



Engineering and
Land Surveying, P.C.

TOWN OF BETHLEHEM

OPEN SPACE CONSERVATION PLAN

PUBLIC MEETING: OCTOBER 12, 2017



Welcome and Agenda

- **6:00 – 6:45: Open House, Part One**
- **6:45 – 7:15: Presentation and Questions**
- **7:15 – 8:00: Open House, Part Two**
 - **Open House Stations include:**
 - Open Space Values Maps, Conservation Criteria, and Draft Conservation Priority Areas Map
 - Open Space “Scenic Views Photo Survey”
 - Bethlehem’s Conservation Tools
 - Natural Areas and Wildlife in Bethlehem
- Comments, questions, suggestions: Comment Box
- Bethlehem Public Library display: month of November.
- Email
OpenSpace@townofbethlehem.org

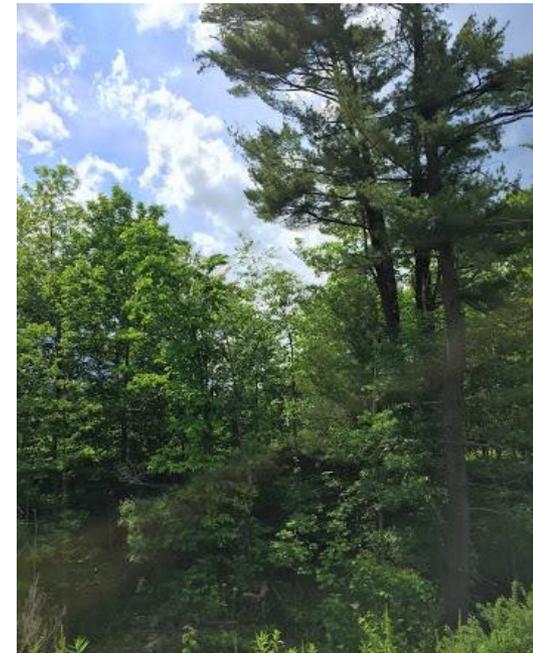


Thank you for coming tonight!



Background

- Comprehensive Plan – 2005
 - Develop an Open Space program
- Citizens Advisory Committee on Conservation (CACC) – est. 2006
 - Funding and Tools Report -2006
 - Identified potential criteria for establishing land preservation priorities
- Comprehensive Plan Oversight Committee (CPOC)- 2007
 - Recommended creation of a Farm and Open Space Protection Program
- CACC Report on Open Space – 2009
 - Recommendation 12: Develop land feature criteria to rate preservation opportunities
- Agriculture and Farmland Plan – 2009
- Comprehensive Plan Assessment Committee (CPAC) - 2013
 - Develop criteria for land protection and acquisition to be used by the Town Board purchasing or accepting land for open space preservation
- Conservation Easement Review Board – est. 2014
 - Administer the Conservation Easement Exemption Program
 - Advisory on current open space planning work



Finding the Balance

- **The purpose of open space planning is to ensure that future consumption of land for development is balanced with the conservation of land for its open space value.** -2009 CACC Report on Open Space
- Formally, open space resources include public and private parks and preserves, recreation areas and dedicated conservation lands (about 2,070 acres or 7% of the Town's total area).
- More informally, open space resources also include its undeveloped wetlands, floodplains, water bodies, tidal areas, wildlife habitats, steep slopes, forests, fields and agricultural lands.
- Over the years, the Town has lost a good deal of its open space to the development of housing, industry, commerce and other land uses, many of which support and add value to the community.
- Most of these remaining open space resources are held in private ownership.



Purpose

- **Voluntary participation with interested landowners will be necessary if the Town is to conserve an open space system of any substance.**
- Conservation partnerships should result in a mutual benefit to both the landowner and Town.
- Open space planning does not aim to stop or curtail development activity, or to limit or curtail the rights of private landowners.
- The conservation of open space resources is essential if the Town is to maintain critical natural systems, the character of the community, its quality of life, property values, and recreation opportunities for Town residents.



Benefits of Open Space

- “Natural systems services”
 - Clean water, clean air, temperature cooling, farming, forestry, flood reduction
 - Cost savings, less need for engineered “fixes”
- Wildlife habitat, biodiversity
- Open land costs town less than residential/commercial uses:
 - Cost of community services studies
- Public health
 - water quality, air quality, scenic beauty, local food, recreation
- Community character
 - forests, farmland, diversity in landscape, connection to history, recreation opportunities, quality of life
- Decreased wildlife/human conflicts



Prioritizing Open Space

- Several prior Town open space initiatives recommended development of conservation criteria
 - Nine other NYS towns who have completed similar open space conservation priority analyses to develop the best conservation criteria and method of analyzation applicable to Bethlehem.



PROJECT SCOPE

Phase 1 – Inventory Mapping / Conservation Values Maps

- 1. Open Space Resources Inventory Mapping**
 - ✓ Conservation Values Maps
- 2. Review/Discuss with Conservation Easement Review Board**
 - ✓ Throughout Spring/Summer/Fall 2017
- 3. Presentation to Town Board**
 - ✓ June 14th meeting/August 23rd meeting
- 4. Public Engagement and Outreach**
 - ✓ Scenic Bethlehem Photo Survey, Delmar Farmers Market, Hudson Kayak Eco-tour, Bethlehem Library display, website postings, newsletters, etc.



