Dominion Resources Services, Inc.
5000 Dominion Boulevard,
Glen Allen, VA 23060

January 27, 2017

BY OVERNIGHT (OR EXPRESS) MAIL

Mr. Joby Timm
Forest Supervisor
U.S. Forest Service
George Washington and Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: Dominion Transmission, Inc., Atlantic Coast Pipeline, 2015 and 2016 George Washington National Forest Wetland and Waterbody Report for the U.S. Forest Service

Dear Mr. Timm:

Atlantic Coast Pipeline, LLC (Atlantic) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas. The company was created to develop, own, and operate the proposed Atlantic Coast Pipeline (ACP), an approximately 600-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to seek authorization from the Federal Energy Regulatory Commission under Section 7(c) of the Natural Gas Act to construct, own, operate, and maintain the ACP on behalf of Atlantic. Approximately 21.1 miles (15.9 miles within the George Washington National Forest) of ACP will be located on U.S. Forest Service (USFS) land.

The enclosed 2015 and 2016 George Washington National Forest wetland and waterbody delineation report is being submitted in support of Atlantic's application for a right-of-way and special use permit for the ACP.

Please contact Mr. Richard Gangle at (804) 273-2814 or richard.b.gangle@dom.com if you have questions regarding the enclosed report. Please direct written responses to:

Richard Gangle
Energy Infrastructure Environmental Services
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Sincerely,

Robert M. Bisha
Technical Advisor, Atlantic Coast Pipeline

cc: Jennifer Adams, USFS
Richard Gangle, Dominion
Spencer Trichell. Dominion

Attachments: 2015 and 2016 George Washington National Forest Survey Report

Atlantic Coast Pipeline

George Washington National Forest

Wetland and Waterbody Survey Report

REV. 1

Prepared by:

January 2017

Atlantic Coast Pipeline
George Washington National Forest

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ACRONYMS

ACP	Atlantic Coast Project
CFR	Code of Federal Regulations
USACE	U.S. Army Corps of Engineers
DTI	Dominion Transmission, Inc.
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
FAC	Facultative Plants
FACU	Facultative Upland Plants
FACW	Facultative Wetland Plants
FERC	Federal Energy Regulatory Commission
GPS	Global Positioning System
GWNF	George Washington National Forest
NCWAM	North Carolina Wetland Assessment Method
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OBL	Obligate Plants
OHWM	Ordinary High Water Mark
PEM	Palustrine System Emergent Wetland Class
PFO	Palustrine System Forested Wetland Class
PSS	Palustrine System Scrub-Shrub Wetland Class
SUP	Special Use Permit
TOB	Top of bank
UPL	Uplands Plants
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

Atlantic Coast Pipeline, LLC (ACP) is a company formed by four major U.S. energy companies – Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas. The company was created to develop, own, and operate the proposed ACP, an approximately 604.4-mile-long, interstate natural gas transmission pipeline system designed to meet growing energy needs in Virginia and North Carolina. The ACP will deliver 1.5 billion cubic feet per day (bcf/d) of natural gas to be used to generate electricity, heat homes, and run local businesses. The underground pipeline project will facilitate cleaner air, increase reliability and security of natural gas supplies. For more information about the ACP, visit the company's website at www.dom.com/acpipeline. Atlantic has contracted with Dominion Transmission, Inc. (DTI), a subsidiary of Dominion, to permit, build, and operate the ACP on behalf of Atlantic.

The ACP will be regulated by the Federal Energy Regulatory Commission (FERC) under Section 7(c) of the Natural Gas Act. The ACP is subject to review by the FERC under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act, as well as other environmental and natural resource laws. DTI is currently conducting field routing, environmental, cultural resources, and civil surveys along the planned pipeline route to collect information needed by the FERC and other regulatory agencies to review and permit the ACP.

