

CITY of GARDNER
CONSERVATION COMMISSION



Reviewing, Renewing and Implementing an Open Space & Recreation Plan



Gardner, Massachusetts

Jeffrey D. Legros, Conservation & Planning Agent

Mayor Mark P. Hawke, City of Gardner

Presentation Overview

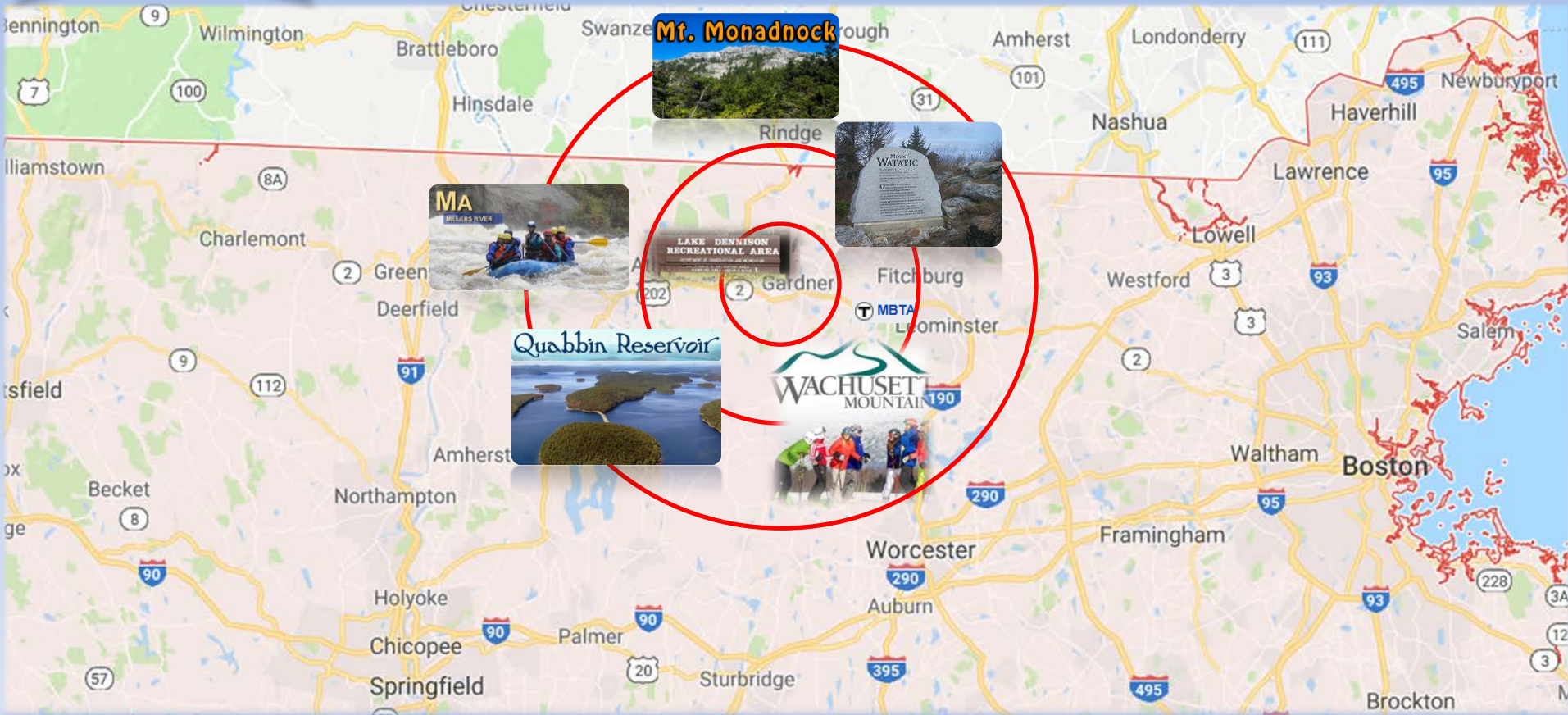
- **Community Setting**
 - **Regional Context & Demographics**
- **Environmental Inventory & Analysis**
 - **Landscapes & Natural Resources**
- **Inventory of Lands**
 - **Existing Open Space & Parks**
 - **Prioritizing Lands of Interest**
- **Vision, Goals, & Needs**
- **Implementing a Plan**
 - **A Landscape Partnership**





GARDNER, MASSACHUSETTS

Centrally located, easily accessible, and just off the beaten path...



The perfect base camp for all your regional outdoor adventures.



*Conservation, Recreation, Trails, Open Space,
History, Culture, Heritage....
Explore Gardner*

Population Characteristics and Community Dynamics

- Population - ~20,000
- Education & Housing
- Income & Poverty
- Environmental Justice
- Begin to identify needs and goals



complete streets are for everyone



LANDSCAPES & HABITATS

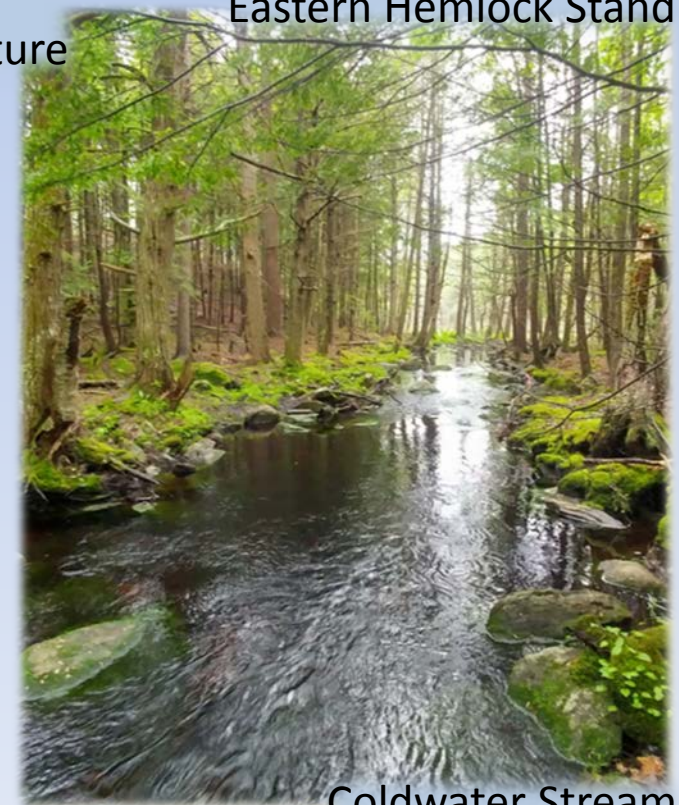
Wildflowers



Wetland, Riverine, and Open-water Aquatic



Open Field
Prime Agriculture

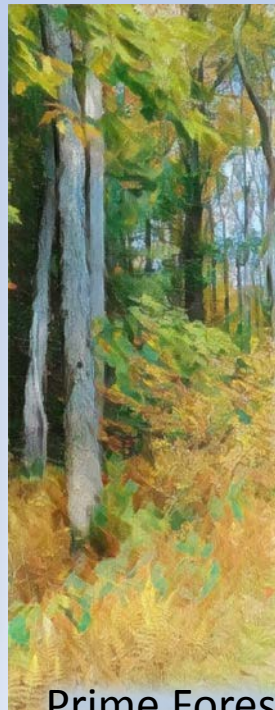


Eastern Hemlock Stand

Coldwater Stream



Spruce-Fir Boreal Swamp, Shrub Swamp, Emergent Marsh, and Wet Meadow



Prime Forest

Unique Landscapes and Natural Resources

Fish, Wildlife & Insects



Brook Trout
salvelinus fontinalis



Ski-tipped Emerald
Somatochlora elongata

Wood Turtle
Glyptemys insculpta



American Bittern
Botaurus pinnatus





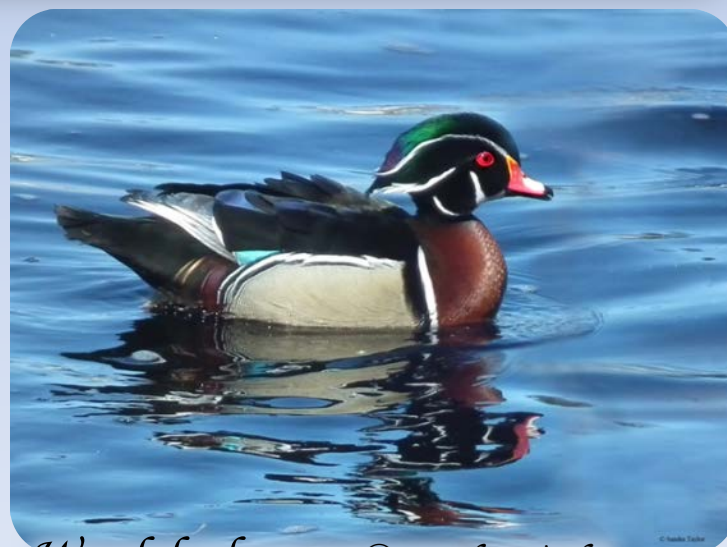
Screech Owl © Sandra Taylor



Blue heron with speared fish © Norman Beauregard



Dragonfly on flight © Norman Beauregard



Wood duck © Sandra Taylor



Perley Brook Reservoir Loop Trail



Crystal Lake Community Forest
Wellness Path & Nature Trail



City Forest



Gardner Municipal Golf Course



Dunn Pond State Recreation Area



Crystal Lake Reservoir

OPEN SPACE LANDS

Alisaukas Conservation Area



224 +/- Acres

- **Bailey Brook**

- **Prime Forest**
- **Prime Agriculture**
- **Ecological Integrity & Biological Diversity**
- **Hiking**
- **Hunting & Fishing**



