AECOM

August 8, 2017

Pamela Shellenberger
US Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801

Re: Bald Eagle Assessment Report
Falcon Ethane Pipeline System Project
Shell Pipeline Company, LP
Beaver County, Washington County, and Allegheny County, Pennsylvania
USFWS Project # 2015-1047

Dear Ms. Shellenberger:

On behalf of Shell Pipeline Company LP (Shell), AECOM has completed a Bald Eagle Assessment Report for Shell's Falcon Ethane Pipeline System Project (formerly known as the Northeast Pipeline Project). The project was reviewed by your office for potential impacts to federally protected species under USFWS Project # 2015-1047 (September 17, 2015). USFWS identified one known bald eagle (*Haliaeetus leucocephalus*) nest in the vicinity of the project (Montgomery Dam Nest) and recommended the project be evaluated for potential direct or indirect disturbances to bald eagles. Per your 2015 response, an assessment for bald eagles was recommended and subsequently, an assessment was conducted and a Bald Eagle Assessment Report dated December 2016 was submitted to your office. However, due to changes to the proposed project route and based on email correspondence with your office (dated January 10, 2017) concerning this species, it was recommended that an updated assessment be conducted. The 2017 Bald Eagle Assessment Report is presented herein for your review and comment. The report is provided to summarize the results of AECOM's bald eagle assessment.

The bald eagle assessment conducted by AECOM staff included a combination of desktop review completed early in 2017 and field view completed in early March 2017 during bald eagle nesting season. The study area for the assessment was based on the project route, work areas, presence of suitable habitat, and potential nest sites as they were known at the time of assessment. In addition to assessment of the overall project, the Montgomery Dam Nest was reevaluated with the methods contained in the National Bald Eagle Management Guidelines and the USFWS Bald Eagle Screening Form.

Shell and AECOM look forward to receiving your comments. Please contact Natalie Shearer at 412-503-4595 or natalie.shearer@aecom.com if additional information is desired.

Sincerely,
AECOM

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Enclosures (1)
Bald Eagle Assessment Report

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SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE SYSTEM
OHIO, PENNSYLVANIA, & WEST VIRGINIA

Bald Eagle Assessment Report

JULY 2017

Prepared For:

Shell Pipeline Company, LP

Prepared By:

AECOM

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I. INTRODUCTION

AECOM, on behalf of Shell Pipeline Company LP (Shell), has conducted a 2017 Bald Eagle Assessment for the Shell Falcon Ethane Pipeline System (formerly known as the Northeast Ethane Pipeline Project) to supplement Bald Eagle Assessment activities completed in 2016. The Shell Falcon Ethane Pipeline System (proposed Project) is an approximately 98-mile ethane pipeline system proposed in multiple counties in Ohio, Pennsylvania, and West Virginia **(Figure 1 – Project Location Map)**. The purpose of the proposed pipeline is the transport of ethane between supply and delivery points in Ohio, Pennsylvania, and West Virginia. Modifications to the Project schedule and routing have occurred since 2016 Bald Eagle Assessment activities were completed. The purpose of the 2017 Bald Eagle Assessment Report presented herein is to provide updates to Bald Eagle Assessment activities (agency correspondence, desktop review and field activities) conducted in 2017 in response to Project schedule and route modifications. The results presented in this report are based on assessment activities conducted in early 2017 on the proposed route. The proposed route provided in this report includes proposed route modifications that occurred after 2017 Bald Eagle Assessment activities were completed for the Shell Falcon Ethane Pipeline System.

The bald eagle (*Haliaeetus leucocephalus*) was identified as a species of concern during early agency coordination/consultation for the proposed Project in 2015. The bald eagle is currently protected under the Bald and Golden Eagle Protection Act (also known as the Eagle Act or BGEPA) and the Migratory Bird Treaty Act (MBTA) from activities and habitat modifications that constitute “disturbances” under these acts when and where such disturbances interfere with the ability of eagles to breed, nest, roost, and forage. The bald eagle also continues to be listed under wildlife or game code in some states. The purpose of this Bald Eagle Assessment is to provide information concerning the proposed Project’s potential for impacts to bald eagles and identify measures for the avoidance and minimization of such potential impacts. The assessment presented herein is based on the voluntary guidance contained in the United States Fish and Wildlife Service (USFWS) National Bald Eagle Management Guidelines (USFWS 2007) for the protection of bald eagles. In addition, state bald eagle guidance documents, such as the Pennsylvania Bald Eagle Management Plan (Gross and Brauning 2010), were consulted for those states having such guidance.

II. BALD EAGLE LIFE HISTORY

The bald eagle is easily recognizable by its characteristic white head and tail and black body plumage, which are attained around five years of age (breeding age). The eagle is a specialist with a preference for fish which it catches by swooping into shallow water from perches or from a soaring dive while flying. It also is capable of opportunistically capturing other prey including birds (especially waterfowl), mammals, and reptiles, and is also known to scavenge carrion during times of low prey availability. Primary habitat preferences of the bald eagle is near areas of low human development with expanses of open water containing abundant prey and forested areas with large super canopy trees for perch hunting, roosting and nesting. Generally, habitat eagles use for foraging and breeding have diverse levels of forest height and forest edge and a mix of live canopy trees and dead snags located within approximately two kilometers of a water body (Buehler 2000). Nest trees are selected for visibility, adjacent cover, and tree size.

The timing of breeding activities of bald eagles varies with geographic location although a general chronology consists of courtship, nest building, egg laying, incubation, hatching and rearing of young, and fledging of young. Bald eagles have high nest site fidelity and consequently return to the same territories from one year to the next. Courtship consists of the pair bonding through mate feeding, aerial displays, and nest building activity. In addition to active nests, alternate nest sites consisting of unoccupied nests built and/or maintained by bald eagles are often present within bald eagle nesting territories (USFWS 2007).

Bald eagles are sensitive to human disturbance and typically do not select breeding, foraging, and roosting areas in close proximity to development or human activity. Eagles are sensitive to both visual and auditory disturbance by humans although they may exhibit some tolerance or habituation when disturbance or activity levels are predictable or regular as opposed to irregular or intermittent (USFWS 2007). Eagles, when perceiving a threat, may temporarily abandon nests, leaving eggs and/or nestlings vulnerable to predation. Disturbance that occurs between eagle nest sites and roost sites and paths to forage areas may reduce bald eagle nest productivity by interfering with adequate provisioning of young. Forestry or vegetation maintenance practices that reduce cover around nest trees, damage nest trees, or cause auditory or visual disturbance to eagles also may reduce productivity. Since eagles prefer specific types of nest tree structure (super canopy with forested edge), it is important to maintain existing nest trees, forest around existing nest trees, and areas of suitable habitat for new nest sites, foraging and roosting.

Threats to bald eagles historically included persecution by shooting and trapping, destruction of habitat such as for timber harvest and development, exposure to contaminants, and most notably exposure to the persistent pesticide DDT. The egg-shell thinning effects of DDT on eagle reproduction resulted in a precipitous decline in eagle numbers in the 1960s and 1970s, such that by 1977 only 44 pairs remained in the United States. The ban on DDT along with state and federal protections and hacking programs resulted in the restoration of viable breeding pairs (Gross and Brauning 2009). Current threats to bald eagles are primarily centered on human development and the consequent reduction of quality habitat and increase in disturbance to eagles. Other contemporary threats include poisoning, electrocution/collision, and disease (Gross and Brauning 2010).

III. REGULATORY PROTECTIONS

The bald eagle was delisted in 2007 under the Endangered Species Act (ESA), but remains protected under federal regulations; the BGEPA and the MBTA. The species is managed under recovery plans and continues to be state-listed as threatened, endangered, or special concern in some states. It has been delisted in the states of Ohio and Pennsylvania (2014). In West Virginia, the West Virginia Division of Natural Resources (WVDNR), Wildlife Resources Section, follows the methodologies of NatureServe's Natural Heritage Network and has accordingly assigned ranks of S2B (Imperiled, breeding population) and S3N (Vulnerable, non-breeding population) to the bald eagle.[1]

Migratory Bird Treaty Act (16 U.S.C. 703-712)

The MBTA, passed by Congress in 1918, is a Federal law that carries out the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia. The conventions protect migratory birds as an international resource. The MBTA prohibits the taking, killing, or possessing of migratory birds, including bald eagles. It specifically provides that it is unlawful, unless authorized by the Secretary, to: pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be

[1] The WV state rank Imperiled is defined as imperiled in the state because of rarity or some factors making it very vulnerable to extirpation from the state. The Vulnerable rank is defined as vulnerable in the state because rare or uncommon or found only in a restricted range, or because of other factors making it vulnerable to extirpation.

carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or eggs of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof, included in the terms of the conventions between the United States and Great Britain [and between the U.S. Mexico, Japan, and Russia, respectively]. Additionally, the species is protected under the Lacey Act. The Lacey Act is not further addressed in this report due to the overlap of its provisions with the regulations presented herein.

Bald and Golden Eagle Protection Act (16 U.S.C. 668-668D)

The Eagle Act, originally passed in 1940, protects bald and golden eagles by making it unlawful for any person, "association, partnership, or corporation," in the absence of a permit, to:
knowingly or with wanton disregard for the consequences of his act take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at the time or in any manner, any bald eagle . . . or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles . . . .

The Eagle Act defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." USFWS regulations, in turn, define "disturb" as: to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Thus, the definition of "take" covers, in addition to immediate impacts to bald and golden eagles: Impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are present, if, upon the eagle[']s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Permit Regulations 50 CFR 22.26 and 50 CFR 22.27

Two federal regulations, 50 CFR 22.26 and 50 CFR 22.27 were promulgated to provide a regulatory mechanism for legal take of bald and golden eagles and nests, respectively, under the Eagle Act. These regulations (revised by Final Rule January 17, 2017) established legal

mechanisms for take of bald and golden eagles under a permit, in connection with lawful activities and intentional take of their nests under particular, limited circumstances. Eagle nest take or removal of eagle nests defined as in-use nests or alternate nests requires an Eagle Nest Take Permit under 50 CFR 22.27.[2] Under these regulations, permits would only be issued if a determination can be made that take is compatible with the preservation of the bald and golden eagle and is "practicably unavoidable (also known as the Preservation Standard)."

National Bald Eagle Management Guidelines

The National Bald Eagle Management Guidelines (USFWS 2007) recommendations for avoiding disturbance to bald eagles include voluntary provisions for the protection of breeding and nesting sites, communal roost sites, and foraging areas and are the basis for this Bald Eagle Assessment. The guidelines are designed to be applied with consideration to variability in types of activities, eagle tolerance to ranges of disturbance, specific site characteristics, and current use of the area. Under the guidelines, activities are classified into types according to their level of potential for disturbance to bald eagles and measures (e.g., seasonal restrictions, protective buffers) are provided by activity category for avoidance and minimization of potential disturbances:

Activity Categories

Activities are grouped into eight (8) categories based on the nature of the activity and the magnitude of impacts associated with bald eagles.

- Category A construction is defined as building construction (1 or 2 story) with a project footprint of ½ acre or less, construction of trails, roads, canals, power lines and other linear utilities, new or expanded aquaculture or agriculture, alterations of shorelines and wetlands, construction of docks or moorings, and new impoundments.
- Category B construction includes building construction (3 stories and higher) with project footprint in excess of ½ acre, installation or expansion of marinas with six or more boats, mining and associated activities and oil and natural gas drilling and associated activities.

[2] The USFWS permit application form for Eagle Nest Take differentiates in-use nests from alternate nests. Alternate nests are defined as "one not currently in use by eagles as determined by the absence of any adult, egg, or dependent young at the nest site within 10 days of nest removal."

- Category C Timber Operations and Forestry Practices such as clear cutting, timber harvesting, and other silvicultural practices such as selective forest thinning.
- Category D. Off-road Vehicle Use such as off-road motorcycles, four-wheel drive vehicles, and all-terrain vehicles (ATVs).
- Category E. Motorized Watercraft Use such as jet-skies and personal watercraft
- Category F. Non-motorized recreation and human entry such as entering nest areas for hunting, fishing, hiking, and bird watching.
- Category G. Helicopters and fixed-wing aircraft other than aircraft used during bald eagle nest survey from a safe distance to nests.
- Category H. Blasting and other loud, intermittent noises defined as Federal Department of Transportation Class B explosives and fireworks licensed for public display.

For the purposes of this report, the activities associated with the proposed Project are Category B, also referred to as construction and development activities by the USFWS' Bald Eagle Screening Form.

Protective Buffers

The National Bald Eagle Management Guidelines recommend seasonal timing restrictions and/or protective buffers be implemented according to the activity category associated with a proposed Project and the existing activities (baseline) or land use that eagles are exposed to in a given location. Seasonal timing restrictions consist of the avoidance of proposed Project activities during sensitive periods of bald eagle breeding and nesting activity including courtship, egg-laying, incubation, rearing, and fledging (January 1 – July 31).

Protective buffers consist of distance buffers and landscape buffers as described below:

- Distance buffers – Buffers consisting of the avoidance of activities within certain distances of bald eagle nests during sensitive breeding and nesting periods from January 1 – July 31.
- Landscape buffers – Buffers consisting of the retention of existing vegetation, especially forest stand, as visual and auditory screens between bald eagle nests and new activities, as well as for habitat preservation.

Recommended widths of distance and landscape buffers are 330 feet (ft.), 660 ft., 1,000 ft., ½ mile, and one mile. A combination of both types of buffers may be applied to provide protection from visual or auditory disturbances and for the avoidance of habitat modifications.

Alternate Nests

An alternate nest is defined by the National Bald Eagle Management Guidelines as a nest that is not used for breeding by eagles during a given breeding season (USFWS 2007). The guidelines recommend protections for alternate nests consistent with BGEPA as eagles may return to these nests for breeding purposes. Alternate nests may not be destroyed or undergo habitat modifications without USFWS authorization (eagle nest take permits) but restrictions on activities may be modified around these nests if determined to be inactive in a given year and/or over longer timeframes (5 years) according to the National Bald Eagle Management Guidelines (USFWS 2007). Accordingly, temporary activities not requiring habitat modifications near alternate nests may be permissible if a nest site is determined to not be occupied or not in-use in a given year and/or documented as unused over longer periods (5 years).

Pennsylvania Bald Eagle Management Plan

In addition to the National Bald Eagle Management Guidelines, the Bald Eagle Management Plan (BEMP) for Pennsylvania – 2010 – 2019 (Gross and Brauning 2010) contains guidance for the protection of bald eagles and nests (including alternate nests) in Pennsylvania. Pennsylvania's BEMP is based on the National Bald Eagle Management Guidelines and identifies a core buffer of 1,000 feet of nests (measured by line of sight) as the recommended protective buffer from human activities including construction and activities associated with water impoundments, construction of roads, trails, power lines and other utilities and structures (Gross and Brauning 2010).

IV. PROJECT BACKGROUND

Agency consultation and coordination were re-initiated with federal and state wildlife agencies in 2017 to provide updated proposed route information and to supplement previous consultation and coordination efforts (Attachment A – Agency Correspondence). Agencies were also each sent a copy of the 2016 Bald Eagle Assessment Report for review and comment.

- Ohio – USFWS (Ecological Field Services, Columbus Ohio) and Ohio Department of Natural Resources (ODNR)

- Pennsylvania – USFWS (State College Field Office) and Pennsylvania Game Commission (PGC)
- West Virginia – USFWS (Elkins Field Office) and West Virginia Division of Natural Resources (WVDNR)

Ohio – USFWS Ecological Field Office (Project TAILS #03E15000-2015-TA-1618) and ODNR (Information Request 15-545)

The USFWS (Ecological Field Office, Columbus Ohio) and ODNR did not identify the bald eagle as a species of concern in the proposed Project area during early consultation efforts in 2015. Additionally, the route in the Ohio segment of the proposed Project was the subject of frequent re-routes between 2015 and 2017. Only one area, the HDD crossing of the Ohio River, was identified by AECOM biologists in both the 2016 and 2017 Bald Eagle Assessments as containing suitable habitat for nesting bald eagles. This area was viewed in the field in 2017 **(see Results Section VIII)**. ODNR and USFWS were sent revised review requests May 9, 2017. ODNR had no further comments and response from USFWS is pending **(Attachment A)**.

Pennsylvania – USFWS. Pennsylvania Field Office, State College, PA (USFWS Project #2015-1047)

During early consultation, The USFWS identified the Montgomery Dam Nest (Coordinates: 40.651054, -80.359981) as a known, active nest located within approximately ½ mile of the proposed Project (A letter dated September 17, 2015). The 2016 Bald Eagle Assessment Report included evaluation of the nest site for potential impacts associated with Project type, size, location, and layout in accordance with voluntary provisions of the National Bald Eagle Management Guidelines, as well as a completed USFWS bald eagle screening form. USFWS comment, dated January 10, 2017 **(Attachment A)** on the 2016 Bald Eagle Assessment Report recommended that all identified avoidance measures be implemented for the Project and the screening form be signed by the applicant and retained in the Project record **(Attachment C)**.

West Virginia – WVDNR File No. 216-077

During early consultation in 2015, the WVDNR identified a bald eagle nest as being associated with the Tomlinson Run Embayment. E-mail correspondence with Barb Sargent (WVDNR), dated January 10, 2017 indicated that WVDNR recommended 2017 bald eagle surveys in the Tomlinson Run area. A potential nest site was identified as active in 2013 – 2015 but was not

active in 2016. Subsequent e-mail communications, dated April 18, 2017 (Attachment A) also indicated that bald eagles had been shifting nest sites within the territory and may have shifted into Ohio.

V. PROJECT DESCRIPTION

The proposed Project consists of the construction of an ethane pipeline in Ohio, Pennsylvania, and West Virginia.

The purpose of the proposed Project is the ethane transport and delivery **(Figure 1)**. Construction will require temporary workspace (25 ft. width) for pipeline installation, horizontal directional drill (HDD) entry/exit points, staging, and access. HDD methods will be used in environmentally sensitive areas including large wetland and waterbody crossings, as well as some land-based HDD crossings. Vegetation clearing will be necessary in some areas for temporary activities as well as for permanent establishment of new right-of-way and meter stations. New right-of-way will be approximately 75 ft. in width and will consist of herbaceous vegetation in keeping with the requirements for the maintenance of pipelines and pipeline ROWs. New permanent impacts to vegetation will be avoided or reduced in areas where the proposed Project will co-locate with existing utility ROW and where HDD crossings are proposed.

The estimated schedule for construction is: October 2018 through March 2019 – Tree clearing and installation of Soil Erosion & Sediment Control measures, the construction of temporary access roads associated with tree clearing, and construction of specific early work areas including the Ohio River HDD; March 2019 through November 2019 – Proceed with main portion of proposed pipeline construction; November 2019 – Construction End; and Restoration through Summer 2020.

VI. PROJECT STUDY AREA

The proposed Project area extends north from Houston, Pennsylvania to an authorized ethane cracker site (known as the Shell Franklin Project) currently in the process of site construction. At MP51.8/31.3, the alignment extends southwest, roughly parallel to the Ohio River, before entering West Virginia (MP41). It then crosses the Ohio River and continues southwest to a terminus near Cadiz, Ohio.

The Study Area for the Bald Eagle Assessment was delineated based on the guidance contained in the National Bald Eagle Management Guidelines (2007) which suggests buffer distances for nests, roosts, and foraging areas according to proposed activities, existing activities, and existing habitat features. It includes the proposed Project alignment, workspace, temporary access roads, and buffer zones within 330 feet (ft.), 660 ft., 1,000 ft., and ½ mile (mi.) of the proposed Project centerline **(Figure 2)**. As the proposed Project does not include blasting or fireworks, the 1-mile buffer is not considered applicable in the Study Area and was only used for evaluating activities around actual nest sites.

Ohio

Existing conditions in the Ohio portion of the Project include forest tracts, wetlands and waterways agricultural, residential and commercial/industrial land uses. The primary large water body in the Ohio portion of the Project is the Ohio River. Other wetlands and waterbodies crossed by the Project or located close to the Project consist of small streams, wetlands, and ponds or lakes.

Pennsylvania

Existing conditions in the Pennsylvania portion of the Project include forest tracts, wetlands and waterways, agricultural, residential and commercial/industrial land uses. Large water bodies in the Pennsylvania portion of the Project include impoundments (Beaver Conservation District), Little Raccoon Creek, and the Ohio River. Other wetlands and waterbodies crossed by the Project or located close to the Project consist of small streams, wetlands, and ponds/lakes.

West Virginia

Existing conditions in the West Virginia portion of the Project include forest tracts,

wetlands and waterways, agricultural, residential and commercial/industrial land uses. The Ohio River and an associated embayment (Tomlinson Run Embayment) is the primary large water body in the West Virginia portion of the Project. Other wetlands and waterbodies crossed by the Project or located close to the Project consist of small streams or wetlands.

VII. STUDY METHODS

The Study Area was assessed with a three-step approach involving 1) Desktop Review, 2) Field View, and 3) Final Assessment of areas identified by steps 1 and 2. The primary focus of the assessment was the identification of suitable bald eagle nesting habitat and assessment of known and/or discovered nest sites including in-use nest sites and alternate nests. Foraging and roosting areas were considered for active nest areas identified in Steps 1 and 2.

Desktop Review (Step 1) – Geographic Information Systems (GIS)

Desktop Review was conducted to delineate the Study Area for the Bald Eagle Assessment and thereby identify areas of suitable habitat for further assessment. Using ESRI's ArcView GIS toolbox features, a model was created to identify suitable habitat features within four buffer zones. The four buffer zone distances in the National Bald Eagle Management Guidelines were used to bound areas within 330 feet, 660 feet, 1,000 feet, and ½ mile of the proposed Project workspace (centerline inclusive). The 1 mile buffer zone contained in the National Bald Eagle Management Guidelines was viewed on desktop but not assessed for all areas as the proposed Project does not involve blasting or fireworks (Category H of the National Bald Eagle Management Guidelines). Waterbodies of size sufficient to support breeding bald eagles, as well as other suitable habitat features (forest stands and edges) were identified within the Project workspace and buffer zones for further assessment in Step 2 - Field View. In addition to running the model, publicly-available resources were consulted for additional information.

Field View (Step 2)

A Field View was conducted by AECOM on March 8-9, 2017 to assess known nest sites and areas of suitable habitat identified during Desktop Review. The field view timed to coincide with the bald eagle incubation period in the region and conducted prior to leaf out conditions. Therefore, conditions were optimal for detecting bald eagle breeding and nesting activity at nest sites and detecting nests within the view shed.

Field View consisted of traveling survey (vehicle) and roadside survey at observation points identified in areas where permission for access was granted and/or possible in public areas. Observation points were refined in the field based on the views of suitable

habitat possible from a given location. Based on the presence or absence of bald eagle activity, nest sites were categorized according to the following nest type definitions as follows:

- In-use (active) – Known nest sites or newly discovered nest sites with bald eagles observed in nest site and engaged in breeding activities,
- Not in-use, alternate (inactive nest) – Nest with documented history of previous use but no bald eagles present in nest site or vicinity, or
- Not in-use, potential alternate – Nest with no documented history of previous use and no bald eagles present in nest site or vicinity, and
- Other species – Other species observed in nest.

Where active nests were observed, bald eagle activity and nest site conditions were documented. Other large stick nests identified in the Study Area were also evaluated for their potential as alternate bald eagle nests. Areas of bald eagle activity, in-use (active) nest sites, and not-in-use (alternate and potential alternate) nests were identified for further assessment in Step 3 – Final Assessment. If other species were observed as actively using potential nest sites, those sites were not brought forward into Step 3 - Final Assessment. A Survey Photolog containing photographs of observation areas and nest sites visited during field view activities is included in **Attachment B**.

Final Assessment (Step 3)

Areas brought forward for Final Assessment were evaluated for potential impacts that would constitute disturbance to nesting bald eagles at in-use nest sites or constitute habitat modifications at in-use and alternate nest sites as described under MBTA and BGEPA regulations. The primary focus for assessing these areas consisted of identifying 1) distance of project activities from each area for each applicable buffer zone, 2) similar activities or disturbances in each buffer zone, and 3) measures for avoiding and minimizing potential disturbances associated with proposed Project activities (avoidance measures). Alternate or potential alternate nests were assessed with a primary focus on 1) assessing nest conditions for viability for future use, 2) identifying vegetation clearing within landscape buffers that would potentially constitute habitat modifications, and 3) by identifying the distance of project activities from the alternate nest site that would constitute potential disturbances in the event that alternate nest sites become active in the future. The USFWS Bald Eagle Screening Form was

used to identify the specific avoidance measures applicable to proposed Project activities in proximity to nests assessed in Final Assessment - Step 3.

VIII. RESULTS

This section summarizes the results of each step used in the Bald Eagle Assessment:

Desktop Review (Step 1)

Based on Desktop Review, six areas were brought forward for Field View:

- Fort Cherry Golf Course,
- Beaver Conservation District (lake, wetlands, and Raccoon Creek),
- Montgomery Dam Nest Site,
- Raccoon Creek (near confluence of Ohio River and Raccoon Creek),
- Tomlinson Run Embayment/Ohio River (West Virginia), and
- Ohio River (Ohio)

These areas were selected based on the presence of suitable bald eagle nesting habitat within a ½ mile of the proposed Project workspace and/or due to being previously identified during agency consultation. Table 1 – Bald Eagle Assessment Summary provides the results of Desktop Review (see Assessment Step 1 column and Suitable Habitat Features column).

Field View (Step 2)

Areas identified during Desktop Review as containing potentially suitable bald eagle habitat or known resources (known nest areas) were evaluated by AECOM during Field View on March 8-9, 2017. Table 1 – Bald Eagle Assessment Summary provides results from the areas assessed during Field View (see Assessment Step 2 column and results column.

Fort Cherry Golf Course (3/8/17)

The Fort Cherry Golf Course was identified as potentially suitable habitat due to the presence of a cluster of multiple ponds (comprising approximately 10 acres of open water) and forested edge habitat located within the ½ mile buffer zone **(Photographs 1 and 2, Attachment B - Survey Photolog)**. AECOM biologists observed the area from observation areas located on a hill above the ponds. However, no bald eagles or nests were observed to be present in the area or vicinity during survey in both survey years (2016 and 2017).

