



Exelon Sustainability Report (ESR) 2023

Nature and Stewardship: Utility Biodiversity Sensitivity Mapping Summary

July 2024

This summary is designed to provide supplemental information to support the “Nature and Stewardship” section of the ESR 2023. Please refer to pages 113-137 of the ESR to review Exelon’s primary discussion.

Access the full ESR at <https://www.exeloncorp.com/sustainability/interactive-sustainability-report>

Executive Summary

In 2023, Exelon took a fresh look at our opportunities as a group of electric and natural gas transmission and distribution utilities with significant land holdings that no longer have an associated power generation business.

GIS Mapping Analysis Objective

To help our Stewardship Strategy team advance our efforts across our utility service areas, we utilized geo-spatial mapping tools in 2023 to analyze each of our service territories, using publicly-available information. The tools generated screening views of our utility areas based upon a set of six weighted criteria related to biodiversity and nature potential.

These criteria include:

- **National Land Cover:** Characterization of land cover into 21 classes of natural and modified environments across the U.S. (weighted at 50 percent)
- **Mean Species Abundance:** An indicator of local biodiversity intactness (weighted at 10 percent)
- **Baseline Water Stress:** A measure of the ratio of total water withdrawals to available renewable surface and groundwater supplies (weighted at 10 percent)
- **Biodiversity Hotspots:** Representations of 36 regions where success in conserving species can have an enormous impact on securing global biodiversity (weighted at 10 percent)
- **Protected Areas:** Official national inventory of U.S. terrestrial and marine protected areas (weighted at 10 percent)
- **National Hydrology Dataset:** Water drainage network of the United States (weighted at 10 percent)

Summary of Results

- We identified that most of our utility service areas are characterized by low to medium biodiversity sensitivity due primarily to large-scale urban and suburban development as well as agriculture activities that dominate the regions. However, some areas of high biodiversity sensitivity were identified
- For our mid-Atlantic utilities, these areas were typically characterized by combinations of water stress and the presence of coastal and inland wetlands, protected areas, biodiversity hotspots and intact forest cover
- The Atlantic City Electric and Delmarva Power service territories had the highest shares of biodiversity sensitivity areas due to the more significant presence of wetlands and forested areas within their service areas

GIS Mapping Methodology

- Biodiversity sensitivity rankings were developed based upon five relative sensitivity categories, ranging from very low to very high value
- The analysis was run with a 10-meter resolution, meaning each pixel represents a 10-meter by 10-meter plot on the surface
- The spatial boundaries of each dataset are then used to assign values to each pixel within the Area of Interest (AOI) – in this case, the utility service area
 - All datasets are then overlaid and the average for each pixel value is then calculated using a weighted sum, where land cover received a weight of 50% the remaining 5 criteria 10% each
- Pixels with higher resulting values have a higher sensitivity
- The results of the model are relative to itself. The analysis was run as a single model for all service areas, as opposed to separate models for each area, meaning that sensitivity values are relative to the entire area of interest. The model helps identify areas that trigger biodiversity criteria and to show where landscape sensitivities occur

National Land Cover Database Land Cover Class	Sensitivity Ranking	Model Value
Barren Land	Low	0.25
Cultivated Crops	Low	0.25
Deciduous Forest	High	0.75
Developed, High Intensity	Very Low	0
Developed, Low Intensity	Very Low	0
Developed, Medium Intensity	Very Low	0
Developed, Open Space	Very Low	0
Emergent Herbaceous Wetlands	Very High	1
Evergreen Forest	High	0.75
Hay/Pasture	Low	0.25
Herbaceous	Medium	0.5
Mixed Forest	High	0.75
Open Water	Medium	0.25
Shrub/Scrub	Medium	0.5
Woody Wetlands	Very High	1

Summary results and maps for each Exelon utility are presented on the following pages

