

# Chapter 1. Introduction

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Poughkeepsie train station.  
*Photo credit: Camelia Manning*

## What is an NRI

The City of Poughkeepsie is a small urban area located on the banks of the Hudson River midway between New York City and Albany. The City has been shaped by its natural resources. Native Americans utilized the abundant waterways, rich soils, and productive forests and early settlers took advantage of these resources to drive settlement of the region.

Natural resources in urban areas are often overlooked. As our knowledge of the importance of small habitats and urban ecosystems increases, inventories like this one will become more important as a baseline for further studies about the urban ecology of cities. As revitalization efforts move forward, it is important that we understand the ways our natural resources are providing important services, such as flood protection and climate resiliency. The first step in this effort is to know the location and types of natural resources within a community. Natural resources can include air, land, fresh and saltwater, and habitats such as meadows, forests, and farmland. In an urban area, natural resources are rarely large tracts of land, but instead manifest as smaller entities, such as street trees, community gardens, parks, empty lots, and backyards. The interface between humans and urban natural areas is also important to consider. Wastewater and stormwater infrastructure and park amenities and maintenance are just two examples of how we need to consider our impact on the resources available to us. Additionally, historic and cultural resources are closely linked to the natural

environment and can help to document land use patterns and past use of natural resources. Humans consume natural resources for energy, personal fulfillment, health, food, ecosystem services, economic and cultural capital, and more (World Wildlife Fund, 2019). The broad range of human uses for natural resources means that conservation and environmentally sound management of these resources is crucial to the health of both the environment and humanity.

By compiling and interpreting the physical, ecological, biological, historical and cultural assets of a municipality, a natural resource inventory (NRI) is a useful tool for informed land use education and management (Vail, Curri, Chatrchyan, & Carroll, 2010). The Environmental Cooperative at the Vassar Barns has prepared this NRI for the City of Poughkeepsie to help City officials, planners, developers, and residents make informed and environmentally-conscious choices regarding land use in their City. The variety of natural resource data provided in this NRI may enable more sustainable development and help ensure the wellbeing of the City's residents. Consulting the NRI can inform a range of decisions about how to safely and effectively use the land in the City—from habitat preservation to the property zoning. Beyond land use planning, the NRI is also a tool for public education. The NRI can foster a deeper familiarity among Poughkeepsie residents to better understand the richness, accessibility, and distribution of resources in our City.

This NRI is a living document and should be updated to reflect changes in Poughkeepsie's resource base and land use over time. Regular NRI revisions help the City's government and residents make choices about land use based on the most up to date information. It is important to note that the NRI is intended for general planning, education and information purposes and should not be used as a substitute for on-site surveying and data collection.

