Monitoring Report
Hofler Property
Monitoring Year 6

DMS Project ID #: 95355
DMS Contract #: 004628
USACE AID# SAW-2012-01393
Gates County, North Carolina
Submitted November, 2020

NC Department of Environmental Quality
Division of Mitigation Services
1652 Mail Service Center
Raleigh, NC 27699-1652

Submitted by:
ALBEMARLE RESTORATIONS, LLC
P.O. Box 176
Fairfield, NC 27826
(252) 333-0249

Mitigation Project Name	**Hofler Property**	**USACE Action ID**	**2012-01909**
DMS ID	**95355**	**DWR Permit**	**N/A**
River Basin	**Chowan**	**Date Project Instituted**	**6/15/2012**
Cataloging Unit	**03010203**	**Date Prepared**	**4/20/2020**
County	**Gates**	**Stream/Wet. Service Area**	**Chowan 03010203**

Todd J Tugwell 9/21/2020

Signature & Date of Official Approving Credit Release

1 - For NCDMS, no credits are released during the first milestone

2 - For NCDMS projects, the initial credit release milestone occurs automatically when the as-built report (baseline monitoring report) has been made available to the IRT by posting it to the DMS portal, provided the following have been met:

1) Approved of Final Mitigation Plan
2) Recordation of the preservation mechanism, as well as a title opinion acceptable to the USACE covering the property.
3) Completion of all physical and biological improvements to the mitigation site pursuant to the mitigation plan.
4) Receipt of necessary DA permit authorization or written DA approval for projects where DA permit issuance is not required.

3 - A 10% reserve of credits is to be held back until the bankfull event performance standard has been met.

Credit Release Milestone	**Non-Riparian Credits**						
Project Credits	**Scheduled Releases %**	**Proposed Releases %**	**Proposed Released #**	**Not Approved # Releases**	**Approved Credits**	**Anticipated Release Year**	**Actual Release Date**
1 - Site Establishment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 - Year 0 / As-Built	30.00%	30.00%	6.900	0.000	6.900	2015	10/1/2015
3 - Year 1 Monitoring	10.00%	10.00%	2.300	0.000	2.300	2016	4/25/2016
4 - Year 2 Monitoring	10.00%	10.00%	2.300	0.000	2.300	2017	8/10/2018
5 - Year 3 Monitoring	15.00%	15.00%	3.450	0.000	3.450	2018	8/10/2018
6 - Year 4 Monitoring	5.00%	5.00%	1.150	0.000	1.150	2019	4/26/2019
7 - Year 5 Monitoring	15.00%	15.00%	3.450	3.450	0.000	2020	4/20/2020
8 - Year 6 Monitoring	5.00%					2021	
9 - Year 7 Monitoring	10.00%					2022	
Stream Bankfull Standard	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Totals	0.000	16.100		

Total Gross Credits	23.000
Total Unrealized Credits to Date	0.000
Total Released Credits to Date	16.100
Total Percentage Released	70.00%
Remaining Unreleased Credits	6.900

Notes

4/20/2020: Due to issues on the wetland site and the need for an adaptive management plan, the IRT decided no release for this site.

Contingencies (if any)

Project Quantities

Mitigation Type	**Restoration Type**	**Physical Quantity**
Non-Riparian	Restoration	23.000

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River Basin	**Chowan**	**Date Project Instituted**	**6/15/2012**
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County	**Gates**	**Stream/Wet. Service Area**	**Chowan 03010203**

Debits							**Non-Riparian Restoration Credits**
Beginning Balance (mitigation credits)							**23.000**
Released Credits							**16.100**
Unrealized Credits							**0.000**
Owning Program	**Req. Id**	**TIP #**	**Project Name**	**USACE Permit #**	**DWRPermit #**	**DCM Permit #**	
NCDOT Stream & Wetland ILF Program	REQ-004826		SR 1339-Division 1	2005-10482			0.009
NCDOT Stream & Wetland ILF Program	REQ-005580	R-2583	US 158 Widening	2002-11081	2011-1075	63-12	0.720
NCDOT Stream & Wetland ILF Program	REQ-005614	R-2507A	R-2507A - US 13 Widening	2006-10391	2012-0296	2012-0296	5.680
NCDOT Stream & Wetland ILF Program	REQ-006172	R-2507A	R-2507A - US 13 Widening	2006-10391	2012-0296	2012-0296	0.100
Statewide Stream & Wetland ILF Program	REQ-006564		Earley's Substation Expansion	2016-00268	2016-0409	2016-0409	0.800
NCDOT Stream & Wetland ILF Program	REQ-006864	R-5311A	US 13 / NC 11 Improvements	2011-01243	2016-1221	2016-1221	5.750
NCDOT Stream & Wetland ILF Program	REQ-006864	R-5311A	US 13 / NC 11 Improvements	2011-01243	2016-1221	2016-1221	1.150
NCDOT Stream & Wetland ILF Program	REQ-006864	R-5311A	US 13 / NC 11 Improvements	2011-01243	2016-1221	2016-1221	1.810
Total Credits Debited							**16.019**
Remaining Available balance (Released credits)							**0.081**
Remaining balance (Unreleased credits)							**6.900**

ROY COOPER
Governor

MICHAEL REGAN
Secretary

Mitigation Services
ENVIRONMENTAL QUALITY

Ashby Brown
ALBEMARLE RESTORATIONS, LLC
P.O. Box 176
Fairfield, NC 27826

12/11/2020
Sent via e-mail (ashbybrown@woodswaterandwildlife.com)

RE: Hofler MY6
Contract #004628
Project # 95355

On November 30, 2020, the Division of Mitigation Services (DMS) received the Draft Monitoring Report for Hofler and a site visit occurred during the precious dormant season (2/10/2020).

After reviewing the document, DMS has no comments, but asks that the following be added to the report:

- Add Approved Adaptive Management Plan to this report as an appendix. Also add the official IRT approval letter of the Adaptive Management Plan. You may delete the DMS letter from last year in the Appendix.

To date, Albemarle was paid for 80% of the total contract value (equivalent to 17.6 acres), but the IRT has only released 70% of the credits to date (16.100 acres). Due to the continued assets at risk, DMS will withhold payment until the IRT provides a credit release greater than 80%.

Please submit 1 hard copy of the final document and one electronic.

Thank you for your work.

Lindsay Crocker
DMS

Table of Contents

1.0: PROJECT SUMMARY

1.1: Project Objectives

The project objectives of the Hofler property per the approved mitigation plan are as follows:

- Enhance water quality by providing shading from forest cover, which will reduce thermal impacts associated with excess algae growth and decreased dissolved oxygen concentrations
- Slow runoff rates and provide storage and desynchronization of overland flow before it reaches Lassiter Swamp, located directly north of the project, by restoring the wetland complex
- Provide nutrient attenuation and uptake by restoring dense vegetation interspersed with shallow diffuse flows, thus improving downstream habitat
- Provide minimal earthwork and disturbance, as determined through preliminary site analyses, to the area to accomplish designed wetland topography
- Impact existing ecological communities as little as possible. No remnant wetland communities exist on site and no impacts to wetlands or riparian buffers will occur due to the restoration project.

1.2: Project Success Criteria

Wetland hydrology data must consistently document the appropriate hydroperiod has been restored for all areas proposed for wetland mitigation. The targeted hydroperiod for the Hofler Property is 6% or greater. Planted vegetation will be considered successful if at least 320 three year-old planted stems/acre are present after year three. At year five, density must be no less than 260 five year-old planted stems/acre. At year 7, density must be no less than 210 seven year-old planted stems/acre. Additionally, planted vegetation must average 10 feet in height in each plot at year 7. Per the recommendations of the NCIRT, the following understory species were incorporated in the planting schedule on the condition they be exempted from the minimum 10-foot height criterion and exempted from the calculation of average height as a measure of that success criterion: Button bush (*C. occidentalis*), Sweet bay (*M. virginiana*), Wax myrtle (*M. cerifera*), and Laurel oak (*Q. laurifolia*). These species will be included in the calculations for the survival criterion. All vegetative monitoring will follow CVS-EEP Protocol for Recording Vegetation-Version 4.0.

Additionally, the project will strive to establish a variety of hydrologic regimes ranging from shallow inundated areas to intermittently saturated conditions, restoring diffuse flow patterns through what will ultimately be a forested wetland. The successful establishment of these conditions, mimicking nearby reference wetlands will help determine the overall success of the project.

1.3: Project Setting

The Hofler property consists of +/- 345 acres, of which 27 acres have been designated for this project. The site consisted of a rectangular tract of land primarily being used for cotton and small grain production. The prior converted wetlands on the site had been extensively ditched and drained, lowering the local water table and diminishing aquatic habitat and water quality. The site drained from south to north to an unnamed tributary of Lassiter Swamp and Bennets Creek upstream of Merchants Mill Pond. The project site along with the surrounding areas has undergone expansive hydrologic alterations and excessive sediment and nutrient inputs from agricultural production resulting in overall water quality degradation. The vicinity map is included with the CCPV in Appendix B. Table 4 in Appendix A contains additional information regarding the project's location and attributes.

1.4: Mitigation Components

The mitigation components are 23 acres of non-riparian wetland restoration with a credit ratio of 1:1 (Restoration:WMU), please refer to Table 1 for more information.

1.5: Project Timeline

Construction commenced on August 12th, 2014 with the installation of recommended erosion control practices and was completed on Oct. 14th, 2014. Planting was officially concluded on May 6th, 2015 (Table 2). Refer to Table 2 in Appendix A for the Project History and Reporting Timeline.

1.6: Design Approach

A natural design approach focused on mimicking nearby wetlands, including non-riparian hardwood flats and swamp forests both in hydrologic regime and vegetative diversity. Grading was specifically formulated to provide storage for overland flow while creating densely vegetated plots interspersed with shallow diffuse flows. All of these features contribute to nutrient and sediment attenuation, improving downstream habitat and promoting diversity of ecological communities. The reference area for this project is a nearby mature hardwood flat with the same soils and topography and similar hydrologic function. The reference area is within Merchant's Millpond State Park.

1.7: Project Performance

Hydrology was successful over the entire project site. The hydrology charts are included in Appendix E.

Rainfall through July was relatively normal, with the exception of March, which was a bit lower than normal. Rainfall in August, September and November was considerably above normal due to storm activity.

In this, year six of monitoring, tree survival was found to be lower than in year 5. Fourteen of the eighteen permanent plots showed a survival number of planted stems that did not meet the year 5 success criteria. The overall average survival for the site was 162 planted stems per acre. The oaks continue to struggle against the very heavy herbaceous vegetation. The cycle of resprout, dieback and resprout continues to take its toll. The cypress stem count seems to have stabilized, with only a few stems lost. Their shade tolerant nature has helped them overcome the dense vegetation.

Per the recently approved adaptive management plan, 6,000 trees are on order and will be planted during the upcoming planting season. The majority will be cypress (4,000), since they are able to survive the harsh competition. The remaining 2,000 are a mixture of oaks.

Also, per the approved plan, the ditch plugs will be lowered to promote drainage from the site. The goal is to create a slightly drier environment which will help lessen the stress on the trees.

1.8: Methods and References

Monitoring methodology did not differ from the approved Mitigation Plan. Vegetation assessment was done according to the level 2 protocol specified by the Carolina Vegetation Survey. Hydrology monitoring wells were installed per ERDC TN-WRAP-00-02 "Installing Monitoring Wells/Piezometers in Wetlands" dated 2000. Groundwater levels were recorded using the U20-001-01 water level data loggers manufactured by Onset Computer. The loggers were installed in the wells per the manufacturer's instructions.

