

REPORT
OF THE
**COVENTRY OPEN SPACE WORKING
GROUP**

A SUBCOMMITTEE OF THE PLANNING & ZONING
COMMISSION; INCLUDING TOWN BOARDS, LAND USE
AGENCIES AND OTHER PARTICIPANTS

OCTOBER 2014



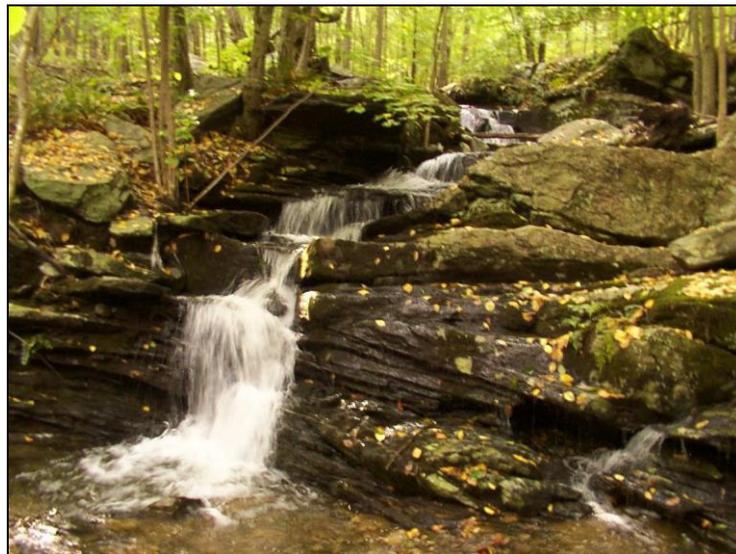
Thornton Brook Preserve

TABLE OF CONTENTS

Subcommittee Members and Affiliations pages 3-4
Preface page 5
Use of this Document..... page 5
Mission of Subcommittee page 6
Approach of Subcommittee..... page 6
Tasks of Subcommittee page 6
Summary of Coventry’s Undeveloped Land page 7
Findings..... pages 8-9
Conclusions & Recommendations pages 10-13
Value Statements pages 14-20
Glossary pages 21-23

Appendices:

A - Open Space Economic Value Study pages 24-25
B - POCD Open Space Section - Chapter V pages 26-30
C - POCD Open Space Map - 2010 page 31
D - POCD Preservation Focus Area Map - 2010.... page 32
E - Open Space Map - 2013 page 33
F - Management Plan Sample - Brief..... page 34
G - Regulation Revision Recommendations..... page 35
H – Resource ‘Toolbox’.....page 36-67



Waterfall – Unnamed Brook – Snake Hill Road

SUBCOMMITTEE MEMBERS:

Cathy Cementina - SOS Coventry
Mike Griswold - Town Council
Art Hall - Conservation Commission
**Bill Jobbagy – Planning and Zoning Commission, Economic
Development Commission**
Leroy Lowe - Conservation Commission
Teri Merisotis - Parks & Recreation Commission
Christine Pattee – Planning and Zoning Commission
**Darby Pollansky – Inland Wetlands Agency, Planning and Zoning
Commission**
Eric Thomas – Ad-hoc Conservation Corps Committee
Jasmine Wolf - SOS Coventry, Ad-hoc Conservation Corps Committee
Eric Trott - Director of Planning and Development

Committee Member Affiliation Description:

Town Council – The elected governing body of the town. The Town Council establishes policy decisions that must be supported by the public in order for those policies to become enabled.

Planning & Zoning Commission (PZC) - Creates regulations applicable to land use. Reviews and decides on land use applications with regard to their agreement with regulations and impact on public health, safety and welfare.

Economic Development Commission (EDC) - Provides recommendations to other agencies on economic development issues. Promotes and conducts activities relative to economic development

Conservation Commission - Recommends open space and conservation issues for the PZC and IWA, and maintain records of all open space areas and wetlands.

Ad-hoc Conservation Corps Committee - Visits and monitors assigned open space properties in town.

Inland Wetlands Agency (IWA) - Reviews and administers applications where there is regulated activity as defined in the Inland Wetlands and Watercourses Regulations.

Parks & Recreation Commission - Determines the needs and interests of the community for recreation programs, services and facilities. In turn, informs and interprets them to Town Council and the parks and recreation staff.

SOS Coventry - A private citizen organization dedicated to preserving open space.



Miller Richardson Park – Main Street

Preface

The 2010 Coventry Plan of Conservation and Development and the Coventry Open Space Plan define **open space** as:

Land that is preserved or restricted for any of the following purposes (with limited or restricted access to the public):

- Maintains or enhances the conservation of natural, scenic, cultural and historical resources.
- Protects wetlands/watercourses and other bodies of water.
- Protects water supply sources.
- Promotes the conservation of soil and prime farmland.
- Enhances the public value of abutting or neighboring parks, forests, wildlife preserves, natural reservations and sanctuaries and/or other open space.
- Enhances public recreation opportunities.
- Preserves historic and/or culturally significant sites.
- Assists in the promotion of orderly growth and development.

Open space is perceived by our community in many different ways. While the term has a legal definition shown above, open space is also considered to be any parcel of land or water that has little or no man-made structures such as fields, lakes, forests, farms and parks.

This report focuses primarily on legally preserved open space, but recognizes that the value of other lands noted and evaluated in this report are also community assets.

Use of this Document

This document is an extension of the Plan of Conservation & Development and the Open Space Plan. It represents a thorough analysis of the open space experiences in Coventry over the last 20 years. It should be used as an educational and advocacy tool for the community at large, town staff, land use boards and commissions and other stakeholders. This document is part of an ongoing discussion of the future acquisition, management and use of open space.

Mission of the Subcommittee

Assess the current state of all of Coventry's open space properties with respect to their values to the community and the stewardship and maintenance required to maintain those values.

Recommend changes to policies and regulations to improve the scope and value of present and future open space properties.

Approach of the Subcommittee

The working group met monthly for nearly two years as a consortium and reviewed regulations, documents and pertinent studies relative to open space in Coventry. Agendas and minutes were prepared for each meeting. The result is a comprehensive agreement of decision makers from a variety of agencies and other stakeholders.

Tasks of the Subcommittee

Create a summary of the Value of Protected Open Space, with data specifically related to Coventry.

Summarize the experience in Coventry over the past 15-20 years in acquiring open space and comment on the success of that experience. Review large, small and contiguous parcels. Evaluate the use of Open Space (public vs. non-public), and look at the present and future state of the management of Open Space.

Determine methods to enhance and continue the efforts to obtain and maintain open space including, but not limited to, donations, gifts, bargain sales, behests, bequests, bonding, grant funding, regulation modifications, education, partnering with individual land owners, etc.

SUMMARY OF COVENTRY'S UNDEVELOPED LAND

PROTECTED (by deed):

Conservation Easement – 399 acres
Fee Simple Deed – 1,930.3 acres

Subtotal – **2,329** acres
(9.5% of total town area)

COVENTRY LAKE AND RIVERS: **460 acres**
EAGLEVILLE LAKE: **25 acres**
UPPER BOLTON POND: **22 acres**

TOTAL PROTECTED- 2,849 ACRES
(11.6% of 24,505 acres- total town area)

UNPROTECTED:

3,768 acres (15.4%)

Golf courses - 220 acres
Sportsman's organizations - 490 acres
Almada Lodge (Channel 3 Kids Camp) - 140 acres
Farms - 1,600 acres arable, 1,200 acres wooded
Museums - 31 acres
Connecticut Light & Power/Nu Star- 87 acres
CT Water Company – 13 acres

Excludes: residential parcels, State owned parcels from the old Route 6
Expressway acquisition, church owned land.