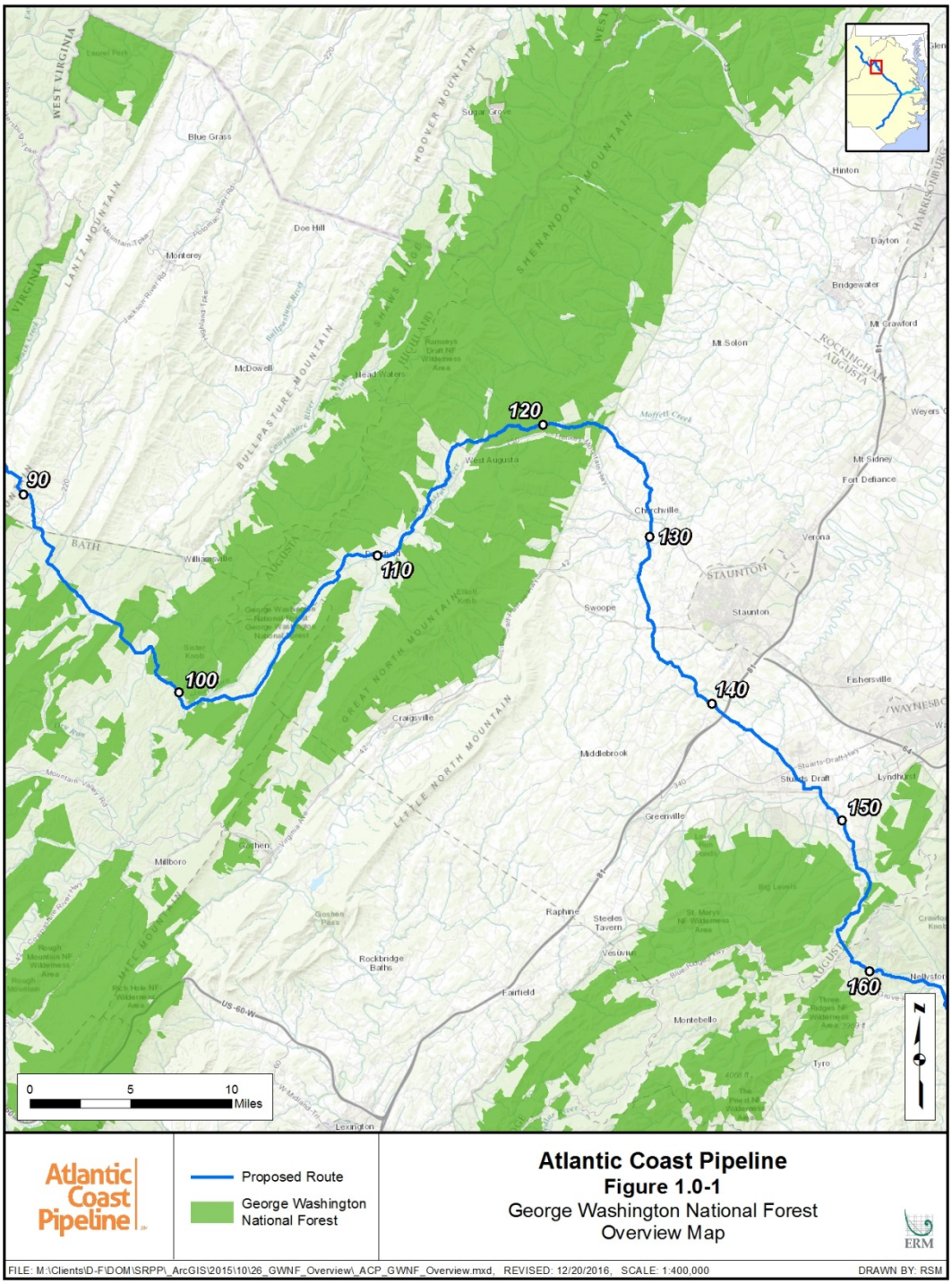
On November 13, 2014 the FERC granted authorization to begin the pre-filing process for ACP. This process allows all stakeholders, including landowners and government agencies, to provide input on the project before the final application is filed. On September 18, 2015, ACP filed applications with the FERC, with actual construction to take place from Fall 2017 and in-service by the fourth quarter of 2019.

The ACP includes two mainline pipelines (AP-1 and AP-2) and three new lateral pipelines (AP-3, AP-4, and AP-5). The AP-1 mainline will originate in Harrison County, West Virginia and terminate in Northampton County, North Carolina. The AP-1 mainline will be routed through a portion of the U.S. Forest Service (USFS) land in the George Washington National Forest (GWNF) in Virginia.

In a Special Use Permit (SUP) issued by the GWNF in April 2016, the GWNF outlined the recommendations for environmental surveys needed to facilitate analysis of ACP's proposed route on the GWNF.

