



Appendix B

Environmental Information



Environmental Resource Mapper

Base Map: Topographical Using this map

Search

Tools

Layers and Legend

☐ All Layers

☐ ★ Unique Geological Features

☐ Waterbody Classifications for Rivers/Streams

☐ Waterbody Classifications for Lakes

☐ State Regulated Freshwater Wetlands (Outside of the Adirondack Park)

☐ State Regulated Wetland Checkzone

☒ Significant Natural Communities

☐ Natural Communities Near This Location

☒ Rare Plants or Animals

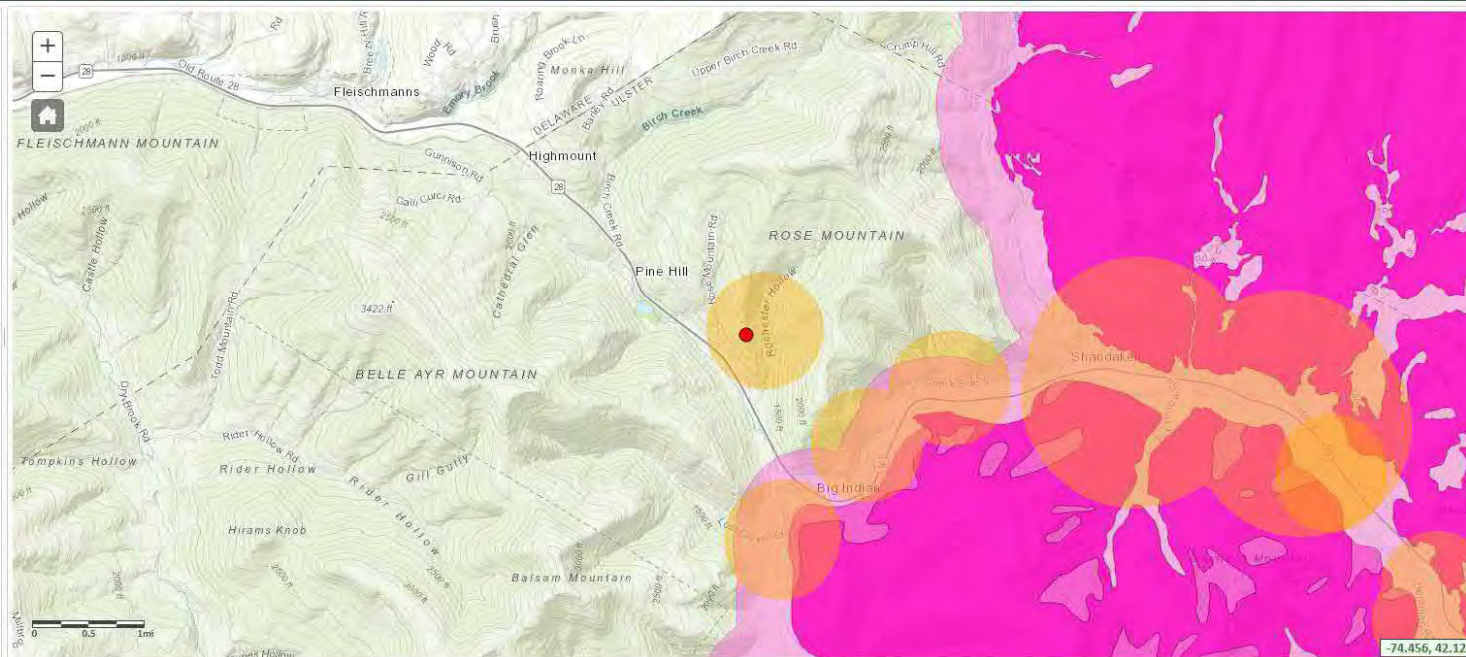
Other Wetland Layers

Reference Layers

Tell Me More...

Need A Permit?

Contacts



IPaC resource list

LOGIN.GOV SIGN IN MIGRATION

In mid-to-late December 2020, IPaC will change its sign-in process to use Login.gov. At that time, you will need an account with Login.gov to sign in to IPaC.

