

September 29, 2000 Report:
*Final MTRG Recommendations
For Responses to MTRG
Comments on the 1999 DRAFT
Data Report Received as of
September 12, 2000*

APPENDIX S

FINAL MTRG RECOMMENDATIONS FOR RESPONSES TO MTRG
COMMENTS ON THE 1999 SAVANNAH HARBOR DRAFT DATA REPORT
RECEIVED AS OF SEPTEMBER 12, 2000

Comments provided by the following MTRG members:

- 1) Wade Seyle, USACE
- 2) Jack Blanton, SKIO
- 3) William Bailey, USACE
- 4) James Martin, WES
- 5) Paul Conrads, USGS
- 6) David Sample, Law Engineering
- 7) Roy Burke III, GA EPD
- 8) Jim Greenfield, EPA

Please note that all comments shown in this document appear as they were received by Chris Ahern (cahern@atm-s2li.com) of ATM. Comments are presented in the order in which they were received.

Please also note: All MTRG comments on the Draft Data Report were discussed at the August 29, 2000 MTRG meeting in Atlanta, GA. A summary of MTRG recommended responses, an earlier draft of this document, was distributed electronically to the MTRG with the August 29, 2000 MTRG Meeting Status Report (Attachment D) on September 29, 2000. The MTRG Recommended Response document was discussed at the October 5, 2000 MTRG meeting. The MTRG recommended responses presented in this document are therefore the final MTRG recommendations for the 1999 Savannah Harbor Data Report. Each finalized MTRG recommended response is numbered and appears in a text box (such as the one around this note) beneath the MTRG comment.

COMMENT 1:

>>> "Seyle, Wade F SAS" <Wade.F.Seyle@sas02.usace.army.mil> 05/03/00 11:01AM
>>>

Chris - I reviewed the subject report and have the following comments. I also added a few since we talked.

Section 1 - Only 19.5 miles of the lower Savannah River are being considered for deepening as part of the expansion project, not 21.5.

Response 1: Agree, "21.5 miles" will be edited to "19.5 miles".

Section 3 - The first paragraph in Section 3.5 indicates that the data is plotted relative to the elevation of the pressure transducer. Consider including a table that lists the elevation of the transducers.

Response 2: The first paragraph of Section 3.5 will be replaced with the following paragraph:

“Depth data were collected by water quality instruments at Continuous Water Quality Stations. Continuous Water Quality Stations are described in Section 2.1.1. Stations where depth data was collected are referred to as tide stations and are shown in Figure 3-1a and 3-2b. The depth data for each tide stations are shown in Figures 3-3 through 3-33. Depth data for each tide station are relative to the water quality instrument pressure transducer. In general, the pressure transducers are less than 5 cm vertically from the water quality probes. Therefore, the pressure transducers were elevated at the same level as the water quality probes. The water quality probes were elevated at predetermined height of 1 meter from the river bottom.”

Section 4 - Consider adding a statement in the write-up that velocities with negative values indicate a flood tide (or upstream flow) and velocities with positive values indicate an ebb tide (or downstream flow).

Response 3: The following sentence will be added to the first paragraph after the first sentence:

“Figures 4-3 through 4-58 and Appendix G show positive values (red) indicating velocity in the ebb direction and negative (blue) values indicating velocity in the flood direction.”

Section 10 - Should be proof-read, there are several missing/extra words in sentences throughout the section. In Table 10-1, suggest indicate that the marsh exchange transects were taken at the mid-point of high and low tides.

Response 4: Agree, Section 10 was redistributed June 16, 2000 when the LTBOD data was available and was edited to address this comment.

Section 11 - The last sentence of Section 11.2 is confusing and difficult to understand how the adjustment was made to reference the GPA water surface elevation to NGVD using USGS water surface elevations. Perhaps a more detail could be provided to make the explanation clearer.