The Subcommittee analyzed a variety of documents relevant to Coventry's open space experience, some of which are included as appendices, and rendered the following Findings, Conclusions, Recommendations and Value Statements:

FINDINGS

- Open space, in different forms, creates quality of life for the community.
- Open Space (aka conservation or natural resource) Subdivisions have created substantial amounts of open space both through fee simple ownership and conservation easements (restriction).
- Open Space Subdivision homes have a higher value than equal homes outside of those subdivisions.
- Residents and abutters of Open Space Subdivisions may not be aware of the Open Space Regulations and responsibilities associated with their subdivision's open space.
- The development community has reacted favorably overall to the Open Space Regulations, based upon the experience of the town staff and Planning and Zoning Commission.
- Large undeveloped parcels (sportsman's clubs, Channel 3 Kids Camp) currently have no permanent open space protection and are at risk for sale to developers. They are noted on the Plan of Conservation and Development maps as 'Functional Open Space'.
- CL&P, Algonquin Gas and CT Water Company properties and some rights-of-way are candidates for permanent open space preservation.
- State land acquired by the Connecticut Department of Transportation for the formerly proposed Route 6 Expressway are candidates for re-sale to previous owners or conveying to the Town as open space.
- Abutting open space parcels of neighboring towns are not shown on the Coventry Open Space Map and can be useful to demonstrate open space connectivity. Town Staff can update maps and databases by accessing regional mapping and data.

- The “intent for use” of open space parcels is generally delineated on the approved development site plan or noted in the PZC minutes, but are not always easily available to the Staff or to the public.
- There is an example involving land that has been donated to the Town for the purpose of open space preservation. Two properties on Depot Road that possess frontage on the Willimantic River were donated by the Moriarty family.
- Where public access is intended and allowed, the intent is not always easy to find or available to the public.
- The community at large may not be aware of the Coventry Open Space Regulations and long term responsibilities for properties in town.
- Attention has been paid to contiguous parcel acquisition or easements for wildlife corridors and trail systems (i.e. Coventry Brook, Riverview Trail, Hop River Trail, Mill Brook and Willimantic River Greenway). It is important to maintain this approach in order to expand the ‘stock’ of the connected open space properties and protection of valuable natural resources.
- The Town should pursue more dedicated open space parcels in order to meet the Plan of Conservation and Development recommendation that a minimum of 20% of the Town’s land area be permanently protected. The Town should consider more private land stewardship (i.e. Joshua’s Trust, Connecticut Farmland Trust) where appropriate.
- The maintenance and management of open space parcels needs improvement. The Conservation Corps has had some success in monitoring the condition and uses of assigned parcels.
- Creative land management options should be considered for a town ‘open space toolbox’ including agricultural land and forest management leasing, and utility right of way vegetation and access management.

CONCLUSIONS & RECOMMENDATIONS

The recommendations indicated below have associated responsible parties identified in parentheses. These entities would be involved with the execution of them. The following is a description of the coding that was used to identify them: BOE – Board of Education, CON COM – Conservation Commission, CON CORPS – Conservation Corps, DPW – Department of Public Works, IWA – Inland Wetlands Agency, Manager – Town Manager, P/R – Parks and Recreation Commission and Staff, Planner – Director of Planning and Development, PZC – Planning and Zoning Commission, TC – Town Council.

- **Open space creates value for the community.**
 - Acquire more open space parcels in addition to those acquired through the subdivision and donation process. Future open space acquisitions should be targeted, balancing the value to the community, size of the site, its future use and future maintenance costs. Targeting efforts will reference the POCD Preservation Focus Areas map, Open Space Map, Special Planning Areas Map, Open Space Plan, Conservation Commission Agriculture Map and the POCD Forest Resources Map.(CON COM, PZC, TC)
 - Develop more links between open spaces and greenways.(CON COM, PZC)
 - In order to provide additional support of the Open Space Plan the Town Council may wish to consider the adoption of an open space ordinance that would serve to anchor the efforts involving open space preservation.(TC)
- **Open space subdivisions have been very successful in the context of neighborhood design.**
 - Continue monitoring Open Space Subdivision Regulations for minor improvements as warranted. Fee simple and conservation easements continue to be viable options. Each option has its own benefits and is carefully evaluated depending on the site. “Fee in lieu of open space” is also another option.(CON COM, Planner, PZC)

- Recommendations for revisions to the Open Space Subdivision and Zoning Regulations as well as the POCD and Open Space Plan are included in Appendix G.(CON COM, Planner, PZC)
- **Large undeveloped parcels remain at risk for development.**
 - Strengthen the open space education materials and outreach efforts throughout all facets of our community. Consider contact with specific property owners. Agree on methods to engage the property owners and discuss cooperative efforts to pursue the purchase of open space or the development rights. Promote responsible private ownership and stewardship that complements the Town's Open Space Plan.(CON COM, Planner, PZC)
 - Consider developing a policy on the right of first refusal for key open space parcels and analyze the likely costs.(Manager, TC)
- **The Town and the community need to be better stewards of open space.**
 - Open space parcels need to have a use and management plan created for the purpose of describing the value of the property, any intentions for public use, planned management activities, their costs and a historical summary of the acquisition. The management plans should be made public and a database created through the Town Land Use Office and appended to the Open Space Plan. Consider new and expanded volunteer roles for the Conservation Corps and other related entities to strengthen stewardship activities. Partner and cooperate with the Town's Department of Public Works and Parks and Recreation Department to execute management efforts.(CON COM, DPW, P/R, Planner, PZC, TC)
 - Conservation easement properties need to have continued monitoring by the Town. The Connecticut Forest and Park Association, Joshua's Trust and the Bolton Land Trust have documents to guide the Town.(CON CORPs, DPW, Planner)
 - Promote discussion on a funding mechanism to facilitate maintenance and stewardship efforts of open space

properties.(DPW, P/R, TC, Town Manager)

- Continue to utilize the volunteer efforts of civic and service organizations to assist in stewardship activities.(Planner, TC)
- **Open space advocacy is critical to furthering open space goals.**
 - Continue to advocate the uses for and values of open space and park properties by the community. One example is to highlight the recently completed trail mapping describing several of the Town's parks. (CON COM, P/R, Planner)
 - Maintain and strengthen public and private stakeholder relations to further the open space goals.(PZC, Planner)
- **Partnerships with related stakeholders are essential in accomplishing open space goals.**
 - Establish and maintain partnerships with entities such as Joshua's Trust, Connecticut Farmland Trust, State of Connecticut, CL&P, Connecticut Water Company, The Last Green Valley, abutting towns, developers, property owners, nature groups, recreational entities and others to work cooperatively, share information and successes to further the various open space recommendations and goals.(CON COM, EDC, PZC, Planner, TC)
- **Continuing open space education is critical to public understanding and support.**
 - Evaluate and agree upon viable educational methods and materials that include reasons to support the preservation of open space. Host educational and recreational hikes, walks and forums on these properties for the public. Utilize diverse media platforms to promote and broadcast the information. Evaluate and execute measures to improve signage and visibility of open space properties that allow public access.(CON COM, Planner)
 - Support the Parks and Recreation Department and Board of Education's efforts to provide environmental education to instill a sense of wonder and value about nature in today's youth, our next generation of stewards.(BOE, P/R, Planner)

- Encourage teachers and youth group leaders to use appropriate open space parcels for field trips and studies.(BOE, P/R, Planner)
- Continue to support the Parks and Recreation Department with its efforts to maintain involvement in the Playful Cities designation.(P/R, Planner)
- **The public's opinion and understanding of the value of open space is important.**
 - Provide forums to engage the development, real estate, civic and service sectors of our community and public at large to dialogue on the issues of open space and the conclusions of this report. Reflect on the outcome of these discussions and adapt the recommendations as necessary.(CON COM, Planner)
 - Regularly update the Open Space Plan as necessary to address required revisions.CON COM, PZC, Planner)



