



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

TO: Nathaniel J. Davis, Sr.
Deputy Secretary
Federal Energy Regulatory Commission

FROM: Gabriela Garrison
Eastern Piedmont Coordinator
Habitat Conservation

Gabriela Garrison

DATE: April 6, 2017

SUBJECT: Comments on the Draft Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project

Biologists from the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the Draft Environmental Impact Statement (DEIS) for the Atlantic Coast Pipeline (ACP) and Supply Header Project (SHP). The NCWRC has been involved in the ACP project since Fall 2014. Our comments are limited to the ACP because the SHP does not occur in North Carolina. Comments are provided in accordance with certain provisions of the Clean Water Act of 1977 (33 U.S.C. 1251-1387) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Atlantic Coast Pipeline, LLC (Atlantic) is a joint venture of Dominion Transmission, Inc., Duke Energy Corporation, Piedmont Natural Gas and Southern Gas Company. The ACP project would deliver up to 1.5 billion cubic feet per day of natural gas from supply areas in West Virginia to customers in Virginia and North Carolina. Approximately 198 miles of the ACP will cross Northampton, Halifax, Nash, Wilson, Johnston, Sampson, Cumberland and Robeson counties and traverse parts of the Chowan, Roanoke, Tar, Neuse, Cape Fear and Lumber River basins. Combined, the ACP and SHP would disturb 12,030 acres of land; 5,976 acres would be permanently maintained after construction for operation and maintenance. Combined, the ACP and SHP would affect 786 acres of wetlands during construction; 248 acres of these wetlands would be affected by operations (located within permanent right-of-ways (ROW)). The DEIS for this project was issued December 30, 2016; comments are due April 6, 2017.

The NCWRC offers the following specific comments on the DEIS:

1. ES-3. Paragraph 3. Project Impacts and Mitigation. “Reasonably foreseeable actions in the project area” should include the expected secondary and cumulative impacts from new networks of pipelines built to distribute natural gas provided by the ACP to customers.
2. ES-9. Paragraph 1. As of December 2016, the Neuse River was planned to be crossed by open cut. An Updated Master Waterbody Crossing Table has the Neuse River being crossed using a cofferdam. The NCWRC agrees that a cofferdam crossing is better than an open cut for the Neuse River and expects impacts to be reduced with this updated crossing method. However, this is one of many instances where information continues to be updated after the DEIS was issued; this makes the DEIS obsolete in some areas.
3. ES-11. Paragraph 2. In accordance with other agency responses, the NCWRC is concerned about the direct and indirect impacts of fragmentation resulting from the proposed ACP. North Carolina provides migratory corridors as well as breeding habitat for hundreds of species of birds. The loss of habitat and increased fragmentation will result in edge effect, which will intensify predation, reduce productivity, allow for the spread of invasive species and displace already imperiled species. The NCWRC agrees that more information is needed regarding fragmentation analysis, effects of forest edge creation on wildlife and measures to avoid, minimize and mitigate impacts to interior forest habitat. The Habitat Equivalency Analysis (HEA) is a well-known tool for determining habitat loss and mitigation.
4. ES-13. Paragraph 1. Cumulative Impacts. The DEIS does not adequately address the cumulative impacts that will occur as a result of the ACP. The DEIS does not consider the impacts associated with constructing new pipelines for distributing natural gas to residential customers once the ACP is complete.
5. Page 1-2. Project Purpose and Need. The second stated purpose of the project is to provide natural gas for “direct residential...use.” We suggest elaborating on this point to explain what percent of natural gas will be available for direct residential use and what, if any, additional infrastructure is needed to provide direct residential use. Additional infrastructure should be included in discussions regarding the cumulative impacts of the project. If the infrastructure to distribute 9.1 % of the natural gas supplied by the ACP is already in place, it should be stated as such.
6. Page 1-29. Table 1.4-1. North Carolina Wildlife Commission should be North Carolina Wildlife *Resources* Commission.
7. Page 2-29. Ap-2 Mainline. The NCWRC recommends modifications to the staging area locations to prevent impacts to wetlands and wetland buffers for the Little River and Cape Fear River horizontal directional drill (HDD) crossings.