Alisaukas Field – Summer Flowers

Otter River Conservation Area

150 +/- Acres

- Unique Wetlands
- Wildlife Viewing
- Canoeing & Kayaking
- Ecological Integrity & Biological Diversity
- Hiking
- Hunting & Fishing
- Blue Trail



Straus Marsh Early-Spring



Straus Marsh-Early Autumn



Straus Marsh Mid-Summer

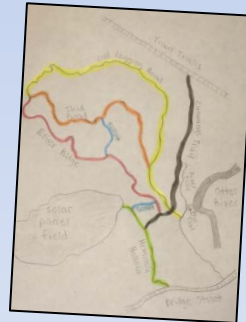
Cummings Conservation Area



Otter River Blue Trail



120 +/- Acres



- Otter River Blue Trail
- Prime Agriculture
- Canoeing & Kayaking
- Hiking
- Hunting & Fishing

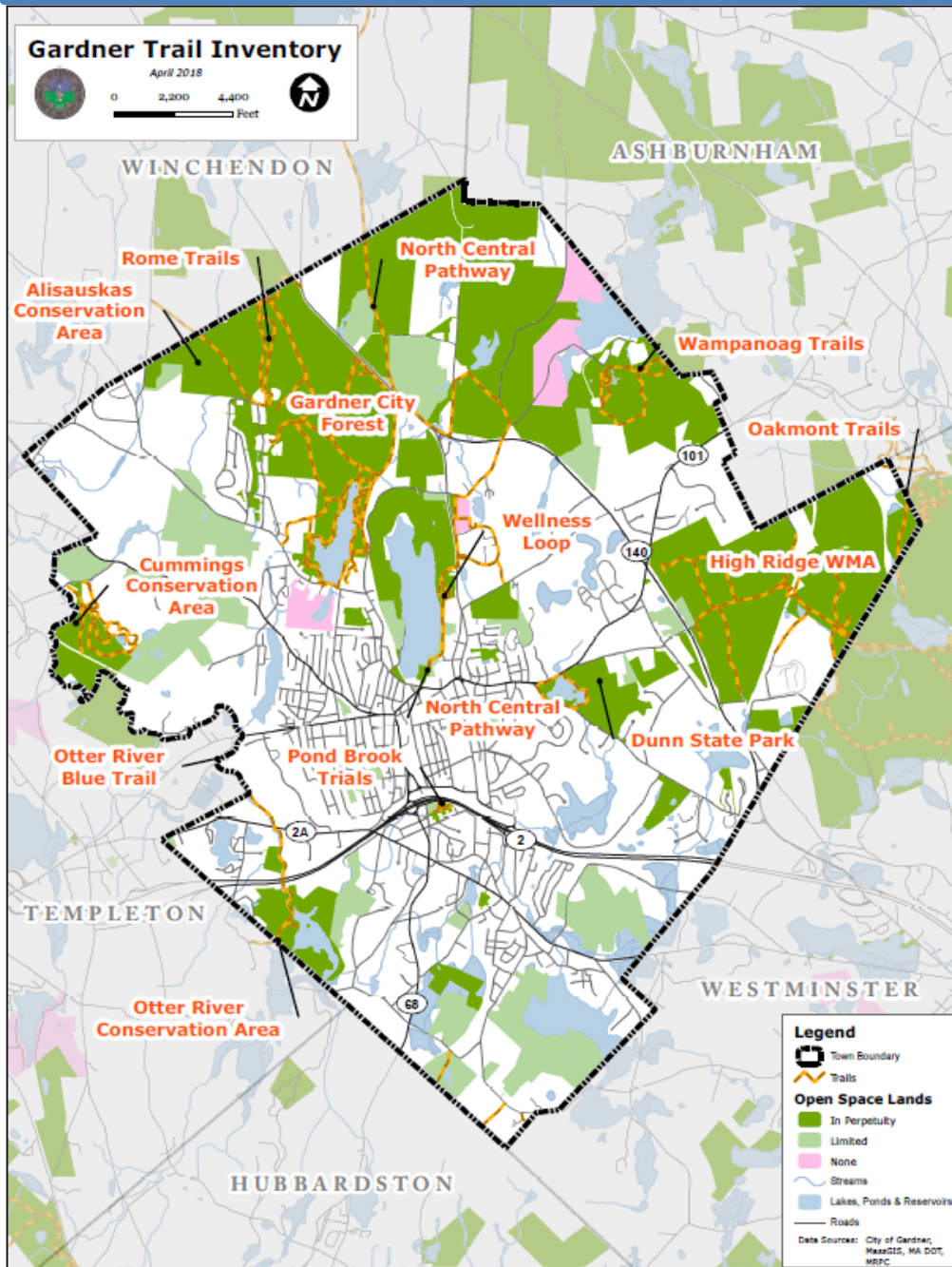


Otter River Blue Trail Take-Out & Portage Trail

Recreational Trails

GARDNER, MASSACHUSETTS

- Perley Brook Loop Trail
- City Forest Trails
- Cummings Trails
- Alisaukas Trails
- Otter River Trails & Blue Trail



Perley Brook Loop Trail

CLARK STREET & EATON STREET, GARDNER, MASSACHUSETTS



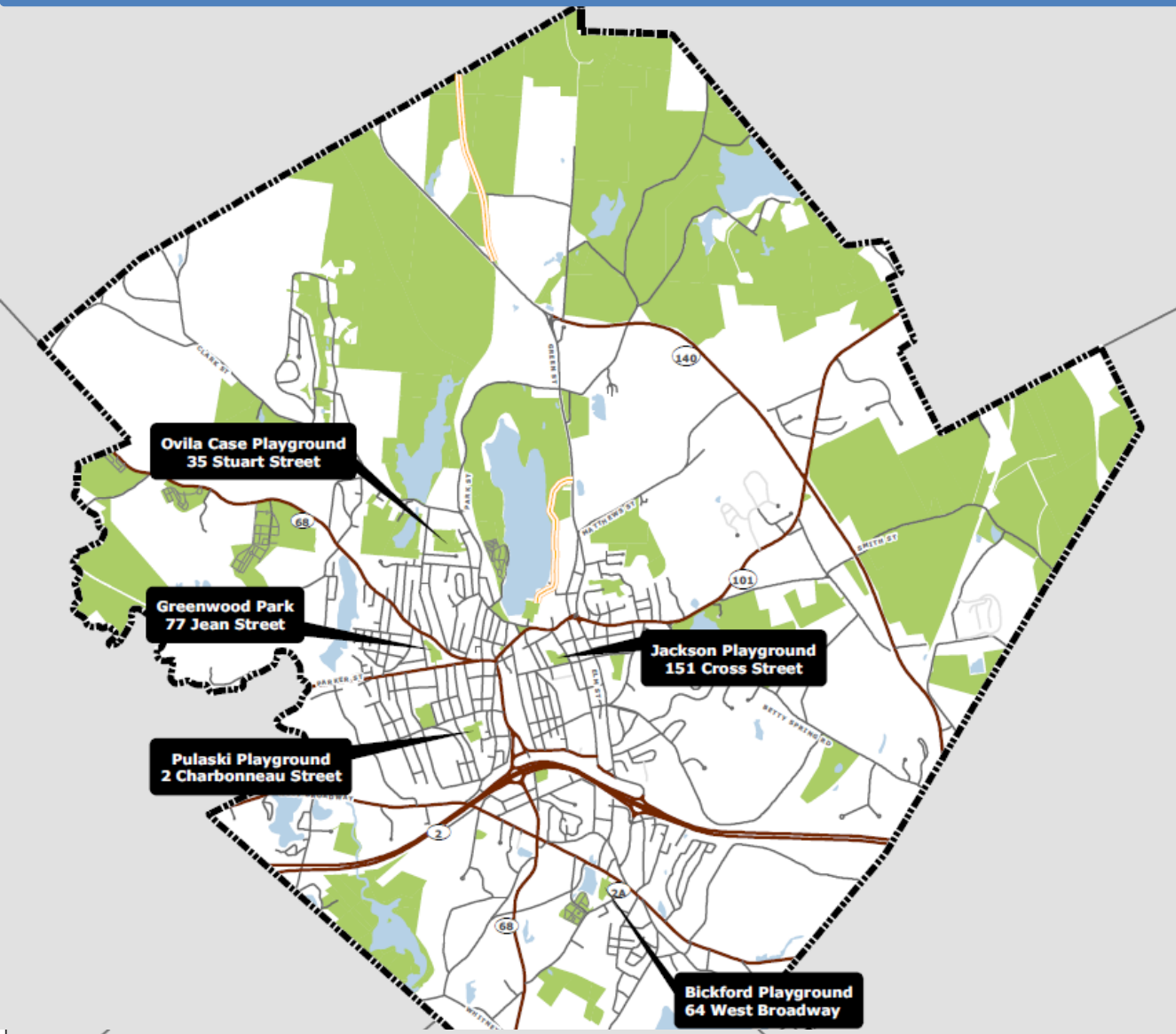
- 2-Mile Loop
- Scenic Vistas
- Fishing Access
- Wildlife Observation
- Trail Connections