Sensitivity Ranking



Results - BGE

Land Cover Summary

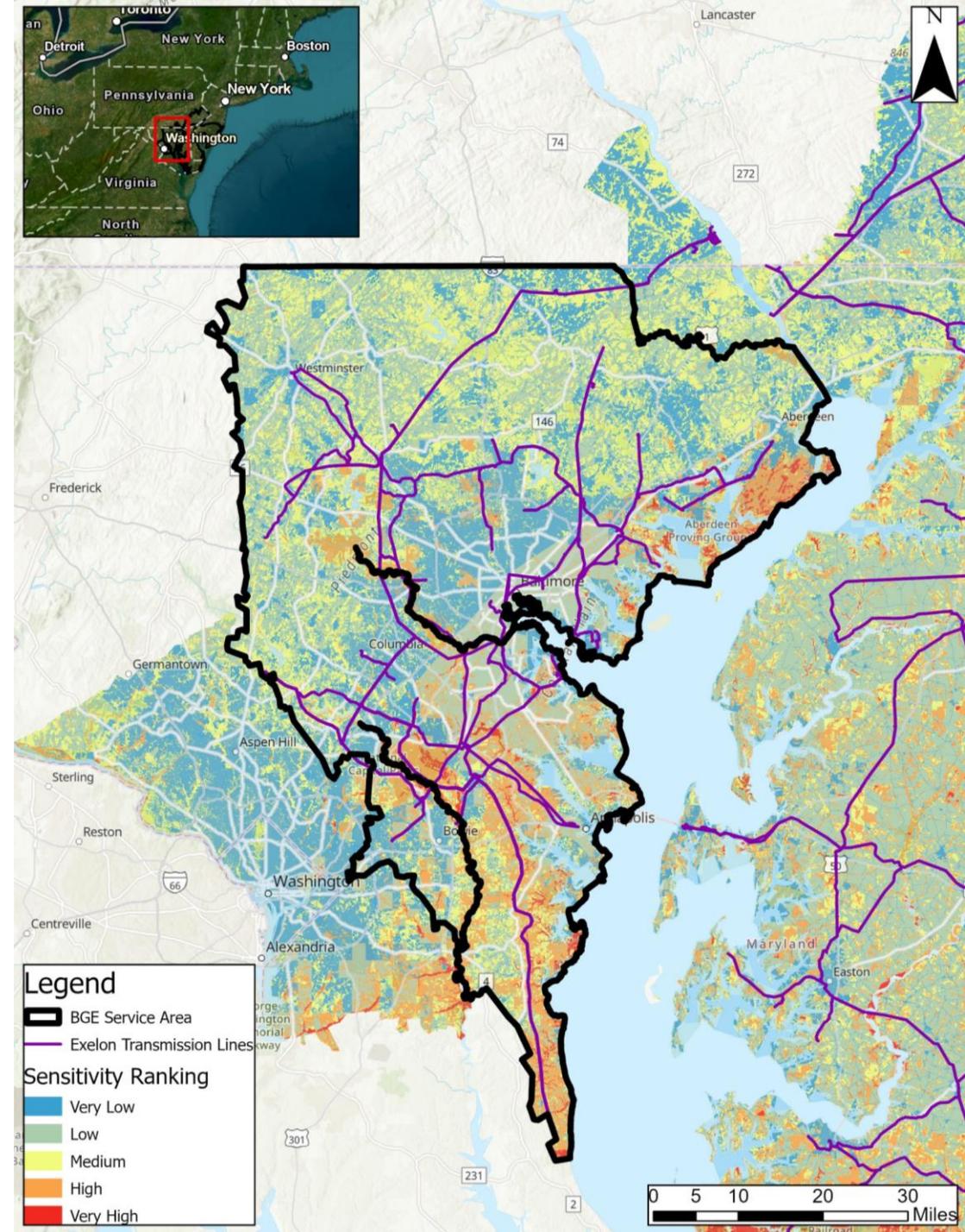
Primarily developed space and agricultural (cropland and pasture) with forested areas scattered throughout

Criteria Contributing to High Sensitivity Areas

- Although biodiversity criteria is triggered, as explained below, this region has lower sensitivity relative to other areas due to modified areas covering most of the region
- Forested areas, wetlands, and a biodiversity hot spot (North American Coastal Plain), are in the southern and southeastern borders
- The North American Coastal Plain biodiversity hot spot that traverses the area contains 1,816 endemic species and has experienced 85.5% habitat loss. The main threats to this hot spot have been deforestation due to infrastructure development and the suppression of natural fires. This hot spot is also home to many critically endangered species
- Some protected areas are found in the surrounding surface waters of the region
- Southeastern quarter of the region has extremely high baseline water stress
- Areas of high mean species abundance are scattered throughout the region