Response 5: Agree, Section 11 was redistributed June 16, 2000 when the Water Surface Elevation Data Comparison was complete. Section 11 was edited to address this comment.

Appendix L - Some of the depths appear to be actual depths and some (Sattion 26 and Houlihan Bridge) appear to be "cells". If this is the case, consider indicating all depths as a distance, if possible. Also, consider indicating that the depth unit is in meters (if that is the unit of measure). Houlihan is misspelled in this appendix.

Response 6: Depths listed in Appendix L are actual depths. Field crews positioned (raised and lowered) the instrument to get the approximate whole meter depth for 24-hour Station 01 and 03. The rationale for profiling to the whole meter is the place is the profile is easier to track through the profile.

Following are some general comments:

It may be appropriate to include the statement concerning the flow direction (see section 4 comment above) in the Introductory section since some of the appendices have the same plots and figures that show positive and negative flow values.

See Response 3

Consider stating that cross-section plots are oriented "looking upstream (or downstream)" instead of "south to north", etc. If some one reviewing the data is not familiar with the orientation of the river, they may not be able to tell which direction they are looking.

Response 7: The South to North orientation was chosen to make the format universal for all transects that might not have a easily distinguishable upstream or downstream direction.

Are all of the depths listed in the appendices in meters?

Response 8: All ATM generated figures in the Appendices are in meters. The figures will be edited to label the units more clearly.

Thanks, Wade

COMMENT 2:

>>> Jack Blanton <jack@skio.peachnet.edu> 05/25/00 12:01PM >>>
Chris, Seems like I forgot to forward you a list of recommendations for the Draft Data report on the Savannah River. This list represents requests for Harvey and me. We recommend that the next report provide:

1. time-series contour plots of the moored ADCP station data

Response 9: Time-series contour plots of the ADCP data will be included in the Modeling Report and compared to the modeling output time series. Contours will be velocities through the water column vs. time.

2. vertical profiles of salinity and temperature of the longitudinal station data

Response 10: Waterfall plots of the EPD profile data presented in Figures 9-10 to 9-17 will be also be presented in the form of Waterfall plots. The MTRG recommended the Waterfall plots of the EPD Data be included in the Final Data Report to better present and compare the data. The completed waterfall plots will be discussed with Jack Blanton for comment.

3. ASCII files of the plotted data

Response 11: The schedule of data availability to the MTRG is yet to be determined. ATM is presently analyzing the data and acknowledges MTRG members would like ASCII files of the data to perform their own analyses.

Enjoyed meeting you at the last meeting.

Regards, Jack

Jack Blanton (jack@skio.peachnet.edu)
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Savannah, GA 31411
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COMMENT 3:

>>> "Bailey, William G SAS" <William.G.Bailey@sas02.usace.army.mil> 07/06/00 03:44PM >>>

I am writing to concur with a discussion held during last month's MTRG meeting and present additional views on this issue. Please consider this an official comment on the Draft Data Report.

A discussion I started at the June MTRG meeting concerned the report's minimal discussion about the instream DO samples that were lost when the lab prematurely diluted them. The issue is mentioned in Appendix R, Section 3.2. However, I believe that discussion needs to be substantially expanded. Since we lost such a large percentage (44 %) of the instream BOD/CBOD samples collected that week, the report should identify what samples were lost.

The general issue expands to one of notifying the reader/reviewer that not all the data discussed in the SOW was actually obtained. The MTRG agreed to a sampling plan -- a scope of work. That plan was the result of thoughtful discussions between representatives of various organizations that led to

decisions on the information that would be needed to fully determine and describe the intricacies of the water quality conditions in the harbor. As a result of various factors, ATM was not able to produce data for all the samples identified in the SOW. There were variances from the approved sampling plan. At this point, ATM, GPA, the MTRG and subsequent reviewers will need to be confident that the data that was collected is sufficient to (1)adequately represent the variable water quality conditions in the harbor, and (2)allow adequate calibration of a hydrodynamic model that represents those variable conditions, thereby sufficiently fulfilling the intentions of the original SOW.