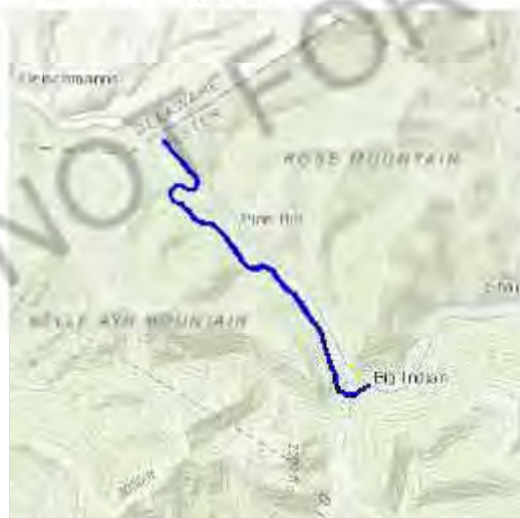
ECOS applications other than IPaC have already switched to Login.gov. Until IPaC moves to Login.gov in December, you will need to sign in to both platforms separately.

activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Ulster County, New York



Local office

New York Ecological Services Field Office

☎ (607) 753-9334

📠 (607) 753-9699

3817 Luker Road
Cortland, NY 13045-9385

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department

of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization

measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Sep 1 to Aug 31

Black-capped Chickadee *Poecile atricapillus praticus*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Apr 10 to Jul 31

Canada Warbler *Cardellina canadensis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Aug 10