Parks & Playgrounds

GARDNER, MASSACHUSETTS



- Bickford Playground
- Greenwood Park
- Greenwood Pool & Splash Park
- Jackson Playground
- Ovila Case Playground
- Pulaski Playground & Dog Park



| | | | |
|---|------------------------------|--|---|
|  Bike Trails | MUNICIPAL PLAYGROUNDS | 0 2,250 4,500 Feet 1 inch = 4,537 feet |  |
|  Open Space | | | |
| City of Gardner 95 Pleasant Street | | Data Sources: City of Gardner, MassGIS |  |

Bickford Playground

64 WEST BROADWAY, GARDNER, MASSACHUSETTS



- Baseball/Softball
- Basketball Court
- Open Grass Field
- Volleyball
- Walking Track



Greenwood Park

77 JEAN STREET, GARDNER, MASSACHUSETTS



- Baseball/Softball
- Basketball Court
- Open Grass Field
- Playground
- Multipurpose Path



Greenwood Pool & Splash Park

69 PARK STREET, GARDNER, MASSACHUSETTS



- Public Swim
- Swim Lessons
- Open Grass Field
- Facility Rental
- Special Events



Jackson Playground & Skate Park

151 CROSS STREET, GARDNER, MASSACHUSETTS



- Baseball/Softball
- Basketball Courts
- Playground & Tot Play Area
- Skatepark
- Multipurpose Path



Ovila Case Playground

35 STUART STREET, GARDNER, MASSACHUSETTS



- Baseball/Softball
- Tennis Court
- Wooden Playground
- Picnic Area
- Walking Track



Pulaski Playground & Dog Park at Lepkowski Field

2 CHARBONEAU STREET & WRIGHT STREET, GARDNER, MASSACHUSETTS

- Baseball/Softball
- Basketball Courts
- Playground
- Covered Pavilion
- Fenced Dog Park
- Walking Path



Pulaski Playground & Dog Park at Lepkowski Field

2 CHARBONEAU STREET & WRIGHT STREET, GARDNER, MASSACHUSETTS



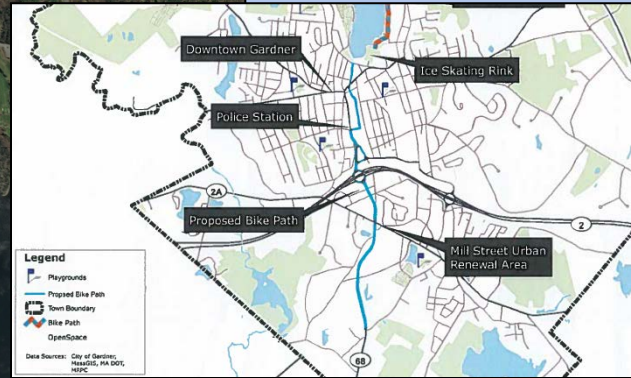
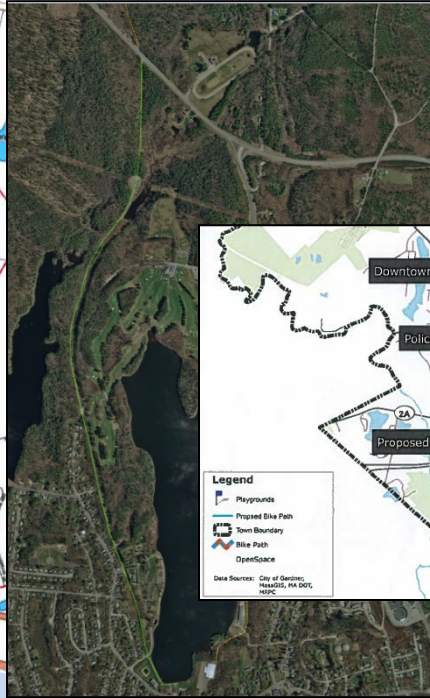
- Large Dog Area
- Small Dog Area
- Dog Agility Area
- Dog Fountain
- Accessible Path



North Central Pathway

GARDNER, MASSACHUSETTS

- Gardner to Winchendon
- Dunn Pond Spur
- Downtown and South Gardner
- Scenic Vistas of Crystal Lake
- Biking, Walking, Jogging



Identify & Prioritize

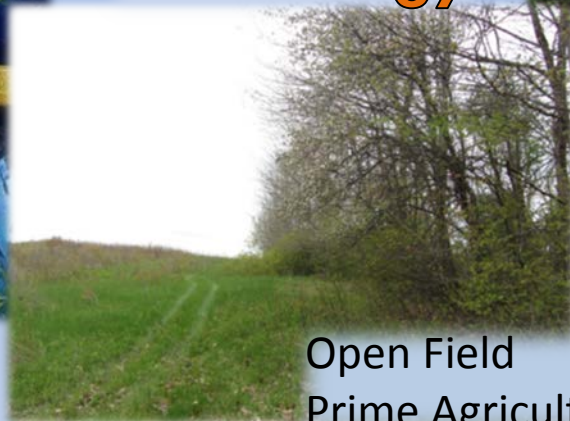
Land of Conservation Interest

Value & Integrity

Biology & Ecology



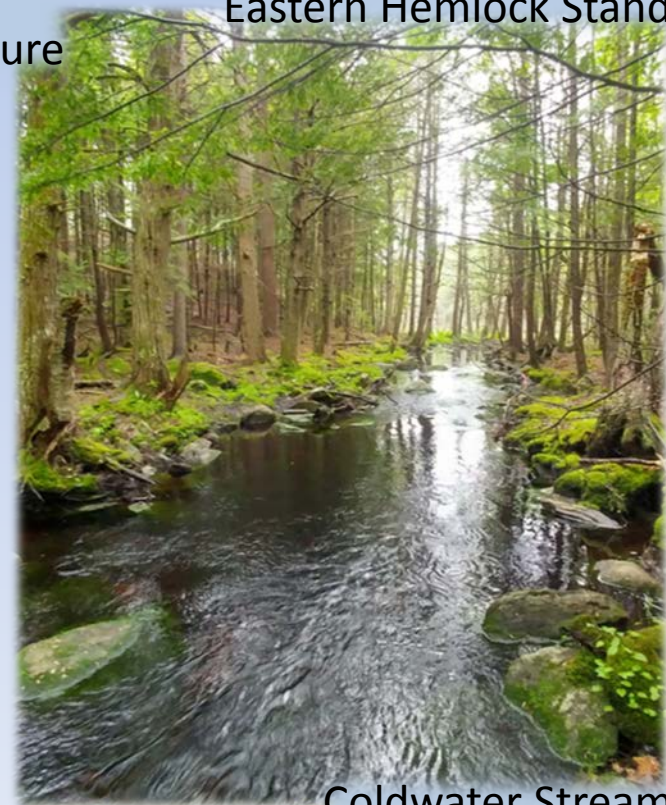
Wetland, Riverine, and Open-water Aquatic



Open Field
Prime Agriculture



Shrubland
Power-line Corridor

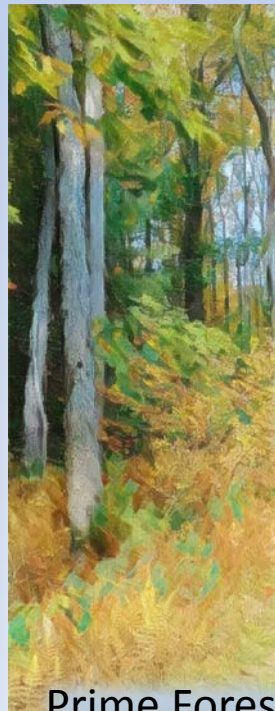


Eastern Hemlock Stand

Coldwater Stream



Spruce-Fir Boreal Swamp, Shrub Swamp, Emergent Marsh, and Wet Meadow



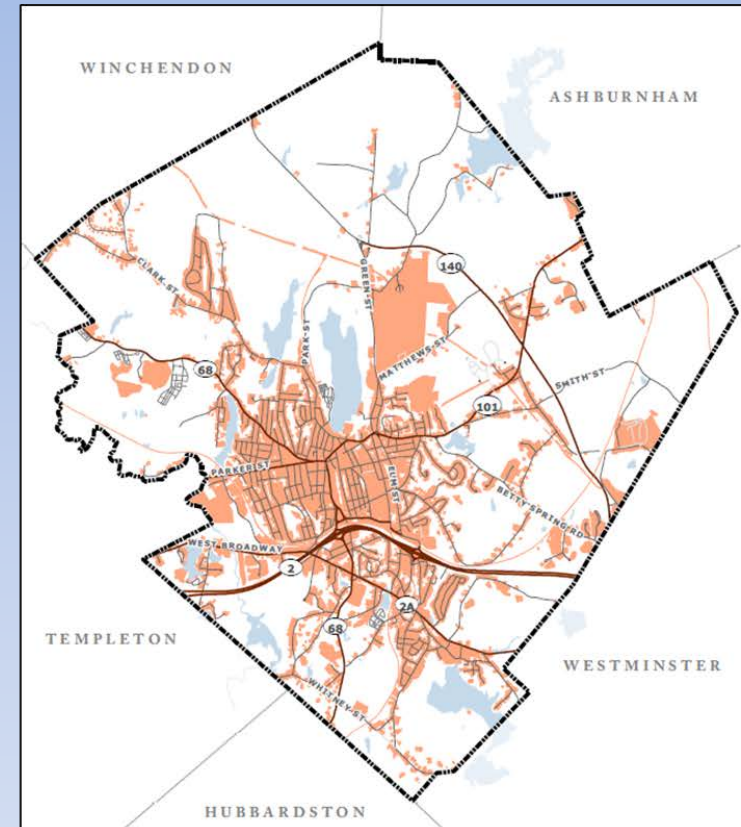
Prime Forest

Prioritizing Lands of Interest

- Determine developed versus undeveloped land
- Remove obvious issues
- Develop ranking