At the MTRG meeting I requested that the locations of the lost BOD/CBOD samples be identified. This would allow a determination of whether sufficient instream data exists in all portions of the harbor, especially critical ones, to fulfill the two needs expressed above. I continue to believe such a map would be helpful and I again request you include it in the Data Report.

One MTRG member suggested you prepare a table comparing the samples specified in the SOW with the data that is useable. I concur with that suggestion. I believe such a table would allow ready identification of any large discrepancies from the SOW which may indicate potential problems in fulfilling the original intent of the data collection effort.

Another MTRG member suggested you handle this issue in a separate chapter or appendix to the Data Report. That would certainly make it easy to determine exactly what data was obtained from your substantial effort. If you feel that the information can be included in an existing chapter, that would be fine, but it would appear that the issue of variances from the SOW would extend beyond the individual Appendices J through R where data are presented.

The data collection effort was a LARGE and complicated task. From my understanding, ATM did well in performing that task. Most of the reasons that not all the data was obtained were not controllable by your firm. I believe the comments above will assist you in closing the loop in a professional manner on this extensive data collection effort.

William Bailey
Corps Of Engineers

Response 12: The MTRG decided that a sub-section should be added to Section 1 describing the data collection effort. Section 1.5 was added to the Draft Data in response to this decision. Section 1.5 is titled, Results of the Summer 1999 Data Collection Effort. Table 1.1 describes the specific incidents where the Data Collection Effort Scope did not comply with the Scope of Work (SOW).

COMMENT 4:

>>> "Martin, James L WES" <martinj@wes.army.mil> 07/17/00 01:29PM >>>
Review of Draft Report: Hydrodynamic and Water Quality Monitoring of the
Lower Savannah River Estuary, August 2 through October 9, 1999 (Sections on
CD's dated April 27 and June 19, 2000)

James L. Martin
ERDC WES

General comments:

I found this to be a very well prepared and presented summary of the data collection effort and data results. The only comment of significance I have is with regards the discussion at the past MTRG meeting and the recommendations by William Bailey, CESAS regarding lost samples and deviations from the accepted sample plan. I concur that additional text (and/or tables) is required identifying deviations from the original sample plan. While much of this material is in the text, the deviations should be summarized in a single section so that impact of these deviations can be addressed point by point in the subsequent data analysis report. Otherwise, I offer only the following minor specific comments.

See Response 12

Specific Comments

1. Does everyone concur that it will be necessary to have a color printer? Otherwise a number of the figures will not be readable in hard-copy.

Response 13: ATM distributed the Draft Data Report in pdf format on Compact Disk so every MTRG member could view the color images on the computer screen instead of printing the hardcopies of the color images.

2. It would help if the date of preparation were given on all documents prior to final to aid in identifying revisions (as was done on some tables; and if there are to be any further revisions).

Response 14: The next distribution of the Data Report will be the final and therefore will not be added to page. However in future reports to the MTRG, revision dates will be added to the documents. Revision dates will allow the MTRG to better keep track of what version they are commenting on.

3. References to updates (such as "data have been updated" or "will be updated" should be removed from the final report.

Response 15: Agree, the references described will be removed.

4. Section 3.6, 3rd paragraph" change "on after Hurricane" to "after Hurricane"

Response 16: Agree, the edit will be completed for the Final Data Report.

5. Section 3.6.2, 1st paragraph change "measurement and deploy the" to "measurement and deployment of"

Response 17: Agree, the edit will be completed for the Final Data Report.

6. Insert figure for 3-30

Response 18: Figure 3-30 will be inserted for the Final Data Report.

7. Change Figure numbering from "3-01" and "4-01" to "3-1" and "4-1" for consistency with other sections

Response 19: Figure numbers will be made consistent in future reports.

8. Figure 4-2 is missing

Response 20: Figure 4-2 will be inserted for the Final Data Report.