Eastern Whip-poor-will *Antrostomus vociferus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Aug 20

Long-eared Owl *asio otus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3631>

Breeds Mar 1 to Jul 15

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-bellied Sapsucker *sphyrapicus varius*

Breeds May 10 to Jul 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/8792>

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Yellow-bellied
Sapsucker
BCC - BCR
(This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes

available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1E](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1A](#)

RIVERINE

[R2UBH](#)

[R3UBH](#)

[R4SBA](#)

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information

depicted on the map and the actual conditions on site.

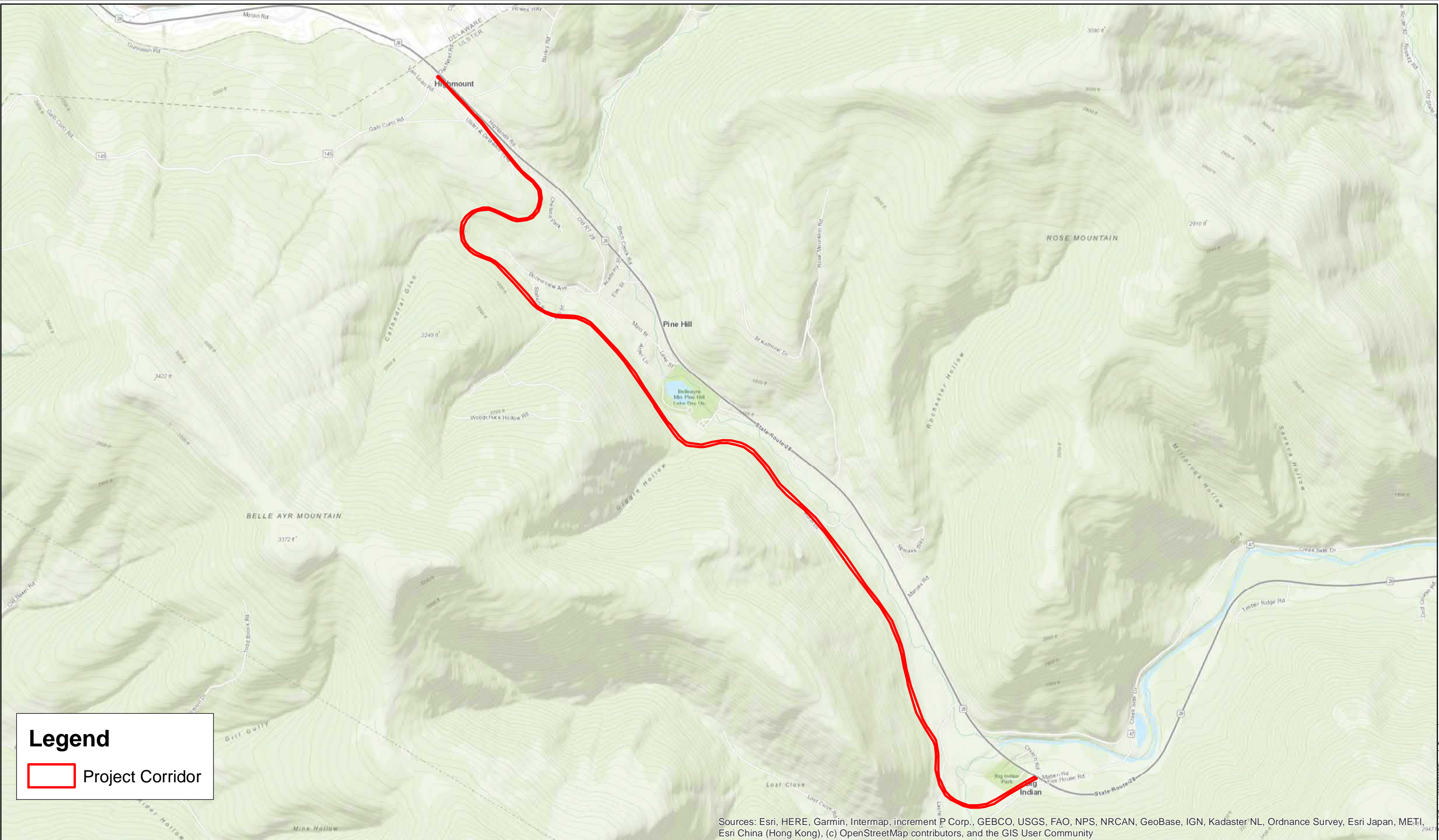
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions


Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



Legend

Project Corridor


1 inch = 2,000 feet

Shandaken
U & D Corridor Revitalization Study
Topographic Mapping
Ulster County

10/8/2020

New York

Figure
1
Project No.
369.008



Legend

— Ulster County Roads

— Project Corridor



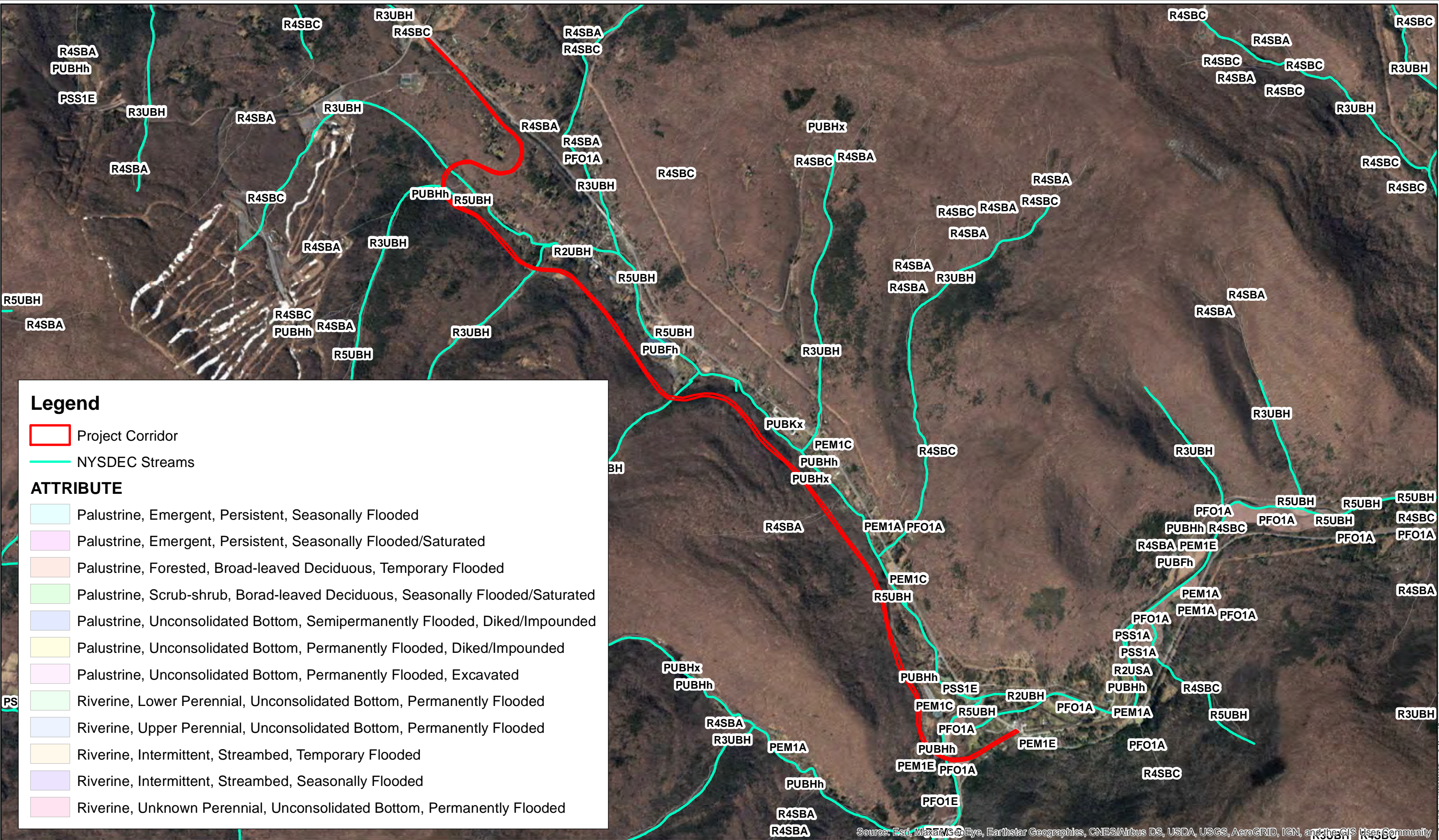
1 inch = 2,000 feet

Shandaken
U & D Corridor Revitalization Study
Aerial Imagery

Ulster County 10/8/2020 New York

Figure
2

Project
No.
369.008



Legend

- Project Corridor
- NYSDEC Streams

ATTRIBUTE

- Palustrine, Emergent, Persistent, Seasonally Flooded
- Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated
- Palustrine, Forested, Broad-leaved Deciduous, Temporary Flooded
- Palustrine, Scrub-shrub, Broad-leaved Deciduous, Seasonally Flooded/Saturated
- Palustrine, Unconsolidated Bottom, Semipermanently Flooded, Diked/Impounded
- Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded
- Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated
- Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded
- Riverine, Upper Perennial, Unconsolidated Bottom, Permanently Flooded
- Riverine, Intermittent, Streambed, Temporary Flooded
- Riverine, Intermittent, Streambed, Seasonally Flooded
- Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded



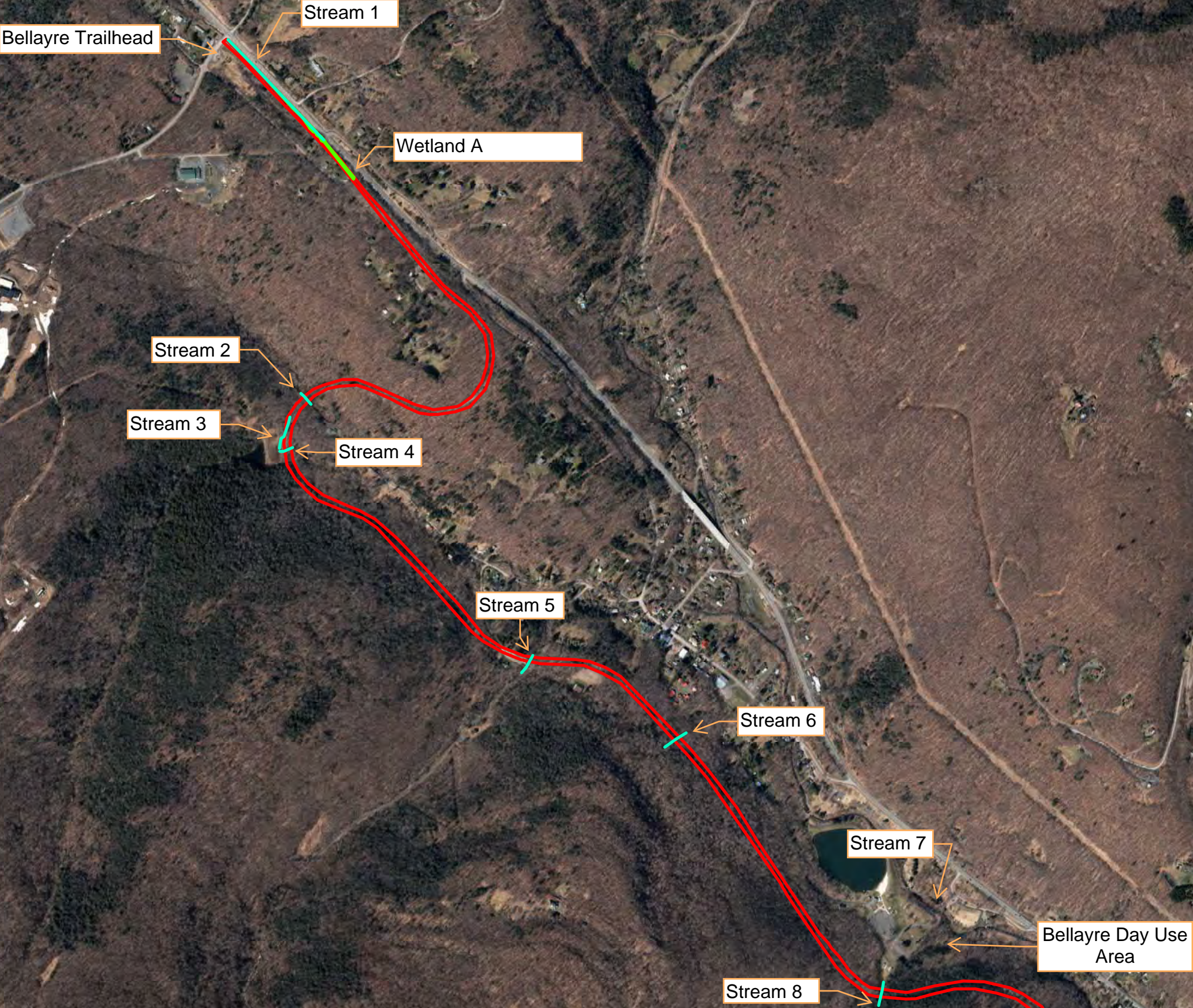
1 inch = 2,000 feet

Source: Esri, Maxar/GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Shandaken
U & D Corridor Revitalization Study
Aerial Imagery
Ulster County 12/9/2020 New York

Figure
2
Project
No.
369.008

NOTE: Shown for reference locations. See Plans for detailed view.



Legend

- Stream
- Wetland
- Project Corridor



1 inch = 1,000 feet

Shandaken
U & D Corridor Revitalization Study
Delineated Resources
Ulster County 12/9/2020 New York

Figure
4a
Project
No.
369.008



Legend

- Stream
- Wetland
- Project Corridor

1 inch = 1,000 feet

Shandaken
U & D Corridor Revitalization Study
Delineated Resources
Ulster County 12/9/2020 New York

Figure
4b
Project
No.
369.008

Environmental Photo Log



Photo 1. Big Indian Park, potential trail connection site.



Photo 2. Esopus Creek (Stream 11) at Big Indian Park.

Environmental Photo Log



Photo 3. Existing trailhead leading to old railroad corridor.



Photo 4. Wooded area near Big Indian.

Environmental Photo Log



Photo 5. Tire debris from private landowner near Big Indian.



Photo 6. Existing abandoned rail.

Environmental Photo Log



Photo 7. Steel pipe culvert under rail – no evidence of hydrology/stream, inlets or outlets identified.



Photo 8. Old cattle crossing/access road. Water is pooled 20 feet north of structure in depression – no stream features or hydrologic connections observed.