8. Page 2-53. Paragraph 2. The NCWRC recommends a time-of-year restriction (TOYR) for ROW maintenance from April 1 to October 1. This will reduce impacts to nesting wildlife, including reptiles, amphibians and ground-nesting birds.
9. Page 3-44. Paragraph 1. The last statement in the first paragraph misconstrues the NCWRC's previous comments about Cypress Creek crossings. In our comment letter dated 28 April 2015, we suggested moving the pipeline north so that it would not cross Cypress Creek in three locations. A more northern route could possibly reduce the number of crossings from three to one. The state-significantly rare, banded sunfish, is found in Cypress Creek. We generally encourage collocating utility lines whenever possible, but other factors must also be considered when determining which alternative will have the fewest environmental impacts.
10. Page 3-51. The route of the ACP was also adjusted to avoid crossing Buffalo Creek and traversing the Buffalo Creek floodplain. The route was shifted downstream on the Little River to below the confluence with Buffalo Creek.
11. Page 4-29. 4.1.4.3 Flash Flooding. The NCWRC recommends placing infrastructure outside of 100-year floodplains and avoiding modifications within the 100-year floodplain. The Fayetteville and Pembroke M&R stations and Valve site 21 are within the 100-year floodplain. When planning construction activities in floodplains, Atlantic should consider seasonal hydrologic trends and weather events to avoid activity during periods when floodplains are inundated and/or soils are saturated. Construction in flooded areas could exacerbate impacts to riparian zones as well as increase turbidity and sediment transport downstream.
12. Page 4-91. Contractor Yards. Elsewhere in the document there is a 50-foot setback of additional temporary workspace from waterbodies or wetlands; "a 5-foot buffer around each waterbody" appears to be an error.
13. Page 4-100. Erosion and Sediment Control. The NCWRC recommends more stringent measures to control sedimentation and erosion in watersheds that drain to waterbodies with sensitive species. Such measures include installing sediment control fencing and stabilizing unvegetated fill. Unvegetated fill should be stabilized at the end of each work day with an acceptable erosion control cloth, blanket or matting until the fill is ready to be permanently stabilized. In addition, no grubbing should occur with 50 feet of surface waters with sensitive species outside of the growing season (TOYR from November 15 – April 1) to protect mussels from sedimentation impacts.
 - In addition, the use of biodegradable and wildlife-friendly sediment and erosion control devices is strongly recommended. Silt fencing, fiber rolls and/or other products should have loose-weave netting that is made of natural fiber materials with movable joints between the vertical and horizontal twines. Silt fencing or similar materials that have been reinforced with plastic or metal mesh should be avoided as they impede the movement of terrestrial wildlife species. Numerous studies have

shown the likelihood of many species, in particular bird, amphibian and reptilian species, to become entrapped in these devices and ultimately perish because of their inability to escape.

14. Page 4-102. Paragraph 1. The NCWRC received the Updated Master Waterbody Crossing Table for the ACP on 23 March 2017. The Updated Master Waterbody Crossing Table has the Neuse River being crossed using a cofferdam. Other streams that were planned to be crossed with a dam and pump or flume are now planned to be crossed using the open cut method. Such updates while the document is out for review make it difficult to accurately review the DEIS. Based on the Updated Master Waterbody Crossing Table, in North Carolina, there are 3 canal/ditch crossings that will be dam and pump or flume and 32 ephemeral channel crossings that are planned to be done with dam and pump or flume. In contrast, there are 11 intermittent streams and 39 perennial streams that will be crossed with open cut. It seems counterintuitive that ephemeral channels which rarely contain water will be crossed in the dry (dam and flume or pump) while intermittent and perennial streams that are likely to contain water will be impacted by wet construction (open cut). More discussion is needed to explain the rationale for using various crossing techniques. Furthermore, this updated water crossing table needs to be available to all DEIS reviewers so that comments can be as pertinent and up to date as possible.
- According to Rev. 11a of the ACP route, the ACP will cross Mingo Swamp in Sampson County, South River (referred to as Black River in the DEIS) in Cumberland County, and Big Marsh Swamp, Tenmile Swamp and Saddletree Swamp in Robeson County. While the Updated Master Waterbody Crossing Table lists crossings for several unnamed tributaries to the waterbodies, the waterbodies themselves do not appear in the updated crossing table. The crossing method for these waterbodies is needed to provide appropriate comments on the DEIS. Atlantic should verify that all other waterbodies that will be crossed by the ACP are listed in the waterbody crossing table.
 - Many streams that NCWRC identified in the *North Carolina Revised Fish and Other Aquatic Taxa Collection and Relocation Protocol for Instream Construction Activities* report for Tier 2 aquatics removal are planned to be crossed by open cut according to the Updated Master Waterbody Crossing Table. According to the waterbodies crossed table in Appendix K, these streams will be crossed by dam and flume or pump. More information needs to be provided to explain why these streams will now be crossed by open cut. Open cut crossings are expected to increase sediment transport and turbidity downstream of the construction area. Additional conservation measures should be implemented in streams with sensitive resources to minimize impacts associated with open cut crossings.
15. Page 4-103. Table 4.2.3-7. The risk of hydrofracture needs to be known before determining if HDD is the most appropriate crossing technique for Contentnea Creek.