Beaver Conservation District (3/8/17)

The Beaver Conservation District property was identified as potentially suitable habitat due to the presence of open water features and forested edge containing large trees such as sycamore **(Photographs 3 and 4, Attachment B – Survey Photolog)**. Water features in the area include an impoundment (approximately 15 acres), wetland (approximately 1+ acres), and Raccoon Creek. AECOM biologists conducted observations of the area from an observation point near the impoundment, by traversing established trail near Raccoon Creek and the wetland feature. Additional views were also possible through windshield survey along adjacent roads (Bocktown Road and Cowpath Road). No bald eagles or nests were observed to be present during survey in both survey years (2016 and 2017).

Montgomery Dam Nest Site (3/8/17)

The Montgomery Dam nest is located along the Ohio River between Montgomery Dam Road and Frankfort Road (Route 18). An active chemical plant (Nova Chemicals) is located north of the nest **(Figure 3A)**. Using a vehicle as a blind, the nest was viewed from a location on the Nova Plant which is approximately 300 feet north of the nest site. The nest is situated in a beech tree on a forested slope approximately 1,400 feet from the banks of the Ohio River **(Figure 3A)**. The nest was observed to be active as indicated by the presence of two adult bald eagles. Bald eagle nesting activities documented during the observation period included incubation, territory defense, and nest maintenance (Photographs 7 and 8, Attachment B – Survey Photolog). A nest data form is included in Attachment C.

In addition to the known nest site, a large stick nest was identified within the ½ mile buffer zone of the proposed Project workspace at the edge of existing utility ROW. The nest was not as developed as most in-use bald eagle nests but was assessed for its potential as an alternate nest. During survey, an adult red-tailed hawk was observed entering the nest and the nest was, therefore, not recorded as a potential alternate nest suitable for further assessment **(Photographs 5 and 6, Attachment B – Survey Photolog)**.

Raccoon Creek (3/8/17)

An HDD crossing of Raccoon Creek is planned approximately one mile from its confluence with the Ohio River **(Figure 2; Page 7)**. This area was also viewed from

Raccoon Creek Road during survey due to its proximity to the Ohio River. No bald eagles or nests were observed in the area during survey.

Tomlinson Run Embayment/Ohio River (3/8/17 and 3/9/17)

AECOM biologists conducted traveling observations along State Route 2 (SR 2) and fixed point observations in accessible areas (public areas and properties with land owner permissions) in Hancock County, West Virginia on March 8 -9, 2017. Observations were conducted from the following locations:

- SR 2 Roadside – observation of Tomlinson Run Alternate Nest
- Tomlinson Run Embayment (including backwater areas)

SR 2 Roadside

WVDNR provided a location for a potential bald eagle nest within the 1,000 feet to ½ mile buffer zone of the Project workspace. As no property access was granted, this area was viewed from the closest vantage point along SR 2. A large, stick nest was observed by sight to be located adjacent to rail road tracks approximately .4 miles from the banks of the Ohio River (**Photographs 9 and 10, Attachment B – Survey Photo Log**). The nest was not in-use and was observed to be in unmaintained, damaged condition. The nest was viewed on two consecutive survey days to provide extra coverage. No bald eagles were observed in the immediate vicinity during either survey day. The nest was recorded as an alternate bald eagle nest site (Tomlinson Run Alternate Nest) due to its history of earlier occupancy. A nest data form is included in **Attachment D**.

Tomlinson Run Embayment and backwater

The Tomlinson Run Embayment, located along the Ohio River and SR 2, was identified as an area with a history of use for bald eagle nesting by WVDNR. Suitable habitat in the area consists of the Ohio River shoreline, the embayment, and backwater areas. In 2016, remnants of an old, damaged nest (inactive) were observed in a sycamore tree along a backwater area associated with the embayment. This nest was viewed from Ferndale Road in 2017 as a potential alternate nest but was also observed being entered by a red-tailed hawk **(Photographs 11 and 12, Attachment B – Survey Photolog)**. Based on occupation of the nest by a red-tailed hawk, the nest was not further assessed as an alternate bald eagle nest. It should be noted that the proposed final route has moved north and is now located more than a mile away from this area. The area where Tomlinson Run feeds into the embayment is a forested, sheltered area

with numerous large trees for nesting **(Photographs 13 and 14, Attachment B – Survey Log)**. AECOM biologists surveyed open embayment areas by windshield survey from SR 2. The sheltered area where Tomlinson Run feeds into the embayment was traversed on foot from an old dirt road identified as Tomlinson Run Road. No bald eagles or nests were observed during survey in this area.

Ohio River (Ohio)

The Ohio side of the Ohio River was observed from a location near the cluster islands as well as from a point along the river on the Mountaineer Park property initially. From the West Virginia side, a large stick nest was observed on the Ohio side on a steep, forested slope above Ohio Route 7 (Ohio SR 7). AECOM biologists also viewed and documented this nest from Ohio SR 7, the closest vantage point possible given its location on a steep slope above the highway. The nest was not in-use by bald eagles as none were observed in the nest or vicinity. The nest did not appear as large as many in-use nests but was intact and potentially could be used as an alternate nest. Since no previous history of the nest was known, the nest was recorded as a potential alternate nest (Ohio Potential Alternate Nest). A data form is provided in **Attachment E**.

Final Assessment (Step 3)

Based on Step 2 - Field View, three nest sites, documented as either known in-use, not in-use alternate, or potential alternate bald eagle nests, were brought forward for Final Assessment:

- Montgomery Dam Nest Site (known history, in-use)
- Tomlinson Run Embayment Alternate Nest (known history, not in-use alternate)
- Ohio River Potential Alternate Nest (unknown history, not in-use potential alternate)

Montgomery Dam Nest Site

The Montgomery Dam Nest Site is located such that the pair is regularly exposed to human activities to the north associated with the Nova Chemical Plant entrance and normal traffic flow on Montgomery Dam Road and Route 18 (within 330 foot buffer zone). On the south side of the nest, tree cover and steep slopes provide intervening landscape features that potentially buffer the pair from auditory and visual disturbances (within 330, 660, 1,000, and ½ mile buffer zones). A cleared right-of-way for

underground pipeline (existing right-of-way shown on Figure 3A) is located approximately 1, 030 feet southeast from the nest on the other side of a forested slope (within ½ mile buffer zone). The primary foraging areas proximate to the nest include the Ohio River and Raccoon Creek. Other activities just over a mile away include construction of the Franklin Project (ethane cracker facility) and road re-alignment. The Proposed project workspace is located on the other side of the existing right-of-way within the outer edge of the ½ mile buffer zone from the nest. Distance and landscape buffer opportunities are possible within the 330 ft., 660 ft., and 1,000 foot buffer zones in addition to extra buffer area, consisting of forest, within the ½ mile buffer zone. The Proposed project workspace location does not obstruct the flight path of bald eagles to the Ohio River or to points on Raccoon Creek for foraging or roosting. Visual and auditory disturbances to the pair using the Montgomery Dam nest are not anticipated from temporary construction activities or from permanent tree clearing for the new right-of-way associated with the proposed Project.

Figure 3A shows the location of the nest, observation point, the proposed Project workspace, buffer zones, and existing activities/land use in vicinity of the nest. **Photographs 7 and 8 (Photolog – Attachment B)** provide views of the nest as seen during survey. **Attachment C** provides the bald eagle screening form (USFWS Project Screening form, version revised 3/18/14) and nest data form (3/8/17).

Tomlinson Run Alternate Nest

The Tomlinson Run Alternate Nest is defined as an alternate nest for the purposes of this assessment due to its history of past use by bald eagles. The Tomlinson Run Alternate Nest is located along the Ohio River on a residential property consisting of open field, forest patch, house, and outbuildings. Along with the residence, existing land use practices near the nest consist of vehicular, rail, and shipping and recreational boat traffic on the Ohio River. Features within the 330 ft. buffer zone consist of active rail line (within approximately 226 feet and visible from the nest), open field (south and east), forest patch (north and west), and the Ohio River (approximately 230 feet from nest). The same features are present within the 660 ft. buffer zone with the addition of a forest patch to the south of the nest. The 1,000 ft. buffer zone additionally includes a residence located near SR 2. SR 2, an active roadway, is located within 1,114 feet and visible from the nest. Due to the open field on the south and east sides of the nest, the

nest is exposed to existing visual disturbances including rail, road, and waterway traffic. It should be noted that the condition of the nest is poor as it no longer retains a bowl or cup shape, is reduced in size, and is sagging down into the tree. No recent maintenance of the nest or bald eagle activity or presence was observed at the nest site during survey on two subsequent days. According to a paper published by Bryan Watts (Watts 2015), the likelihood of re-use of a nest site decreases with time. However, the nest as an alternate has not been documented to be out of use for the 5 year duration indicated by the National Bald Eagle Management Guidelines and was, therefore, assessed with the assumption that bald eagle nesting activity could potentially occur in the future.

The proposed pipeline will be located within the 330 ft. buffer of the nest but will be installed by underground by HDD methods. Therefore, no vegetation or other habitat alterations, or activities within the 330, 660, 1000 ft. buffers of the nest are anticipated for pipeline installation. Workspace for HDD entry/exit are located across the Ohio River approximately 1 mile away and to the east approximately ¼ mile away and not visible to the nest. Therefore, Project activities in the area are not anticipated to cause new visual or auditory disturbances to nesting bald eagles in the unlikely event the nest becomes active in future breeding seasons.

Figure 3B shows the alternate nest, observation point, existing land use, and buffer zones. **Photographs 9 and 10 (Attachment B – Survey Photolog)** provide views of the nest as seen during survey. **Attachment D** provides the bald eagle screening form (USFWS Project Screening form, version revised 3/18/14) and nest data form (3/8/17 and 3/9/17).

Ohio Potential Alternate Nest

The Ohio Potential Alternate Nest is defined as a potential alternate nest for the purposes of this study as its history as an occupied nest is not known and it was not observed to be in use during survey.

Figure 3C shows the potential alternate nest, observation point, existing land use, and buffer zones. **Photographs 15 and 16 (Attachment B – Survey Photolog)** provide views of the Ohio Potential Alternate Nest as seen during survey. **Attachment E** provides the bald eagle screening form (USFWS Project Screening form, version revised

3/18/14) and nest data form (3/8/17).

Table 1 - Bald Eagle Assessment Summary

Milepost[1]	State[2]	County	Area	Suitable Habitat Features	Assessment Step 1 (Y or N)	Assessment Step 2 (Y or N)	Assessment Step 3 (Y or N)	Results
6.6	PA	Washington	Fort Cherry Golf Course	Multiple ponds co-located within 1/2 mile of project workspace (12-13 acres of open water) and discontinuous forest patches containing large trees.	Y	Y	N	Bald eagles and/or bald eagle nests were not present in this area during Field Views in 2016 and 2017.
23.9-24.1	PA	Beaver	Beaver Conservation District Lake, Wetlands, and Raccoon Creek	Lake (approximately 15 acres) and wetlands associated with a section of Raccoon Creek and forest patches containing large trees.	Y	Y	N	Bald eagle and/or bald eagle nests were not present in this area during Field Views in 2016 and 2017.
50.2	PA	Beaver	Montgomery Dam Nest	Ohio River - approximately 1,400 feet from nest	Y	Y	Y	Bald eagles were observed actively using this nest during Field Views in 2016 and 2017. A second large stick nest was identified approximately 1,800 feet from the active nest. It was eliminated from consideration as a potential alternate nest due to the presence of a red-tailed hawk in the nest.
50.8-51	PA	Beaver	Raccoon Creek	Near confluence of Raccoon Creek and Ohio River	Y	Y	N	Bald eagles and/or bald eagle nests were not present in this area during Field Views in 2016 and 2017.
31	WV	Hancock	Tomlinson Run Embayment/Ohio River	Ohio River, Tomlinson Run Embayment, and associated wetlands.	Y	Y	Y	Results: One inactive large stick nest in damaged condition (Tomlinson Run Alternate Nest) One large stick nest identified in 2016 as a potential alternate – occupied in 2017 by a red-tailed hawk
1-12 (Cadiz to Scio)	OH[2]	Harrison	Ohio River	Ohio River shoreline is located .33 miles from HDD workspace location.	Y	Y	Y	A large stick nest was observed on a slope above the Ohio River. The nest was not observed to be active and is considered a potential alternate nest
0-30.1 (Scio to Monaca)	OH[2]	Jefferson, Carroll, Harrison	None	Suitable habitat, consisting of large open waterbodies, is lacking based on desktop review of the proposed route.	Y	N	N	Agency response from Ohio USFWS did not indicate bald eagle concerns. Suitable habitat for nesting bald eagles was identified along the Ohio River only.

1 Refers to mileposts where area intersects proposed route/workspace. Also refers to closest milepost for areas that do not intersect the proposed route/workspace.

2 Ohio sections were not assessed beyond Step 1 Desktop Review except in the area of the HDD crossing of the Ohio River.

IX. RECOMMENDATIONS

Based on the results of this Bald Eagle Assessment, the following is recommended for addressing potential bald eagle issues in each state:

Ohio

The regulatory agencies consulted did not indicate concern with bald eagles in their letter responses. Most sections of the proposed Project in Ohio are not located within suitable habitat for bald eagles due to the lack of large waterbodies. If routing changes such that Project alignment shifts into suitable habitat, these areas may be subject to further evaluation. The section of the proposed Project crossing the Ohio River by HDD contains suitable habitat and one nest (Ohio Potential Alternate nest) was discovered during 2017 field view activities. Above-ground project activities will be located distantly from this nest and will not include habitat modifications near the nest. Based on the location of the nest, its current status as a potential alternate nest that is not in-use, and the avoidance of Project activities and habitat modifications, no adverse impacts to nesting bald eagles are anticipated.

Pennsylvania

It is recommended for the protection of the Montgomery Dam Nest that distance and landscape buffers be implemented. Distance buffers of 330, 660, and 1,000 ft. should be used during proposed Project activities conducted within the breeding/nesting season (seasonal timing restriction) from January 1st to July 31. Landscape buffers of the same widths should be established to avoid clearing of trees around the nest site and thereby preserve existing forest stand around the nest site during all seasons. These buffers are more conservative than the measures contained in the USFWS Bald Eagle Screening Form prepared for the Project **(Attachment C)**. This form will be retained as recommended by the USFWS – State College Field office as record of the determination that the proposed Project will not result in disturbances to the Montgomery Dam Nest. Based on the protections provided for this nest, which exceed USFWS recommendations, no adverse impacts to nesting bald eagles are anticipated.

West Virginia

Bald eagle nesting activity has been documented in varied and uncertain locations in vicinity of Tomlinson Run and was identified by WVDNR as a potential concern. The nest identified in this

report as the Tomlinson Run Alternate nest has a known history of bald eagle use up to 2015 but has not been in-use since then. The nest is in damaged, poor condition but is considered an alternate nest and therefore accorded protection from habitat modifications. Protections would also apply in the event the nest becomes an in-use nest. Because the nest is a damaged alternate nest and no habitat modifications or above-ground activities will be conducted within ¼ mile of the nest, no adverse impacts to this nest are anticipated.

X. REFERENCES

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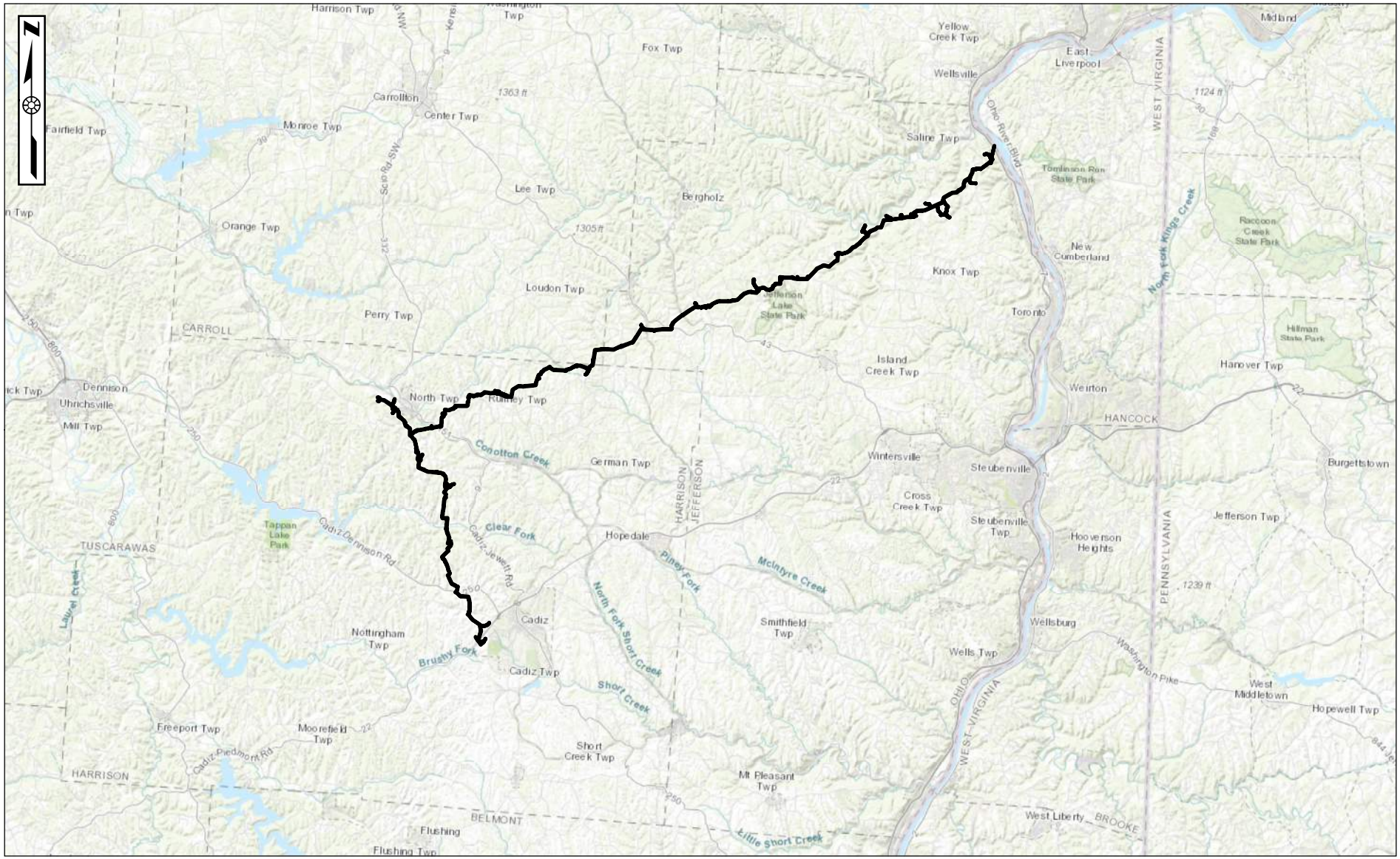
doi: 10.1002/jwmg.888

FIGURES



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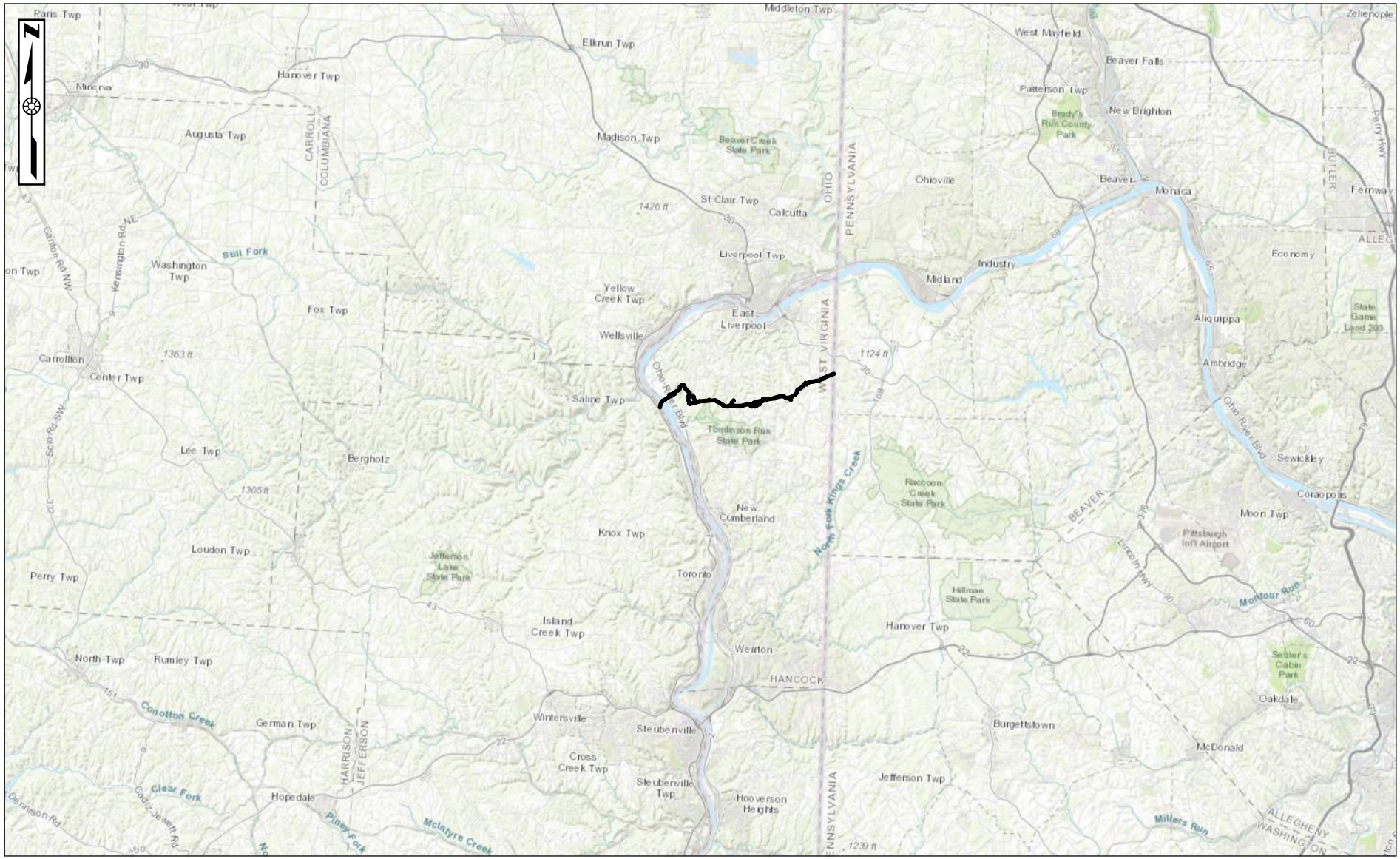
JEFFERSON, CARROLL, AND HARRISON COUNTIES, OH

BASEMAP SOURCE: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, MAPMYINDIA, © OPENSTREETMAP CONTRIBUTORS, GIS USER COMMUNITY

PREPARED BY: SLH	PROJECT NO: 60487539	AECOM FOSTER PLAZA 6 681 ANDERSEN DR, SUITE 400 PITTSBURGH, PA 15220	FIGURE 1 PROJECT LOCATION MAP SHELL PIPELINE COMPANY, LP FALCON ETHANE PIPELINE
APPROVED BY: SAF	APPROXIMATE SCALE: 1" = 6 MILES		
ROUTE AS OF: 07/21/2017	DATE: 7/26/2017		



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HANCOCK COUNTY, WV

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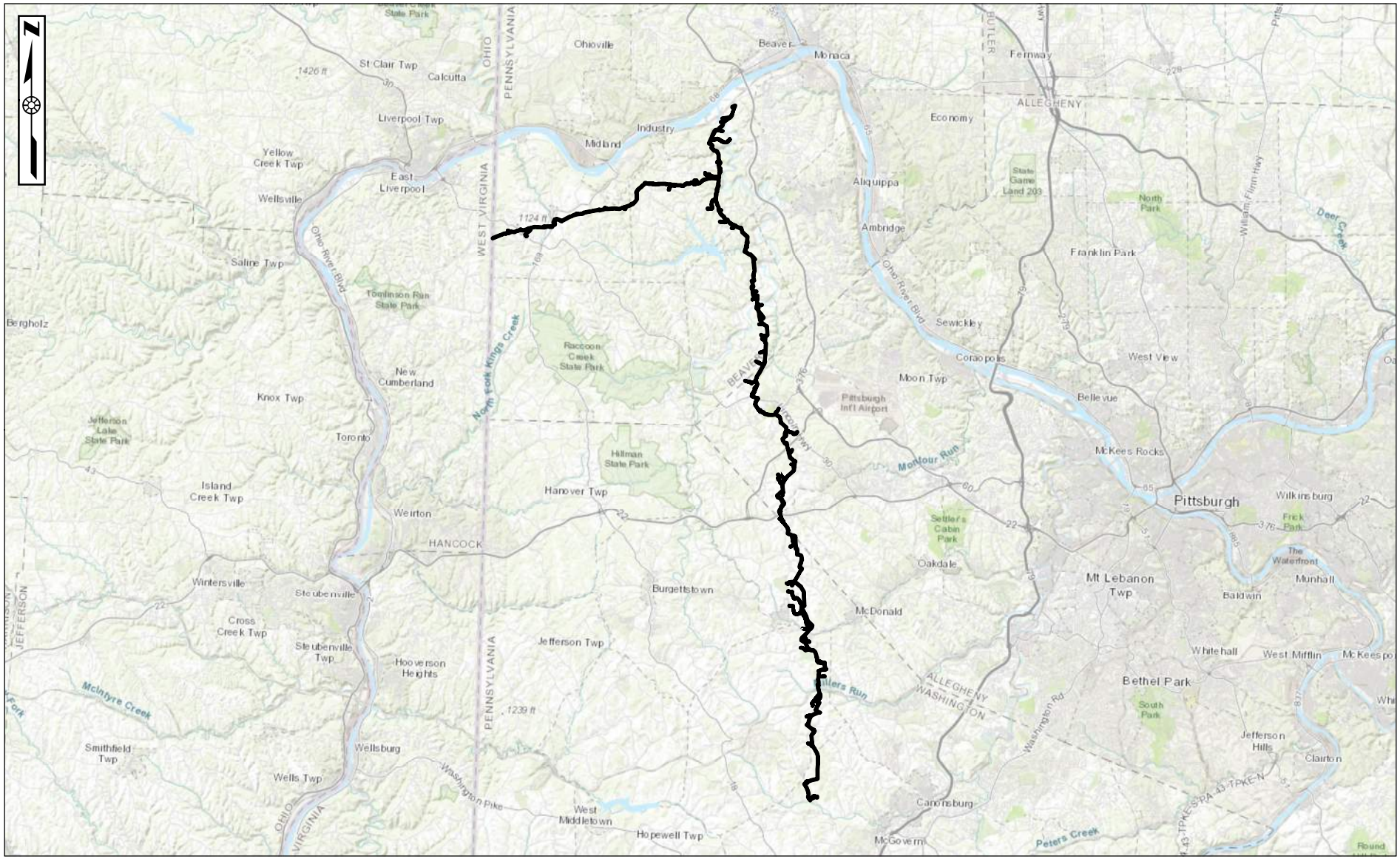

