

**Striped Bass Committee Report**  
**Savannah Harbor Expansion Project**  
November 14, 2000

**Mission Statement:**

The Striped Bass Committee was established as set forth in the Operating Guidelines of the Stakeholders Evaluation Group (SEG), the mission of the Committee shall be:

- (1) Identify the scientific data needed to determine impacts on striped bass which may result from expansion of the Savannah Harbor;
- (2) Define the scope of scientific data needed to determine impacts of the Savannah Harbor Expansion Project on striped bass;
- (3) Review scientific study results and propose criteria for use with,
  - a. incremental impact analysis,
  - b. cumulative impact analysis,
  - c. hydrodynamic modeling;
- (4) Cooperate with the U.S. Army Corps of Engineers, Section 1135 Back River Restoration Project Team to assure the Savannah Harbor Expansion Project will not preclude restoration of striped bass spawning habitat in Back River;
- (5) Evaluate potential mitigation alternatives and options for post construction monitoring.

**Updates:**

- 1135 Back River Restoration Project: *General Purpose*** - determine causes for Striped Bass not returning to the population size which once existed prior to the tide gate
  - ▶ 30 June 2000- Final Report submitted by the Georgia Cooperative Fish and Wildlife Unit (GA-COOP)- "Assessment of the reproductive status of striped bass, *Morone saxatilis*, in the Savannah River Estuary".
  - ▶ 30 September 2000- Final Report submitted by GA-COOP - "Spatial Assessment of current and historic spawning sites of striped bass, *Morone saxatilis*, in the Savannah River Estuary".
  - ▶ 13 November 2000 (\*Cancelled)- ATM Model Report Review- "Evaluation of Existing and Historic Velocities and Salinities in Back River for Striped Bass Restoration Study".

- **GPA funded striped bass research- GA-COOP- "Assessment of spawning sites and reproductive status of striped bass, *Morone saxatilis*, in the Savannah River Estuary"**

**Task 1:** Striped bass eggs and larvae, gear detection thresholds, and sampling efficiency

**Purposes of this task are three-fold:**

- 1) Validate egg detection thresholds for standardized egg collection methods and calibrate sampling efficiency with known abundances of gelatin beads.
- 2) Quantify the spatial and temporal egg abundances in the SRE.
- 3) Estimate the total egg production in the SRE.

**Task 2:** Maturity scheduling and ultrasonic imaging of adult striped bass

**Purpose:** Establish a maturity schedule and fecundity estimate for the adult female population of striped bass in the Savannah River.

### **General Findings:**

#### *Striped bass eggs and larvae*

- Egg sampling began on the 7 March 2000 and ended on 12 May 2000.
- A total of 923 striped bass eggs were collected, which is greater than total numbers eggs reported in each of the past five sampling years.
- 91% of the eggs were collected in Front River sampling stations

#### *Gear detection thresholds and sampling efficiency*

- Standardized egg collection methods seem sufficient in detecting striped bass spawning events.
- Sampling gear detection threshold (DT) for the SRE (only considering beads released in the Front River) in 1999 was approximately 0.0005 percent. Meaning, if one gelatin bead or egg was collected then approximately 200,000 beads or eggs must be at large in the SRE. This year we increased the number of egg surrogates released, and DT has remained similar (1 egg collected = about 170,000 eggs at large). Given that female striped bass just reaching maturity (~ 700 mm total length, TL) has approximately 300,000 eggs, our current methods for assessing the recovery of striped bass population are adequate.
- Weather conditions (i.e., drought conditions) did not allow us to test gear detection thresholds and egg distribution pathways in higher discharge conditions this fall. Implications of this are not yet fully understood.

#### *Maturity scheduling and ultrasonic imaging of adult striped bass*

- A total of 28 female striped bass >600 mm were used for ultrasound imaging and maturation.
- Many female striped bass collected were large (> 900 mm TL); providing the much needed fecundity estimates (number of eggs) for these big female spawners.

**Conclusion:** Data has been processed in a timely manner and a final report will be issued the 31 of December 2000. Whether additional test with the egg surrogates under higher discharges will be needed is undetermined.