9. Section 5.4, 1st paragraph: change "equilibrium of dissolve oxygen" to "equilibrium of dissolved oxygen"

Response 21: Agree, the edit will be completed for the Final Data Report.

10. Section 5.5 to 5.7: complete section

Response 22: Section 5.5 to 5.7 will be completed for the Final Data Report. It is important to note that the reference "Compare to 1997 Data" does not mean a detailed comparison. A general reference will be made to the 1997 Data in each of these sections. A comparison of the 1997 data and 1999 will be performed in future analyses.

11. Section 7.4: Could the City's data be included in plots for these Stations? How about a comparison with the salinity signal?

Response 23: Comparison of the City of Savannah's chloride data to the summer 1999 Continuous Chloride Data Collection will be addressed in the Chloride Modeling Report. The reference to a comparison of the Chloride Data to the summer 1999 Continuous Chloride Data will be edited to refer to the Chloride Modeling Report.

12. Section 8.3.2: Reference to request for raw dissolved oxygen data no longer in revised section 8.3.1.

Response 24: Reference to request for raw dissolved oxygen data removed because the requested data was received and presented in the June 16th distribution of the Draft Data Report. A historical account of the MTRG requests to the laboratories was provided in section 8.3.1.

13. Section 9.5: complete section

Response 25: Example Cross-Sectional Distribution plots will be presented in Section 9 for the Final Data Report. Raw Cross-Sectional Profiling Data is presented in Appendix O.

14. Change legend on profile plots for DO so that lower numbers are in red

Response 26: Legend for Figures 9-8, 9-10, 9-12, 9-14 and 9-16 will be edited such that lower values of DO are in red.

15. Page 10.3, second paragraph , 1st sentence (revised chapter): change "10-gallon" to "10-gallon bucket"

Response 27: The edit described will be completed for the Final Data Report.

16. Section 11.3: complete salinity comparisons once USGS data become available

Response 28: USGS Conductivity Data for the requested Savannah River Stations were still not available as of September 15, 2000. Suzie Grams of USGS in Atlanta promised to contact ATM when the data became available.

17. Appendix B: Station GPA-15 and others following, correct alignment at end of paragraph

Response 29: Alignment of paragraph bottom on pg B-12, in Appendix B will be corrected for the Final Data Report.

18. Appendix J: The revised (6/19) version only contained only the week 1 water chemistry samples (with the revised CBOD-5 data).

Response 30: Weeks 1 through 7 were inadvertently left out of Appendix J.pdf distributed on June 19, 2000. Appendix J will include all weeks in the Final Data Report.

19. Appendix J: Explain/correct highlights on week 7 water chemistry data

Response 31: Highlights on Week 7 water chemistry columns labeled TKN-N, Total P, and Orthophosphate will be removed.

20. Appendix J: It would help if the station order in the sample description were the same for each table. Missing data could be indicated in this way.

Response 32: Order of Appendix J water chemistry sample data is based on sample number to allow for easier tracking of data. Where samples were not collected due to extenuating circumstances, missing station numbers will be referred to. Where samples were collected and improperly diluted by the laboratory (see Section 8 or Appendix R or Section 1.5) sample number will be referred to.

21. Appendix P: Missing from original and revised CD

Response 33: Appendix P will be included for the Final Data Report Distribution.

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COMMENT 5:

>>> <pconrads@usgs.gov> 07/19/00 11:19AM >>>

Chris,

Sorry for the delay getting review comments to you on the Savannah Harbor Data Report. Better late than never. I grouped all my comments together by sections and did not break out the editorial and technical comments. I believe the editorial comments will be fairly obvious. Give me a call if you have any questions or comments.