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BEAVER, ALLEGHENY, AND WASHINGTON COUNTIES, PA

BASEMAP SOURCE: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P, GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, MAPMYINDIA, © OPENSTREETMAP CONTRIBUTORS, GIS USER COMMUNITY

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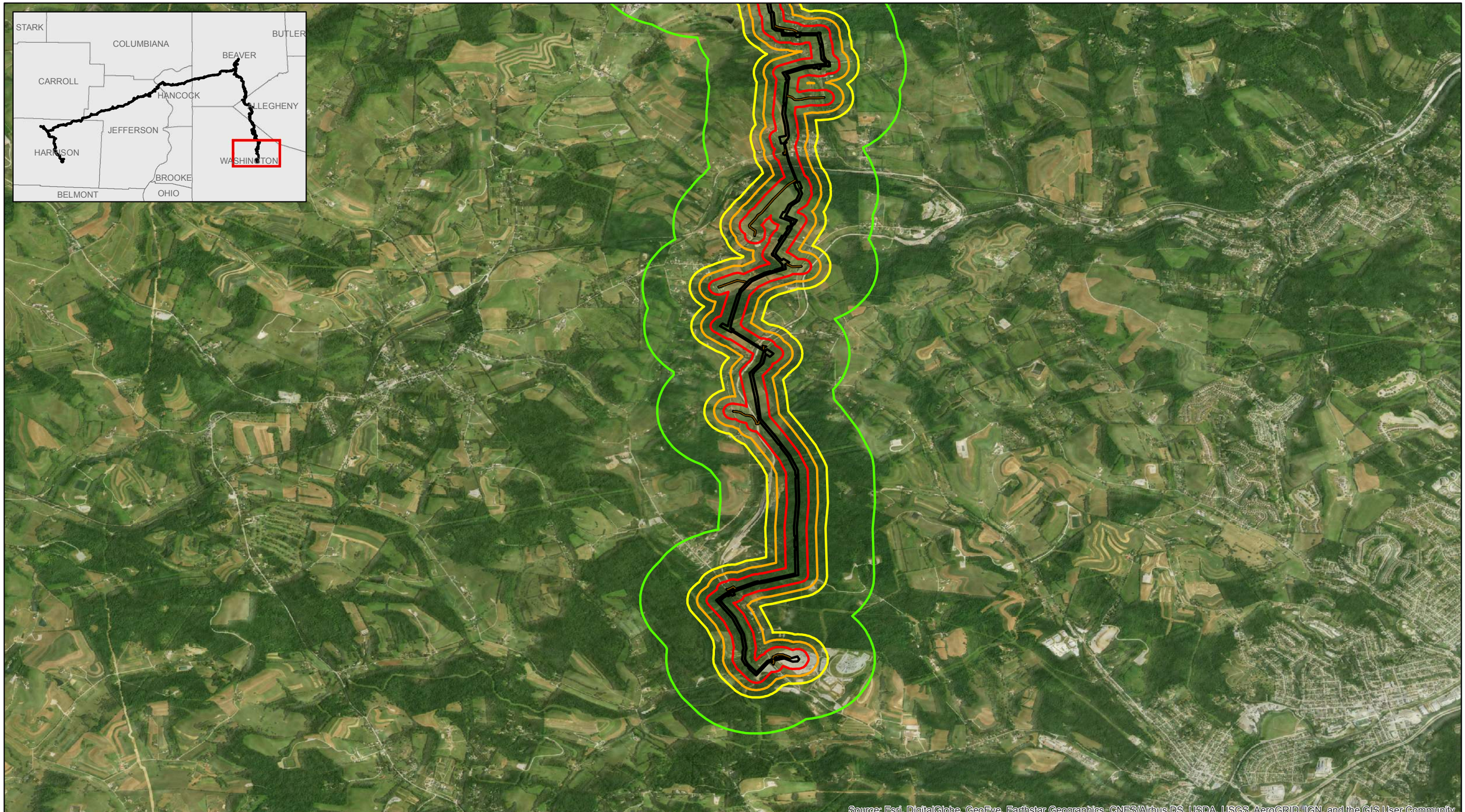

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PITTSBURGH, PA 15220

FIGURE 2
BALD EAGLE ASSESMENT AREAS
SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE

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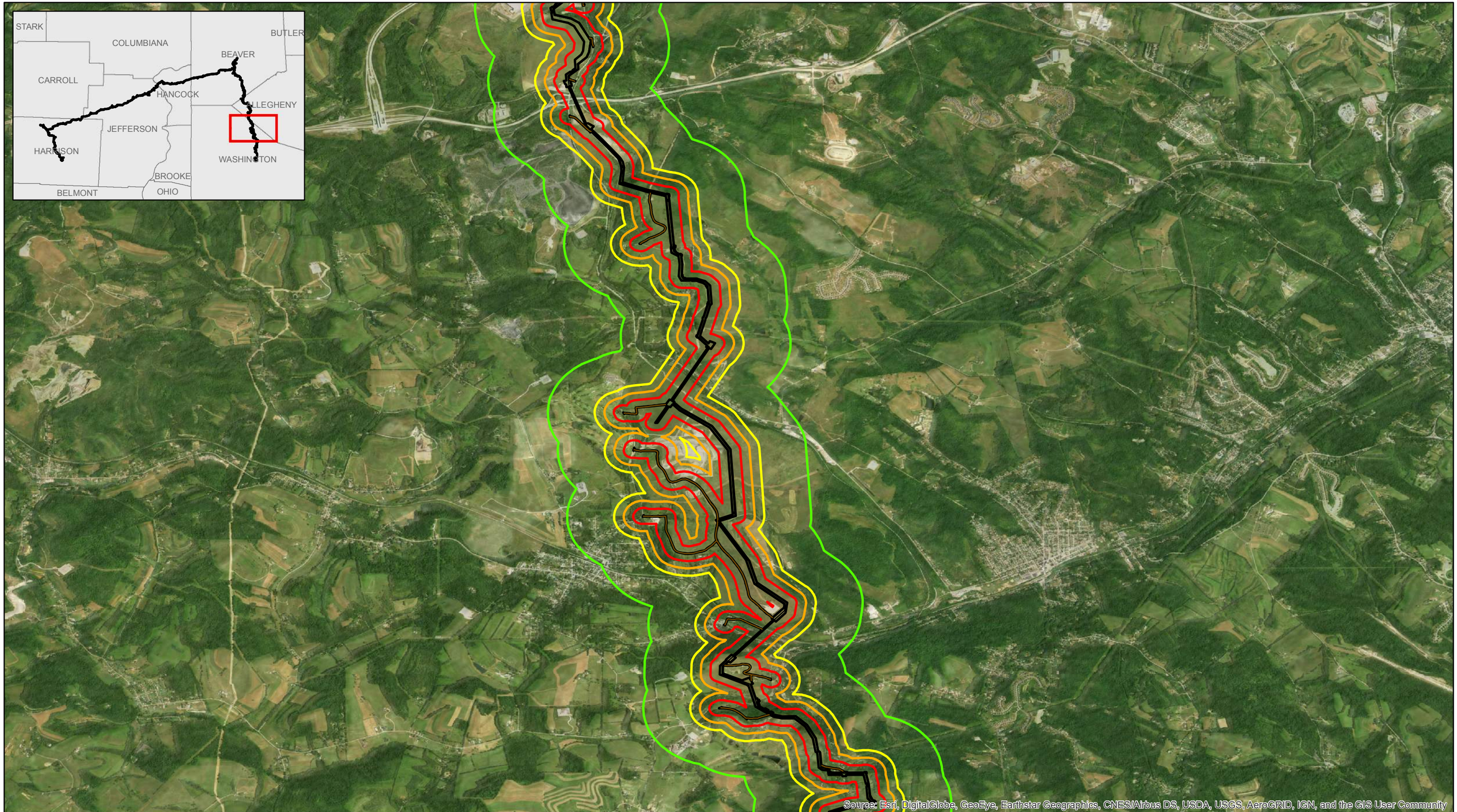

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FIGURE 2
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FALCON ETHANE PIPELINE

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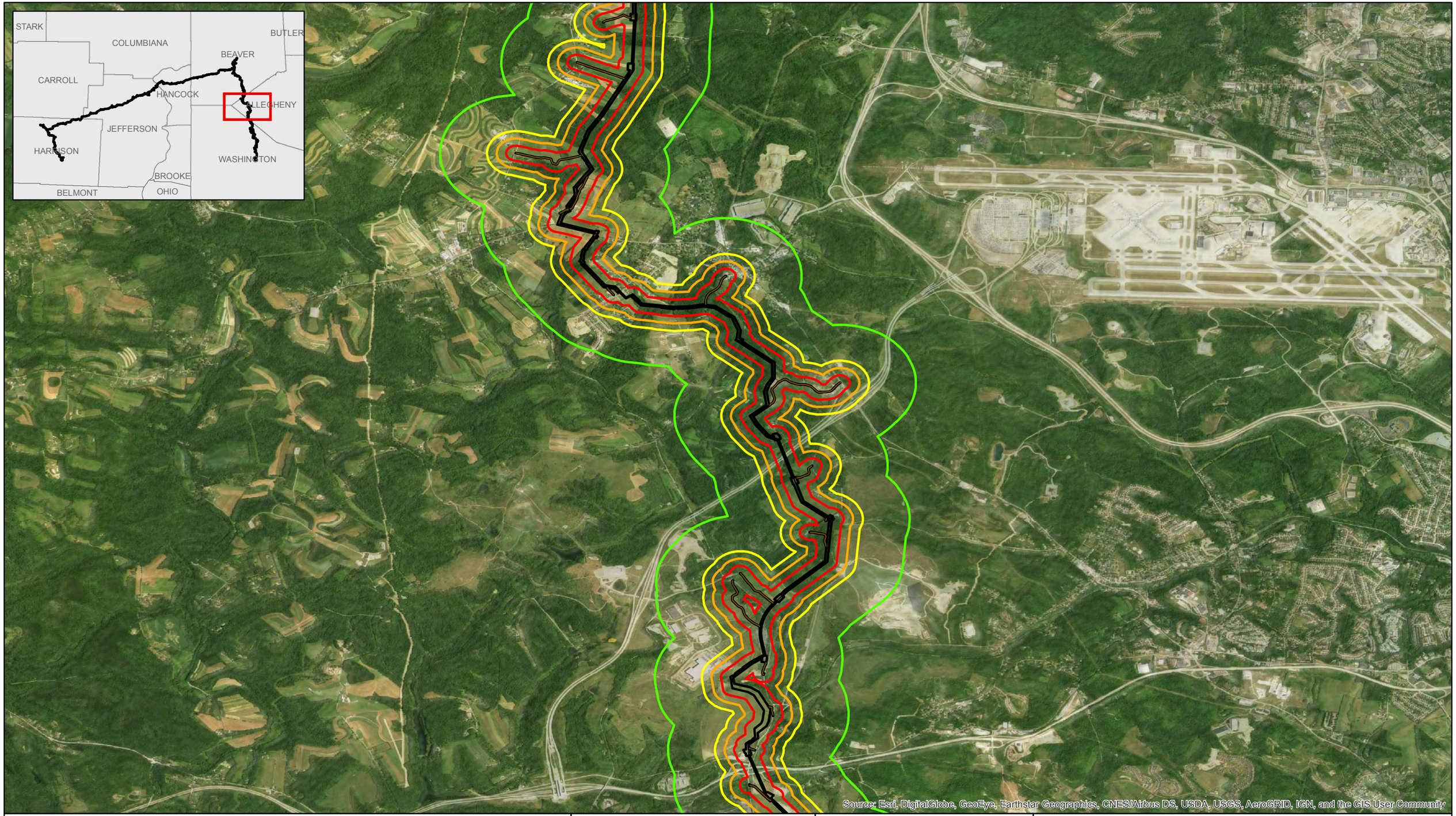

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FIGURE 2
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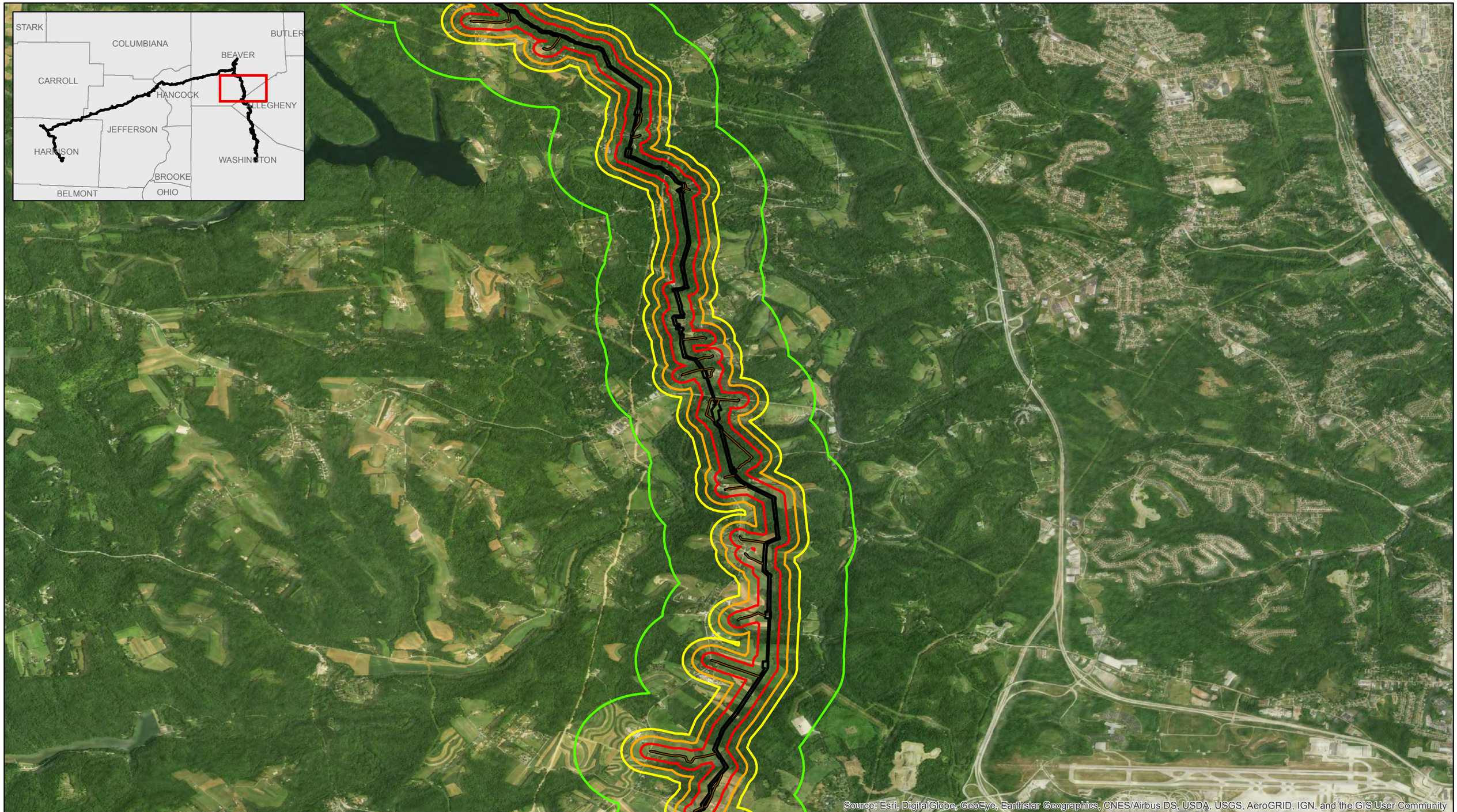

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FIGURE 2
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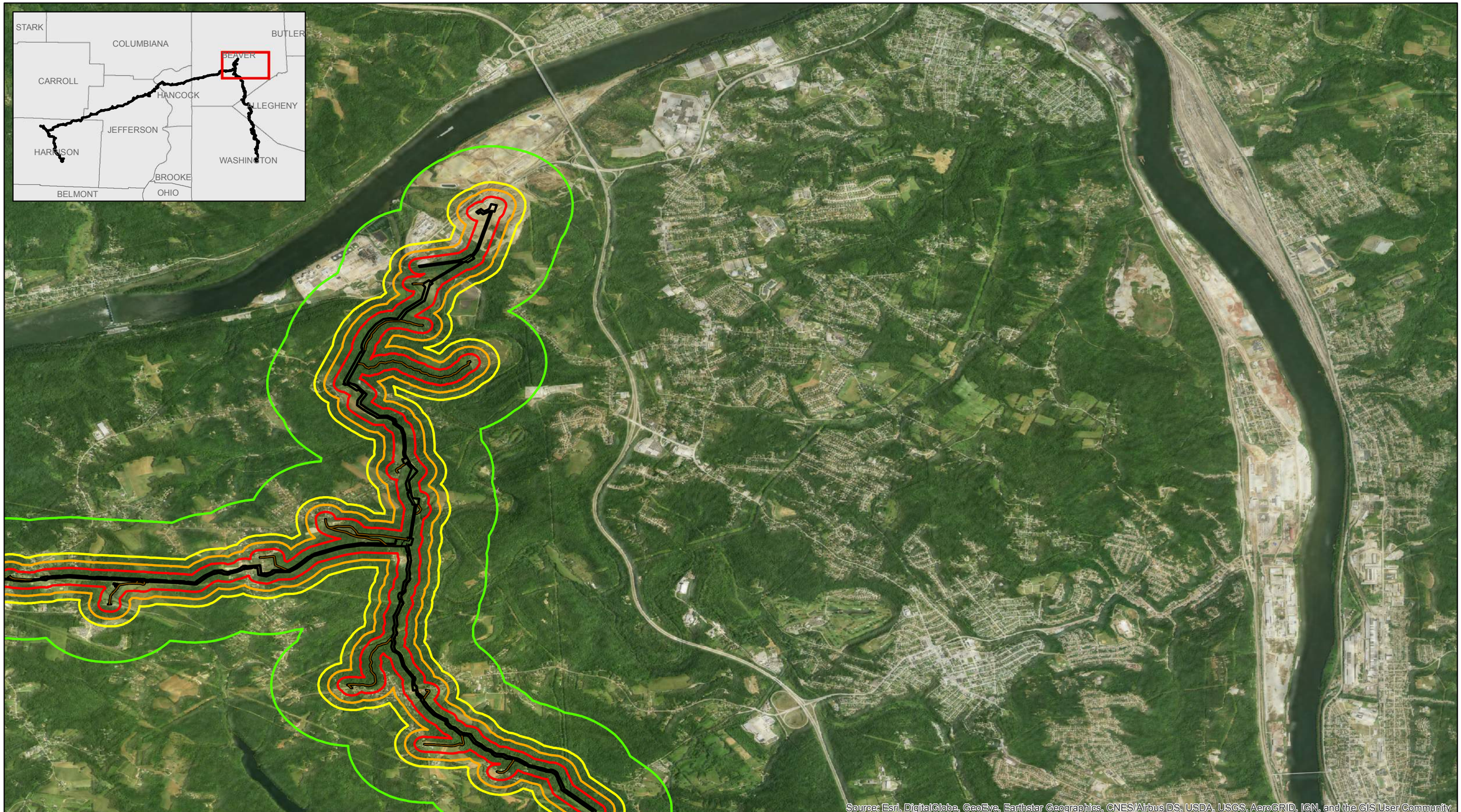

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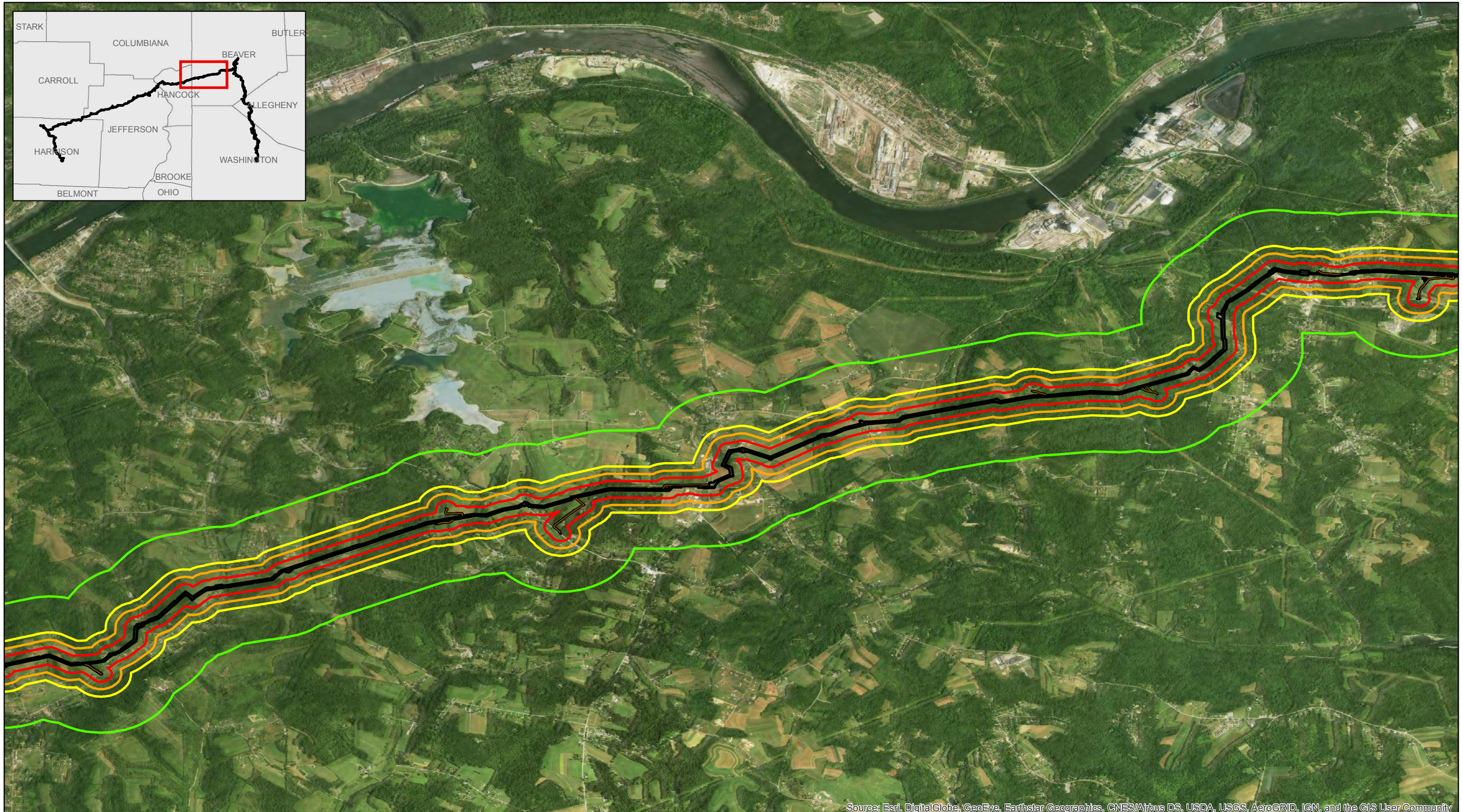

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FIGURE 2
BALD EAGLE ASSESMENT AREAS
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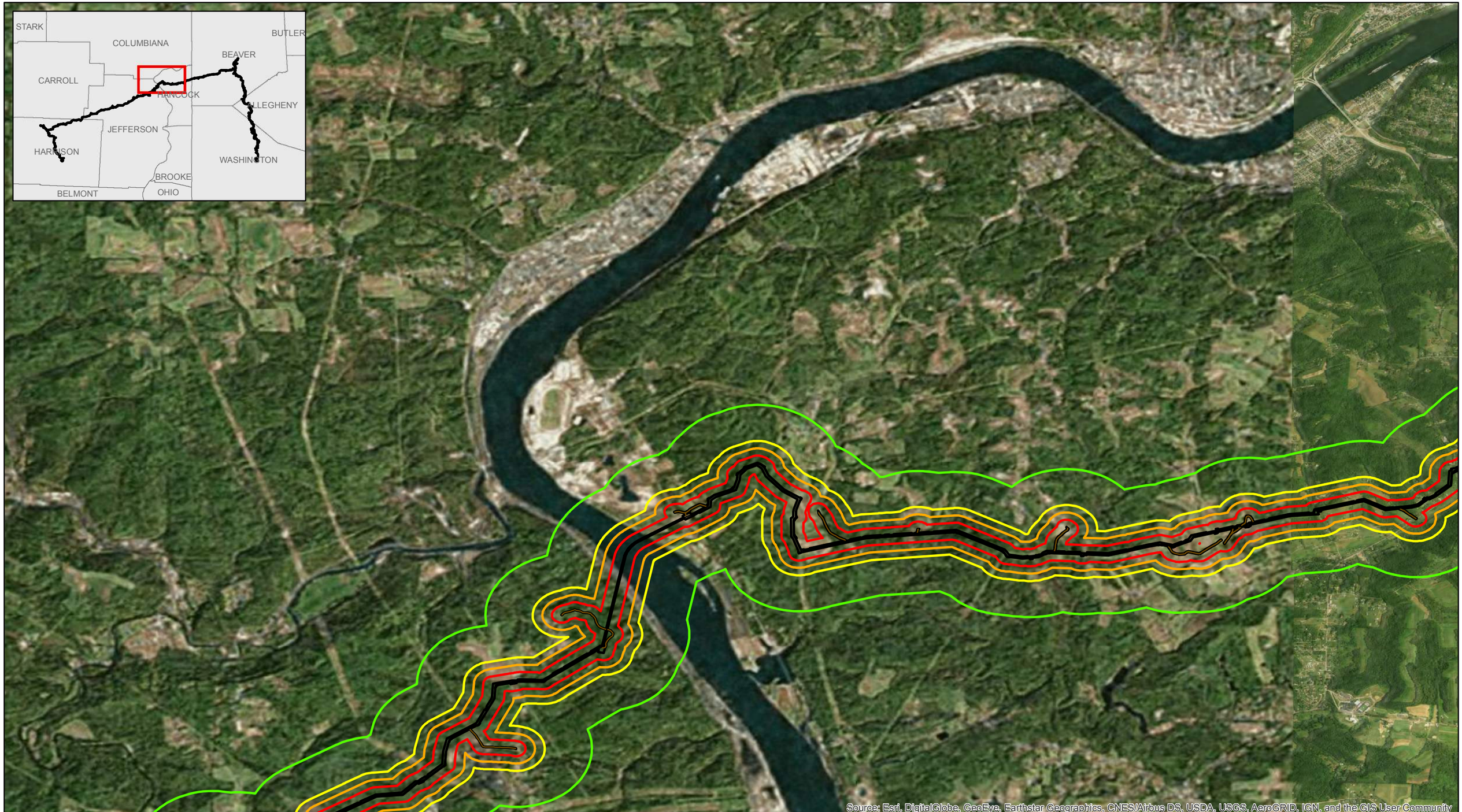

