

ATLANTIC INTRACOASTAL WATERWAY

NORFOLK DISTRICT

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Dismal Swamp Canal

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File Name:



US Army Corps
of Engineers



U.S. ARMY



Atlantic Intracoastal Waterway Dismal Swamp Canal Authorization

AUTHORIZATION: River and Harbor Act of 1899 and modified by Acts of 1912, 1925, 1930, 1934 and 1945.

LOCATION AND DESCRIPTION: The Dismal Swamp Canal, on the Atlantic Intracoastal Waterway, is a naturally protected navigation route that generally parallels the Atlantic coast between Norfolk, Virginia and the Pasquotank River in North Carolina. The canal is the oldest operating artificial waterway in the United States. The authorized depth of the canal is 10 feet; however, the project is currently maintained at a minimum depth of 6 feet. The project also consists of one highway drawbridge and navigation lock at Deep Creek, Virginia, one highway drawbridge and navigation lock at South Mills, North Carolina and three water control structures. The project is a shallow draft inland waterway.



Atlantic Intracoastal Waterway Dismal Swamp Canal Significant Dates

- 1929 - Corps Purchased Dismal Swamp Canal (Approximately 1,300 Acres)**
- 1934 – Deep Creek and South Mills Bridges**
- 1935 – Spillway at Lake Drummond**
- 1941 – Deep Creek and South Mills Locks**
- 1963 – Spillways at Deep Creek and South Mills**
- 1974 – Public Law 93-402**
- 1980's and 1990's Budget Issue, Attempts to Close Canal**
- 1999 – Hurricanes Dennis, Floyd, and Irene**
- 2011 – Hurricane Irene**
- 2016 – Hurricanes Hermine, Julia, Matthew**



Atlantic Intracoastal Waterway Dismal Swamp Canal Deep Creek and South Mills Lock



Operators 8/7/365 – “Level 4 Service”
1 Operator also Operates the Bridge and Spillway
Scheduled Lockings, 4 Times Per Day



Atlantic Intracoastal Waterway Dismal Swamp Canal Deep Creek and South Mills Bridge



Operators 8/7/365
Operator at Adjacent Lock
Opens in Conjunction with Scheduled Locking



Atlantic Intracoastal Waterway Dismal Swamp Canal Deep Creek and South Mills Spillway



**Operators 8/7/365
Operator at Adjacent Lock**



Atlantic Intracoastal Waterway Dismal Swamp Canal Lake Drummond Reservation



Operators 8/7/360
1 Operator also Patrols Canal



Dismal Swamp Canal

Pre-Storm Event

- September 2016, the Lake Drummond Reservation recorded over 16 inches of rainfall.
- The Lake Drummond Reservation recorded over 11 inches of rain from the remnants of Tropical Storm Julia between September 18 and September 20. Less than 4 inches of rain was predicted.
- September 21, the Corps opened all spillway gates on the Dismal Swamp Canal spillways at both Deep Creek and South Mills to control and lower the water levels in the canal.
- Once the canal levels were near the normal operational level, the Corps' contractor opened the remaining Lake Drummond spillway gates on September 28 to further lower water levels in the lake.
- The Corps coordinated with the USFWS and all spillway gates were left open at Lake Drummond, allowing the water level to continue to fall for 11 days prior to Hurricane Matthew reached the Dismal Swamp.
- October 4, notified boaters of saturated situation in canal, possible falling trees and delays to navigation.
- October 8 prior to Hurricane Matthew's impacts reached the North Carolina and the Hampton Roads area, the water level in Lake Drummond was nearly 9 inches below the normal operating level and the Dismal Swamp Canal was more than 10 inches below the normal operating level.