Paul

(See attached file: Savannah Harbor Data Report Review.doc)

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ATTACHED FILE: Savannah Harbor Data Report Review.doc

Section 1

Show ALL geographical references mentioned in the text in Figure 1-1. Include Fort Pulaski, South Channel, Fort Jackson, Front River, Back River, Savannah National Wildlife Refuge, Abercorn Creek, and Raccoon Creek.

Response 34: Features mentioned are included on other Section Figures where referenced. The purpose of this figure is to orientate readers to the Savannah area. Therefore Figure 1-1 will not be relabeled.

Delete the last two sentences on page 1-1. This information is repeat in Section 1-4, which is the more appropriate place for it.

Response 35: Agree, the last two sentences will be edited as to not repeat the sentences in Section 1-4.

The list on page 1-3 can be improved to help the reader get a better understanding of the monitoring program and the structure of the report. Consider breaking the list into two groups of bullets—continuous monitoring and field sampling. Add a reference to the appropriate Section and figure in the report at the end of each bullet.

Response 36: Agree, the list on page 1-3 will be edited to better distinguish between continuous monitoring and water sampling. References to sections will also be added for the Final Data Report.

Section 2

Section 2.1.1 states “a total of 24 locations”. On page 1-3 states “21 stations”. Make sure the number of stations is consistent.

Response 37: The reference in Section 2.1.1 refers to the total number of Continuous In-stream Water Quality Data Collection Stations in the summer 1999 Data Collection Effort. The reference on page 1-3 refers to the total number Water Quality Data Collection Stations at which YSI instruments were deployed. Stations where bottom and surface instruments were deployed are counted as one Stations. The list on page 1-3 will be edited in response to a separate comment, see Response 36, the text will be further edited to further distinguish between the “21 Station locations” and “24 Station locations” references.

Fourth paragraph of Section 2.1.4, last sentence is incomplete.

Response 38: The fourth paragraph in Section 2.1.4 will be edited to the following:
“The 24-hour stations were distributed throughout the Lower Savannah River System to capture longitudinal characteristics over a 24-hour period. The 24-hour sampling locations were selected to be on the Front River downstream of Fort Jackson, on the Front River near the City of Savannah, upstream of the Navigation Project and on the Little Back River at the Fish and Wildlife Dock. The 24-hour sampling event is described in detail in Section 9.2.”

Page 2-6, last set of bullets includes “24-hour Dynamic Event”. Should “Event” be plural?

Response 39: The reference “24-hour Dynamic Event” is correct because only one 24-hour event was performed. The “24-hour Dynamic Event was described in Task Statement SEGP312, which is located in Appendix A.

Figures 2-3 through 2-8 not listed under “List of Figures” on page v.

Response 40: Figures 2-3 through 2-8 were inadvertently not included in the List of Figures and will be added for the Final Data Report.

Table 2-2, No.22—space in MacroCTD

Response 41: The description for the Water Quality Meter listed on Lines 21 and 23 in Table 2-2 will be edited to “Macro CTD”, as it appears in Line 22.

Section 3

Figures 3-23b and 3-25 need an explanation of measured points and best-fit line. Need update to Figure 3-30.

Response 42: A description of the best-fit lines in Figures 3-23b and 3-24b will be added to Section 3.6. Figure 3-30 will be added for the Final Data Report.

Section 4

I counted 30 ADCP transect locations on Figures 4-1a and 4-1b and 29 locations are listed in Section 1, page 1-3.

Response 43: The reference to “29 ADCP Transect locations” in Section 1, page 1-3 will be edited to “30 ADCP Transect locations”.

The ADCP, due to the limitations of the instrument, does not measure all the water in the cross section. The depth of the instrument and the blanking distance is discussed in Section 4-4. Are estimates made of the amount of flow in the top 1.5 meters of the cross section? The ADCP is also limited by the depth of water that it can profile, usually 1 to 2 meters. Were estimates made at the edge of water to account for the flow where it is too shallow for the ADCP to measure? Moving bed can be a problem making transects. What were the field procedures used to check for moving bed? Appendix F has a good summary of QA/QC field procedures but discussion of these issues would be appropriate in the text of Section 4.