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FIGURE 2
BALD EAGLE ASSESMENT AREAS
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FALCON ETHANE PIPELINE

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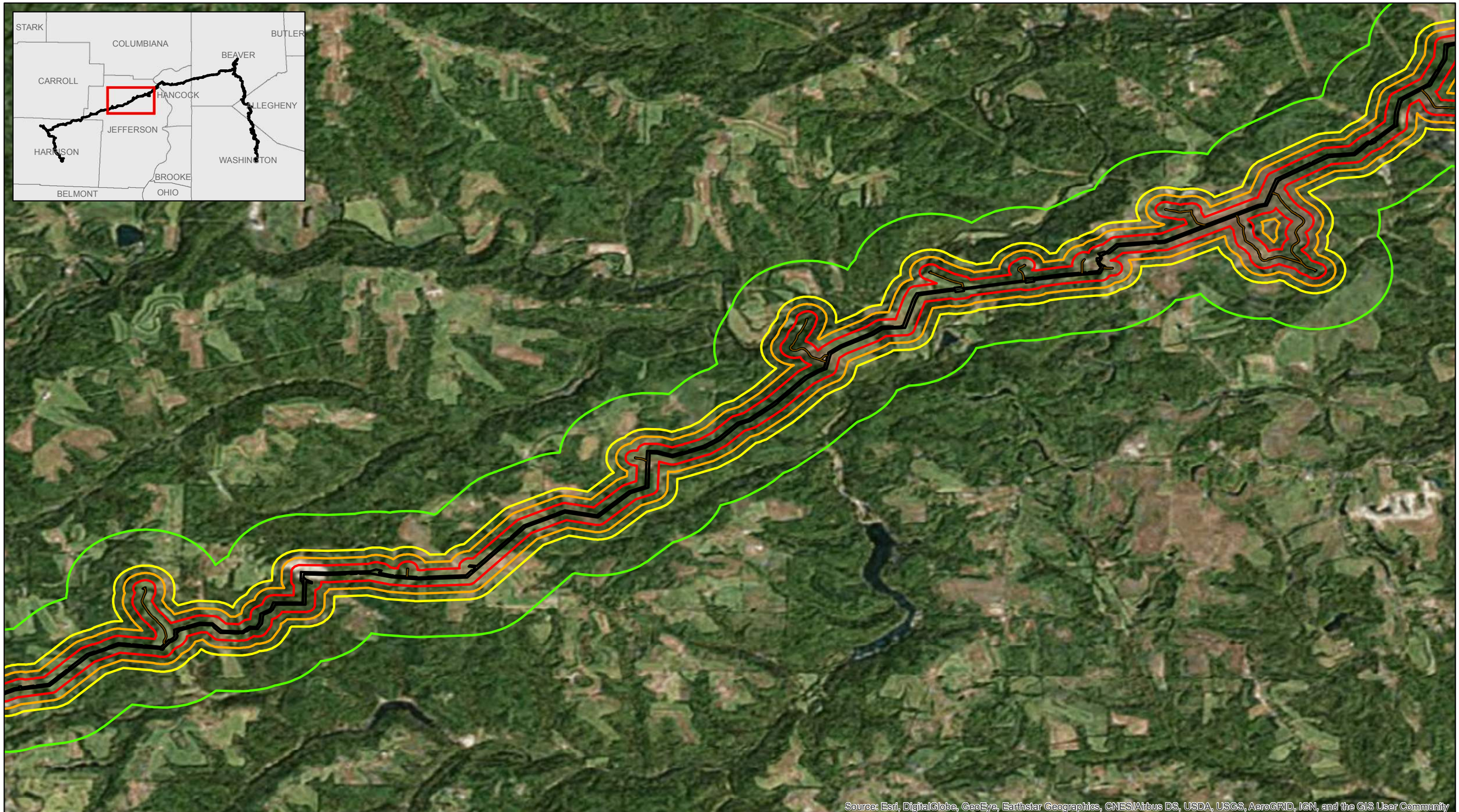

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FIGURE 2
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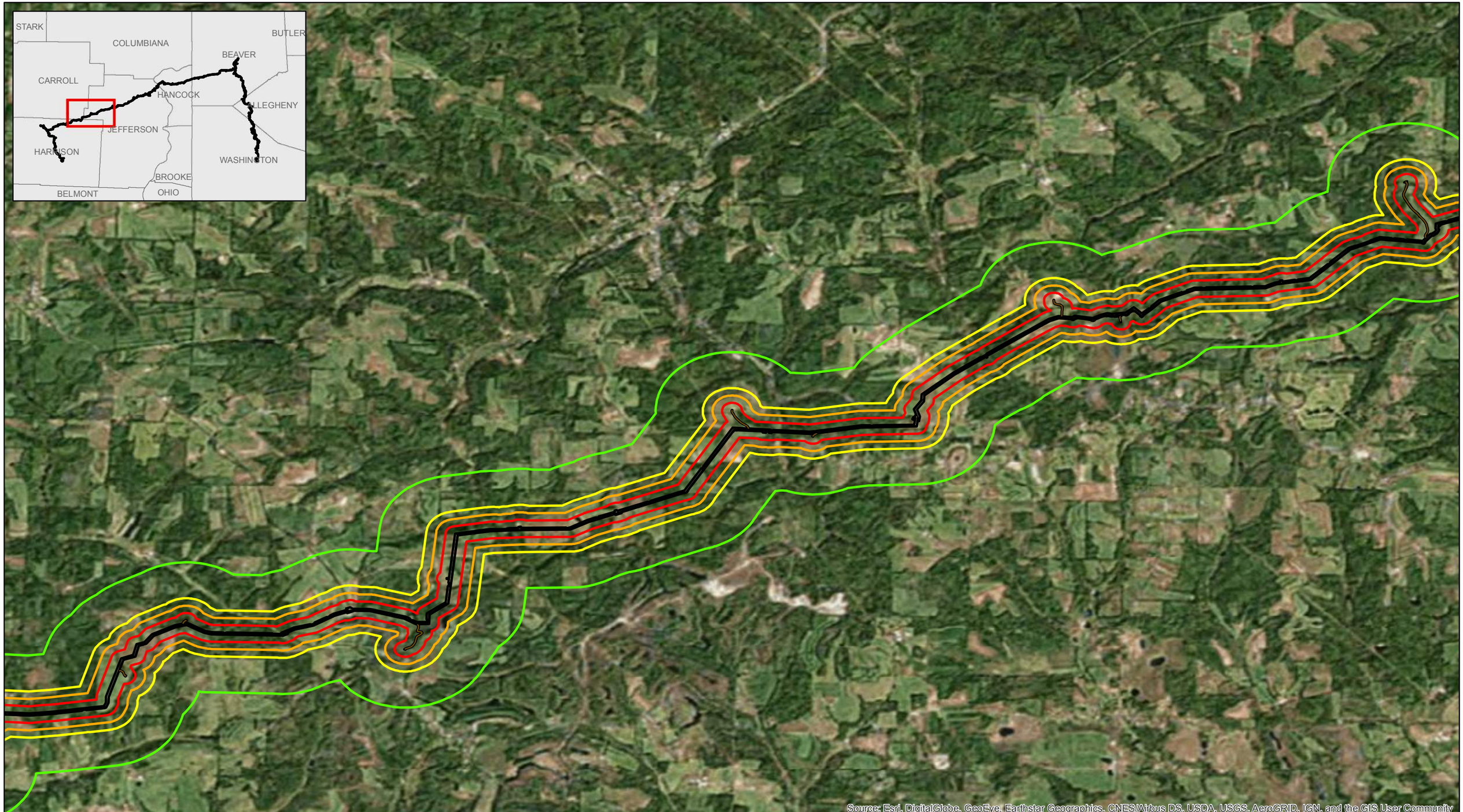

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FIGURE 2
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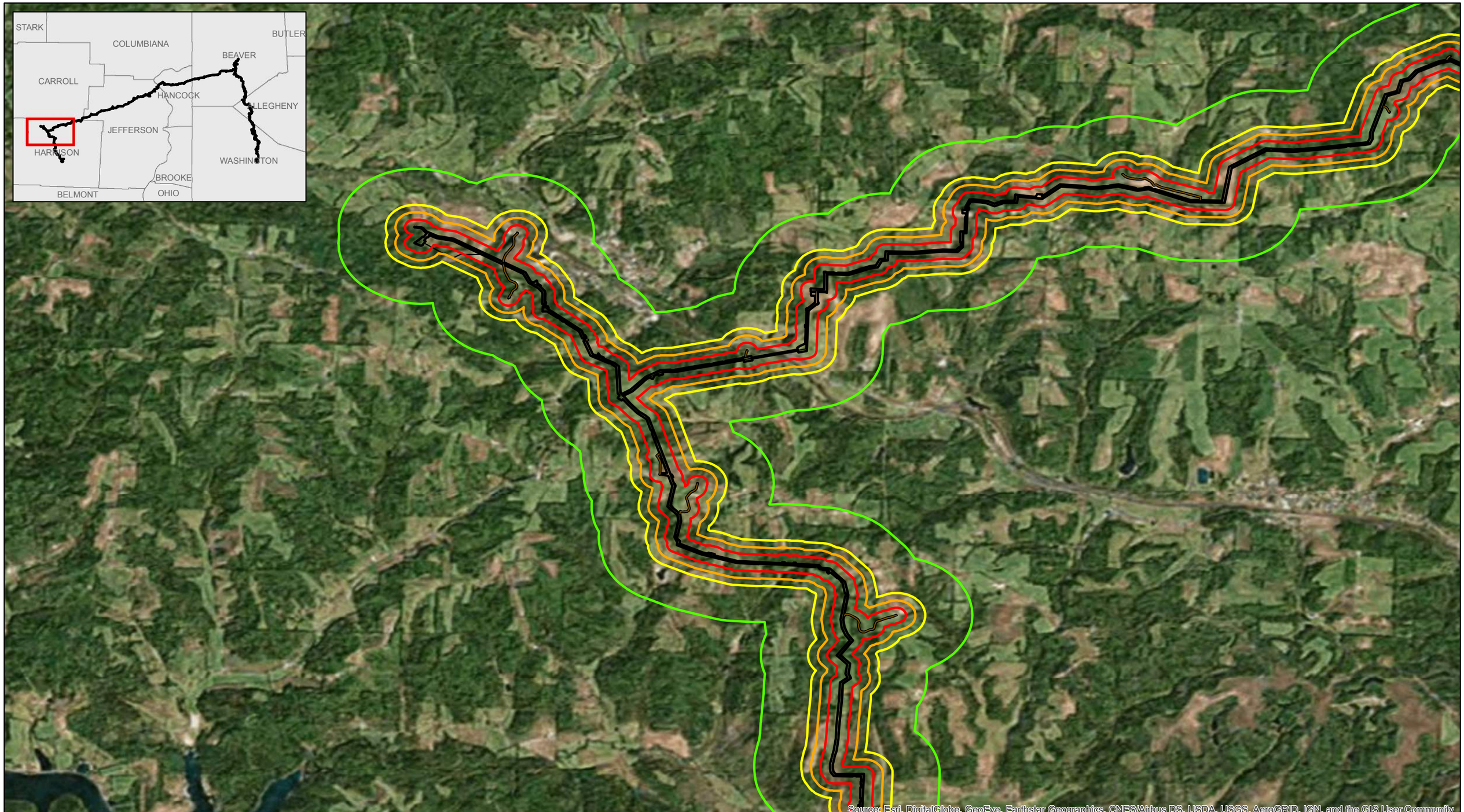

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FIGURE 2
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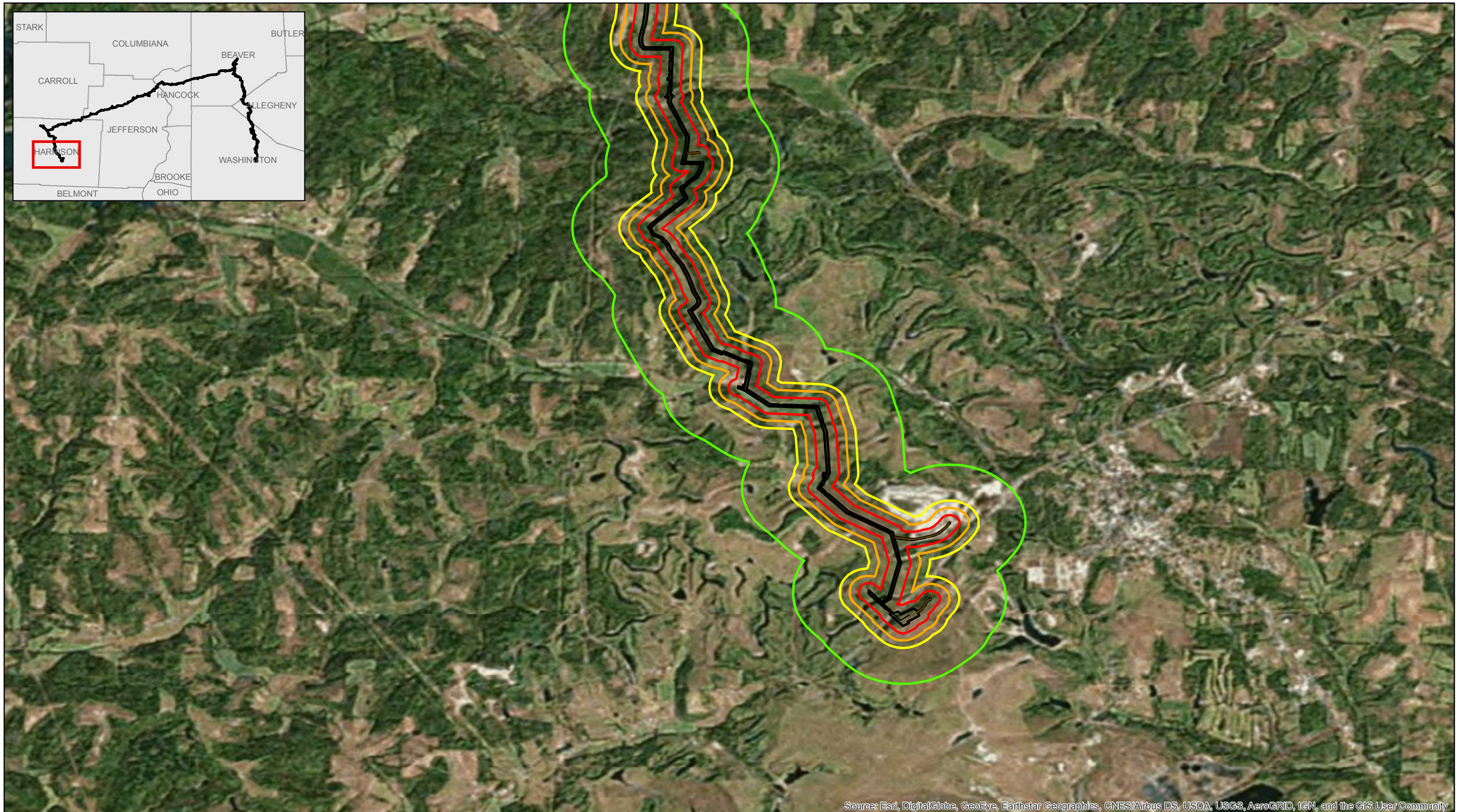
FALCON ETHANE PIPELINE

DRAWN BY: SLH	DATE: 7/28/2017	PAGE: 10 of 11



330 FT WORKSPACE BUFFER
660 FT WORKSPACE BUFFER
1000 FT WORKSPACE BUFFER
HALF-MILE WORKSPACE BUFFER
PROPOSED CENTERLINE AS OF 07/21/2017
PROPOSED ACCESS ROAD
PROPOSED WORKSPACE

N

0 4,000 FEET
APPROXIMATE SCALE

AECOM
FOSTER PLAZA 6
681 ANDERSEN DRIVE
SUITE 400
PITTSBURGH, PA 15220

FIGURE 2
BALD EAGLE ASSESMENT AREAS
SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE

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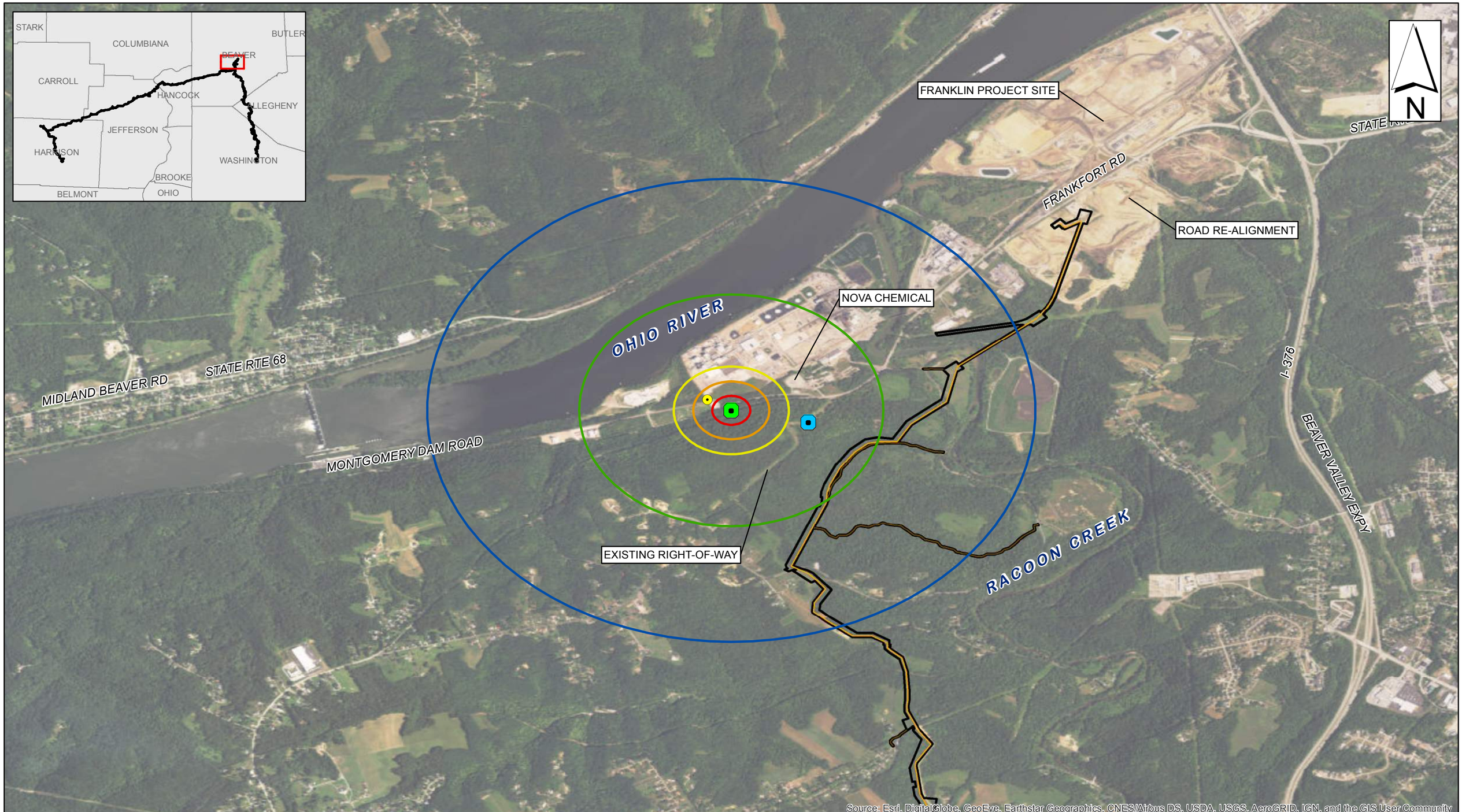


BALD EAGLE NEST
RED-TAILED HAWK NEST 1
SURVEY OBSERVATION POINT

330 FT NEST BUFFER
660 FT NEST BUFFER
1000 FT NEST BUFFER

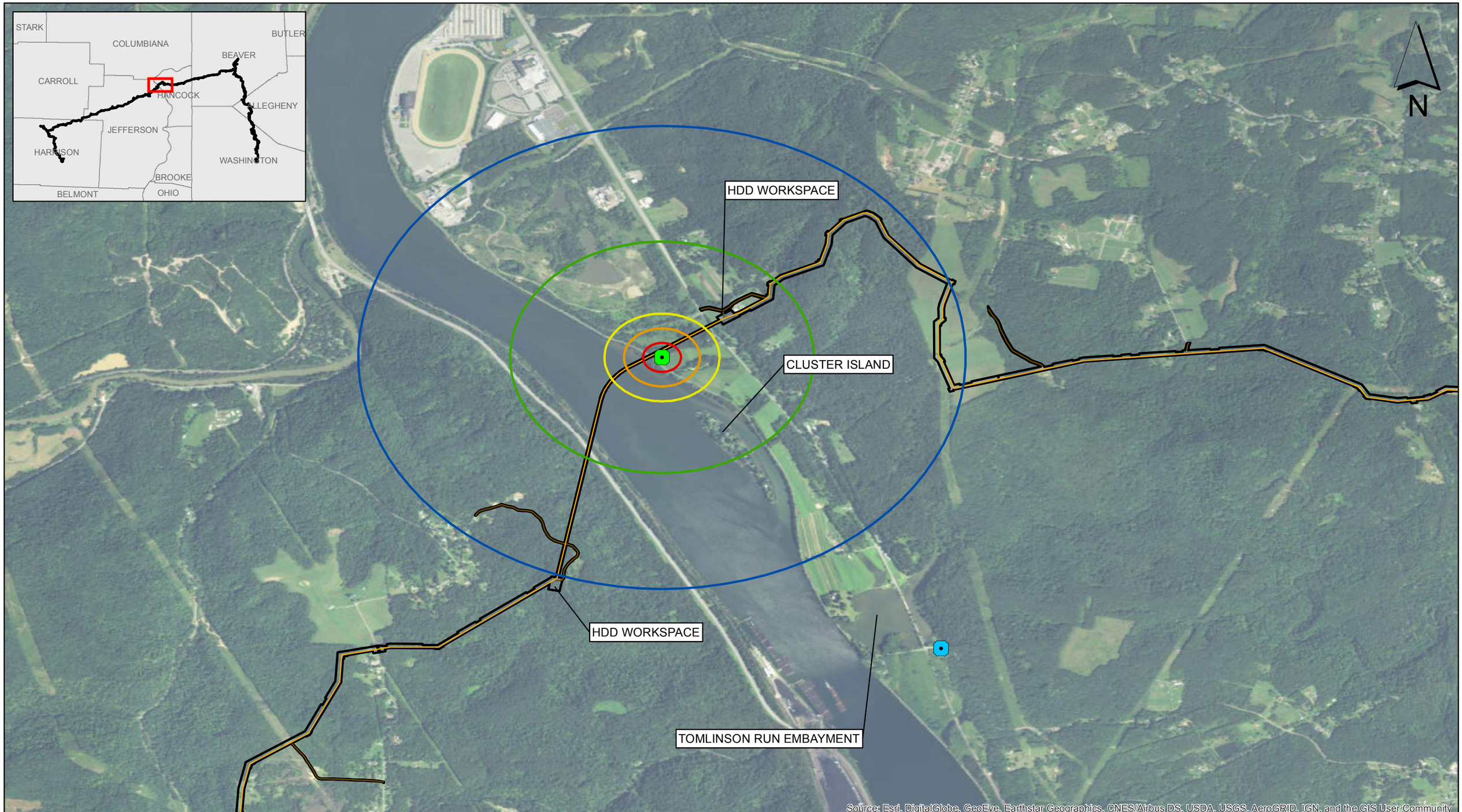
HALF-MILE NEST BUFFER
ONE MILE NEST BUFFER

0 2,000 FEET
APPROXIMATE SCALE

AECOM
FOSTER PLAZA 6
681 ANDERSEN DRIVE
SUITE 400
PITTSBURGH, PA 15220

FIGURE 3A
MONTGOMERY DAM NEST
SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE

DRAWN BY: SLH	DATE: 7/31/2017	PAGE: 1 OF 1



PROPOSED CENTERLINE AS OF 07/21/2017
PROPOSED ACCESS ROAD
PROPOSED WORKSPACE
TOMLINSON RUN ALTERNATE NEST
RED-TAILED HAWK NEST 2

