

**MEMORANDUM FOR RECORD**

**SUBJECT:** Savannah Harbor Expansion Project; SMART meeting

**DATE:** 28 February 2002

**LOCATION:** EPA, Atlanta

**PARTICIPANTS:**

Jim Greenfield	EPA
Paul Conrads	USGS
William Bailey	USACE-SAS
Dr. Sung-Chan Kim	USACE-ERDC
Danny Mendelsohn	ASA
Bo Ellis	ATM
Matt Goodrich	ATM
Chris Ahern	ATM

**MEETING HIGHLIGHTS:**

1. Danny Mendelsohn (ASA/ATM) gave an update of his efforts on calibration of the Hydro model.
  - (A) He said he still had a problem with water surface elevation at Clyo because the model would not allow him to raise the bottom elevation the 12-13 foot distance the river actually has climbed by that point. This boundary problem elevation offset is completely resolved by GPA-17 (i.e. GPA-17 surface elevation is correct and no effect from GPA-17 south). Therefore, this should not affect the model's usefulness in making predictions below I-95.
  - (B) He is continuing to make minor adjustments to the model to increase its performance.
  - (C) For the calibration period (1999), he will use the time periods when data exists for the offshore boundary.
  - (D) He will display the model's performance statistics by river mile.
  - (E) He will show time series comparisons for the entire duration of the model run.
  - (F) The Approval Package should contain information on the convergence testing, as well as the sensitivity items listed at the end of the Expectations Document.
  - (G) The comparisons to the Expectations Document will be based on results from the model or – if needed – from any transfer function.
  - (H) For the Approval Package, the Federal agencies will email to the Corps what they want to see in the package. The agencies will want a hard copy of the Approval Package and an updated version of the model. The packages will be sent directly to the agencies to speed their review.

2. Matt Goodrich (ATM) then discussed the transfer function that he was developing.
  - (A) He is using a state-spaces model, which is different from a neural network.
  - (B) ATM will develop and apply a transfer function whenever a model does not reasonably meet the Expectations Document.
  - (C) ATM will need to identify how it will develop data between the stations. They may use linear interpolation.
  - (D) The Approval Package should include the performance both without the transfer function and with the function, to demonstrate the improvements that the additional work (through this technique) provide.
  
3. Chris Ahern (ATM) then gave an update of their efforts on the Dissolved Oxygen model.
  - (A) D.O. in Savannah Harbor is influenced by:
    - Temperature
    - Freshwater flows (as measured at Clyo)
    - Tidal amplitude (Spring / Neap)
    - Marsh loading & Point source loading
    - Primary productivity
  - (B) Neaps are periods of greatest D.O. sag because of the reduced mixing.
  - (C) GPA-6 shows the largest difference in D.O. saturation between the surface and the bottom.
  - (D) During the data collection, Chris noticed that the Secci Depth was greater by about 1/3 meter if they used the shaded side of the boat. He theorized that on the sunny side of the boat, the suspended clays refracted the light more, reducing its penetration. ATM did use the standard procedure (sunny side) when they collected the data for this project.
  
4. ATM will pursue the following schedule:
 

Submit Approval Package	end of March
First look at D.O. model	end of April
Transfer of initial D.O. model to EPA	end of April
MTRG meeting	April 30 <sup>th</sup> 10 AM
SMART meeting	May 1 9 AM
Letters from Federal agencies	end of May (60 day review)
Completion of D.O. model (Submission of Approval Package)	end of June (3 months)

William Bailey  
PD-E