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New Study: Jamaica Bay Marsh Islands Disappearing Much Faster Than Previously Anticipated

Alarming New Mapping Predicts Almost All Marsh Islands Could Be Gone in as Few as Five Years

NEW YORK (August 2nd, 2007) - The Jamaica Bay Watershed Protection Plan Advisory Committee (Committee) today released a new study, prepared with the National Park Service's Gateway National Recreation Area (GNRA), that documents the accelerating rate of marsh loss in Jamaica Bay's signature salt marsh islands. This study updates a 2001 New York State Department of Environmental Conservation (DEC) mapping analysis, which had been used to project the marsh islands could vanish by 2024. Using 2005 data for key representative marshes, this study suggests the new timeframe to be as few as five years – over a decade sooner. This study comes two months before the New York City Department of Environmental Protection (DEP) releases its final watershed protection plan for Jamaica Bay.

"We should not let Jamaica Bay disappear without a fight," said Brad Sewell, senior attorney for the Natural Resources Defense Council and co-chair of the Committee, a panel working with the DEP to develop the protection plan for the bay. "For years we've been treating Jamaica Bay like a dumping ground, when it should be respected as the vital ecological resource it is – home to various endangered species, a protective flood barrier to countless New York homes and businesses, essential to many of North America's migrating bird species, and the only unit in the national park system accessible by subway."

The report calculated that by 2003, just 37 percent of the tidal wetlands that had been present on Jamaica Bay's marsh islands in 1951 remained and that from 2003-2005 four of the five case study marshes examined lost 54 more acres, almost thirty percent of the tidal wetlands they had in 2003 (187 acres). Although only two years of data are available to represent current trends, and loss rates vary among the different islands, if the 2003-2005 observed loss for the five marshes is extrapolated to the entire bay (and assuming no intervention), the bay's marsh islands would be projected to all disappear by 2012, just five years from now.

Together with mapping experts at GNRA, the Committee examined the current status of wetland erosion to determine whether the rate of wetland loss had continued to accelerate since the DEC report. For this study, GNRA utilized comprehensive 2003 satellite imagery and aerial photography and new 2005 aerial photography for select marshes from the DEC.

"Jamaica Bay is at a crossroads, and the time to act is now," said Doug Adamo, Chief of the Division of Natural Resources at GNRA and co-chair of the Committee. "We hope this new study will offer greater clarity on what's at stake."

To counteract the marsh decline, the study offers 4 key recommendations: 1.) marsh island restoration should be expanded in order to balance out marsh loss, 2.) there should be an immediate increase in the

scientific effort to pinpoint the exact causes of the marsh loss, 3.) the creation of a task force, convened by all levels of government that will ensure the necessary actions to address the marsh loss crisis get taken, including providing adequate funding and full inter-agency coordination, and 4.) the city should implement steps to dramatically reduce nitrogen discharges into the bay, one of the possible causes of the marsh loss and for which a solution – additional treatment – is understood.

Jamaica Bay's more than 25,000 acres of open water, marsh, meadowland, beaches, dunes and forests provide critical habitat for more than 80 fish species and many threatened and endangered species, such as the peregrine falcon and the Atlantic Ridley sea turtle, and is a key stopover along the Eastern Flyway migration route and is visited by nearly 20 percent of the continent's species of birds every year. The wetlands also serve as flood protection and shoreline erosion control for bay's surrounding homes and businesses in Brooklyn and Queens. More than five hundred thousand New Yorkers live in the Jamaica Bay watershed/sewershed, and the bay is a popular fishing and boating area.

The exact cause or causes of the marsh loss remain unknown. The city's four sewage treatment plants discharge more than 250 million gallons of treated wastewater containing thirty to forty thousand pounds of nitrogen into the bay daily. It is possible that the nitrogen pollution sets off a chemical reaction whereby the salt marsh root structures fail and the islands break apart. Experts believe a significant reduction in nitrogen would have other benefits for the bay as well, as current levels are causing low dissolved oxygen levels in parts of the bay, algal blooms and poor water clarity.

Another possible cause for marsh loss is an ongoing decrease in the amount of sediment deposits reaching the marshes. Increased development along the bay's perimeter and the deep dredging that has occurred in sections of the bay could be acting as barriers to ocean sediment that needs to travel into the bay to reach and sustain the marshes. Changes in movement and circulation of Jamaica Bay's waters and ongoing construction around the bay could also play a role. While the marshes have historically been able to keep pace with sea level rise, global warming will bring increased storms, flooding and higher sea levels that the marsh islands are unlikely to survive.

The Jamaica Bay Watershed Protection Plan Advisory Committee was created in 2005, when the City of New York enacted Local Law 71, requiring DEP to develop a watershed protection plan for the bay and establishing the seven-member committee to advise DEP and the City Council in developing goals and recommendations for the Jamaica Bay watershed protection plan. This study supplements recommendations previously submitted by the Committee, which can be found at http://nbii-nin.ciesin.columbia.edu/jamaicabay/jbwppac/advisorycommittee.html. The DEP's final plan will be released in October.