Environmental Photo Log



Photo 9. Esopus Creek bridge crossing; structure to be replaced.



Photo 10. Esopus Creek crossing.

Environmental Photo Log



Photo 11. Remains of former railroad bridge over Espous Creek.



Photo 12. Covered bridge accessing Bellayre Day Use Area over Stream 7.

Environmental Photo Log



Photo 13. Stream 7 seen from covered bridge.



Photo 14. Trailhead to various Day Use Area trails – potential tie in for project.

Environmental Photo Log



Photo 15. Railroad bridge crossing Giggle Hollow Brook (Stream 8).



Photo 16. Stream 8.

Environmental Photo Log



Photo 17. Typical forested section through corridor.



Photo 18. Typical forested section surrounding corridor.

Environmental Photo Log



Photo 19. Stream 9 – leaf clogged culvert inhibiting flow.



Photo 20. Stream 10 culvert inlet and tire debris.

Environmental Photo Log



Photo 21. Trail terminus at Bellayre.



Photo 22. Trail terminus – Stream 1 located at far left of photo.

Environmental Photo Log



Photo 23. Stream 1 and Wetland A.



Photo 24. Stream 1 and Wetland A.

Environmental Photo Log



Photo 25. Wetland A, looking north.



Photo 26. Wetland A, looking east.

Environmental Photo Log



Photo 27. Stream 2, looking southeast from top of culvert crossing.



Photo 28. Stream 3 – source from hillside to the right of photo. Flows south into Stream 4.

Environmental Photo Log



Photo 29. Stream 3 partially undermining tracks to right.



Photo 30. Stream 3 -flows down hill at left into Stream 4.

Environmental Photo Log



Photo 31. Stream 4 from top of railroad embankment – note double culvert enters separate culvert under railroad.



Photo 32. Stream 4 outletting to north.

Environmental Photo Log



Photo 33. Remains of old mill along tracks to be preserved.



Photo 34. Stream 5.

Environmental Photo Log



Photo 35. Railroad bridge over Stream 5 (to left) and Mill Street.



Photo 36. Stream 6 looking north.

Environmental Photo Log



Photo 37. Stream 6 looking north from culvert outlet.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

November 20, 2020

Corinne Steinmuller
Barton and Loguidice, D.P.C.
10 Airline Drive
Albany, NY 12205

Re: U&D Revitalization Feasibility Study
County: Ulster Town/City: Shandaken

Dear Corinne Steinmuller:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities directly along the project corridor.

In Esopus Creek, about 1/4 mile south of where the project corridor crosses Esopus Creek, is a documented location of **Appalachian Tiger Beetle** (*Cicindela ancocisconensis*). While not listed by NYS, this beetle is rare in New York and of conservation concern. We recommend avoiding impacts, including erosion and run-off, to Esopus Creek and its riparian areas.

For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

Sincerely,



Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

1127



Department of
Environmental
Conservation

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: U&D Revitalization Project - Shandaken City/County: Ulster Sampling Date: 10/6/20
 Applicant/Owner: Ulster County State: NY Sampling Point: A
 Investigator(s): Corinne Steinmuller Section, Township, Range: Shandaken
 Landform (hillside, terrace, etc.): Low point b/w berm and roadway Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 42° 8'42.88"N Long: 74°29'31.38"W Datum: NAD 83
 Soil Map Unit Name: Wellsboro and Wurtsboro soils complex NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
Hydric Soil Present?	Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present?	Yes <u>X</u> No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.) Wetland A a is located along Stream 11, which is an unmapped perennial stream feature that outlets to a tributary of Emory Brook (NYSDEC Waters Index No. D-70-80- P 368g). The wetland has expanded over the existing rail line in several locations.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> Surface Water (A1) <u>X</u> Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u>X</u> Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> Geomorphic Position (D2) <u>X</u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>2</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland hydrology was present at the data plot including high water table (A2) and saturation (A3). Additionally, water stained leaves (B9) were present. Standing water was observed outside of the dataplot to a depth of 3 inches.		