Priority 1 Lands

| Street Address | Acres | H ₂ O | Otter River | Adjacent | AdjOS | EIO/MAP | Priority Rank |
|---------------------|--------|------------------|-------------|------------|-------|---------|---------------|
| RAYMOND ST | 86.75 | | | OS | | X | 1 |
| PEARL ST | 90.32 | | | OS CH61 | X | X | 1 |
| HOWARD ST | 14.65 | | | | X | | 1 |
| CLARK ST | 112.78 | | | CH61 | X | X | 1 |
| HOWARD ST | 184.35 | | | OS CH61 | X | X | 1 |
| MATTHEWS ST | 22.54 | | | CH61 | X | | 1 |
| CLARK ST | 13.60 | | | | X | | 1 |
| STONE ST & EATON ST | 55.92 | X | | | | X | 1 |
| CLARK ST | 16.12 | | | | X | | 1 |
| RIVERSIDE RD | 62.73 | | X | OS CH61 | | | 1 |



Developed Lands

Prioritizing Lands of Interest

Developed & Undeveloped Lands

- Join Parcels to Assessor's Data
- Use the Assessor's data to QUERY GIS data based on STYLE being Vacant Land
- Perform a visual inspection

| USE_CODE | STYLE | OWN_ZIP |
|----------|-------------|---------|
| 1320 | Vacant Land | 01440 |
| 9300 | Vacant Land | 01440 |
| 9300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 33176 |
| 1320 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01440 |
| 9300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01420 |
| 1300 | Vacant Land | 01440 |
| 1300 | Vacant Land | 01440 |
| 1320 | Vacant Land | 01440 |

Geoprocessing

Select Layer By Attribute

Parameters Environments

Input Rows
Parcels selection

Selection type
New selection

Expression

Load Save Clear

Clause SQL

Where STYLE is equal to Vacant Land

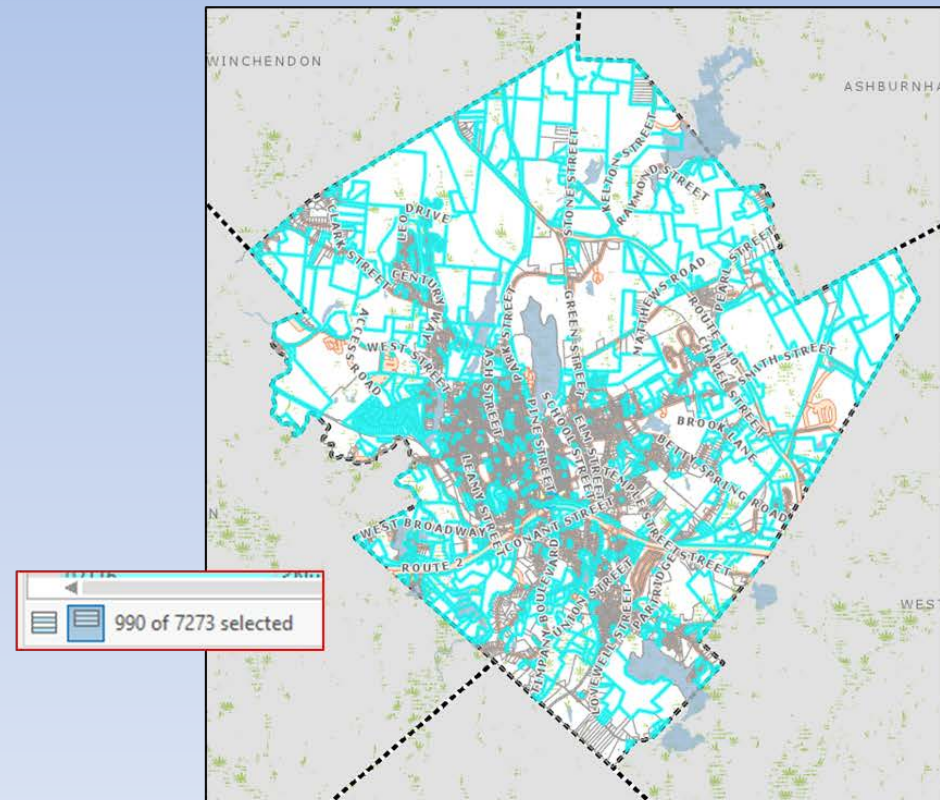
Add Cancel

990 of 7273 selected

Prioritizing Lands of Interest

Remove obvious issues

- Minimum lot size (we chose 5ac)
- Remove existing Open Space
- Remove properties soon to be developed (approved subdivisions)
- Remove properties owned by utility companies
- Think about Zoning
 - Don't include Commercial or Industrial areas



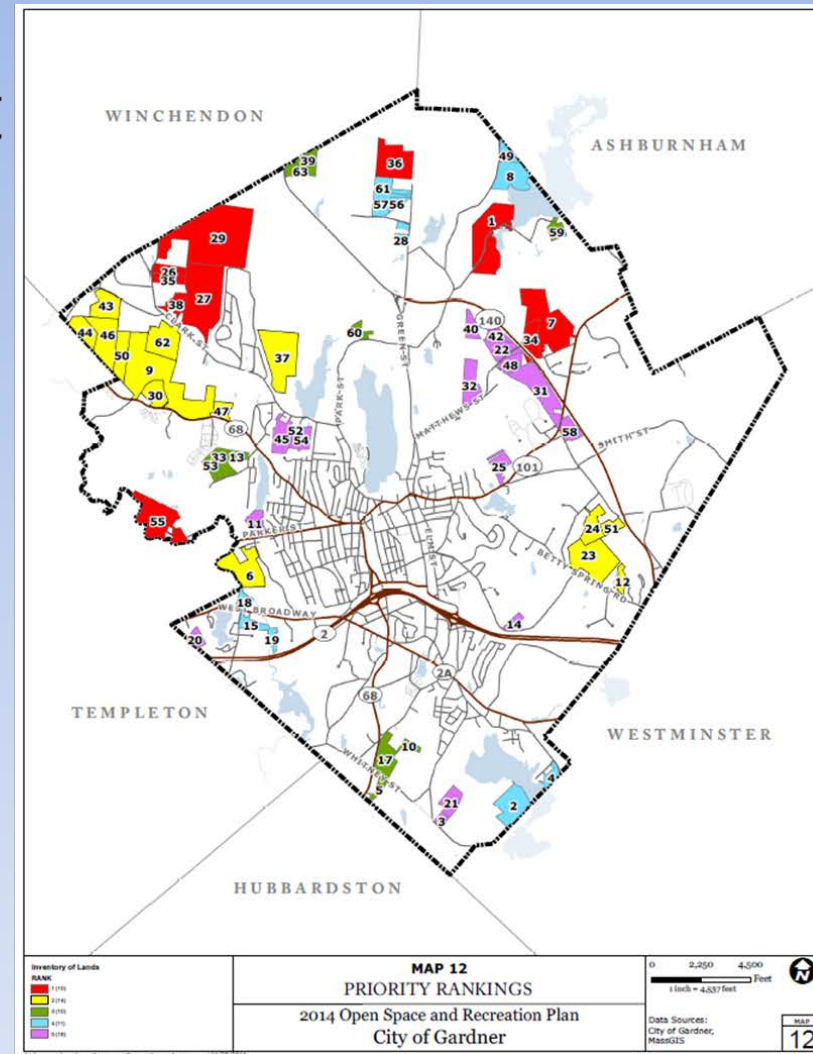
Prioritizing Lands of Interest

Develop Ranking System

We ranked 58 parcels using the following criteria:

- **Priority Rank 1**
 - >50 acres and adjacent to protected open space
- **Priority Rank 2**
 - >50 acres.
- **Priority Rank 3**
 - adjacent to protected open space.
- **Priority Rank 4**
 - in watershed or BioMap2 or adjacent to Otter River.
- **Priority Rank 5**
 - remaining parcels.