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	29%	30%	26%	13%	2%
Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	27%	35%	22%	13%	3%

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Results - ComEd

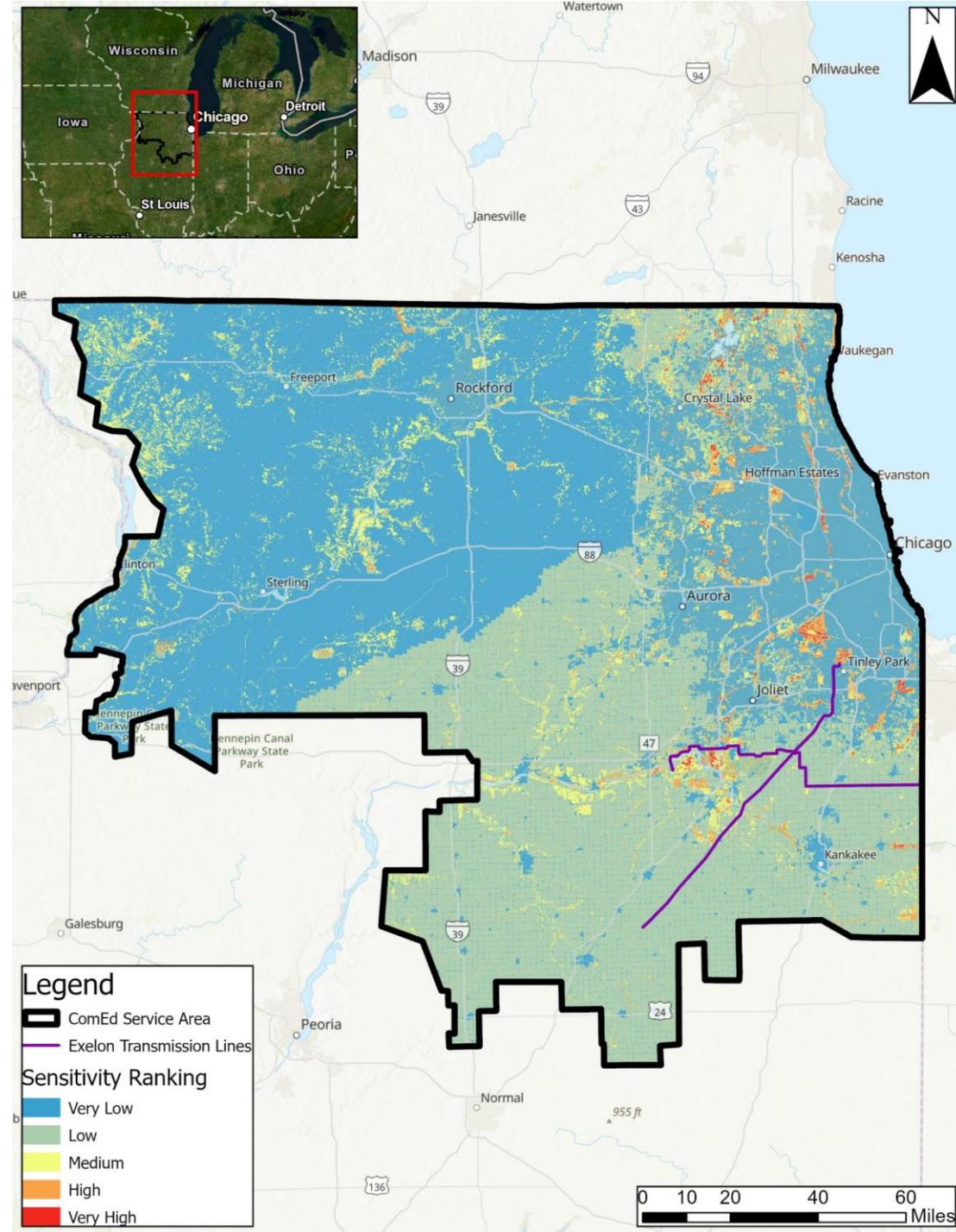
Land Cover Summary

Dominated by agricultural (cropland and pasture) and developed areas with pockets of forested areas that stem predominantly from surface water features that intersect the extent of the region