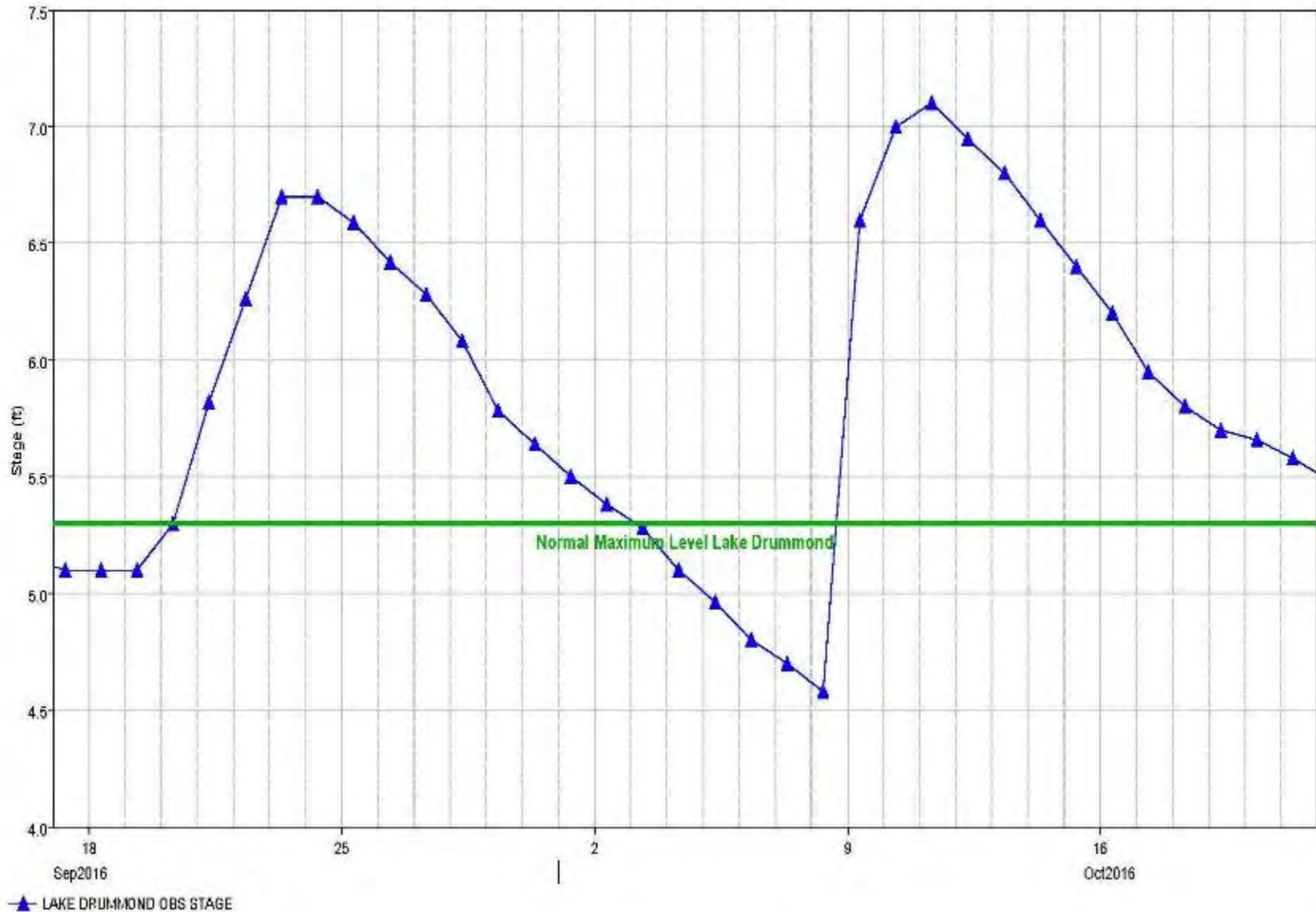
Dismal Swamp Canal

During and Immediately After Matthew

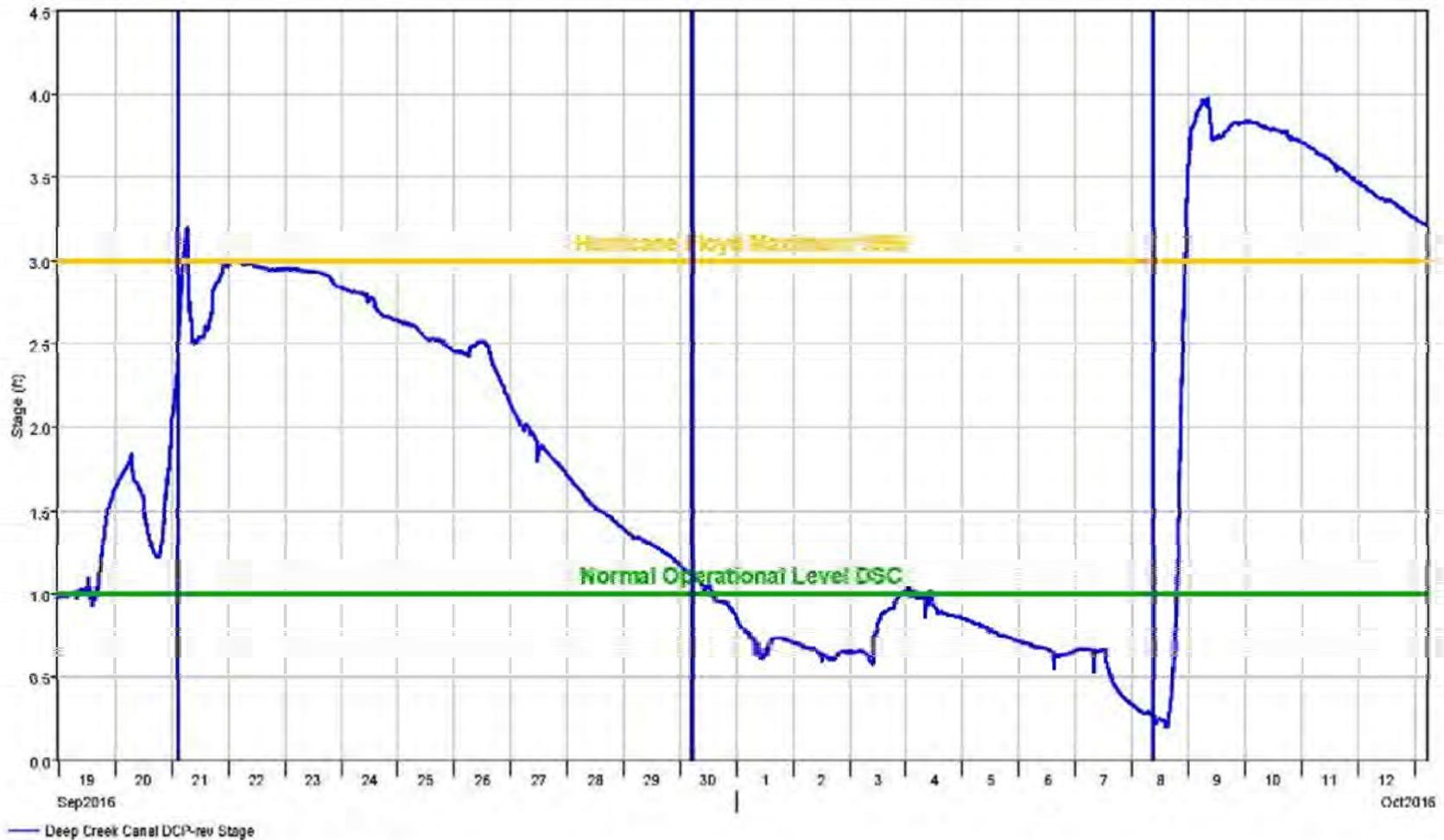
- October 8, all of the remaining spillway gates on the Dismal Swamp Canal at both Deep Creek and South Mills were fully opened and remained in that condition throughout the event.
- October 8th to October 9th during Hurricane Matthew from, the Dismal Swamp received 11 to 12 inches of rain. In comparison, Hurricane Floyd in 1999 registered in excess of 10 inches of rain.
- October 9, after Hurricane Matthew had just passed through the area, the water levels at the Deep Creek Lock increased to 3.5 feet and South Mills Lock increased to 3.0 feet, the highest levels ever recorded on the canal. Previous highs during Hurricane Floyd in 1999 were 11 inches lower at Deep Creek and 14 inches lower at South Mills than the readings during Hurricane Matthew.
- Water levels overtopped the lock gates, making any lock openings impossible. In order to help move water through the canal, the Norfolk District Corps began controlled releasing water through the valves in the lock gates at South Mills. This same operation was delayed at Deep Creek due to a power outage, but began October 11 after power was restored.