Roman Pond at Kenyon Falls – Armstrong Road

VALUE STATEMENTS

- OPEN SPACE CONTRIBUTES SIGNIFICANTLY TO THE CHARACTER AND CHARM OF COVENTRY
 - Scenic areas endow communities with substantial benefits, such as higher property values and increased tourism revenue. Protecting scenic vistas and viewsheds from the effects of haphazard development allows a community to preserve its unique charm, build civic pride, and attract positive growth to the area.
 - The following are special scenic vistas and historic locations that involve open space that are identified in the POCD – Please refer to the corresponding map which appears at the end of the list:

Key:

- (1) View has protected open space
- (2) View does not have protected open space
- (3) View has undeveloped land that can be considered for protection

1. Route 44 at the Bolton line looking south- Giglio Property. (3)
2. Bread & Milk Street-Looking north from Route 44 to Zeya Drive. (3)
3. Route 44- Looking east from Perrachio's farm to Main Street. (3)
4. Silver Street- Looking south from Route 44 to South Street. (3)
5. South Street #1- Looking west from Silver Street. (3)
6. South Street #2- Looking West from the Hale homestead. (1)
7. South Street #3- Looking Southeast from the old Huntington house (corner of Cross St.) (3)
8. South Street & Bunker Hill Road looking southwest- Crossen Property. (3)
9. Hop River- Looking southeast from Bunker Hill Road to the Hop River. (1&2)
10. Flanders Road- Looking southeast from Plains Road to the Willimantic River.
11. Pucker Street- Looking southeast from South Street to the Hop River. (3)
12. Parker Bridge Road- Looking south from Bunker Hill Road to the Hop River. (1&2)
13. South River Road- Looking south from Rte 31 along the Skungamaug River. (1&2)
14. Town Green- Looking west from the Town Green over the Lake. (1)
15. Stonehouse Road- Looking northeast from the "Stonehouse" to the Eagleville dam. (2)
16. Brigham Tavern Road- Looking north from Rte 44 along the Willimantic River. (1&2)
17. Brigham Road- Looking east from Lewis Hill Road to the Willimantic River. (2)
18. Broadway- Looking east from Hannah Drive to the Skungamaug River. (2)

19. Cassidy Hill Road- Looking east from the Cassidy Hill Winery. (3)
20. South Village- Looking northwest from Depot Road to Lake Wangumbaug. (1&2)
21. Main Street looking south from Manning Hill over the Village. (2) (This location does not appear on the map, but is located between #14 and 15 on map.)



Eagleville Lake, Willimantic River

HISTORIC REGISTER SITES:

- Brigham Tavern, 12 Boston Turnpike
- Coventry Glass Factory District, Route 44 and North River Road
- Hale Homestead, South Street
- Loomis- Pomeroy House, 1747 Boston Turnpike
- Elias Sprague House, 2187 South Street
- Parker-Hutchinson Farm, Parker Bridge Road
- Capron-Phillips House, Main Street
- Strong-Porter House, 2382 South Street
- South Coventry Village, Main Street



- OPEN SPACE PROTECTS THE NATURAL AND BUILT ENVIRONMENT FOR A VARIETY OF PURPOSES, INCLUDING HISTORICAL, CULTURAL AND ARCHAEOLOGICAL.
 - The Subdivision Regulations require the review of the natural landscape such as significant trees, stone walls, etc. The approval process requires that development maintain and respect these natural features.
 - The Zoning Regulations encourage the examination of archaeological significant sites and possible on-site review by the State Archaeologist to protect these resources.
 - The Planning & Zoning Commission, Inland Wetlands Agency and the Conservation Commission review all development applications for their impact on the natural landscape. These entities make decisions and recommendations to maximize preservation and minimize negative impacts.
 - The State of Connecticut Department of Energy and Environmental Protection (DEEP) identifies native plant species or any native non-harvested wildlife species as Species of Special Concern. These areas include but are not limited to upper Bolton Lake; along the Skungamaug, Willimantic and Hop Rivers; along Coventry Brook; along Millbrook; at Coventry Lake. The State DEEP recommends methods to mitigate the effects of development on the natural features that are administered by the PZC with the development applications.
 - Examples of where State agencies played a significant role in preserving archaeological and natural features include: Truman's Meadow Subdivision on South River Road, the Zeigler Woods Subdivision on Riley Mountain Road, Creaser Park on Case Road, which was the subject of two Environmental Review Team reports.
- OPEN SPACE CONTRIBUTES TO BETTER AIR AND WATER QUALITY, GROUND WATER SUPPLY AND FLOOD MANAGEMENT.
 - Coventry's Zoning and Inland Wetlands Regulations pay special attention to Coventry Lake, ponds, rivers and wetlands as well as stormwater run-off created by any development. Ground and surface

water quality is a growing concern. Potential impacts to them are carefully examined with development applications. There are flood plain protection zones along major waterways which are administered by the PZC to mitigate flood related impacts. The zoning regulations/map also includes a River Aquifer Protection Zone along major waterways to manage land use activities in these sensitive areas.

- The protection of forests is encouraged by the POCD and through the administration of the Zoning and Subdivision Regulations. The Subdivision Regulations require protected vegetated buffers at the borders of and throughout subdivisions to minimize natural resource impacts and by managing land clearing activities as well.
- Consider the development of forest management and other plans for open space parcels that can be executed and provide funds that can support future open space purchases or on-going maintenance.
- **OPEN SPACE CONSERVES CRITICAL FOREST AND FARMLAND SOILS AND PROVIDES THE OPPORTUNITY FOR LOCAL FOOD, FIBER AND WOOD PRODUCTION.**
 - The Public Act 490 program is in use in Coventry as one tool for farm and forest land protection and is under consideration for open space protection as well.
 - The Conservation Commission has compiled a list of significant agricultural sites in town with the intention of educating property owners of the availability of programs to facilitate farmland protection and the myriad benefits of doing so.
 - The Coventry Regional Farmers Market, Coventry Agricultural Committee and Historical Society have raised awareness of the criticality of local food production and the need to support local farms and producers.
 - Proper forest management techniques are important for the continued health of forests and provide a habitat for a variety of wildlife. The Land Use Staff reviews plans proposed by local foresters for timber harvesting activities to ensure that the sensitive resources are monitored and protected.

- OPEN SPACE PROVIDES RECREATIONAL AND HEALTH BENEFIT OPPORTUNITIES FOR RESIDENTS OF ALL AGES.
 - Coventry is expanding and improving its municipal parks to provide more recreational opportunities for residents and guests.
 - Organized soccer, football and baseball leagues benefit from existing and planned playing fields. There are times when active recreation opportunities can be designed and incorporated into open space and subdivision plans.
 - Open space provides opportunities for maintaining good physical and mental health, helping children develop healthy lifestyle habits.
 - Explore opportunities for trail conservation restrictions/easements where the Town holds permanent rights to the trail corridor on a property which protects conservation and recreation values.

- OPEN SPACE PROVIDES TOURISM AND ECONOMIC DEVELOPMENT OPPORTUNITIES.

The following are examples of the variety of tourism opportunities in town that relate to open space:

Patriots Park	Upper Bolton Lake
Lisicke Beach	Mill Brook Park
Miller-Richardson Fields	Nathan Hale State Forest
Creaser Park	Cassidy Hill Winery
Skungamaug River Golf Course	Hale Homestead
Twin Hills Golf Course	Coventry Regional Farmers Market
Manchester Coon and Fox Club	Strong-Porter Museum
Manchester Sportsmen Club	Glass Factory District
Channel 3 Kids Camp	Horse Stables & Trails
Willimantic River Greenway (Riverview Park)	Matt's Outback Paintball
Visitor's Center	Hop River State Park/Greenway
	School Age Sports Events

A Tourism Impact Survey was conducted by The Last Green Valley in 2012 of the member towns in the region. The survey found that 1.8 million visitors came to the region and impacted the local economy by \$262 million. Visitors make 5.7 trips per year to the region. The economic value of each visiting party to the region is \$1,957.00.

