



## relief m heat sight

l Weather Service  
f high temperatures  
he next week

### CRISP

60  
@savannahnow.com

weather is supposed to be  
at burns noses, reddens  
soaks underarms.  
going to be a hot one.  
nal Weather Service on  
ssued a heat advisory for  
and its vicinity, warn-  
he daytime heat index is  
to top 110 degrees for at  
est of this week.  
mperatures are expected  
9 degrees. Combined with  
umidity, it's supposed to  
10, said John Quagliari-  
orologist at the National  
ervice in Charleston, S.C.  
xpect to get any relief  
, either. Thunderstorms  
sed to be sporadic at best  
with only hot and muggy

SEE HEAT, PAGE 4A

### CALLY HOT

ata for the last 50 years  
. 6 has been historically  
Monday was particularly  
e heat index reached 107

Max	Min	Mean
88	72	80
93	72	83
92	73	83
97	78	88
93	72	83
96	75	86

State Climatologist's office. Data  
cted at the Savannah/Hilton Head  
International Airport.

## ole board vs out Davis nency bid

### KUTCH

0336  
@savannahnow.com

te of Troy Anthony Davis  
to the Georgia Supreme  
Monday after state parole



Hunter McRae/Savannah Morning News

Godwin employees Robert Magdin from Bridgeport, N.J., and Troy Ward from Charleston, S.C., weld the support structure for return lines for the ReOxygenation Demonstration Project on Thursday.

# Oxygen trial key to deeper harbor

Experiment aims to learn if 'bubbler' method can alleviate effects of future deepening projects

BY MARY LANDERS

912-652-0337  
mary.landerson@savannahnow.com

Think of them as giant aquarium  
bubblers, although they look more  
like stainless steel tepees.

A pair of two-story cones sitting on  
a barge across from the Hyatt Regency  
Hotel on Bay Street began injecting  
oxygen into Savannah's harbor during  
the weekend.

At a cost of about \$3 million, the  
Georgia Ports Authority is trying to find  
out whether these contraptions can undo  
some of the damage to the harbor that  
would be caused by a proposed deepening  
from 42 feet to a maximum of 48 feet.

Speece cones, named after inventor  
Dick Speece, have been used elsewhere  
since the early 1990s, but Savannah's  
harbor presents a new challenge.

Agencies such as the federal Environ-  
mental Protection Agency and the Geor-  
gia Environmental Protection Division,  
which must assess plans to deepen the  
harbor, wanted evidence that the cones  
could work here, said Hope Moorer,

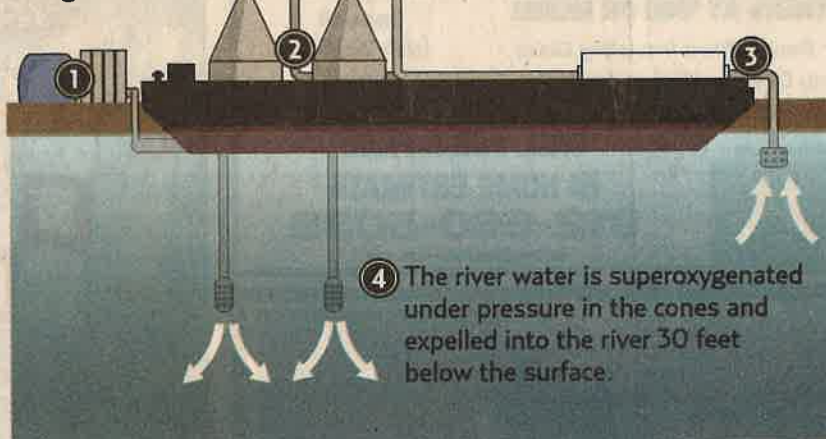
SEE OXYGEN, PAGE 4A

## RIVER REOXYGENATION

The Georgia Ports Authority is testing a system that could be used to  
alleviate some of the environmental damage to the harbor from a  
proposed deepening.

### HOW IT WORKS

- 1 30,000 pounds per day of liquid oxygen is vaporized and converted into gas on shore.
- 2 The gas is then pumped into the cones.
- 3 Meanwhile, four pumps each pull in 4,000 gallons of river water per minute.