Vicinity Map

Appendix A: Background Tables

Table 1. Project Components and Mitigation Credits

Table 2. Project Activity and Reporting History

Table 3. Project Contacts

Table 4. Project Information and Attributes

Table 1. Project Components and Mitigation Credits

Hofler Project #95355, Contract #004628

Mitigation Credit Summations

	Stream	Riparian Wetland	Non-riparian Wetland	Buffer	Nitrogen Nutrient Offset	Phosphorous Nutrient Offset
Overall Credit			23			

Project Components

Project Component -or- Reach	Stationing	Existing Footage or Acreage	Restoration Footage or Acreage	Restoration Level	Restoration or Rest. Equiv.	Mitigation Ratio	Mitigation Credits	Notes
Wetland 1		23	23		Restoration	1:1	23	

Length and Area Summations

Restoration Level	Stream (Linear Feet)	Riparian Wetland (acres)		Non-riparian Wetland (acres)	Buffer (square feet)	Upland (acres)
		Riverine	Non-Riverine			
Restoration			23			
Enhancement						
Enhancement I						
Enhancement II						
Creation						
Preservation						
High Quality Preservation						

BMP Elements

Element	Location	Purpose/Function	Notes

Table 2. Project Activity and Reporting History Hofler Property Wetland Mitigation Project #95355		
Activity, Deliverable or Milestone	**Data Collection Complete**	**Actual Completion or Delivery**
Project Institution	N/A	May-12
Mitigation Plan	May 2014	July 2014
Permits Issued	May 2014	July 2014
Final Design Construction Plans	May 2014	July 2014
Construction	N/A	October 2014
Temporary S & E mix applied to entire project area	N/A	N/A
Permanent seed mix applied to entire project area	N/A	October 2014
Containerized and BR Planting over entire project area	N/A	May 2015
Baseline Monitoring Document (Year 0 Monitoring-baseline)	May 2015	Sept. 2015
Year 1 monitoring	November 2015	November 2015
Year 2 monitoring	November 2016	November 2016
Year 3 monitoring	November 2017	November 2017
Year 4 monitoring	November 2018	November 2018
Year 5 monitoring	November 2019	November 2019
Year 6 monitoring	November 2020	November 2020

Table 3. Project Contacts Hofler Property Wetland Mitigation Project #95355	
Designer Primary Project design POC	Ecotone, Inc. Scott McGill (410) 420-2600 2120 High Point Rd, Forest Hill, MD 21050
Construction Contractor Construction contractor POC	Jennings Land Development Rodney Jennings (252) 202-6954 156 Trotman Rd. Camden, NC 2791
Planting Contractor Planting contractor POC	Carolina Silvics, Inc. Mary-Margaret McKinney (252-482-8491) 908 Indian Trail Road Edenton, NC 27932
Seeding Contractor Seed planting contractor POC	Woods, Water and Wildlife, Inc. Ed Temple (252) 333-0249 P. O. Box 176, Fairfield, NC 27826
Seed mix sources	Earnst Conservation Seeds, LLP, Meadville, PA
Nursery stock suppliers	Carolina Silvics (from various sources)
Monitoring Performers Wetland and Vegetation POC	Woods, Water and Wildlife, Inc. Ashby Brown (757) 651-3162 P. O. Box 176, Fairfield, NC 27826

Table 4. Project Information and Attributes

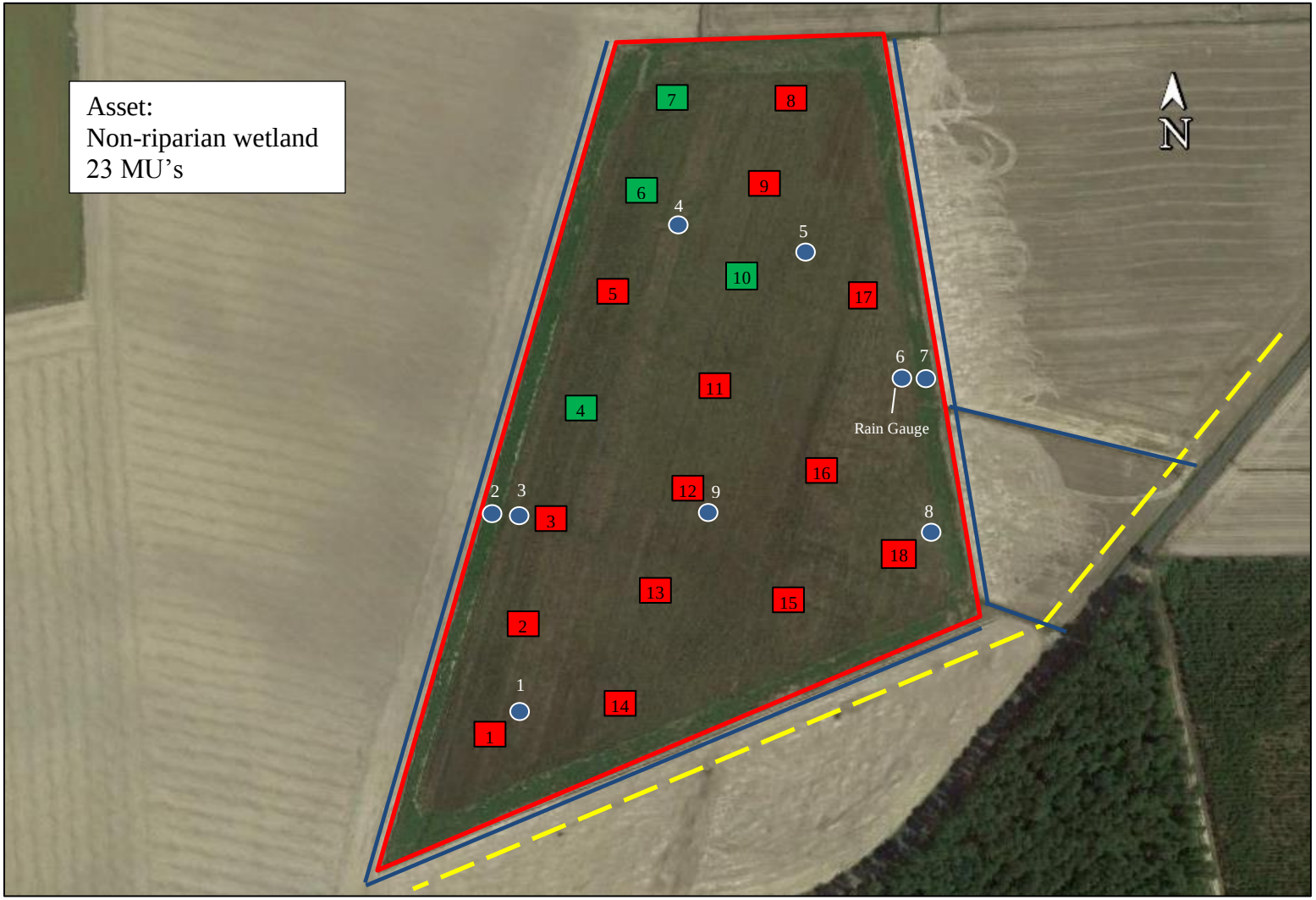
Project name	HOFLER PROPERTY		
County	GATES		
Project Area (ac)	27.0 AC		
Project Coordinates (Lat and Long)	+36˚ 25' 48.44", -76˚ 39' 10.91"		
4.1 Project Watershed Summary Information			
Physiographic province	INNER COASTAL PLAIN		
River basin	CHOWAN RIVER BASIN		
USGS Hydrologic Unit 8-digit: 03010203	USGS Hydrologic Unit 14-digit: 03010203040040		
DWQ Sub-basin	BENNETTS CREEK LOCAL WATERSHED		
Project Drainage Area (acres)	103.8		
Project Drainage Area Percentage of Impervious Area	5%		
CGIA Land Use Classification	2.01.01.07 Annual Row Crop Rotation		
4.2 Wetland Summary Information			
Parameters	Wetland 1	Wetland 2	Wetland 3
Size of Wetland (acres)	23.0		
Wetland Type (non-riparian, riparian riverine or riparian non-riverine)	Non-riparian		
Mapped Soil Series	BnA & PnA		
Drainage Class	Poorly drained & very poorly drained		
Soil Hydric Status	Hydric		
Source of Hydrology	Surface and Ground		
Hydrologic Impairment	44.8' to 155.2'		
Native Vegetation Community			
Percent Composition of Exotic Invasive Vegetation	N/A		
4.3 Regulatory Considerations			
Regulation	Applicable?	Resolved?	Supporting Documents
Waters of the United States – Section 404	N	N/A	Appendix F
Waters of the United States – Section 401	N	N/A	Appendix F
Endangered Species Act	N	Y	
Historic Preservation Act	N	Y	
Coastal Zone Management Act (CZMA)/ Coastal Area Management Act (CAMA)	N	Y	
FEMA Floodplain Compliance	N	Y	
Essential Fisheries Habitat	N	Y	

Appendix B:

Current Condition Plan View

Table 5. Vegetation Condition Assessment Table

Site Photos



Hofler Restoration Project
Current Condition Plan View
Project # 95355
Nov. 2018

Legend
Easement Bndry
Ditches
Pwrline
Veg Plot
Wtlnd Gauge

Year 6 Condition
Veg Plots
Criteria Met
Criteria Unmet
Wtlnd Gauges
Hydrology Met
Hydrology Not Met
Hydrology Part. Met

Environmental Quality

Table 5 **Vegetation Condition Assessment**

Planted Acreage[1] **23**

Vegetation Category	Definitions	Mapping Threshold	CCPV Depiction	Number of Polygons	Combined Acreage	% of Planted Acreage
1. Bare Areas	Very limited cover of both woody and herbaceous material.	0.1 acres	None	0	0.00	0.0%
2. Low Stem Density Areas	Woody stem densities clearly below target levels based on MY3, 4, or 5 stem count criteria.	0.1 acres	None	14	17.90	77.8%
			Total	14	17.90	77.8%
3. Areas of Poor Growth Rates or Vigor	Areas with woody stems of a size class that are obviously small given the monitoring year.	0.25 acres	None	0	23.00	100.0%
			Cumulative Total	14	23.00	100.0%

Easement Acreage[2] **27**

Vegetation Category	Definitions	Mapping Threshold	CCPV Depiction	Number of Polygons	Combined Acreage	% of Easement Acreage
4. Invasive Areas of Concern[4]	Areas or points (if too small to render as polygons at map scale).	1000 SF	None	0	0.00	0.0%
5. Easement Encroachment Areas[3]	Areas or points (if too small to render as polygons at map scale).	none	None	0	0.00	0.0%

View looking northeast across project

View looking north/northeast

View looking northeast. Footprint of old ditches still visible.

View looking east. Shows footprint of old ditches.

View looking south.

View looking northwest.

Appendix C

Vegetation Plot Data

Table 6.

Project Code 95355. Project Name: Hofler

			Current Plot Data (MY6 2020)																	
			95355-ab-0001			95355-ab-0002			95355-ab-0003			95355-ab-0004			95355-ab-0005			95355-ab-0006		
Scientific Name	**Common Name**	**Species Type**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**
Acer rubrum	red maple	Tree																		
Celtis occidentalis	common hackberry	Tree																		
Cephalanthus occidentalis	common buttonbush	Shrub										4	4	4	1	1	1	1	1	1
Magnolia virginiana	sweetbay	Tree										1	1	1	2	2	2	2	2	2
Myrica	sweetgale	shrub										2	2	2						
Quercus bicolor	swamp white oak	Tree	1	1	1	1	1	1										2	2	2
Quercus laurifolia	laurel oak	Tree																		
Quercus michauxii	swamp chestnut oak	Tree	1	1	1	1	1	1	2	2	2				1	1	1	1	1	1
Quercus nigra	water oak	Tree																		
Quercus phellos	willow oak	Tree				1	1	1							1	1	1			
Taxodium distichum	bald cypress	Tree	1	1	1				1	1	1				1	1	1	3	3	3
		Stem count	3	3	3	3	3	3	3	3	3	7	7	7	6	6	6	9	9	9
		size (ares)	1			1			1			1			1			1		
		size (ACRES)	0.02			0.02			0.02			0.02			0.02			0.02		
		Species count	3	3	3	3	3	3	2	2	2	3	3	3	5	5	5	5	5	5
		Stems per ACRE	121.4	121.4	121.4	121.4	121.4	121.4	121.4	121.4	121.4	283.3	283.3	283.3	242.8	242.8	242.8	364.2	364.2	364.2

Table 6, continued.

Project Code 95355. Project Name: Hofler

			Current Plot Data (MY6 2020)																	
			95355-ab-0007			95355-ab-0008			95355-ab-0009			95355-ab-0010			95355-ab-0011			95355-ab-0012		
Scientific Name	**Common Name**	**Species Type**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**
Acer rubrum	red maple	Tree																		
Celtis occidentalis	common hackberry	Tree																		
Cephalanthus occidentalis	common buttonbush	Shrub																1	1	1
Magnolia virginiana	sweetbay	Tree																		
Myrica	sweetgale	shrub	2	2	2	1	1	1	1	1	1									
Quercus bicolor	swamp white oak	Tree	2	2	2															
Quercus laurifolia	laurel oak	Tree																		
Quercus michauxii	swamp chestnut oak	Tree	1	1	1							3	3	3						
Quercus nigra	water oak	Tree				1	1	1												
Quercus phellos	willow oak	Tree	1	1	1							1	1	1						
Taxodium distichum	bald cypress	Tree	1	1	1	2	2	2	3	3	3	3	3	3				1	1	1
		Stem count	7	7	7	4	4	4	4	4	4	7	7	7	0	0	0	2	2	2
		size (ares)	1			1			1			1			1			1		
		size (ACRES)	0.02			0.02			0.02			0.02			0.02			0.02		
		Species count	5	5	5	3	3	3	2	2	2	3	3	3	0	0	0	2	2	2
		Stems per ACRE	283.3	283.3	283.3	161.9	161.9	161.9	161.9	161.9	161.9	283.3	283.3	283.3	0	0	0	80.94	80.94	80.94

Table 6, continued.