Criteria Contributing to High Sensitivity Areas

- Rivers intersect the region with riparian vegetation, forested areas, and wetlands extending from them
- The northwestern corner has a large amount of natural forest that follows hydrological features but is intersected by agriculture
- Protected areas are most densely located in patches of natural area found within the large developed area to the east, but are also scattered throughout the region, primarily following water courses
- Surface water is most densely located in the northeast, but is also scattered throughout the region, including the intersection of rivers in south and western areas
- South and southeastern areas have high baseline water stress
- The eastern half of the region has the largest density of high mean species abundance areas, the most significant found in the large developed area that dominates the northeast of the region within patches of protected forested areas, wetlands, and surface waters

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	55%	35%	8%	2%	0%
Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	17%	71%	8%	3%	0%



Results - Atlantic City Electric

Land Cover Summary

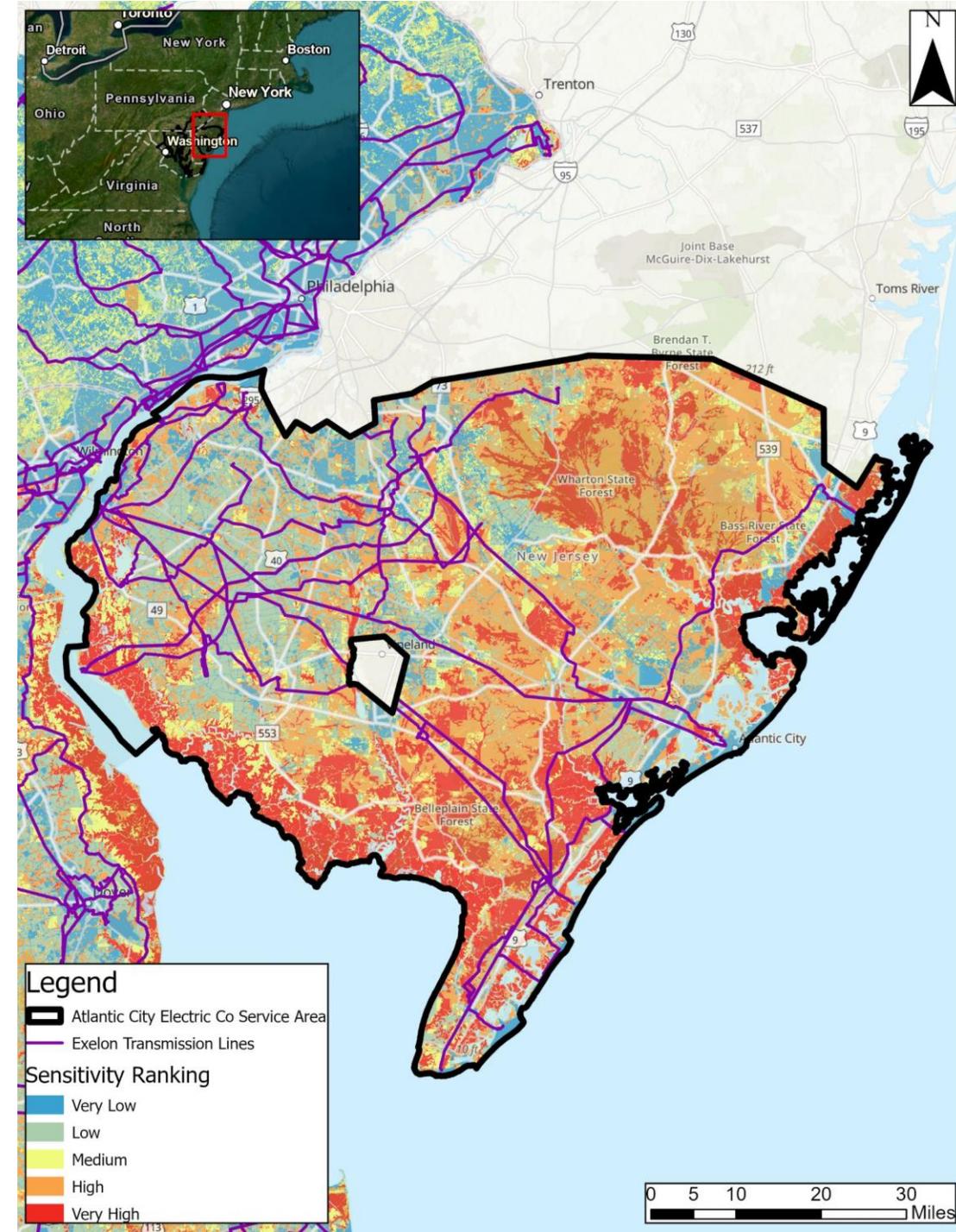
- Large amount of forested area, particularly found in the center and eastern portions of the region
- Agricultural areas are primarily found in the western portion of the region
- Large wetlands border and run through most of the region but are predominant in the center and eastern side of the region

