

**Final
CRCIP AMT Quarterly Meeting Notes
October 12, 2011**

The CRCIP Adaptive Management Team held its quarterly scheduled meeting from 9:30 am – 3:50 pm on October 12, 2011 in the Summit Room at the Robert Duncan Plaza. The following AMT members, technical support personnel, and invited guests participated in person:

Jessica Stokke, USACE	Rick Mraz, WDOE	Gretchen Smith, USACE
Greg Smith, USACE	Robert Anderson, NMFS	Patty Snow, ODFW
Agnes Lut, ODEQ	Kathy Roberts, FWS	Steve Bartell, Cardno ENTRIX

The following topics were addressed by the AMT participants during the October 2011 quarterly meeting:

July 2011 AMT Meeting Notes

The time period for comment on the July 2011 AMT meeting notes was extended at the October meeting. Revisions to the July meeting notes will be provided prior to the January 2012 meeting. Once approved, the final version of the July meeting notes will be uploaded to the E2 CRCIP web site.

O&M and Project Mitigation Update

Jessica Stokke stated that the Columbia River Pilots had restricted ship drafts to 41 feet in the navigation channel since July because of critical shoaling which formed after high river flows. There are many areas which have shoaled back to less than 43-ft depths. Substantial maintenance dredging will be required. Work will be done first on CRM 35-75 to comply with the time frame protective of smelt. The USACE has requested an additional \$3 million to cover the costs of correcting the shoaling caused by the high river flows.

Jessica also provided an update on Project mitigation efforts underway on Cottonwood Island. All mowing and other preparation activities have been completed. Planting of native species of riparian vegetation remains scheduled for November 2011. Previous evaluation of spring planting recognized a conflict with use of the island as rookery by herons. Steps are underway to minimize any impacts of invasive species on the results of the island restoration. Reed-canary grass poses a substantial problem unless there is a persistent (i.e., evergreen) canopy cover. The Cottonwood Island mitigation project has been planned for a 50-y lifespan. Follow-up monitoring of similar vegetation restoration performed at the Chumbley site suggests that the overall restoration approach should be successful. A project completion report will be provided for the Cottonwood Island restoration.

Kathy Roberts added that there might be another attempt to introduce Columbia white-tailed deer to Cottonwood Island. Previous introduction had resulted in substantial mortality due to animals leaving the island and being killed by motor vehicles. Another introduction of deer may be attempted near the end of calendar year 2013 with \$200K funding from the USACE and matched by tribal trust funds. The island area that has been newly planted could be fenced to protect growing plants from grazing by the introduced deer.

AEM Workbook 3rd Quarter Review for 2011

The relevant components of the AEM Workbook were discussed at the October 2011 quarterly meeting.

MA-1 CORIE Analyses

Additional CORIE data had become available since the 2nd quarter summary prepared for the July 2011 AMT. Nevertheless, significant gaps in data remain for 2011 and the subsequent MA-1 analyses reflect missing data, mainly for the cbnc3 and dsdma stations. It was noted at the October meeting that the Desdemona (dsdma) station will likely remain out of commission, indefinitely, so a replacement station should be identified. The cbnc3 station has been moved to a new, nearby location and will apparently be providing temperature and salinity data for future analysis, following a 1-year gap in service.

Temperature

Additional water temperature data were available only through July 2011 for the tansy and grays stations. Data were not available for the cbnc3 station. Tansy July temperatures were warmer than average values, but were within the monthly decision criteria.

In contrast to tansy, daily water temperature data analyzed for the grays station indicated somewhat cooler than historical temperatures at this location for most of July. Values were well within the monthly decision criteria for the grays station.

Corresponding July temperature data were available for the woody station. Normalized temperature plots were developed for the tansy and grays stations. The additional data points determined for 2011 are well within the cluster of variability in the normalized data based on the pre-Project construction period for the tansy station. The data for the normalized grays station suggests some possible outlier values at lower temperatures.

The monthly summary of the additional July 2011 temperature data confirmed that, except for March, values were within the 20 – 80 percentile decision criteria for the tansy station. The March monthly value for tansy of 6.8 C was just slightly less than the 20th percentile decision criterion of 6.9 C. The average monthly value for July (17.2 C) was very near the 80th percentile value of 17.5 C. Monthly summaries for grays also showed

values that were within the 20 – 80 percentile criteria for January – March and May. Monthly temperature values were cooler in April and June, but still within the 5th – 20th percentile decision criteria. The July monthly average value was equal to the 20th percentile decision value (18.0 C).

The post-Project construction data available through July 2011 continue to suggest that the channel improvements did not have any measurable impact on water temperatures recorded at the MA-1 stations.

Salinity

Available salinity data for the 3rd quarter assessment were similarly limited to July 2011 for the tansy and grays stations. Salinity data were not available for the cbnc3 or the dsdma station. The July values for tansy indicated somewhat lower salinities with values mainly between the 5th and 20th percentile values early in the month. Daily values for the remainder of the month were 5th and 20th percentile decision criteria. Daily salinity values for July 2011 recorded at the grays station were approximately zero psu's (near detection limits of the device). The July monthly average salinity value for the tansy station (2.8 psu) was within the 5th and 20th percentile decision criteria. The July monthly value calculated for the grays station was effectively zero; the 5th percentile decision criterion is 0.3 psu for July.