To comply with the requirements of the SUP, Environmental Resources Management (ERM), on behalf of ACP, conducted wetland and waterbody surveys for the proposed ACP within the boundaries of the GWNF between May 2015 and October 2016. Surveys were completed solely by staff from ERM. This report presents results of the wetland and waterbody field surveys that were completed in the GWNF for ACP. The survey area consists of a 300-foot-wide corridor approximately 15.9 miles long within the USFS land boundaries of the GWNF (Figure 1.0-1). This area, located in both Highland and Augusta Counties, is part of the proposed AP-1 mainline pipeline. The survey corridor includes wetlands and waterbodies under the jurisdiction of the U.S. Army Corps of Engineers (USACE) Norfolk District.

This report provides an assessment of wetlands, rivers, streams, open waterbodies (e.g., ponds), and seep points documented within the survey corridor based on qualified wetland biologists' best professional judgment and interpretation of the *U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual* (USACE, 1987), *the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* (USACE, 2010a), the *USACE Regulatory Guidance Letter regarding Ordinary High Water Mark Identification* (USACE, 2005), and other applicable USACE guidance documents and regulations. The report also documents observations made at "non-water points." The non-water points were defined based upon desktop data (NWI polygons, NHD lines, and aerial signatures), indicating possible presence of a wetland or waterbody, but determined to be upland areas during field surveys. The surveys included wetland functional assessments of the wetlands. Please refer to the appendices for relevant location information for the wetlands and waterbodies documented in the report. Specifically, Appendix E includes U.S. Geological Survey (USGS) 7.5-Minute Topographic maps and aerial photography maps each with illustrated wetlands and waterbodies delineated during field surveys.


90
100
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Miles
Proposed Route
George Washington National Forest
Atlantic Coast Pipeline
Figure 1.0-1
George Washington National Forest
Overview Map
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2.0 METHODS

Field surveys for the proposed pipeline were conducted within a 300-foot-wide survey corridor and for proposed access roads within a 50-foot-wide survey corridor. The survey area was evaluated to determine the presence of water features including wetlands, waterbodies (streams and open waterbodies), non-tidal ditches, and seep points. Data were also collected to document a lack of water features where desktop data indicated water features may be present; these are referred to as non-water points.

Specific naming conventions were followed during field surveys in order to catalog each feature type collected. Features recorded in Highland County, VA have been designated with the county code "hi," and features recorded in Augusta County, VA have been designated with the county code "au". Table 2.0-1 further describes the unique naming conventions of these features.

TABLE 2.0-1

Atlantic Coast Pipeline Project
Wetland, Waterbody, Seep, Non-Tidal Ditches, and Non-Water Point Feature Naming Protocol

Water Feature Type	Polygon/Line	County	Field Crew Letter	Feature Number	Special Designation
Wetland	w (wetland)	county code	crew letter (e.g., a, b, c)	001, 002, 003, …	f, e, s (PFO, PEM, PSS wetlands)
Waterbody	s (stream) o (open waterbody)	county code	crew letter (e.g., a, b, c)	001, 002, 003, …	p, i, e (change in stream morphology to perennial, intermittent, or ephemeral)
Non-tidal Ditch	d (ditch)	county code	crew letter (e.g., a, b, c)	001, 002, 003, …	
Seep	p (seep)	county code	crew letter (e.g., a, b, c)	001, 002, 003, …	
Non-Water Point	no (non-water)	county code	crew letter (e.g., a, b, c)	001, 002, 003, …	

2.1 DESKTOP REVIEW

Several sources of information were used to complete a desktop review of survey areas for potential wetlands and waterbodies prior to conducting field surveys. Biologists utilized high resolution aerial photography, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, U.S. Department of Agriculture Soil Survey Geographical Database, the USGS National Hydrography Dataset (NHD), and USGS Topographic Maps. The evaluation allowed crews to identify areas of high probability for wetlands or waterbodies.

2.2 FIELD SURVEY

Field surveys for the ACP within the GWNF were conducted from April 2015 to October 2016 in Highland and Augusta Counties in Virginia. The additional water quality and supplemental wetland functional assessments surveys were completed January 1-20, 2016. All spatial data recorded during field surveys were collected using a Trimble® 6000 series GeoXH

model global positioning system (GPS) unit. The field data collection settings within the GPS units used available satellites to capture location data. Note that while the GPS data collected during field surveys provide reasonably accurate spatial information, it does not constitute the same accuracy as a professional land survey. The GPS data is in World Geodetic System (WGS) 1984 datum, which can be found in the corresponding feature tables and map set associated with this report. Data points were collected for all features, and polygons were created based on these points for wetlands and waterbodies.