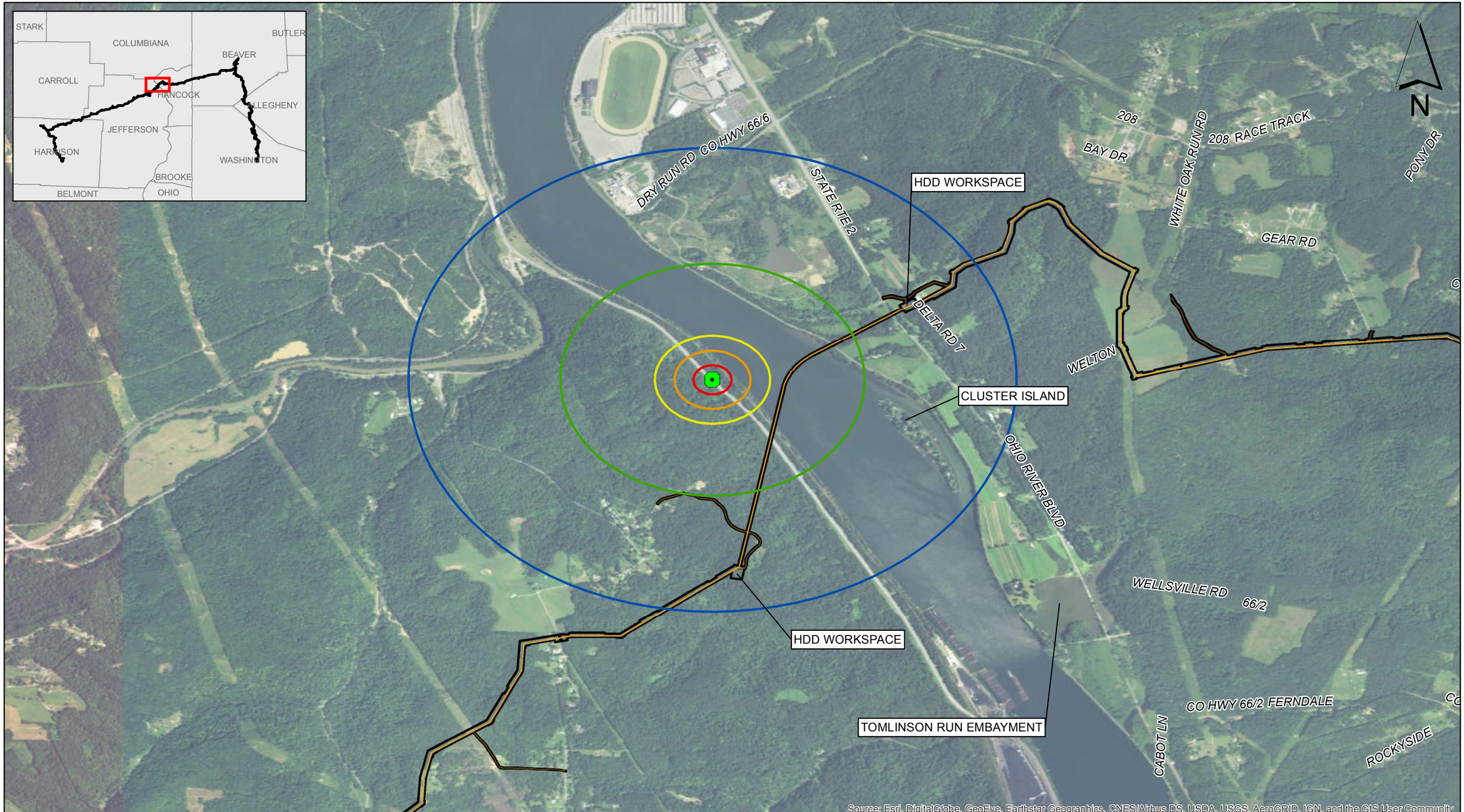
330 FT NEST BUFFER
660 FT NEST BUFFER
1000 FT NEST BUFFER
HALF-MILE NEST BUFFER
ONE MILE NEST BUFFER

0 2,000 FEET
APPROXIMATE SCALE

AECOM
FOSTER PLAZA 6
681 ANDERSEN DRIVE
SUITE 400
PITTSBURGH, PA 15220

FIGURE 3B
TOMLINSON RUN ALTERNATE NEST
SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE

DRAWN BY: SLH	DATE: 7/31/2017	PAGE: 1 OF 1



OHIO POTENTIAL ALTERNATE NEST
PROPOSED CENTERLINE AS OF 07/21/2017
PROPOSED ACCESS ROAD
PROPOSED WORKSPACE

330 FT NEST BUFFER
660 FT NEST BUFFER
1000 FT NEST BUFFER
HALF-MILE NEST BUFFER
ONE MILE NEST BUFFER

0 2,000 FEET
APPROXIMATE SCALE

AECOM
FOSTER PLAZA 6
681 ANDERSEN DRIVE
SUITE 400
PITTSBURGH, PA 15220

FIGURE 3C
OHIO RIVER POTENTIAL ALTERNATE NEST
SHELL PIPELINE COMPANY, LP
FALCON ETHANE PIPELINE

DRAWN BY: SLH	DATE: 7/31/2017	PAGE: 1 OF 1

ATTACHMENT A

AGENCY CORRESPONDENCE

2015 - 2016 AGENCY CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

October 23, 2015

AECOM
Attn: Matthew D. Thomayer
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

TAILS: 03E15000-2015-TA-1618

Re: Shell Northeast Pipeline

Dear Mr. Thomayer,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-

made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

The proposed project is in the vicinity of one or more confirmed records of northern long-eared bats. Therefore, we recommend that trees ≥3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to Indiana bats or northern long-eared bats. Since northern long-eared bat presence in the vicinity of the project has been confirmed and presence of Indiana bats is assumed, clearing of trees during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, we recommend that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. **Please note that, because northern long-eared bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for northern long-eared bats.**

SPECIES OF CONCERN COMMENTS: The proposed project lies within the range of the **eastern hellbender** (*Cryptobranchus a. alleganiensis*), a Federal amphibian species of concern and an Ohio endangered species. The eastern hellbender is a salamander that inhabits perennial streams with large, flat rocks and is known to occur in Yellow Creek. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of the eastern hellbender in the vicinity of the proposed project site. The following herpetologists are authorized to conduct hellbender surveys within the State of Ohio:

Jeff Davis
625 Crescent Road
Hamilton, OH 45013
anura@fuse.net
(513) 868-3154

Greg Lipps
1473 County Road 5-2
Delta, OH 43515
GregLipps@gmail.com
(419) 376-3441

Doug Wynn
241 Chase Street, Apt. A3L
Russells Point, OH 43348
Sistrurus@aol.com
(614) 306-0313

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed.

We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Dan Everson
Field Supervisor

cc: Nathan Reardon, ODNR-DOW
Jennifer Norris, ODNR-DOW

Office of Real Estate
Paul R. Baldridge, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

September 29, 2015

Matt Thomayer
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Re: 15-545; Information Request, Shell Pipeline Company, LP. Northeast Pipeline Project

Project: The proposed project involves the construction of a 95-mile long ethane pipeline.

Location: The proposed project is located in Harrison, Carroll, and Jefferson Counties, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data at or within a one mile radius of the project area:

Shale barren pussy-toes (*Antennaria virginica*), T
Bowman's-root (*Porteranthus trifoliatus*), T
Tailed bracken (*Pteridium aquilinum* var. *pseudocaudatum*), E
Carolina catchfly (*Silene caroliniana* ssp. *pennsylvanica*), T
Drummond's aster (*Symphyotrichum drummondii*), T
Beech sugar maple forest plant community
Hemlock hardwood forest plant community
Mixed mesophytic forest plant community
Oak maple tuliptree forest plant community
Channel darter (*Percina copelandi*), T
Yellow Creek Rhododendron Conservation Site

A review of the Ohio Natural Heritage Database indicates there are no other records of state or federal listed plants or animals within the project area. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state nature preserves, parks or forests or national wildlife refuges, parks or forests within the project area. The review was performed on the project area you specified in your request as well as an additional one mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the black sandshell (*Ligumia recta*), a state threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel. This project must not have an impact on freshwater native mussels along the project route. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2015), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 10 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. Please submit any mussel assessment/survey to Nathan Reardon, Compliance Coordinator at nathan.reardon@dnr.state.oh.us.

The Ohio Mussel Survey Protocol (2015) can be found at:

http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/licenses%20&%20permits/OH%20Mussel%20Survey%20Protocol.pdf

The project is within the range of the river darter (*Percina shumardi*) a state threatened fish, the paddlefish (*Polyodon spathula*) a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, and the Tippecanoe darter (*Etheostoma tippecanoe*), a state threatened fish. The DOW recommends no in-water work in the Ohio River from March 15 to June 30, and no in-water work in other perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in the Ohio River, or other perennial streams, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat.

Yellow Creek in Jefferson County provides high quality eastern hellbender habitat and is known to contain populations of this species. If any in-water work is proposed within Yellow Creek, the DOW recommends that a habitat suitability survey be conducted to determine if suitable eastern hellbender habitat is present along the project route. If suitable habitat is found to be present along the project route, the DOW recommends that a presence/absence survey be conducted. The DOW recommends that habitat suitability surveys and presence/absence surveys be conducted by one of the herpetologists from the provided "Approved Herpetologists" list. The results of any habitat suitability survey and any subsequent presence/absence survey should be submitted to Nathan Reardon, DOW Compliance Coordinator at Nathan.reardon@dnr.state.oh.us. If no in-water work is proposed in Yellow Creek, this project is not likely to directly impact this species. However, the DOW recommends that the proposed project be developed to minimize indirect impacts to Yellow Creek (e.g., preserve wide riparian buffers, maximize erosion control, and maximize permeable surfaces and storm-water retention).

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 to July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

September 17, 2015

Natalie Shearer
AECOM
Foster Plaza 6
681 Anderson Drive
Suite 400
Pittsburgh, PA 15220

RE: USFWS Project #2015-1047

Dear Ms. Shearer:

Thank you for your letter of August 25, 2015, regarding information about federally listed and proposed endangered and threatened species within the area affected by Shell Pipeline Company, LP, proposed Northeast Pipeline project located in Beaver, Allegheny and Washington Counties, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species, the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended), and the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended; 16 U.S.C. 668-668d) to ensure the protection of migratory bird species.

Thank you for meeting with staff in our office on September 9, 2015, to discuss Shell's proposed 90-mile ethane pipeline through Pennsylvania, West Virginia, and Ohio. Approximately 42.8 miles of the pipeline will occur in Pennsylvania.

Federally Listed Species

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally-listed as endangered and within the range of the federally-threatened northern long-eared bat (*Myotis septentrionalis*).

Indiana bats and northern long-eared bats hibernate in caves and abandoned mines during the winter months (November through March), and use a variety of upland, wetland and riparian habitats during the spring, summer and fall. These bats usually roost in dead or living trees with exfoliating bark, crevices or cavities. Female Indiana and northern long-eared bats form nursery colonies under the exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple, in upland or riparian areas.

Land-clearing, especially of forested areas, may adversely affect these bat species by killing, injuring or harassing roosting bats, and by removing or reducing the quality of foraging and roosting habitat. Due to the anticipated impacts of the project to forested habitat (approximately 227 acre in PA), a bat survey of the project area should be conducted between May 15 and August 15 by a qualified, Service-approved biologist (see enclosed list) using the *2015 RANGE-WIDE INDIANA BAT SUMMER SURVEY GUIDELINES April 2015*, which can be found at the following link: http://www.fws.gov/northeast/pafo/surveys.html . Survey results should be submitted to the Service for review and concurrence.

In addition, if any natural caves or abandoned mines occur within the project area, it is possible that bats may be using them during hibernation or potentially as summer roost sites. Entrances to these potential hibernacula could be intentionally or inadvertently closed or destroyed during activities such as land clearing, grading, fill disposal, mining, road construction or building construction. If bats are present within a cave or abandoned mine when this occurs, they will become trapped inside and perish. Even if bats are not present during the closure, they may be adversely affected when they return to their hibernaculum in the fall and find it closed. This will force them to expend energy looking for another suitable hibernaculum during a time when it is crucial that they store up sufficient fat reserves for hibernation. Bats are at an increased risk of mortality when they enter hibernation with insufficient fat reserves, or are unable to locate a cave/mine with the suite of conditions (*e.g.*, temperature, humidity, air flow) necessary for successful hibernation.

To determine whether this project will affect any potential Indiana bat or northern long-eared bat hibernacula, the project area should be surveyed for cave and mine openings. All openings should be accurately mapped using a GPS unit. If potentially unstable mines (*e.g.*, abandoned coal mines) occur in the project area, the openings of these mines should be evaluated using the enclosed *PROTOCOL FOR ASSESSING BAT USE OF POTENTIAL HIBERNACULA*. The Pennsylvania Game Commission has developed this protocol to determine whether abandoned mines may serve as potentially suitable bat habitat. Following this initial mine opening assessment, a qualified bat surveyor (see enclosed list) should survey each potentially suitable opening, as well as the area in the immediate vicinity of these openings. Surveys should be carried out in accordance with the enclosed survey protocol and a copy of the survey results should be submitted to the Service and the Pennsylvania Game Commission for review and concurrence.

If any caves or stable hard rock mines (*e.g.*, limestone mines) occur in the project area, they should be surveyed for hibernating bats during the winter. Interior winter hibernacula surveys should be coordinated with the Pennsylvania Game Commission. Survey results should be submitted to the Service for review and concurrence. If caves or hard rock mines cannot be safely entered, their openings should be surveyed as described above.

Prior to conducting any survey, however, the Pennsylvania Game Commission should be contacted to determine whether or not they have surveyed the cave/mine in the past. If adequate surveys have been conducted in the recent past, this may preclude the need to conduct additional surveys.

Should Indiana bats or northern long-eared bats be found during any survey, further consultation with the Service will be necessary, including the submission of detailed project plans, and an analysis of alternatives to avoid and minimize adverse effects.

Finally, the pipeline lies within 5 miles of 2 known northern long-eared bat hibernacula. Points that the pipeline enter and exit the 5-mile hibernacula buffer are at approximately 40.402714 -80.285512 and 40.393813 -80.286139. Any project area that lies west of these points is within the 5-mile buffer. The company should consider these areas to be used by the northern long-eared bat during spring staging and fall swarming and implement conservation measures (such as a time of year restriction on tree clearing) to reduce the likelihood of take.

Mussels

The Ohio River is within the range of four federally listed, endangered mussel species, the northern riffleshell (*Epioblasma torulosa rangiana*), the clubshell (*Pleurobema clava*), the rayed bean (*Villosa fabalis*), and the snuffbox (*Epioblasma triquetra*); and is also inhabited by the rabbitsfoot (*Quadrula cylindrica cylindrica*), a mussel species that is federally listed as threatened.

Based on our discussions, you will not be directly impacting the Ohio River and are proposing to horizontal directional drill under Raccoon Creek, a tributary to the Ohio River. This drill will occur approximately 1 mile upstream of the creek's confluence with the Ohio River. Therefore, based on a review of the project information, we have determined that the effects of the project are not likely to adversely affect these mussel species.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality from habitat destruction and alteration associated with vegetation clearing and fragmentation within the project boundaries. Resources are available to assist you in determining which species are likely to be present within your project area (see attached enclosure) to determine appropriate conservation measures to reduce impacts to migratory birds. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (e.g. breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Be aware that since these are general guidelines, some of them may not be applicable or may have already been included in the project design.

Your project is located in the vicinity of the Important Bird Area (IBA) known as Raccoon Creek Valley and State Park. IBAs are designated by the Pennsylvania Ornithological Technical Committee. They are the most critical regions in the Commonwealth for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania's conservation efforts. To find out more information about this IBA, including which bird species breed there, visit: http://netapp.audubon.org/IBA/State/US-PA

In addition to protection under the MBTA, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act). The Eagle Act protects eagles by prohibiting killing, selling, disturbing, or otherwise harming eagles, their nests or eggs. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Bald eagles (*Haliaeetus leucocephalus*) are known to nest in the vicinity of the project area, with one being located within a half mile of the project site (at approximately 40.651054 - 80.359981). Consequently, we recommend that you evaluate the project type, size, location and layout in light of the National Bald Eagle Management Guidelines to determine whether or not bald eagles might be disturbed as a direct or indirect result of this project. If it appears that disturbance may occur, we recommend that you consider modifying your project consistent with the Guidelines. These guidelines, as well as additional eagle information, are available at http://www.fws.gov/northeast/EcologicalServices/eagle.html. To assist you in making a decision regarding impacts to bald eagles, a screening form can be found at http://www.fws.gov/northeast/pafo/bald_eagle.html.

If you have additional questions regarding eagle permits, please contact Scott Frickey, Migratory Bird Program, at Scott_Frickey@fws.gov or (413) 253-8592.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Pamela Shellenberger of my staff at 814-234-4090.

Sincerely,

Lora L. Zimmerman
Field Office Supervisor

cc:
USFWS (OH) – Everson
USFWS (WV) – Schmidt

Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features.

We offer the following recommendations to avoid and minimize impacts to migratory birds within and around the project area:

1. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between September 1 and March 31, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

2. Minimize land and vegetation disturbance during project design and construction. To reduce habitat fragmentation, co-locate roads, fences, lay down areas, staging areas, and other infrastructure in or immediately adjacent to already-disturbed areas (*e.g.*, existing roads, pipelines, agricultural fields) and cluster development features (*e.g.*, buildings, roads) as opposed to distributing them throughout land parcels. Where this is not possible, minimize roads, fences, and other infrastructure.

3. Avoid permanent habitat alterations in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State or Federal refuges, Audubon Important Bird Areas, private duck clubs, staging areas, rookeries, leks, roosts, and riparian areas. Avoid establishing sizable structures along known bird migration pathways or known daily movement flyways (*e.g.*, between roosting and feeding areas).

4. To conserve area-sensitive species, avoid fragmenting large, contiguous tracts of wildlife habitat, especially if habitat cannot be fully restored after construction. Maintain

contiguous habitat corridors to facilitate wildlife dispersal. Where practicable, concentrate construction activities, infrastructure, and man-made structures (*e.g.*, buildings, cell towers, roads, parking lots) on lands already altered or cultivated, and away from areas of intact and healthy native habitats. If not feasible, select fragmented or degraded habitats over relatively intact areas.

5. Develop a habitat restoration plan for the proposed site that avoids or minimizes negative impacts to birds, and that creates functional habitat for a variety of bird species. Use only plant species that are native to the local area for revegetation of the project area.

If you have any questions regarding these measures, please contact Lora Zimmerman of the Pennsylvania Field Office located in State College, PA at 814-234-4090.

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Game Commission, Bureau of Law Enforcement, Technical Services Division
2001 Elmerton Avenue, Harrisburg, PA 17110-9797

Procedure and format for permittee reports to the PA Game Commission when conducting bat capture surveys within the Commonwealth.

The report is divided into five sections which include: (1) Cover page, (2) Site Survey Record, (3) Bat Measurement and Capture Data Forms, (4) Maps and (5) Photo Documentation.

Section 1 - Cover

A separate cover page should be provided for each project with the accompanying data of Sections 2 through 5 contained within. An example is provided.

Section 2 - Bat Netting/Trapping Site Survey Record

(FORM P-70008-N/T)

This is a **mandatory** two-page summary of site(s) surveyed and of captures. It should be completed for all sites surveyed, including those with no captures. If a capture technique other than mist netting or harp trapping is used, it should be described in remarks. Complete 1 for each site survey night (If site is trapped twice, 2 site survey records are required, etc.).

This form may not be modified for reporting because it is used for data entry. If necessary, supplemental pages may be added to report unique data.

Section 3 - Bat Measurement and Capture Data Form

(FORM P-70008-M)

This form is **mandatory** for:

1. *Myotis sodalis* captures
2. *Myotis leibii* captures
3. Bats you are banding and all band recaptures
4. All radio-tagged bats (describe transmitter in remarks)
5. Bat species not usually found in Pennsylvania*.

* Pennsylvania species: *Myotis lucifugus, Myotis septentrionalis, Myotis leibii, Myotis sodalis, Eptesicus fuscus, Pipistrellus subflavus, Lasiurus borealis, Lasiurus cinereus, and Lasionycteris noctivagans*

This form may not be modified for reporting because it is used for data entry.

The surveyor also has the option to use this form for measuring and reporting all bats. All measurements should follow North American collector standards (Nagorsen, D. W. and R. L. Peterson. 1980. Measurements and Weights. Pp. 22-26 in Mammal Collectors' Manual. Royal Ontario Museum, Publications in Life Sciences). Banded bat information will be maintained in a database and future recaptures of your bands will be reported to you.

Section 4 - Maps

An example is provided. All survey sites will be reported on a map (preferably a 7.5' USGS Topographic Map) so that locations can be accurately located and coordinates verified.

Section 5 - Photo Documentation

An example is provided. It is strongly encouraged that photographs be taken of identification characteristics of all *M.sodalis*, *M.leibii*, and species not usually found in PA. The photos should be labeled with the site, date and capture number.

Return reports to address on the heading of this page within 90 days of project completion.

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission
Bureau of Law Enforcement, Technical Services Division
2001 Elmerton Avenue, Harrisburg, PA 17110-9797

Section 1 - Cover

PERMITTEE BAT CAPTURE REPORT

Permit Number_____

Project Name:_____

Company/
Organization/
Permittee Name:_____

Address: _____

_____

_____

_____

Phone: (_____)_____-_____ **Fax:** (_____)_____-_____

E-Mail:_____

Project Supervisor Name:_____

Supervisor Contact: Phone: (____)____ - _____

E-Mail: _____

If this is contracted work, provide the name & address of the individual/organization work is being performed for:

_____

_____

_____

_____

FORM P-70008-N/T
12/01
Section 2

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

BAT NETTING/TRAPPING SITE SURVEY RECORD

1. Survey Date:_____ **2. Company Name:**_____

3. Reporter:_____ **4. Assistants:**_____

5. Site Name and/or Number:_____

6. Site is (circle one): hibernation site summer habitat

7a. If hibernation site circle one: limestone mine, coal mine, limestone cave, sandstone cave, RR tunnel,

other structure, describe -_____.

7b. If summer habitat, describe area being sampled (e.g. forested stream or forest clearing with stream):

_____

8. County:_____ **9. 7.5' Quad.:**_____

10. Was site GPS'd (required) ? YES - NO

11. Geographic Coordinates (D-M-S): Latitude: _____°-_____'-_____"N, Longitude: _____°-_____'-_____"W

Datum *(circle one)*: **NAD27** (Preferred), NAD83, WGS84, Other:_____

12. Ownership and Access: *(Who owns site or controls access? Give name and address.)*_____

_____

13. Time *(military)* **& Temperature:** Start Time_____h Stop Time_____h Total Minutes:_____

Start Temp._____°C End Temp._____°C

14. General Weather *(circle one)*: Clear; Partly Cloudy; Mostly Cloudy; Cloudy; Drizzle; Intermittent Rain;

Steady Rain; Thunderstorms; Snow; Other:_____.

15. General Wind Conditions *(circle one)*: Calm, Breezy (Leaves Rustling), Windy (trees swaying).

16. Capture Setup at Site:

Set #	Type	Count	Dimensions	Description	TOTAL AREA (m)
1	Nets	*4*	*12m x 2.6m*	*Stacked over trail*	*124.8 sq. m*

Total Capture Area:_____sq. m

(Site Survey Record – Continued) **Site Name/No.:** _____ **Date:** _____

17. Describe habitat 150 m around site: *(topography and vegetation including dominant tree species.)*

18. Was reproductive status checked? YES / NO *(if "NO" only enter numbers in* **Total** *columns)*

***CAPTURE RESULTS**

Species	Number of Adult Females				No. Juv. Fem.	Total No. Fem.	Number of Adult Males		No. Juv. Male	Total No. Males	Species Totals
	NR	PG	L	PL			SCR	NR			
Eptesicus fuscus	2		1			3	2	1	1	4	7
Myotis lucifugus											
Myotis septentrionalis											
Myotis leibii											
Myotis sodalis											
Eptesicus fuscus											
Pipistrellus subflavus											
Lasiurus borealis											
Lasiurus cinereus											
Lasionycteris noctivagans											
Other – specify:											
Other – specify:											
Reproductive Status: **NR**= nonreproductive, **PG**= pregnant, **L**= lactating, **PL**= post lactating, **SCR**= scrotal/epididymis swollen. ***Complete Measurement and Capture Data Form for all: (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA.**											**Grand Total**

19. BAT DETECTORS & OTHER MONITORING DEVICES: *Tallies of bat passes / hour. One to 5 hours required for Indiana bat hibernacula surveys. Monitor one hour after 22:00 hrs when trapping/netting hibernacula and 5 hours when only monitoring with bat detectors, night vision or infrared device (when site can not be trapped/netted). Describe procedure & equipment used in remarks.*

1st hour	2nd hour	3rd hour	4th hour	5th hour
Start Time:	**Start Time:**	**Start Time:**	**Start Time:**	**Start Time:**
End Time:	**End Time:**	**End Time:**	**End Time:**	**End Time:**
Tallies:	**Tallies:**	**Tallies:**	**Tallies:**	**Tallies:**

20. REMARKS:

FORM P-70008-M
12/01
Section 3

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

Page#_____ of _____

Bat Measurement and Capture Data Form

(Complete for all (1) Myotis sodalis, (2) Myotis leibii, (3) bats you are banding or band recaptures, (4) radio-tagged bats and (5) bat species not usually found in PA)

Site Name Or Number:	Date:	Set No. Captured In:	Name of Person Identifying the Bat:	*Capture Number:

Height in meters captured above ground surface: m				Body Measurements *(grams and millimeters)*						Band Information *(if banded)* *(Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)*					Transmitter Attached? If so: Frequency *(mHz)*
Species	Sex	Age	Repro. Condition	Wt. (g)	Ear	Tragus	Fore-arm	Hind Foot		Recapture Yes/No	Band Material	Band Color	Band Inscription	Band on Left/Right	

Time of Capture	Photo Taken Yes / No	Remarks:

Repro.Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen

Site Name Or Number:	Date:	Set No. Captured In:	Name of Person Identifying the Bat:	*Capture Number:

Height in meters captured above ground surface: m				Body Measurements *(grams and millimeters)*						Band Information *(if banded)* *(Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)*					Transmitter Attached? If so: Frequency *(mHz)*
Species	Sex	Age	Repro. Condition	Wt. (g)	Ear	Tragus	Fore-arm	Hind Foot		Recapture Yes/No	Band Material	Band Color	Band Inscription	Band on Left/Right	

Time of Capture	Photo Taken Yes / No	Remarks:

Repro.Condition: NR= nonreproductive, PG= pregnant, L= lactating, PL= post lactating, SCR= scrotal/epididymis swollen

Site Name Or Number:	Date:	Set No. Captured In:	Name of Person Identifying the Bat:	*Capture Number:

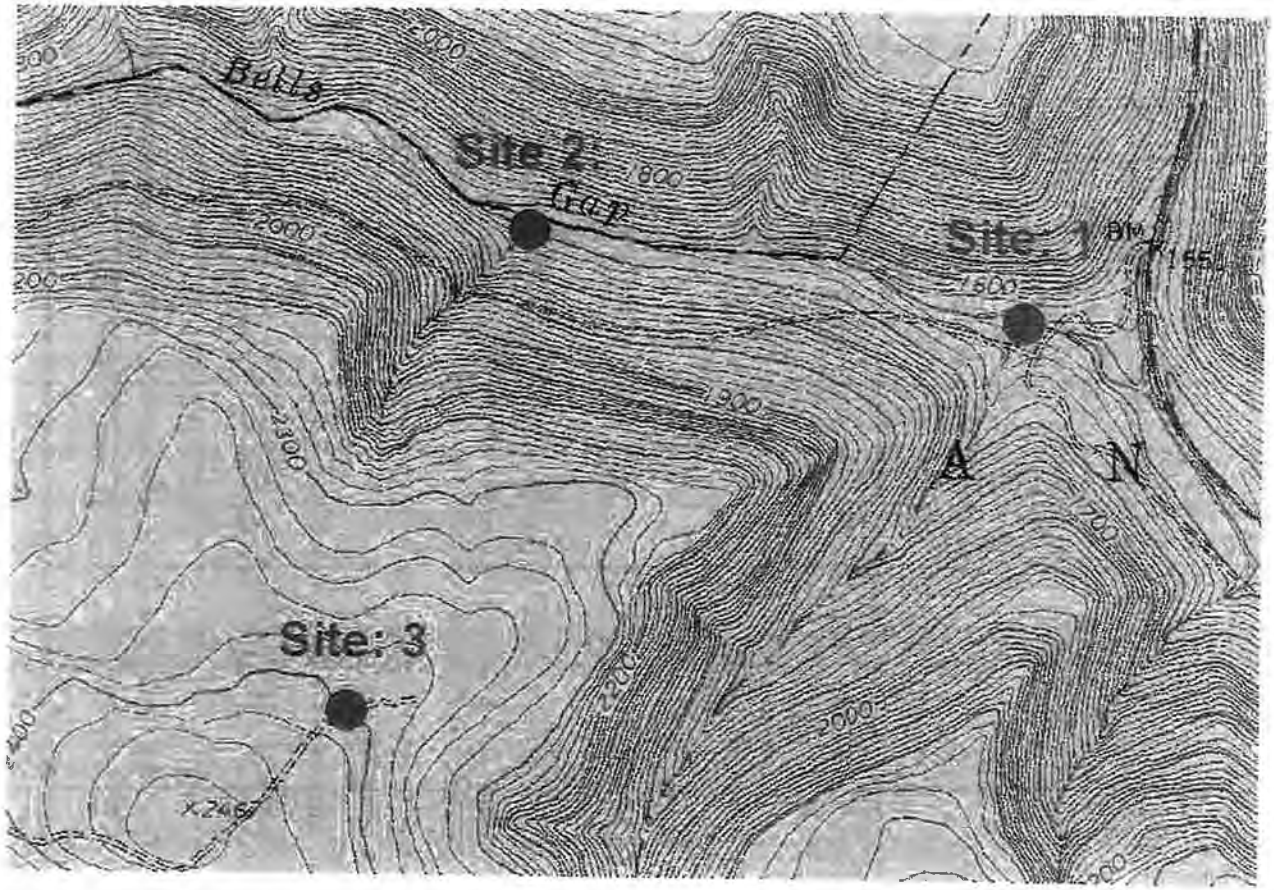
Height in meters captured above ground surface: m				Body Measurements *(grams and millimeters)*						Band Information *(if banded)* *(Band Males on bat's RIGHT fa., Females on bat's LEFT fa.)*					Transmitter Attached? If so: Frequency *(mHz)*
Species	Sex	Age	Repro. Condition	Wt. (g)	Ear	Tragus	Fore-arm	Hind Foot		Recapture Yes/No	Band Material	Band Color	Band Inscription	Band on Left/Right	

Time of Capture	Photo Taken Yes / No	Remarks:

*Capture Number = number in sequence by site.

