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Seagulls perch on eroding piers while boaters fish in salt marshes in Jamaica Bay, Queens.

Salt marshes surrounding JFK airport are vanishing

■ Study says the wetlands may disappear entirely in the coming decades

By KATHERINE ROTH
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The salt marshes near John F. Kennedy Airport are vanishing at an increasing rate and may disappear entirely in the coming decades, a study says. The wetlands are an important nesting place for migratory birds and help protect neighboring residential areas from flooding during storm surges.

"It's a very drastic change," said Vivian Gornitz, a geologist at Columbia University and NASA who conducted a study of the marshes in the city's Jamaica Bay with ecologist Ellen Hartig, now at the Federal Emergency Management Agency.

The study, conducted over several years and completed in 2000, was published in the current issue of Wetlands, the Journal of the Society of Wetland Scientists.

Using historical aerial photographs of some of the larger marsh islands, it found that 51 percent of the marshes had disappeared between 1924 and 1999, with 38 percent of that loss occurring since 1974. Some of the smaller islands have lost up to 78 percent of their vegetation since 1974, it said.

The marshes are literally

"drowning in place" from sediment starvation, according to Hartig, the lead author. But researchers held out hope that, if begun soon, restorative efforts may stabilize the marshes.

Efforts to stop the trend would likely include the placement of thin layers of sediment on the marsh surface, Hartig said.

"These efforts have had success in other wetlands," she said.

Hartig urged the National Park Service to adopt a hands-on approach in managing the wetlands. In the past, she said, the thinking was that simply leaving the wetlands alone would be sufficient to ensure that they would thrive.

Although the study did not set out to examine the cause of the accelerated marsh loss, researchers said the major cause of vanishing wetlands in Queens is the disruption of the flow of water and the spread of sediment upon which marsh grasses depend.

They suspect that the problem is partly due to dredging of the bay for shipping channels and to provide landfill for the expansion of JFK airport, which was built on wetlands before laws were put in place to protect them. The dredged channels act as a trap for sediment, preventing it from washing into the bay after storms, they said.

Researchers said that urban development closing off stream channels around the bay, waves from recreational boat traffic and heavy grazing by waterfowl are also contributing to the erosion.

"Further research is urgently needed to establish the causes of marsh loss," Gornitz said.

Billy G. Garrett, superintendent of the Gateway National Recreation Area's Jamaica Bay Unit, said yesterday that since the study came out, the Park Service has taken a three-pronged approach to the situation.

"We're trying to identify the causes that may be contributing to the loss of wetlands, we're trying to protect and stabilize existing wetlands area and, third, to help establish new areas of wetlands," Garrett said. "We're going to do a study of all the different variables before we take any action in terms of preservation or attempt restoration. ... It's not at all clear that we would be able to address the cause."

He said sea level changes may be to blame, as could the possibility of toxic materials in the bay, bird behavior or mussel growth.

"I would hope within a year, if the money is there and we can get the environmental clearances, that we would be able to step up the preservation work," he said.

Although shrinking, the Jamaica Bay wetlands remain one of the largest coastal ecosystems in the state. Since 1972, the remaining marsh islands and Jamaica Bay Wildlife Refuge have been under federal protection as part of the Gateway National Recreation Area, administered by the National Park Service.

Along with the Atlantic flyway for migratory birds, the salt marshes are prime nesting and feeding sites for many shorebirds, including ducks and geese.

On the Net: Wetlands journal: www.sws.org/wetlands; Gateway National Recreation Area: www.nps.gov/gate