CONSERVATION VALUES MAPPING

- Identification of Existing Conditions
- Geographic Information Systems-based (GIS) process to efficiently evaluate overlap of multiple conservation values and resources resulting in the Open Space Plan
- Data collected from over 20 public data sources and the Town
- More than 70 datasets evaluated



CONSERVATION VALUES MAPPING

- **Conservation Value:**
Community Character
- **Conservation Value:**
Recreation and Greenways
- **Conservation Value:**
Natural Water Systems –
Streams, Wetlands and
the Hudson River
- **Conservation Value:**
Forest, Fields and
Wildlife Systems



VALUE: COMMUNITY CHARACTER

- Agricultural landscapes
- National Register Structures/Districts
- Cultural/Educational places
- Nature preserves and parks

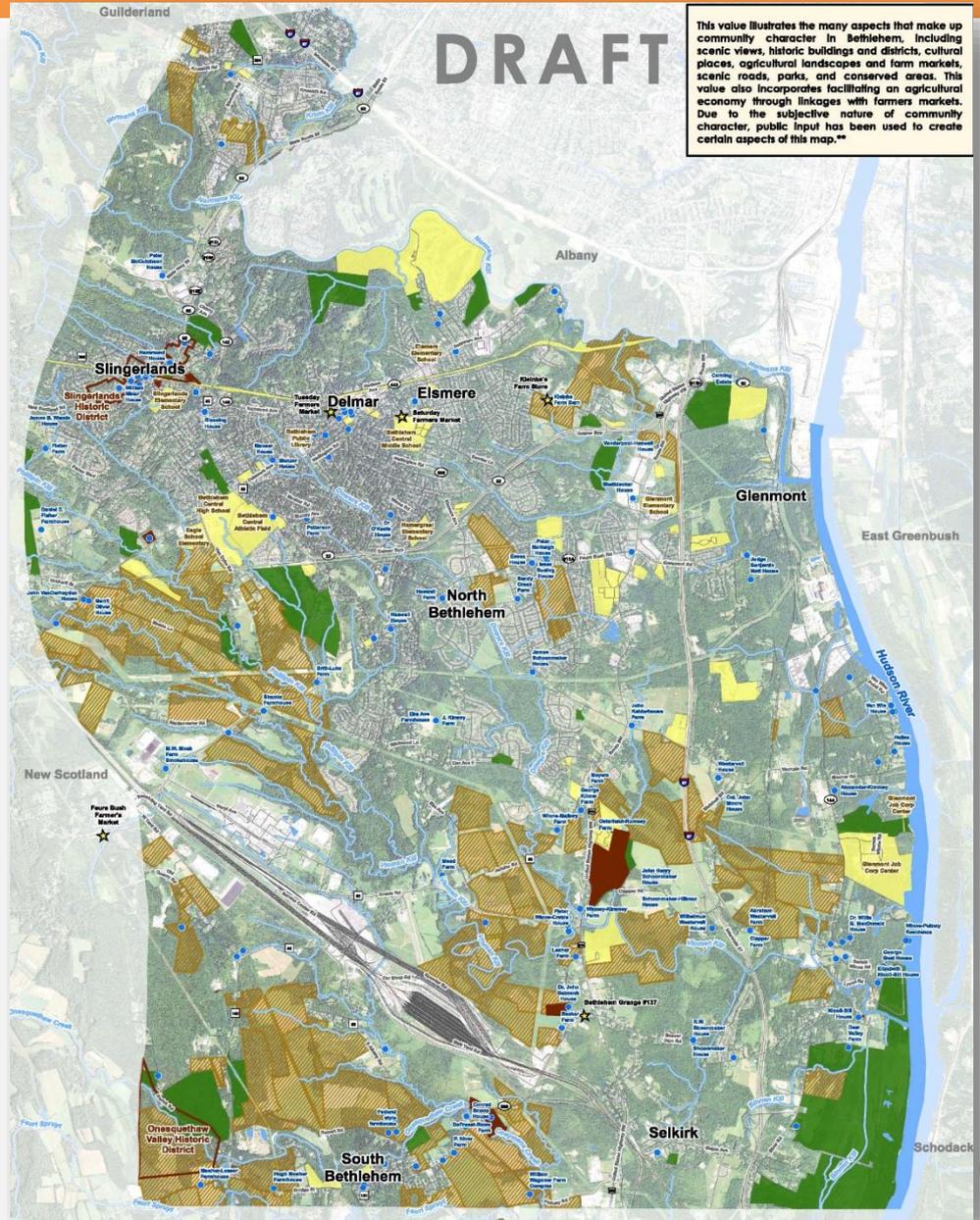
Legend

	Roads	Land Use	
	Rail Line		Agriculture
	Stream/River		Education, Recreation, Religious
	Water Bodies		Parks, Conserved Lands & Conservation Easements*
			National Register Historic Structure

-  National Register District
-  Scenic Views**
-  Town Points of Interest
-  Farmer's Markets

