

Town of Denton

Nuisance Flooding Plan



Crouse Park Boat Ramp

July 2020

This report was prepared by the Town of Denton with assistance from the Maryland Department of Planning.

Background

Maryland House Bill (HB) 1427 states that “on or before October 1, 2020, a local jurisdiction that experiences nuisance flooding shall develop a plan to address nuisance flooding.” The legislation further specifies that the plan must be submitted to the Maryland Department of Planning, published on the local jurisdiction’s website, and updated at least every five years.

Introduction

The National Oceanic and Atmospheric Administration (NOAA), defines nuisance flooding, or high tide flooding, as “flooding that leads to public inconveniences such as road closures. It is increasingly common as coastal sea levels rise.” The language of HB 1427 refers to nuisance flooding as: “high-tide flooding that causes public inconvenience.” Nuisance flooding is typically unrelated to particular storm events, though it may be exacerbated by long-duration wind events of passing storm systems. As such, it is frequently referred to as “sunny day flooding.”

Nuisance flooding is capable of disrupting daily activities through a variety of mechanisms, such as the closure of roads due to high water, the inundation of yards and parks, and the impairment of engineered and natural drainage systems. Currently, these disruptions typically occur for a period of several hours and then abate. However, as a changing climate drives sea levels higher and precipitation events to greater severity, these repeated “nuisance” impacts will become significant stressors on the infrastructure, emergency response, public health, and fabric of the community.

In the Town of Denton, nuisance flooding, meeting the definition of HB 1427, occurs at Crouse Park and boat ramp, along the Choptank River.

Preparing for Nuisance Flooding

As part of the nuisance flood planning process for the Town of Denton, staff interviewed the Town’s Public Works Department to create an inventory of known nuisance flood areas. There is only one area, within town, at Crouse Park where there are instances of nuisance flooding. There are two road segments, adjacent to Town but within unincorporated Caroline County, along River Landing Road also experiencing nuisance flooding. These locations are identified on the Roadway Inundation map and Flood Depth Grid maps, in Appendix I.

In addition to mapping, accurate flood forecasting and warning is critical to the safety and preparedness of a community. Weather forecast data is received from the National Weather Service (NWS) forecasting office at Philadelphia, PA. Critical tide information is received from the NOAA tide gauge stationed at Cambridge, Maryland, as well as additional gauges elsewhere throughout the Chesapeake Bay. These gauges allow the Town to be aware of and prepare for possible nuisance flooding impacts.

Responding to Nuisance Flooding

Emergency Response

Thresholds are maintained for the Town of Denton which direct a set of actions based on a particular inundation level or frequency of flooding. These thresholds are meant to supplement actions directed by the Town of Denton Public Works Department.

Threshold	Response Level	Required Action
Forecast data from the NWS or NOAA tide gauge indicates likely nuisance flooding impacts	Level I – Public Warning	Make the public aware of nuisance flooding threat via, social media, etc.
Flood waters are present below nuisance levels and are rising	Level II – Monitor Inundation	Deploy DPW personnel to monitor flood levels as needed and place high water signs at impacted locations.
Flood waters are high enough to warrant temporary road closures	Level III – Flood Response	Place additional DPW personnel on standby; close roads as flooding reaches hazardous levels

Currently, Crouse Park and the boat ramp are experiencing the following types and frequency of nuisance flooding:

- During normal high tide, 3-4 inches of flooding occur in the boat ramp parking lot.
- During certain weather conditions of a south wind blowing from the north which holds the tide in the boat ramp area, 1 ft. – 1 ½ ft. of flooding occur in the boat ramp parking lot area and ends at the sidewalk at the Crouse Park Visitor and Heritage Center. On an average, Crouse Park Lane is closed six times per year for approximately 4-5 hours.
- The Water Quality Garden located at the Crouse Park Visitor and Heritage Center receives daily tidal influence from the Choptank River. With the changing tides, the Garden as designed has become a stormwater pond. The original planting design for the Water Quality Garden have been eliminated by the river water intrusion.



Crouse Park Boat Ramp & Visitor and Heritage Center Parking Lot



Crouse Park Visitor & Heritage Center, Parking Lot and Road Inundation



Water Quality Garden at Visitor and Heritage Center

Nuisance flooding has increased dramatically over the past 50 years (2-4 feet). This is likely due to siltation of the Choptank River. The Choptank River has needed dredging for many years. The Town has tried unsuccessfully to obtain the necessary funds to dredge the river. The siltation also affects the ability of recreational boaters to utilize the river. The Town is hopeful that DNR will provide the necessary funding to dredge the river and reduce the nuisance flooding occurrence and increase the recreational opportunity for the public to enjoy the river. DNR is aware of the nuisance flooding but cannot close off the inlet or supply funds for the repairs resulting in the water intrusion.

Documentation

Documenting the extent and impacts of nuisance flooding is critical to public safety and the long-term resilience of the town. This information will be documented and updated on a regular basis. The following factors will be recorded by the Town of Denton Public Works for tracking and archived by Town Planning Staff.

Date, time, and location of nuisance flooding

Impacts (e.g. “x amount of water on the roadway,” “ditch overflow,” “docks underwater,” etc.)

Action taken by DPW staff

See Appendix II for a copy of the Town Nuisance Flooding Documentation Tool.

Mitigating Nuisance Flooding Impacts

The Town's Comprehensive Plan does not currently address nuisance flooding. The Town will consider addressing this issue during its next Comprehensive Plan update. No new development is anticipated in the area identified as experiencing nuisance flooding. The Town adopted the 2019 Caroline County Hazard Mitigation Plan as the Town 2019 Hazard Mitigation Plan (HMP). The Caroline County HMP does address nuisance flooding by including it as Mitigation Strategy #2: Nuisance Flooding Plan requiring Town's to develop a nuisance flood plan.