- OPEN SPACE INCREASES THE PROPERTY VALUE FOR SITES IN PROXIMITY TO THE UNDEVELOPED LAND.
 - A very detailed study completed in 2010 for southeastern Pennsylvania indicates this value to be 5-8% for such properties. (“The Economic Value of Protected Open Space in Southeastern Pennsylvania” November 16, 2010 – Appendix A)
- OPEN SPACE MINIMIZES MUNICIPAL REVENUES NEEDED FOR FIRE, POLICE, ROADS, SCHOOLS AND OTHER SERVICES.
 - Undeveloped land costs \$0.25 in municipal services provided for every \$1.00 of tax revenue it brings in. (Green Valley Institute study -2009- for Coventry’s POCD)



Millbrook Park – Wall Street

GLOSSARY OF TERMS USED IN THIS REPORT:

Aquifer – An underground bed or layer of earth, gravel, or porous stone that yields water.

Connecticut Farmland Trust – A non-profit land trust organization whose mission is to permanently protect farmland in Connecticut.

Conservation Easement (Restriction) – A restriction placed on a piece of property to protect its associated resources. It is a legally binding agreement that limits certain types of uses or prevents development from taking place on the land in perpetuity while the land remains in private ownership. The easement is recorded in the local land records.

Development Rights – The legal ability to improve a piece of land, which may be limited by a restriction placed on the title to the property or regulated by a local land use authority. These rights may be held by the owner or exchanged or sold to another owner.

Farmland – A tract of land used principally for agriculture.

Fee in Lieu of – A negotiated agreement between a regulatory agency and a private party where the agency collects funds from the private party in lieu of complying with a particular regulation. The funds collected are deposited into the Town open space acquisition fund. For the purposes of this report, this term relates to the conveyance of open space, pursuant to Connecticut General Statutes Section 8-25.

Fee Simple – An interest in land where it is owned completely without any limitations or conditions, but may still be subject to taxation or debt obligations.

Floodplain – Any area that is susceptible to be inundated by water as a result of stream or waterway overflowing. Floodplains are characterized by the probability of their flooding.

Greenway – A corridor of undeveloped land preserved for recreational use or environmental protection.

Joshua's Tract Historic and Conservation Trust (aka: Joshua's Trust) – A local non-profit land trust that receives or purchases tracts of land it considers important to preserve.

Open Space Plan – A plan that distinguishes areas of town that merit various levels of long term protection.

Open Space Subdivision – A cluster development in which the lot dimensions that would otherwise be required under the zoning regulations may be reduced for the purpose of the dedication and preservation of open space.

Public Act 490 Program – Public Act 490, aka "PA 490", is Connecticut's law (Connecticut General Statutes Sections 12-107a through 107-f) that allows your farm, forest, or open space land to be assessed at its use value rather than its fair market or highest and best use value (as determined by the property's most recent "fair market value" revaluation) for purposes of local property taxation.

POCD – The Plan of Conservation and Development, which is a document that gives direction to public and private development that will define the town's growth.

Species of Special Concern – Any native plant species or any native non-harvested wildlife species documented by scientific research and inventory to have a naturally restricted range or habitat in the state, to be at a low population level, to be in such high demand by man that its unregulated taking would be detrimental to the conservation of its population or has been extirpated from the state.

Stakeholder – An entity that can be affected by the results of that in which they are said to be stakeholders, i.e., that in which they have a stake.

Stewardship – An ethic that embodies the responsible planning and management of resources.

Subdivision – The division of a parcel of land into three or more parts or lots.

Undeveloped Land – An area that contains no modern man-made structures or infrastructure.



Turtles and Canada Goose – Roman Pond

APPENDIX A

Excerpts from “The Economic Value of Protected Open Space in Southeastern Pennsylvania” Nov. 10, 2010. This study estimates the value of protected open space (public parks, land trust, town owned and eased, preserved farmland) in southeastern Pennsylvania by measuring impacts across four areas:

- (1) the effects of protected open space on residential property values
- (2) the value associated with environmental services provided by protected open spaces
- (3) the value of recreational activity and associated avoided health-care costs
- (4) jobs and revenue created as a result of activity on and connected to protected open space.

This analysis indicates that protected open space adds significant value to the regional economy, with benefits accruing to businesses, governments, and households. The economic benefits generated by protected open space accrue in different ways – some are direct revenue streams to individuals or governments, some represent asset appreciation value, some accrue in the form of avoided costs. Because these values differ in nature, the estimates in this study should not be added together to produce a single aggregate value of protected open space.

Property Values (Average \$9,000 - \$11,000 per house, values are higher, the closer the home is to the OS) **Homeowners** are willing to pay a premium to live in close proximity to protected open space. This increased wealth is captured by citizens through higher sales values of homes near protected open space (within one mile), and also generates increased government revenues via larger property tax collections and transfer taxes at time of sale. Results indicate that proximity to open space contributed a significant positive impact to residential property values for homes as far away as one mile from the open space.

Environmental Services

Protected open space also provides value in the form of naturally occurring environmental processes. If these lands were developed, municipalities would be forced to replicate vital and costly services such as flood control and air pollution mitigation through alternative methods. In relying on the natural landscapes on protected open spaces to provide these valuable services, the towns avoid significant expenses. This study estimates the avoided costs associated with several environmental services that naturally occur, including water supply, flood mitigation, provision of wildlife habitat, air pollution; costs are avoided by not having to artificially replace vital ecosystem services currently provided by protected open space removal. Trees on protected open space store carbon within existing biomass. If the carbon currently stored in trees – both above and below ground – on protected open space were released into the air, it would cause damages due to increased carbon emissions that would have to be mitigated.

Recreation and Health

Park usage generates value via the consumer benefit that residents enjoy by engaging in recreation and exercise for free or at below-market rates instead of turning to private markets for the same activities. There also are considerable health cost avoidance and productivity savings related to rigorous exercise on protected open space. This savings represents the additional amount of money that residents would be willing to spend in the private market to participate in the recreational activities that they currently enjoy on protected open space. The moderate and strenuous activity that takes place on protected open space avoids medical costs. It is estimated that businesses avoid lost productivity costs as a result of the physical activities their employees engage in on protected open space in the region.

Economic Activity

Protected open space generates a variety of economic activities, ranging from agricultural activity on preserved farmland to tourist visitation to public park maintenance. This includes expenditures for maintenance, purchases of goods made on farmland, and tourism. Jobs are created including maintenance workers, rangers, farmers and tourist support.



Coventry Regional Farmer's Market

APPENDIX B

POCD CHAPTER 5 ENVIRONMENTAL AND OPEN SPACE

Preservation and protection of natural resources and the environment continues to be of prime importance. The quality of ground and surface water, prime agricultural soils, wildlife habitats and unfragmented forest land are necessary for the health of our entire ecosystem. The careful acquisition of open space helps keep a stable mill rate. These elements are a major contributor to the quality of life of the town. (Refer to maps #5, #6 and #7)

A. Lake Wangumbaug Today

Moderate to high density residential development occupies 40 percent of the Lake's drainage area. However, several natural features of the lake-watershed ecosystem make Lake Wangumbaug somewhat resistant to processes where excess nutrients stimulate excessive plant growth. The following are rather unique, "healthy attributes" of the Coventry Lake ecosystem:



1. The area which drains to the lake ("watershed") is small when compared to the large, deep lake. This means that the lake does not need to process a large mass of additional watershed organic matter that would result in oxygen demand.
2. The mean depth and surface area of the lake are large compared to the drainage area. This gives Coventry Lake a "clear water" tendency.
3. The shape of the lake basin results in a small sediment-contact area at the depth where water remains cold in summer. The lake is also oriented such that wind mixing is strong compared to lakes of similar size. These features are beneficial to the aquatic life in the lake.

