

# F.A.Q.s



## Savannah Harbor ReOxygenation Demonstration Project

### 1. Why does the Georgia Ports Authority want to deepen the river?

More than two-thirds of the ships that called on the Georgia Ports Authority in 2006 are too large to call at any time with a full load. These ships are restricted to moving during higher tides which results in delays and additional costs to shipping. The Georgia Ports Authority needs to deepen the channel to more efficiently accommodate the current ships, as well as the larger ones that are under construction.

### 2. Why is dissolved oxygen (DO) important?

Oxygen is a basic biological need for the aquatic species that live in the Savannah River, just as it is for humans and other terrestrial life.

### 3. Why does the deepening further lower the dissolved oxygen?

As water depth increases in the deepened channel, the rate of top-to-bottom turbulent mixing is reduced and the associated net rate of DO replenishment from the overlying atmosphere also decreases. The result of this reduced DO replenishment is reduced DO levels in the river, particularly along the bottom of the channel.

### 4. Has this technology been applied before?

Yes, it has been used at Logan Martin Dam, Alabama; Camanche Reservoir, California; as well as other locations.

### 5. How long does the project last?

The demonstration project will be operating from mid-July through mid-September 2007. The equipment will be removed from the barge at that time.



## Issues



## Solutions

# Issues

⇒ The Savannah Harbor is on Georgia's Section 303(d) list for impaired waters because it does not always comply to the Dissolved Oxygen (DO) criteria designated Coastal Fishing use classification.



⇒ The US Environmental Protection Agency (EPA) issued a Total Maximum Daily Load (TMDL) for Dissolved Oxygen for the harbor in November 2006 to address the recurring low DO levels. The TMDL establishes the allowable natural and man-made pollutant loadings in the river, which impact the DO levels in the river. In conjunction with the TMDL process, the state of Georgia is working with the EPA to establish a new DO standard.

⇒ The Georgia Ports Authority has proposed to deepen the navigation channel up to an additional six feet to more efficiently accommodate the larger vessels that are currently calling at the Port of Savannah, as well as those which are under construction worldwide.

⇒ The proposed harbor deepening will further reduce the level of dissolved oxygen in the river. This problem is of particular concern during the critical season from about mid June through mid October when river temperatures are higher and lower river flows are more prevalent.

# Solutions

## Speece Cone

The shape of the cone is key to the technology which keeps the pure oxygen in contact with the river water long enough for the added oxygen to dissolve.



Water quality meters are in the area to monitor the reoxygenation of the Savannah River



ReOxygenation Demonstration Project  
Duration: Summer 2007

## How it Works:

Two stainless steel Speece Cones use Savannah River water and oxygen to ReOxygenate the deeper section of the Savannah River during the critical season (July through October).

Speece Cones are made of stainless steel and weigh 20,000 pounds empty and 74,000 pounds with water.

## Project Setup