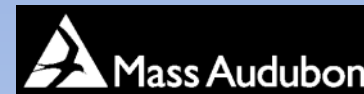
Developing this criteria took a lot of trial and error



Challenges

- The MassGIS open space layer was not adjusted to our parcel layer. MassGIS has since resolved this problem.
- 990 Parcels were Vacant and we needed to get that to a manageable size to prioritize
- The Ranking system took a lot of time and refining

Mapping and Prioritizing Parcel Resiliency (MAPPR)



Gardner

*Balanced Model

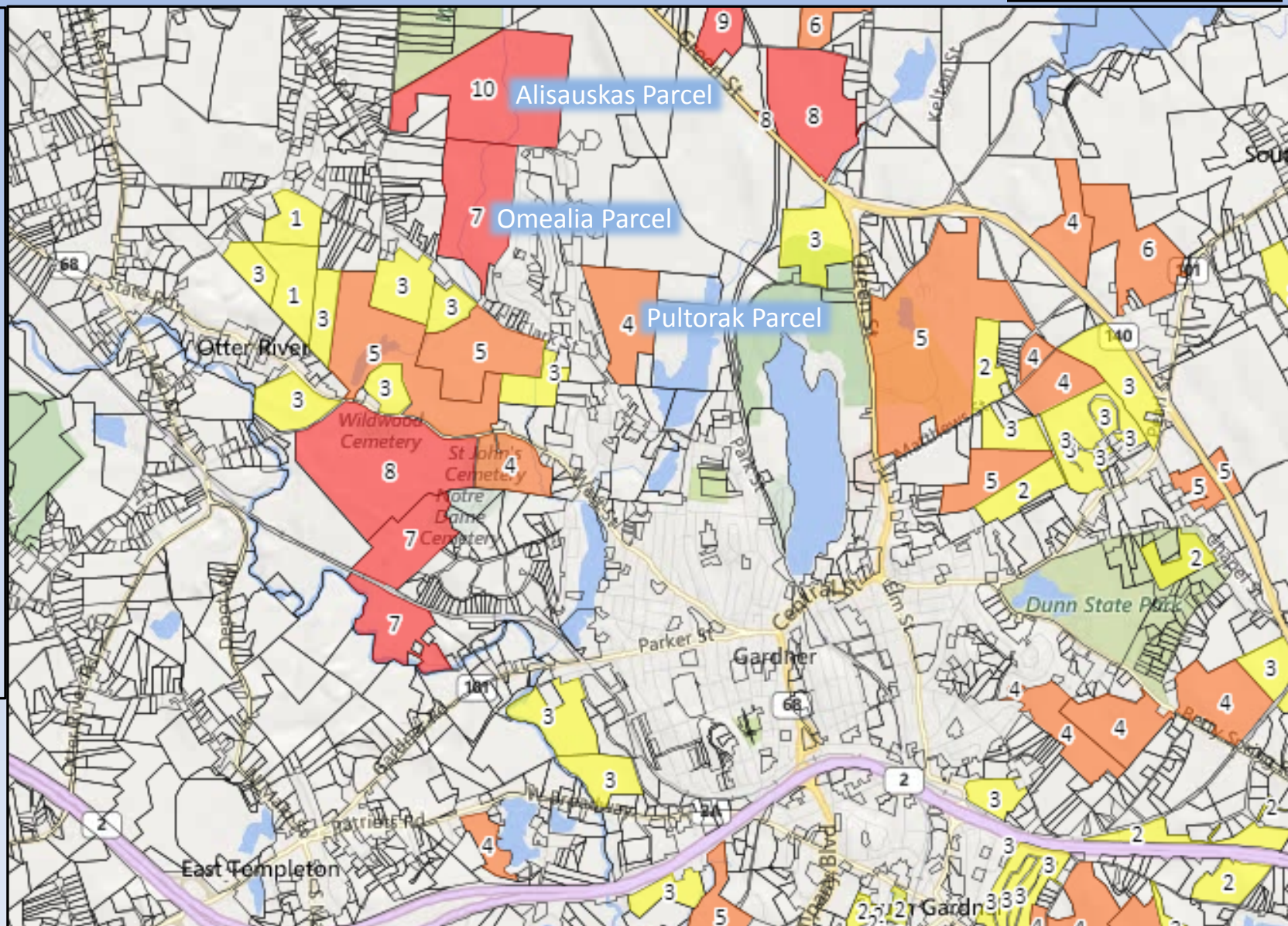
Assigned Values:

- Resilient
- Critical Linkages
- BioMap2 Core Hab
- BioMap2 CNL
- Prime Farmland
- Adjacent Protection
- UnderRep Settings

Filter: 20 ac

Priority

- High
- Med
- Low





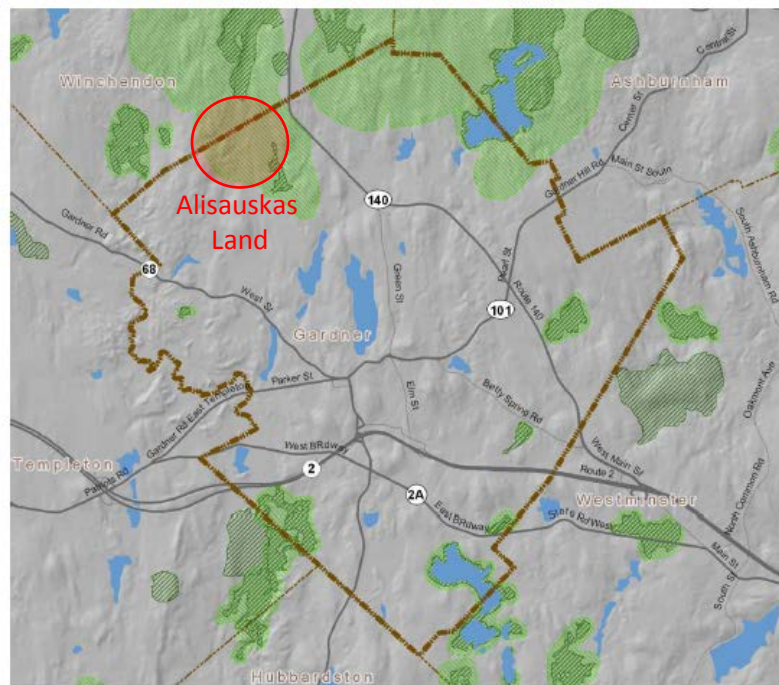
www.mass.gov/service-details/biomap2-conserving-the-biodiversity-of-massachusetts-in-a-changing-world

BioMap2

Conserving the Biodiversity of Massachusetts in a Changing World

Core Habitat: Wetland Core
Critical Natural Landscape: Landscape Block

BioMap2 Core Habitat and Critical Natural Landscape in Gardner



BioMap2 Core Habitat
 BioMap2 Critical Natural Landscape

1 Mile



Town Overview

Gardner lies within the Worcester Plateau Ecoregion, an area that includes the most hilly areas of the central upland of Massachusetts with a few high monadnocks and mountains. The dominant forest types present are transition hardwoods and some northern hardwoods. Forested wetlands are common. Surface waters are acidic. Many major rivers drain this area.



[Town Reports](#)

Gardner at a Glance

- Total Area: 14,728 acres (23.0 square miles)
- Human Population in 2010: 20,228
- Open space protected in perpetuity: 3,706 acres, or 25.2% percent of total area*
- BioMap2 Core Habitat: 463 acres
- BioMap2 Core Habitat Protected: 205 acres or 44.2%
- BioMap2 Critical Natural Landscape: 2,153 acres
- BioMap2 Critical Natural Landscape Protected: 1,391 acres or 64.6%.

BioMap2 Components

Core Habitat

- 4 Exemplary or Priority Natural Community Cores
- 2 Wetland Cores
- 3 Aquatic Cores
- 5 Species of Conservation Concern Cores**
 - o 3 birds, 1 insect, 2 plants

Critical Natural Landscape

- 2 Landscape Blocks
- 8 Wetland Core Buffers
- 3 Aquatic Core Buffers

* Calculated using MassGIS data layer "Protected and Recreational Open Space—March, 2012".

** See next pages for complete list of species, natural communities and other biodiversity elements.



www.mass.gov/service-details/biomap2-conserving-the-biodiversity-of-massachusetts-in-a-changing-world

BioMap2

Conserving the Biodiversity of Massachusetts in a Changing World

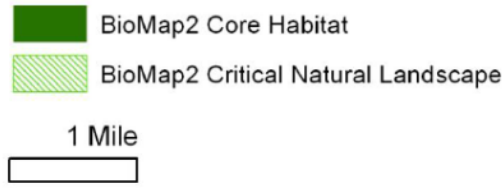
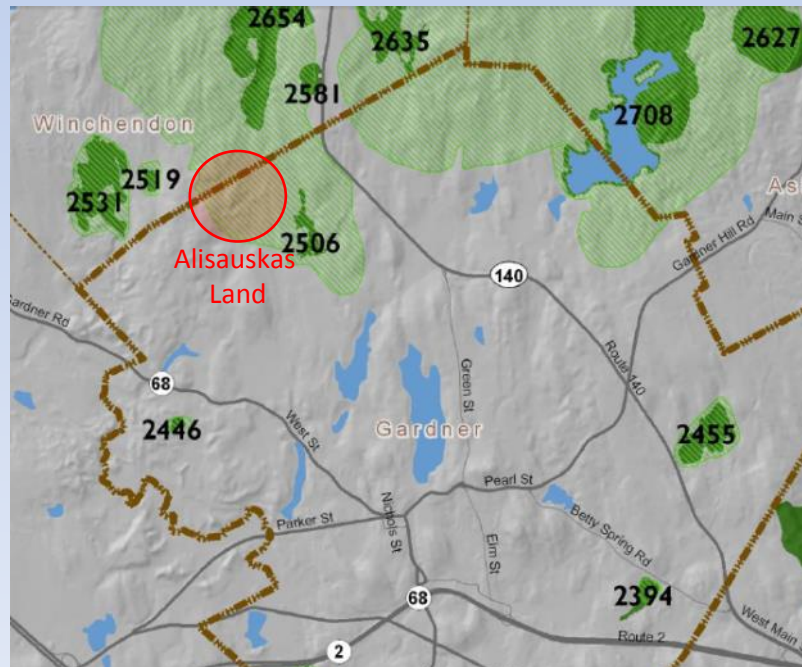
Core 2506

A 29-acre Core Habitat featuring Wetland Core.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes – those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Core Habitat:

Wetland Core Habitat associated with Bailey Brook & Wilder Brook in Winchendon & Gardner adjacent to existing Open Space Lands, including Rome Conservation Area.