16. Page 4-103. Bullet 2. In addition to notifying agencies with regulatory jurisdiction, the NCWRC would also like to be notified if drilling mud is released into a waterbody.
17. Page 4-105. Floodplains. The DEIS states that graveled lots and areas that are vegetated have similar rates of rainwater infiltration. Areas that are vegetated are not defined, but this statement is misleading. Graveled lots and forests do not have similar rates of infiltration; construction infrastructure in floodplains will affect floodplain function.
18. Page 4-106. Last paragraph of Blasting section. According to the Updated Master Waterbody Crossing Table, in-stream blasting and blasting within 1,000 feet of a waterbody is a potential for crossings in Northampton and Halifax counties in NC. According to the DEIS, blasting would occur primarily at dry crossings after the area has been isolated from stream flow. In Northampton and Halifax counties, there are 13 open cut crossings with potential blasting. The DEIS needs to explain how blasting will be conducted at open cut stream crossings. The NCWRC recommends that blasting be conducted in the dry. If blasting is required at an open cut crossing, the crossing method should be changed to dam and flume or pump to allow for blasting. This would also allow for collection and relocation of sessile aquatic organisms, such as freshwater mussels, crayfish, and some fish species that do not flee from scare charges or banging.
19. Page 4-107. More details are needed in this section regarding water sources, pump rates, measures to treat discharged water, etc. In addition, if municipal water sources will be the sole sources of water, the DEIS needs to reflect this and include details of how this water will be transported and discharged. If municipal water has any additives such as chlorine or chloramine or if an algicide is added to the water, it should not be released into surface waters unless it is safe for sensitive species including amphibians and aquatic invertebrates.
20. Page 4-123. We suggest adding “Plant” to the title Aquatic Invasive Species because this section only pertains to aquatic plants, not other aquatic invasive taxa.
21. Page 4-128. The first sentence of 4.4.1.3 North Carolina refers to VA and WV. This appears to be in error.
22. Page 4-129. Paragraph 1 and elsewhere. The DEIS references the 2005 NC Wildlife Action Plan (WAP). The 2015 WAP has been published and should be referenced instead. It is available at <http://www.ncwildlife.org/Plan>
23. Page 4-138. Paragraph 2. The term “restoration” is confusing as it is used here. Restoration typically implies a return to a previous condition. This paragraph should be reworded to improve clarity and accuracy.