The post-Project construction CORIE data available through July 2011 continue to suggest that the channel improvements did not result in any significant saltwater intrusions at the MA-1 stations.

Depth

Depth data were available for the grays station through July 2011. Daily median depths were well within the previously established AMT decision criteria. The monthly average calculated for July (1.8 m) was within the 20th and 80th percentile values of 0.9 and 2.5 m, respectively.

Extended Time-Series Plots

The AMT requested the generation of longer (i.e., multi-year) time series plots of temperature and salinity. These plots will make it easier to compare results across monitoring years. E2 will provide one or more example plots to be presented at the January 2012 meeting for review and comment by the AMT.

The results of the October 2011 MA-1 analysis have been posted in the MA-1 folder of the AEM Workbook on the E2 CRCIP web site.

MA-2 Construction and Disposal of Dredged Materials

Final CRCIP construction volumes have been provided under MA-2 and presented in the 2010 Annual CRCIP AEM Report. Future reporting of volumes and placement of dredged materials will be in accordance with regular annual O&M procedures.

MA-3 Crossline Surveys

Dave Michalsen (USACE) completed the analysis of the 2011 crossline surveys. The results were briefly presented at the October 2011 AMT meeting (Bartell). The AMT questioned the summary slide of the overall presentation which indicated both erosion and accretion for 2011 on the Washington side of the navigation channel for CRM 45.5. Examination of the survey results for CRM 45.5 confirmed accretion in shallower side slopes of the channel with some minor erosion at deeper areas on the Washington side of the channel. The survey results also showed some accretion on the Oregon side of CRM 45.5 in 2011, as correctly indicated on the MA-3 summary slide.

MA-4 Habitat Analyses

Discussion of completing the MA-4 requirements continued during the October AMT meeting. The focus remains on developing a consensus approach to resolution of MA-4 activities given the inability to conduct the work as described in the original BiOp. Previous AMT discussion of MA-4 considered a series of increasingly detailed analyses and modeling in relation to possible Project impacts on salmonid habitat. Per request, Steve Bartell prepared a “strawman proposal” that attempted to capture the main points of the MA-4 discussion at the July meeting. This proposal was circulated prior to the October meeting. The majority of the October AMT meeting focused on resolution of MA-6 and there was not sufficient time to discuss the MA-4 proposal. Therefore, the AMT agreed to give additional consideration to the proposal and renew the discussion at the January 2012 meeting. Bartell will revise the proposal based on review comments provided at the October meeting.

In addition to the modeling activities described in the proposal, AMT participants identified other specific models, including models of inundation and edge habitats that are summarized as survival benefits units (SBUs). Further MA-4 discussion addressed the opportunities for synergy with MA-6 actions to reduce stranding and simultaneously increase and/or improve shallow water habitat for salmonids. Greg Smith reminded the AMT that Section 536 of the WRDA provides authority for restoration actions that can improve shallow water habitat conditions.

The AMT agreed to devote at least half of the January 2012 meeting to further discussion of MA-4 requirements.

MA-5 Sediment Contaminants

No new information for MA-5 was presented at the October 2011 AMT meeting. Testing of navigation channel sediments for contaminants is next scheduled for 2018.

MA-6 Fish Stranding

The October 2011 AMT continued previous discussions concerning MA-6 with the intention of resolving outstanding issues concerning fish stranding in relation to channel modification. Greg Smith began the discussion by reviewing the conclusions and recommendations provided previously by Dr. Walter Pearson. Pearson participated in the pre-Project stranding studies and subsequently developed an empirical fish stranding model derived mainly from the results of these studies. Based on application and analysis of his stranding model, Pearson suggested field studies, modeling, and demonstration projects as possible alternatives to address MA-6 concerns. One key result of Pearson's stranding model was that the originally proposed post-Project stranding study design would lack sufficient statistical power to detect modeled changes in stranding. If a post-Project field study was performed, an essentially three-fold increase in sampling effort (i.e., 360-400 samples) and study duration (3 y) would be required to provide necessary statistical power. Some economy in design might result from focusing the study during the spring months, given the results of the pre-Project studies. Importantly, Pearson's model suggested that many combinations of vessel type and river conditions (i.e., flow) might reduce the probability of fish stranding; however, a small number of such combinations might increase stranding.

Following considerable discussion of the Pearson model, the AMT achieved consensus that there was insufficient justification for simply repeating the post-Project stranding studies as originally proposed. However, in the absence of field verification of the Pearson model, the AMT further suggested that Dr. Pearson's analysis and modeling of fish stranding undergo a rigorous external peer-review. The AMT agreed to base recommendations concerning resolution of MA-6 requirements on the results of such a review. In addition, the USACE will begin an analysis of existing data and previous studies to identify possible locations for beach nourishment or other management actions that might be undertaken to reduce stranding. Such actions are feasible if they can be accomplished within the Federal Standard (least-cost) for the O&M program (i.e. win-win for additional O&M material placement options and reduced risk of fish stranding).

The USACE indicated that it would undertake internal discussions to further address the MA-6 management actions and report progress at the January 2012 meeting.

January 2012 Agenda Items

The following were identified as items for the January 11, 2012 AMT meeting:

- Continued discussion of post-construction MA-4 activities
- Progress report on internal USACE discussions of MA-6

The October 2011 AMT meeting adjourned at 4:00 pm