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Solid Waste in the Aftermath of Hurricane Maria

On September 20, Category 4 Hurricane Maria whipped Puerto Rico with winds traveling at 155 miles per hour, just two miles per hour short of a Category 5 storm.¹ Over the next three days, catastrophic flash flooding, storm surges and rainfall – up to 35 inches in some places – inundated the island.² According to Puerto Rico’s governor, damage from Hurricane Maria is estimated at \$95 billion, or 1.5 times the territory’s annual gross national product.³ Puerto Rico is home to 3.4 million Americans, who now face water and food shortages, massive clean-up efforts, and the need to rebuild their electrical system.⁴

Hurricane Maria Clean-Up Will Strain Waste Facilities

In Puerto Rico, damage from Hurricane Maria created 1.1 million cubic yards of debris – enough to fill 330 Olympic-sized swimming pools.⁵ With a history of serious landfill challenges, the island’s capacity to safely handle this volume of solid waste is doubtful. In 2016, the EPA told a congressional task force that 70 percent of Puerto Rico’s 29 landfills were violating environmental standards, and most were past capacity.⁶ Following assessments that began in 2002, the EPA ordered 12 of the landfills to close, claiming they posed a serious risk to public health.⁷ As of December 2016, the EPA reported that only Aguadilla had closed completely.⁸

Debris Headed to Non-Compliant Landfills

As of October 12, Puerto Rico’s Environmental Quality Board was accepting wet debris at the following landfills: Vega Baja, Toa Baja, Peñuelas Valley, Humacao, Hormigueros, Ecosystems, Cabo Rojo, Ponce and Salinas.⁹

The EPA ordered the Vega Baja landfill to close by 2010 because it violated environmental standards.¹⁰ The Toa Baja landfill also agreed to stop receiving waste by 2010, after inspections in 2003 and 2006 revealed “substantial deficiencies” including toxic substances leaching offsite, hazardous gas emissions and towers of garbage piled on unstable slopes with homes less than 200 feet away.¹¹ In October 2016, a local environmental group alleged that operators of the Toa Baja landfill “scrambled to move toxic water and sludge from the area” before an Illinois congressman arrived on site.¹² Even before the hurricane, nearby residents complained of landfill gas fumes and rampant mosquito breeding as contaminated water collected in man-made ponds.¹³

Furthermore, the Vega Baja landfill was designated as a Superfund site in 1999.¹⁴ Soil samples tested positive for lead, while chloroform, chromium and manganese contaminated the groundwater.¹⁵ Though remedial construction was completed in September 2016, the site is still undergoing final review and remains on the Superfund list.¹⁶

Floods Can Release Toxic Chemicals in Landfills

Heavy rain and flooding at a landfill can carry toxics in the landfill offsite, contaminating nearby water bodies and soils. It is still unknown if landfills in Puerto Rico flooded. But reports suggest that some may have, and in that case pollutants from these landfills may have escaped the dumps' boundaries. Eighteen to 20 inches of rain fell on the coastal town of Humacao and its landfill during Hurricane Maria.¹⁷ Power company Applied Energy Systems (AES) dumped 350,000 tons of toxic coal ash per year at the Humacao landfill before the Puerto Rican government banned coal ash dumping in July 2017.¹⁸

The Vega Baja facility, a Superfund site, is located near the Cibuco River.¹⁹ If floodwaters breached the landfill, it is possible that toxics spread offsite, contaminating nearby land and water bodies.²⁰

The town of Toa Baja, near one of the deficient landfills, suffered from heavy flooding due to Hurricane Maria after local officials opened five gates of a major dam to prevent damage, allowing water to rush into town from a nearby reservoir.²¹

Sewage Spills Are Widespread, Contaminating Waterways

In addition to leached toxics, raw sewage is contaminating rivers, lakes and standing floodwater across Puerto Rico.

Twenty of Puerto Rico's 51 sewage treatment plants were reported as non-operational on October 16.²² According to the EPA, "raw sewage continues to be released into waterways and is expected to continue" until power is restored to the plants.²³ And nearly a month after Hurricane Maria first made landfall, 82 percent of the island is still without power.²⁴

Hurricane Damage at Superfund Sites Still Unknown

The EPA has begun testing Superfund sites along with oil and chemical facilities to see if Hurricane Maria led to off-site contamination.²⁵ Amid reports of people trying to drink water from wells near hazardous waste sites, the EPA is testing water samples in Dorado, Caguas and San German.²⁶ All assessments are ongoing.

Media outlet CNN conducted its own tests of the three wells near the Dorado site.²⁷ All three sites tested safe to drink – two wells had no sign of industrial contamination, while one contained only trace amounts of PCE.²⁸

For more information and resources, please visit: www.uspirg.org or www.frontiergroup.org

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