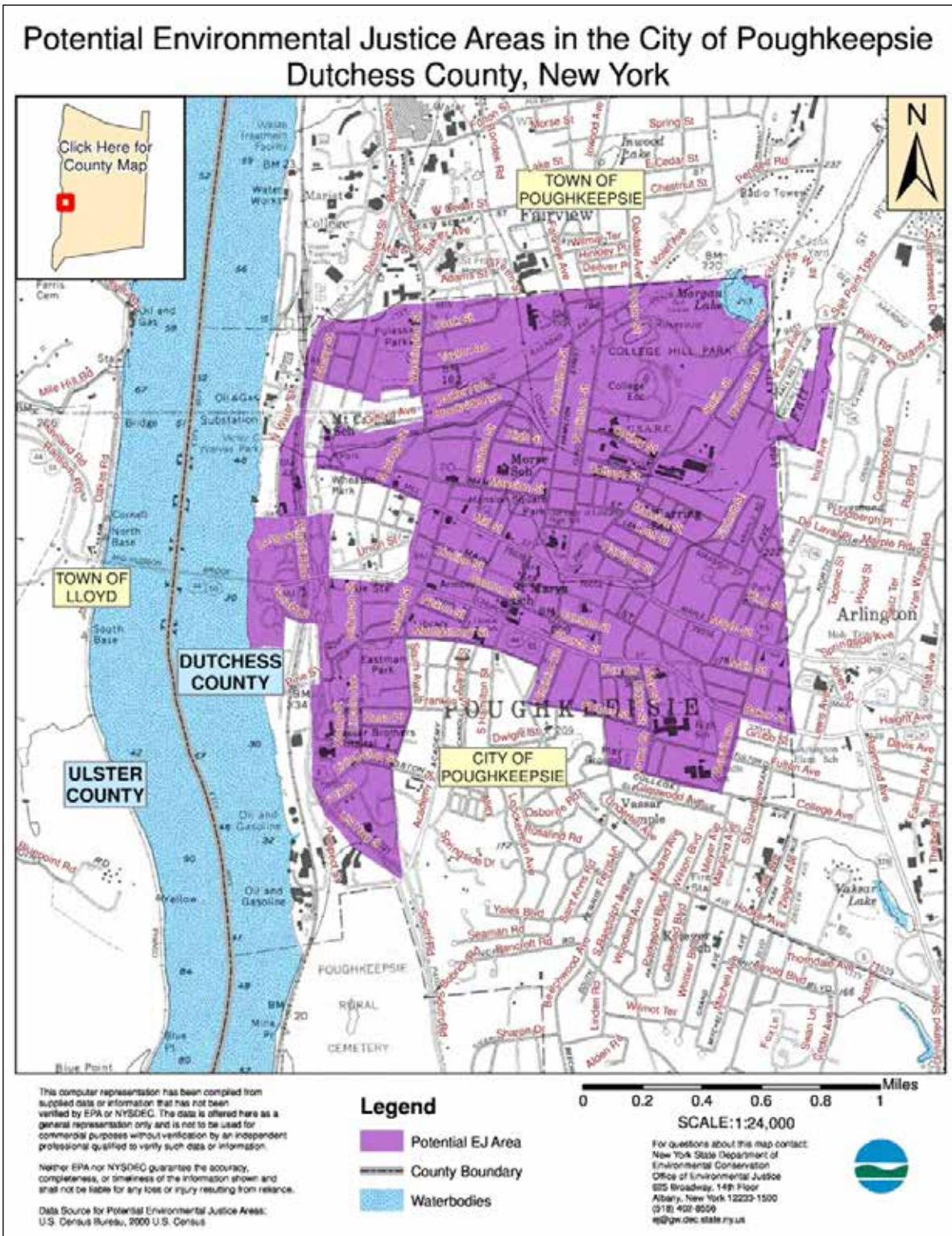
## City Profile

The City is bordered by the Town of Poughkeepsie to the North, East, and South, and with the Town of Lloyd in Ulster County, to the west across the Hudson River connected by the Walkway Over the Hudson and the Mid-Hudson Bridge. The following base map and aerial map of the City of Poughkeepsie were created using data from Dutchess County (2015 & 2017), Ulster County (2017), and NYS GIS Clearinghouse (2018) ([Map 1.1](#)). These maps provide a basic understanding of the geography of Poughkeepsie and context for the historical, cultural, and natural resources presented throughout the NRI. The City of Poughkeepsie Base Map was used as the basis for the other maps in the NRI. The aerial photo ([Map 1.2](#)) was taken in the summer of 2013 and highlights some of the dense greenspaces and impervious surfaces throughout the City. The third introductory map shows the City's topography, showing landforms and hills throughout the city ([Map 1.3](#)).

Of the City's total population of 30,267 (US Census Bureau, 2016), 37% are white, 36.5% are black, and 20.2% are Hispanic (US Census Bureau, 2018). The median income is \$39,067. Importantly, the highest and lowest income ranges are not evenly distributed across the City (US Census Bureau, 2016). One of the driving factors of socioeconomic class distribution in the City was and continues to be, the East-West Arterial. Since the completion of the Arterial in 1979 (Poughkeepsie-Dutchess County Transportation Council, 1997) as part of Lyndon B. Johnson's "War on Poverty," the City has undergone a social division between residents on the north side of the Arterial, who are generally lower-income, and residents on the south side, who are generally of higher-income (Nasso, 2017). Understanding some of the geographic aspects of demographic distribution and change can inform the ways in which land use decisions impact the lives of residents.