Sampling Point: A

Tree Stratum		Plot size: 30	Absolute % Cover	Dominant Species?	Indicator Status
1.					
2.					
3.					
4.					
5.					
6.					
7.					
				=Total Cover	
Sapling/Shrub Stratum		Plot size: 15			
1.					
2.					
3.					
4.					
5.					
6.					
7.					
				=Total Cover	
Herb Stratum		Plot size: 5			
1.	<i>Lythrum salicaria</i>		60	Yes	OBL
2.	<i>Bidens frondosa</i>		15	No	FACW
3.	<i>Epilobium coloratum</i>		15	No	OBL
4.	<i>Symphotrichum puniceum</i>		5	No	OBL
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
			95	=Total Cover	
Woody Vine Stratum		Plot size: 30			
1.					
2.					
3.					
4.					
				=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		110 (B)
Prevalence Index = B/A =		1.16	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

The wetland was dominated by the invasive purple loosestrife. Other species noted in the data plot included beggar's tick, purple-leaved willowherb, and purple stemmed aster.

SOIL

Sampling Point	A
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[illegible]

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map reproducers should consult for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **footways** have been determined, users are encouraged to consult the Flood Profiles and Footway Data and/or Summary of Elevation Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 12' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Elevation Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Elevation Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **footways** were computed at cross sections and interpolated between cross sections. The footways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Footway widths and other pertinent footway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The horizontal datum was NAD 83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NDA4, NNGS12
National Geodetic Survey
SSM-C-3, #6022
1315 San-Vic Highway
Silver Spring, Maryland 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from digital topography provided by the New York State Office of Cyber Security & Cyber Infrastructure from photography dated April 2009.

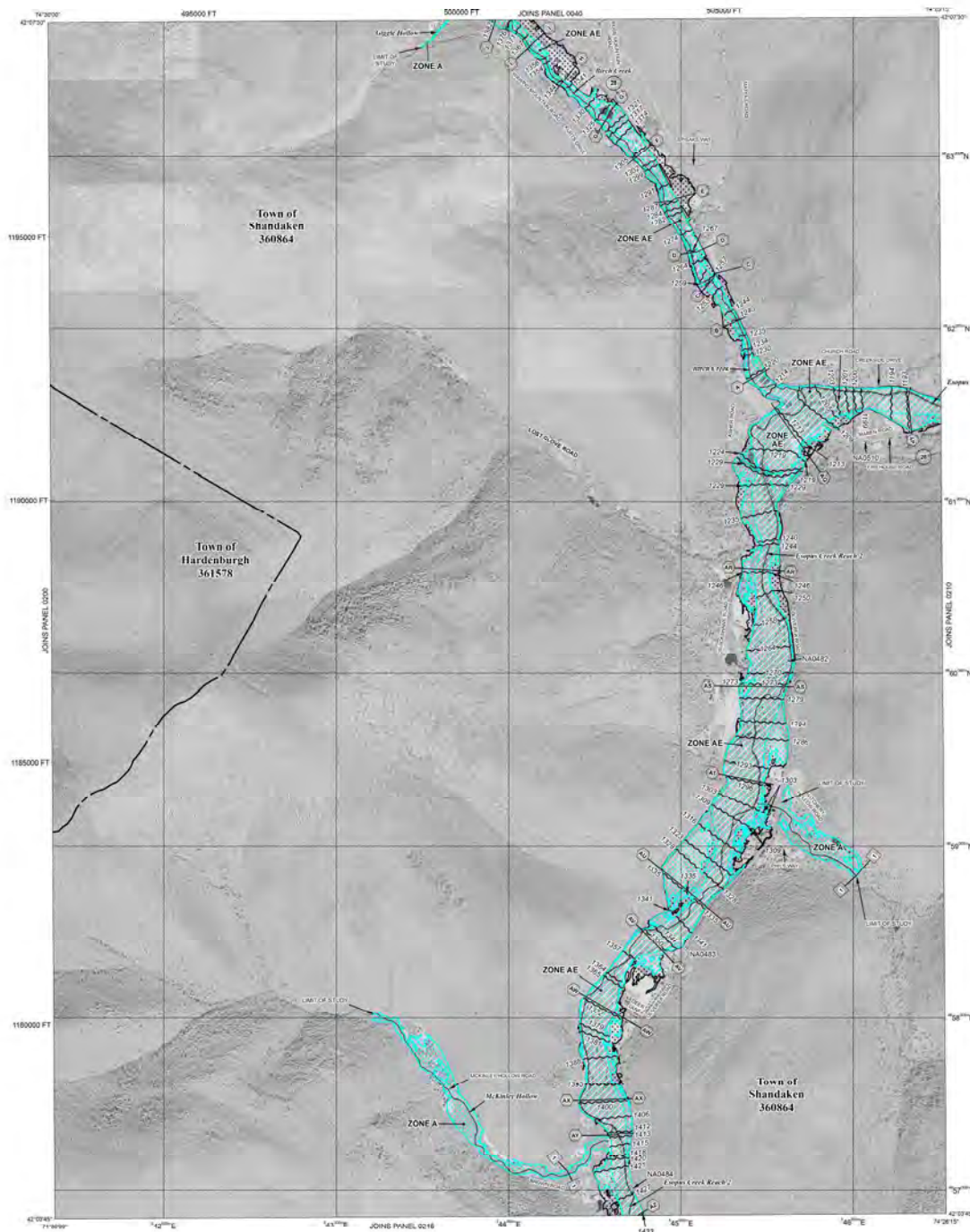
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The footprints and footways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Footway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://map.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information exchange (FIRM) at 1-877-FEMA-MAP (1-877-326-2637) or visit the FEMA website at <http://www.fema.gov/national-flood-insurance-program>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INSURANCE BY THE NATIONAL FLOOD INSURANCE PROGRAM