Criteria Contributing to High Sensitivity Areas

- Protected wetlands and forested areas cover a large portion of the region
- High mean species abundance is found across much of the area, except for agricultural areas, which align with wetland and protected areas
- A biodiversity hot spot (The North American Coastal Plain) runs along the agricultural area to the west, which slightly elevated the sensitivity ranking of these anthropogenic areas. This hotspot was classified due to the large number of endemic species, the presence of critically endangered species, and natural habitat loss due to deforestation from infrastructure development
- High baseline water stress is found in the agriculture area, which further increased the sensitivity in the large anthropogenic area

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	10%	20%	12%	34%	24%
Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	17%	31%	13%	26%	14%

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Results – Delmarva Power

Land Cover Summary

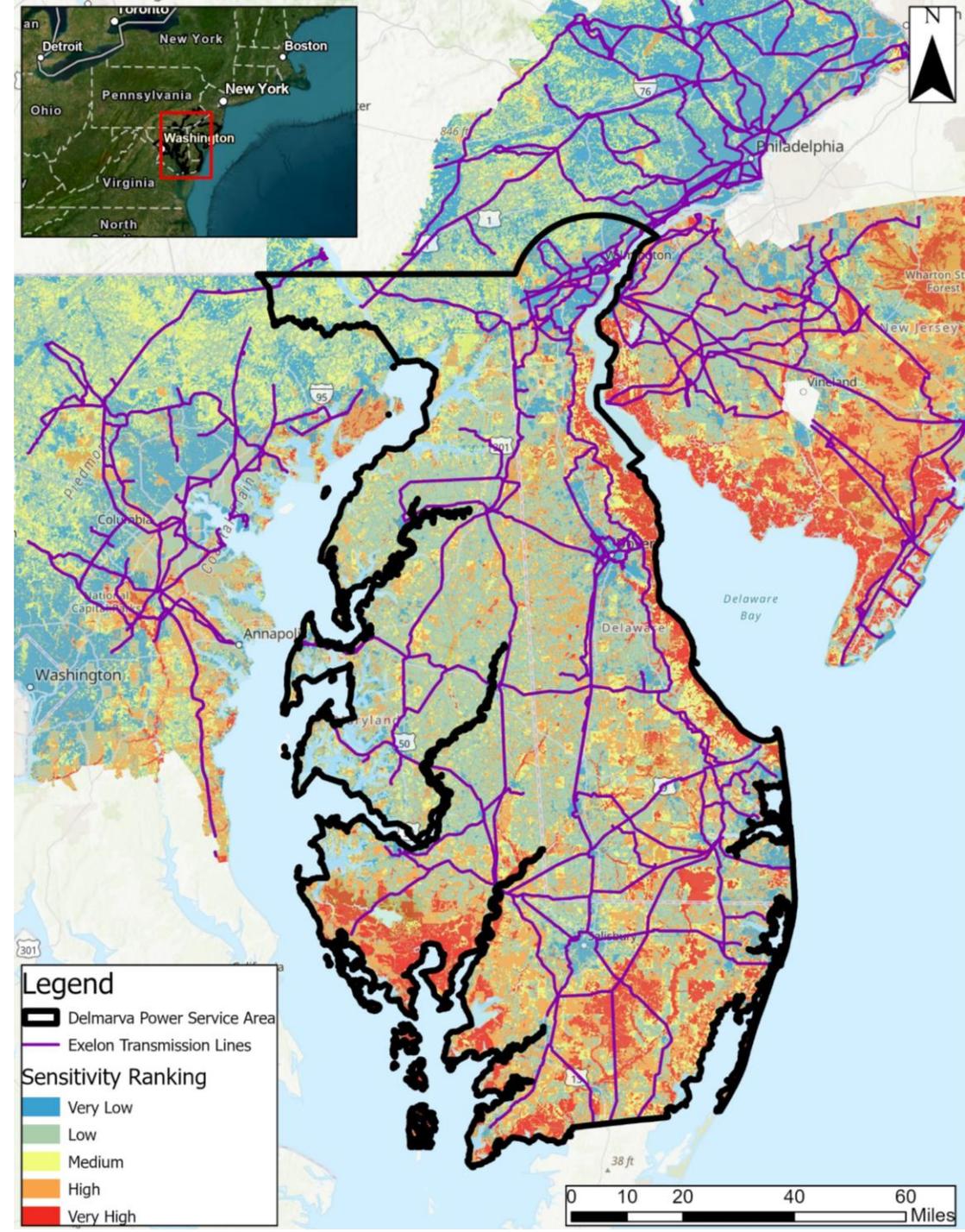
- Primarily agricultural (cropland) with clusters of developed areas throughout
- Large number of wetlands are scattered throughout the interior with wetlands bordering most of the region
- Pockets of natural forest are scattered throughout the region, primarily associated with wetland areas