Sources: Georgia Ports Authority;  
MACTEC Engineering and Consulting Inc.

Terrence Horan/Savannah Morning News

### Get more online.

Go to [savannahnow.com](http://savannahnow.com) to get  
news updates throughout  
your day.



## COASTAL EMPIRE

### Guilty plea in porn ca

Former St. Andrew's School music  
teacher Joshua Evans pleads guilty  
a charge of attempted receipt of ch  
pornography and is allowed to rem  
free on bond until sentencing. 5A

## WAR IN IRAQ

### Ga. soldier killed in l

The Department of Defense said t  
that Spc. Cristian Rojas-Gallego, 2  
of Loganville, and two other soldie  
died Aug. 2 in Baghdad, Iraq, of w  
suffered when a roadside bomb  
detonated near their vehicle. They  
assigned to the 2nd Battalion, 3rd  
Infantry Regiment, 3rd Brigade, 2n  
Infantry Division, Fort Lewis, Wasl  
Source: U.S. Department of

## SPORTS



### Heat alters practice

The Windsor Forest High School fo  
team has met its match before the  
even has begun. A heat index in tri  
digits forces a workout in helmets  
T-shirts. Dressing down in the hea  
new rule for the high school gridir

## CORRECTION

The Carolina Avenue bridge over  
Dasher Branch in Effingham Cou  
is considered structurally deficient  
according to Georgia Department  
of Transportation records. A repo  
Saturday on Page 1A misidentified  
bridge.

CONTACT US: If you spot an err

# FROM THE COVER

## Oxygen

FROM PAGE 1A

program manager for navigation improvement projects.

"The resource agencies had a lot of questions about how these units would operate in an estuarine system, and so the Georgia Ports Authority board decided it would be a good idea to test them out and understand how they'd operate in the Savannah River, especially with the tidal conditions, the freshwater/saltwater interface and the rapid currents."

### Why are cones needed?

As the harbor is deepened, it gets more difficult for life-giving oxygen to filter down from the surface. Previous deepenings, along with wastewater discharges into the river, have drastically lowered the harbor's oxygen content.

The situation grows critical in

the summer months when sweltering temperatures result in the water losing its ability to retain as much oxygen and, typically, less water is flowing from upstream.

Each of the cones can inject up to 15,000 pounds of oxygen a day into the river.

Together, that should be more than enough to compensate for the estimated 20,000 pounds a day needed to make up for a future harbor deepening.

Even so, what's expected is only a small improvement overall.

"While 30,000 pounds sounds like a lot of oxygen, it is a very large river," said Larry Neal, senior principal environmental engineer and vice president for MACTEC Engineering and Consulting Inc., the firm hired to install and manage the project.

The demonstration system will operate for six weeks. It works by pumping river water into the cones, squeezing oxygen into that water under high pressure, then shooting the super-oxygenated water back into the river about 30 feet below the surface.

Don't expect to see bubbles. The gas will be dissolved in water.

And don't worry about the fish. A screen around the intake pipes prevents fish from being sucked into the pumps.

MACTEC engineers spent July collecting baseline data about the river's oxygen content, along with other parameters. They'll continue to keep tabs on the river during the next six weeks, collecting data every 15 minutes from 21 monitors stationed at various depths along the harbor and from additional boat-based sampling in the channel.

### Future dredging

The U.S. Army Corps of Engineers will be monitoring, too, with an opportunistic eye.

The corps cannot dredge the channel when the oxygen level falls below regulatory standards, as often happens in July and August. But this year, there likely will be an added oxygen hit from the cones.

"It could have an immediate

benefit to the corps to be able to go in and dredge wherever the oxygen is improved," said William Bailey, physical scientist with the corps.

The corps also is looking at the cones as a way to improve the quality of the harbor, although it cannot make progress on that without a local sponsor to help with funding.

If they are installed permanently, the cones likely would be partially buried along the river bank to make them more efficient. They also could be screened to make their appearance more acceptable, Neal said.

Congress conditionally authorized the deepening of the Savannah harbor in 1999 but made it contingent upon completion of an Environmental Impact Study, a final mitigation plan and an incremental analysis of the channel depths from 42 to 48 feet.

The results of the current study will figure into those items, which are scheduled to be completed by April 2008.