Section 4 - Maps *(example)*

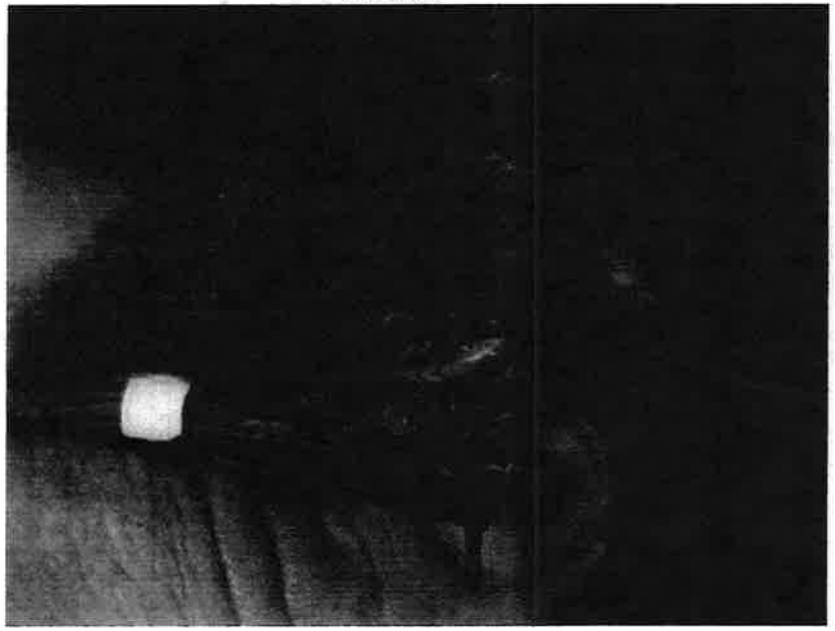
Blair Co., Blandburg Quadrangle, Bells Gap Area.
Location of Sites 1, 2, and 3 for Project PA-24



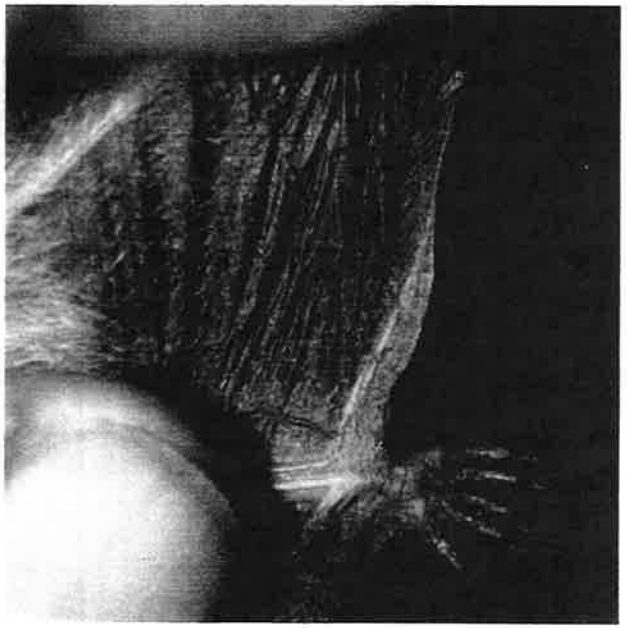
Section 5 - Photos *(example)*

Male *Myotis sodalis* captured at **Site 1**
Capture date: **7/18/01**
Capture Number: **06**

Portrait



Keeled Calcar



U.S. FISH AND WILDLIFE SERVICE
Pennsylvania Field Office

QUALIFIED BAT SURVEYORS

The following list includes persons known by the U.S. Fish and Wildlife Service to have the skills and experience to conduct surveys for Indiana bats. Any individuals handling or conducting surveys for state or federally listed bats must first obtain a permit from the Pennsylvania Game Commission. All state and federally listed bat captures must be reported in writing to the Service and Commission within 72 hours. Bat surveys will be overseen by a qualified surveyor, who will be present in the field at all times during the investigation. Summer surveys should be carried out in accordance with the Service's most recent summer survey guidance. If any state or federally listed bats are captured during summer surveys, a surveyor with bat telemetry experience should be prepared to place a transmitter on the bat(s) to identify roost trees and foraging habitat. Various sampling and survey techniques, including mist-netting, radio-telemetry, harp-trapping, acoustic surveys and hibernacula surveys, are used to detect and monitor bats. Some individuals on this list may not be qualified to conduct all types of sampling.

This information is not to be construed as an endorsement of individuals or firms by the Service or any of its employees. Persons not on this list, but who have documented experience in conducting scientific studies of, or successful searches for, Pennsylvania State or federally listed bats may submit their qualifications to the Service for review. The submission must include documentation that the requestor has experience successfully locating and identifying state or federally listed bats in their hibernacula and their summer habitat. Additions to and deletions from this list are at the sole discretion of the Service. This list is subject to revision at any time without prior notice.

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Chelsea Rider, Keith Christenson,
Amanda Brumbaugh, Jason Collins, Elise Merrill, Aaron Covalt, & Sarah Dewees.
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COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

"To manage all wild birds, mammals and their habitats for current and future generations."

Division of Environmental Planning and Habitat Protection
717-783-5957

ADMINISTRATIVE BUREAUS:

ADMINISTRATION.....717-787-5670
HUMAN RESOURCES.....717-787-7836
FISCAL MANAGEMENT.....717-787-7314
CONTRACTS AND PROCUREMENT.....717-787-6594
LICENSING.....717-787-2084
OFFICE SERVICES.....717-787-2116
WILDLIFE MANAGEMENT.....717-787-5529
INFORMATION & EDUCATION.....717-787-6286
WILDLIFE PROTECTION.....717-783-6526
WILDLIFE HABITAT MANAGEMENT.....717-787-6818
REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....717-787-4076

www.pgc.state.pa.us

September 3, 2015 **PGC ID Number: 201508270201**

Natalie Shearer
AECOM
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Pittsburgh, PA 15220
natalie.shearer@aecom.com

Re: Shell Pipeline Company, LP – Northeast Ethane Pipeline
Large Project PNDI Review
Beaver, Allegheny, & Washington Counties, PA

Dear Ms. Shearer,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below:

Scientific Name	Common Name	PA Status
Asio flammeus	Short-eared Owl	ENDANGERED
Circus cyaneus	Northern Harrier	THREATENED
Lasionycteris noctivagans	Silver-haired Bat	SPECIAL CONCERN

Next Steps

Short-eared Owl

- Short-eared Owl Survey – Portions of the proposed project is located in areas with known occurrences of state listed short-eared owls. In order to determine if short-eared owls are present on or in the immediate vicinity of the project, a short-eared owl presence/absence survey must be completed on the areas of the project identified in the attached *PGC*

*Survey Area Map (*shapefiles can be provided upon request*)*. Surveys should follow the methods found in the attached *PGC Short-eared Owl Presence/Absence Survey Protocol*. Please provide a draft short-eared owl survey plan for PGC review and approval prior to implementation. The results of the short-eared owl survey should be provided to the PGC by December 31 of the year the survey was conducted.

Northern Harrier

- Northern Harrier Survey – Portions of the proposed project is located in areas with known occurrences of state listed northern harriers. In order to determine if northern harriers are present on or in the immediate vicinity of the project, a northern harrier presence/absence survey must be completed on the areas of the project identified in the attached *PGC Survey Area Map (*shapefiles can be provided upon request*)*. Surveys should follow the methods found in the attached *PGC Northern Harrier Presence/Absence Survey Protocol*. Please provide a draft northern harrier survey plan for PGC review and approval prior to implementation. The results of the northern harrier survey should be provided to the PGC by December 31 of the year the survey was conducted.

The PGC is also recommending that Shell Pipeline Company, LP use the following seed mix within areas identified in the PGC Survey Area Map to ensure the establishment of beneficial herbaceous habitat for grassland species post-construction:

Species	**Common Name**	**Seed/Acre**	**Percent Live Seed**
Avena sativa – spring planting	annual oats	30lb	
Lolium multiflorum- fall planting	annual ryegrass	10lb	
Schizachyrium scoparium	little bluestem	4 lbs	10-67
Sorghastrum nutans	indian-grass	2 lbs	10-50
Bouteloua curtipendula	side-oats grama	1 lb	5-25
Panicum virgatum	switchgrass	1 lb	10-12
*Rudbeckia triloba plus another**	black-eyed susan	¼ lb	1-5, each
Coreopsis tripteris	tall tickseed	1 oz	1-5
Chasmanthium latifolium	sea-oats	1lb	1-30
Straw Mulch – NO HAY			

**Rudbeckia triloba* plus another *Rudbeckia* sp. that is appropriate for site conditions

Conservation Measures

Silver-haired bats are a species of special concern, and therefore, not a target species for additional surveys. However, because of their ecological significance the following seasonal restriction is suggested to avoid potential impacts to roosting silver-haired bats:

- All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-ROW work spaces) should be cut between November 1st and March 31st.

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands are located within the project area. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to the PGC at the following address as an "Update" (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,

John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-mail:jotaucher@pa.gov

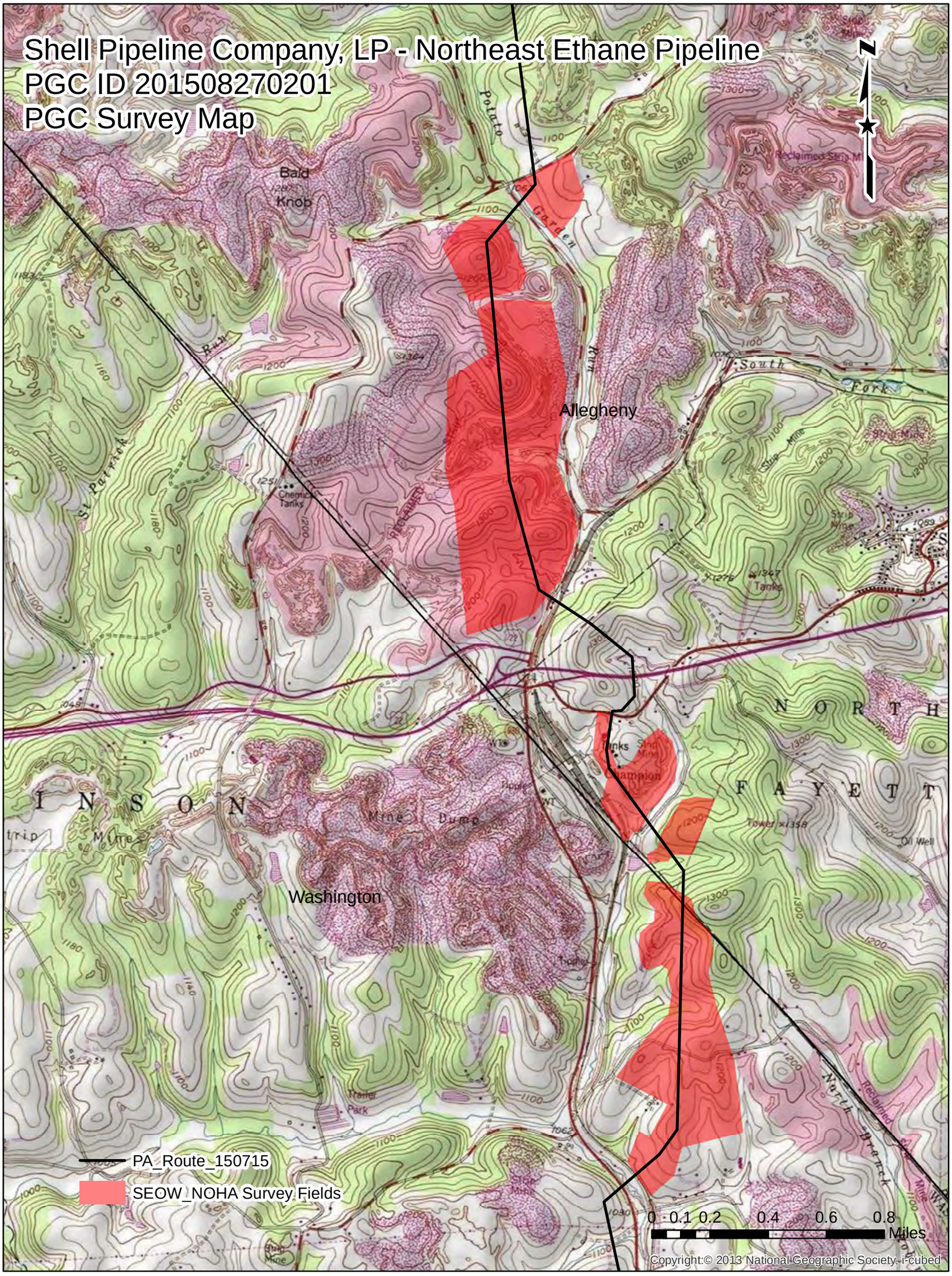
A PNHP Partner

JWT/jwt

Attachments:
PGC Survey Area Map
PGC Short-eared Owl Presence/Absence Survey Protocol
PGC Northern Harrier Presence/Absence Survey Protocol

cc: Anderson
Trusso
Brauning
Gross
Barber
Turner
Librandi Mumma
H:\OIL&GAS_PNDI_Reviews\Southwest Region

Shell Pipeline Company, LP - Northeast Ethane Pipeline
PGC ID 201508270201
PGC Survey Map



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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

Contact Name: Natalie L. Shearer

Email Address or Fax Number: Fax: (412) 503 4701

TAILS # TA-0819 **All future correspondence submitted on this project should clearly reference this TAILS #.**

Project: Northeast Pipeline Project, Hancock County, WV

Date of Letter Request: August 25, 2015

This is in response to your letter requesting threatened and endangered species information in regard to the proposed project listed above. These comments are provided pursuant to the Endangered Species Act (ESA, 87 Stat. 884, as amended; 16 U. S. C. 1531 *et seq.*).

Two federally listed species could occur in the project area, the endangered Indiana bat (*Myotis sodalis*), and the threatened northern long-eared bat (NLEB) (*M. septentrionalis*).

The Indiana bat and NLEB may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. Similar to the Indiana bat, NLEB bat foraging habitat includes forested hillsides and ridges, and small ponds or streams. NLEB are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. NLEB seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has also been found rarely roosting in structures, like barns and sheds. In West Virginia, the Service considers all forest habitats containing trees greater than or equal to 3 inches in diameter at breast height (DBH) to be potentially suitable as summer roosting and foraging habitat for the Indiana and northern long-eared bat.

Indiana bats and NLEB use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall-swarming and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as a summer roosts. There may be other landscape features being used by NLEB during the winter that have yet to be documented. The federally endangered Virginia big-eared bat (*Corynorhinus townsendii virginianus*) may also use caves or mine portals during any time of the year.

Based on documented travel distances of Indiana bats, Indiana bats are most likely to use suitable habitat within 10 miles of a known priority 1 or 2 Indiana bat hibernaculum, 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, or 2.5 miles from any known maternity roost, or 5 miles from summer detection site where no roosts were identified. Similarly, NLEB are most likely to use suitable habitat within 5 miles from a NLEB hibernaculum or 1.5 miles of a known NLEB maternity roost or 3 miles of a NLEB detection site with no roost identified area. Areas within these distances from documented locations are referred to as known use or buffer areas.

Project Review

The Service has evaluated the availability of suitable foraging and roosting habitats on the West Virginia landscape relative to the best estimate of the statewide population of Indiana bats. On that basis, we have determined projects affecting less than 17 acres of suitable forest habitat and that are not within any Indiana bat or NLEB buffer areas as described above, and will not affect any potential hibernacula, and that are completed before the end of the 2015 calendar year are very unlikely to result in direct or indirect impacts to these species. The effects of such projects are considered discountable and the projects, therefore, are not likely to adversely affect the Indiana bat or NLEB[1]. However, the WVFO is currently reviewing existing data and available literature on the NLEB to determine how our recommendations should be modified to address the NLEB. **We expect that this 17 acre threshold may change on or before the end of the 2015 calendar year**. In the interim, our office will be using the threshold developed for the Indiana bat to make determinations regarding the NLEB. For more information on projects affecting less than 17 acres of suitable forest habitat, that occur outside of any Indiana bat and/or NLEB buffer areas, please refer to Appendix A.

This project does not fall within any of the Indiana bat or NLEB known use areas described above, and will remove more than 17 or more acres of potential Indiana bat or NLEB summer habitat as a result of the proposed action. As a result, the project proponent will need to develop project-specific surveys and avoidance measures to determine whether these species may be affected by the proposed action, as described below. The project proponent should determine the amount of suitable Indiana bat and NLEB summer habitat that will be removed from the proposed site, and determine whether any caves or mine portals that may be potential hibernacula are present or may be affected by the project.

To avoid liability under section 9 of the ESA, no project construction activities should occur in the proposed site until consultation with the Service is complete. It is important to note that "project" includes all project features, not just the portion of the project prompting the submittal of a permit application (*e.g.*, to WVDEP or the Corps). For example, a residential development would include all features of the development, including all forest or wooded areas to be affected or encroached upon by roads, utility lines, houses, driveways, septic areas, detention basins, stormwater basins, yards, lots, *etc.* An oil or gas project would include not only the well and well pad, but also the roads, staging areas, impoundments and holding pits, and oil and gas lines associated with the well or well field.

Summer Habitat Options

We recommend one of two options to avoid incidental take of the Indiana bat and NLEB as a result of loss of potential summer habitat. Please choose and complete either Option 1 or Option 2 below as your choice will be applicable for the duration of the proposed project. **Options may not be combined.**

These options are "guidance" and not policy, a project proponent has the option of not following the Guidance's recommendations when providing information to the Service, however, this will likely

[1] Different recommendations and analyses are applied to wind projects due to the differences in types of effects that may occur.

increase review times or result in projects that will adversely affect Indiana bats or NLEB and, therefore, require formal consultation.

Option 1:
This option presumes that Indiana bats and NLEB are present at the proposed site and sufficient avoidance and minimization measures must be developed and implemented to avoid incidental take. A conservation plan for the Indiana bat and NLEB should be developed. At a minimum, this plan must include a commitment that all tree removal operations will be conducted between November 15 and March 31, when Indiana bats and NLEB are in hibernation.

Prior to developing a conservation plan, a detailed on-site habitat assessment of the amount and quality of potential Indiana bat and NLEB summer foraging and roosting habitat that would be cleared by the project should be conducted to ensure that Indiana bats and NLEB present in the area will not be affected by loss of habitat. After this assessment is conducted, measures to avoid and minimize impacts to Indiana bat and NLEB summer foraging and roosting habitat should be developed. A Myotid Bat Conservation Plan should then be developed to avoid and minimize adverse impacts to bats. Information on how to develop this plan is available in our Guidance on Developing and Implementing a Myotid Bat Conservation Plan and its associated appendices. This plan and the on-site habitat evaluation should be developed by someone who has experience with Indiana bat and NLEB habitat requirements such as those listed in the List of Surveyors Qualified to Conduct Myotid Bat Surveys in West Virginia.

In addition, the conservation plan should include an evaluation calculating the percentage of potential Indiana bat and NLEB summer foraging and roosting habitat that would remain after project construction. For non-linear projects, this habitat evaluation should be done for the area within a 2-mile radius around the center point of the proposed disturbance. Please be sure to determine the 2-mile radius from the center of the proposed project area rather than from the project boundary. For linear projects like roads, oil and gas pipelines, or electric transmission lines, the habitat evaluation should be done for the area within ¼ -mile on each side of the proposed right-of-way for the entire length of the project. Please calculate the number of acres of forested habitat and non-forested habitat within the appropriate analysis area both prior to and after project construction.

The results of the habitat evaluations and the proposed conservation plan should be submitted for our review prior to commencement of the project. If we determine that the extent of disturbance is not significant enough to adversely affect the Indiana bat or NLEB, the project may proceed with seasonal restrictions on tree removal and commitments made for avoidance and minimization of project impacts on suitable bat habitat. Seasonal restriction on tree removal will apply for the life of the project.

If we determine that the extent of disturbance may affect, and is likely to adversely affect the Indiana bat or NLEB, a survey may be necessary to determine if these species are present, or additional conservation measures may be required. For further information, please see Option 2.

Option 2:
Surveys are conducted to determine if the summer foraging and roosting habitats within the proposed site are occupied by the Indiana bat or NLEB. The enclosed Range-wide Indiana Bat Summer Survey Guidelines should be followed. These Guidelines are considered acceptable to address both the Indiana bat and NLEB. To avoid insufficient or inadequate surveys, a survey plan for the proposed site should be submitted to us for concurrence prior to conducting the survey. Acoustic surveys may be conducted between May 15 and August 15, and mist-net surveys may be conducted between June 1 and August 15. The surveys should be conducted by a qualified bat biologist with experience in identifying Indiana bats and NLEB and who holds a current, valid collection permit from the West Virginia Division of Natural Resources (WVDNR). The WVDNR may be contacted at the Elkins Operation Center, P.O. Box 67,

Ward Road, Elkins, West Virginia, 26241; phone (304) 637-0245. A List of Surveyors Qualified to Conduct Myotid Bat Surveys in West Virginia is also enclosed.

The survey results should be provided to the Service's West Virginia Field Office for review and concurrence. If no endangered bats are detected and we agree with the survey findings, tree removal can proceed at any time of year. If endangered bats are detected, the West Virginia Field Office and the WVDNR should be notified the next business day[2]. We will then work with the project proponent to minimize the possibility of impacts to Indiana bats. The Guidance on Developing and Implementing an Myotid Bat Conservation Plan may be used to help develop measures to minimize impacts when Indiana bats and NLEB are captured.

Surveys are considered current for five years consisting of the summer they are done and the following four summer seasons. Surveys should be repeated for any tree removal occurring after this 5-year period.

Winter Habitat: Caves and Mine Portals

Regardless of which summer habitat option is chosen from above, the presence of caves and mine portals, and their use by federally listed bats, must also be addressed.

Therefore, the following step-wise process should be followed in order to determine if any caves or abandoned mine portals in the proposed project area are used by endangered bats. It should be noted that impacts to caves or mine portals that are used by endangered bat species may result in violation of section 9 of the ESA. Caves may also contain other sensitive species, and activities that may affect cave passages and openings should generally be avoided to the maximum extent practicable. Also note that the criteria and forms listed below may be modified as new information on bats and mines in West Virginia is obtained.

The proposed site should be surveyed for caves and mine portals. This survey can be performed by mining engineers, other field personnel, or biologists with experience identifying caves or mines. The survey should include a review of topographic, mining, karst occurrence, and environmental resources information maps; as well as actual field reviews of the entire proposed project area. For linear projects (e.g., transmission lines, natural gas pipelines, highways, and access roads), the field survey should include lands buffering the disturbance footprint of the proposed linear project, extending to 0.6 mile (1 km) on each side of the outer edges of the footprint.