Environmental justice aims to target the disproportionate effects of environmental issues, such as air and water pollution, waste disposal, and climate change on disadvantaged populations most often defined by race and/or socioeconomic status (Peterson & Rynasko, 2008). The New York State Department of Environmental Conservation (NYS DEC) has identified and mapped communities in the State as potential Environmental Justice areas and includes the North side of Poughkeepsie in this designation ([Figure 1.1](#)) (NYS Department of Environmental Conservation, 2000). This NRI can aid environmental justice efforts in the City of Poughkeepsie by identifying the spatial distribution of valuable and vulnerable natural resources such as the Fall Kill. The status and health of the Fall Kill is an environmental justice issue, as the stream runs almost exclusively through a low-income area of Poughkeepsie whose residents are more vulnerable to the effects of flooding and water pollution than higher-income residents. (The DEC's map of potential environmental justice areas can be found at their website: [https://www.dec.ny.gov/docs/permits\\_ej\\_operations\\_pdf/dutchessej.pdf](https://www.dec.ny.gov/docs/permits_ej_operations_pdf/dutchessej.pdf))

Figure 1.1 Map of Environmental Justice areas in the City of Poughkeepsie





## Data and Methods

The Environmental Cooperative at the Vassar Barns was the lead in the preparation of the Poughkeepsie Natural Resource Inventory project; taking place between October of 2016 and May of 2019. Major funding and support came from a grant from the NYS DEC Hudson River Estuary Program. Local stakeholders were given the opportunity to provide input through a series of community meetings. The majority of the work done for the NRI was completed by Vassar College students, staff, and faculty working closely with City of Poughkeepsie administrators, council members, and residents. A broad range of data sources, ranging from local to national, were used to create the NRI. All maps were created using GIS ArcMap software and original sources of data are documented in [Appendix E](#). Maps are projected using the NAD 1983 coordinate system, UTM zone 18N, and are displayed at a 1:19,500 scale. All are based on the following base map ([Map 1.1](#)) and have been adjusted to best illustrate the resource(s) depicted.

## Natural Resources Inventory Web Map

To facilitate a holistic understanding of natural resources in the City, Vassar student Rebecca O'Dell created a web-map version of the NRI available at <https://arcg.is/KWXOG> (O'Dell & Cunningham, 2019).

This web-based tool allows a user to find a specific parcel within the City and see all the layers of the NRI for that specific site.

## How to Use the NRI

This document was created for use by the City of Poughkeepsie as it moves forward with planning, development, and revitalization. While the maps included in the NRI are useful for the initial and broader stages of planning projects, they are not a substitute for on-site surveys. The NRI is a resource that is especially useful during the conception of new environmentally-sound planning and land use regulations and choices. The City planning department and planning board, City council, and citizen commissions will find the information and maps included in this report useful. Some uses of the NRI include:

- Updating the City comprehensive plan with natural resource and sustainability elements
- Developing plans and goals for natural resource management
- Informing zoning and land use regulations
- Reviewing new development proposals
- Establishing a baseline of environmental conditions in order to monitor and assess the impacts of future planning and development on the environment; and
- Identifying and mitigating potential sources of harm to natural resources.

The NRI is an important educational resource. We encourage teachers, students, residents

