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What caused Princeton to become an island?

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Staff photo by Frank Wojciechowski

James Taylor of the West Windsor Township sewer department surveys a giant sinkhole on Wallace Road near Alexander Road on Thursday, one of the results of Sunday's nor'easter.

Huge Stony Brook-Millstone drainage area converges here

When Stony Brook and the Millstone River spilled over their banks this week inundating roads throughout the area, it turned Princeton into a virtual island, leaving many drivers stranded on the only remaining access, Washington Road, waiting to get in or out.

The widespread flooding that crippled much of New Jersey earlier this week, according to township officials, was the result of an "unusual rainfall" that hovered over the central New Jersey region for hours upon hours on Sunday and early Monday. Locally, officials said, it was the accumulation of drainage from surrounding municipalities that caused both Stony Brook and the Millstone River to swell.

"Generally, it was a very unique storm that the duration of the rain lasted many, many hours," said Township Engineer Robert Kiser. "As a result, the streams with the large tributary areas were impacted the most, for instance Stony Brook flooded Alexander," he said, contributing to Princeton's island phenomenon.

Often seen as a placid stream that runs parallel at times to the Delaware & Raritan Canal and feeds into Carnegie Lake, Stony Brook wraps around the western side of Princeton, crossing under Rosedale Road, Quaker Road and the Princeton Pike.

But Stony Brook took its vengeance on Quaker Road, Route 206 and the Princeton Pike on Monday, which were all barricaded. And it was the Stony Brook that also closed down Alexander Road and Winant Road.

And because a swollen Millstone River and the Stony Brook combine to form Lake Carnegie, Harrison Street also had no shot at surviving.

On the eastern side of the township, the Millstone River took its toll by swamping River Road and Route 27. The river's impact continued downstream blocking Washington Street at the Rocky Hill-Franklin Township border.

Smaller tributaries, such as Harry's Brook, did not experience nearly the amount of flooding as the Millstone River or Stony Brook because of its drainage area, officials said. Harry's Brook drains stormwater from the borough and the township only, officials said, while Stony Brook gathers water from a vast area outside Princeton including Lawrence, Hopewell Township and into Hunterdon County.

Joseph Skupien, the Princeton stormwater consultant, said Stony Brook takes in about 45 square miles of drainage, and preliminary estimates reveal it sustained a 10- to 25-year flood — an event that has a 4 percent chance of occurring in any given year.

During a 25-year flood, Mr. Skupien said, data from the state Department of Environmental Protection predicted all of the given roadways that were under water this week would indeed flood.

As for the Millstone River, the consultant added, preliminary data shows it experienced a 100-year flood — an event that has a 1-percent chance of happening in a year. Comparatively, the Millstone River's drainage area is 159 square miles, he added.

"The fact that the roads were flooded jives exactly with the DEP and the flood insurance maps," Mr. Skupien said.

When a town is bordered by water on three sides, he added, it cannot be surprising when it floods during this type of rain event.

Little can be done to prevent the swirling Stony Brook or Millstone River from spilling their banks during catastrophic storms, like Monday's nor'easter, unless the township were to raise all of its roadways and bridges, officials said. Although such projects are occurring in Manville and Bound Brook — areas that are much more likely to flood severely on a normal basis — a project of that nature would be highly unlikely in Princeton.

"Nothing really can be done with this type of storm," Mr. Kiser said. "It's man against Mother Nature."

But some speculate that increased development in the vicinity of these waterways only increases the probability of devastation during these storm events.

Jim Waltman, executive director of the Stony Brook-Millstone Watershed Association, said his environmental organization is attempting to persuade municipalities to adopt stronger stream corridor ordinances that would restrict development within 150 feet of waterways' banks. Princeton Township, Mr. Waltman said, has such an ordinance, although it could be more restrictive.

"In reality these streams and rivers are going to flood," Mr. Waltman said. "The question is are we going to be smart enough to stop putting ourselves in the way of those floods."

Now that both the Stony Brook and the Millstone River have receded, scores of area residents are left discarding drenched keepsakes and belongings that were victims of this week's nor'easter. Township officials estimated that 75 to 80 residents sustained flooded basements — from several inches to waist-deep.

Approximately 1,100 private homes in Mercer County had basement flooding as a result of the torrential rains from the storm, according to Peter Daly, Mercer County deputy director of communications.

Flooding was fairly evenly spread throughout Mercer County communities, with no one town affected significantly more than another, Mr. Daly said. Public infrastructure damage was minimal, with most public costs associated with the flooding likely to be personnel and overtime costs from police, fire and emergency response, Mr. Daly said.

"Every fire department was real busy," pumping out flooded basements, he said.

Business Editor Lauren Otis contributed to this story.