2.2.1 Wetlands

The wetland delineations were done using the method described in the USACE 1987 Wetland Manual, along with the Eastern Mountains and Piedmont Regional Supplement. The wetland boundaries were delineated using the routine onsite determination method described in the Regional Supplement, the *North Carolina Wetland Assessment Method (NCWAM) User Manual (NCDENR, 2010),* and utilizing *the National Wetland Plant List: 2014 (NWPL)* (Lichvar et al., 2012; Federal Register, 2012) for determination of plant indicator status, and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979) to classify wetlands. According to the USACE 1987 Wetland Manual, three criteria or parameters are considered during a wetland delineation, and for a plant community to be considered a wetland it must have: a predominance of hydrophytic vegetation; indications of wetland hydrology; and the presence of hydric soils under normal circumstances (i.e., where naturally problematic conditions or disturbances are absent). Wetland data sheets were completed at sample points within each wetland community type (i.e., Cowardin classification) making up the wetland or wetland complex, along with a minimum of one corresponding upland community sample point.

2.2.1.1 Hydrophytic Vegetation

The 1987 Manual and NWPL define the wetland indicator status of plants as follows:

- Obligate Wetland Plants (OBL): almost always occur in wetlands (estimated probability >99 percent) in wetlands under natural conditions. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface. These plants are of four types: submerged, floating, floating-leaved, and emergent.
- Facultative Wetland Plants (FACW): usually occur in wetlands (estimated probability >67 percent to 99 percent), but may occur in non-wetlands. These plants predominantly occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally.
- Facultative Plants (FAC): occur in wetlands and uplands (estimated probability 33 percent to 99 percent within wetlands). These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH and elevation. They have a wide tolerance of soil moisture conditions.

- Facultative Upland Plants (FACU): usually occur in uplands, but many occur in wetlands (estimated probability 1 percent to <33 percent in wetlands). These plants predominantly occur on drier or more mesic sites in geomorphic settings where water rarely saturates the soils or floods the soil surface seasonally.
- Upland Plants (UPL): almost never occur in wetlands (estimated probability <1 percent). These plants occupy mesic to xeric upland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

Dominant vegetation was assessed for each stratum present (tree, sapling/shrub, woody vine, and herbaceous) at sample point locations. In most cases, plant dominance was determined using the USACE "50/20 Rule" in which species from each stratum that individually or collectively make up more than 50 percent of the total cover in each stratum, in addition to other species that account for at least 20 percent of the total cover in the stratum are determined to be dominant species. The hydrophytic vegetation criterion is met when greater than 50 percent of the dominant plant species are classified as OBL, FACW, or FAC. Vegetation information was recorded on the appropriate USACE data forms.

2.2.1.2 Wetland Hydrology

Hydrology is influenced by many variables, including: seasonal and long-term rainfall patterns, local geology, topography, soil type, local water table conditions, and drainage. According to the 1987 Manual and Regional Supplements, wetland hydrology is present if 14 or more consecutive days of inundation or water saturation within 12 inches of the soil surface occur during the growing season at a minimum frequency of 5 years in 10.

Indicators of wetland hydrology provide evidence that a site has a persistent wetland hydrologic regime. The Regional Supplements both provide a list of hydrology indicators that include primary and secondary indicators, which are grouped as:

- Observation of Surface Water or Saturated Soils
- Evidence of Recent Inundation
- Evidence of Current and Recent Soil Saturation
- Evidence of Other Site Conditions or Data

One primary indicator or two secondary indicators are required to confirm that wetland hydrology is present or occurs at some time during the growing season. Field observations of hydrology were made at each vegetation community sample point. Examples of key indicators observed include presence of water above the ground surface, high water table within the hole dug for soil observations, saturated soil in the upper portion of the soil profile, water-stained leaves, drainage patterns as evidence of water presence, and the geomorphic position of the vegetation community and sample point location. Hydrology information was recorded on the appropriate USACE data sheets.

