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DEC: Billions of fish killed

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Power plants destroy smaller species, plant life, state finds in river study

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The use of Hudson River water to cool generators at three major power plants is degrading the river's ecosystem by killing billions of fish and plants each year and pouring tremendous amounts of hot water into the tidal estuary, according to a new state environmental analysis.

The analysis, prepared by the state Department of Environmental Conservation, found that existing systems used to keep aquatic life out of the plants' huge **cooling** systems are effective at removing large fish and debris, but "do very little" to stop smaller fish and plant life from being sucked into the plants and baked to death during the power generation process.

For five species of fish - American shad, bay anchovy, river herring, striped bass and white perch - data provided to the state by the three plants found that more than 2 billion were sucked into the **cooling** systems and at least 1.45 billion died in the heated water. The state concluded that nearly all the fish that survived the actual **cooling** process died shortly after being pumped back into the river.

While the power plants' greatest harm is to the small aquatic life sucked inside the systems, the state concluded that hot water discarded by the three plants had a greater impact than previously believed - affecting the entire river at the discharge site rather than a narrow column of water - and may lead to the wholesale disappearance of some species.

"Rainbow smelt may be disappearing from some reaches of the Hudson because of thermal discharges from electric generating stations," the report said. "Such a trend, if continued, could impact other species."

Officials from the plants disputed the state's conclusions and said their operations were not harming the river to the degree found in the report.

The analysis is a critical part of the controversial discharge-permit proceedings under way for the nuclear power plants at Indian Point in Buchanan, the Bowline Point Steam Electric Generating Station in West Haverstraw and the Roseton Generating Station in Newburgh. All three sites are required to have state permits in order to discharge their heated water into the river, but the process has been the subject of a decade of litigation. The plants could be forced to cease using the river as their primary **cooling** source and switch to alternative **cooling** methods, which energy officials say would be economically prohibitive.

The plants' effect on the river is due to the enormous volumes of water they use.

Indian Point, Roseton and Bowline are the first-, sixth- and seventh-largest users of water in the state, respectively, taking in 1.69 trillion gallons annually. That is twice the volume of water in the entire 153-mile estuary from the Battery in Manhattan to Troy, and 3.5 times the amount of water used annually by 9 million residents in New York City, Westchester and Putnam counties. The plants return a total of 220 trillion BTUs of waste heat to the river, an amount equal to the heat generated by the daily detonation of a 15-kiloton nuclear bomb - the type that leveled Hiroshima - approximately every two hours.

"This is an outrage. It's like having a giant Cuisinart for the river," said David Gordon of the environmental group Riverkeeper. "This is the last major industrial impact on the river which has gone unabated since the imposition of the Clean Water Act. They're just killing everything in it."

The plants' discharge permits expired in 1987, but the state DEC has allowed them to continue operating while it studies the effect of their **cooling** operations on the river's environment. In June 2002, in response to a lawsuit filed by Assemblyman Richard Brodsky, D-Greenburgh, and the environmental groups Riverkeeper and Scenic Hudson, state Supreme Court Justice Thomas Keegan ordered the DEC to complete the evaluation process and issue a decision on the permit applications by Nov. 14.

"The study proves Indian Point is a mass murderer of the Hudson River," Brodsky said. "It is disgraceful that we had to go to court to force this to closure. It affects the economy of the Hudson Valley. It affects the ability of people to enjoy the river and it is another way that Indian Point is an economic millstone around the neck of the community."

A spokesman for Entergy Nuclear Northeast, which owns Indian Point, said the Hudson River ecosystem was healthy despite the huge losses.

"We have been studying the river for 25 years and spent 50 million dollars studying fish populations in the river," spokesman Jim Steets said, "and we have seen no impact from our operation on the Hudson River fish populations. The Hudson River is one of the richest bodies of water in the North Atlantic. It's teeming with fish. So the impact, based on our studies, is negligible."

Louis Friscoe, a Bowline spokesman, said the plant has been developing more effective screening systems to keep small aquatic life out of the **cooling** pool and its current operations have had little negative effect on the river. "The fish populations have come back," Friscoe said. "The striped bass populations have increased and you even have sport fishing that you haven't had in the last 15 to 20 years."

The three plants use a system called "**once through**" **cooling** in which water is drained directly from the river, pumped **through** heat exchangers to cool the superheated steam used to turn giant electric generating turbines, then pumped back into the river at temperatures up to 35 degrees higher than the river's temperature. The state report rejected the contention by the three plants that the death of billions of baby plant and animal organisms caused by the nuclear plants was no different from normal factors that prevent a majority of eggs and seeds from reaching adulthood.

"The plants are taking tons of living material from the food chain," said Warren Reiss of Scenic Hudson, "and returning tons of decaying material to the ecosystem. What should have grown up to be an adult or become food for a number of

organisms so they could grow up is no longer in the food pyramid."
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