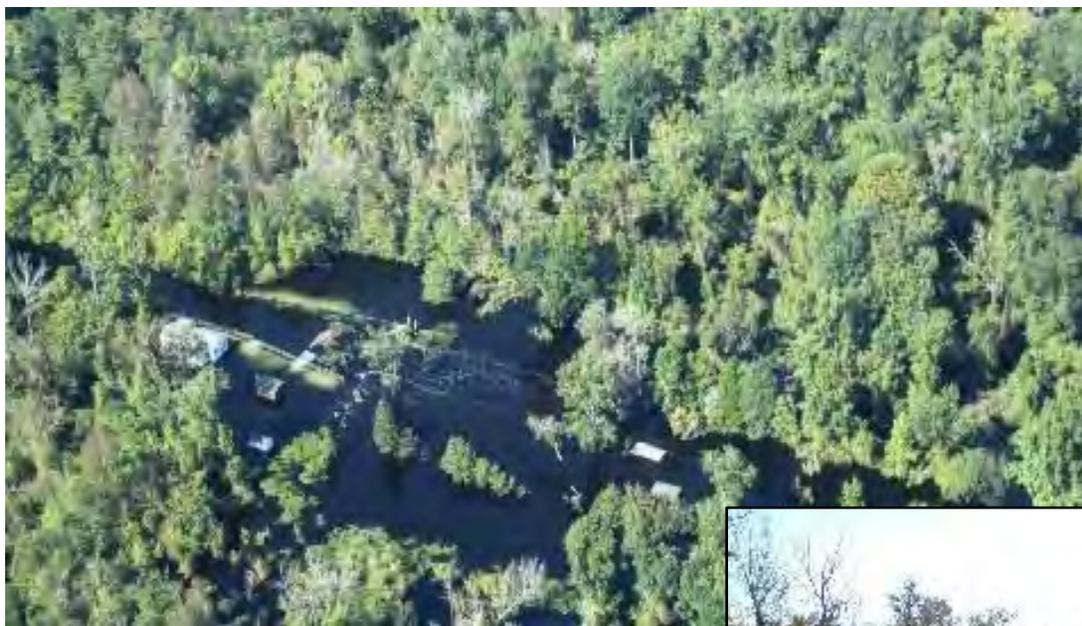
Lake Drummond Water Levels



Deep Creek Water Levels

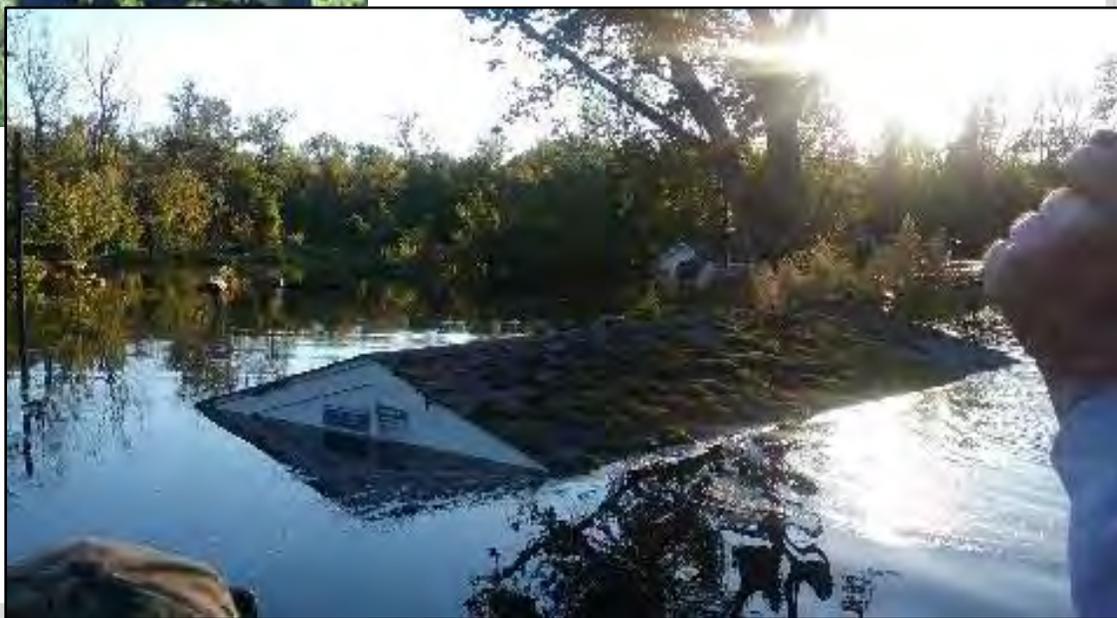


Dismal Swamp Canal Hurricane Matthew



**Lake Drummond
Reservation**

**Lake Drummond
Reservation Boathouse**



Dismal Swamp Canal Hurricane Matthew



Shoals in Canal

**Debris Blocking
Spillways**



Atlantic Intracoastal Waterway Dismal Swamp Canal Current Status and Future Work

- Norfolk District's Derrickboat ELIZABETH Crew Performed Tree and Debris Removal
- Obtained Supplemental Funds February 2017
- Dredging Shoals - Feeder Ditch, Ditches, and Turners Cut
- Deep Creek Channel Dredged by Wilmington District Dredge MURDEN
- Whole Canal Surveys by St Louis District
- Facility Repairs
- Deep Creek Gate Repairs (non-storm related)
- Reviewing Inflow Structure Requirements
- Started Initial Appraisal of Revising DSC Mission



Atlantic Intracoastal Waterway Dismal Swamp Canal US Army Corps of Engineers Station

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