24. Page 4-158. 4.5.3.2. Bird Conservation Regions and Birds of Conservation Concern. This section references the Migratory Bird Plan. The most current version of the Migratory Bird Plan that we have seen is the updated Rev. 3 version dated Jan. 27, 2017. The following species should be added for NC: American oystercatcher, Bewick's wren, black skimmer, black-throated green warbler, golden-winged warbler, gull-billed tern, least tern, lesser yellowlegs, Louisiana waterthrush, northern saw-whet owl, olive-sided flycatcher, pied-billed grebe, red-headed woodpecker, short-billed dowitcher (should have ^a since it does not breed in NC), snowy egret, whimbrel (should have ^a since it does not breed in NC), willow flycatcher, black-billed cuckoo, blue-winged warbler, Canada warbler and yellow-bellied sapsucker.
25. Page 4-160. Table 4.5.3.2. For North Carolina, the same text regarding migratory birds, "avoid clearing vegetation..." should be added for migratory birds. In addition, the TOYR for migratory birds in NC of April 1 – August 31 should be added.
26. Page 4-161. Paragraph 2 and first bullet. Table 2 in the report titled "Survey Report for Red-cockaded Woodpeckers in North Carolina and Virginia and Bald Eagles and Rookeries in North Carolina Updated" dated April 2016 shows that there are 10 rookeries in NC within 0.5 miles of the rev. 10 study corridor: WBC1, -2, -4, -5, -7, -9, -11, -12, -13, and -15. Two of these are located within the 500 foot vegetated buffer. WBC9 near milepost 107 in Johnston County is only 185' from the study corridor; this rookery was omitted from the DEIS. WBC1 near milepost 32 in Halifax County is 415' from the study corridor. To minimize impacts to rookeries, construction activities should not occur from 15 February to 31 July. Construction activity within 500 feet of the rookeries is likely to adversely impact breeding success. The Final Migratory Bird Plan should include conservation measures to minimize impacts to active rookeries.
27. Page 4-161. Next to last paragraph. The Habitat Equivalency Analysis is a vetted and broadly utilized method for analyzing habitat loss and replacement. The NCWRC anticipates continued dialogue with Atlantic regarding habitat mitigation in North Carolina and the HEA.
28. Page 4-163. Last paragraph. The NCWRC is concerned that some priority reptile and amphibian species (identified as Species of Greatest Conservation Need (SGCN) in the NC WAP) may fall into open trenches. Such species include but are not limited to: pine barrens treefrog (federal species of concern (FSC), state-threatened (ST)), eastern tiger salamander (ST), southern hognose snake (FSC, state-special concern) and eastern coachwhip. More information is needed regarding measures to prevent herps from falling into trenches and to ensure they do not remain in trenches.
29. Page 4-164. Paragraph 3. The percentages of access road types add up to 108%. This should be reworded or recalculated.

30. Page 4-171. The list of representative warmwater fish for NC leaves off a lot of species typically found in streams that will be crossed by the ACP. While several species could be added to improve the list, deleting pigfish, a marine species, will suffice.
31. Page 4-172. Table 4.6.1-2. For NC, add a TOYR to protect mussels from sedimentation impacts. No grubbing within 50 feet of surface waters with sensitive species outside of the growing season (TOYR from November 15 – April 1). The TOYR for in-water work within Primary Nursery Areas (PNA) in inland fishing waters is February 15 to September 30. The Anadromous Fish Spawning Area moratorium is February 15 to June 30. The sturgeon moratorium is February 1 to June 30.
32. Page 4-175. Paragraph 1 of 4.6.1.3. North Carolina. The NCWRC has designated PNAs in inland fishing waters. Waterbodies crossed by the ACP that are designated as PNAs in inland fishing waters are the Roanoke River, Neuse River and Cape Fear River. The Tar River is also a designated PNA in inland waters but the designation starts at the Rocky Mount Mills Dam. The ACP will cross the Tar River upstream of this location.
33. Page 4-181. Paragraph 1 of Anadromous Fish Spawning Areas. Add blueback herring to the list of anadromous fish.
34. Page 4-181. Paragraph 3 of Anadromous Fish Spawning Areas and continuing on page 4-182. Some of these waterbodies listed do not support anadromous fish at the ACP crossing location due to migration barriers downstream. While the Tar River supports anadromous fish, the ACP will cross the Tar River upstream of Rocky Mount Mills Dam and Tar River Reservoir; these impoundments prevent upstream migration of anadromous fish. Likewise, the ACP will cross Contentnea Creek upstream of Wiggins Mill Reservoir in Wilson, Wilson County; this impoundment prevents upstream migration of anadromous fish. At the ACP crossing location, the waterbody referred to as the Black River is the South River.
35. Page 4-182. Paragraph 2. The TOYR for in-water work for PNAs in inland fishing waters would apply to the Roanoke, Neuse and Cape Fear Rivers. This TOYR is February 15 to Sept. 30. This would be extended to February 1 to September 30 for the Roanoke and Neuse Rivers because the sturgeon moratorium would also apply.
36. Page 4-182. The Stream Crossing Habitat Map for Stony Creek, found in Appendix B of the *Rare, Threatened, and Endangered Aquatic Species Studies for the Proposed Atlantic Coast Pipeline in North Carolina* draft report dated 13 Oct. 2016, indicates that a Neuse River waterdog was found at a trap site in Stony Creek. This record for Neuse River waterdog from Stony Creek is not reported in other ACP reports. The validity of this record should be verified prior to the completion of aquatic surveys for NC and publication of the final report.