Response 44: Reported discharge data was determined by the RD Instrument’s TRANSECT program. The program and the flow calculating algorithms are discussed in Appendix F. References to Appendix F and the how the discharge values were calculated by the RD Instruments TRANSECT program will be added to Section 4.3.

Section 5

Update the historical references in the section.

See Response 22

Page 5-4, third paragraph, second sentence – *dissolved* instead of dissolve.

Response 45: The second sentence in third paragraph on Page 5-4 will be edited as follows:
“By allowing the tap water to sit in the container overnight and/or throughout the day for at least 4 hours, the dissolved oxygen in the container would reach an equilibrium of dissolved oxygen concentration.”

I was unclear of how the QA/QC data was used in finalizing the data. For example, if field measurements by a monitor showed the dissolved-oxygen concentration to be 4.8 mg/L and the monitor was recording 5.0 mg/L, was a 0.2 mg/L correction (or shift) applied to the data to compensate for the drift? A description of the post-deployment procedure in the text would be helpful. Appendix H gives a YSI example but it is difficult to tell if the same procedure was used.

Response 46: A discussion of the QA/QC procedures used to determine what data to ultimately present will be detailed in Section 1.5 of the Final Data Report. Examples of each parameter will be given and general QA/QC guidelines described.

Were the dissolved-oxygen data corrected for specific conductance internally in the instrument or as a post-processing routine?

Response 47: Dissolved Oxygen readings were collected by YSI instruments. These instruments correct DO for salinity internally, a parameter recorded simultaneously during the 1999 Data Collection Event. References to the internal salinity correction for DO will be added to section 5.0 text for the Final Data Report.

Was salinity computed internally in the monitor or as a post-processing routine? What algorithm was used for the computation?

Response 48: Salinity is reported by the instrument. Salinity is calculated from conductivity and temperature readings using the algorithms found in *Standard Methods for the Examination of Water and Wastewater* (1989 ed.).

Section 6

In Section 6.1, change “USGS No. 02198500” to “USGS Gaging Station No. 02198500”.

Section 6.3, second sentence—station should be plural.

Page 6-2, first complete sentence—give the units of measure for “approximately 45 above MHW”.

Response 49: Section 6.1 will be edited as suggested. In Section 6.3, “station” will be edited to “stations”. On page 6-2, “approximately 45 above MHW” will be edited to “approximately 45 ft above MHW”.

Section 7 – No comments

Section 8

Make sure oxygen uptake values are computed from the raw data are included in the report. (Section 8.3.2, page 8 -6, paragraph 2)

Response 50: Raw laboratory analysis results are presented in figures 8-3 and 8-4 for BOD-5 and CBOD-5 respectively.

Reference *Standard Methods* and the version number in Tables 2 and 3.

Response 51: As mentioned in Response 48, references to *Standard Methods for the Examination of Water and Wastewater* (1989 ed.) will be added to the report text.

In the Figures 8-3 through 8-9, where reporting limits of the labs are given, identify on the plots the lab that was responsible for the analysis.

Response 52: The laboratories that performed the analysis presented in Figures 8-3 through 8-9 are listed in Table 8-1. As suggested, references to Savannah Laboratories and Analytical Environmental Services will be added to Figures 8-3 through 8-9. References to the laboratories and the weeks of the analysis will be made in the figure title block.

When comparing the historical STORET data, indicate in the text (and perhaps in a footnote to the tables) that it is a comparison of all the historical data and not just the August and September or summer data from the database.

Response 53: Tables 8-4 through 8-9 list the dates of historical data compared to the 1999 In-Stream Water Chemistry Data. As suggested by the above comment, a statement will be added to Section 8.3 describing both the time of record for the historical STORET data and the 1999 In-Stream Water Chemistry Data.

Section 9

Section 9.2.3, second paragraph—Dissolved Oxygen should be lowercase.

