

The AMT requested that the percentage differences in SWH and SHO for the conditions defined by model Option B be used as the fundamental measure in the recommended analysis of model results. To facilitate the evaluation of the potential impacts of the CRCIP on SWH and SHO, the AMT requested that tables of summary statistics (i.e., mean, median, minimum, maximum, standard deviation, and range) of Option B model results be developed for these specific model outputs.

Based on review of the presentations at the September meeting, the AMT suggested that tables of model results should be developed separately for months March through September and that the monthly model results should be developed separately for all modeled reaches (A-H). The AMT recommended that any assumptions or caveats underlying the analysis, summary, and presentation of the model results be documented and included with the tabular summaries.

Several additional topics concerning the MA-4 analysis and summarization were discussed, including:

1. the potential implications of using option B bathymetry all the way to Bonneville.
2. the model depth criteria used to define SWH compared to the commonly used 20 foot regulatory value.
3. explanation or specification of model reliability (i.e., general model validation) to help the AMT in evaluating the tabular summaries of the % differences in relation to MA-4 objectives.
4. model sensitivity to values and assumptions used in developing the simulations, particularly for Option B.

The results of this overall discussion were used to develop an AMT document to be provided to Drs. Baptista and Bottom to guide their efforts in completing the MA-4 analysis.

January 2014 Agenda Items

It was agreed that the January AMT meeting will occur on January 22 instead of the usual second Wednesday of the month to accommodate schedules and conflicts of participating members.

The following topics were identified as items for the January 2014 AMT meeting:

- Update on deer translocation project, Kathy Roberts, FWS
- Presentation of MA-4 modeling results in format requested by the AMT.

The November 2013 AMT meeting adjourned at 3:30 pm PDT.