37. Page 4-184. Paragraph 1 of Freshwater Mussels. Given the number of listed and petitioned freshwater mussels in waterbodies crossed by the ACP, this section should be expanded. While they were not collected during any surveys, there are records for two federally endangered mussel species in streams crossed by the ACP in NC: Tar River spiny mussel and dwarf wedgemussel. The Tar River spiny mussel is only currently found in four streams in North Carolina: Fishing Creek, Little Fishing Creek, Swift Creek, and Little River. The ACP crosses three of these streams.
38. Page 4-184. Paragraph 1 of Freshwater Mussels. Per recommendation by the NCWRC, surveys for freshwater mussels were only done in second order and larger streams in the Neuse and Tar River basins, select streams in the Roanoke River basin, and streams in the Neuse and Tar basin that did not meet the second order threshold but were large enough to support freshwater mussels.
39. Page 4-184. Paragraph 1 of Freshwater Mussels. According to the *Rare, Threatened, and Endangered Aquatic Species Studies for the Proposed Atlantic Coast Pipeline in North Carolina* draft report dated 13 Oct. 2016, Atlantic pigtoe (live) was collected at 4 sites: Fishing Creek, Swift Creek, Tar River and Contentnea Creek. There is no mention of a deadshell Atlantic pigtoe collected at any NC site during surveys for the ACP. The reference to the collected deadshell should be verified, refer to collection site if accurate or deleted.
40. Page 4-184. Paragraph 2 of Freshwater Mussels. The NCWRC has reviewed and provided comments on the North Carolina Aquatics Relocation Plan. However, the methodology outlined in this plan is not specific to mussels. The NCWRC has discussed guidelines for a separate mussel relocation plan and expect to review the first draft of a mussel relocation plan from ACP representatives in April 2017.
41. Page 4-188. Last paragraph. Freshwater mussels will be relocated in NC as well as WV and VA.
42. Page 4-190. Paragraph 2. Another advantage of HDDs is that by not clearing a right-of-way through the riparian zone, off-road vehicles are not provided new access to drive along and through streams.
43. Page 4-190. Last paragraph. The last paragraph states “Atlantic and DTI would conduct in-water work, except that required to install or remove equipment, outside of the sensitive fisheries TOYR...” Installing and removing equipment has high potential to impact aquatic resources and should also occur outside of TOYRs.
44. Page 4-191. Paragraph 3. To prevent entrainment and impingement of aquatic organisms, the NCWRC recommends intake velocities, as measured through the intake screening material, of 0.25 feet per second or less and mesh sizes of 1 mm in waters containing sensitive species.

45. Page 4-192. Open Cut Crossings. As mentioned in Comment #13, the NCWRC received an updated Master Waterbody Crossing Table for the ACP on 23 March 2017. The Updated Waterbody Crossing Table has the Neuse River being crossed using a cofferdam. Other streams that were planned to be crossed with a dam and pump or flume are now planned to be crossed using the open cut method. As a result of this update, some information in this section is obsolete. Such updates while the DEIS is out for review make it difficult to accurately review the document. More open cut crossings are planned with this updated table. There are now 11 intermittent streams and 39 perennial streams that will be crossed with open cut in NC. In NC, there are 32 waterbodies classified as ephemeral and 3 classified as canal / ditch that are planned to be crossed using a dam and pump or flume. It seems counterintuitive that ephemeral channels which rarely contain water will be crossed in the dry (dam and flume or pump) while intermittent and perennial streams that are likely to contain water will be impacted by wet construction (open cut). More discussion is needed to explain the rationale for using various crossing techniques. Furthermore, this updated water crossing table needs to be available to all DEIS reviewers so that comments can be as pertinent and up to date as possible.
- According to Rev. 11a of the ACP route, the ACP will cross Mingo Swamp in Sampson County, South River (referred to as Black River in the DEIS) in Cumberland County, and Big Marsh Swamp, Tenmile Swamp and Saddletree Swamp in Robeson County. While the Updated Master Waterbody Crossing Table lists crossings for several unnamed tributaries to the waterbodies, the waterbodies themselves do not appear in the updated crossing table. The crossing method for these waterbodies is needed to provide appropriate comments on the DEIS. Atlantic should verify that all other waterbodies that will be crossed by the ACP are listed in the waterbody crossing table.
 - The crossing method for Stony Creek in Nash Co., NC has been changed from dam and pump or flume to open cut. During Neuse River waterdog trapping surveys, NC spiny crayfish was observed in traps. The NCWRC recommends that Stony Creek be crossed in the dry or Atlantic provide sufficient rationale explaining why an open cut is necessary. Also see the previous comment for Page 4-182 regarding the Stream Crossing Habitat Map for Stony Creek.
46. Page 4-193. Blasting. Blasting should occur in the dry after aquatic species have been collected and relocated.
47. Page 4-193. Water Appropriation and Discharge. More details are needed in this section regarding water sources, pump rates, measures to treat discharged water, etc. In addition, if municipal water sources will be the sole sources of water, the DEIS needs to reflect this and include details of how this water will be transported and discharged. If municipal water has any additives such as chlorine or chloramine or if an algicide is added to the water, it should not be released into surface waters unless it is safe for sensitive species including amphibians and aquatic invertebrates.