Project Code 95355. Project Name: Hofler

			Current Plot Data (MY 6 2020)																	
			95355-ab-0013			95355-ab-0014			95355-ab-0015			95355-ab-0016			95355-ab-0017			95355-ab-0018		
Scientific Name	**Common Name**	**Species Type**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**
Acer rubrum	red maple	Tree																		
Celtis occidentalis	common hackberry	Tree																		
Cephalanthus occidentalis	common buttonbush	Shrub																		
Magnolia virginiana	sweetbay	Tree																		
Myrica	sweetgale	shrub																		
Quercus bicolor	swamp white oak	Tree																		
Quercus laurifolia	laurel oak	Tree																		
Quercus michauxii	swamp chestnut oak	Tree							1	1	1	1	1	1	2	2	2	1	1	1
Quercus nigra	water oak	Tree																		
Quercus phellos	willow oak	Tree													1	1	1			
Taxodium distichum	bald cypress	Tree	3	3	3	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2
		Stem count	3	3	3	2	2	2	2	2	2	2	2	2	5	5	5	3	3	3
		size (ares)	1			1			1			1			1			1		
		size (ACRES)	0.02			0.02			0.02			0.02			0.02			0.02		
		Species count	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2
		Stems per ACRE	121.4	121.4	121.4	80.94	80.94	80.94	80.94	80.94	80.94	80.94	80.94	80.94	202.3	202.3	202.3	121.4	121.4	121.4

Table 6, continued.

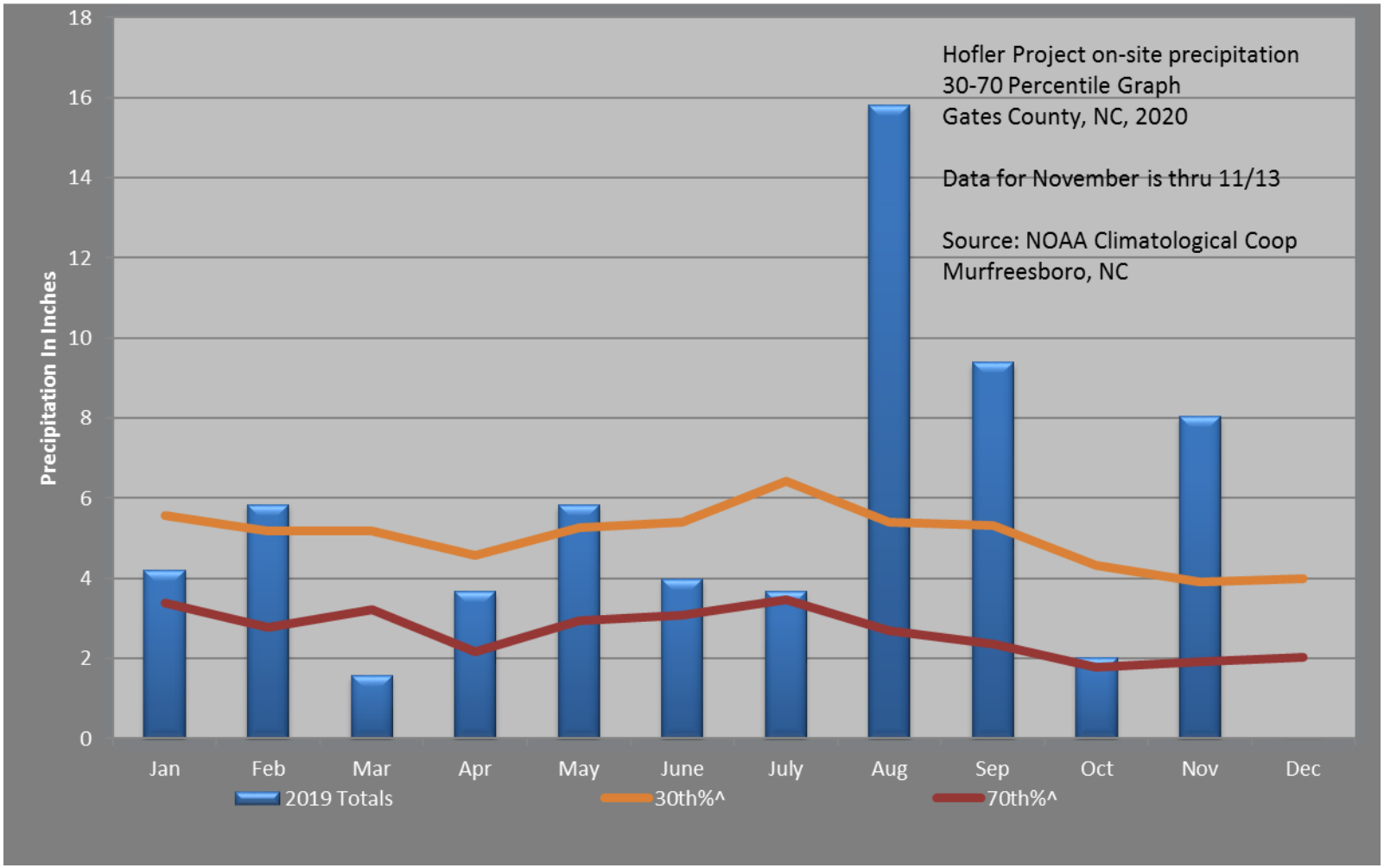
Project Code 95355. Project Name: Hofler			Annual Means																	
			MY6 (2020)			MY4 (2019)			MY3 (2017)			MY2 (2016)			MY1 (2015)			MY0 (2015)		
Scientific Name	Common Name	Species Type	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T	PnoLS	P-all	T
Acer rubrum	red maple	Tree									7									
Celtis occidentalis	common hackberry	Tree																1	1	1
Cephalanthus occidentalis	common buttonbush	Shrub	7	7	7	8	8	8	7	7	7	9	9	9	9	9	9	8	8	8
Magnolia virginiana	sweetbay	Tree	5	5	5	7	7	7	8	8	8	6	6	6	8	8	8	9	9	9
Myrica	sweetgale	shrub	6	6	6	6	6	6	10	10	10	9	9	9	15	15	15	15	15	15
Quercus bicolor	swamp white oak	Tree	6	6	6	14	14	14	19	19	19	20	20	20	25	25	25	36	36	36
Quercus laurifolia	laurel oak	Tree							1	1	1	1	1	1	5	5	5	7	7	7
Quercus michauxii	swamp chestnut oak	Tree	15	15	15	37	37	37	67	67	67	35	35	35	49	49	49	55	55	55
Quercus nigra	water oak	Tree	1	1	1	9	9	9	12	12	12	13	13	13	23	23	23	34	34	34
Quercus phellos	willow oak	Tree	5	5	5	13	13	13	19	19	19	18	18	18	26	26	26	30	30	30
Taxodium distichum	bald cypress	Tree	27	27	27	28	28	28	29	29	29	31	31	31	31	31	31	35	35	35
		Stem count	72	72	72	122	122	122	172	172	179	142	142	142	191	191	191	230	230	230
		size (ares)	18			18			18			18			18			18		
		size (ACRES)	0.44			0.44			0.44			0.44			0.44			0.44		
		Species count	8	8	8	8	8	8	9	9	10	9	9	9	9	9	9	10	10	10
		Stems per ACRE	161.9	161.9	161.9	274.3	274.3	274.3	386.7	386.7	402.4	319.3	319.3	319.3	429.4	429.4	429.4	517.1	517.1	517.1