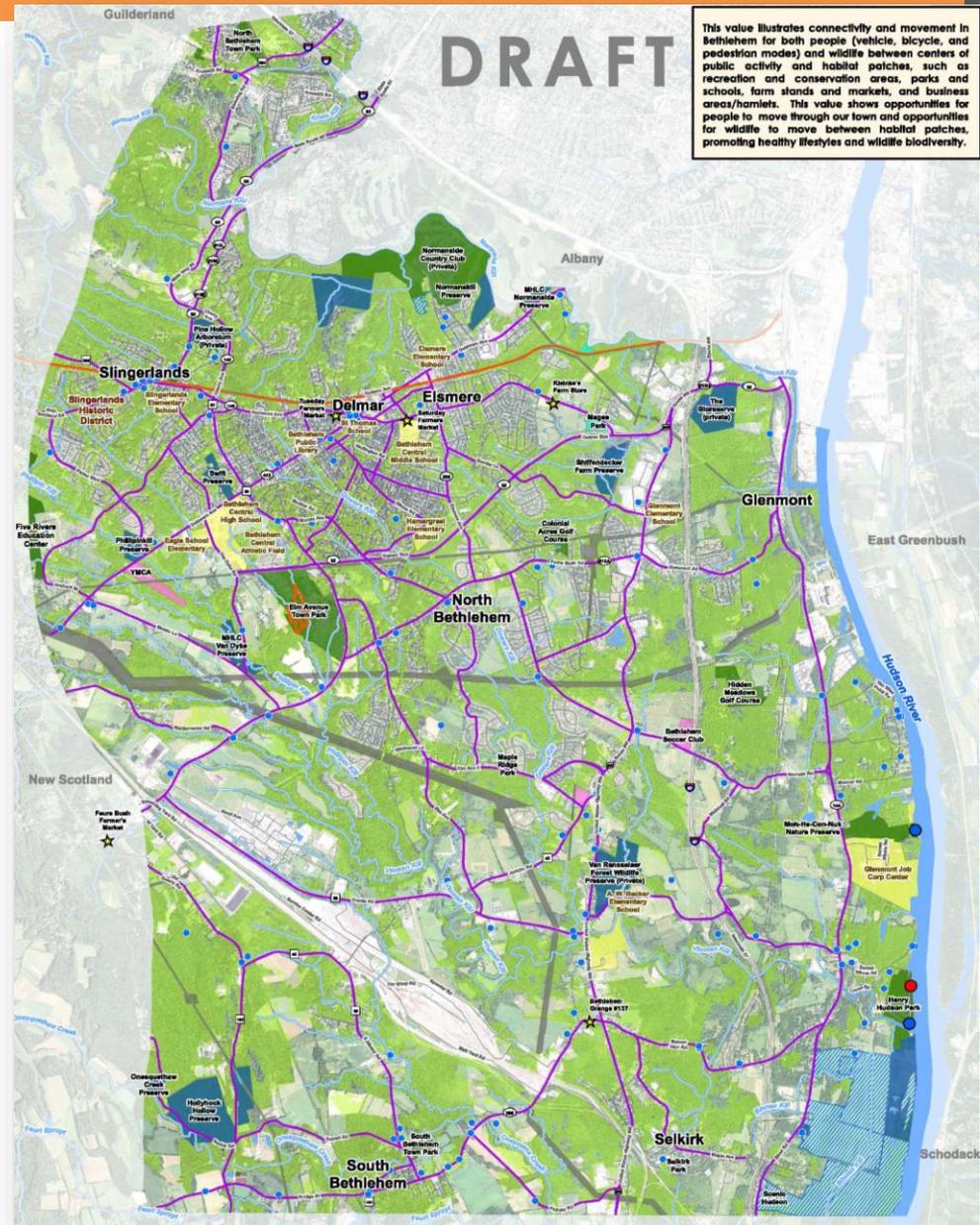
This map was prepared for illustrative purposes only and is not suitable for engineering, surveying, or legal purposes.

Sources:
 Eri
 NYS DEC
 NYS ITS
 CIRIS
 NYS DOT
 Town of Bethlehem
 NYS OPRHP
 USGS
 Scenic Hudson



VALUE: RECREATION & GREENWAYS

- Linkages/Connectivity (people & wildlife)
- Nodes
- Recreation areas
- Conservation areas
- Schools
- Habitat patches



Legend

★ Farmer's Markets	Land Use	Forest Patches >5 acres
● Town Points of Interest	Schools/Libraries	Stream/River
● Boat Launch and Fishing Access	Indoor Recreation	Water Bodies
● Canoe/Kayak Launch	Parks, Golf Courses*	
~ Bicycle & Pedestrian Priority Network Plan	Outdoor Recreation	
~ Existing Trails	Conserved Lands*	
~ Roads	Conservation Easement*	
	Utility Corridor	