B. Lake Wangumbaug Threats

Wastewater, stormwater, sedimentation, and road runoff impacts have been quantified and indicate that Coventry Lake is a healthy ecosystem that has the characteristics of a high quality water resource with a moderate amount of dissolved nutrients. All physical, chemical, and biological evidence indicates that if Coventry Lake has an increase in spring phosphorus level, its resource quality will decline. Restoration at that time would be costly, so preservation of the existing condition is desirable through preventative maintenance, primarily in the limitation or elimination of phosphorous from lawn fertilizers.

Other data shows that water clarity has decreased somewhat since 2000, and oxygen loss has continued which could stimulate blue-green algae growth. Zooplankton (which consume algae) population has decreased somewhat, though not alarmingly. Algae abundance has increased over time, but the general condition of the lake remains stable with relatively low phosphorous and good iron content.

Recent surveys have indicated small amounts of invasive species (curly pondweed and milfoil) in the lake which must be monitored closely. Steps to eliminate them should be considered and the public should be educated as to the source of these plants and their potential negative effects on the lake.

Although the drainage basin is small, it is also steep and the watercourse length is short. This results in a rapid runoff of rainfall which tends to make stable lake level management difficult.

C. Open Space

Coventry defines open space as land that is preserved, protected and may have use restrictions for any of the following purposes:

1. Maintains or enhances the conservation of natural, scenic, cultural and historic resources.
2. Protects wetlands/watercourses and other bodies of water.
3. Protects water supply sources.
4. Promotes the conservation of soils and prime farmland.
5. Enhances the public value of abutting or neighboring parks, forests, wildlife preserves, natural reservations and sanctuaries, and/or other open space.
6. Enhances public recreation opportunities.
7. Preserves historic and/or culturally significant sites.
8. Assists in the promotion of orderly growth and development.

There is other undeveloped land nominally considered open space that is not protected from development and includes sportsmen's clubs, camps, golf courses, farms, forests and vacant tracts. They remain a primary focus for preservation and formal protection.

According to the Natural Resources Conservation Service, Connecticut is the 4th most densely populated state in the country. An increase in sprawl development patterns threatens water supplies, wildlife habitat, agricultural lands, historic resources, and the quality of life for urban and rural communities. In response, Connecticut's citizens have accelerated their efforts to preserve remaining open space.

Connecticut is among the 12 states with the highest rate of land conversion to urban/suburban. The state is losing approximately 10,000 acres of farmland a year, a rate exceeding most other states. Connecticut has made progress in preserving open space and working lands. The state

has set a goal to preserve 21 percent of the state's land as open space by 2023. In addition, they have a goal of protecting 130,000 acres of working agricultural lands.

In Coventry, over 500 acres of land have been dedicated as open space by direct conveyance or easement in thirty-six subdivisions since 1990. Seventy-five percent of that has occurred since November of 1999 when Open Space Subdivision regulations were adopted.

After eight years of experience with these regulations, the Planning & Zoning Commission recently adopted new subdivision regulations that consider building siting and open space dedication more from a natural resource perspective. This will enhance open space initiatives and provide better regulation both from the developer's and the town's standpoint. The Commission should monitor these regulations over the coming years to assess their use and effectiveness.

D. Open Space Plan

The Conservation Commission has developed an Open Space Plan for Coventry (Included in the Appendix). A very accurate map has been prepared that delineates all open space in town (public and private) and it will serve as a baseline. The primary function of the plan is to distinguish and identify areas that merit various levels of long term protection, and suggest appropriate methods to acquire and designate open space. It will serve as an educational tool and a guide for municipal organizations and private land owners.

Nine percent (~2,200 acres) of Coventry's total land area (24,505 acres) is presently protected open space. This Plan recognizes farmland, forest, lakes and rivers as the prime candidates for protection and preservation. Opportunities for additional protected open space include: about 1,000 acres owned by sportsmen's clubs (i.e. Manchester Coon & Fox Club and Manchester Sportsmens Association) and the Channel 3 Kids Camp, aka Times Farm Camp, about 500 acres of undeveloped state-owned land, over 1,000 acres of land designated as farmland, but having unused wooded areas, and several thousand acres of privately owned residentially zoned land, some of which may be subject to open space subdivision mechanisms or other protection.

With consideration of the opportunities above, a significant increase in protected open space is possible consistent with the community's goals. Much of this land is adjacent or near to one of our rivers, and being designated as open space will help protect our surface and ground water. Unfragmented forest land is another important component. For the following reasons open space acquisition is a key element in future planning: Combining the desire of residents to maintain and protect our rural character, the need to protect natural resources, particular water and forest related, and the fact that open space will mitigate service and revenue demands.

E. Protecting Natural Resources

The Conservation Commission, the Inland Wetlands Commission and the Planning & Zoning Commission have regulations and review procedures that cover the maintenance and preservation of our local natural resources. Many of their activities are directed by the State Department of Environmental Protection.

Current zoning regulations require the identification of land contours, easements, wetlands, watercourses, wooded areas, stone walls, open space, flood zones, public or private water supplies etc. They also require hydraulic studies, an erosion and sedimentation control plan, consideration of passive solar techniques, archaeological evidence studies, environmental assessments and protection of historic resources that can be used to modify the site design.

The Coventry Town Council, in 2008, created the Conservation Corps. The Corps is composed of volunteers who monitor town owned open space. Corps members are assigned in groups of two or more, to walk properties at least four times a year to observe and report the status of the property to an appropriate town official.

Goals:

1. Provide adequate protection and preservation of the town's natural resources while providing open space along with recreational opportunities for all town residents.
2. Formally protect a minimum of 20 percent of the town's land area as open space. Consider as high priorities: farm soils, river aquifers and unfragmented forest. Strive to make open space land contiguous.
3. Protect the water quality of Lake Wangumbaug.

Recommendations- (Action items include the responsible party, in brackets)

1. Protect the surface and groundwater resources in town with ongoing efforts to limit waste water, stormwater, sedimentation and road runoff. [IWA, P&ZC WPCA and Land Use staff]
2. Minimize or eliminate phosphorus runoff and the incursion of invasive species to Lake Wangumbaug. Educate the public regarding the potential negative impacts of these conditions. [Inland Wetlands, Conservation Commission and Land Use staff]

Consider:

- Monitoring the boat launches (public & private) to prevent the transfer of invasive species.
- Limiting phosphorous-containing fertilizers in the lake watershed.
- The formation of a Consolidated Lake Authority to address the above-mentioned issues.

3. Protect and conserve prime farmland soils, productive woodlands soils and large, unfragmented forest blocks, notable wildlife or plant life and fisheries habitat, streambelts composed of watercourses, inland wetlands and other associated riparian habitat components, and scenic views and vistas, through a range of preservation techniques, as identified in the Conservation Commission's Open Space Plan.
4. Educate the property owners on the options to protect open space including conservation easements, outright conveyance of ownership, cash payment to the town instead of property conveyance, Transfer of Development Rights, tax incentives and Public Act 490 protection. [Conservation Commission, Planning & Zoning and Land Use staff]
5. For developed areas, pay particular attention to water runoff from impervious surfaces and encourage natural drainage systems for new and modified developments such as vegetative filters and porous surfaces. Encourage proper septic/sewer maintenance.
6. Maintain and increase interconnected, linear open spaces, greenways, trails and wildlife corridors, and when appropriate, link with other town, regional or state greenways.
7. Utilize the Open Space Plan to guide town land acquisition strategies and acquire more open space and coordinate the plan with recreational needs as expressed in the Parks & Recreation section. [Conservation Commission, Town Council, Land Use staff]
8. Continue monitoring and improving our natural resource based subdivision regulations. [Planning & Zoning, Conservation Commission and Land use staff]
9. Promote the "greening" of the Town by installing and maintaining landscaping such as trees and shrubs along streets and other public rights-of-way and in public open spaces, and by requiring landscaping in new private developments using plants indigenous to the area. [Planning & Zoning and land Use staff]
10. Consider strategies to reduce tree clearing, minimize grading and maintaining existing vegetation for new or modified developments, and promote, to the maximum extent possible, the underground installation of utility services for all new major residential projects, commercial and industrial development. [Planning & Zoning and Land Use staff]
11. Cooperate with federal and state agencies to upgrade and maintain the air quality of the Town and encourage energy conservation and the use of alternate energy sources.