Projections for Future Impacts

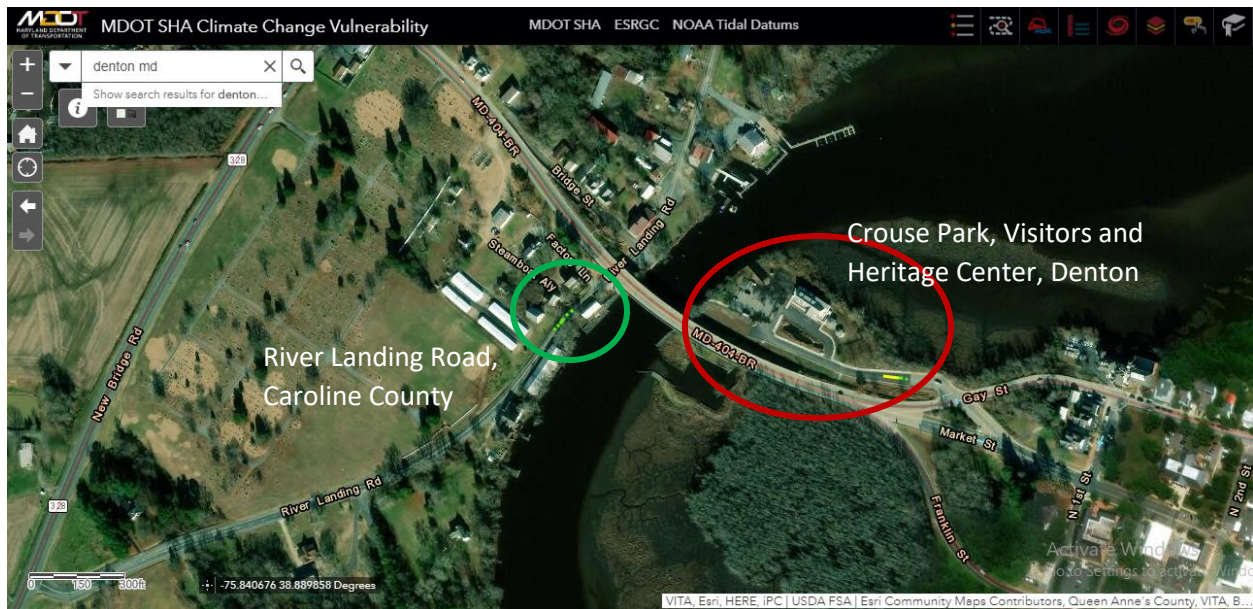
The areas impacted by nuisance flooding will increase gradually in the coming years as changing climate elevates water levels and drives precipitation patterns to new extremes. This shift, however, is likely to accelerate gradually over time. New areas may become impacted, leading to an increased risk.

Appendix I – Nuisance Flooding Location Inventory

Locations Identified by Town of Denton Public Works Staff

Town of Denton: Crouse Park Boat Ramp and Visitor and Heritage Center.
Caroline County: River Landing Road.

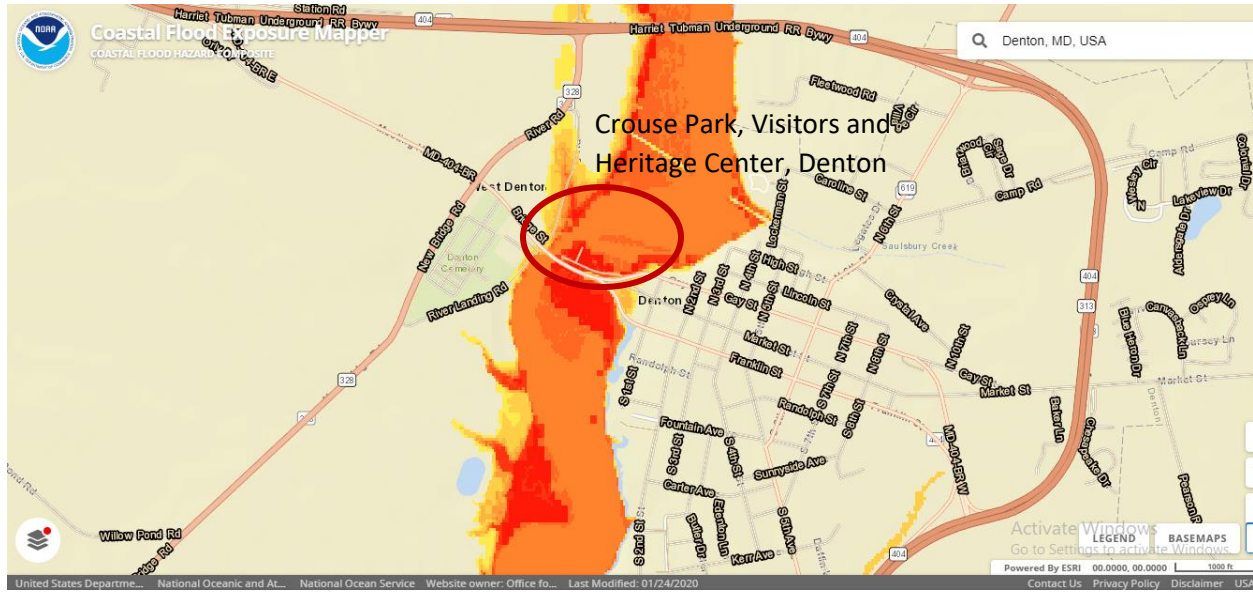
Roadway Inundation



Flood Depth Grids



NOAA Coastal Flood Exposure



Appendix II – Nuisance Flooding Documentation Tool

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