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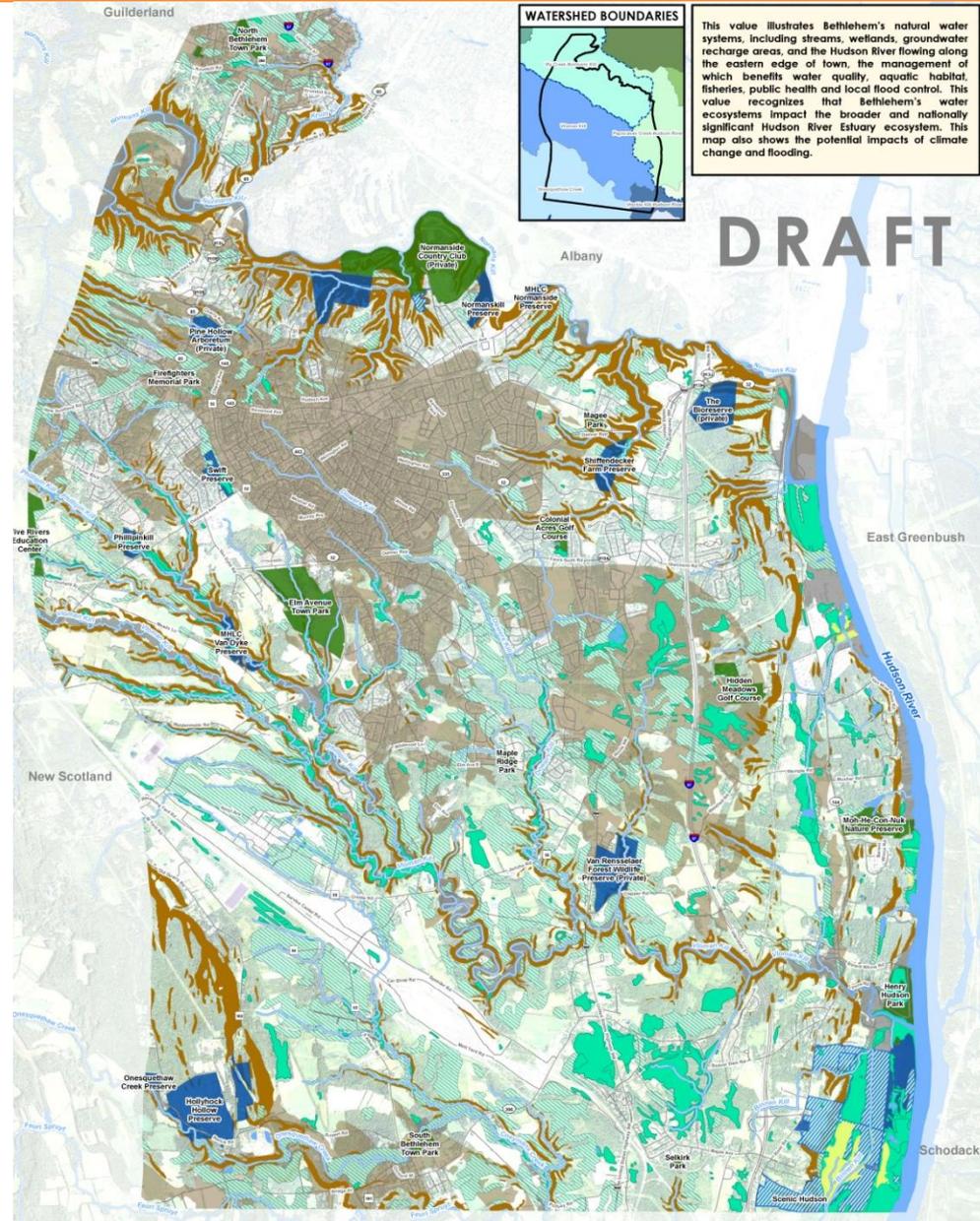
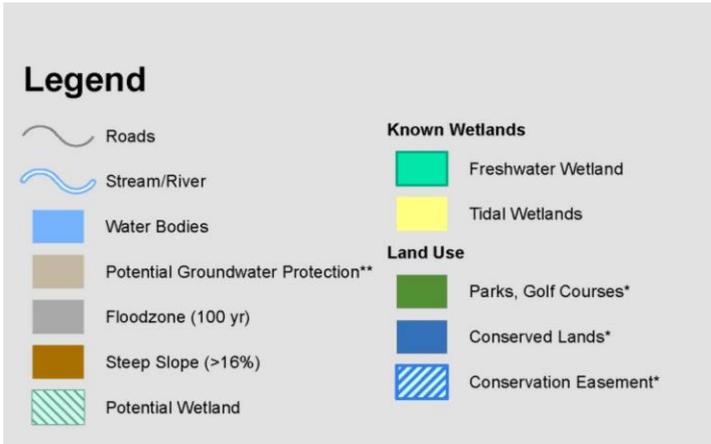
Sources:
 Esri
 NYS ITS
 Town of Bethlehem
 NYSDEC
 NYS OPRHP
 USGS
 CIRS
 Albany County
 Cornell
 Scenic Hudson

*Not all lands shown are accessible to the public



VALUE: NATURAL WATER SYSTEMS

- Aquatic biodiversity
- Water quality
- Estuary ecosystem
- Floodzones
- Public health



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Sources:
 Erie
 NYSDAC
 NYS GIS
 CURS
 USGS
 FEMA
 US Fish & Wildlife