2.2.1.3 Hydric Soils

The 1987 Manual defines hydric soils as soils that are saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

Hydric soils are characterized by specific morphological characteristics developed in the soil profile over time due to reduction of iron, manganese, and sulfur under saturated and anaerobic conditions (U.S. Department of Agriculture [USDA] Natural Resource Conservation Service [NRCS], 2010). The hydric soil indicators described in the Regional Supplements are a subset of hydric soil indicators described in *Field Indicators of Hydric Soils in the United States, Version 7.0 (2010)*. The *Munsell Book of Soil Color Charts (2014)* was utilized to determine soil matrix and mottle colors (redoximorphic features) as part of documenting profile descriptions. The soils were observed and documented at representative sample point locations in both wetland communities and adjacent upland communities to help establish the wetland boundary. Soil profile descriptions were recorded on the appropriate USACE data sheets.

2.2.1.4 Cowardin Classification

The Cowardin Classification was developed in 1979 to classify a variety of wetland habitats. The Cowardin Classification divides wetlands into five systems, including: Marine, Estuarine, Riverine, Lacustrine, and Palustrine. These represent the five major landscape settings. The classification system further divides wetland communities into systems and classes. The 2015 and 2016 surveys were conducted in inland wetlands, and descriptions of the common Cowardin Classification community types are described in the bullets below.

- Palustrine System Emergent Wetland Class (PEM): A PEM wetland is defined as a non-tidal wetland characterized by erect, rooted, hydrophytic herbaceous species. These wetland habitats are often dominated by perennial plants, where the vegetation is present for the majority of the growing season (Cowardin, 1979).
- Palustrine Forested Wetland Class (PFO): A PFO wetland is defined as a non-tidal wetland characterized by dominant woody vegetation that is greater than 20 feet tall, with an understory of small trees and shrubs, as well as an herbaceous layer (Cowardin, 1979).
- Palustrine System Scrub-Shrub Wetland Class (PSS): A PSS wetland is defined as a non-tidal wetland consisting of woody vegetation that is less than 20 feet tall, including shrubs, young trees, and stunted trees or shrubs (Cowardin, 1979).

Each wetland delineated was assigned a Cowardin class. For wetland complexes, or wetlands that are comprised of more than one wetland plant community (i.e., Cowardin class) a sample point was established and observations recorded to document each community. Unique wetland IDs and separate polygons were established based on the wetland community present within the complex. The field crews in 2015 and 2016 collected wetland information for PEM, PFO, and PSS wetlands.

2.2.1.5 Supplemental Wetland Functional Assessment

Supplemental wetland functional assessments were conducted utilizing the North Carolina Wetland Assessment Method (NCWAM) at the time of wetland delineations during field surveys in the GWNF. The NCWAM User Manual was used as a method to rate the GWNF surveyed wetlands. The purpose of the NCWAM is to provide an accurate, consistent, rapid, observational, and scientifically-based field method to determine the level of function of a wetland during the wetland delineation. The following three main parameters are used in the functional assessment:

- Hydrology: Surface storage and retention and sub-surface storage and retention.
- Water Quality: Pathogen change, particulate change, soluble change, physical change, and pollution change.
- Habitat: Physical structure, landscape path structure, and vegetation composition

Wetland type is established using the NCWAM Dichotomous Key, and the sub-functions and metrics are evaluated on the NCWAM Field Assessment Form. The Boolean logic process was utilized to develop a rating for each assessed wetland through a calculation between the wetland assessment form values. The NCWAM manual, dichotomous key, assessment form, and rating calculator are provided in Appendix D.

2.2.2 Waterbodies

Waterbodies documented during field survey were categorized as 1) linear or flowing waterbodies such as streams and rivers, and assigned a unique ID starting with an "s" or 2) non-flowing open waterbodies such as ponds and lakes which were assigned a unique ID starting with an "o". Linear or flowing waterbodies were identified as landscape features with a channel that include a bed and a bank in a concave landscape position where water flow has resulted in a feature that possesses an ordinary high water mark (OHWM). Based on evidence of flow regime at the time of survey linear waterbodies were attributed a flow regime, according to the definitions provided by the USACE for the Nationwide Permit Program in Code of Federal Regulations (CFR) 33 Part 330 (Federal Register, 1993). Similarly, non-flowing open waterbody features were assigned a Cowardin hydrology regime based on observations recorded at the time of survey. Definitions of these flow regimes and hydrology regimes are included below.