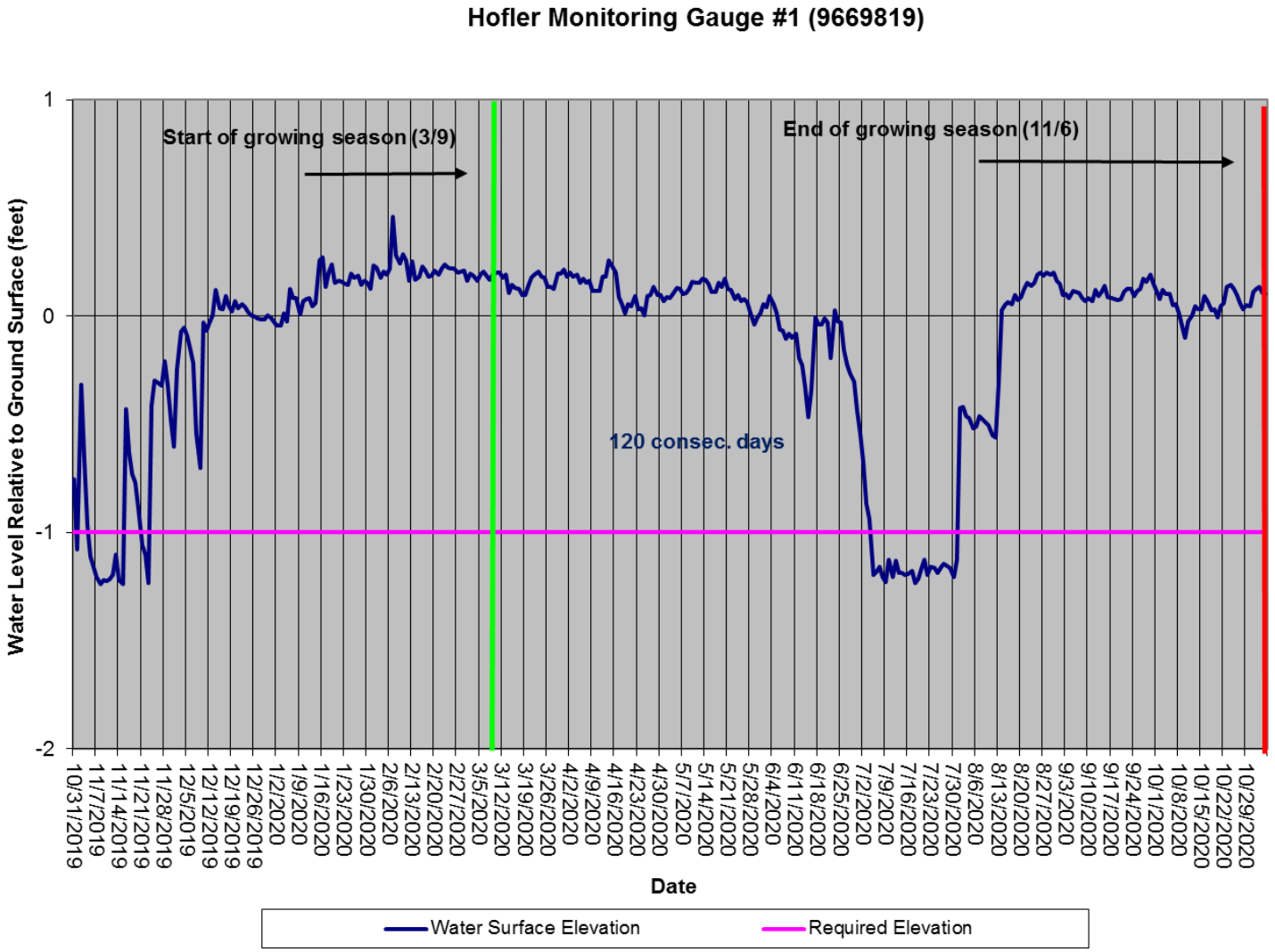
Appendix E

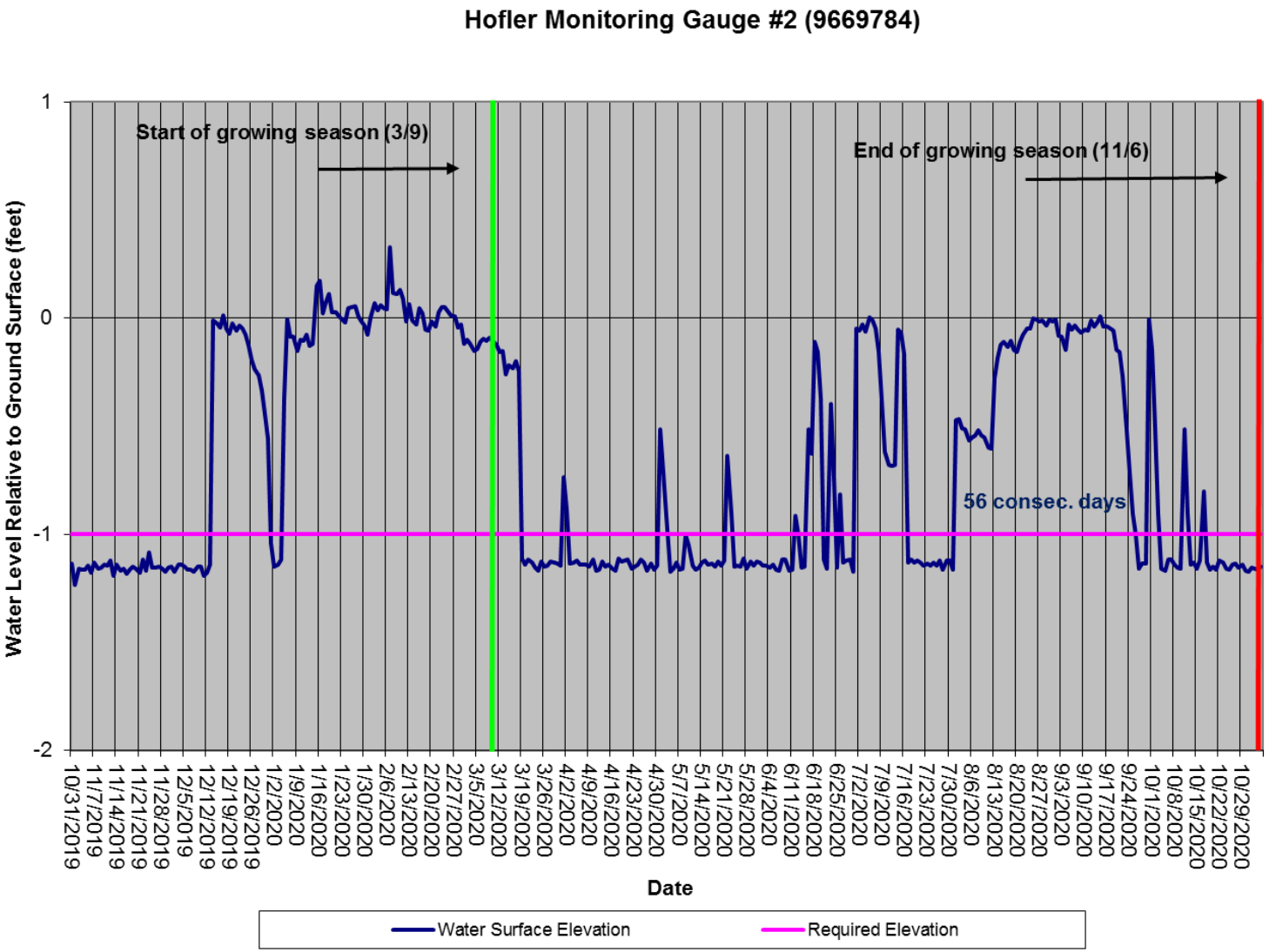
Precipitation Records

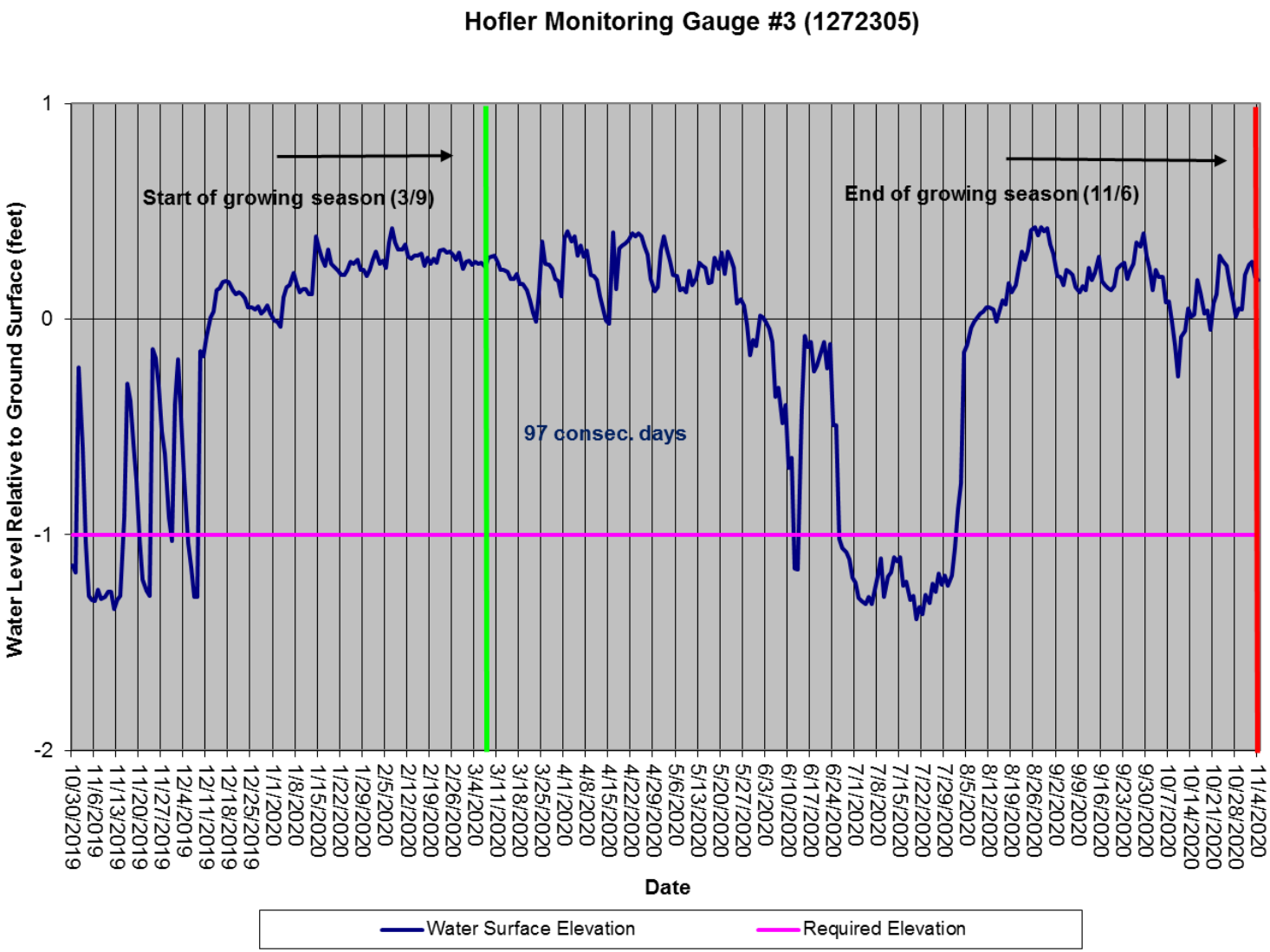
Hydrographs

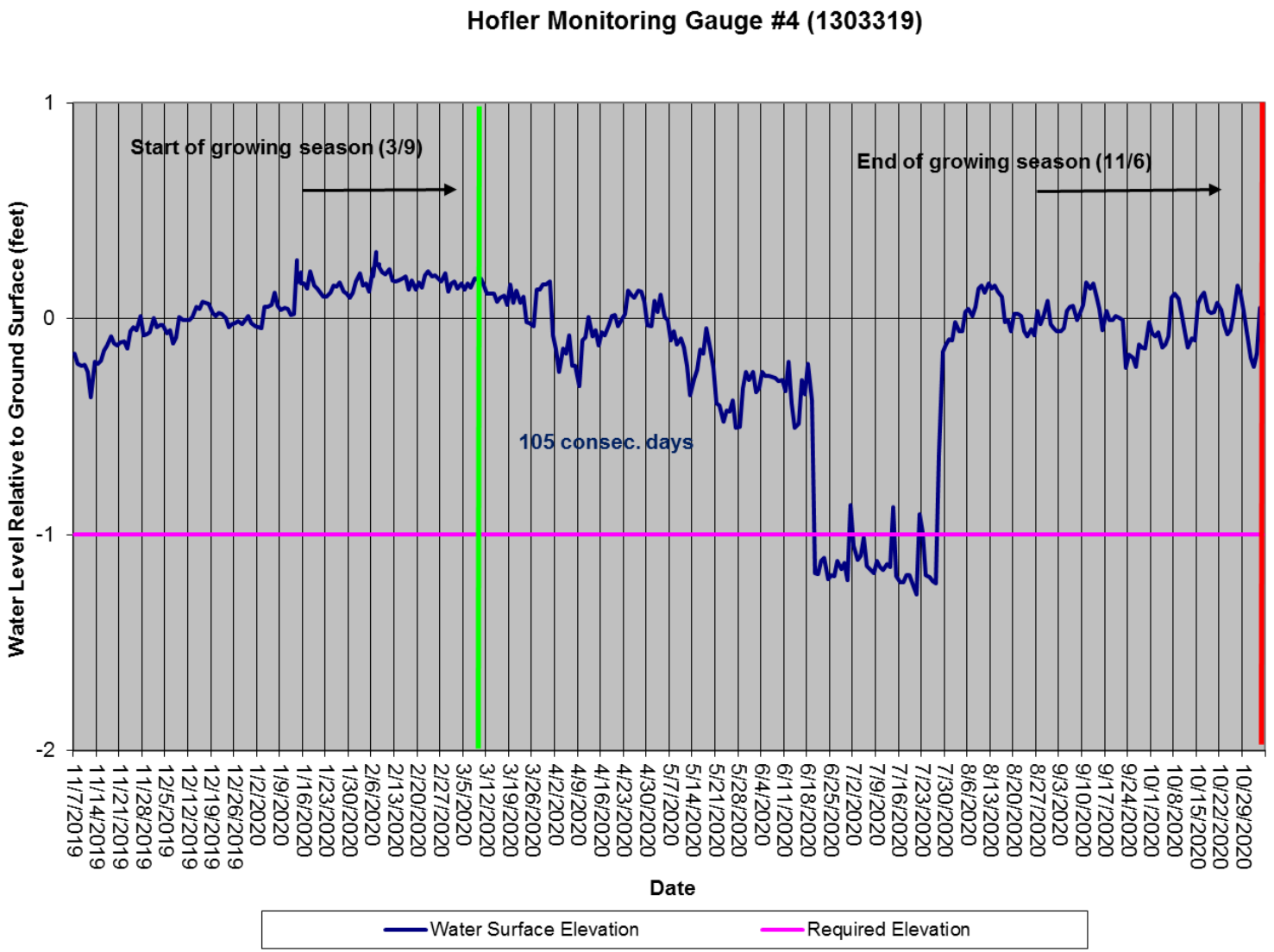
Table 8. Hydroperiod Summary Table

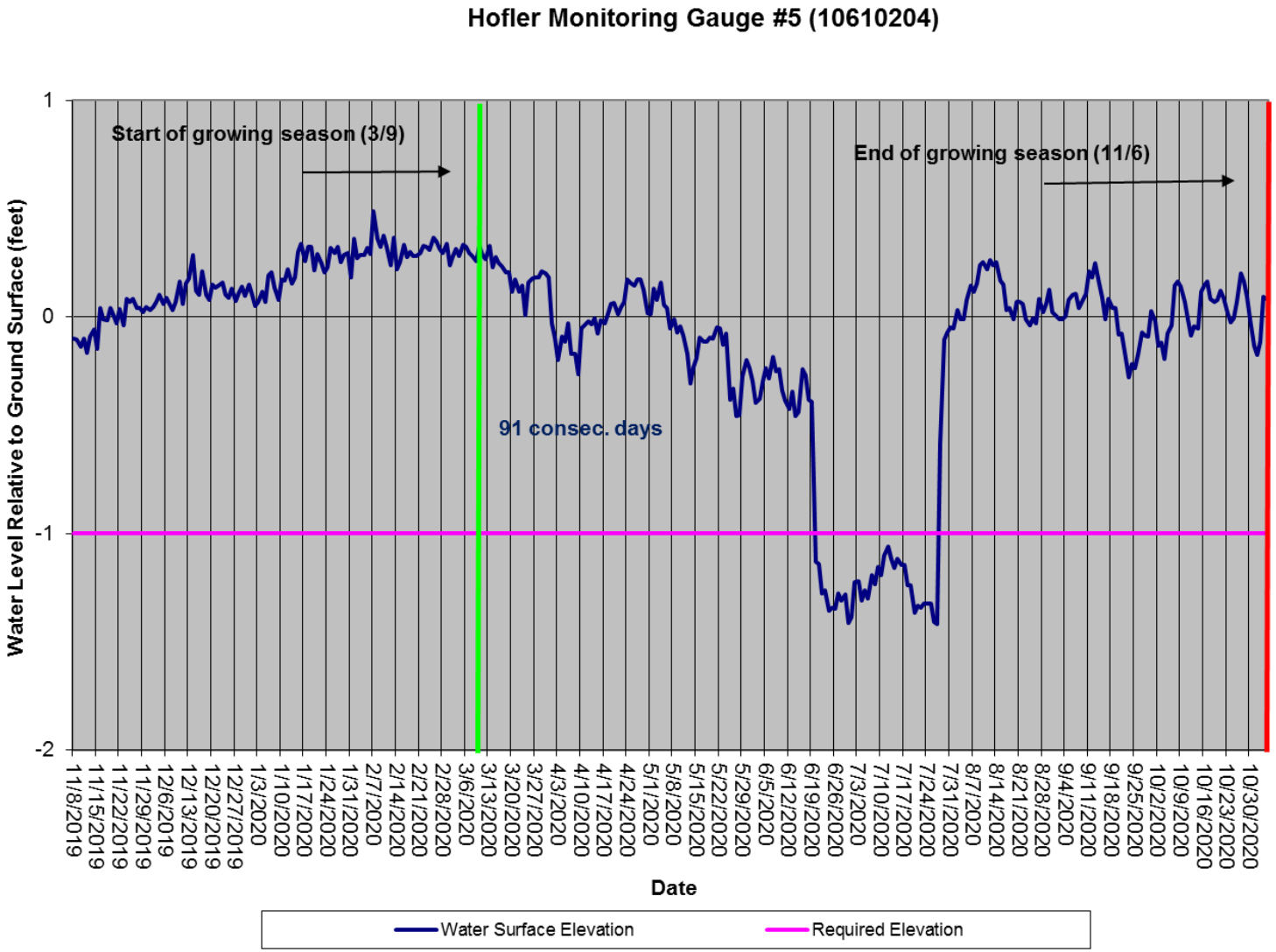

Hofler Project on-site precipitation
30-70 Percentile Graph
Gates County, NC, 2020
Data for November is thru 11/13
Source: NOAA Climatological Coop
Murfreesboro, NC
Precipitation In Inches
18
16
14
12
10
8
6
4
2
0
Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
Oct
Nov
Dec
2019 Totals
30th%^
70th%^