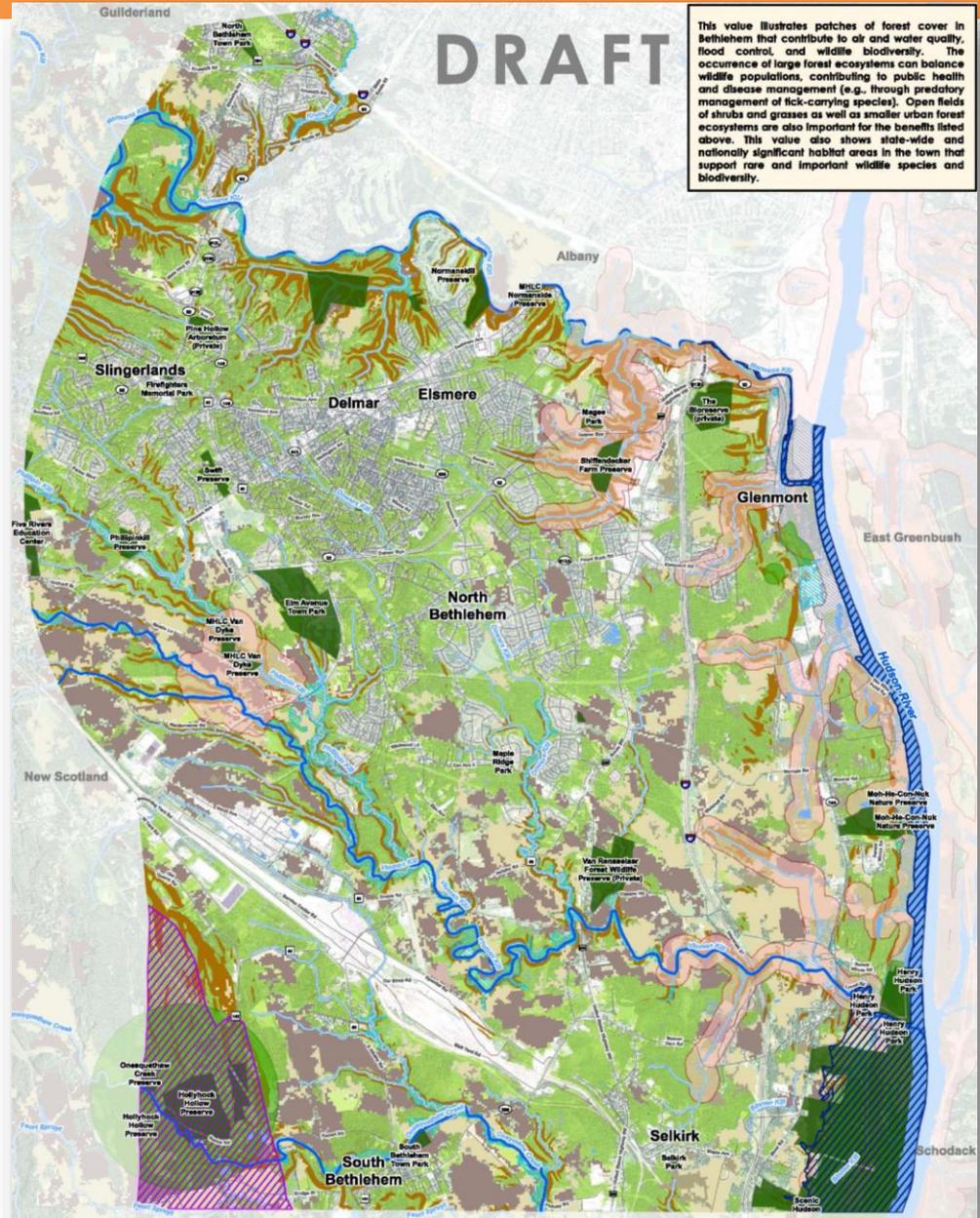
Schodack

VALUE: FORESTS, FIELDS & WILDLIFE

- Forest patches
- Biodiversity Areas
- Air/water quality
- Floodzones
- Rare Plants/Animals
- Croplands

Legend

Roads	Significant Ecological Features and Biodiversity Areas	Parks, Conserved Lands, Conservation Easements*
Migratory Fish Runs	Hudson Valley Limestone and Shale	Cultivated Crops
Stream/River	Upper Hudson River	Hay/Pasture
Water Bodies	Important Area for Rare Plants	Herbaceous
Floodzone (100 yr)	Important Area for Rare Animals	Shrub/Scrub
Steep Slope (>16%)		
Forest Patches >5 acres		



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Source:
 Esri
 NYSDEC
 NYGIS
 CIRS
 Cornell
 Town of Bethlehem
 Scenic Hudson
 NYSHP
 FEMA
 NYSOPRHP



CONSERVATION VALUES MAPPING

- GIS-based process to efficiently evaluate overlap of multiple conservation criteria based on existing conditions
- Result will help inform the Open Space Plan and conservation priorities
- Data collected will be input into a Conservation Analysis Tool to identify conservation priority areas town-wide
- 25 Conservation Criteria – data driven, scientifically based, objective



PHASE 2 – OPEN SPACE PLAN

1. Public Meetings

- October – Meeting #1
 - ✓ Public review/discussion on Conservation Values Maps
 - ✓ Feedback and GIS-based model leads to Open Space Plan
- November – Town Board Presentation
- Meeting #2 – To Be Determined

2. Open Space Plan, including Open Space Priorities Map

- Conservation Analysis Tool to develop Open Space Priorities Map
- Open Space Plan



CONSERVATION ANALYSIS TOOL - METHODOLOGY



CONSERVATION ANALYSIS TOOL

- **What:** GIS-based model created to efficiently evaluate overlap of multiple conservation values and resources
- **How:**
 - ✓ Identify Model Inputs
 - ✓ Determine Preservation Priority Score
 - ✓ Significant
 - ✓ High
 - ✓ Moderate
 - ✓ Map/Illustrate Results
- **Result:** Composite Map Illustrating Conservation Priority Areas within the Town to be used as a tool for town and interested land owners



CONSERVATION ANALYSIS TOOL

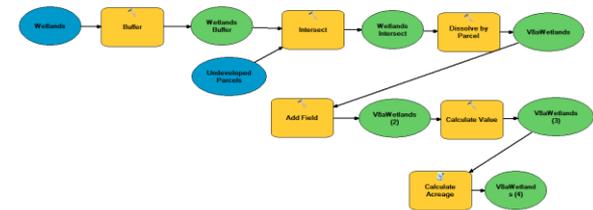
Conservation Criteria

- 25 criteria applied to lands 5 acres or greater including vacant, residential with large acreage and agricultural land