2.2.2.1 Regime Classification

Water regime classification is defined by its flow duration. The following regime classifications are described below as defined by the CFR 33 Part 330 ruling:

- Perennial Stream: A perennial stream has flowing water year round during a typical year. The water table is located above the stream bed for most of the year,

and groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

- Intermittent Stream: An intermittent stream has flowing water during most times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water, and runoff from rainfall is a supplemental source of water for stream flow.
- Ephemeral Stream: An ephemeral stream has flowing water during a short duration after precipitation events. Ephemeral stream beds are located above the water table year round; therefore, groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Non-flowing or open waterbodies were documented based on the evidence of inundation/saturation at the time of surveys, utilizing one of four categories based on the USFWS's *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979) including the following:

- Non-flowing: Water covers the land surface throughout the year in all years.
- Semi-Non-flowing: Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface
- Seasonally flooded: Surface water is present for extended periods especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.
- Temporarily flooded: Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season.

2.2.3 Non-tidal Ditches

Non-tidal ditches were documented primarily within the coastal plain of Virginia, where these features are commonly found. Field crews documented ditches that had an OHWM, bed and bank, and/or were connected to waters of the United States. Additionally, the ditches documented by the field review contained one or more of the following characteristics, in accordance with Draft Guidance provided by the Environmental Protection Agency (EPA, 2015):

- Standing or flowing water
- A link to two or more waters of the United States.
- Drained wetlands or waterbodies that can be linked to waters of the United States.
- Excavated within waters of the United States.
- A relocated, channelized, and/or straightened tributary

Non-tidal Ditches that exhibited wetland characteristics were classified as wetlands if they met the criteria specified in the 1987 Manual or the applicable Regional Supplement.

2.2.4 Seep Points

Seep points are defined as small areas where groundwater saturates the soil surface on steep slopes or along sidehill cuts or banks. Seeps may not meet the definition of either a waterbody due to lack of OHWM, top of bank (TOB), or a wetland due to the absence of the three wetland parameters (hydrology, vegetation, soils). One example of where a seep point would likely be located would be a road cut. Seep points were reviewed and documented on a case-by-case basis by wetland biologists. Where seep points were observed, a GPS data point was taken along with corresponding photos of the area.

2.2.5 Non-Water Points

Non-water points were collected to document areas mapped as NWI polygons or NHD lines that did not meet the required criteria of wetlands or waterbodies (i.e., upland habitat). Observations were recorded, photographs were taken, and a GPS point was recorded at each non-water point to document that wetland biologists visited the point, and determined that a wetland or waterbody was not present. USACE wetland delineation forms were used to record information for non-water points located within NWI wetlands polygons.

3.0 RESULTS AND FINDINGS

The following sections present the results of field surveys conducted in the GWNF from April 2015 to October 2016, including wetlands, waterbodies, non-tidal ditches, seep points, and non-water points that were documented on accessible tracts within the ACP survey corridor in the GWNF. Appendix E identifies the tracts where surveys have been completed.

3.1 WETLANDS

A total of 9 wetlands were documented within the survey corridor along the proposed pipeline route in the GWNF. Table 3.1-1 identifies the approximate milepost, unique ID, Cowardin classification, latitude, longitude, and functional rating of the 9 wetlands. The functional rating was determined by analyzing the results of the wetland functional worksheet. All wetlands scored either a medium or high rating for wetland functionality. Datasheets and photo pages for each wetland and upland sample point are provided in Appendix A.

TABLE 3.1-1

Atlantic Coast Pipeline

Wetland Inventory Within the George Washington National Forest

Approximate Milepost	Unique ID	Cowardin Classification	Latitude	Longitude	Wetland Functional Rating
85.4	whia408f	PFO	38.305446	-79.777032	High
85.4	whia407f	PFO	38.304984	-79.776638	High
85.4	whia406f	PFO	38.305458	-79.775588	High
99.3	wbaa005f	PFO	38.111922	-79.590858	High
115.8	waua411e	PEM	38.280692	-79.310195	Medium
117.1	waua408f	PFO	38.283800	-79.288565	High
120.4	waua409s	PSS	38.291641	-79.234312	High
154.5	waua062f	PFO	37.952641	-78.955007	High
154.6	waua410e	PEM	37.951944	-78.955341	Medium

3.2 WATERBODIES

A total of 42 waterbodies were documented within the survey corridor along the proposed pipeline route in the GWNF. Table 3.2-1 includes the approximate milepost, unique ID, hydrologic regime, USGS waterbody name, field-estimated OHWM width (ft.), field-estimated bank-to-bank width (ft.), latitude, and longitude of the 42 waterbodies. Datasheets and photo pages for each waterbody sample point are provided in Appendix B.