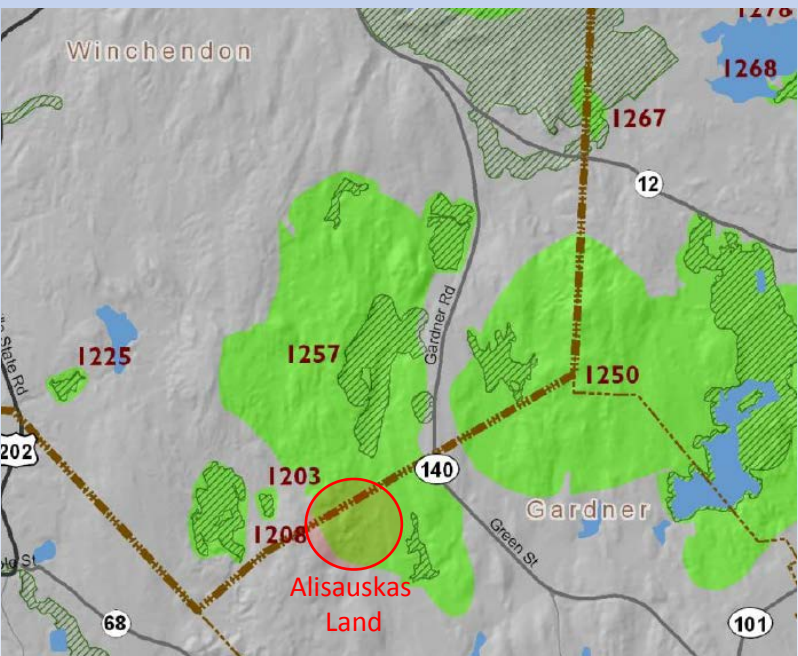


www.mass.gov/service-details/biomap2-conserving-the-biodiversity-of-massachusetts-in-a-changing-world

BioMap2

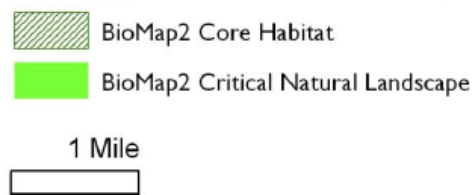
Conserving the Biodiversity of Massachusetts in a Changing World

Landscape Blocks, the primary component of Critical Natural Landscapes, are large areas of intact predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes. Pastures and power-line rights-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species. Collectively, these natural cover types total 3.6 million acres across the state. An Ecological Integrity assessment was used to identify the most intact and least fragmented areas. These large Landscape Blocks are most likely to maintain dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes, all of which help to support wide-ranging wildlife species and many other elements of biodiversity.



**Critical Natural:
Landscape
1257**

A Landscape Block & Wetland Core Buffer comprising a 2,792-Acre Critical Natural Landscape corridor along Bailey Brook between Gardner and Winchendon supporting many dynamic ecological processes, wild-life species of concern and other critical elements of biodiversity.



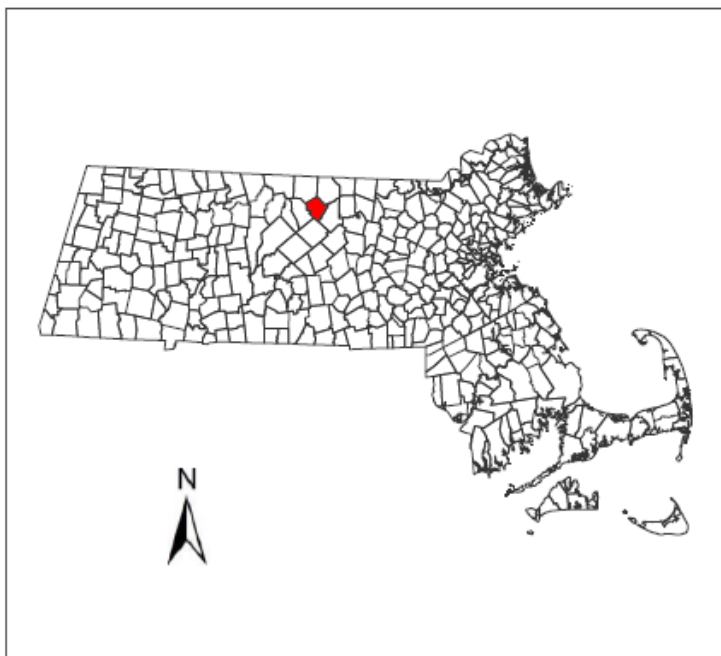
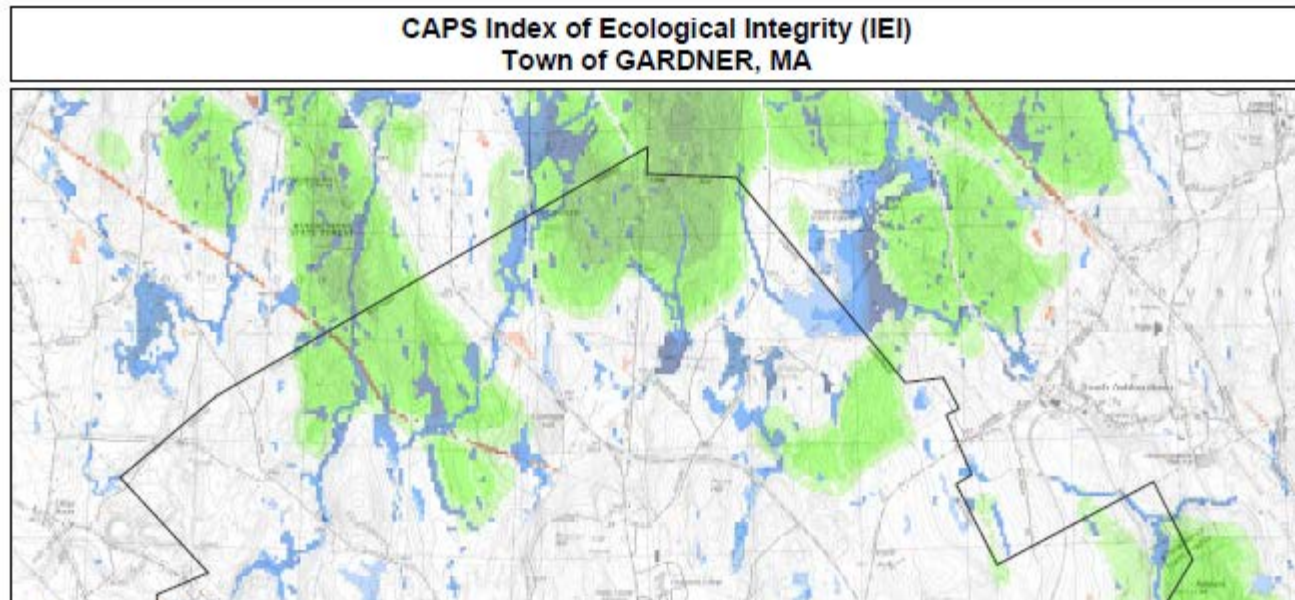
“Ecological Integrity refers to the capability of an area to sustain ecological functions over the long-term; In particular, the ability to support biodiversity and the ecosystem processes necessary to sustain biodiversity over the long-term in the face of disturbance and stress.”

***Kevin McGarigal (and the CAPS Team)
CAPS Overview Presentation (2009)***

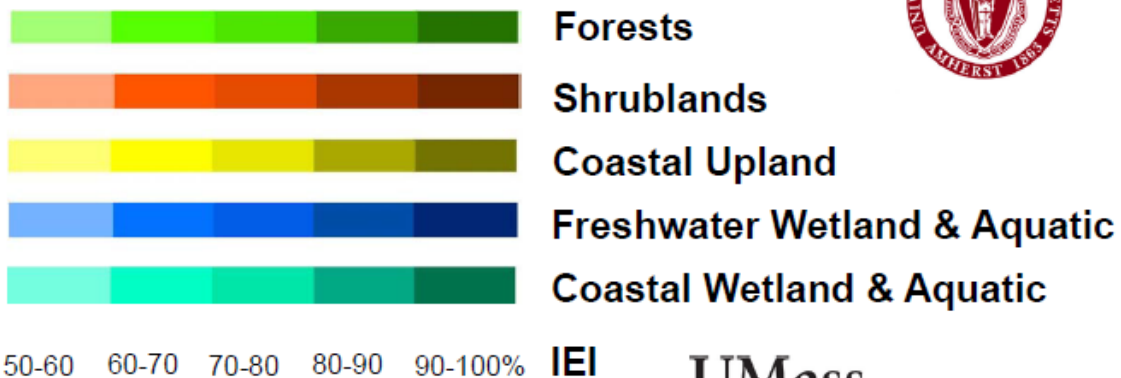
Conservation Assessment And Prioritization System (CAPS)