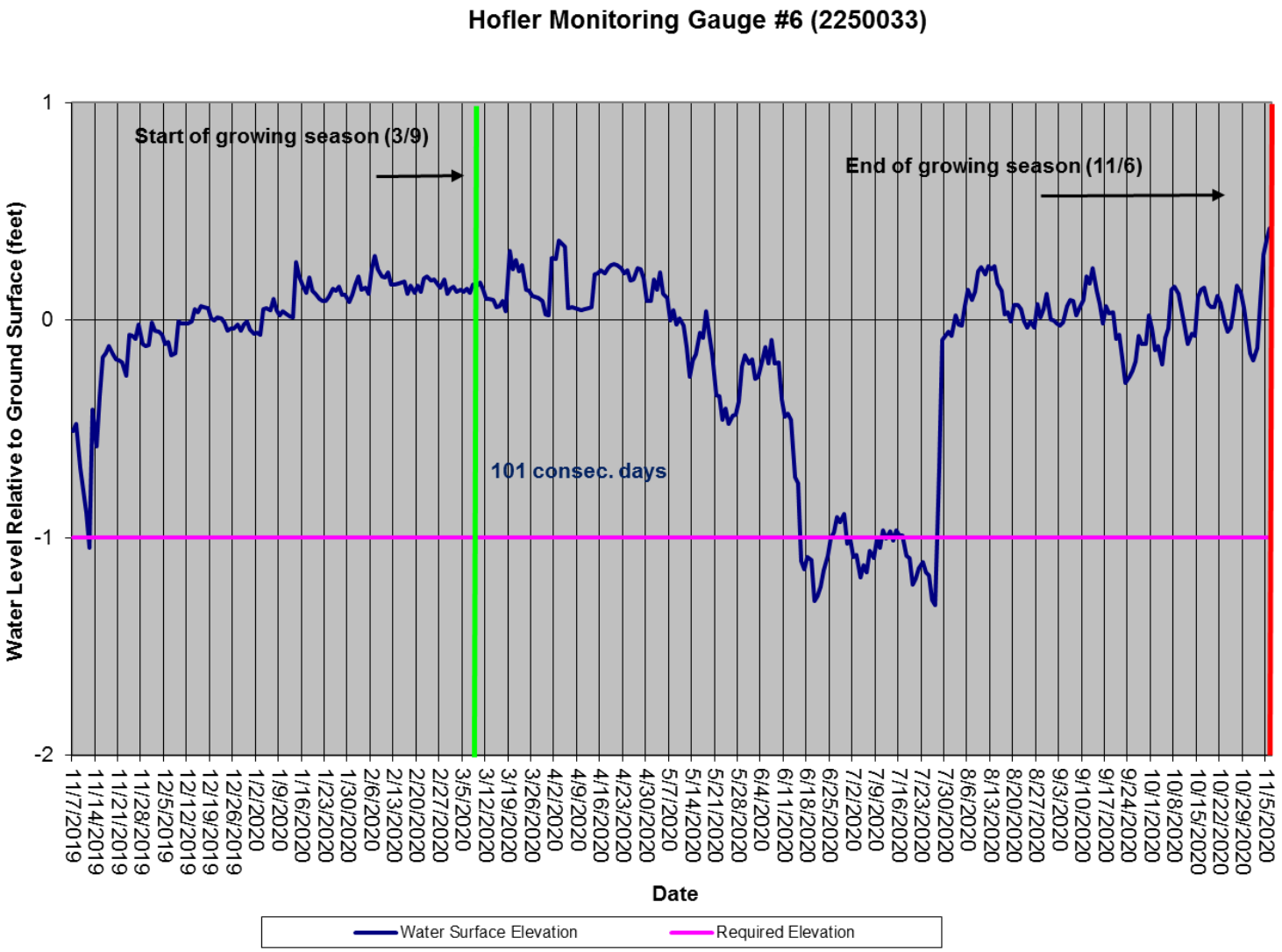

Hofler Monitoring Gauge #1 (9669819)
Start of growing season (3/9)
End of growing season (11/6)
120 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
10/31/2019
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
Date
Water Surface Elevation
Required Elevation

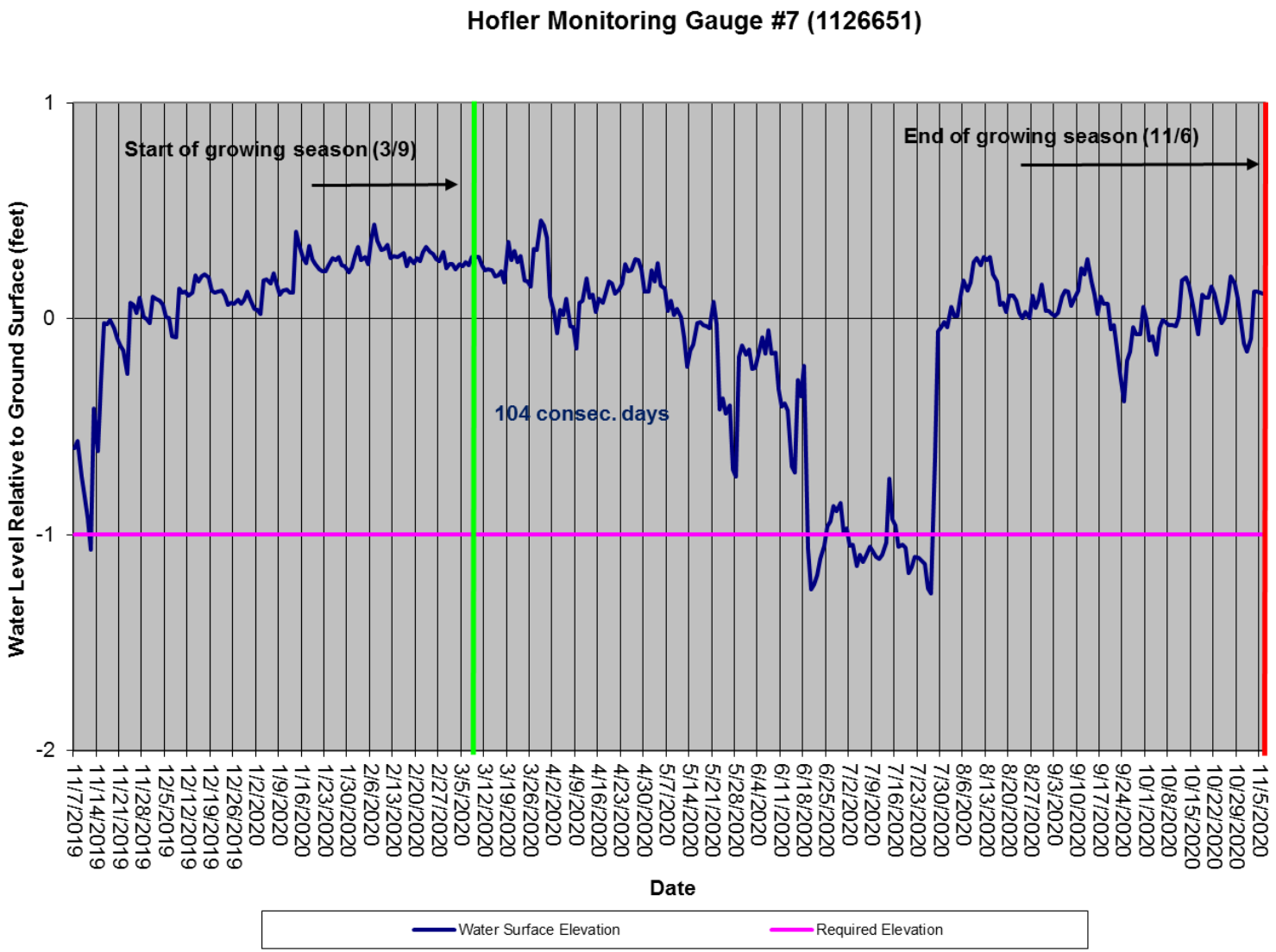

Hofler Monitoring Gauge #2 (9669784)
Start of growing season (3/9)
End of growing season (11/6)
56 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
10/31/2019
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
Date
Water Surface Elevation
Required Elevation

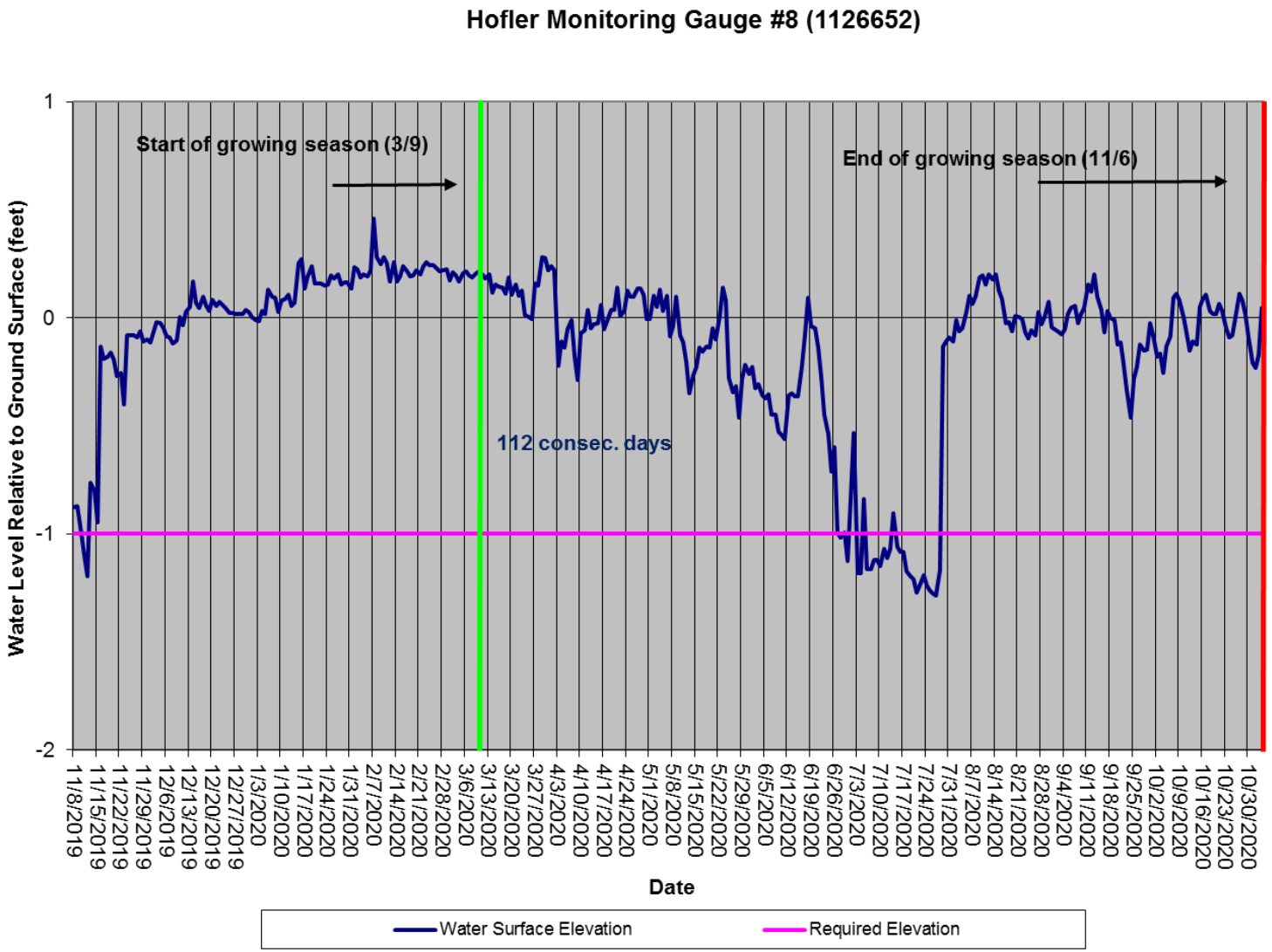

Hofler Monitoring Gauge #3 (1272305)
Start of growing season (3/9)
End of growing season (11/6)
97 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
10/30/2019
11/6/2019
11/13/2019
11/20/2019
11/27/2019
12/4/2019
12/11/2019
12/18/2019
12/25/2019
1/1/2020
1/8/2020
1/15/2020
1/22/2020
1/29/2020
2/5/2020
2/12/2020
2/19/2020
2/26/2020
3/4/2020
3/11/2020
3/18/2020
3/25/2020
4/1/2020
4/8/2020
4/15/2020
4/22/2020
4/29/2020
5/6/2020
5/13/2020
5/20/2020
5/27/2020
6/3/2020
6/10/2020
6/17/2020
6/24/2020
7/1/2020
7/8/2020
7/15/2020
7/22/2020
7/29/2020
8/5/2020
8/12/2020
8/19/2020
8/26/2020
9/2/2020
9/9/2020
9/16/2020
9/23/2020
9/30/2020
10/7/2020
10/14/2020
10/21/2020
10/28/2020
11/4/2020
Date
Water Surface Elevation
Required Elevation