TABLE 3.2-1

Atlantic Coast Pipeline

Waterbody Inventory Within the George Washington National Forest

Approximate Milepost	Unique ID	Hydrologic Regime	USGS Waterbody Name	Ordinary High Water Mark (ft)	Top of Bank Width (ft)	Latitude	Longitude
85.0	shia407	Perennial	UNT to Warwick Run	20.0	28.0	38.302149	-79.785732
85.1	shia410	Perennial	UNT to Warwick Run	12.0	18.0	38.303453	-79.783060
85.1	shia411	Perennial	UNT to Warwick Run	14.0	20.0	38.300945	-79.781620
85.4	shia409	Perennial	UNT to Lick Draft	15.0	25.0	38.305116	-79.776382
85.4	shia408	Perennial	Lick Draft	15.0	20.0	38.304705	-79.775344
93.7	sbaa008	Intermittent	UNT to Muddy Run	2.0	10.0	38.140999	-79.739482
93.7	sbaa009	Intermittent	UNT to Muddy Run	2.0	6.0	38.138338	-79.739367
93.7	sbaa010	Intermittent	UNT to Muddy Run	2.0	10.0	38.138529	-79.738396
93.7	sbaa011	Intermittent	UNT to Muddy Run	2.0	10.0	38.159588	-79.714586
94.1	sbaa004	Perennial	Laurel Run	7.0	12.0	38.179024	-79.674243
96.3	obaa003	Non-flowing	Unnamed Pond	na	na	38.153150	-79.630875
96.3	sbaa014	Ephemeral	Campbell Run	2.0	5.0	38.153179	-79.630587
96.5	obaa001	Non-flowing	Unnamed Pond	na	na	38.151822	-79.616689

TABLE 3.2-1

Atlantic Coast Pipeline

Waterbody Inventory Within the George Washington National Forest

Approximate Milepost	Unique ID	Hydrologic Regime	USGS Waterbody Name	Ordinary High Water Mark (ft)	Top of Bank Width (ft)	Latitude	Longitude
98.3	sbaa005	Perennial	UNT to Cowpasture River	11.0	20.0	38.133384	-79.600233
98.9	sbaa006	Intermittent	UNT to Cowpasture River	4.0	12.0	38.119453	-79.598151
99.0	sbaa007	Intermittent	UNT to Cowpasture River	9.0	20.0	38.116148	-79.597121
99.3	sbaa003	Intermittent	UNT to Gibson Hollow	3.0	6.0	38.112175	-79.590514
99.3	sbaa019	Perennial	Gibson Hollow	9.0	15.0	38.111685	-79.590948
115.8	saua436	Perennial	Barn Lick Branch	8.0	10.0	38.280715	-79.310117
116.5	saua435	Perennial	Braley Branch	2.0	5.0	38.281011	-79.298149
117.1	saua416	Perennial	Dowell's Draft	15.0	18.0	38.283697	-79.288729
117.1	saua417	Ephemeral	UNT to Dowell's Draft	6.0	6.0	38.283511	-79.288475
117.2	saua418	Intermittent	UNT to Dowell's Draft	8.0	12.0	38.284015	-79.286901
117.3	saua420	Perennial	East Branch Dowells Draft	10.0	12.0	38.282991	-79.284319
117.7	saua419	Intermittent	UNT to East Branch Dowell's Draft	7.0	15.0	38.287296	-79.278545
120.2	saua427e	Ephemeral	Buckhorn Creek	2.0	15.0	38.291277	-79.238792
120.2	saua427p	Perennial	Buckhorn Creek	20.0	25.0	38.291572	-79.238602
120.2	saua426	Perennial	UNT to Buckhorn Creek	10.0	15.0	38.289169	-79.237739
120.2	saua424	Perennial	Buckhorn Creek	20.0	27.0	38.285918	-79.237155
120.3	saua425	Ephemeral	UNT to Buckhorn Creek	1.0	2.0	38.288657	-79.236994
120.4	saua428	Perennial	UNT to Buckhorn Creek	15.0	25.0	38.291958	-79.234898
120.6	saua429	Intermittent	UNT to Stoutameyer Branch	3.0	10.0	38.291279	-79.231787
122.5	saua421	Intermittent	UNT to Jennings Branch	3.0	15.0	38.291886	-79.199546
122.8	saua422	Intermittent	UNT to Jennings Branch	4.0	15.0	38.290641	-79.193182
123.0	saua423	Ephemeral	UNT to Jennings Branch	3.0	8.0	38.289663	-79.190591
154.2	saua072	Intermittent	UNT to Back Creek	3.0	10.0	37.956732	-78.952981
154.4	saua434	Intermittent	UNT to Back Creek	8.0	12.0	37.953664	-78.953931
154.5	saua071	Intermittent	UNT to Back Creek	3.0	10.0	37.952867	-78.954489
154.8	saua433	Intermittent	UNT to Back Creek	10.0	14.0	37.949161	-78.956464
154.9	saua432	Ephemeral	UNT to Back Creek	4.0	10.0	37.947814	-78.957369
155.0	saua431	Intermittent	UNT to Back Creek	2.0	8.0	37.946811	-78.958617
155.1	saua430	Ephemeral	UNT to Back Creek	4.0	8.0	37.945518	-78.960148