Index of Ecological Integrity Town Maps

UMASS
Landscape Ecology Lab



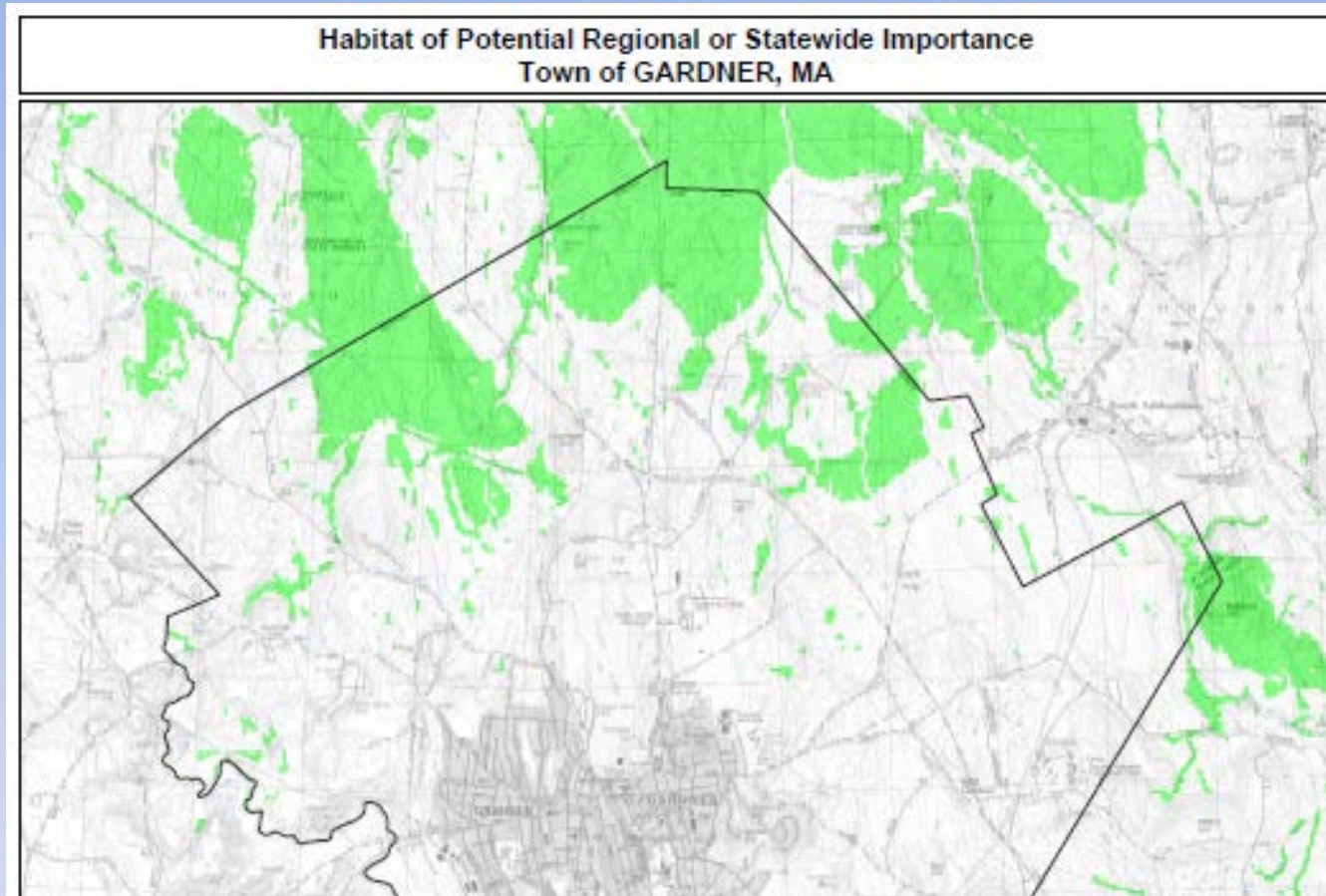

IEI, Index of Ecological Integrity Top 50% of the Landscape



<http://www.umasscaps.org/>

Mass DEP

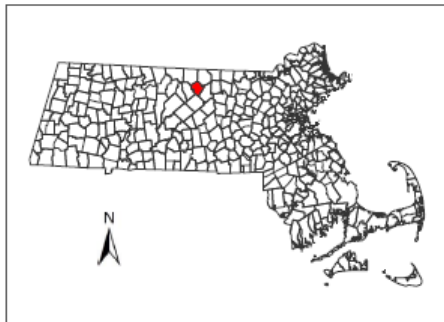
Important Habitat

Town Maps<http://www.umasscaps.org/>

Important Wildlife Habitat

The MassDEP's Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands, June 2006 adopted a new approach for assessing wildlife habitat impacts associated with work in wetlands. This approach utilizes maps developed at the University of Massachusetts Amherst using the Conservation Assessment and Prioritization System (CAPS). The maps depict (Habitat of Potential Regional or Statewide Importance) that may trigger more intensive levels of review. For more information on how to assess wildlife habitat impacts, see Section III of the Guidance document: <http://www.mass.gov/dep/water/laws/wldhab.pdf>.

The CAPS model assesses the ecological integrity of Massachusetts landscape features as influenced by environmental stressor metrics (e.g. pollution, fragmentation). CAPS relies on data that are broadly available across Massachusetts. Ecological features which are not consistently surveyed or uniformly available, such as certified vernal pools, rare species, and contamination sites are not included in CAPS. When available, this more specific ecological information may be used in conjunction with the CAPS outputs to better understand particular sites in Massachusetts and support informed conservation decision-making. For more information on the statewide maps produced by the CAPS model, see: <http://www.masscaps.org>.

These maps are funded in part by the Massachusetts Executive Office of Energy and Environmental Affairs, the Massachusetts Department of Environmental Protection and the U.S. Environmental Protection Agency under section 104 (b)(3) of the U.S. Clean Water Act. Environmental data sources include the Office of Geographic and Environmental Information (MassGIS).



**UMass
Extension**

CENTER FOR AGRICULTURE

Keys to Successful Land Conservation and Open Space & Recreation Plan Implementation

1. Planning

- Open Space and Recreation Plan & Committee
- Coordination with local Land Trusts, City Officials, and private land owners

2. Prioritizing

- Ecological Assessments
- Biological Inventories & Information

3. Acquiring

- Coordination, Communication, & Commitment
- Finding & Securing Funds
- Dedication, Diligence, & Determination



Sidewalk and Trail Improvements...

Protect Additional Open Space...

Provide a dog-friendly open space...

Conduct a Public Shade Tree Inventory...

Create a multipurpose park in West Gardner...

Promote use & stewardship of natural resources...

Improve access to lakes, rivers, and ponds...

...Mass Complete Streets Program

...Acquisitions of Bailey Brook Parcels

... Dog Park at Lepkowski Field

...Tree City USA Designation

... Bailey Brook Open Space Park Acquisition

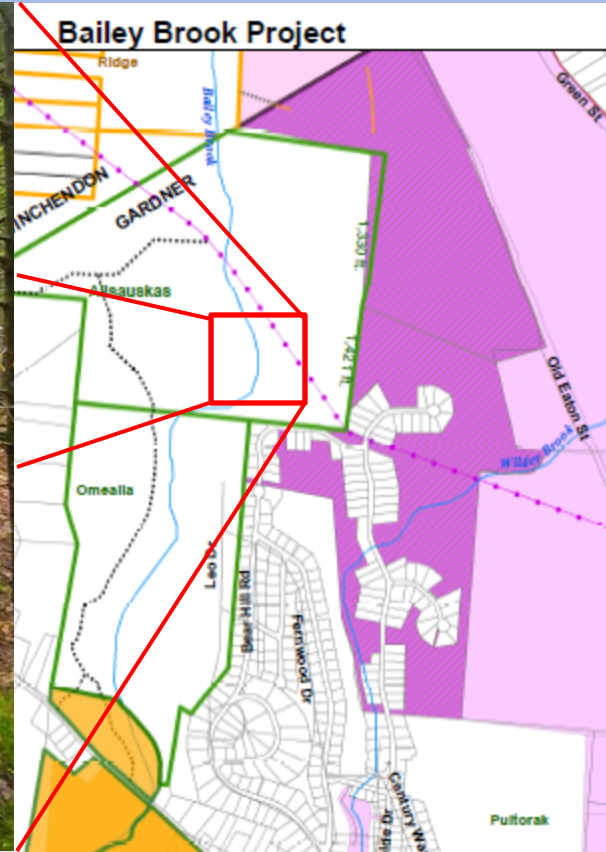
...Crystal Lake Community Forest & Wellness Area