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, AV, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevation determined.
- ZONE AE** Base Flood Elevation determined.
- ZONE AH** Flood depths of 1 to 2 feet (usually areas of ponds); Base Flood Elevation determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually short flow on rippling marsh); average depths determined. For areas of about 100 feet, velocities also determined.
- ZONE AV** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AV indicates that the former flood control system is being retained to provide protection from the 1% annual chance flood.
- ZONE VE** Area to be protected from 1% annual chance flood by a Federal Flood protection system under construction; no Base Flood Elevation determined.
- ZONE V** Coastal Flood zone with velocity hazard (wave action); no Base Flood Elevation determined.
- ZONE VE** Coastal Flood zone with velocity hazard (wave action); Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 0.2% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; areas of 0.2% annual chance flood.

OTHER AREAS

ZONE D Areas determined to be outside the 0.2% annual chance floodplain.

ZONE B Areas in which flood hazards are unassessable, but possible.

COASTAL BARRIER RESOURCE SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevation and/or velocity hazard

Base Flood Elevation and/or velocity hazard in feet

Base Flood Elevation values within urban areas; elevation in feet

Referenced to the North American Vertical Datum of 1988

Cross section line

Unlimited detail cross section line

Truncated line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83). Values are in decimal degrees.

1000-meter Universal Transverse Mercator zone 18N

5000-foot grid values; New York State Plane coordinate system, East zone (NAD 83/2011), Transverse Mercator projection

Search mark (see explanation in Notes to Users section of this FIS report)

Scale 1:6

MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

September 25, 2009

EFFECTIVE DATES OF REVISIONS TO THIS PANEL

November 15, 2018: 10-digit map format, 10-digit Base Flood Elevation, and 10-digit General Flood Hazard Areas

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or visit the National Flood Insurance Program at 1-800-638-6622.

MAP SCALE 1" = 1000'

900 0 1000 2000 FEET

300 0 300 600 METERS

NFIP

PANEL 0205F

FIRM

FLOOD INSURANCE RATE MAP

FOR ULSTER COUNTY, NEW YORK
(ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
HARDENBURGH, TOWN OF	361578
SHANDAKEN, TOWN OF	360864

PANEL 205 OF 910

MAP SUFFIX: F
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

Notes to Users: The Map Number shown below should be used when citing map panels. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
36111C0205F

MAP REVISED
NOVEMBER 18, 2016

Federal Emergency Management Agency