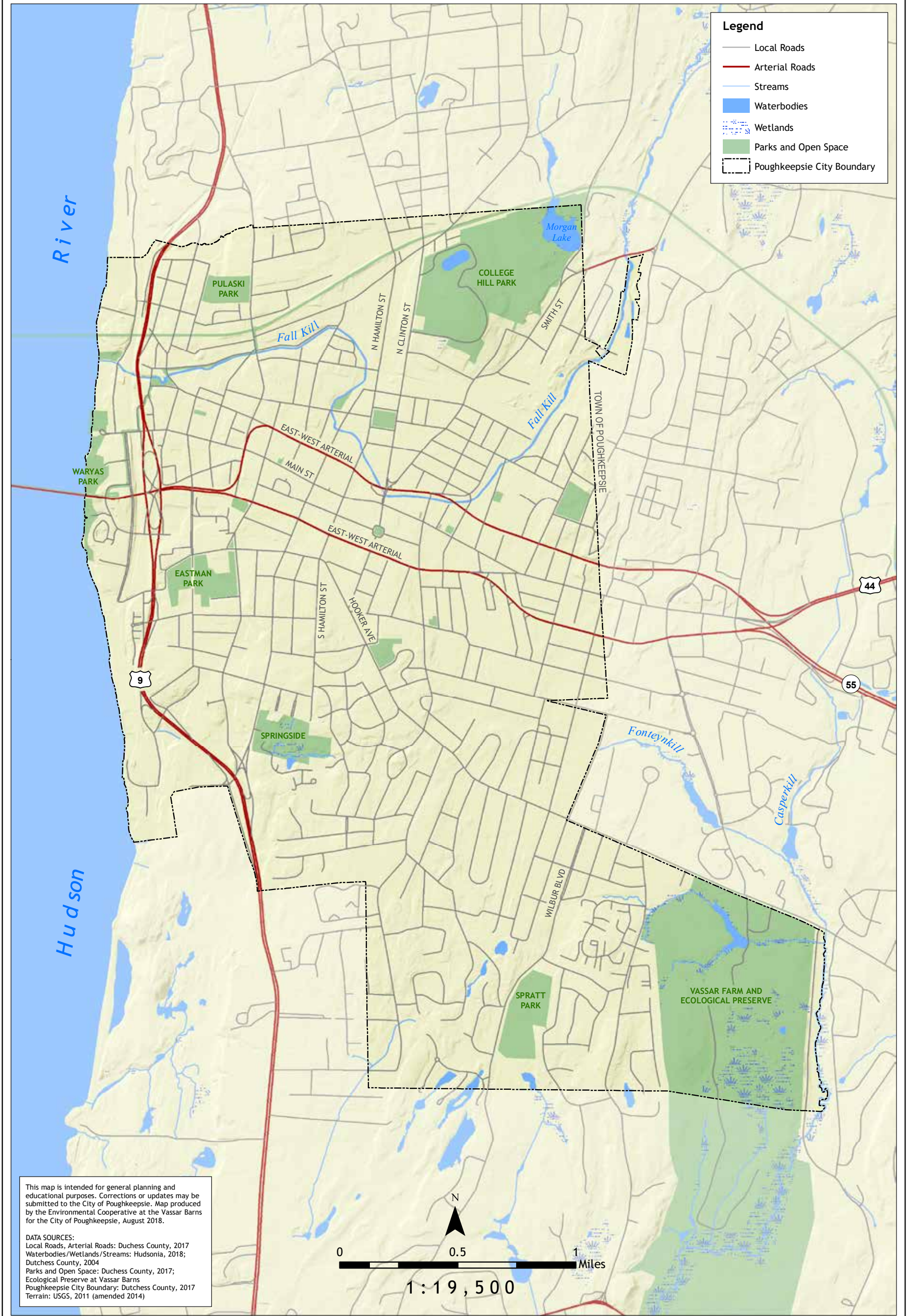
and community groups to use the information in the report and the maps to learn more about the community where they live. It is important to note that many of the maps and information are related and although the report is broken up by chapters by similar resources, connections between chapters can be easily created. For example, Biological Communities and Habitats connects with Recreational Resources since many of the significant habitats in the City are located on City parkland. The maps in this report are an important aid to the visualization of connections between natural and man-made environments.

This NRI can be supplemented by the [NYS DEC Hudson Valley Natural Resource Mapper](#), an interactive online tool for viewing maps of various natural resources in the Hudson River Estuary Watershed (NYS Department of Environmental Conservation, 2018). The Natural Resources Mapper is intended to be used as a companion to the NRI, and should not be used as a substitute for the NRI or for specific, on-site surveys.



# City of Poughkeepsie

Dutchess County, New York

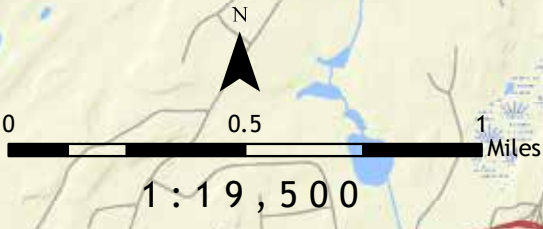


**Legend**

- Local Roads
- Arterial Roads
- Streams
- Waterbodies
- Wetlands
- Parks and Open Space
- Poughkeepsie City Boundary

This map is intended for general planning and educational purposes. Corrections or updates may be submitted to the City of Poughkeepsie. Map produced by the Environmental Cooperative at the Vassar Barns for the City of Poughkeepsie, August 2018.