Any caves and portals found should be evaluated for characteristics that may indicate potential use by bats. A Phase I Cave/Mine Portal Survey Data Sheet should be completed for each opening found. This data sheet is enclosed and results should be compared against the criteria listed in the Draft Protocol for Assessing Abandoned Mines/Caves for Bat Use. The data obtained from the survey should be provided to us for review prior to implementation of any activities that may impact caves or portals.

Any caves and portals determined not to exhibit potential habitat for bats, based upon the criteria referenced above, will not require any further assessments for the presence of federally listed bat species. If caves and/or portals at the proposed site appear to have suitable bat habitat characteristics, mist net surveys or trapping may be recommended. Guidelines for conducting these surveys are provided in the Draft Protocol for Assessing Abandoned Mines/Caves for Bat Use. However, due to concerns about the potential for mist netting and trapping at caves or portals to exacerbate the spread of white nose syndrome, please contact this office for the most current recommendations and protocols prior to

[2] Surveys should not stop if a listed bat is captured or detected.

conducting these activities. The results of any surveys should be provided to this office for review and concurrence prior to proceeding with any activities that may impact caves or portals. If federally listed bats are found using caves or portals in the project area, further consultation will be necessary.

To facilitate consultation pursuant to the ESA, please provide to us all the following information at one time and prior to implementation of any project construction activities including tree removal or other activities that may impact caves or mine portals:

1) data pertaining to either Option 1 or Option 2 (options may not be combined); and
2) information on whether there are caves or old mine portals at the proposed project site, as well as the results of all surveys conducted to determine whether these openings exhibit potential bat habitat.

Any Federal permits required by this project should not be issued until we provide a letter stating that consultation is concluded. We cannot prepare a response unless sufficient information under 1 and 2 above is provided.

If you have any questions regarding these comments, please contact the biologist listed below at (304) 636-6586 or at the letterhead address.

Thomas Lennon Date: 9/2/15
Biologist

John E. Schmidt Date: 9/3/15
John Schmidt, Field Supervisor

Enclosures (4)

Appendix A:
Small Projects that Occur Outside of Indiana bat and/or NLEB Known Use Areas

The Service has evaluated the availability of suitable foraging and roosting habitats on the West Virginia landscape relative to the best estimate of the statewide population of Indiana bats. On that basis, we have determined that projects affecting less than 17 acres of suitable forest habitat and that occur more than 10 miles from a known priority 1 or 2 Indiana bat hibernaculum, more than 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, or more than 2.5 miles from any known maternity roost, or more than 5 miles from summer capture sites where no roosts were identified, and will not affect any potential hibernacula, are very unlikely to result in direct or indirect impacts to the Indiana bat. The effects of such projects are considered discountable and the projects, therefore, are not likely to adversely affect the Indiana bat[3].

This 17 acre threshold was developed based on information specific to the Indiana bat in West Virginia. While there are many similarities between the Indiana bat and the NLEB, the distribution and abundance of NLEB in West Virginia is much different than the Indiana bat and there are a number of factors that make the NLEB different from the Indiana bat in regard to whether they are likely to be adversely affected by these types of activities. The WVFO is currently reviewing existing data and available literature on the NLEB to determine how our recommendations should be modified to address the NLEB. We anticipate that additional information may become available as the Service accepts public comments and works to finalize the 4(d) rule for the species. **We expect that this 17 acre threshold may change** in the near future and our intent is to make modifications to our recommendations concurrent with the anticipated completion of the final 4(d) rule **on or before the end of the 2015 calendar year**. In the interim, our office will be using the threshold developed for the Indiana bat to make determinations regarding the NLEB.

Because the distance that NLEB typically travel between foraging and roosting sites and hibernacula are different from the Indiana bat, we are using species-specific distances around known NLEB captures, maternity, and hibernacula sites. Therefore, small projects **completed before the end of the 2015 calendar year** that are more than 5 miles from a NLEB hibernaculum or 1.5 miles of a known NLEB maternity roost or 3 miles of a NLEB capture site with no roost identified, that affect less than 17 acres of suitable forested habitat, and will not affect any potential hibernacula, will also be considered to have discountable effects on the NLEB.

If, however, the proposed project, or a portion thereof, will occur within any of the Indiana bat or NLEB buffer areas described above, or may affect any potential hibernacula, the 17-acre threshold described above does not apply. Under these circumstances, additional coordination with the Service's West Virginia Field Office is required. Project-specific surveys or avoidance measures will need to be developed and reviewed for projects of any size that are proposed within these buffer areas prior to implementation of the proposed action.

Projects that occur outside of any of the Indiana bat or NLEB buffers described above and that affect 17 acres or more of potential Indiana bat or NLEB summer habitat, or that may affect potential hibernacula will also need to develop project-specific surveys or avoidance measures. Projects in these areas have the option of assuming presence of the species, or conducting surveys to determine presence/absence.

---

[3] Different recommendations and analyses are applied to wind projects due to the differences in types of effects that may occur.

DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
Operations Center
P.O. Box 67
Elkins, West Virginia 26241-3235
Telephone (304) 637-0245
Fax (304) 637-0250

Earl Ray Tomblin
Governor

Robert A. Fala
Director

September 1, 2015

Ms. Natalie Shearer
AECOM
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburg, PA 15220

Dear Ms. Shearer:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Northeast Pipeline project in Hancock County, WV.

We do have a documented bald eagle nest within the study corridor which was provided on the paper mapping (it is south of the route shown on the project shapefile). This nest is located at the head of the Tomlinson Run Embayment. We have no other known RTE species within the project area. Additionally, surveys for freshwater mussels will be required for the Ohio River crossing.

The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or barbara.d.sargent@wv.gov. Enclosed please find an invoice.

Sincerely,

Barbara Sargent
Environmental Resources Specialist
Wildlife Diversity Unit

U:\HeritageProgram\Sargent\Invoices\AECOM.doc

NO. 216-077

INVOICE

West Virginia Division of Natural Resources

Wildlife Resources Section, P.O. Box 67, Elkins, WV 26241
Attention: Ms. Patty Fordyce

In Account With: AECOM
Foster Plaza 6
681 Andersen Drive, Suite 400
Pittsburgh, PA 15220

Date: September 1, 2015

Attention: Ms. Natalie Shearer

For the retrieval and compilation of information on rare, threatened and endangered species and sensitive habitats for the proposed Northeast Pipeline project in Hancock County, WV.

AMOUNT DUE: $75.00

Make check payable to WV Division of Natural Resources. **Please reference the invoice number on your check.** Mail to the above address and to the attention of Ms. Fordyce.

2017 AGENCY CORRESPONDENCE

Farris, Sharon

From: Shearer, Natalie
Sent: Tuesday, July 18, 2017 2:03 PM
To: charles.rolston@shell.com; Robert.Wooten@shell.com; Doug Scott (Doug.Scott@shell.com)
Cc: Walker, Brandon; Costa, Dennis; Bonitatibus, Amanda; Bronneck, Amanda; Farris, Sharon
Subject: FW: Project Update - ODNR Project 15-545 & 16-377 Falcon Ethane Pipeline Project

All,

See below. ODNR has no further comment on the update letter I sent in May. I still have no received a response from USFWS.

Thanks
Natalie

Natalie L. Shearer, QEP
Natural Resources - Pittsburgh, Impact Assessment & Permitting Department
D +1-412-503-4595
M +1-412-694-8971
natalie.shearer@aecom.com

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Pittsburgh, PA 15220, United States
T +1-412-503-4700
aecom.com

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From: sarah.tebbe@dnr.state.oh.us [mailto:sarah.tebbe@dnr.state.oh.us]
Sent: Tuesday, July 18, 2017 1:59 PM
To: Shearer, Natalie
Cc: John.Kessler@dnr.state.oh.us
Subject: Project Update - ODNR Project 15-545 & 16-377 Falcon Ethane Pipeline Project

Hi Natalie,

We have reviewed the update and have no further comments.

Thanks,

Sarah Tebbe
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Road
Columbus, Ohio 43229
(614) 265-6397

Fwd: Bald Eagle report

Shearer, Natalie

Tue 1/10/2017 3:00 PM

To: Walker, Brandon <brandon.walker@aecom.com>; Farris, Sharon <sharon.farris@aecom.com>; Bronneck, Amanda <amanda.bronneck@aecom.com>;

Response from State College below.

Natalie L. Shearer, QEP
Natural Resources Lead-Pittsburgh
D 1-412-503-4595
M 1-412-694-8971

AECOM
6 Foster Plaza
681 Andersen Drive
Pittsburgh, PA 15220
T 1-412-503-4700

Sent from my iPhone. Please excuse any typos.

Begin forwarded message:

From: "Ranalli, Nicole" <nicole_ranalli@fws.gov>
Date: January 10, 2017 at 2:58:21 PM EST
To: <natalie.shearer@aecom.com>
Subject: Bald Eagle report

Natalie,
Thank you for your Bald Eagle Assessment report of December 2016. I noticed that in your project screening form you indicated that all recommended avoidance measures will be implemented. Please keep a signed copy of this form for your records.

Thank you for your time,

--
Nicole Ranalli
U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
814 234-4090 x7455

FW: Bald eagle assessment

Shearer, Natalie

Tue 1/10/2017 10:53 AM

To:Walker, Brandon <brandon.walker@aecom.com>; Bronneck, Amanda <amanda.bronneck@aecom.com>; Farris, Sharon <sharon.farris@aecom.com>;

All, please see the further correspondence.

From: Sargent, Barbara D [mailto:Barbara.D.Sargent@wv.gov]
Sent: Tuesday, January 10, 2017 10:39 AM
To: Shearer, Natalie; Lennon, Tiernan
Subject: RE: Bald eagle assessment

Yes. Our ornithologist mentioned to me that there may be yet another nest site for those eagles (I call them the nomadic eagles). Our district biologist is on sick leave, but she is checking email on occasion. So I have not heard back from her on that possibility. I will pass on what I hear.

Barb

From: Shearer, Natalie [mailto:natalie.shearer@aecom.com]
Sent: Tuesday, January 10, 2017 10:34 AM
To: Sargent, Barbara D; Lennon, Tiernan
Subject: RE: Bald eagle assessment

Thanks Barb. Are you still advising a 2017 survey?

Thanks,
Natalie

Natalie L. Shearer, QEP
Natural Resources Lead - Pittsburgh, Impact Assessment & Permitting Department
D +1-412-503-4595
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From: Sargent, Barbara D [mailto:Barbara.D.Sargent@wv.gov]
Sent: Tuesday, January 10, 2017 9:40 AM
To: Shearer, Natalie; Lennon, Tiernan
Subject: RE: Bald eagle assessment

Correction: This nest and the old nest were monitored in April 2016, and were inactive.

b.

From: Sargent, Barbara D
Sent: Monday, January 09, 2017 3:52 PM
To: 'natalie.shearer@aecom.com'; 'Lennon, Tiernan'
Subject: RE: Bald eagle assessment

Hi Natalie—

I have reviewed your bald eagle assessment for Falcon Ethane Pipeline in Hancock County, WV. The record for the Tomlinson Run eagle nest was updated in 2016. From 2013 to 2015 the eagles have nested just upstream of the Clusters Islands, midway between AECOM's 1000ft and half-mile buffers (529963.77E 4490454.27N). No one monitored the nest in 2016; I have emailed our District Biologist to check for any current nesting information.

A 2017 field assessment is advised.

Barb

Barbara Sargent
WVDNR – Wildlife Resources Section
Operations Unit
Environmental Coordination
PO Box 67
738 Ward Road
Elkins, WV 26241
304/637-0245 (voice)
304/637-0250 (fax)
www.wvdnr.gov

"It is always the same with mountains. Once you have lived with them for any length of time, you belong to them. There is no escape."
— Ruskin Bond

From: natalie.shearer@aecom.com [mailto:natalie.shearer@aecom.com]
Sent: Thursday, January 05, 2017 11:18 AM
To: Sargent, Barbara D
Subject: Notification: Natalie Shearer has sent you files

Natalie Shearer has sent you 1 file using AECOM's File Transfer System.

Natalie Shearer says:

Good morning Barb. This is the bald eagle habitat assessment report for the Falcon Ethane Pipeline Project. You will also receive a hardcopy in the mail. Please let me know if you have any questions. Thanks,
Natalie

This file will be available for download until 1/12/2017

File	Description	Size
Falcon Project BE Report Jan 2017_WVDNR.pdf		14,419KB

Download all files (.zip)

If you are having trouble accessing the links in this email, you can view this message as a web page by copying the following link and pasting it into your browser:

https://sendfiles.aecom.com/message.aspx?msgId=24a31506-53c2-45e7-8566-9cd64e1bcbd2

If you have any questions, please contact your project manager.

Farris, Sharon

From: Shearer, Natalie
Sent: Tuesday, April 18, 2017 8:24 AM
To: Walker, Brandon; Bronneck, Amanda; Farris, Sharon
Subject: FW: eagle nest

Looks like the eagles moved again. See below!

Natalie L. Shearer, QEP
Natural Resources Lead - Pittsburgh, Impact Assessment & Permitting Department
D +1-412-503-4595
M +1-412-694-8971
natalie.shearer@aecom.com

From: Sargent, Barbara D [mailto:Barbara.D.Sargent@wv.gov]
Sent: Tuesday, April 18, 2017 8:22 AM
To: Shearer, Natalie
Subject: RE: eagle nest

Thanks-- I just heard from our District Biologist that the nest is now in Ohio. Those eagles sure don't like to stay in one place.

b.

From: Shearer, Natalie [mailto:natalie.shearer@aecom.com]
Sent: Tuesday, April 18, 2017 8:14 AM
To: Sargent, Barbara D
Cc: Walker, Brandon; Kyle.Webster@shell.com; charles.rolston@shell.com
Subject: RE: eagle nest

Good morning Barb.

The bird biologists did do a bald eagle nest survey this year. The new route is now slightly north of the original route. They found one alternate nest site near there; however, it was in very poor shape (falling down the tree).

They also visited the area to the south by the embayment that was identified as a potential alternative nest last year and observed that the nest was in use by red-tailed hawks.

They are pulling a report together and will send both you and Tiernan a copy.

Thanks,
Natalie

Natalie L. Shearer, QEP
Natural Resources Lead - Pittsburgh, Impact Assessment & Permitting Department
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FORTUNE WORLD'S MOST ADMIRED COMPANIES 2016

From: Sargent, Barbara D [mailto:Barbara.D.Sargent@wv.gov]
Sent: Monday, April 17, 2017 2:51 PM
To: Shearer, Natalie
Subject: eagle nest

Hi Natalie—

Was there a survey this spring for the eagle nest near Tomlinson Run?

Thanks.

Barb

Barbara Sargent
WVDNR – Wildlife Resources Section
Operations Unit
Environmental Coordination
PO Box 67
738 Ward Road
Elkins, WV 26241
304/637-0245 (voice)
304/637-0250 (fax)
www.wvdnr.gov

"It is always the same with mountains. Once you have lived with them for any length of time, you belong to them. There is no escape."
— Ruskin Bond

ATTACHMENT B

SURVEY PHOTOLOG

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
1	03/08/17

Direction Photo Taken:
Southwest

Description:

Fort Cherry Golf Club

Multiple ponds are located within the golf club property.

Photo No.	Date:
2	03/08/17

Direction Photo Taken:
South

Description:

Fort Cherry Golf Club

Overall view of habitat which includes stands of large trees. No bald eagles were present during field views in 2016 and 2017.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
3	03/08/17

Direction Photo Taken:
East

Description:

Beaver County Conservation District

Impoundment as viewed from the Beaver Conservation District property.

Photo No.	Date:
4	03/08/17

Direction Photo Taken:
South

Description:

Beaver County Conservation District Impoundment

Habitat is suitable for bald eagle foraging and nesting. No bald eagles or nests were observed in the area during field view.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
5	03/08/17

Direction Photo Taken:
Southwest

Description:

Red-tailed Hawk Nest (RTHA-1) Adjacent to Existing Right-of-Way

Photo No.	Date:
6	03/08/17

Direction Photo Taken:
Southwest

Description:

RTHA-1

Adjacent to Existing Right-of-Way – An adult red-tailed hawk was observed entering the nest during survey.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
7	03/08/17

Direction Photo Taken:
Southeast

Description:

Montgomery Dam Nest as viewed from Nova Chemical Plant

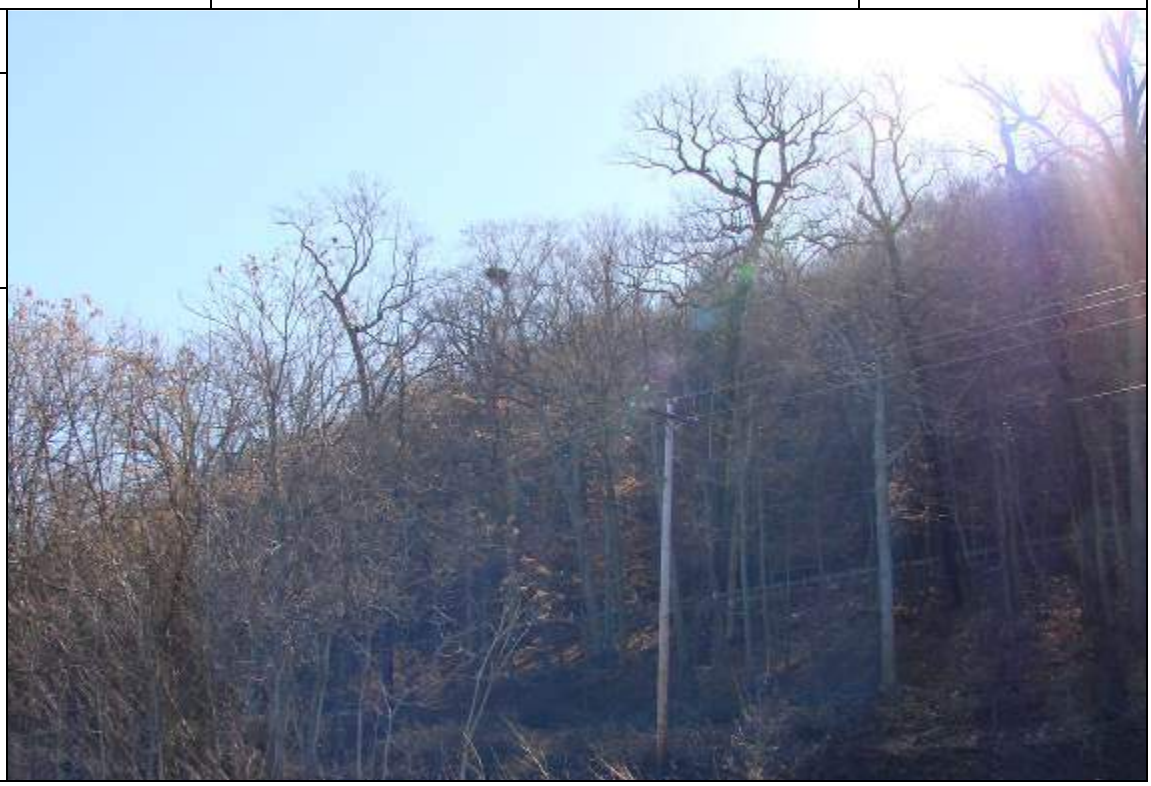

Photo No.	Date:
8	03/08/17

Direction Photo Taken:
Southeast

Description:

Montgomery Dam Nest – Two adult bald eagles were observed in the nest site during survey.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
9	03/08/17

Direction Photo Taken:
West

Description:

Tomlinson Run
Alternate Nest

View from the roadside along WV Route 2.

Photo No.	Date:
10	03/08/17

Direction Photo Taken:
West

Description:

Tomlinson Run
Alternate Nest

The nest was in poor, damaged condition, and had no signs of recent maintenance or use. No bald eagles were present in the nest site or nearby during survey.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
11	03/08/17

Direction Photo Taken:
West

Description:

Red-tailed Hawk Nest (RTHA-2)

Adjacent to Tomlinson Run Embayment – As viewed from Ferndale Road.

Photo No.	Date:
12	03/08/17

Direction Photo Taken:
West

Description:

RTHA-2

Adjacent to Tomlinson Run Embayment – A red-tailed hawk was observed entering the nest during survey.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
13	03/08/17

Direction Photo Taken:
Northeast

Description:

Tomlinson Run Embayment

Photo No.	Date:
14	03/08/17

Direction Photo Taken:
Southwest

Description:

Tomlinson Run Embayment – No bald eagles or nest sites were observed in the embayment area during survey.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Shell Pipeline Company LP	Falcon Ethane Pipeline System	60536988

Photo No.	Date:
15	03/09/17

Direction Photo Taken:
Northwest

Description:

Ohio Potential Alternate Nest
View from roadside of OH Scenic Byway (Route 7).

Photo No.	Date:
16	03/09/17

Direction Photo Taken:
Northwest

Description:

Ohio Potential Alternate Nest

Bald eagles were not observed in the nest site or nearby during survey.

ATTACHMENT C

MONTGOMERY DAM NEST INFORMATION

BALD EAGLE
NEST DATA FORM

GENERAL SURVEY INFORMATION

Survey Date: 3/8/17 Time: 1048

Weather Conditions: 46 degrees F, cloudy with light rain, Wind WSW 13 mph with gusts

Personnel: Sharon Farris, Amanda Bronneck

Method: Land-based, fixed observation point

(e.g. land-based, boat, line of sight, foot-survey)

Location(s): Montgomery Dam Road/Nova Chemical Plant

# of bald eagles observed: 2

Nest(s) Present: Y or N Yes

***NEST INFORMATION**

Assigned nest ID #: Montgomery Dam Nest

Location: 40.651054, -80.359981

Location of observer: Montgomery Dam Road - back entrance to Nova Chemical Plant

Approx. distance of nest from observer: Approximately 300 feet northwest

Condition of forest stand around nest: Forest around nest contains many mature trees but is bisected by roads (Montgomery Dam Road and Route 18).

Nest tree/structure: Tree - beech (*Fagus grandifolia*)

Nest position (canopy/sub-canopy): Sub-canopy

Nest size: Large stick nest

Condition of nest: Good

Active or Inactive? Active

Signs of recent use (presence of adults, young, activity): 2 adult eagles present/active

Photographs #s: See photograph in photolog

NOTES:

Survey period - Approximately 1 hour

One adult observed making several approaches to nest, one adult observed emerging from interior of nest, activities observed included bringing nest materials and defense of nest that occurred when vulture species entered air space above nest

Also viewed potential alternative nest - which was determined to be occupied by a red-tailed hawk (RTHA-1 nest).

Bald Eagle Project Screening Form

Bald eagles are unlikely to be disturbed by routine use of roads, homes or other facilities where such use occurred prior to or during the successful breeding of an eagle pair. This guidance is specific to new or intermittent activities in Pennsylvania, and is based on the **National Bald Eagle Management Guidelines**. The *Guidelines*, along with other eagle information, are available at http://www.fws.gov/northeast/EcologicalServices/eagle.html.

The *Guidelines* will help you determine which specific measures are needed to avoid disturbing breeding and nesting bald eagles, based on the type and scope of your proposed project or activity, and its distance from a bald eagle nest. Before you begin, determine exactly where your proposed project occurs with respect to known bald eagle breeding territories (see **Bald Eagle Nest Sites in Pennsylvania** (http://www.fws.gov/northeast/pafo/bald_eagle.html). Note that this form does not address the potential for a project or activity to disturb foraging or roosting bald eagles, especially when foraging or roosting takes place outside of nesting territories.

PROJECT INFORMATION

State: Pennsylvania **County:** Beaver **PNDI #** 201508270201

Lat/long (decimal degrees)**:** _____ _____ **Size**: _____ acres/miles

Project Name: Shell Falcon Ethane Pipeline System Project

PROJECT CONTACT INFORMATION

Name: _____ **Phone:** _____

Address: _____

_____

Email: _____

PROJECT ACTIVITY CATEGORY(S)

Place a check next to all of the activities that are proposed. Activities are grouped based on the nature and magnitude of impacts to bald eagle nests.

- ☒ **Construction and Development Activities → go to pages 2 and 3**
- ☐ **Maintenance and Restoration Activities → go to pages 4 and 5**
- ☐ **Timber Operation and Forestry Practices → go to page 6**
- ☐ **Use of Helicopters or Fixed-wing Aircraft → go to page 7**
- ☐ **Blasting or Other Loud, Intermittent Noises (including Fireworks) → go to page 8**
- ☐ **Recreational Activities → go to page 9**

Construction and Development Activities

Which construction or development activities will be carried out? (check all that apply)

- ☐ Building construction
- ☒ Construction of roads, trails, canals, power lines, pipelines and other linear utilities
- ☐ Agriculture or aquaculture – new or expanded operations
- ☐ Alteration of shorelines or wetlands
- ☐ Installation of docks or moorings
- ☐ Water impoundment or withdrawal
- ☐ Mining
- ☐ Oil and natural gas drilling and refining
- ☐ Installation or expansion of marinas with a capacity of 6 or more boats

Are any bald eagle nests visible from the project or activity area? Before going on site to determine nest visibility with the naked eye and with 4X binoculars, determine the location of the breeding territory (see map of **Bald Eagle Nest Sites in Pennsylvania**). The breeding territory may include multiple eagle nests.

- ☐ Yes → Stop. Implement Avoidance Measures **(AM) 2 and 5** (see page 3)
- ☒ No → Go to the next question

Which category(s) most closely fits your proposed project or activity? (check all that apply)

- O Building construction, 1 or 2 story, with a project footprint of ½ acre or less
- ● Construction of roads, trails, canals, power lines, or other linear utilities
- O Agriculture or aquaculture – new or expanded operations
- O Alteration of shorelines or wetlands
- O Installation of docks or moorings
- O Water impoundment or withdrawal

→ **Implement AM 3, 4 and 5** (p. 3)

- O Building construction or expansion, 3 or more stories
- O Building construction or expansion, 1 or 2 story, with project footprint more than ½ acre
- O Mining
- O Oil and natural gas drilling and refining
- O Installation or expansion of marinas with a capacity of 6 or more boats

→ **Go to the next question**

Is there a similar activity within 1 mile of the nest?