Response 54: The phrase “Dissolved Oxygen” will be edited to “dissolved oxygen”.

Make sure to include Section 9.5.

See comment 25

Section 10

Page 10-3—first paragraph states that the travel time from the USACE depot is approximately 20 minutes. Unclear as to the destination and the significance of the statement.

Response 55: The last sentence in the first paragraph on page 10-3 will be edited to the following:
“Travel time from the USACE Engineers Depot to LTBOD-01, for example, is 20 minutes. Therefore the field crew had to depart from the Engineers Depot more than 20-minutes before the predicted high slack event at LTBOD-01.”

There is a lot of description of the messenger sampler (Van Doren Sampler). Most of the other monitoring equipment is shown in the appendix. May want to consider including a picture/drawing of the messenger sampler.

Response 56: A sketch of a messenger sampler (Van Doren Sampler will be included in Appendix C. The sketch will be referenced in Section 10.

The last Law Engineering Report did not have a date, only a month. Probably should be “September 22,1999 through January __, 2000.”

Response 57: The title of the report is *Long Term Biochemical Oxygen Demand Test, Marsh Exchange Samples, Savannah Georgia, September 1999 through January 2000. May 2000*. As stated in Table 10-1, the Marsh Exchange Transects were collected September 22, 1999.

Section 11

1. Grid lines and legends did not come through in the second version.

Response 58: Gridlines appear lightly on printed versions of the pdf format. The MTRG determined including a copy of the most recent *Adobe Acrobat Reader* program with the Final Report on compact disk would be helpful.

COMMENT 6

>>> "Sample,David" <DSample@kennesaw.Lawco.com> 08/04/00 04:16PM >>>
Chris, I apologize for the lateness of these comments. Here they are:

1. Distribution of BOD and COD: The frequency component (lower half) of figures 8-3 and figures 8-4 might be made more meaningful if a reference continuous fitted distribution was included for comparison. For figure 8-3, the normal, or log normal distribution may be appropriate, for figure 8-4, an exponential distribution may be appropriate.

Response 59: The requested analyses of the BOD and CBOD data will be addressed in the Dissolved Oxygen Modeling Report. The purpose of the Data Report is to present the data collected during the Summer 1999 Data Collection Event.

2. Appearance of negative salinity: Figures 9-2 and 9-3 exhibit a graphic anomaly in which salinity appears to dip below zero due to the "smoothing" function, both from river mile 20 to river mile 22. Since the values actually are zero, or close to it, is it possible to turn off the "smoothing" function between river mile 20 and river mile 22 on these figures?

Response 60: The purpose of the best-fit line is to demonstrate general trends in the data. The MTRG concluded that the best-fit line for Figures 9-2 and 9-3 should be "less smoothed" for the Final Data Report.

3. Supersaturated dissolved oxygen: In figures 9-28 (transect 1) and 9-32 (transect 3) oxygen values obviously well above saturation values (correcting for salinity) are shown. Both of these are transects are along a slough near the Middle River. For interpretation of these values, water temperature and/or oxygen saturation and/or deficit values would also be necessary. In general, dissolved oxygen is a very important parameter of concern in the Savannah River system, and needs to be monitored and/or reported in this context to enhance the effectiveness of the dataset being collected.

Response 61: The raw data for the Marsh Exchange Transects, including temperature and percent saturation, is shown in Appendix M. Data from Transects 1 and 3 were collected the same day, September 9, 1999. Primary productivity could account for the super-saturated dissolved oxygen and the values for other marsh transects just below saturation. However, after reviewing the instrument calibration sheets for September 9, 1999 the high dissolved oxygen data may be the result of a bad dissolved oxygen calibration. Since the high dissolved oxygen concentration cannot be definitively explained, the dissolved oxygen data in Figures 9-28 and 9-32 will not be presented in the Final Data Report. A reference to the removed dissolved oxygen data will be added to Section 9.3.3. A dissolved oxygen deficit analysis will be presented in the Dissolved Oxygen Modeling Report.