3.3 SEEP POINTS

A total of 9 seep points were documented within the survey corridor along the proposed pipeline route in the GWNF. Table 3.4-1 includes the approximate milepost, unique project seep point ID, latitude, and longitude. Datasheets and photo pages for each seep sampling point are provided in Appendix C.

TABLE 3.4-1

Atlantic Coast Pipeline

Seep Inventory Within the George Washington National Forest

Approximate Milepost	Unique ID	Latitude	Longitude
85.4	phia405	38.305061	-79.776939
85.4	phia406	38.305061	-79.776848
93.7	pbaa004	38.140793	-79.739395
93.7	pbaa006	38.138592	-79.738289
121.1	paua409	38.288834	-79.222000
123.1	paua408	38.289108	-79.189278
154.6	paua411	37.951790	-78.955078
155.0	paua410	37.946724	-78.958359
155.1	paua050	37.945572	-78.959908

3.4 NON-WATER POINTS

No non-water points were documented within the survey corridor along the proposed pipeline route in the GWNF. Areas were reviewed based upon NWI maps, NHD waterbodies, or aerial photography signatures indicative of a wetland or waterbody. All areas reviewed and identified to have potential criteria for the presence of a wetland or waterbody were determined to have the required characteristics and a wetland or waterbody was surveyed at those given locations.

3.5 JURISDICTIONAL DETERMINATION

The delineation of wetlands and waterbodies in the field does not address the jurisdictional status of these waters pursuant to Section 404 of the Clean Water Act. “Waters of the U.S.” are subject to Section 404 regulation and discharges of fill require a permit from the USACE based upon a significant nexus to traditional navigable waters. The matter of significant nexus and Section 404 jurisdiction has been a topic of much litigation and recent court decisions have confused the matter.

In order to avoid in depth significant nexus analysis, Atlantic has coordinated with the USACE and has agreed to proceed with permit application processing under the Preliminary Jurisdictional Determination (PJD) methods. The PJD process allows Atlantic to concede

jurisdiction over wetlands and waterbodies identified during the field surveys provided they have an observable OHWM or meet the three criteria to be considered wetlands. Features that do not exhibit an OHWM or lack any, or all, of the three wetland criteria, but had a contributing element to water resources in the MNF were also identified. Jurisdiction of these features was not conceded and no Section 404 permit will be sought for their impact. They are provided in the tables and shapefiles for overall project impact assessments.

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ATLANTIC COAST PIPELINE ENVIRONMENTAL SURVEY

Wetland Datasheets and Photo Pages

APPENDIX A

George Washington National Forest

Virginia

ATLANTIC COAST PIPELINE ENVIRONMENTAL SURVEY

Waterbody Datasheets and Photo Pages

APPENDIX B

George Washington National Forest

Virginia

ATLANTIC COAST PIPELINE ENVIRONMENTAL SURVEY

Seep Point Photo Pages

APPENDIX C

George Washington National Forest

Virginia

ATLANTIC COAST PIPELINE ENVIRONMENTAL SURVEY

NCWAM Dichotomous Key

APPENDIX D

George Washington National Forest

Virginia

ATLANTIC COAST PIPELINE ENVIRONMENTAL SURVEY

U.S. Geological Survey 7.5-Minute Topographic and Aerial Photography Maps

APPENDIX E

George Washington National Forest

Virginia