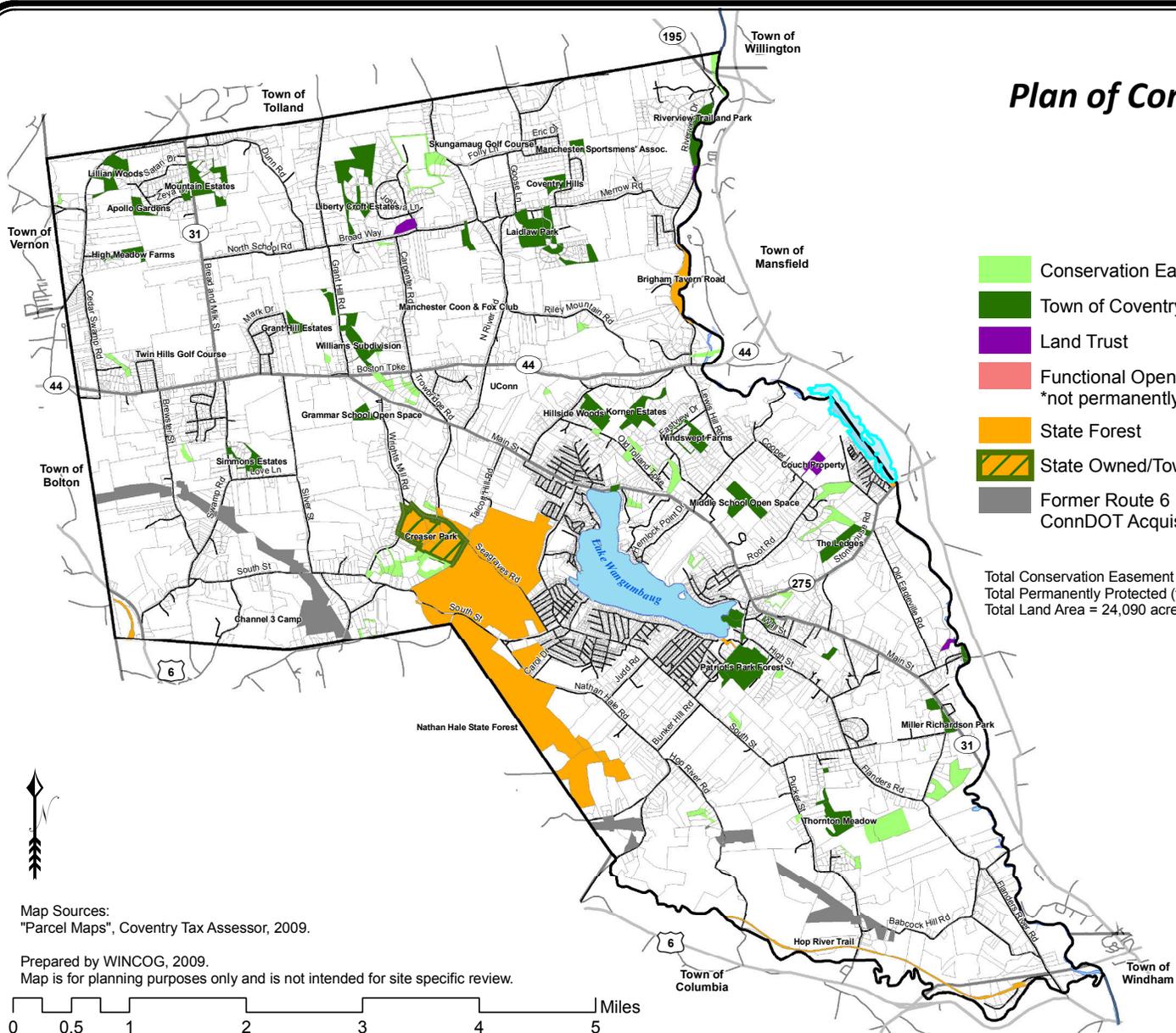
Town of Coventry, CT Plan of Conservation & Development

Existing Open Space

- Conservation Easements
- Town of Coventry
- Land Trust
- Functional Open Space
not permanently protected
- State Forest
- State Owned/Town Park
- Former Route 6 Expressway
ConnDOT Acquisitions

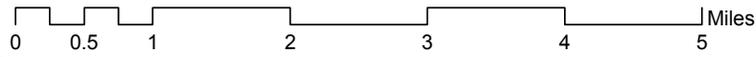
Total Conservation Easement = 295 acres
Total Permanently Protected (fee) = 930 acres
Total Land Area = 24,090 acres

Name	Type	Acres
Apollo Gardens	Town of Coventry	18
Boat Launch	State	2
Brigham Tavern Road	State	30
Broadway	Town of Coventry	9
Channel 3 Camp	Functional Open Space	23
Couch Property	Land Trust	12
Coutu Property	Town of Coventry	7
Coventry Hills	Town of Coventry	21
Cresser Park	State/Town	99
Depot Road	Town of Coventry	5
Grammar School Open Space	Town of Coventry	12
Grant Hill Estates	Town of Coventry	19
High Meadow Farms	Town of Coventry	12
Hillside Woods	Town of Coventry	25
Hop River Trail	State	36
Kenyon Falls	Town of Coventry	4
Korner Estates	Town of Coventry	28
Laidlaw Park	Town of Coventry	38
Liberty Croft Estates	Town of Coventry	67
Lillian Woods	Town of Coventry	29
Lisicke Beach	Town of Coventry	3
Manchester Coon & Fox Club	Functional Open Space	39
Manchester Sportsmens' Assoc	Functional Open Space	11
Merrow Road Park	Land Trust	2
Middle School Open Space	Town of Coventry	31
Miller Richardson Park	Town of Coventry	13
Mountain Estates	Town of Coventry	35
Nathan Hale State Forest	State	87
North Coventry Farms	Land Trust	10
Old Eagleville Park	Land Trust	4
Old Eagleville Park	State	1
Patriot's Park	Town of Coventry	13
Patriot's Park Forest	Town of Coventry	58
Riverview Trail and Park	Town of Coventry	28
Robertson School Open Space	Town of Coventry	6
Rolling Woods	Town of Coventry	32
Simmons Estates	Town of Coventry	18
Skungamaug Golf Course	Functional Open Space	10
The Ledges	Town of Coventry	26
Thornton Meadow	Town of Coventry	27
Town Green	Town of Coventry	2
Twin Hills Golf Course	Functional Open Space	11
UConn	Functional Open Space	77
Williams Subdivision	Town of Coventry	33
Willow Glen	Town of Coventry	5
Windswept Farms	Town of Coventry	23



Map Sources:
"Parcel Maps", Coventry Tax Assessor, 2009.

Prepared by WINCOG, 2009.
Map is for planning purposes only and is not intended for site specific review.