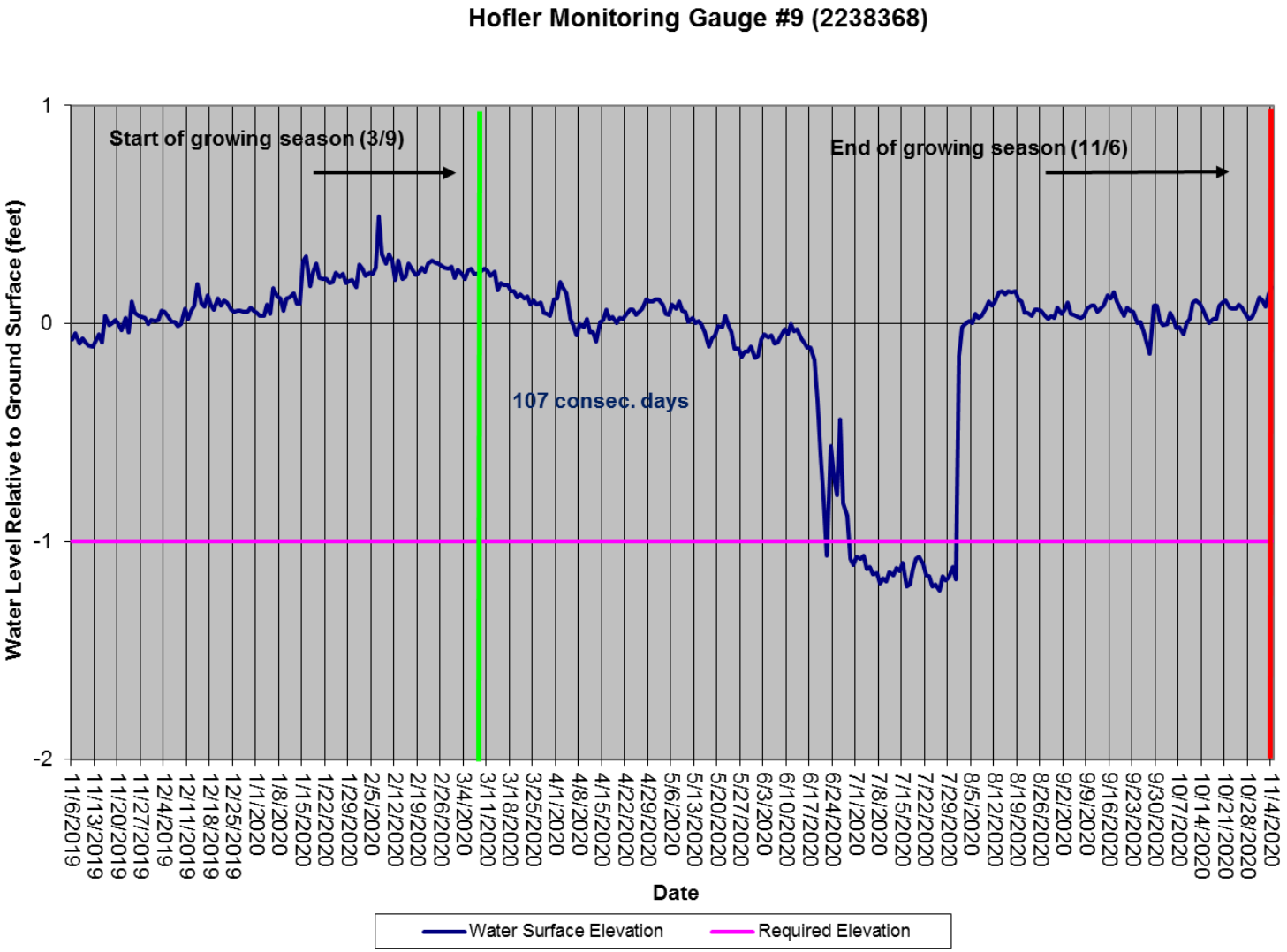

Hofler Monitoring Gauge #4 (1303319)
Start of growing season (3/9)
End of growing season (11/6)
105 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
Date
Water Surface Elevation
Required Elevation


Hofler Monitoring Gauge #5 (10610204)
Start of growing season (3/9)
End of growing season (11/6)
91 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/8/2019
11/15/2019
11/22/2019
11/29/2019
12/6/2019
12/13/2019
12/20/2019
12/27/2019
1/3/2020
1/10/2020
1/17/2020
1/24/2020
1/31/2020
2/7/2020
2/14/2020
2/21/2020
2/28/2020
3/6/2020
3/13/2020
3/20/2020
3/27/2020
4/3/2020
4/10/2020
4/17/2020
4/24/2020
5/1/2020
5/8/2020
5/15/2020
5/22/2020
5/29/2020
6/5/2020
6/12/2020
6/19/2020
6/26/2020
7/3/2020
7/10/2020
7/17/2020
7/24/2020
7/31/2020
8/7/2020
8/14/2020
8/21/2020
8/28/2020
9/4/2020
9/11/2020
9/18/2020
9/25/2020
10/2/2020
10/9/2020
10/16/2020
10/23/2020
10/30/2020
Date
Water Surface Elevation
Required Elevation


Hofler Monitoring Gauge #6 (2250033)
Start of growing season (3/9)
End of growing season (11/6)
101 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
11/5/2020
Date
Water Surface Elevation
Required Elevation


Hofler Monitoring Gauge #7 (1126651)
Start of growing season (3/9)
End of growing season (11/6)
104 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
11/5/2020
Date
Water Surface Elevation
Required Elevation


Hofler Monitoring Gauge #8 (1126652)
Start of growing season (3/9)
End of growing season (11/6)
112 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/8/2019
11/15/2019
11/22/2019
11/29/2019
12/6/2019
12/13/2019
12/20/2019
12/27/2019
1/3/2020
1/10/2020
1/17/2020
1/24/2020
1/31/2020
2/7/2020
2/14/2020
2/21/2020
2/28/2020
3/6/2020
3/13/2020
3/20/2020
3/27/2020
4/3/2020
4/10/2020
4/17/2020
4/24/2020
5/1/2020
5/8/2020
5/15/2020
5/22/2020
5/29/2020
6/5/2020
6/12/2020
6/19/2020
6/26/2020
7/3/2020
7/10/2020
7/17/2020
7/24/2020
7/31/2020
8/7/2020
8/14/2020
8/21/2020
8/28/2020
9/4/2020
9/11/2020
9/18/2020
9/25/2020
10/2/2020
10/9/2020
10/16/2020
10/23/2020
10/30/2020
Date
Water Surface Elevation
Required Elevation


Hofler Monitoring Gauge #9 (2238368)
Start of growing season (3/9)
End of growing season (11/6)
107 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
11/6/2019
11/13/2019
11/20/2019
11/27/2019
12/4/2019
12/11/2019
12/18/2019
12/25/2019
1/1/2020
1/8/2020
1/15/2020
1/22/2020
1/29/2020
2/5/2020
2/12/2020
2/19/2020
2/26/2020
3/4/2020
3/11/2020
3/18/2020
3/25/2020
4/1/2020
4/8/2020
4/15/2020
4/22/2020
4/29/2020
5/6/2020
5/13/2020
5/20/2020
5/27/2020
6/3/2020
6/10/2020
6/17/2020
6/24/2020
7/1/2020
7/8/2020
7/15/2020
7/22/2020
7/29/2020
8/5/2020
8/12/2020
8/19/2020
8/26/2020
9/2/2020
9/9/2020
9/16/2020
9/23/2020
9/30/2020
10/7/2020
10/14/2020
10/21/2020
10/28/2020
11/4/2020
Date
Water Surface Elevation
Required Elevation

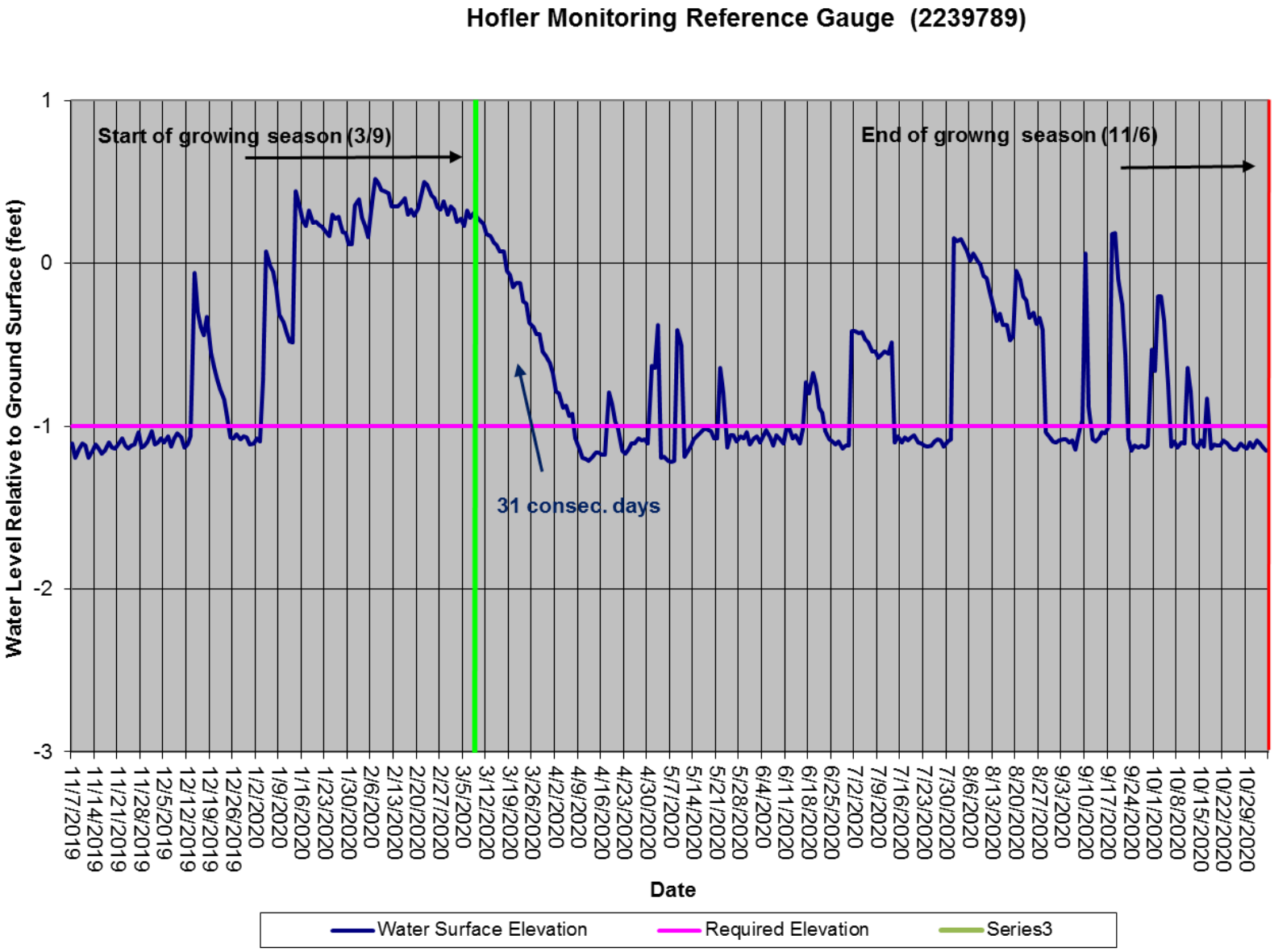

Hofler Monitoring Reference Gauge (2239789)
Start of growing season (3/9)
End of growng season (11/6)
31 consec. days
Water Level Relative to Ground Surface (feet)
1
0
-1
-2
-3
11/7/2019
11/14/2019
11/21/2019
11/28/2019
12/5/2019
12/12/2019
12/19/2019
12/26/2019
1/2/2020
1/9/2020
1/16/2020
1/23/2020
1/30/2020
2/6/2020
2/13/2020
2/20/2020
2/27/2020
3/5/2020
3/12/2020
3/19/2020
3/26/2020
4/2/2020
4/9/2020
4/16/2020
4/23/2020
4/30/2020
5/7/2020
5/14/2020
5/21/2020
5/28/2020
6/4/2020
6/11/2020
6/18/2020
6/25/2020
7/2/2020
7/9/2020
7/16/2020
7/23/2020
7/30/2020
8/6/2020
8/13/2020
8/20/2020
8/27/2020
9/3/2020
9/10/2020
9/17/2020
9/24/2020
10/1/2020
10/8/2020
10/15/2020
10/22/2020
10/29/2020
Date
Water Surface Elevation
Required Elevation
Series3