4. Large difference between high slack and low slack LTBOD values: The values for LTBOD for weeks 2 exhibit a marked difference between the high slack and the low slack values for stations LTBOD-01, LTBOD-03, and LTBOD-04 that is not exhibited in LTBOD-02, LTBOD-05, and LTBOD-06 (figure 10-9). Looking ahead to week 4, this trend is not repeated for LTBOD-04 and is markedly dampened for LTBOD-03 (figure 10-10). Looking further to week 6, only LTBOD-01 exhibits a marked difference between the high and low slack LTBOD values. Since the trend seems to be independent of the river distance, I suggest a review of the sampling logs in particular for week 2 and LTBOD-04. Possibly some resuspended "fluff" from bottom sediments may have entered the sample erroneously.

Response 62: The MTRG Response to this comment has two parts, the creation of the LTBOD Discussion Group and observations.

1) The MTRG concluded that a separate discussion would be formed to discuss the LTBOD Data. The LTBOD discussion group is open to all MTRG members all of received the LTBOD Data and the analysis program to obtain their own results. The goal for forming the LTBOD discussion group is to discuss observed trends and finalize kinetic values for each LTBOD station. The LTBOD discussion group will meet October 4, 2000 in Atlanta, the day before the MTRG meeting.

2) Neither laboratory notes nor field notes indicate that any samples contained large amounts settled material either during the laboratory analysis or during the sample collection. High LTBOD values for week 2 samples at LTBOD-03 and LTBOD-04 also had high BOD-5 values, thereby confirming the LTBOD laboratory results.

5. River Mileage: It would be helpful to record the river mile on the figures 10-4 through 10-16 so that comparisons could be made to other historical information.

Response 63: Table 10-3 will be added to Section 10 to list river miles for each LTBOD Station and Marsh Exchange Transect Location.

6. LTBOD graphs mislabeled: Figures 10-2 through 10-7 state in their title block that they are for LTBOD01. This appears to be mislabeled, as it states elsewhere on the figure that the figure is for LTBOD-01 through LTBOD-06.

Response 64: Figures 10-3 through 10-7 are mislabeled. All figures titles are shown as follows: "Figure 10-X, LTBOD Test Results: BOD and NBOD at LTBOD01 for Weeks 2, 4 and 6". "LTBOD01" will be edited to correspond with the LTBOD station listed on the plots in Figures 10-3 through 10-7.

COMMENT 7

>>> "Roy Burke" <Roy_Burke@mail.dnr.state.ga.us> 08/31/00 11:25AM >>>
Good Morning Chris,

I have examined your Savannah Harbor Draft Data Report and concur with comments made by others on the MTGR committee with respect to additions and corrections. As a representative of the Georgia Environmental Protection Division my response appears below:

"The 1999 field data gathered by ATM, and yourself, comprise the largest and most comprehensive model calibration data set that I have ever seen. The quality assurance and quality control measures employed were rigorous and consistent throughout, even during difficult times. I am therefore confident that the available 1999 data are appropriate for subsequent model development to support the difficult decisions that lie ahead.

Given the enormous and unwieldy volume of field data on hand, the Draft Data Report does an excellent job of describing and presenting this information in a friendly and easy to use format. I therefore congratulate you and ATM for doing a fine job with this difficult effort. There are no deficiencies in the Draft Report, detectable to me, that would detract from a most commendable effort."

COMMENT 8

>>> <Greenfield.Jim@epamail.epa.gov> 09/12/00 06:55AM >>>

The data collected on the Savannah Harbor during 1997 and 1999 is an excellent data set , along with the existing historic data, for model development and are appropriate for subsequent model development to support the difficult decisions that lie ahead.

The data report, when accompanied by the data text files will be a good compilation of the data ATM collected and great historic record.

Good job.

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