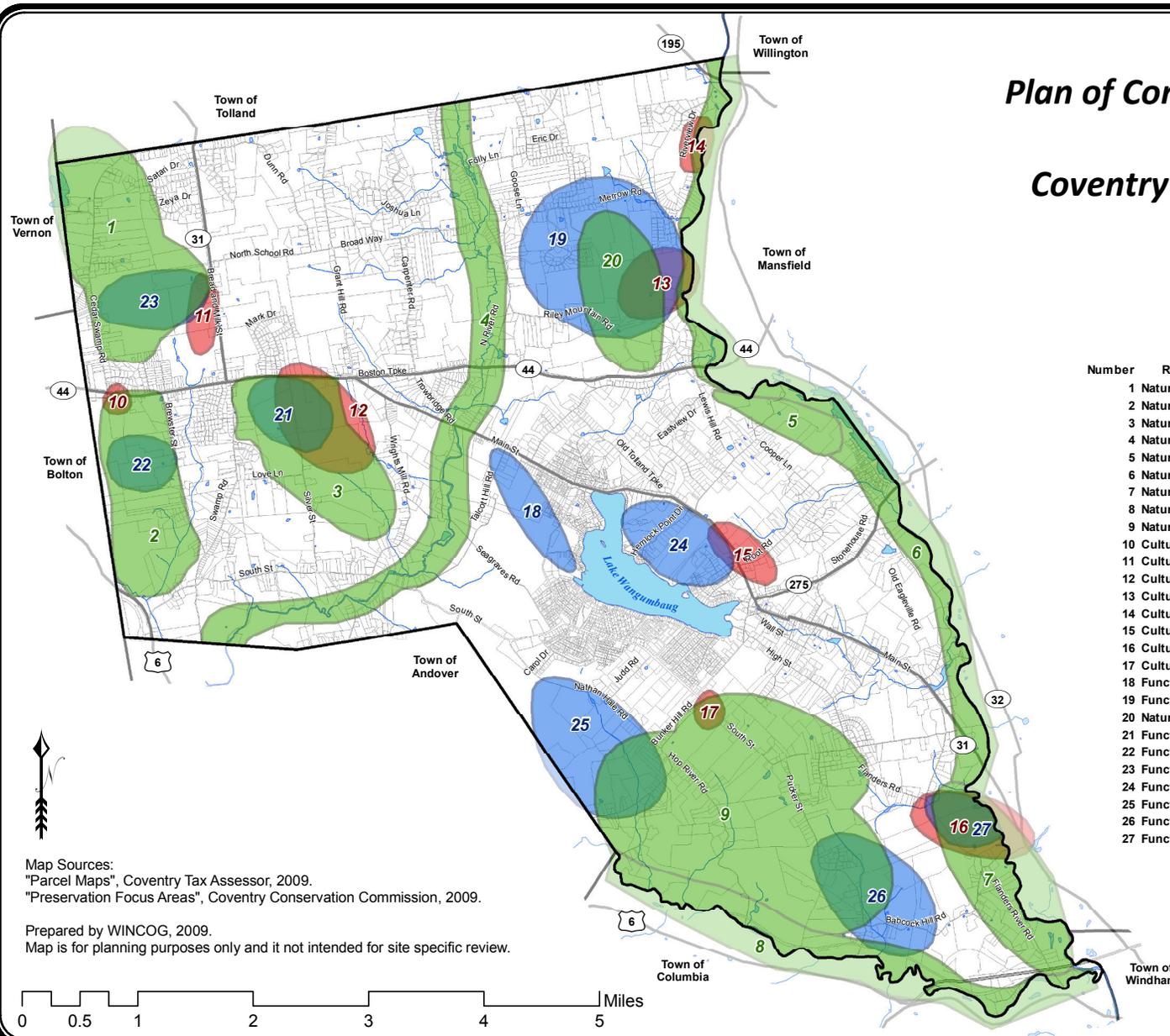
Town of Coventry, CT Plan of Conservation & Development

Coventry Conservation Commission Preservation Focus Areas

- Areas with Cultural Value
- Areas with Functional Value
- Areas with Natural Resource Value

Number	Resource Categories	Resources Present
1	Natural Resource Value	PFS, UFF, ES, UFS
2	Natural Resource Value	PFS, UFF
3	Natural Resource Value	PFS, UFF
4	Natural Resource Value	ES, PFS, WR (Skungamaug River)
5	Natural Resource Value	UFS
6	Natural Resource Value	ES, WR (Willimantic River)
7	Natural Resource Value	PFS, UFS
8	Natural Resource Value	ES, UFF, WR (Hop River)
9	Natural Resource Value	PFS, UFF, ES
10	Cultural Value	SV (SSW)
11	Cultural Value	SV (W)
12	Cultural Value	SV (SE)
13	Cultural Value	SV (river)
14	Cultural Value	SV (river)
15	Cultural Value	SV (SE)
16	Cultural Value	SV (ESE)
17	Cultural Value	SV (SW)
18	Functional Value	Adjacent to preserved open space
19	Functional Value	Adjacent to perceived open space, PFS
20	Natural Resource Value	PFS, UFF, perceived and preserved open sp
21	Functional Value	Perceived open space
22	Functional Value	Perceived open space
23	Functional Value	Perceived open space
24	Functional Value	Adjacent to lake
25	Functional Value	Adjacent to Nathan Hale Forest
26	Functional Value	Adjacent to preserved open space
27	Functional Value	Perceived open space

Legend:
PFS- Prime farmland soils
UFF- Unfragmented forest
UFS - Unique forest stand
WR - Water resources
ES - Endangered species
SV - Scenic vista

