

MEMORANDUM FOR RECORD

SUBJECT: Savannah Harbor Expansion Project;
Summary of 13 November Interagency Meeting on Evaluation of
Fisheries

1. Attendees:
USFWS: Ed Eudaly
NMFS: Prescott Brownell
SCDNR: Mark Collins
GADNR-WRD: Matt Thomas and Ted Will
GADNR-CRD: Pat Geer
COE: Bill Bailey
ATM/GPA: Bridget Callahan
GA Coop: Cecil Jennings and Richard Weyers
2. The Agenda is attached.
3. The following is a summary of the discussion and does not include all the information that was presented or all comments made during the discussion.
4. I explained the purpose of this interagency meeting: To discuss how information from the HSI models could be combined with the Hydrodynamic Model to identify areas of acceptable habitat.
5. We started with **Striped Bass**. We discussed the broad changes we had made as the Application was refined – how we eliminated transport due to uncertainties in the Hydro Model; how the percentages were based primarily on literature, and that we had several site-specific studies to use. We concluded that the Version 6.0 dated September 18, 2002 of the Striped Bass Application is acceptable to identify project impacts.

We also discussed having the Hydro model identify minimum D.O. values at 0.1 mile intervals. This information would not be part of the habitat suitability criteria, but may provide useful information to understand aquatic habitats in the estuary.
6. We then discussed **Shortnose sturgeon** and Atlantic sturgeon. Mark informed us of what he had gathered from he and Pres' review of the HIS and other knowledge they had of the species. The existing models do not help much with this estuarine site. The summer habitat appears to be deep areas (15 to 20 feet deep) with 0 to 1 ppt salinity. Larval transport into estuaries was observed with D.O. < 3 ppm and salinity > 0.1 ppt. Sturgeon larvae have been collected in the Savannah estuary by UGA. Juveniles use areas with salinity 3 to 9 in the winter and 0.1 to 0.2 in the summer.

The habitat evaluation should be performed on both winter and summer conditions. We believe that substrate and velocity can be eliminated from consideration. Velocity is primarily an issue during spawning. The habitat of concern is along the bottom -- either the bottom layer of the model or the bottom 6 feet of the water column. Mark and Pres would continue to work together to document and define the habitat definitions for use with the Hydrodynamic Model.

7. We then discussed **Red drum**. Mark said this species is probably not a good one for application of the Hydro model. He thought the ecological problems that this species has do not relate to water quality. He stated that tidal creeks are a nursery habitat, so providing access to more creeks could be potential mitigation option. He stated that there are concerns about potential impacts to spawning aggregations during construction of the Expansion Project. He said that a dredging window near the mouth of the river may be necessary. We agreed that no further work will be done with this species to link the habitats to the Hydrodynamic Model.

8. We discussed **Spotted seatrout**. Mark said this species has similar issues as Red drum and will likely not be a good candidate for application of the Hydro model. As with Red drum, nursery habitat is a limiting factor. He envisioned no concerns about a dredging window with this species. We agreed that no further work will be done with this species to link the habitats to the Hydrodynamic Model.

9. We discussed **Blue crab**. Pat said that spawning occurs near the mouth of the river and eggs and larvae are transported offshore. Salinity is important, with acceptable levels generally being <12 ppt. Early juveniles use areas with salinity <5 ppt. Declines in populations have occurred recently, with the drought-induced salinity intrusion being a significant factor. Blue crab move further upriver as the salinity moves up the estuary. This species is likely to not be too sensitive to the expected incremental project-induced changes. We agreed that no further work will be done with this species to link the habitats to the Hydrodynamic Model.

10. We discussed **Shrimp**. Pat said that White shrimp move offshore in April and May to spawn. The amount of tidally-flooded vegetation is important. This species is likely to not be too sensitive to the expected incremental project-induced changes. We agreed that no further work will be done with this species to link the habitats to the Hydrodynamic Model.

11. We discussed **Southern flounder**. Bridget said that flounder appeared to be most sensitive to D.O., appearing to need > 4.5 ppm. Larvae need salinity of 0 to 5 ppt and occur during the months of January and February. The critical time for adults would be the summer months, June/July/August. We agreed that substrate was not critical in the analysis of flounder habitat at this site since the constant shoaling would cover any

naturally hard river bottom material. The group agreed to continue work on developing a model application for this species. The application should have two components: larvae and adults. Bridget will continue to refine the habitat requirement write-up for this species.

We will consider adding a second separate step to this analysis to include the value of tidally marsh along the river. This would allow us to capture the value of the tidal marshes to several estuarine-dependent species.

12. We discussed **American shad**. Pres said that from studies conducted in northern areas, eggs and larvae need D.O. > 5 ppm. D.O. levels of 5 ppm were found to be lethal to outmigrating juveniles. Shad are found near the bottom during the day and near the top at night. Juveniles would be of most interest in this estuarine project area. Larvae are probably found further upstream, out of the immediate project area. More information is needed about two items: (1) the residence time of this species in the Savannah River estuary, and (2) how lower natural D.O. levels in southern estuaries affects their presence in the harbor area. Pres would summarize what he had found. Bridget will pursue additional information on the two issues.

13. One side comment made was that oysters and Spartina form much of the base of a properly-functioning estuarine ecosystem. If/when one becomes available, the resource agencies would like a GIS file containing a recent aerial photograph or satellite image showing the harbor and estuary. I concluded by stating that I would call another meeting in about a month (before December 20th).

William Bailey
Environmental Resources Branch

SAVANNAH HARBOR EXPANSION PROJECT

INTERAGENCY FISHERIES COORDINATION

NOVEMBER 13, 2002

AGENDA

INTRODUCTIONS

OVERVIEW OF PREVIOUS MEETING

- Completed & Ongoing Studies
- Species of Concern
- Impact Evaluation Techniques

REVIEW PURPOSE OF THE MEETING

- Discuss information from HSI models for identification of areas of acceptable habitat

SPECIES TO CONCENTRATE ON FOR IMPACT ASSESSMENT

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| • Striped Bass | USFWS (Ed Eudaly) |
| • Shortnose sturgeon | SCDNR (Mark Collins) &
NMFS (Pres Brownell) |
| • Red Drum | SCDNR (Priscilla Wendt – coordinator) |
| • Spotted Seatrout | SCDNR(Priscilla Wendt – coordinator) |
| • Shrimp | GADNR (Pat Geer) |
| • Blue Crab | GADNR (Pat Geer) |
| • Southern Flounder | ATM (Bridget Callahan) |
| • American shad | NMFS (Pres Brownell) |

WRAP-UP

- Next Meeting