Criteria Contributing to High Sensitivity Areas

- Pockets of forested areas scattered throughout
- Wetlands are scattered throughout the interior but primarily found in the coastal areas to the northeast and the entire southern portion of the region
- Many of the coastal wetlands lie within protected areas
- A biodiversity hot spot (North American Coastal Plain) covers much of the region. This hotspot was classified due to the large number of endemic species, the presence of critically endangered species, and natural habitat loss due to deforestation from infrastructure development
- The region is dominated by ‘medium to high’ and ‘high’ baseline water stress.
- High mean species abundance is found throughout all high sensitivity areas (overlapping with wetlands and protected areas)

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	14%	37%	16%	22%	11%

Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	26%	40%	16%	13%	5%



Results – Pepco

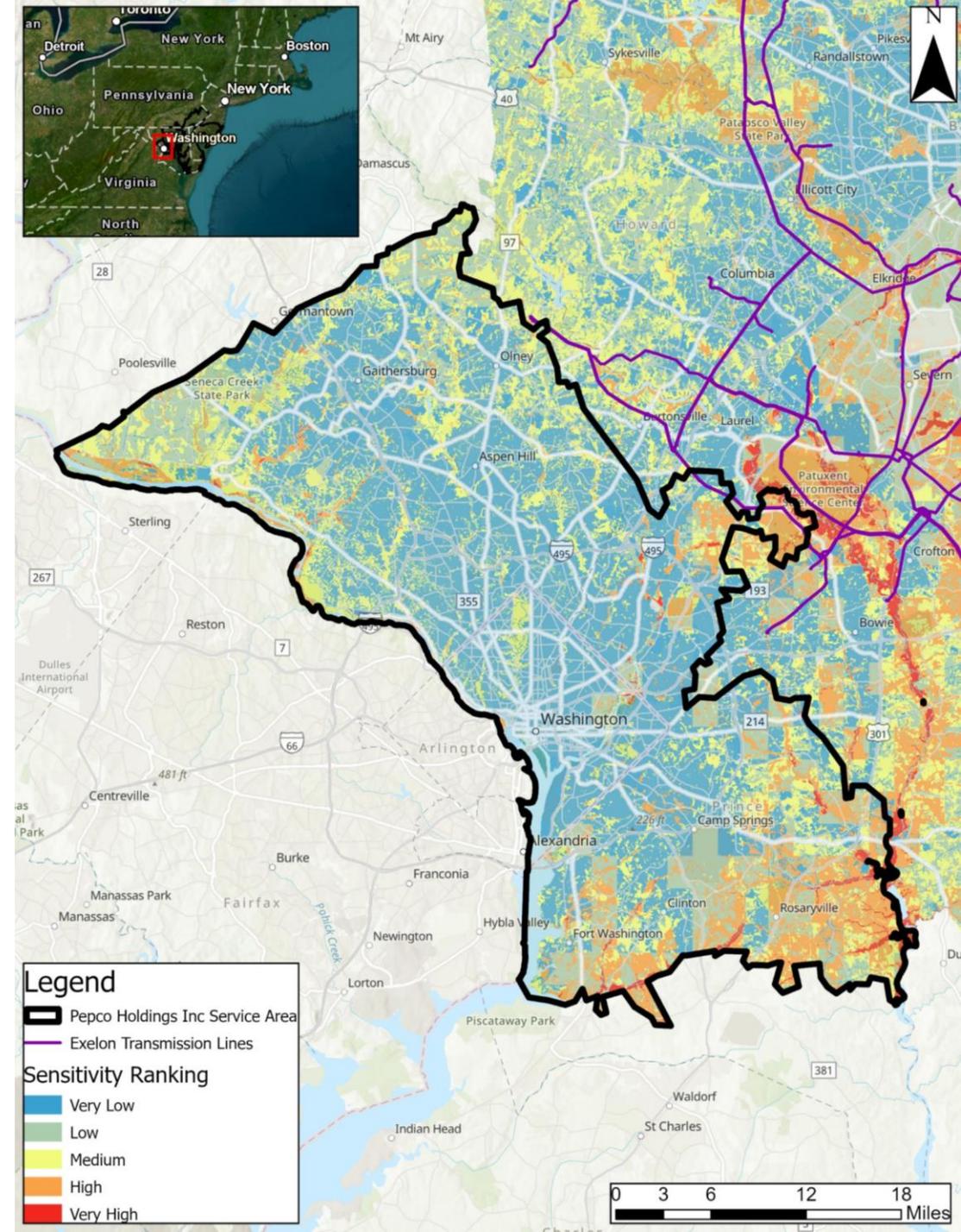
Land Cover Summary

- Primarily developed space with agricultural and forested areas scattered throughout

Criteria Contributing to High Sensitivity Areas

- *Although biodiversity criteria are triggered, as explained below, this region has lower sensitivity relative to other areas due to modified areas covering a significant portion of the region*
- Protected areas mainly run along surface water features; these areas consist of mainly natural forest cover, including riparian vegetation and some wetlands scattered throughout
- A biodiversity hot spot (North American Coastal Plain) intersects the eastern half of the region. This hotspot was classified due to the large number of endemic species, the presence of critically endangered species, and natural habitat loss due to deforestation from infrastructure development
- The extent of the area has ‘medium to high’ baseline water stress
- High mean species abundance scattered throughout the entire region, with a larger density located along the southern border

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	52%	16%	19%	11%	1%
Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	16%	14%	33%	36%	1%