- ☒ Yes → Stop. Implement **AM 3, 4 and 5** (see page 3)
- ☐ No → Implement **AM 1 and 5** (see page 3)

AVOIDANCE MEASURES (AM) – Based on your responses to the questions posed for Construction and Development Activities, specific measures were recommended to avoid disturbing bald eagles and their young. **Place a check mark next each avoidance measure (AM) that was recommended above and will be implemented.**

☐ AM 1 – A distance **buffer of at least 660 feet** (200 meters) will be maintained between all project activities and the nest (including alternate[1] nests).

☐ AM 2 – A distance **buffer of at least 660 feet** (200 meters) will be maintained between all project activities and the nest (including alternate nests). If a similar activity (i.e., similar in kind and size) is closer than 660 feet and has been tolerated by eagles, 1) the distance buffer will be the same or greater than that of the existing tolerated activity, and 2) between the modified distance buffer and 660 feet, all activities that may disturb bald eagles will be avoided from January 1 to July 31. These activities include, but are not limited to: construction, excavation, use of heavy equipment, use of loud equipment or machinery, vegetation clearing, earth disturbance, planting, and landscaping.

☒ AM 3 – A distance **buffer of at least 330 feet** (100 meters) will be maintained year-round between all project activities and the nest (including alternate nests). If a similar activity (i.e., similar in kind and size) is closer than 330 feet and has been tolerated by eagles, the distance buffer will be the same or greater than that of the existing tolerated activity.

☒ AM 4 – Within **660 feet** of the nest[2], all activities that may disturb bald eagles will be avoided from **January 1 to July 31**. These activities include, but are not limited to: construction, excavation, use of heavy equipment, use of loud equipment or machinery, vegetation clearing, earth disturbance, planting, and landscaping.

☒ AM 5 – Established landscape buffers that screen the activity from the nest will be maintained.

Will the proposed activity include ALL of the recommended measures to avoid disturbance of bald eagles and their young for a project of this type?

☒ YES – All recommended avoidance measures will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print pages 1-3, then sign and date it for your records. This will serve as documentation that you are following the U.S. Fish and Wildlife Service's recommendations for avoiding disturbance of bald eagles.

☐ NO – One or more recommended avoidance measures will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

[1] An alternate nest is a nest that is built or maintained by eagles, but not used for nesting in a given year.
[2] This seasonal restriction applies to activities outside the distance buffer identified in AM 3 (e.g., in the zone from 330 feet to 660 feet from the nest).

Maintenance and Restoration Activities

This category includes outdoor maintenance of existing structures or infrastructure, where the maintenance activity is temporary and obtrusive (e.g., requires use of heavy equipment or loud machinery). It assumes maintenance activities will occur within the previously-disturbed footprint of the structure or infrastructure. If maintenance is proposed outside the previously-disturbed footprint, see **Construction and Development Activities** (pages 2 and 3). This category does not include routine, ongoing activities to which bald eagles have already exhibited a tolerance (e.g., lawn mowing; plowing, planting or harvesting of agricultural fields; etc.).

This category also includes the maintenance and restoration of natural habitats (e.g., wetlands, streams, rivers, non-forested uplands), as human activities associated with habitat restoration or maintenance may disturb eagles if carried out during the breeding season.

Which maintenance or restoration activities will be carried out? (check all that apply)

- ☐ Maintenance of linear utilities (e.g., power lines, pipelines, water and sewer lines)
- ☐ Road, bridge or culvert maintenance
- ☐ Trail, campground or recreational area maintenance
- ☐ Maintenance of oil and gas wells, well pads, and storage tanks
- ☐ Maintenance of dams, levees, berms, canals and other water-control structures
- ☐ Pond, lake or reservoir maintenance (draw downs, dredging)
- ☐ Stream or stream bank maintenance /restoration (e.g., stream bank fencing, stream bank stabilization, livestock crossings, in-stream habitat improvements, channel maintenance, dredging)
- ☐ Wetland maintenance / restoration (e.g., invasive plant control, restoration of hydrology)
- ☐ Upland habitat maintenance / restoration (e.g., planting or cutting of vegetation, invasive plant control, trash cleanup, abandoned mine lands restoration). This does not include activities in forests/woodlands (see **Timber Operation and Forestry Practices**) or in agricultural fields.

The following measures are necessary to avoid disturbing bald eagles and their young. Place a check mark next to each measure that will be implemented.

- ☐ From **January 1 to July 31** (the breeding season), all activities that may disturb bald eagles will be avoided within **660 feet** (200 meters) of the nest. This includes, but is not limited to the following: construction, excavation, use of heavy equipment, use of loud equipment or machinery, vegetation clearing, earth disturbance, planting, landscaping, and habitat restoration activities.
- ☐ Established landscape buffers that screen the activity from the nest will be maintained.
- ☐ If prescribed burning is necessary during the breeding season (January 1 to July 31), burns will only be conducted when adult eagles and young are absent from the nest tree (i.e., at the beginning of, or end of, the breeding season, either before the particular nest is active or after the young have fledged from that nest). Leaves and woody debris will be raked from around the nest tree to prevent crown fire or fire climbing the nest tree.

Will the proposed activity include ALL of the avoidance measures listed above?

☐ YES – All recommended avoidance measures will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print pages 1, 4 and 5, then sign and date it for your records. This will serve as documentation that you are following the U.S. Fish and Wildlife Service's recommendations for avoiding disturbance of bald eagles.

☐ NO – One or more recommended avoidance measures will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

Timber Operation and Forestry Practices

The following measures are necessary to avoid disturbing bald eagles and their young. Place a check mark next to each measure that will be implemented.

☐ No clear-cutting or overstory tree removal will occur within 330 feet (100 meters) of the nest at any time of the year.

☐ From January 1 to July 31 (the breeding season), no timber harvest operations, road construction, chain saw use or yarding operations will occur within 660 feet (200 meters) of the nest. Around alternate nests (including nests that were attended during the current breeding season but not used to raise young), this distance may be decreased to 330 feet, provided the eggs laid in another nest within the territory have hatched.

☐ Log transfer facilities and in-water log storage areas will not be constructed or operated within 330 feet (100 meters) of nests at any time of the year.

☐ Selective thinning and other silviculture management practices designed to conserve or enhance habitat, including prescribed burning close to the nest tree, will only be carried out from August 1 to December 31 (outside the breeding season).

☐ If prescribed burning is necessary during the breeding season (January 1 to July 31), burns will only be conducted when adult eagles and young are absent from the nest tree (i.e., at the beginning of, or end of, the breeding season, either before the particular nest is active or after the young have fledged from that nest). Leaves and woody debris will be raked from around the nest tree to prevent crown fire or fire climbing the nest tree.

Will the proposed timber operation or forestry practice include ALL of the avoidance measures listed above?

☐ YES – All avoidance measures will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print page 1 and this page, then sign and date it for your records. This will serve as documentation that you are following the U.S. Fish and Wildlife Service's recommendations for avoiding disturbance of bald eagles.

☐ NO – One of more avoidance measures will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

Use of a Helicopter or Fixed-wing Aircraft

The following measure is necessary to avoid disturbing bald eagles and their young. Place a check mark next to this measure if it will be implemented.

☐ From January 1 to July 31 (the breeding season), no aircraft will be flown within 1000 feet (305 meters) of bald eagle nests, except where eagles have demonstrated tolerance for such activity.

Will the proposed operation of a helicopter(s) or fixed-wing aircraft include the avoidance measure listed above?

☐ YES – This avoidance measure will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print page 1 and this page, then sign and date it for your records. This will serve as documentation that you are following the U.S. Fish and Wildlife Service's recommendations for avoiding disturbance of bald eagles.

☐ NO – This avoidance measure will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

Blasting and Other Loud, Intermittent Noises (including Fireworks)

The following measure is necessary to avoid disturbing bald eagles and their young. Place a check mark next to this measure if it will be implemented.

☐ From January 1 to July 31 (the breeding season), blasting and other activities that produce extremely loud noises will not occur within 1/2 mile of active nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the breeding area. This measure also applies to the use of fireworks classified by the Federal Department of Transportation as Class B explosives, which includes the larger fireworks that are intended for licensed public display.

Will the proposed activity include the avoidance measure listed above?

☐ YES – This avoidance measure will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print page 1 and this page, then sign and date it for your records. This will serve as documentation that you are following the U.S. Fish and Wildlife Service's recommendations for avoiding disturbance of bald eagles.

☐ NO – This avoidance measure will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

Recreational Activities

Recreational activities will not disturb eagles if conducted during the non-breeding season. The following avoidance measures only pertain to the breeding season (January 1 to July 31).

Non-motorized recreation and human entry (including hiking, camping, fishing, hunting, canoeing)

☐ Stay at least 330 feet (100 meters) from the nest if you walk, bike, canoe, camp, fish, or hunt near an eagle nest during the breeding season and your activity will be visible or can be heard from the nest.

Off-road vehicle use (including snowmobiles)

☐ Stay at least 330 feet (100 meters) from the nest. In open areas, where there is increased visibility and exposure to noise, stay at least 660 feet (200 meters) from the nest.

Motorized watercraft use (including jet skis/personal watercraft)

☐ Do not operate jet skis (personal watercraft) or airboats within 330 feet (100 meters) of the nest.

☐ Avoid concentrations of noisy vessels (e.g. commercial fishing boats and tour boats) within 330 feet (100 meters) of the nest, except where eagles have demonstrated tolerance for such activity.

☐ For all motorized boat traffic within 330 feet (100 meters) of the nest, minimize trips and avoid stopping in the area, particularly where eagles are unaccustomed to boat traffic.

Will the proposed activity(s) include the avoidance measures listed above?

☐ YES – These avoidance measures will be followed.

_____ _____

(signature) (date)

U.S. Fish and Wildlife Service Determination: Disturbance of bald eagles is unlikely to occur. You may print this page for future reference.

☐ NO – One or more avoidance measures will not be followed.

U.S. Fish and Wildlife Service Determination: Your action may disturb bald eagles. If you would like further assistance in determining whether bald eagles may be disturbed, contact the Service's Northeast Regional Bald and Golden Eagle Coordinator at 413-253-8592 or Sarah_Nystrom@fws.gov.

ATTACHMENT D

TOMLINSON RUN ALTERNATE NEST INFORMATION

BALD EAGLE
NEST DATA FORM

GENERAL SURVEY INFORMATION

Survey Date: 3/8/17 and 3/9/17 Time: 1444 and 1000

Weather Conditions: 46 degrees F, cloudy with light rain, Wind WSW 13 mph with gusts (3/8/17) and 50 degrees F, clear, Wind WNW 11-17 mph (3/9/17)

Personnel: Sharon Farris, Amanda Bronneck

Method: Land-based, fixed observation point

(e.g. land-based, boat, line of sight, foot-survey)

Location(s): West Virginia, Roadside State Route 2 (no access to property)

# of bald eagles observed: 0

Nest(s) Present: Y or N Yes

***NEST INFORMATION**

Assigned nest ID #: Tomlinson Run Alternate Nest

Location: On private property, 1,000 feet west of Route 2 and 300 feet east of Ohio River

Location of observer: Roadside on WV State Route 2, approximately 1,000 ft. east of nest

Approx. distance of nest from observer: Approximately 1,000 feet west

Condition of forest stand around nest: Nest is located at edge of forest patch and open field, approximately 300 feet from Ohio River

Nest tree/structure: Tree - sycamore (*Platanus occidentalis*)

Nest position (canopy/sub-canopy): Sub-canopy

Nest size: Large stick nest

Condition of nest: Nest is in poor shape, not recently maintained, parts of it are falling down in tree. Potential alternate nest but no recent signs of use/maintenance.

Active or Inactive? Not occupied; not active

Signs of recent use (presence of adults, young, activity): No signs of recent use

Photographs #s: See photograph in text

NOTES:

Two survey periods - one each day, approximately 20 minutes each

Nest was also spot checked from the road several times when moving to/from other locations

No bald eagle activity at nest site or in vicinity

Additional nest viewed near Tomlinson Run Embayment. A red-tailed hawk was observed entering this nest (RTHA-2 nest).

ATTACHMENT E

OHIO RIVER POTENTIAL ALTERNATE NEST INFORMATION

BALD EAGLE
NEST DATA FORM

GENERAL SURVEY INFORMATION

Survey Date: 3/9/17 Time: 1218

Weather Conditions: 51 degrees F, clear, Winds WNW 11-17 mph

Personnel: Sharon Farris, Amanda Bronneck

Method: Land-based, fixed observation point

(e.g. land-based, boat, line of sight, foot-survey)

Location(s): Viewed from WV (Mountaineer Property and near Cluster Islands) and from OH SR7

# of bald eagles observed: 0

Nest(s) Present: Y or N Yes

***NEST INFORMATION**

Assigned nest ID #: Ohio Potential Alternate

Location: On steep forested slope above OH SR7

Location of observer: OH SR7

Approx. distance of nest from observer: Approximately 300 feet northwest

Condition of forest stand around nest: Nest is located within area of forested slope above OH SR7

Nest tree/structure: Tree - possible quercus spp.

Nest position (canopy/sub-canopy): Sub-canopy

Nest size: Large stick nest (intact nest)

Condition of nest: Viewing of nest condition was difficult due to its location on steep slope above busy roadway.

Active or Inactive? Unoccupied, inactive

Signs of recent use (presence of adults, young, activity): No signs of recent use

Photographs #s: See photograph in text

NOTES:

Nest was first observed from West Virginia side of OH River.

Nest is located on a steep, forested slope above Ohio Route 7.

Bald eagles were not present at the nest site.

Nest may be an alternate or may be some other raptor.

ATTACHMENT F

RESUMES – QUALIFIED SURVEYORS

AECOM

Sharon Farris
Environmental Scientist
Avian Management & Studies

Education
A.A/ Environmental Studies/ Santa Barbara City College / 1998

B.A./ Cultural Anthropology/ University of California at Santa Barbara (Environmental Studies curriculum) 2001

Years of Experience
10

Certification
40-HR HAZWOPER

Specialized Training
2010 – NJDEP Flood Hazard Area Training

2013 – Avian Power Line Interaction Committee Workshop (Spring and Fall)

Summary
Ms. Farris has approximately 10 years of experience working as an Environmental Scientist. Areas of avian-related experience include nesting studies, transmission line interaction studies, avian/wildlife monitoring, bald eagle management, and agency consultation. Studies completed by Ms. Farris include multi-year nesting studies, multi-species raptor surveys, Bald Eagle Management Plans prepared in accordance with the National Bald Eagle Management Guidelines, transmission line avian interaction studies conducted in accordance with Avian Power Line Interaction Committee (APLIC) manuals (*Suggested Practices for Avian Protection on Power Line* and *Mitigating Bird Collisions with Power Lines*) for the development of best management practices. Raptor species Ms. Farris has conducted surveys or habitat assessments for include Bald eagle, Osprey, Northern harrier, Red-shouldered hawk, and Barred owl.

Project Experience
Technical Expert – 2015 Northern Harrier Presence/Absence Survey – Oil & Gas Project, Tioga and Lycoming Counties, Pennsylvania – Technical expert for survey design, habitat assessment/delineation, survey crew training, regulatory contact and reporting.

Survey/Task Manager - 2014 Multi-Species Raptor Surveys for Multiple Transmission Line Rebuild and Upgrade Projects in Salem, Cape May, Burlington, Ocean, and Atlantic Counties, NJ (confidential client) – Field lead for raptor nest studies for six (6) projects comprising approximately 100 miles of rebuild and upgrade of distribution and transmission lines. Focal species were bald eagle (*Haliaeetus leucocephalus*), barred owl (*Strix varia*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), and red-shouldered hawk (*Buteo lineatus*). Avian Protection Plans were developed for each project.

Survey/Task Manager - 2010 Avian Transmission Line Interaction Survey – Muddy Run FERC Relicensing Studies, Southeast Pennsylvania and Northeast Maryland – Field crew lead and study report author for avian transmission line interaction studies along a 4.25 mile power line ROW for the identification of species at-risk for potential electrocution and collision. Included study design, collection of avian abundance & use data, risk assessment for risk to raptor species, and identification of high risk/low risk areas and species.

Survey/Task Manager - 2010 & 2011 Osprey Nesting Surveys – Conowingo FERC Relicensing Studies, Southeast Pennsylvania and Northeast Maryland – Field crew lead and study report author for boat-based and land-based nesting studies on Conowingo Pond and Muddy Run Reservoir including nest survey, species abundance, breeding activity, and nest monitoring. Twelve nests and one alternate nest were identified and monitored during these surveys.

Survey/Task Manager - 2010 & 2011 Black-crowned Night-heron Nesting Surveys – Conowingo FERC Relicensing Studies, Southeast Pennsylvania and Northeast Maryland – Field crew lead and study report author for boat-based and land-based nesting studies on Conowingo Pond. Data collected included habitat assessment, nest survey, species abundance, and breeding activity.

Survey/Task Manager - 2011 & 2012 Bald Eagle Management Plan (BEMP) – FERC Relicensing – Southeast Pennsylvania (PA) and Northeast Maryland (MD) – Preparation of BEMP for protection and enhancement of twelve bald eagle nests and seventeen communal roosts within an approximately 16,000 acre hydroelectric project area.

Surveyor/Monitor – 2007 to Present - Bird and Wildlife Monitoring, RCRA Consent Order site, SE PA – Eight years of bird, wildlife, and deterrence measure monitoring in three areas within a large reclaimed industrial area. Abundance and use data collected and reported to regulatory agencies.

Chronology
2007 – Present/AECOM, Environmental Scientist
2004 – 2006 Science Applications International Corporation (SAIC), Environmental Planner
2001 - University of California at Santa Barbara (UCSB), High Altitude Archaeology Lab (Anthropology Department), Research Assistant
2000 – Port of Oakland, Environmental Planning Department, Junior Planner/Intern

AECOM

Amanda Bronneck

Natural Resources Lead – Harrisburg, Pennsylvania Senior Biologist

Education
BA/ Biology / Johns Hopkins University / 1999

Years of Experience
9

Certification
PA Professional Instructional I Certificate – Secondary Education

Specialized Training
2012 - PSAT MS4 Training

2012 – PADEP Erosion & Sediment Pollution Control Manual Training

2013 – PAPSS Hydric Soils Indicators Field Training

2015 – Safeland Training

2015 – Federal Energy Regulatory Commission Environmental Review and Compliance Training

Summary
Ms. Bronneck's experience includes completing numerous threatened and endangered species surveys and habitat assessments, wetland delineation efforts, and stream and wetland restoration and mitigation projects.

In her time as an environmental consultant, Ms. Bronneck has also been routinely involved with the identification and delineation of wetlands, including the identification of vegetative communities, soil characteristics, and hydrologic indicators as outlined in the Regional Supplement Manual to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, and Northeast and North Central Region.

Ms. Bronneck's experience also includes the design, restoration, and enhancement of streams and wetlands. She has experience with the restoration of aquatic resources by working with clients through impact mitigation requirements, public funding sources, and private funding sources. Her stream restoration experience is based upon the principles, methodologies, and techniques of Applied River Morphology (Fluvial Geomorphology).

Ms. Bronneck has been involved with the studies and evaluations of aquatic ecosystems including many watershed assessments/stream data collection efforts as well as wetland identification and delineation projects, and wetland monitoring. She has conducted stream restoration projects involving data collection and stream feature surveying, natural channel design, construction monitoring, post-construction inspection, riparian buffer enhancement, and the implementation of Erosion and Sediment Pollution Control Best Management Practices.

Ms. Bronneck has experience writing wildlife survey reports, wetland identification and delineation reports, Environmental Assessment forms, Joint Permit applications, General Permits applications, Erosion and Sedimentation Pollution Control applications, and is familiar with the 404/105 process. In addition, she has excellent working relationships with various local, state, and federal agencies.

Project Experience
Senior Biologist, Threatened and Endangered Species Surveys, HEP – Tioga CPF #2 Discharge Pipeline Route- AECOM. - Ms. Bronneck served as the senior field lead for a Northern Harrier (*Circus cyaneus*) Presence/Absence Survey for the Tioga CPF #2 Discharge Pipeline project. Organized and oversaw a large field effort that required numerous staff members over the course of an eight week period for a proposed 7.2-mile natural gas pipeline project. Additionally, conducted pre-survey field reconnaissance, prepared the Survey Plan and Survey Report for the project.

Northern Harrier and Short-eared Owl Habitat Survey, Shell Pipeline Company LP - Allegheny and Washington Counties, Pennsylvania
Identified potential northern harrier and short-eared owl (*Asio flammeus*) habitat along approximately four miles of a proposed ninety-mile pipeline right-of-way. Developed a nest presence/absence survey plan.

Senior Biologist, Threatened and Endangered Species Surveys, Central AGC - Brant to Sienko Pipeline Route- AECOM. - Ms. Bronneck served as a senior biologist and performed bald eagle (*Haliaeetus leucocephalus*) nesting surveys for the Brant to Sienko Pipeline project including a desktop habitat survey and field survey.

Senior Biologist, Threatened and Endangered Species Surveys, MD DNR – Wildlife and Heritage Services, Phase II Bog Turtle survey – URS Corporation. - Ms. Bronneck served as a senior biologist for bog turtle (*Glyptemys muhlenbergii*) survey and population monitoring performed for MD DNR and USFWS on a known bog turtle site.

Environmental Biologist, Potential Threatened and Endangered Species Habitat Assessment associated with various stream restoration projects, ARRC. Worked closely with the USFWS to assess potential bog turtle and red belly turtle (*Pseudemys rubriventris*) habitat located on stream

restoration project sites to avoid and minimize potential impact.

Environmental Biologist, Threatened and Endangered Species Surveys, PennDot - CSVT, Skelly and Loy. Ms. Bronneck assisted with a Presence/Absence Survey for the rough green snake (*Opheodrys aestivus*) and habitat assessment for the Eastern spadefoot toad (*Scaphiopus holbrookii*) and associated reporting.

Field and Office Team Coordination, Field Data Management, Resource Report Management, and Aquatic Resource Impact Assessment, Confidential Client, URS/AECOM. Coordinated post-construction wetland delineation and stream assessment field work of approximately 500 natural gas well pad and impoundment locations. Managed project staffing, data, and resource reporting. Assessed construction activities for compliance with the federal Clean Water Act and the Pennsylvania Clean Streams Law and Dam Safety and Encroachment Act. Evaluated potential impacts to aquatic resource utilizing desktop tools and on-site findings and prepared/managed impact assessments and reporting.

Environmental Biologist/Project Manager/Construction Management, Beaverkill Stream Club, New York: Fish Habitat Improvement Project, ARRC. Responsible for the design, permitting, and construction oversight on approximately 10 miles of Fish Habitat Enhancement and Invasive Species Removal on the Beaverkill River. Worked closely with clients including The Beaverkill Stream Club, various private landowners, and The Beaverkill Valley Inn throughout duration of project. Assisted with all pre-construction surveys.

Environmental Biologist/Project Manager, North Muddy Fish and Game Association, Pennsylvania: Fish Habitat and Stream Restoration Project, ARRC. Responsible for the design and permitting of a stream restoration project consisting of over 5,300 linear feet on the North Branch Muddy Creek. Worked closely with Association and with local, state, and federal agencies to ascertain permit approvals. Responsible for preliminary Threatened and Endangered Species clearances with DCNR and USFWS.

Environmental Biologist, Flight 93 National Memorial, Pennsylvania: Wetland Construction and Native Species Planting and Survivability Assessment, ARRC. Assisted with planting of native seed mixes, wetland plugs, and approximately 3,000 bareroot shrubs in and around over 2 acres of constructed wetlands. Conducted wetland and planting survivability assessment and reporting to National Park Service and the Army Corps of Engineers.

Environmental Biologist/Project Manager, York Township, Pennsylvania: Mill Creek Preserve Stream Restoration Wetland Mitigation Project, ARRC. Assisted with stream restoration design and responsible for permitting of stream restoration project consisting of approximately 1,500 linear feet on Mill Creek. Worked closely with applicant and with local, state, and federal agencies to ascertain permit approvals. Assisted with pre-construction stakeout.

Environmental Biologist/Project Manager – Wetland and Stream Violation and Subsequent Mitigation Projects, Pennsylvania, ARRC. Coordinated with state agency throughout the duration and of various wetland and stream violations by individual landowners. Assisted with mitigation design and project implementation. Projects included wetland design and construction, stream design and restoration, water quality basin design and construction, and native species plantings and establishment.

Environmental Biologist/Project Manager, Trout Unlimited, North Muddy Chapter, Pennsylvania: Pine Run Stream Restoration Project, ARRC. Responsible for the project coordination and permitting of stream restoration project consisting of approximately 1,700 linear feet on Pine Run. Assisted with design, construction stakeout, and pre-construction survey. Worked closely with local, state, and federal agencies.

Environmental Biologist – NRCS CREP Projects, Pennsylvania, ARRC. Assisted with management, design, and implantation of various CREP projects. Worked closely with NRCS and landowners throughout projects.

Environmental Biologist/Project Manager – Rambo Run Club, Pennsylvania: Rambo Run Fish Habitat Enhancement and Stream Bank Stabilization Project, ARRC. Responsible for management and permitting of stream enhancement project of over 1,200 linear feet on Rambo Run. Assisted with project design and worked closely with stream club and agencies.

Environmental Biologist – Cecil County Landfill, Maryland Regenerative Stormwater Conveyance Channel Construction, ARRC. Assisted with project implementation/construction of a Regenerative Stormwater Conveyance Channel within Cecil County Landfill. Project was designed to reduce/eliminate turbidity within stormwater flows exiting landfill. Assisted with pre-construction stakeout and mid-construction surveys.

Environmental Biologist/Project Manager – Codorus Creek Watershed Association, Pennsylvania: South Branch Codorus Creek

Stream Restoration Project Phase IV, ARRC.
Responsible for the management and permitting of two sites on the South Branch Codorus Creek. The two sites comprised a combined 3,600 linear feet total of stream restoration. Assisted with re-design and pre-construction stakeout on both sites. Worked closely with applicant and local, state, and federal agencies. Responsible for ascertaining clearance for archeological resources on both sites.

Chronology

2000-2002: Skelly and Loy, Inc.

2002-2003: Aquatic Resource Restoration Company (ARRC)

2011-2013: Aquatic Resource Restoration Company (ARRC)

Nov 2013-Present: URS Corporation/AECOM