48. Page 4-200. Table 4.7.1-1. Indiana bat was heard during acoustic surveys for the ACP in NC in the following counties: Cumberland, Halifax, Nash, Wilson and Northampton. Northern long-eared bat was heard during acoustic surveys for the ACP in NC in the following counties: Halifax, Nash, Wilson, Johnston, Cumberland, Northampton, and Robeson (all counties except Sampson). During aquatic surveys for the ACP, Neuse River waterdog was collected from streams in Halifax, Nash and Johnston counties. Page 4-223 discusses Atlantic sturgeon in the Neuse River but this population is not included in this table.
49. Page 4-201. Table 4.7.1-1. During aquatic surveys for the ACP, Carolina madtom was collected from streams in Wilson, Johnston and Nash counties.
50. Page 4-207. Paragraph 2. The first sentence of paragraph 2 indicates that Indiana bats have potential to occur in WV and VA but does not include NC. Indiana bats were heard during acoustic surveys for the ACP in NC in the following counties: Cumberland, Halifax, Nash, Wilson and Northampton. The 4th paragraph on this page says that Indiana bats were acoustically detected at 27 sites in NC.
51. Page 4-207. Table 4.7.1-2. The table title should specify *Acoustic* survey results.
52. Page 4-214. Last paragraph. This paragraph should elaborate on the results of Atlantic's assessment of NLEB activity during winter months in NC. NLEB have been shown to be active (not hibernating) and present on the landscape during the winter months in NC.
53. Page 4-215. Table 4.7.1-7. The table title should specify *Acoustic* survey results.
54. Page 4-215. Paragraph 2. While winter tree clearing and avoiding tree clearing during breeding season months is the preferred methodology, it should be noted that NLEB have been shown to be active (not hibernating) and present on the landscape during the winter months in NC.
55. Page 4-218. 4.7.1.5 Red-cockaded Woodpecker. Red-cockaded woodpeckers are also known to occur in Cumberland County. In addition to numerous other SGCN in NC, RCWs are habitat specialists and typically prefer longleaf pine habitat. As such, the NCWRC recommends that longleaf pine is replanted in all areas where it will be impacted and/or removed.
56. Page 4-221. Paragraph 1. Atlantic filed the report titled *North Carolina Revised Fish and Other Aquatic Taxa Collection and Relocation Protocol for Instream Construction Activities* on the FERC docket on March 10, 2017.
57. Page 4-221. Paragraph 6. More information is needed about how and where silt retention barriers may be installed to further reduce downstream sedimentation. The

NCWRC recommends additional measures to minimize sedimentation in streams with sensitive species and in streams crossed by the open cut construction method.

58. Page 4-223. The ACP crosses the Tar River upstream of two impoundments.
59. Page 4-227. Paragraph 3. Carolina madtom was also collected in Swift Creek during surveys for the ACP. The last sentence of the paragraph regarding the SHP should be reworded.
60. Page 4-227. Paragraph 6. Regarding the North Carolina Aquatics Relocation Plan, not only will aquatic animals be removed at all dry crossing sites (Tier 1) during dewatering, at selected sites identified for Tier 2 removal, animals will be removed before any in-water work, such as temporary dam construction, begins. This would also apply to selected crossings that are currently planned for open cut crossings. While it is true that removal of aquatic animals may result in stress, physical damage or death, not removing them prior to in-water construction is expected to cause worse results.
61. Page 4-232. Paragraph 3 of 4.7.1.13 Freshwater Mussels. Although the USFWS has said that no mussel surveys are needed at HDD sites, mussel surveys have been conducted at 5 sites planned for HDD: Fishing Creek, Swift Creek, Tar River, Contentnea Creek. and Little River.
62. Page 4-234. Paragraph 3 of Tar River Spiny mussel. Little River is not in the Tar River system.
63. Page 4-236. Paragraph 1 of Freshwater Mussels Impacts Assessment. While the first sentence is true, it is somewhat misleading, at least for NC, because freshwater mussels that are not currently under ESA review will also be relocated. As noted previously, the *North Carolina Aquatics Relocation Plan* does not pertain specifically to mussels. Another document that focuses on mussel relocation is expected to be developed in April 2017.
64. Page 4-236. Paragraph 2 of Freshwater Mussels Impacts Assessment. Swift River should be *Swift Creek*.
65. Page 4-237. Last paragraph. It is unclear what resources are found in Polecat Branch that would raise a concern.
66. Page 4-264. 4.7.4.3 North Carolina. The NC Natural Heritage Program (NHP) is now located within the NC Department of Natural and Cultural Resources. The NC Department of Agriculture is responsible for plant conservation. The NHP maintains and publishes the Rare Plant and Rare Animal lists every two years. These lists report the regulated State and Federal Status for plants and animals and NHP also identifies additional categories including “Significantly Rare” and the various levels of “Watch”

- list. These are non-regulatory statuses based upon evaluation of species' level of imperilment and level of knowledge of a species' status in the State.
67. Page 4-265. Paragraph 1. The NCWRC also requested surveys for southern hognose snake, Bachman's sparrow, cerulean warbler, bald eagle and red-cockaded woodpecker.
68. Page 4-265. Paragraph 3. North Carolina does not use NETHCS.
69. Page 4-265. Table 4.7.4.3. The title of this table should be changed. The table does not list all Federal listed species in NC as the title implies, and it includes species that are not found along the path of the ACP in NC such as Roanoke logperch and Cape Fear shiner. Indiana bat should be added to the list for NC to be consistent with other portions of the DEIS.
70. Page 4-266. Bats. According to the *North Carolina Segment Protected Bat Species Year 2 Presence/Probable Absence Survey Report* dated 13 October 2016, a roost tree for the federal species of concern and state-threatened, Rafinesque's big-eared bat and/or federal species of concern and state-special concern, southeastern myotis, is located within the proposed workspace for the ACP. Access road 16-088-AR 1, an existing road, is proposed for regrade and gravel. While the roost tree is not slated for removal, activity, noise and traffic on the access road may impact bats roosting in this tree, causing breeding failure or abandonment of pups. The NCWRC recommends avoiding work in this area until breeding season is over and bats have left the area for their winter hibernacula.
71. Page 4-266. Freshwater mussels. As mentioned previously, there will be an additional document detailing freshwater mussel removal and relocation.
72. Page 4-268. Table 4.7.4-4. For NC, Neuse River waterdog, Bachman's sparrow and southern hognose snake should be added.
73. Page 4-289. Paragraph 3 of Timber Removal. Atlantic should consult with federal and state agencies if timber removal schedules are altered.
74. Page 4-291. Paragraph 6. Atlantic should consult with federal and state resource agencies about specific plans to use timber for instream or upland wildlife habitat diversity structures.
75. Page 4-292. Paragraph 4. Logs and slash should not be yarded across any waterbodies unless fully suspended, not just across perennial streams.
76. Page 4-296. Paragraph 1. According to the USFWS, communication towers kill an estimated 4-5 million birds per year. Due to the impacts that wireless communication facilities have on birds and bats, USFWS has developed guidance on the siting, construction, operation and decommissioning of communications towers. The

NCWRC urges Atlantic to comply with as many recommendations as possible, particularly the use of bird-friendly lighting and the avoidance of guy wires. Please review the guidance that was issued from the USFWS office in Raleigh, NC:

<https://www.fws.gov/raleigh/pdfs/CommunicationTowerGuidanceLetter12232013.pdf>

77. PAGE 4-328. Table 4.8.5-3. The proposed crossing methods in this table are not consistent with those listed elsewhere in the DEIS or in the updated Master Waterbody Crossing Table. Fishing River should be Fishing Creek and Black River should be South River.
78. Page 4-330. Table 4.8.5-4 and bottom of page. Averasborough Battlefield is in Harnett County, not Johnston County.
79. Page 4-337. Table 4.8.8-1. The proposed crossing methods in this table are not consistent with those listed elsewhere in the DEIS or in the updated Master Waterbody Crossing Table. Black River should be South River.
80. Page 4-484. Cumulative Impacts. The Cumulative Impacts section does not adequately consider the future impacts that will occur as a result of building the ACP to transport natural gas. This section should also discuss the potential for constructing additional distribution lines to deliver natural gas to residential customers. Construction of additional distribution lines has the potential to cause similar impacts to aquatic and terrestrial resources as those associated with the ACP.
81. Page 4-497. This section needs to be updated based on the Updated Master Waterbody Crossing Table.
82. Page 4-501. Paragraph 1. This paragraph should be updated per previous comments regarding Table 4.7.4-4 on page 4-268 and section 4.7.4.3 on page 4-264.
83. Page 5-9. Paragraph 4. The NCWRC is also concerned about forest fragmentation and the impacts on interior forest and their associated wildlife species resulting from the proposed ACP. North Carolina provides migratory corridors as well as breeding habitat for hundreds of species of birds. The loss of habitat and increased fragmentation will result in edge effect, which will intensify predation, reduce productivity, allow for the spread of invasive species and displace already imperiled species. The NCWRC agrees that more information is needed regarding fragmentation analysis, effects of forest edge creation on wildlife and measures to avoid, minimize and mitigate impacts to interior forest habitat.
84. Page 5-10. Last paragraph. Not only will aquatic animals be removed during dewatering, animals will be removed before any in-water work, such as temporary dam construction, begins. This would also apply to selected crossings that are currently planned for open cut crossings.

85. Page 5-15. This paragraph should be updated per previous comments regarding Table 4.7.4-4 on page 4-268 and section 4.7.4.3 on page 4-264.

Atlantic has continued to provide additional information about the ACP project while the DEIS is being reviewed. Additionally, some species surveys have not yet been completed due to landowner access restrictions. These factors make accurately reviewing the DEIS difficult. In particular, the waterbodies crossed table in Appendix K of the DEIS is now outdated. While NCWRC received an updated waterbody crossing table, other DEIS reviewers did not. We are also concerned that there will be no more opportunities to provide comments on the ACP project after the DEIS comment period ends. Given these concerns, NCWRC recommends a supplemental DEIS that addresses concerns raised during the comment period and provides updates to new information supplied by Atlantic since the DEIS was issued. If a supplemental DEIS is not practical, NCWRC asks to receive the final EIS at the same time as cooperating agencies, along with the opportunity to provide written comments on the final EIS at this early time.

The cumulative impacts portion of the DEIS does not adequately account for future impacts to natural resources resulting from the construction of the ACP and the delivery of natural gas to portions of eastern North Carolina. We anticipate future infrastructure projects that will distribute natural gas delivered by the ACP to residential customers. New distribution lines would be expected to cross waterbodies, fragment forest blocks, reduce wetland functionality and cause other impacts similar to the ACP. More information is needed about these foreseeable future impacts that are a direct result of the ACP.

We recognize, as do many of our natural resource partners, that there are likely areas along the ACP where recommended avoidance and minimization measures (AMMs) for a species or resource may conflict with recommendations for another. To facilitate our understanding of where such conflicts may occur, we recommend the creation of an environmental constraints map and/or table that identifies the AMMs that have been recommended for each pipeline segment. We recommend that the map be organized by county and be provided to all natural resource agencies for review. Where there are identified conflicts between recommendations, the natural resource agencies will work together to prioritize the AMMs for each county and provide that information to the applicant and permitting agencies.

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project. Please feel free to contact me at gabriela.garrison@ncwildlife.org or (910) 409-7350 or Vann Stancil at vann.stancil@ncwildlife.org or (919) 284-5218 if you have any questions or concerns about these project comments.

ec: Vann Stancil, NCWRC
John Ellis, USFWS
David Cox, NCWRC
Shannon Deaton, NCWRC
Lyn Hardison, NCDEQ