Table 8. Hydroperiod Summaries by Year

Monitoring Gauge Number	Max Consecutive Hydroperiod: Saturation within 12 Inches of Soil Surface: Percent of growing season and Dates																					Mean Days
	WEIS Table: Murfreesboro, NC Growing Season 3/9 - 11/6 (243 days)																					
	2015	Dates	% G.S.	2016	Dates	% G.S.	2017	Dates	% G.S.	2018	Dates	% G.S.	2019	Dates	% G.S.	2020	Dates	% G.S.	2021	Dates	% G.S.	
9669819 (1)	14.0	4/11-5/14	5.8	97	3/9-6/13	39.9	103	3/14-6/26	42.4	101	3/9-6/17	41.6	75	3/9-5/23	30.9	120	3/9-7/5	49.2				**78.0**
9669784 (2)	9.1	4/15-5/6	3.7	53	9/3-10/25	21.8	59	4/23-6/20	24.3	67	3/9-5/14	27.6	69	3/9-5/17	28.4	56	8/1-9/25	23.0				**51.4**
1272305 (3)	12.8	6/25-7/25	5.2	64	9/1-11/3	26.3	103	3/14-6/24	42.4	99	3/9-6/15	40.7	74	3/9-5/22	30.5	97	3/9-6/12	39.8				**70.6**
1303319 (4)	12.8	6/25-7/25	5.2	65	8/30-11/2	26.7	102	3/13-6/22	42.0	99	3/9-6/15	40.7	75	3/9-5/23	30.9	105	3/9-6/20	43.0				**70.8**
10610204 (5)	24.7	6/4-8/2	10.2	99	3/9-6/15	40.7	120	3/9-7/6	49.4	127	3/9-7/11	52.3	77	3/9-5/25	31.7	91	3/9-6/6	37.3				**89.5**
2250033 (6)	14.0	6/25-7/28	5.8	97	3/9-6/13	39.9	103	3/14-6/24	42.4	101	3/9-6/17	41.6	75	3/9-5/23	30.9	101	3/9-6/16	41.4				**78.0**
1126651 (7)	23.5	6/2-7/28	9.7	98	3/9-6/14	40.3	110	3/9-6/26	45.3	100	3/9-6/16	41.2	77	3/9-5/25	31.7	104	3/9-6/19	42.6				**81.7**
1126652 (8)	14.0	6/25-7/28	5.8	98	3/9-6/14	40.3	109	3/9-6/25	44.9	101	3/9-6/17	41.6	77	3/9-5/25	31.7	112	3/9-6/27	45.9				**79.8**
2238368 (9)	11.5	4/15-5/12	4.7	98	3/9-6/14	40.3	113	3/9-6/29	46.5	182	3/9-9/6	74.9	78	3/9-5/26	32.1	107	3/9-6/22	43.9				**96.5**
2239789 (Ref)	Reference site deemed unsuitable, data removed per DMS						29	3/9-4/6	12.0	32	4/4-5/5	13.2	64	3/9-5/12	26.3	31	3/9-4/7	12.7				**41.7**
Precip Total	30.02			63.84			54.68			34.04			46.21									
Within 30%/70% Range?	**Y**			**N**			**N**			**Y**			Y									

	Meets or exceeds success criteria
N/A	Not available - Gage pulled or yet to be installed by this phase
M	Malfunction, Data Overwritten or Unretrievable

Appendix F

Comments and Responses
Adaptive Management
USACE Permit Needs Determination

Hofler Property- Adaptive Management Plan, Revised 09/25/20

Albemarle Restorations, LLC, (AR) is proposing the following Adaptive Management Plan (AMP) for the Hofler Property (DMS Contract #004628) for the North Carolina Division of Mitigation Services (DMS) and Interagency Review Team (IRT) review and comment. This AMP has been revised based on the comments received from the IRT team on June 23, 2020, in which the IRT requested that a revised AMP be submitted that addressed the issue of excess hydrology that has stressed planted stock. As such AR is submitting the following AMP to address both the hydrologic stressor and planted vegetation performance:

1. Lowering the existing ditch plugs to an elevation of 33.7' or approximately 4" per plug. Per the approved as-built, the restored wetlands range in elevations from 33.91' to 33.71', with the average being 33.8' as designed. The ditch plugs were built to elevation 34.0' per design, approximately two tenths above the finish grade of the wetlands. We selected elevation 33.7' instead of 33.8' to try and reduce ponding in any isolated depressions. This remedial action should promote better off site drainage, helping to reduce inundation and ponding into the growing season, which will facilitate better tree survival and growth.

2. Conduct tree planting this winter (20/21) using bare root and/or containerized (based on availability) Bald cypress at a rate of 200 trees/ac or more to bring the stocking up to required levels in underperforming areas. These areas consist of the lower half of the project site, represented by plots 1, 2 and 11-18, as identified in the MY5 Monitoring Report (pg. 11). Additional tree planting across the entire site may occur based on seedling availability. Bald cypress was chosen because of its ability to grow in wet conditions, tolerance to competition, and past performance on site.

3. Conduct 10-15 additional vegetation plot (1/100th ac) surveys across the site this year. These will be randomly located outside of existing survey locations to better assess tree height, density, and survivorship.

4. Continue Hydrologic and Vegetation monitoring for additional three (3) years (MY8, MY9 & MY10) to ensure achievement of success criteria.

Crocker, Lindsay

From: Browning, Kimberly D CIV USARMY CESAW (USA) <Kimberly.D.Browning@usace.army.mil>
Sent: Tuesday, October 27, 2020 10:32 AM
To: Crocker, Lindsay; Davis, Erin B
Subject: RE: [External] Intent to Approve Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

Hi Lindsay
I appreciate that there are at least four species that are FACW or OBL. I would think that Tupelo would do well also, but availability may be difficult. Hopefully they'll do well if the site becomes less inundated. I'm fine with that proposal.
Thanks for following up,
Kim

Kim Browning
Mitigation Project Manager, Regulatory Division I U.S. Army Corps of Engineers

-----Original Message-----
From: Crocker, Lindsay <Lindsay.Crocker@ncdenr.gov>
Sent: Tuesday, October 27, 2020 9:12 AM
To: Browning, Kimberly D CIV USARMY CESAW (USA) <Kimberly.D.Browning@usace.army.mil>; Davis, Erin B <erin.davis@ncdenr.gov>
Subject: [Non-DoD Source] FW: [External] Intent to Approve Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

Kim and Erin,

This is the plan with the species diversity (see below). Albemarle would like to go ahead and move forward, but I wanted to double check with you if these species need to be vetted with all of the IRT. All 4 of these were in the planting plan and meet target community of hardwood flat.

Thanks,

Lindsay

Lindsay Crocker

NC DEQ Division of Mitigation Services

217 West Jones St., Raleigh, NC 27603

919.594.3910

lindsay.crocker@ncdenr.gov <mailto:lindsay.crocker@ncdenr.gov>

From: edtemple@vol.com <edtemple@vol.com>
Sent: Tuesday, October 27, 2020 7:31 AM
To: Crocker, Lindsay <Lindsay.Crocker@ncdenr.gov>
Cc: 'Ashby Brown' <ashby.brown99@gmail.com>; 'Scott McGill' <SMcGill@ecotoneinc.com>
Subject: RE: [External] Intent to Approve Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

Lindsay,

Our plan is to plant a mixture of willow oak, water oak, swamp white oak and cypress with exact quantities of each based availability. We still anticipate cypress to be majority species if available. Please let me know if you need anything else.

Ed

From: Crocker, Lindsay <Lindsay.Crocker@ncdenr.gov <mailto:Lindsay.Crocker@ncdenr.gov> >
Sent: Friday, October 23, 2020 2:02 PM
To: Ed Temple <edtemple@vol.com <mailto:edtemple@vol.com> >
Subject: Fwd: [External] Intent to Approve Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

Sent from my Verizon, Samsung Galaxy smartphone Get Outlook for Android <Blockedhttps://urldefense.com/v3/__https:/aka.ms/ghei36__;!!HYmSToo!K0XxrkF1xWe5Mc2vm5URXbFqxUZI4Q9lxqy1v3Y_J38_VNQC3Vk1470MSR4gvVMtQDRpAVc$>

_____

From: Browning, Kimberly D CIV USARMY CESAW (USA) <Kimberly.D.Browning@usace.army.mil <mailto:Kimberly.D.Browning@usace.army.mil> >
Sent: Friday, October 23, 2020 1:30:44 PM
To: Tugwell, Todd J CIV USARMY CESAW (US) <Todd.J.Tugwell@usace.army.mil <mailto:Todd.J.Tugwell@usace.army.mil> >; Davis, Erin B <erin.davis@ncdenr.gov <mailto:erin.davis@ncdenr.gov> >; Wilson, Travis W. <travis.wilson@ncwildlife.org <mailto:travis.wilson@ncwildlife.org> >; Haywood, Casey M CIV (USA) <Casey.M.Haywood@usace.army.mil <mailto:Casey.M.Haywood@usace.army.mil> >; Bowers, Todd <bowers.todd@epa.gov <mailto:bowers.todd@epa.gov> >; kathryn_matthews@fws.gov <mailto:kathryn_matthews@fws.gov> <kathryn_matthews@fws.gov <mailto:kathryn_matthews@fws.gov> >; Wells, Emily N <Emily_Wells@fws.gov <mailto:Emily_Wells@fws.gov> >; Lekson, David M CIV USARMY CESAW (USA) <David.M.Lekson@usace.army.mil <mailto:David.M.Lekson@usace.army.mil> >; Barnes, Kyle W CIV USARMY CESAW (US) <Kyle.W.Barnes@usace.army.mil <mailto:Kyle.W.Barnes@usace.army.mil> >; Smith, Ronnie D CIV USARMY CESAW (USA) <Ronnie.D.Smith@usace.army.mil <mailto:Ronnie.D.Smith@usace.army.mil> >; McLendon, C S CIV USARMY CESAW (USA) <Scott.C.McLendon@usace.army.mil <mailto:Scott.C.McLendon@usace.army.mil> >; Dunn, Maria T. <maria.dunn@ncwildlife.org <mailto:maria.dunn@ncwildlife.org> >
Cc: Baumgartner, Tim <tim.baumgartner@ncdenr.gov <mailto:tim.baumgartner@ncdenr.gov> >; 'Ashby Brown' <ashby.brown99@gmail.com <mailto:ashby.brown99@gmail.com> >; Allen, Melonie <melonie.allen@ncdenr.gov <mailto:melonie.allen@ncdenr.gov> >; 'Scott McGill' <SMcGill@ecotoneinc.com <mailto:SMcGill@ecotoneinc.com> >; 'Marie Brady' <mbrady@ecotoneinc.com <mailto:mbrady@ecotoneinc.com> >; Crocker, Lindsay <Lindsay.Crocker@ncdenr.gov <mailto:Lindsay.Crocker@ncdenr.gov> >
Subject: [External] Intent to Approve Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov <mailto:report.spam@nc.gov>

Good afternoon,

The 15-day comment review period for the NCDMS Hofler Mitigation Site Adaptive Management Plan (SAW-2012-01393) closed on October 22, 2020. Per Section 332.8(o)(9) of the 2008 Mitigation Rule, this review followed the streamlined review process. All comments received during the review process are below.

IRT Comments on the Hofler Site Adaptive Management Plan:

The proposed AMP aims to address previously mentioned concerns of excessive hydrology and resulting vegetative mortality. We concur that replanting, additional hydrology monitoring, and additional veg monitoring (MY8-10) may help meet performance standards. The IRT requests that a diversity of species be planted, rather than the proposed single species. The IRT agrees that if the excessive site hydrology is appropriately addressed, additional species should

be suitable for this site. Please note that the original vegetative performance standard at MY7 was set for at least 210 stems per acre with an average height of 10 feet still applies. There is concern that this will be difficult to meet. Failure to meet this standard may lead to an adjustment of credit to account for vegetative density and vigor concerns.