...Kendall Pond Boat Launch Fishing & Swimming Dock

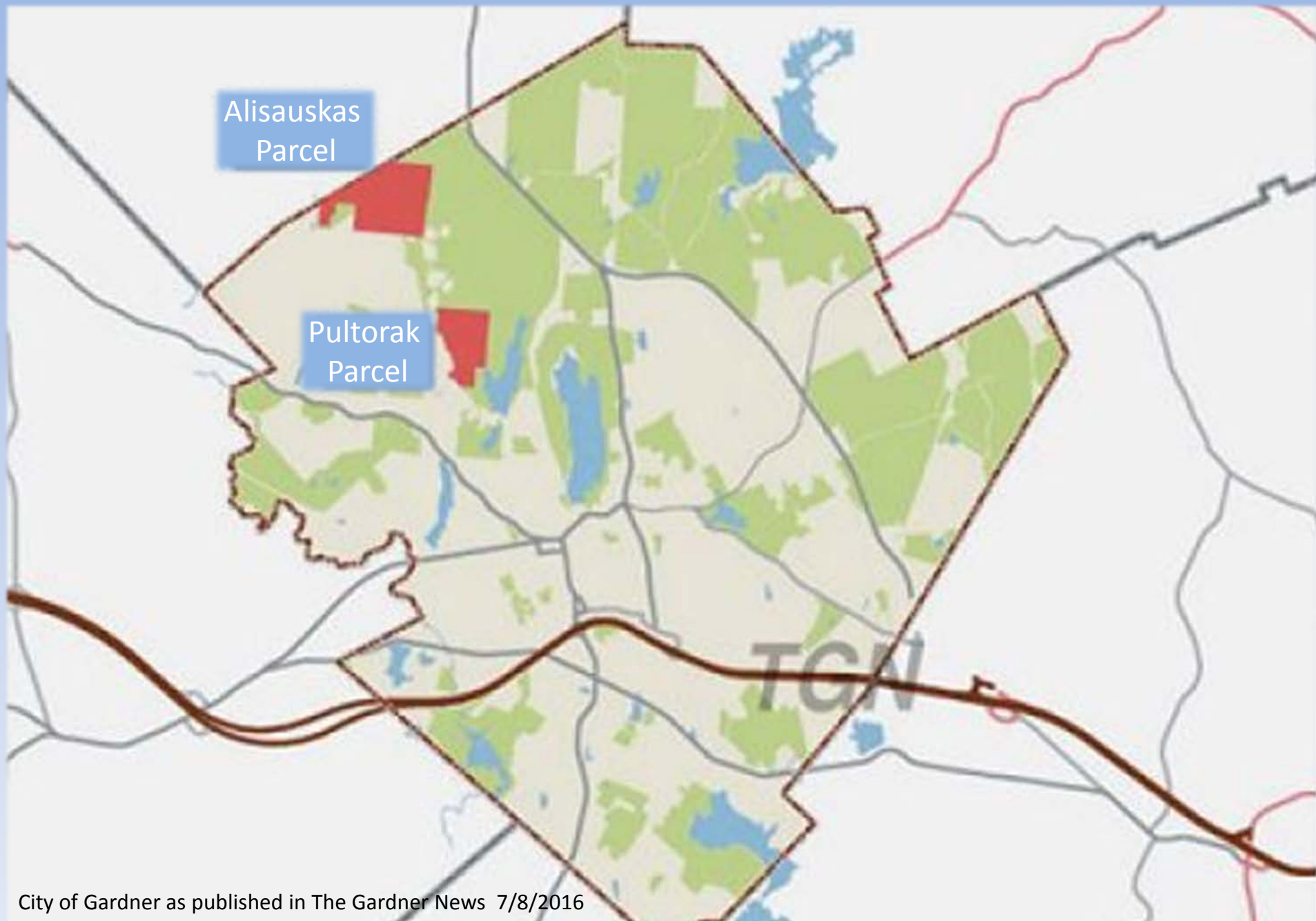
Putting it to work!

Conservation Corridor... Ecological Integrity ... Habitat Protection

Bailey Brook Greenway: Landscape Level Ecological Conservation

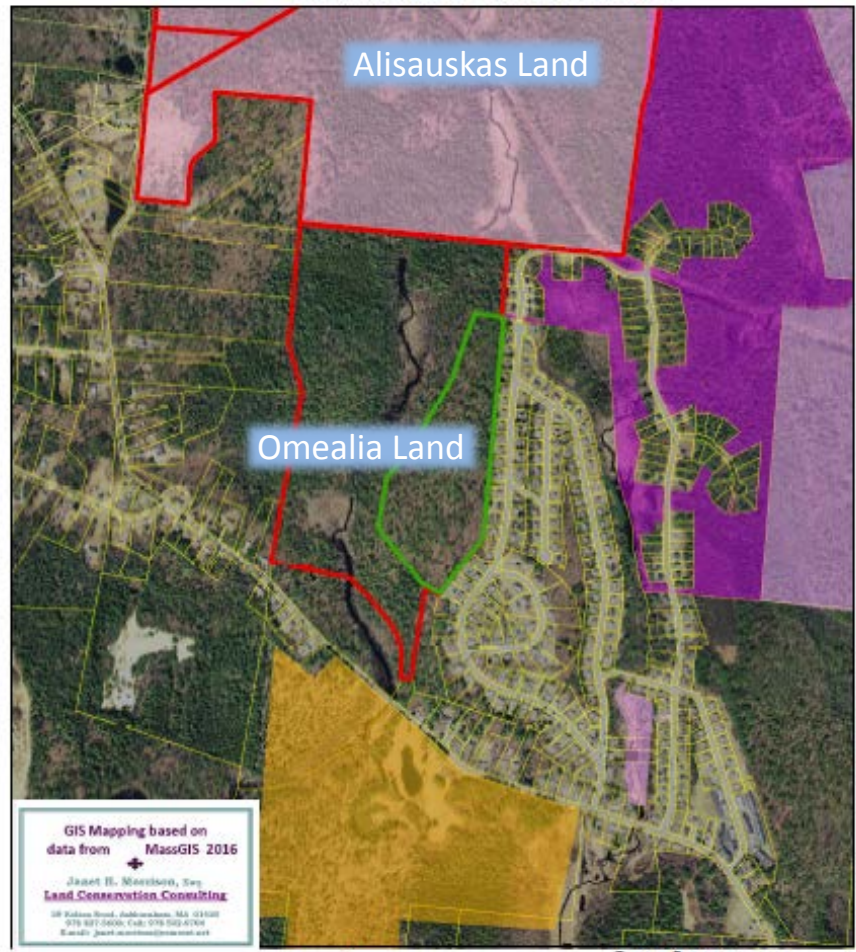


Prioritizing Between Like Parcels... Or are they?



A Coldwater Stream Greenway & Multiuse Open Space Park

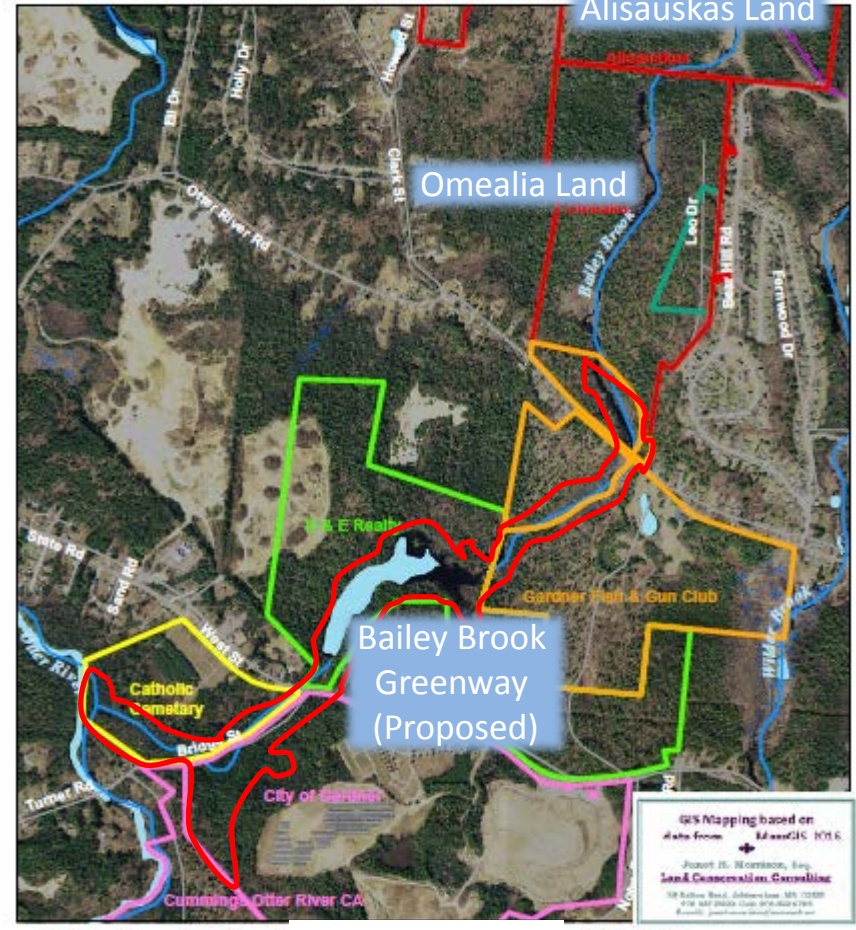
Omealia Property Conservation Project



GIS Mapping based on data from MassGIS 2016
 Janet H. Morrison, Esq.
 Land Conservation Consulting
 100 Kellen Road, Ashburnham, MA 01410
 978-887-6266, Cell 978-887-4784
 Email: janet.morrison@landcon.com

Open Space
 OMEALIA Open Space
 Omealia Park
 Municipal
 Private
 Conservation Organization

Gardner & Winchendon Landscape Connection Project And Bailey Brook Greenway



GIS Mapping based on data from MassGIS 2016
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 978-887-6266, Cell 978-887-4784
 Email: janet.morrison@landcon.com

Open Space
 Bailey Brook Landscape Conservation and Greenway Connection Project Area
 Municipal
 Non-Profit
 Private
 Commercial Owner

Eventually all things merge into one...

and a River Runs Through It. (Norman Maclean)

Project partners: CITY of GARDNER
CONSERVATION COMMISSION



Project management: Janet H. Morrison
Land Conservation Consulting

Acknowledgements:

Office of Governor
Charlie Baker and Lt.
Governor Karyn Polito



...committed to making Massachusetts the best place to live, work, and raise a family.

Funded by:

Massachusetts Executive Office of Energy and Environmental Affairs

Division of
Conservation Services

Secretary, Matthew A. Beaton



Thank you for your support.



*Conservation, Recreation, Trails, Open Space,
History, Culture, Heritage....
Explore Gardner*