OBJECTID *	Area_Acres	V1a	V1b	V1c	V2a	V3a	V3b	V3c	V3d	V4a	V4b	V5a	V5b	V6a	V7
1	41.574115	1	0	0	1	0	1	0	0	0	1	1	1	0	<Nul
2	60.743647	1	1	0	1	0	0	0	0	0	1	1	0	0	<Nul
3	18.223148	1	0	0	1	0	1	0	0	0	1	0	1	0	<Nul
4	16.027633	1	0	0	1	0	1	0	0	0	1	1	1	0	<Nul
5	68.36418	1	1	0	1	0	1	0	0	0	1	1	1	0	<Nul
6	58.996913	1	1	0	1	0	1	0	0	0	0	1	1	0	<Nul
7	180.306769	1	1	1	0	0	1	1	0	0	1	0	0	0	<Nul
8	113.361941	1	1	1	1	0	1	1	0	0	1	1	0	0	<Nul
9	36.909124	1	0	0	0	0	1	0	0	0	1	0	0	0	<Nul
10	76.579023	1	1	0	1	0	1	0	0	0	1	0	0	0	<Nul
11	55.518228	1	1	0	0	0	1	0	0	1	1	0	0	0	<Nul
12	34.885905	1	0	0	0	0	1	0	0	0	1	0	0	0	<Nul
13	52.723216	1	1	0	1	0	1	0	0	0	1	0	0	1	<Nul
14	19.910296	1	0	0	1	0	1	0	0	0	1	0	0	1	<Nul
15	101.896686	1	1	1	0	0	1	0	0	1	1	0	0	0	<Nul
16	191.831526	1	1	1	1	1	1	0	0	1	1	0	0	0	<Nul
17	60.254849	1	1	0	0	1	1	0	0	0	1	1	0	0	<Nul
18	7.048169	0	0	0	0	0	0	0	0	0	1	1	0	0	<Nul
19	38.981556	1	0	0	1	0	1	0	0	0	1	1	0	0	<Nul
20	8.138814	0	0	0	1	0	1	0	0	0	1	0	0	0	<Nul
21	37.45367	1	0	0	0	0	1	0	0	0	0	0	0	0	<Nul
22	74.378959	1	1	0	0	0	1	0	0	0	1	0	0	0	<Nul
23	67.98279	1	1	0	1	0	0	0	0	0	0	0	0	0	<Nul
24	142.21043	1	1	1	1	0	1	1	0	0	0	0	1	0	<Nul
25	21.865991	1	0	0	1	1	1	0	0	0	1	0	1	0	<Nul

Model Run

- A property receives a “1” for each criteria it meets
- The more criteria met, the higher the numerical score ranging from 0 – 25
- Results categorized as moderate, high or significant based on numerical score and mapped



CONSERVATION ANALYSIS TOOL

■ Sample of Conservation Criteria (see handout for full list)

- ✓ Adjacent to preserves/conserved lands
- ✓ Adjacent or containing parkland or outdoor recreation
- ✓ Adjacent to town conservation easements
- ✓ Adjacent to bike/ped priority network
- ✓ Contains registered historic structure or district
- ✓ Contains wetlands
- ✓ Within floodplain
- ✓ Contains designated trout stream/migratory fish run
- ✓ Contains or connected to large forest patch
- ✓ Contains Significant Biodiversity Area
- ✓ Contains areas important for rare plants or animals
- ✓ Contains active agricultural lands
- ✓ Contains prime farmland soils
- ✓ Contains soils with high erosion potential or steep slopes



CONSERVATION ANALYSIS TOOL

DRAFT

Conservation Priority Areas

- This map does not direct the town to take any proactive action on lands
- Intended to assist the town when a landowner expresses interest in conservation

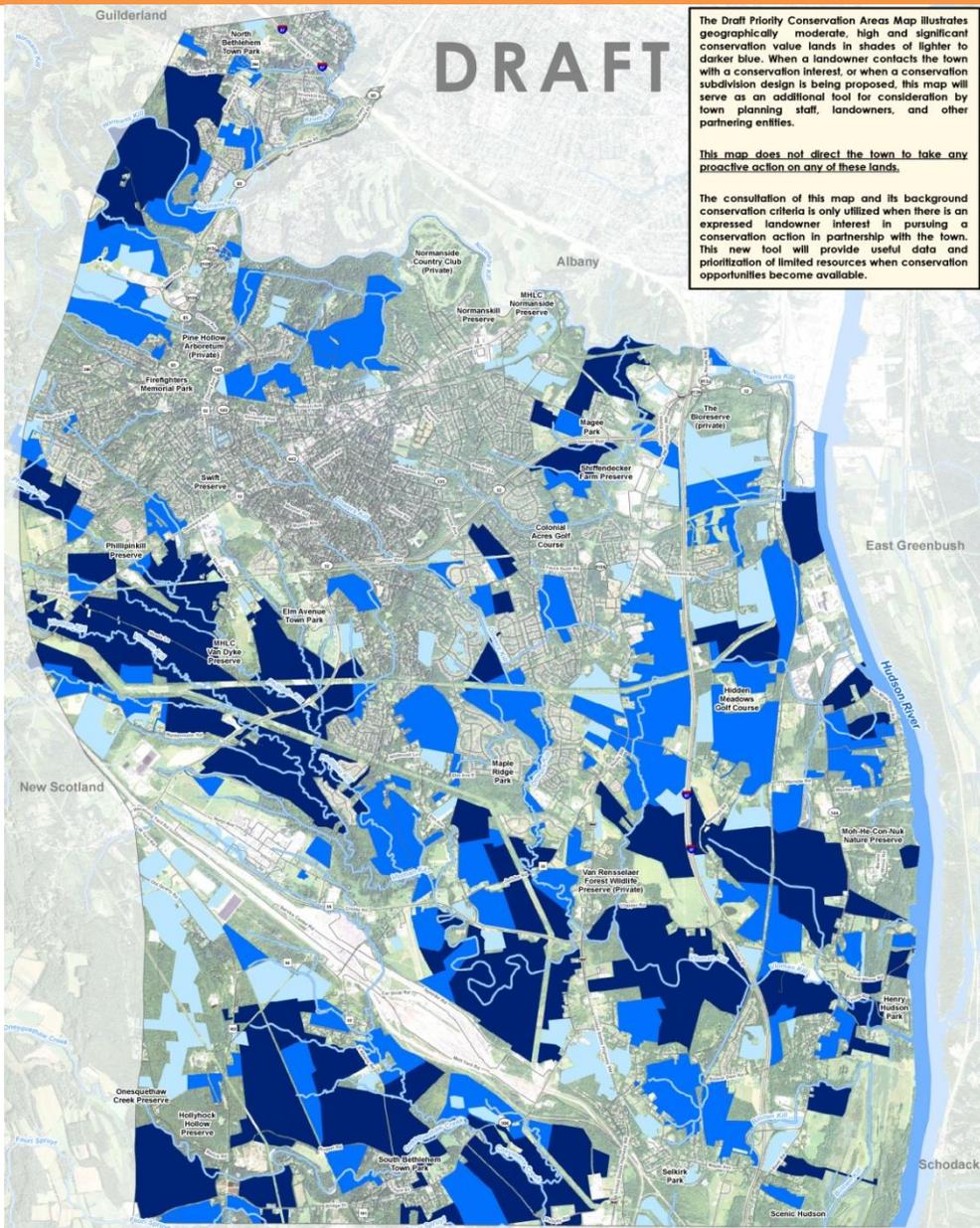
Legend

~ Roads

~ Stream/River

Conservation Value

Dark Blue	Significant
Blue	High
Light Blue	Moderate



How will we
use the Open
Space
Conservation
Priority Areas
Map?



Implementation

- **Current Conservation Opportunities**

- **Conservation Easement Exemption**

If a private landowner, with 5 acres or more, is interested in conservation and cost-savings.

- **Development review**

Conservation Subdivision and Planned Development Districts – clustering of units, variety of housing types and density incentives in exchange for open space conservation.

- **Future Conservation Opportunities**

- **Land sale**

If land that is considered “conservation priority” is for sale, town can consider purchase.

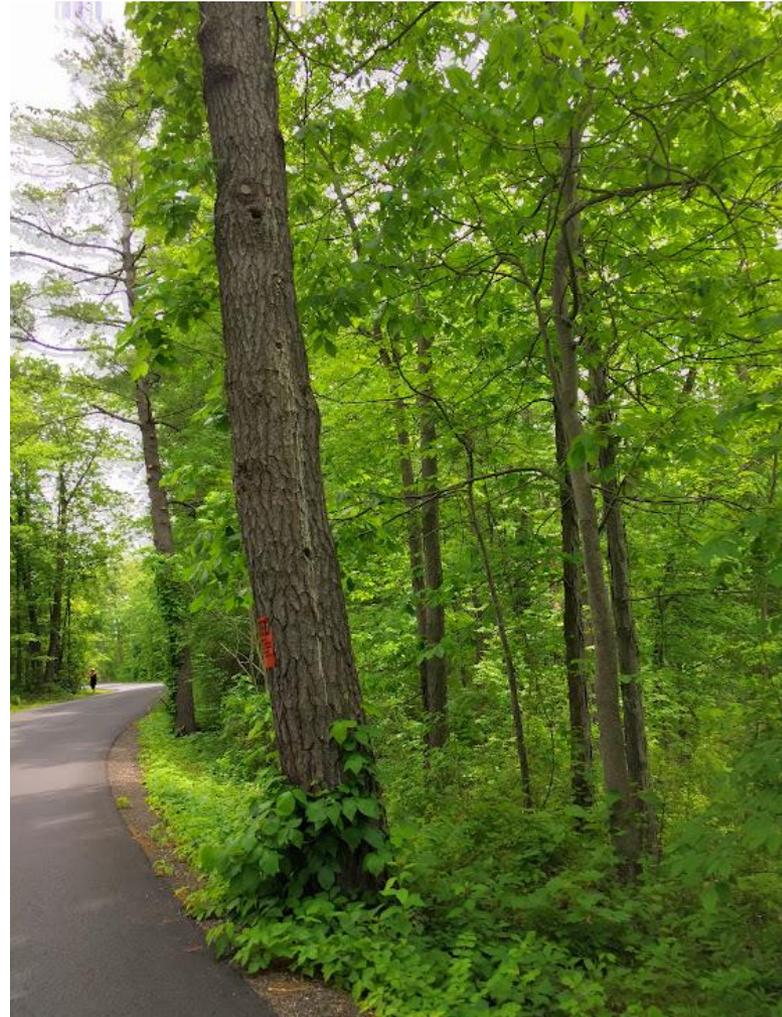
- **Purchase of Development Rights**

If private landowner is interested in conservation and financial savings, town (or a partnership) could consider purchase of development rights (PDR), while landowner retains ownership.

- Both of these opportunities would require a substantial dedicated funding mechanism and partnerships (with state, federal and local entities and land trusts).

- **Every conservation opportunity is unique**

- Multiple tools to accommodate diverse circumstances.
- Through the implementation options both parties would see a mutual benefit.
- Voluntary participation with interested landowners will be necessary if the Town is to conserve an open space system of any substance.



Implementation examples

- Van Dyke Preserve-
 - partnership with MHLC, Town, and developer
 - PDD -senior apartments and 33 acre preserve set-aside
- Newell Conservation Subdivision
 - 40 lots on Wemple, resulted in 16 acres preserved in vicinity of Dowerskill
 - 9 lots at end of Egmont Court
- Conservation Easement Exemption
 - (15 inquiries/1 approved)
 - 3 under review
 - Tilroe –Salisbury Road approved
- Scenic Hudson
 - Baker Farm purchase (155 acres) and Jennings conservation easement

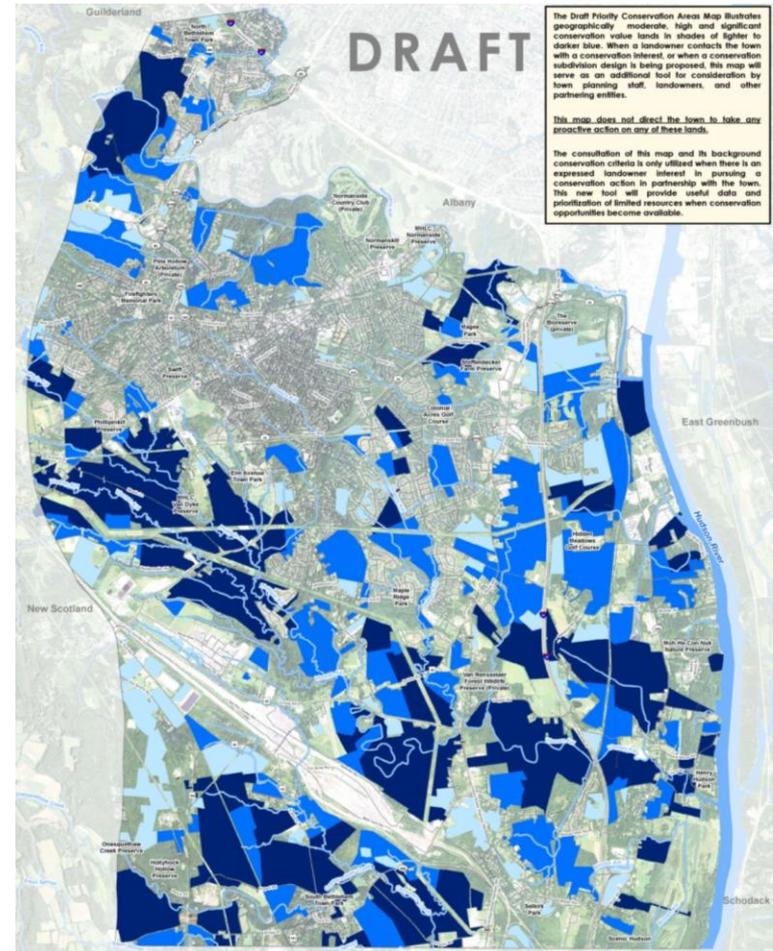


NEXT STEPS

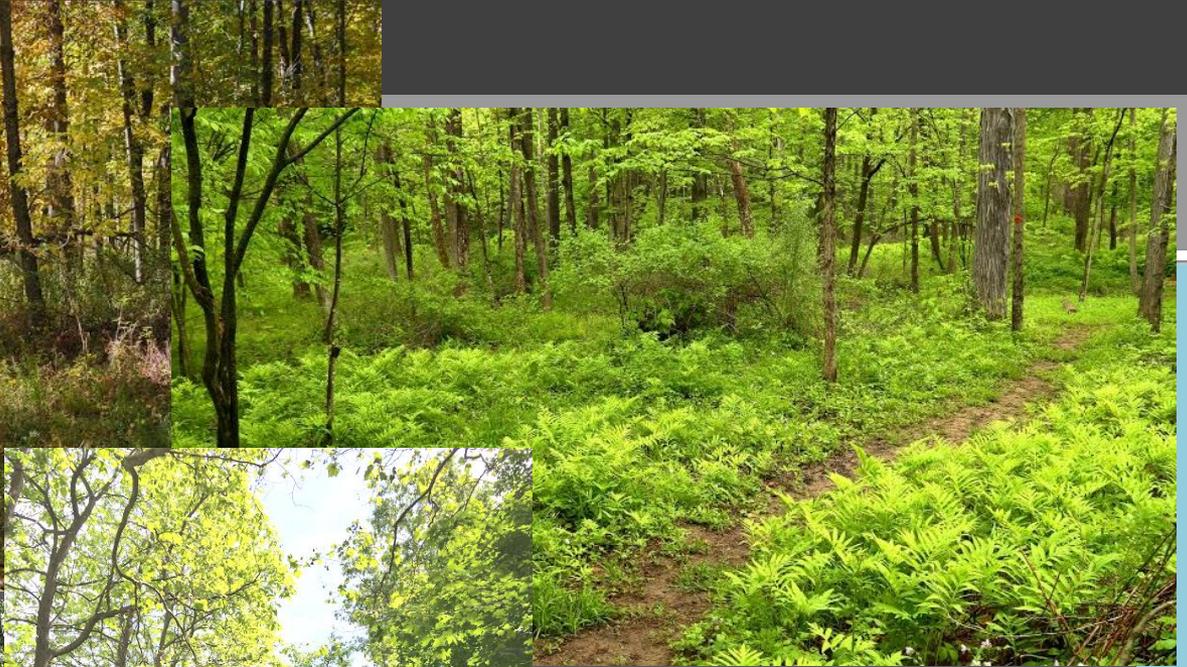


NEXT STEPS

- Gather Input from Public Tonight
- Refine Conservation Values Mapping
- Refine Conservation Analysis Tool
- Presentation to Town Board – November 8, 2017
- Public display of maps and materials at Bethlehem library in November
- Develop Open Space Plan



QUESTIONS/COMMENTS



THANK YOU