It is our intent to approve this adaptive management plan provided you address IRT concerns listed above. Please contact the mitigation office if you have questions.

Respectfully,

Kim Browning

Mitigation Project Manager, Regulatory Division I U.S. Army Corps of Engineers

-----Original Message-----
From: Browning, Kimberly D CIV USARMY CESAW (USA) <Kimberly.D.Browning@usace.army.mil <mailto:Kimberly.D.Browning@usace.army.mil> >
Sent: Wednesday, October 07, 2020 10:51 AM
To: Tugwell, Todd J CIV USARMY CESAW (USA) <Todd.J.Tugwell@usace.army.mil <mailto:Todd.J.Tugwell@usace.army.mil> >; Davis, Erin B <erin.davis@ncdenr.gov <mailto:erin.davis@ncdenr.gov> >; Wilson, Travis W. <travis.wilson@ncwildlife.org <mailto:travis.wilson@ncwildlife.org> >; Haywood, Casey M CIV (USA) <Casey.M.Haywood@usace.army.mil <mailto:Casey.M.Haywood@usace.army.mil> >; 'Bowers, Todd (bowers.todd@epa.gov <mailto:bowers.todd@epa.gov>)' <bowers.todd@epa.gov <mailto:bowers.todd@epa.gov> >; 'Matthews, Kathryn (kathryn_matthews@fws.gov <mailto:kathryn_matthews@fws.gov>)' <kathryn_matthews@fws.gov <mailto:kathryn_matthews@fws.gov> >; Wells, Emily <emily_wells@fws.gov <mailto:emily_wells@fws.gov> >; Lekson, David M CIV USARMY CESAW (USA) <David.M.Lekson@usace.army.mil <mailto:David.M.Lekson@usace.army.mil> >; Barnes, Kyle W CIV USARMY CESAW (US) <Kyle.W.Barnes@usace.army.mil <mailto:Kyle.W.Barnes@usace.army.mil> >; Smith, Ronnie D CIV USARMY CESAW (USA) <Ronnie.D.Smith@usace.army.mil <mailto:Ronnie.D.Smith@usace.army.mil> >; McLendon, C S CIV USARMY CESAW (USA) <Scott.C.McLendon@usace.army.mil <mailto:Scott.C.McLendon@usace.army.mil> >; maria.dunn@ncwildlife.org <mailto:maria.dunn@ncwildlife.org>
Cc: Baumgartner, Tim <tim.baumgartner@ncdenr.gov <mailto:tim.baumgartner@ncdenr.gov> >; 'Ashby Brown' <ashby.brown99@gmail.com <mailto:ashby.brown99@gmail.com> >; Allen, Melonie <melonie.allen@ncdenr.gov <mailto:melonie.allen@ncdenr.gov> >; 'Scott McGill' <SMcGill@ecotoneinc.com <mailto:SMcGill@ecotoneinc.com> >; 'Marie Brady' <mbrady@ecotoneinc.com <mailto:mbrady@ecotoneinc.com> >; Crocker, Lindsay <Lindsay.Crocker@ncdenr.gov <mailto:Lindsay.Crocker@ncdenr.gov> >
Subject: Notice of Revised Adaptive Management Plan/ NCDMS Hofler Site / Gates Co./ SAW-2012-01393

Good morning IRT,

The below referenced REVISED Adaptive Management Plan review has been requested by NCDMS. Per Section 332.8(o)(9) of the 2008 Mitigation Rule, this review follows the streamlined review process, which requires an IRT review period of 15 calendar days from this email notification. Please provide any comments by 5 PM on the 15-day

comment deadline shown below. Comments provided after the 15-day comment deadline (shown below) may not be considered.

At the conclusion of this comment period, a copy of all comments will be provided to NCDMS and the NCIRT along with District Engineer's intent to approve or disapprove this AMP.

The site is currently in MY6; the most recent monitoring report (MY5) is located on the Project Document page. It includes the most recently signed debit ledger and is available here:

Blockedhttps://deq.nc.gov/about/divisions/mitigation-services/dms-projects
<Blockedhttps://deq.nc.gov/about/divisions/mitigation-services/dms-projects>

Hofler

DMS Project # 95355

Chowan River Basin

Cataloging Unit 03010203

Gates County, North Carolina

USACE Action ID: SAW-2012-01393

DWR# 16-0044

Proposed Assets:

23.000 Non-Riparian WMUs

15-Day Comment Start: October 7, 2020

15-Day Comment Deadline: October 22, 2020

45-Day DE Decision: November 21, 2020

Please contact the Mitigation Office if you have questions.

Thanks,

Kim

Kim Browning

Mitigation Project Manager, Regulatory Division I U.S. Army Corps of Engineers

3331 Heritage Trade Dr, Ste. 105 I Wake Forest, NC 27587 I 919.554.4884 x60

BUILDING STRONG (r)

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

REPLY TO
ATTENTION OF:

July 21, 2014

Regulatory Division

Re: NCIRT Review and USACE Approval of the Hofler Property Wetland Mitigation Site Plan; SAW-2012-01393; NCEEP Project # 95355

Mr. Tim Baumgartner
North Carolina Ecosystem Enhancement Program
1652 Mail Service Center
Raleigh, NC 27699-1652

Dear Mr. Baumgartner:

The purpose of this letter is to provide the North Carolina Ecosystem Enhancement Program (NCEEP) with all comments generated by the North Carolina Interagency Review Team (NCIRT) during the 30-day comment period for the the Hofler Property Wetland Mitigation Site Plan, which was reposted and closed on April 5, 2014. These comments are attached for your review.

This mitigation plan was originally posted in January, 2014. Comments posted identified numerous concerns with the projects (see attached memo). Because of these comments, the plan was revised in March 2014, and reposted on March 6, 2014 for a second review. The deadline for comments was April 5, 2014. An initial review of the comments revealed that many of the comments from the first round of comments had not been addressed in the March mitigation plan revision.

Prior to making a determination as to whether to approve this project, a third copy of the mitigation plan, dated May 2014, was received on May 29, 2014. This plan has subsequently been reviewed in light of the comments provided by NCIRT members during the review. Most of the comments have been addressed in the recent version of the plan, including concerns regarding well placement, vegetation plots, appropriate hydroperiod, and the proposed species list for planting. Based on these modifications, we have determined that major concerns identified with the Draft Mitigation Plan have been addressed, and the mitigation plan is considered approved with this correspondence.

Nevertheless, we believe it is important to note that the location and method of construction at the proposed site are not preferred, and effort should be made to avoid this type of project in the future. As a general rule, we do not believe that building berms around a restored wetland is an appropriate way to reestablish hydrology on a site. To begin with, this is not true restoration as you are establishing an entirely new hydrology regime on the site. Water flow into and out of the wetland is severely restricted by the berms, and the outflow elevation for the entire site is controlled by "ditch plugs/check dams" (see discussion on page 23 of the mitigation plan dated May 2014). In addition, there is the potential that

berms may be breached in the future though natural or anthropogenic means, which could affect the hydrology of the entire site. Lastly, constructing a wetland site in the middle of an agricultural field is not ideal as it drastically limits the connection between the site and forested wetlands adjacent to or downstream from the project. In this case, water flowing from the site must travel through more than ¼ mile of ditch before it reaches the forested headwaters of Lassiter Swamp, limiting the benefit of the project and the ability of the site to fully achieve the stated goals of the mitigation plan.

The Final Mitigation Plan is to be submitted with the Preconstruction Notification (PCN) Application for Nationwide permit approval of the project along with a copy of this letter. All changes made to the Final Mitigation Plan should be summarized in an errata sheet included at the beginning of the document. As it was determined that the project does not contain jurisdictional waters of the U.S., construction for the project does not require a Department of the Army permit; however, you must still provide a copy of the Final Mitigation Plan, along with a copy of this letter, to the appropriate USACE field office at least 30 days in advance of beginning construction of the project. Please note that this approval does not preclude the inclusion of permit conditions in the permit authorization for the project. Additionally, this letter provides initial approval for the Mitigation Plan, but this does not guarantee that the project will generate the requested amount of mitigation credit. As you are aware, unforeseen issues may arise during construction or monitoring of the project that may require maintenance or reconstruction that may lead to reduced credit.

Thank you for your prompt attention to this matter, and if you have any questions regarding this letter, the mitigation plan review process, or the requirements of the Mitigation Rule, please call me at 919-846-2564.

Sincerely,

TUGWELL.TODD.JASON.1048429293
2014.07.21 14:23:23 -04'00'

Todd Tugwell
Special Projects Manager

Enclosures

Electronic Copies Furnished:

NCIRT Distribution List
NCEEP/Heather Smith
NCEEP/Lin Xu

Ed Temple

From: Smith, Heather [heather.c.smith@ncdenr.gov]
Sent: Monday, July 21, 2014 3:24 PM
To: edtemple@vol.com
Subject: FW: NCEEP Draft Mitigation Plan Approval Letter with Comment Memo / Hofler Property Wetland Mitigation Project / Gates County / SAW-2012-01393 (UNCLASSIFIED)

Categories: Red Category

Ed,

Here is the clarification email.

Sincerely,

Heather Smith
Eastern Project Manager
Ecosystem Enhancement Program
919-707-8496
heather.c.smith@ncdenr.gov

Physical Address:
217 West Jones St., 3rd Floor, Suite 3000A, Raleigh, N.C. 27603

Mailing address:
1652 Mail Service Center, Raleigh, N.C. 27699-1652.

Parking and visitor access information is available on the EEP website.

-----Original Message-----
From: Tugwell, Todd SAW [mailto:Todd.Tugwell@usace.army.mil]
Sent: Monday, July 21, 2014 3:17 PM
To: Baumgartner, Tim
Cc: Smith, Heather
Subject: RE: NCEEP Draft Mitigation Plan Approval Letter with Comment Memo / Hofler Property Wetland Mitigation Project / Gates County / SAW-2012-01393 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

No, that was an oversight. No need for a PCN.

Todd

-----Original Message-----
From: Baumgartner, Tim [mailto:tim.baumgartner@ncdenr.gov]
Sent: Monday, July 21, 2014 3:02 PM
To: Tugwell, Todd SAW
Cc: Smith, Heather
Subject: [EXTERNAL] RE: NCEEP Draft Mitigation Plan Approval Letter with Comment Memo / Hofler Property Wetland Mitigation Project / Gates County / SAW-2012-01393 (UNCLASSIFIED)

Todd,

Thanks for the letter. We are a little confused. The last paragraph of the letter says to submit a PCN. There is no PCN needed for the project because the site is not currently jurisdictional. Do they submit a PCN anyway or was this an oversight?

Thanks
Tim

==========

Tim Baumgartner, CPESC

Deputy Director of Operations

Ecosystem Enhancement Program

Department of Environment and Natural Resources

Office - 919-707-8543

Cell - 919-218-2557

From: Tugwell, Todd SAW [mailto:Todd.Tugwell@usace.army.mil]
Sent: Monday, July 21, 2014 2:43 PM
To: Baumgartner, Tim
Cc: Xu, Lin; Smith, Heather; Fritz Rohde (Fritz.Rohde@noaa.gov); Chapman, Amy; Baker, Virginia; Beter, Dale E SAW; Biddlecome, William J SAW; bowers.todd@epa.gov; Crumbley, Tyler SAW; Karoly, Cyndi; Cox, David R.; Hall, Dolores; Emily Jernigan@fws.gov; Alsmeyer, Eric C SAW; Kulz, Eric; Gibby, Jean B SAW; Greer, Emily C SAW; Jones, Scott SAW; Higgins, Karen; Kathryn Matthews@fws.gov; Marella Buncick (Marella Buncick@fws.gov); McLendon, Scott C SAW; Gledhill-earley, Renee; Sollod, Steve; Wilson, Travis W.; Wheeler, Tracey L SAW; Wicker, Henry M JR SAW
Subject: NCEEP Draft Mitigation Plan Approval Letter with Comment Memo / Hofler Property Wetland Mitigation Project / Gates County / SAW-2012-01393 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Mr. Baumgartner,

Attached is the approval letter for the Draft Mitigation Plan for the Hofler Mitigation Project, along with all the comments that were generated during the IRT's review of the project on the Mitigation Plan Review Portal. Please note that this letter approves the Draft Mitigation Plan. The site was determined to have no waters of the U.S., so a permit is not required for construction; however, a copy of the final mitigation plan should be provided at least 30 days prior to construction on site. Also, please ensure that the Final Mitigation Plan is posted to NCEEP's documents portal so that all members of the IRT have access to the Final plan.

Please let me know if you have any questions about the process or the attached letter.

Todd Tugwell

Special Projects Manager

Regulatory Division

Wilmington District

U.S. Army Corps of Engineers

11405 Falls of Neuse Road

Wake Forest, NC 27587

(919) 846-2564

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE