United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

January 7, 2016

Ms. Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Re: Dominion Transmission, Inc., Atlantic Coast Pipeline Project, Harrison, Lewis, Upshur, Randolph, and Pocahontas Counties, West Virginia; Docket Number CP15-554-000 (FWS File #2015-I-0832)

Dear Ms. Bose:

The U.S. Fish and Wildlife Service's (Service) West Virginia Field Office (WVFO) appreciates the opportunity to review and comment on Atlantic Coast Pipeline, LLC's (Atlantic) proposed Atlantic Coast Pipeline project (Docket No. CP15-554-000), which will cross West Virginia, Virginia, and North Carolina. This letter is in reply to Atlantic's certificate application with the Federal Energy Regulatory Commission (FERC) which was filed on September 18, 2015, and to survey results for listed species that were received on October 29 and November 12, 2015.

The WVFO has been working with Atlantic since 2014 to address the project's potential impacts on federally listed species and their habitats and develop avoidance and minimization measures for Service trust resources that the proposed project may encounter in West Virginia. The comments in this letter build upon the WVFO's December 9, 2014, letter and other previous communications from meetings, electronic correspondence, and phone calls with Atlantic.

Based on correspondence from Atlantic, the WVFO has determined that eight federally listed species are within the range of the proposed project, and may be affected by the construction and operation of the proposed project. These include the endangered Indiana bat (*Myotis sodalis*), clubshell mussel (*Pleurobema clava*), snuffbox mussel (*Epioblasma triquetra*), and running buffalo clover (*Triofolium stoloniferum*); and the threatened northern long-eared bat (*Myotis septentrionalis*)(NLEB), Cheat Mountain salamander (*Plethodon nettingi*)(CMS), small whorled pogonia (*Isotria medeoloides*), and Virginia spiraea (*Spiraea virginiana*). Bald (*Haliaeetus leucocephalus*) and golden (*Aquila chrysaetos*) eagles, migratory birds, and other species of concern also occur within the project area.

Federally Listed Bats

Known and potential habitats for Indiana and NLEB occur within the proposed project alignment. Known habitat for the Indiana bat within the proposed project area occurs in Randolph and Pocahontas counties; Harrison, Lewis, and Upshur counties contain potential habitat. Known habitat for the NLEB occurs within the proposed project area in Harrison, Lewis, Upshur, Randolph, and Pocahontas counties. Additionally, the project occurs 0.45 miles and 4.2 miles from two known Indiana bat hibernacula, one of which also provides winter habitat for NLEB.

The WVFO received survey results for listed bats from Atlantic in a report dated November 12, 2015. These results outline efforts completed to date for listed bat species within the West Virginia segment of the pipeline route. These efforts include acoustic and mist netting surveys, cave and mine portal searches, and habitat assessments.

Current results provided by the report note that acoustic monitoring was performed at 85 sites and mist netting efforts were conducted at 23 sites between June 13 and August 14, 2015. None of these sites were located within known-use habitat buffer areas for either species. Neither Indiana nor Virginia big-eared bats were detected acoustically or captured in mist nets during survey efforts. NLEB were detected or captured at a total of 8 sites. Positive acoustic detections for NLEB were received at four sites, two in Lewis County and one each in Upshur and Randolph counties. NLEB were also captured at four mist net sites, one in Randolph County and three in Pocahontas County. The bat captured in Randolph County was tracked to two roost trees over a seven day period.

Atlantic has also committed to performing detailed habitat surveys to assess the type of habitat and quality and quantity of potential roost trees and amount of foraging habitat available for Indiana bats and NLEB in known-use bat buffer areas. Table 4.1 3-1 of the November 12, 2015, report shows that a total of 486 potential roost trees have been identified so far. This tally does not provide details on whether trees are potential primary or potential secondary roosts for either Indiana or NLEB. Additionally, the maps of potential roost trees provided in Appendix G of the report depict many miles where survey results are "pending" and have not yet been completed.

The results for potential portals and caves within the proposed project area are incomplete as submitted in the November 12, 2015. Thus far, only roadside surveys and a limited number of pedestrian surveys within the right-of-way (ROW) have been documented. Only one potential portal opening has been assessed for bats at this time. Based on photos and text provided from roadside surveys, there is a high likelihood for the occurrence of other potential portals or caves within 1-kilometer of the project's centerline. These potential caves and/or portals may need further assessment to determine their potential for bat habitat.

While the report demonstrates that some of the survey efforts have been completed, as detailed above, many other data are missing from the results. As received, these results are incomplete, and the Service does not have sufficient information to assess potential impacts to listed bats. In order for the Service to assess potential impacts from this proposed project, the following additional information should be submitted to the WVFO:

1. A complete detailed habitat assessment of potential roost trees and foraging habitat within the proposed project area that may be impacted. This complete report should quantify potential primary and secondary roost trees for Indiana bats and potential primary roosts for NLEB that exist within the project limits-of-disturbance.

2. A complete and thorough pedestrian survey to search for potential caves and portals that could serve as bat habitat including the line and areas within 1-kilometer on either side.
   a) Phase I portal assessments should be completed for all potential caves and portals found.
   b) Phase II portal assessments should be completed for all caves and portals that pass the Phase I criteria.
   c) Maps depicting the areas where pedestrian surveys were completed should also be included.

3. Avoidance and minimization measures for potential impacts to bats, including both occupied summer habitat and any potential hibernacula and swarming areas, should be identified within the proposed project area.

Until the information outlined above is provided to the WVFO, we cannot adequately assess the potential impacts to bats that this proposed project may have. At this time, no conclusions can be made regarding potential impacts to bats.

Cheat Mountain Salamander

The proposed preferred alternative for the project crosses Cheat Mountain which contains habitat for CMS. CMS are only known to occur on a restricted number of high elevation ridges in five counties in West Virginia. CMS are lungless, and as a result they require microhabitats with high relative humidity or moisture and acceptable temperatures, conditions which are primarily found in red spruce (*Picea rubens*) forests on West Virginia high mountain ridges like Cheat Mountain. They are sensitive to the removal of trees in or around their habitats which can create a drier, warmer environment.

The majority of CMS habitat occurring within the project area exists on the Monongahela National Forest (MNF). As mentioned in our December 9, 2014, letter, the 2006 Land and Resource Management Plan for the Monongahela National Forest (Forest Plan) has multiple measures incorporated into it to avoid adverse effects and enhance the recovery of the salamander. These measures include restoration and management of red spruce and spruce-hardwood communities and reducing fragmentation of salamander habitats. In addition, the Forest Plan states that ground and vegetation-disturbing activities within occupied salamander habitat, or within 300-feet of that habitat, shall be avoided. Habitat fragmentation is the largest major threat to CMS.

The WVFO received a study plan for proposed CMS surveys on May 27, 2015, and concurred with the study plan via electronic correspondence on June 3, 2015. The study plan outlined a

three step process for CMS surveys within a 300-foot study area encompassing the ROW and an additional 300 feet on either side of this corridor (900 feet total). The first step consisted of a desktop analysis while the following two steps were to be conducted in the field by a team led by Drs. Pauley and Waldron, whom are considered species experts, from June to September 2015. These final two steps involved a walk-through of the area to determine which areas to examine more closely and follow-up occupancy surveys consisting of diurnal flip and search methodologies as well as nocturnal field surveys in habitats where few cover objects and thick vegetation existed.

The first step assessed areas where the proposed ROW overlapped with habitat suitability models for CMS which were provided by the U.S. Forest Service (USFS) and the West Virginia Division of Natural Resources (WVDNR). The ROW overlapped areas within the models for 6.3 miles. Following this assessment, field crews first walked the 6.3 miles to identify areas of suitable habitat that would be searched more thoroughly for CMS. Areas that were chosen for more thorough assessment would be searched from one to four times for CMS (due to low detection probability) during wet conditions when the salamanders are most active.

The WVFO received a report on October 29, 2015, outlining survey results for CMS that took place from June 8 to September 30, 2015, along the pipeline study corridor. The second step of surveying (noted above) resulted in 37 areas across Randolph and Pocahontas Counties that were searched more closely for habitat suitability and CMS presence. Surveyors noted biotic and abiotic characteristics of each site including presence of rocks and logs, species of trees, and other amphibians. The report did not outline the methodology that was used to delineate these 37 areas.

Because the CMS is difficult to detect, each of these 37 habitat areas was surveyed from one to four times to determine its potential to support CMS. Survey Area 13, 14, 34, and 35 were the only sites visited four times. CMS were found at one site, Survey Area 33.

Based on our review of this report, the WVFO has concerns that suitable/occupied habitat areas were not adequately delineated, that sufficient surveys were not conducted, and that additional avoidance and minimization measures are needed to address this species. More detailed surveys may be warranted in the area where CMS were already discovered, as well as in other areas containing suitable habitat. Additionally, because this survey effort did not include potential access roads and other temporary work space areas for the project, further survey efforts will need to be completed in these locations to assess their potential impacts on CMS.

Due to the presence of CMS in Survey Area 33, Atlantic proposed a route adjustment to move the line further from occupied habitat; this is the only avoidance and minimization measure for the CMS currently proposed. The reroute moves the proposed ROW further from Survey Area 33 where CMS were identified, but the reroute still bisects a portion of Survey Area 37 which, according to maps within the survey report, is contiguous with Survey Area 33 where CMS were found. (The report does not state why Area 37 was separated from the Area 33.) Additionally, the reroute also bisects Survey Areas 34 and 35, which contain potentially suitable habitat. Bisecting these areas will create additional barriers for migration and fragment suitable habitat which is

against the recovery needs of the species. All of these areas (33, 34, 35, and 37) would be adversely impacted by the project. Additionally, direct affects to occupied habitat and habitats within the 300-foot buffer of occupied habitat go against the Forest Plan.

The distance of this re-route from occupied salamander habitat was not quantified in the report. The report does state that it is less than the required 300-foot distance from occupied salamander habitat as stated in the Forest Plan. The Forest Plan states that ground and vegetation-disturbing activities within occupied salamander habitat, or within 300-feet of that habitat, shall be avoided. Atlantic's October 29, 2015, report states that while the route adjustment is less than 300-feet away from occupied habitat, it is on the opposite side of an existing maintained ROW that already acts as a barrier to CMS.

Two CMS were found in Survey Area 33. The report does not state whether these salamanders were found on the first visit to the area on June 11, 2015, or during the second visit on September 30, 2015. In addition to CMS, survey efforts also found 8 additional species of salamanders, one newt species, three frog species, one toad species, and one snake species for a total of 14 species of amphibians and one reptile.

The WVFO discussed the survey report with Catherine Johnson, a biologist with the Monongahela National Forest who is familiar with the landscape in these survey areas, on November 18 and December 3, 2015. As a result, the WVFO believes that Survey Area 37 should also be considered as occupied habitat for CMS due to its proximity to Survey Area 33. The delineation of the boundaries for Survey Area 33 are also confusing as there is no clear boundary formed in the field to support the extreme narrowing of the polygon as it proceeds toward the south. In the field, the habitat appears to become more suitable for CMS instead of tapering away as the map provided in the October 29, 2015, report suggests.

The WVFO has similar concerns for the four survey areas (13, 14, 34, 35), which were visited four times each during efforts to determine their suitability as habitat for CMS. Lack of discovery of an individual CMS at these locations does not necessarily equate to absence of the species in these areas; they may exist at lower densities that require greater survey efforts to determine.

The proposed route adjustment is a great first step toward minimizing project effects on CMS. However, the WVFO would like to continue discussions with Atlantic to work toward stronger alternative avoidance and minimization measures that may further reduce potential impacts to CMS and their habitat from the proposed project and make the project consistent with the Forest Plan. We also need to continue discussions with Atlantic and other resource agencies to ensure suitable habitat has been accurately delineated.

While the report demonstrates that some of the survey efforts have been completed, as detailed above, many other data are missing from the results. As received, these results are incomplete, and the Service does not have sufficient information to assess potential impacts to CMS. Until

the information outlined above is provided to the WVFO, we cannot adequately assess the potential impacts to CMS that this proposed project may have. At this time, no conclusions can be made regarding potential impacts to CMS.

Aquatic Resources

Federally listed mussels

The project proposes to cross multiple waterbodies that contain federally listed species or their habitats, as well as other sensitive aquatic habitats. Since the WVFO's December 9, 2014, letter to Atlantic, the WVFO received a mussel survey plan on June 2, 2015, which was then revised and resubmitted on August 10, 2015. Surveys were proposed to occur on the West Fork River in Lewis County. No results have been received at the time of this writing.

In our December 9, 2014, correspondence, the WVFO highly recommended rerouting the proposed pipeline away from Hackers Creek which contains the federally listed endangered clubshell mussel. At that time, the pipeline was proposed to cross Hackers Creek by open trench cutting methods eight separate times, which would adversely affect and potentially extirpate clubshell populations from Hackers Creek. As noted in Resource Report 10, section 10.9.1.1, Atlantic has rerouted the preferred proposed route to the southwest to completely avoid crossing Hackers Creek, thus avoiding potential impacts to this clubshell population. The WVFO appreciates Atlantic's efforts to minimize impacts to the endangered clubshell mussel.

However, project shapefiles received from Sara Throndson on November 13, 2015, depict that several access roads are proposed to cross Hackers Creek while others are within a ¼-mile buffer of the stream. The WVFO was not aware of these proposed access roads before this time. Unless these access roads are also rerouted to avoid effects to Hackers Creek, Atlantic should perform mussel surveys to determine presence/absence of listed clubshell mussels at these locations. Access roads should be relocated to avoid any areas where mussel populations are found. Survey plans and reports for any supplemental surveys conducted should be sent to the WVFO for review, and should be provided before any Biological Assessment for the project is submitted.

Additionally, strong erosion and sedimentation controls are recommended for any work areas within the ¼-mile buffer of streams containing federally listed species to further avoid and minimize impacts to listed mussels and their habitat. The shapefiles show that a compressor station will be constructed 0.2 miles from the West Fork River which contains habitat for the federally listed clubshell and snuffbox mussels. Strong erosion and sedimentation controls are highly recommended for all work areas associated with this compressor station. Atlantic should provide detailed information on what sedimentation and erosion control measures are proposed to be implemented in these areas near both Hackers Creek and the West Fork River.

The WVFO will assess potential impacts of the project on federally listed mussels when a final and complete survey report, including information on the proposed sedimentation and erosion control measures, is provided for our review. We cannot accurately assess potential impacts to the clubshell and snuffbox until that time.

Stream crossing methods
In section 3.1.4.1 of Resource Report 3, Atlantic discussed various methods that may be used to cross waterbodies during construction of the proposed pipeline. These include both open-cut methods and the use of horizontal directional drilling (HDD) to install the pipeline beneath waterbodies.

HDD crossing methods are most-preferred by the WVFO for stream crossings because they typically avoid in-stream impacts and impacts to riparian areas. While HDD crossing methods typically avoid these impacts, there is a risk the inadvertent release of bentonite drilling fluid during HDD crossings. Atlantic included their *Horizontal Directional Drill Drilling Fluid Monitoring, Operations, and Contingency Plan* in Appendix 1F of Resource Report 1 which discusses how potential inadvertent releases will be handled. The WVFO concurs with this plan.

The WVFO understands that HDD crossings are not always feasible due to environmental (*i.e.*, an area's geology) and engineering constraints. For areas where HDD crossings are infeasible, the WVFO recommends that Atlantic provide an analysis completed by an engineer detailing why HDD methods are infeasible.

Atlantic proposed to use open-cut methods in areas where HDD crossing is infeasible. These methods involve trenching through the waterbody while water continues to flow through the trenching area. Open trenching will directly impact the streambed and banks and can create high levels of in-stream sedimentation. If the trench is too wide to be excavated from the banks, in-stream equipment may be used. Additionally, temporary construction bridges that may include rock fill over culverts may be used in order to accomplish open-cut crossings.

The WVFO recommends that Atlantic consider the use of dry ditch methods in sensitive streams with mussels or high quality waterways that contain or may contain native brook trout (*Salvelinus fontinalis*). We also recommend that best management practices be developed to minimize equipment use in-stream. Any construction equipment to be used in the stream should be power-washed to remove any contaminants and invasive species propagules prior to arriving at the project site. Also, regular daily inspection of this equipment and other equipment to be used will help to identify, control and prevent possible leakage of toxic materials like fuel, lubricant, and hydraulic fluid into waterbodies and the environment.

Additionally, the WVFO highly recommends developing best management practices to restrict the footprint of crossing structures and utilizing temporary crossing measures that do not involve in-stream rock fill. While temporary, this fill can cause increased sedimentation and turbidity within the stream that may have adverse impacts on aquatic life. Additionally, it can be very difficult to remove fill in its entirety post-construction. If Atlantic pursues the use of temporary fill in waterbodies during crossing, the WVFO recommends an effects analysis be completed to address how the fill may impact sensitive aquatic habitats. This analysis should also discuss what Atlantic will do in the event of a high-flow event that may wash out any temporary in-stream crossing structures.

In-stream blasting
In section 3.1.4.1, Atlantic noted the potential for in-stream blasting activities to cross waterbodies where traditional means of trenching are infeasible. Alteration of the streambed has the potential to alter the hydrology of the stream over time and can also affect substrate composition and stability, thereby potentially altering habitats for listed species and other sensitive species. The WVFO highly recommends that Atlantic complete an effects analysis of areas that may be blasted. This effects analysis should assess how hydrology may be affected, in addition to addressing noise effects on wildlife from the proposed blasting activities. Dependent upon the conservation measures may be necessary to offset potential impacts.

Water withdrawals
Section 3.1.4.1 of Resource Report 3 discusses that, once installed, the proposed pipeline will be hydrostatically tested with water withdrawn from various source points (depending upon testing location along the pipeline) to check for pressure losses due to leaks within the pipeline.

Water withdrawals can affect mussel populations in multiple ways. Construction of the withdrawal structures could directly degrade the stream bottom or banks. Aquatic life, including fish hosts, could be entrained or killed when the water is extracted. Water withdrawals also have the potential to deplete water flow and reduce velocity in streams. A reduction in flow could lead to increases in turbidity and suspended sediments that would decrease the depth and amount of light penetration, affect primary productivity, decrease oxygen levels, increase water temperature, irritate or cause clogging of fish and mussel gills, and result in a blanket of silt on the substrate. Reduced dissolved oxygen levels in the water and heavy sediment deposition can suffocate mussels particularly if sufficient accumulation occurs (Ellis 1936[1], Marking and Bills 1980[2]). Reduced flow also has the potential to leave mussels stranded in shallow areas.

The WVFO strongly recommends that Atlantic avoid withdrawing water from streams with federally listed mussel species (West Fork River and McElroy Creek) because the proposed water withdrawals could affect downstream mussel populations.

Brook trout
In our December 9, 2014, correspondence, we encouraged Atlantic to work with resource agencies to (1) identify all brook trout streams that may be impacted by the project, (2) avoid and minimize impacts to these streams and adjacent riparian habitats to the maximum extent practicable, and (3) mitigate appropriately for any unavoidable impacts to these systems. These should include measures to ensure fish and aquatic organism passage near project-related structures, avoidance of erosion and introduction of sediments into waterways, and prevention of the spread of non-native invasive plants and aquatic organisms.

---

1 Ellis, M. M. 1936. Erosion silt as a factor in aquatic environments. *Ecology*. 17:29-42.

2 Marking, L.L. and T.D. Bills. 1980. Acute effects of silt and sand sedimentation on freshwater mussels. pp. 204-211 *in* J.L. Rasmussen, ed. Proceedings of the symposium on Upper Mississippi River bivalve mollusks. Upper Mississippi River Conservation Committee, Rock Island, IL.

In section 3.1.3.1 of Resource Report 3, Atlantic stated that they would work with staff from the West Virginia Division of Natural Resources to identify and implement appropriate measures during construction to avoid and minimize impacts on brook trout streams and adjacent riparian habitats. These measures will include implementation of time of year restrictions to avoid spawning seasons (April 1 – June 30 for warmwater streams and September 15 – March 31 for trout waters and adjacent tributaries). The WVFO supports this plan of action.

Additionally, the MNF has a standard for protection of coldwater fisheries from October 1 through June 1 that requires potential sediment-producing ground disturbing activities within 100-feet of a perennial trout stream to use additional erosion control measures and seeding/mulching. The WVFO concurs with and supports the MNF standard of protection for activities within 100-feet of perennial trout streams. We also advise utilizing the recommendations and best management practices listed above for stream crossing methods, in-stream blasting, and water withdrawals for brook trout streams.

Federally listed plant species

The proposed project passes through areas that may contain habitat for the federally listed Virginia spiraea, running buffalo clover, and small whorled pogonia. In our December 9, 2014, correspondence, the WVFO recommended that Atlantic complete presence/absence surveys for these plants within the proposed project area. A study plan for these species was submitted to the WVFO on May 8, 2015, and we concurred with this plan on May, 15, 2015.

A survey report was received on December 16, 2015. Surveys for federally listed and other plant species took place from May 18 – September 30, 2015, and took place within proper survey windows for each species (May 1 – September 30 for small whorled pogonia and running buffalo clover, July 1 – September 30 for Virginia spiraea). No federally listed species were observed during survey efforts. However, various areas in Randolph and Pocahontas Counties were not surveyed for listed plants during the 2015 survey season due to access restrictions. These included areas between the following mileposts: 53 – 54.5, 57 – 57.5, 67.5 – 67.7, 73.5 – 74.

Two known locations of running buffalo clover occur within ¼-mile and 1.21-miles of the proposed project centerline between mileposts 53 – 57. The WVFO cannot assess potential impacts the proposed project may have on listed plants until survey efforts for the entire line, including access roads, has been provided. The WVFO will be able to provide more information on potential affects to listed plant species when completed survey results and proper time to review them have been provided.

Bald and Golden eagles

The proposed project will cross areas that provide summer nesting habitat for bald eagles and winter habitat for bald and golden eagles. In our December 9, 2014, correspondence, the WVFO recommended that surveys be completed for eagles. At this writing, these surveys have not yet been conducted. Until survey reports and ample time to review them are provided, the WVFO cannot assess potential impacts the proposed project may have on bald and golden eagles.

Furthermore, it should be noted that the types of surveys that may be utilized for searching for bald eagle nesting locations may not be appropriate to detect wintering golden eagles. For instance, aerial surveys mentioned in Atlantic's Migratory Bird Plan submitted in September 2015, may aid in finding bald eagle nests but repeating such surveys during the winter will not accurately detect the presence of golden eagles that may potentially exist within the proposed project area during that time of year. The WVFO recommends developing alternative survey methods to detect the presence/absence of wintering golden eagles in the project area.

Migratory birds

In our December 9, 2014, correspondence, the WVFO recommended multiple avoidance and minimization measures to be considered for the proposed project in order to avoid impacts to migratory bird species. These recommendations included: time of year restrictions for vegetation removal, maintenance of contiguous habitat corridors, and reduction of habitat fragmentation.

In section 3.2.3.1 of Resource Report 3, Atlantic stated their commitment that vegetation clearing activities will occur outside of the nesting season for migratory birds (April 15 – August 1) and that mowing maintenance of the permanent ROW would not occur during the migratory bird season (April 15 – August 1). Additionally, to aid in avoidance of further habitat fragmentation and removal of contiguous habitat corridors by the proposed project, Atlantic stated in section 3.2.3.3 that 87 percent of current access roads have been located on existing roads (public and private). Of the remaining 13 percent of access roads, only 6 percent will be newly constructed; 7 percent are extensions of existing roads.

Despite Atlantic's commitment to time of year restrictions for forest clearing, the WVFO is concerned that fragmentation of sensitive red spruce habitats on Cheat Mountain and fragmentation of other habitats along the proposed ROW may have adverse effects on migratory birds. High elevation habitats such as those that occur on Cheat Mountain are already threatened and declining, with a regional conservation initiative (Central Appalachian Spruce Restoration Initiative (CASRI)) seeking to restore historic red spruce ecosystems across the high elevation landscapes of the Central Appalachians; further disturbance and fragmentation to these areas may adversely affect populations of birds that return to them during the warmer months.

To avoid adverse effects to migratory birds that utilize these sensitive high elevation habitats, the WVFO highly recommends examining any alternative routes to the south of Cheat Mountain which would help avoid impacts to this sensitive area.

West Virginia northern flying squirrel

High quality and potential habitat for the West Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*) (squirrel) exists on Cheat Mountain within the proposed alignment for the pipeline. The squirrel was recently delisted on March 4, 2013. The delisting of the squirrel was based in part on the continued implementation of Forest Plan standards that do not allow activities that would cause adverse effects to the squirrel unless conducted for research or if the activity will have long-term beneficial effects.

In our December 9, 2014, correspondence, the WVFO recommended that Atlantic work with the U.S. Forest Service and other resource agencies to determine where suitable squirrel habitat exists and that these areas be avoided. As noted in the updated Recovery Plan (USFWS, 2001)[3] for the species, suitable habitat is defined to include habitat with characteristics required by the squirrel and includes buffers of 150 feet around these areas, as well as corridors to provide linkages for habitat areas where deemed necessary to prevent barriers to movement. Avoidance was advised because the Forest Plan notes that "suitable habitat shall be considered occupied". Additionally, the Forest Plan states that "vegetation management activities in suitable habitat shall only be conducted as a part of research or other activities to benefit the species" or when project level assessments result in a "no effect" or "may affect, not likely to adversely affect" determination.

Atlantic provided their October 30, 2015, report on squirrel habitat to the WVFO for review. Within this report, they identified that suitable habitat would be affected by the proposed project. They stated their proposal to narrow and minimize the overall construction footprint within suitable squirrel habitat from 125 feet to 75 feet and maintain a permanent easement of only 30 feet (as opposed to 75 feet) in these areas. Additionally, efforts would be made to avoid select trees and replant older trees within the ROW post-construction.

The proposed avoidance and minimization measures are a step in the right direction. However, even though the proposed project's ROW has not been finalized yet, it is clear that the project will result in the direct loss and clearing of many acres of suitable squirrel habitat. Fragmentation of squirrel habitat through construction of the proposed pipeline may also adversely impact the squirrel as the canopy of the forest would be affected and the forest canopy plays a large role in suitable habitat for the squirrel. A "may affect, not likely to adversely affect" determination would not be appropriate for a project that would clear and fragment suitable squirrel habitat and thus the project is not consistent with the Forest Plan.

The WVFO would like to continue discussions with Atlantic to work toward stronger alternative avoidance and minimization measures that would further reduce potential impacts to squirrels and their habitat from the proposed project and make the project consistent with the Forest Plan. We also need to continue discussions with Atlantic and other resource agencies to ensure suitable habitat has been accurately delineated. Additionally, we highly recommend examining any alternative routes to the south of Cheat Mountain which would help avoid impacts to this sensitive area.

Forest Fragmentation

Section 3.2.3.1 of Resource Report 3 noted that multiple agencies expressed concern about forest fragmentation from the project. Forest fragmentation isolates populations, displaces individuals, and reduces habitat quality and effectiveness. The WVFO echoes the concern noted by these agencies.

---

3 U.S Fish and Wildlife Service. 2001. Appalachian Northern Flying Squirrels Recovery Plan Update; Amendment to Appendix A - Guidelines For Habitat Identification and Management For *Glaucomys sabrinus fuscus*.

As we noted in our December 9, 2014, correspondence, Cheat Mountain contains many sensitive habitats and is one of the most biodiverse areas in the state for many species. Atlantic's October 29, 2015, report on CMS surveys supports this, as your survey efforts recorded 14 species of amphibians in this high elevation area (West Virginia hosts a total of 48 species of amphibians). Fragmentation of this sensitive area may adversely affect multiple endangered, threatened, and rare species such as the Indiana bat, NLEB, CMS, West Virginia northern flying squirrel, blackburnian warbler (*Setophaga fusca*), broad-winged hawk (*Buteo platypterus*), balsam fir (*Abies balsamea*), and Barbara's buttons (*Marshallia grandiflora*). Many of these species rely on contiguous habitat conditions like those that exist on Cheat Mountain and avoid edge areas created from disturbances like the proposed pipeline ROW. The construction of this pipeline will fragment this high elevation forest habitat, and, as a result, will adversely impact many species by isolating populations and creating edge habitat.

Cheat Mountain also hosts one of the largest populations of red spruce in West Virginia. The Service, along with the U.S. Forest Service, Trout Unlimited, The Nature Conservancy, and other non-profit partners working through CASRI, have all focused habitat restoration efforts on Cheat Mountain for many years in an effort to increase habitat connectivity and quality and reduce fragmentation of the spruce/hardwood habitat that exists on Cheat Mountain to benefit a wealth of species. The Lambert Restoration Project is the largest of these efforts; dozens of vernal pools and thousands of seedlings of native and endemic plant species have been planted at this site. This restoration area will help restore habitat connectivity for species such as the threatened CMS. The preferred route of the proposed project will cross the Lambert Restoration area for 4.2 miles and will result in a permanently maintained ROW through the restoration area. This will adversely affect the restored area and prevent any future habitat connectivity for CMS and other rare species that inhabit Cheat Mountain. The money and effort that the CASRI partners have expended to restore this area will be negated.

As originally stated in our December 9, 2014, correspondence, the WVFO highly recommends avoiding Cheat Mountain and the sensitive habitats that exist there. The fragmentation of forested habitat will adversely impact many rare and imperiled species as well as their habitats, which partnering agencies have worked hard to preserve and restore for many years.

Invasive Species & Revegetation Plans

As stated in our December 9, 2014, letter, the WVFO is concerned about the impacts that invasive species may have to the action area, especially Cheat Mountain, as a result of this project. Invasive plants and animals have many impacts on fish and wildlife resources; they can degrade, change or displace native habitats, and compete with our native wildlife and are thus harmful to our native fish, wildlife, and plant resources.