**DATA SOURCES:**  
 Local Roads, Arterial Roads: Dutchess County, 2017  
 Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004  
 Parks and Open Space: Dutchess County, 2017;  
 Ecological Preserve at Vassar Barns  
 Poughkeepsie City Boundary: Dutchess County, 2017  
 Terrain: USGS, 2011 (amended 2014)





# Aerial Photo

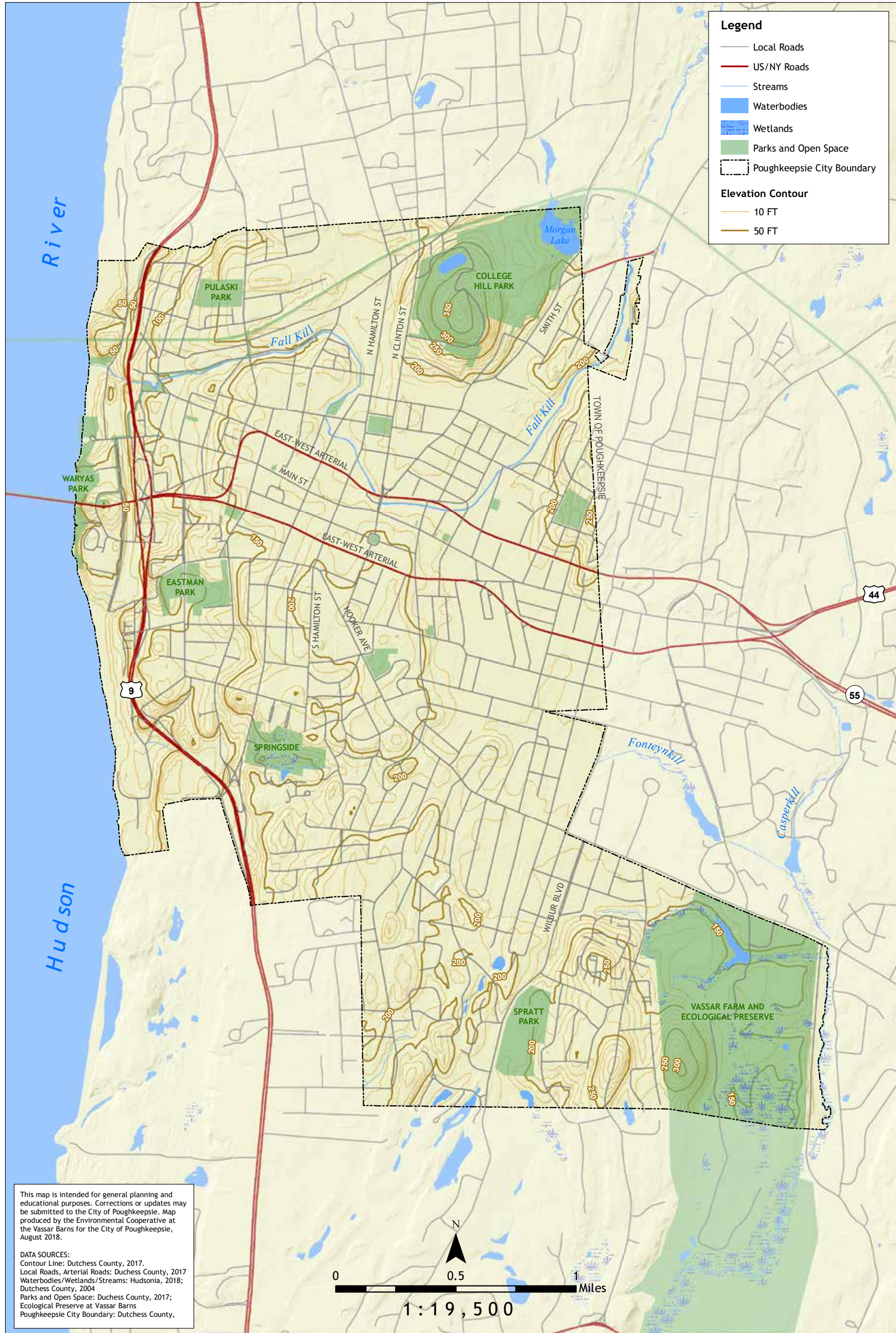
## City of Poughkeepsie, New York





# Topography

## City of Poughkeepsie, New York



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**DATA SOURCES:**  
 Contour Line: Dutchess County, 2017.  
 Local Roads, Arterial Roads: Dutchess County, 2017  
 Waterbodies/Wetlands/Streams: Hudsonia, 2018; Dutchess County, 2004  
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