Results – PECO

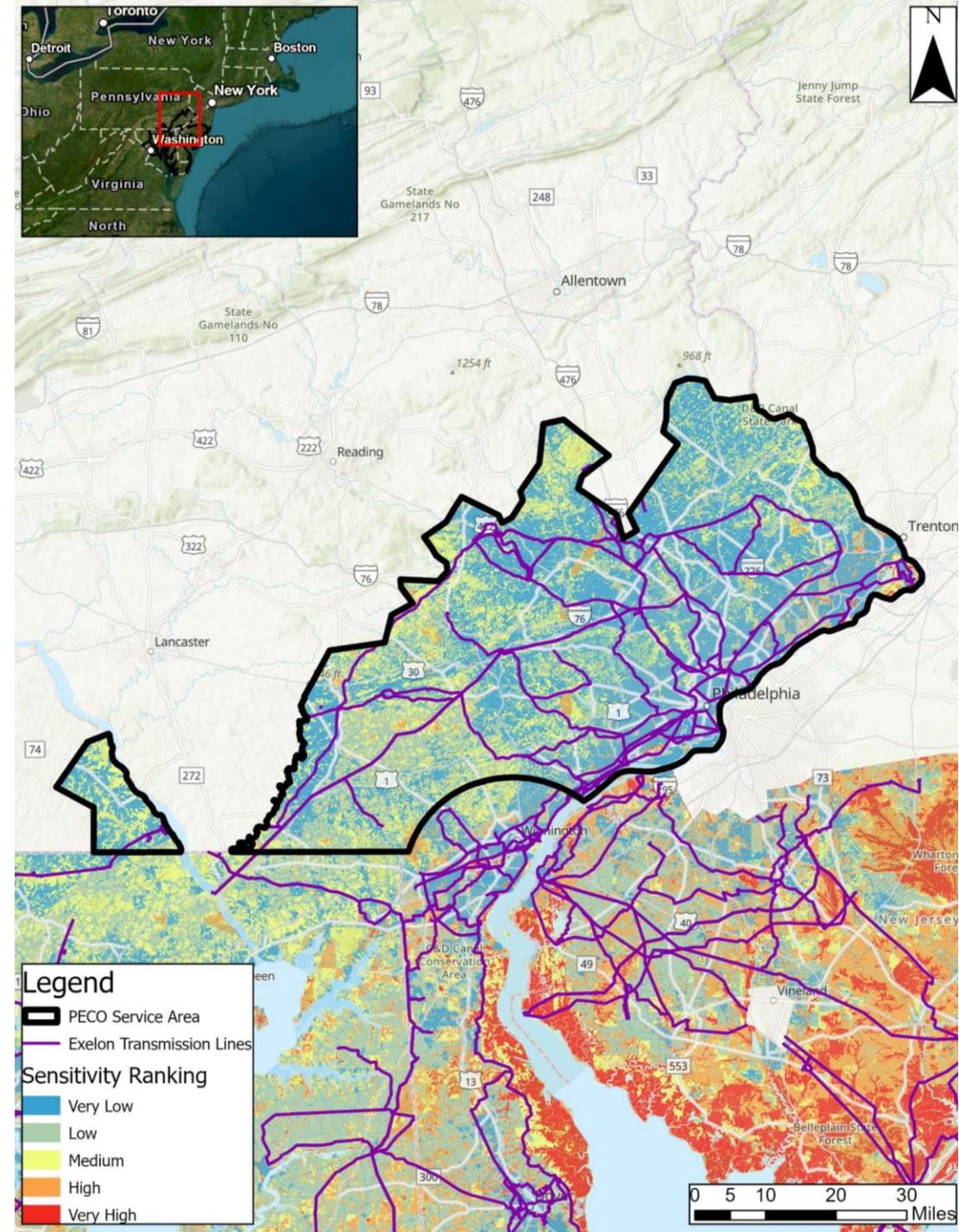
Land Cover Summary

- Primarily developed space and agricultural (cropland and pasture) with forested areas scattered throughout

Criteria Contributing to High Sensitivity Areas

- Although biodiversity criteria is triggered, as explained below, this region has lower sensitivity relative to other areas due to modified areas covering a large portion of the region
- Some protected areas are found scattered throughout the interior of the region and primarily consist of wetland and forested areas that also are intersected by a biodiversity hot spot
- The biodiversity hotspot, North American Coastal Plain, intersects the eastern border of the region. This hotspot was classified due to the large number of endemic species, the presence of critically endangered species, and natural habitat loss due to deforestation from infrastructure development. This hot spot heightened the sensitivity of some wetlands, forested areas, and high mean species abundance, which are found scattered throughout the region with less density than some of the other service areas
- The region is dominated by high baseline water stress

Service Area	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	58%	13%	25%	3%	0%
Transmission Line	Sensitivity Ranking	Very Low	Low	Medium	High	Very High
	% Area	67%	16%	14%	3%	0%



