

# 2011's worst offenses against Georgia's Water



#12

## Coosa River:

### Coal-fired Power Plant's Withdrawal and Heated Water Discharge

In the late summer, when residents turn up their air conditioners and the Coosa River is at its lowest, Georgia Power Co.'s Plant Hammond burns coal to keep residents cool—and withdraws up to 590 million gallons a day from the river. During times of drought when river flows dip as low as 460 million gallons a day, the river literally flows upstream at the plant's intake pipes. Used to cool the coal-plant's operating system, the water is discharged back to the river at higher temperatures that degrade water quality.

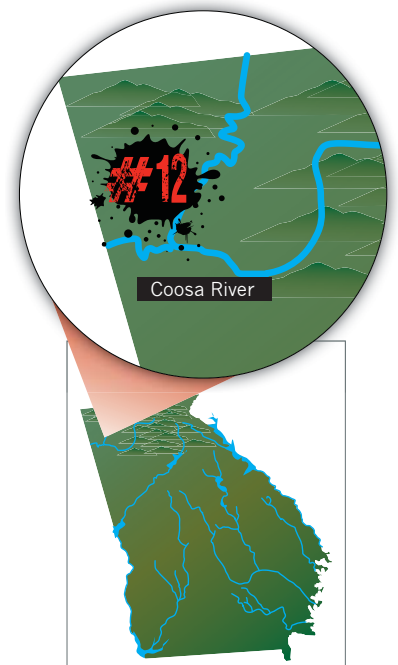
#### The River:

The Coosa River in Georgia feeds Weiss Lake in Alabama, a 30,200-acre Alabama Power reservoir that is the economic calling-card for Centre, Alabama and Cherokee County. Tourism associated with the lake is the county's primary industry, with an economic impact of \$250 million annually. More than 450,000 people visit the lake each year and some 4,132 lake-related jobs generate more than \$36 million in wages. The Upper Coosa River Basin is considered North America's most biologically-diverse river basin with 30 endemic aquatic species, and the Coosa River in particular is unique because it is one of only a handful of locations in the country where land-locked striped bass still spawn.

#### The Dirt:

Power generating facilities are the biggest users of water in Georgia, and Georgia Power's Plant Hammond is one of a handful of coal-fired power plants in the state that still rely on out-dated "once-through cooling systems." These systems require massive amounts of water from our rivers to cool the plant's operating system. While no water is "consumed" in the process, after coursing through the plant, the water is discharged to the river at an elevated temperature.

The 590 MGD withdrawal and discharge at Plant Hammond is a double whammy for Coosa River fish. The plant's intake structure sucks many fish and their eggs to their death while the warm water discharge deprives surviving fish of oxygen. Built in 1954 long before the Clean Water Act, the facility's water intake structure





has never been modified to minimize the number of fish and fish eggs that die as a result of the withdrawal. At least four other power plants built prior to the Clean Water Act operate in a similar manner, including Georgia Power's Plant Mitchell in Albany on the Flint River, Plant McManus in Brunswick on the Turtle River, Plant Kraft in Port Wentworth on the Savannah River and Plant McIntosh in Rincon on the Savannah River.

At 7Q10 flows (the daily river flow considered "safe" by Georgia's Environmental Protection Division (EPD)), the withdrawal at the plant amounts to 65 percent of the river's flow. During severe droughts in 2007 and 2008, Georgia Power installed portable cooling towers at the facility and/or curtailed production to meet temperature limits. Fishermen tell stories of the river literally flowing upstream at the plant's intake and tell of bait fish dying quickly in the oxygen-depleted water below the plant's thermal discharge.

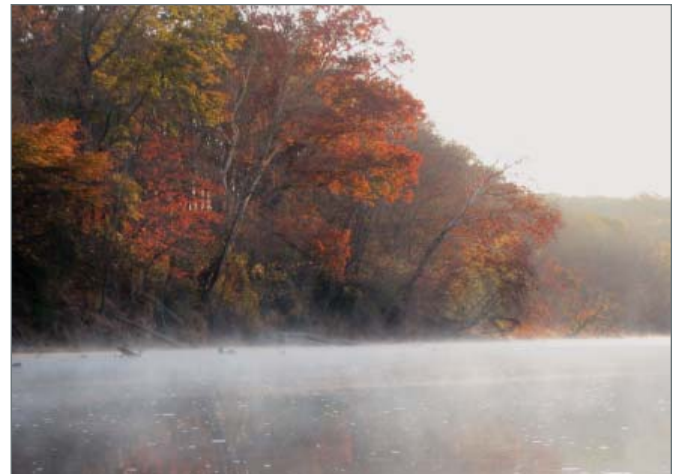
In 2003, EPD developed dissolved oxygen pollution limits or "Total Maximum Daily Loads" for the Coosa that would require Georgia Power to eliminate their warm water discharge at Plant Hammond, but objections to the TMDL from Georgia Power and other industries, as well as questions about the monitoring data used to develop the TMDL, led EPD to initiate a multi-year monitoring and modeling project. The outcome of that work and a new TMDL is expected from EPD in Summer 2012.

#### **What Must Be Done:**

EPD's new TMDL for dissolved oxygen on the Coosa River should require Georgia Power to invest in an alternative cooling system for Plant Hammond. This investment will reduce the amount of water needed to operate the plant and improve oxygen levels in the Coosa below the plant's discharge.

Georgia Power estimates that switching to a closed-loop system like those employed at modern plants would reduce water withdrawals to 30 MGD with as much as 15 MGD consumed in the process—a dramatic change from 590 MGD and one that would result in reduced thermal impact and improved oxygen levels, especially at critical low flow periods.

Furthermore, new U.S. Environmental Protection Agency rules on cooling water intake structures are expected to be finalized in summer 2012. These new rules should require power plant operators to retrofit their intakes to reduce the number of fish and fish eggs killed during water withdrawals from the river.



#### **For more Information Contact:**

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