The Service strongly encourages that the project proponent be proactive in prevention of the spread of invasive species by:

1. Cleaning construction equipment prior to moving to a new job site; mud and oil stuck to machinery can harbor seeds from invasive plants;

2. Avoiding disturbance to natural areas whenever possible as disturbance of these areas increases susceptibility to invasion by invasive species;
3. Using native plants appropriate for the area in all mulching and seeding operations.

In section 3.2.2 of Resource Report 3, Atlantic noted that the USFS addressed concerns regarding invasives, especially in red spruce habitats, during a February 23, 2015, meeting. The WVFO concurs and echoes this concern as Cheat Mountain provides habitat for the federally listed CMS, the delisted West Virginia northern flying squirrel, as well as other rare and sensitive animal and plant species. Invasive species have the potential to directly harm sensitive species by causing mortality or may threaten a species by modifying or destroying the habitat or food source on which that species depends.

In addition to the measures listed above, the WVFO recommends avoiding the use of seed mixes that may contain invasive and non-native plant species to prevent spread of invasive species as a result of the proposed project. The WVFO also supports reseeding methods that will aid in providing habitat for native pollinator species.

It should be noted that the Service has initiated a status review of the monarch butterfly (*Danaus plexippus plexippus*), a pollinator native to West Virginia during the summer months, to determine whether listing under the ESA is warranted. If the monarch is listed before the proposed project has been completed, it will need to be considered in environmental effects reviews.

Monarchs require native milkweed as a part of their lifecycle. Monarch larvae rely exclusively on milkweed to survive while adult monarchs use diverse nectar sources for food. Reseeding efforts that utilize native milkweed may benefit the species and help prevent future listing.

Conclusion

In conclusion, while the current proposed alignment for the Atlantic Coast pipeline has been revised to minimize impacts to the Hackers Creek watershed in response to correspondence from the WVFO sent on December 9, 2014; the project will still have an impact on Cheat Mountain. The WVFO highly recommends exploring alternative alignment routes, or combinations of proposed alternatives, to avoid Cheat Mountain. We recommend an alternative alignment further south as a more southern route may avoid many of the issues outlined in this letter.

The WVFO is still awaiting complete survey results for the following species: Indiana bats, NLEB, federally listed freshwater mussels, federally listed plants, and bald and golden eagles. Additionally, supplemental and/or modified surveys may need to be completed for CMS as the October 29, 2015, report lacked detailed reasoning for delineation of occupied and potential habitat areas and did not include surveys into areas with proposed access road construction. Additional surveys for freshwater mussels may also be warranted if access roads cross streams that contain habitat for listed mussel species.

While Atlantic has also proposed alternative routes, surveys for listed species have yet to be conducted along these routes; surveys for listed species have only been conducted on the preferred alternative. The WVFO cannot compare potential affects to determine whether other alternatives will be less impactive to Service trust resources until surveys for listed species have been conducted along other alternative proposed ROWs. Alternative routes should be rigorously explored and objectively evaluated to determine the impacts they will have to unique and irreplaceable environmental resources. A need for alternative route analysis has been encouraged by this office, the USFS, WVDNR, other government agencies, non-government organizations, and most recently by FERC in correspondence dated December 4, 2015.

When additional information requested above is provided, the Service will be able to provide further information on potential effects to Service trust resources. As ranking member Rep. Raúl Grijalva from the House Committee on Natural Resources noted in his November 23, 2015, letter to FERC, sufficient time for review of information is important in order to identify and resolve potential concerns to threatened or endangered species and their habitats. Completed survey reports and other information requested in this correspondence should be provided to the WVFO with ample time to review and comment prior to the development of a Biological Assessment by Atlantic or Environmental Impact Statement by FERC as these documents depend upon accurate data gathered using accepted guidelines and protocols. The WVFO cannot accurately assess the potential impacts to threatened or endangered species and their habitats or make complete recommendations on avoidance and minimization measures until we have had time to review completed survey reports.

The WVFO looks forward to continuing to work with FERC, Atlantic, and DTI to avoid and minimize impacts to federally listed species and their habitats which may occur along the proposed Atlantic Coast Pipeline project. If you have any questions regarding this letter, please contact Liz Stout of my staff at (304) 636-6586, Ext. 15, or elizabeth_stout@fws.gov or at the letterhead address.

Sincerely,

John E. Schmidt
Field Supervisor