GIS Data Compiled and Evaluated Using Publicly-Available Datasets

- **Mean Species Abundance (MSA)** - Indicator of local biodiversity intactness. *Source:* [GloBio](#)
- **Baseline Water Stress** – Measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. *Source:* [World Resources Institute](#)
- **Biodiversity Hotspots** – Represent 36 regions where success in conserving species can have an enormous impact on securing our global biodiversity. *Source:* [Global Forest Watch](#)
- **National Hydrology Dataset (NHD)** - Water drainage network of the United States. *Source:* [United States Geologic Survey \(USGS\)](#)
- **National Wetlands Inventory (NWI)** - Extent and status of the nation’s wetland and deepwater habitats. *Source:* [US Fish and Wildlife Service](#)
- **National Land Cover Database (NLCD)** – Characterization of land cover into 21 classes of natural and modified environments across the United States for the year 2019. *Source:* [Earth Resources Observation and Science \(EROS\) Center](#)
- **Protected Areas (PAD-US)** – Official national inventory of US terrestrial and marine protected areas. *Source:* [United States Geologic Survey \(USGS\)](#)
- **Publicly Available Exelon Data** – U.S. electric power transmission lines and electric retail service territories (via [DHS/EEI surrogate data](#) – 69-765kv), WHC/NWF site locations, pollinator registry database, IVM/ROW