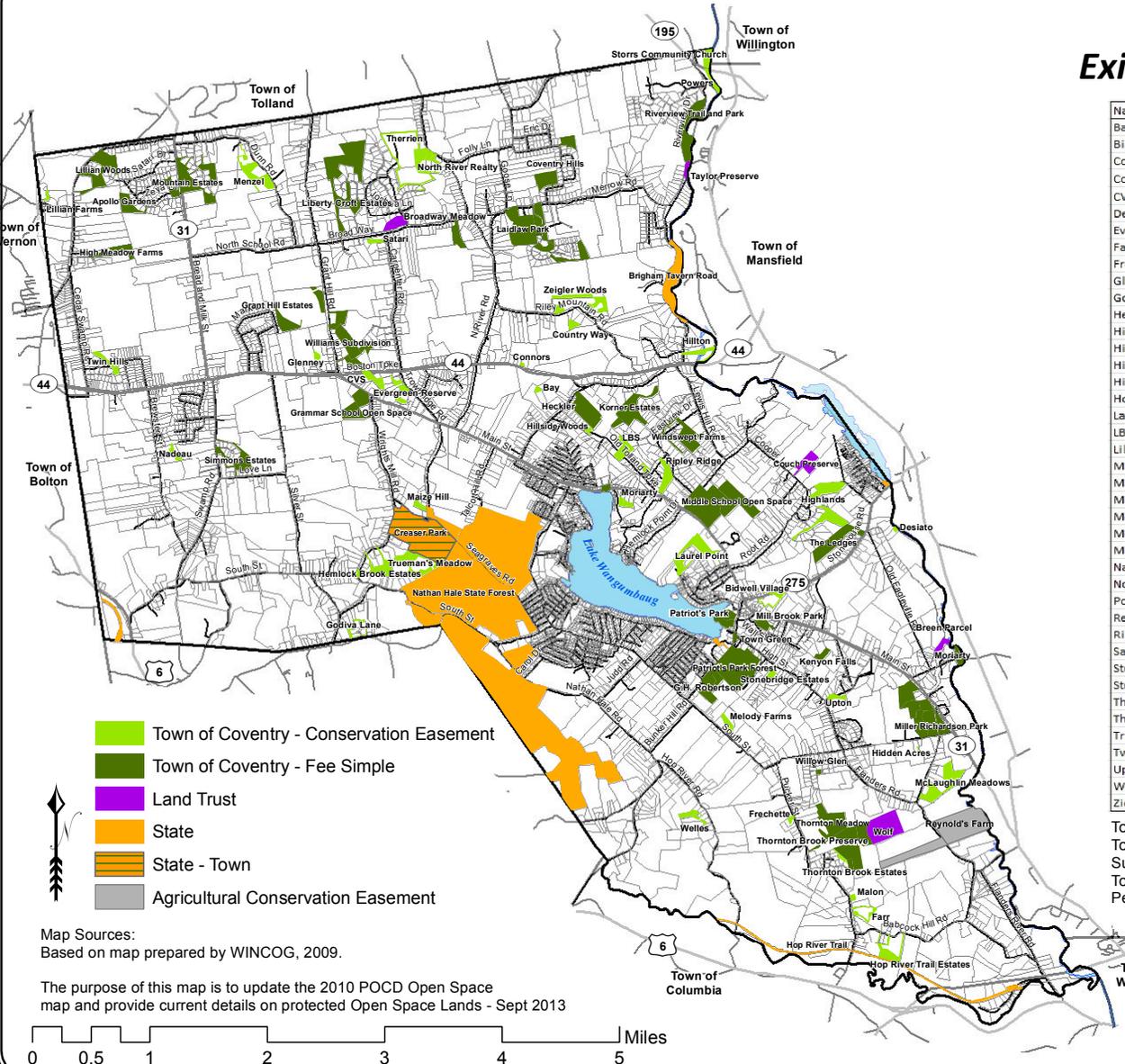


Map Sources:
"Parcel Maps", Coventry Tax Assessor, 2009.
"Preservation Focus Areas", Coventry Conservation Commission, 2009.

Prepared by WINCOG, 2009.
Map is for planning purposes only and it not intended for site specific review.

Town of Coventry, CT

Existing Protected Open Space - 2013



Name	Type	Acres
Bay	Conservation Eas	1.6
Bidwell Village	Conservation Eas	5.2
Connors	Conservation Eas	1.8
Country Way	Conservation Eas	2.1
CVS	Conservation Eas	3.4
Desiato	Conservation Eas	0.9
Evergreen Reserve	Conservation Eas	16.1
Farr	Conservation Eas	5.2
Frechette	Conservation Eas	1.6
Glenny	Conservation Eas	2.4
Godiva Lane	Conservation Eas	3.2
Hemlock Brook Estates	Conservation Eas	13.0
Hidden Acres	Conservation Eas	0.2
Highlands	Conservation Eas	32.3
Hillside Woods	Conservation Eas	2.2
Hilton	Conservation Eas	7.3
Hop River Trail Estates	Conservation Eas	14.0
Laurel Point	Conservation Eas	23.3
LBS	Conservation Eas	10.9
Lillian Farms	Conservation Eas	1.6
Maize Hill	Conservation Eas	3.2
Malon	Conservation Eas	2.0
McLaughlin Meadows	Conservation Eas	27.5
Melody Farms	Conservation Eas	5.6
Menzel	Conservation Eas	20.0
Moriarty	Conservation Eas	4.4
Nadeau	Conservation Eas	4.2
North River Realty	Conservation Eas	11.9
Powers	Conservation Eas	5.8
Reynold's Farm	Agricultural Ease	81.0
Ripley Ridge	Conservation Eas	14.1
Satari	Conservation Eas	3.2
Stonebridge Estates	Conservation Eas	2.4
Storrs Community Church	Conservation Eas	5.0
Therrien	Conservation Eas	8.7
Thornton Brook Estates	Conservation Eas	1.6
Trueman's Meadow	Conservation Eas	13.0
Twin Hills	Conservation Eas	6.6
Upton	Conservation Eas	3.6
Welles	Conservation Eas	6.3
Ziegler Woods	Conservation Eas	20.7

Name	Type	Acres
Apollo Gardens	Town of Coventry	11.7
Boat Launch	State	2.4
Green Parcel	Land Trust	4.3
Brigham Tavern Rd	State	30.4
Broadway	Town of Coventry	9.4
Broadway Meadow	Land Trust	9.8
Couch Preserve	Land Trust	12.1
Coventry Hills	Town of Coventry	21.5
Creaser Park	State - Town	98.7
Eagleville Lake	State	1.2
G.H. Robertson	Town of Coventry	21.0
Grammar School	Town of Coventry	21.6
Grant Hill Estates	Town of Coventry	18.7
Heckler	Town of Coventry	24.8
High Meadow Farms	Town of Coventry	12.1
Hop River Trail	State	36.2
Hop River Falls	Town of Coventry	4.2
Korner Estates	Town of Coventry	28.3
Laidlaw Park	Town of Coventry	69.1
Liberty Croft	Town of Coventry	67.4
Lillian Woods	Town of Coventry	28.6
Lisicke Beach	Town of Coventry	2.5
Memorial Green	Town of Coventry	1.7
Middle School	Town of Coventry	81.3
Mill Brook Park	Town of Coventry	7.5
Miller Richardson	Town of Coventry	62.4
Moriarty	Town of Coventry	4.5
Mountain Estates	Town of Coventry	41.8
Nathan Hale SF	State	872.2
Patriots Park	Town of Coventry	12.6
Patriots Park Forest	Town of Coventry	57.6
Riverview	Town of Coventry	28.1
Simmons Estates	Town of Coventry	18.2
Taylor Preserve	Land Trust	2.5
The Ledges	Town of Coventry	26.4
Thornton Brook Estate	Town of Coventry	3.0
Thornton Brook Prese	Town of Coventry	36.0
Thornton Meadow	Town of Coventry	27.3
Williams	Town of Coventry	36.8
Willow Glen	Town of Coventry	1.1
Windswept Farms	Town of Coventry	23.3
Wolf	Land Trust	50.0

Total Conservation Easement = 399 acres
 Total Fee Simple = 1930.3 acres
 Subtotal = 2,329.3 acres
 Total Land Area = 24,505 acres
 Percentage of Town as Open Space = 9.5%



APPENDIX F

SAMPLE USE AND MANAGEMENT PLAN (In brief)

I. INTRODUCTION

- A.** Purpose –future condition and use of the parcel.
- B.** Property description, ownership and management.

II. GENERAL GOALS

- A.** How does this property fit into Town/State open space plans, the POCD or existing open space network?
- B.** What are the intentions for public use of the property? Is the property open to the public?

III. CHARACTERISTICS OF THE PARCEL

- A.** Natural Habitats
- B.** Plants & Wildlife
- C.** Cultural/ Historic Resources
- D.** Adjacent Undeveloped Parcels

IV. EXISTING ACTIVITIES ON THE PROPERTY

- A.** Current Recreational Uses (passive/active)
- B.** Research
- C.** Forestry
- D.** Education

V. MANAGEMENT AND STEWARDSHIP ISSUES

APPENDIX G

The Subcommittee examined the current Plan of Conservation and Development, Open Space Plan, Zoning and Subdivision Regulations and has **suggested the following revisions to the texts:**

- POCD - Open Space section Item “C” note #4 page 5-2, separate soils from farmland.
- POCD - For the OS list, add the major threats to each item in “C”, page 5-2.
- Open Space Plan - Under goals #7, need to add water trails or statement on promoting establishment of hiking and biking trails.
- Zoning Regulations - Section 4.12.04.B “Use of Open Space” is tied to Subdivision Regulations - consider statement on stewardship.
- Zoning Regulations - Section 4.12.05.b consider requiring details as to what is the intended use of the property and what is the actual use and condition.
- Subdivision Regulations - Chapter VIII, Section 6.b Reconsider allowance for stormwater ponds/basins to not be included in open space area calculation.
- Subdivision Regulations - Consider not using the label “Open Space”, use Conservation area (and easements) land trust, town park, town property, passive recreation, active recreation, etc.
- Subdivision Regulations - Consider not using the term “economic development” as it relates to open space, its more about value to the town and reducing municipal costs (taxes).
- Subdivision Regulations – Consider additional language to allow for and promote Low Impact Design.

APPENDIX H

The following are a variety of resources that can serve to provide information and guidance on a variety relevant open space matters. This open space 'toolbox' is a dynamic appendix to the report that will grow as more information is obtained and as applicable laws are changed over time.

Resource 1:

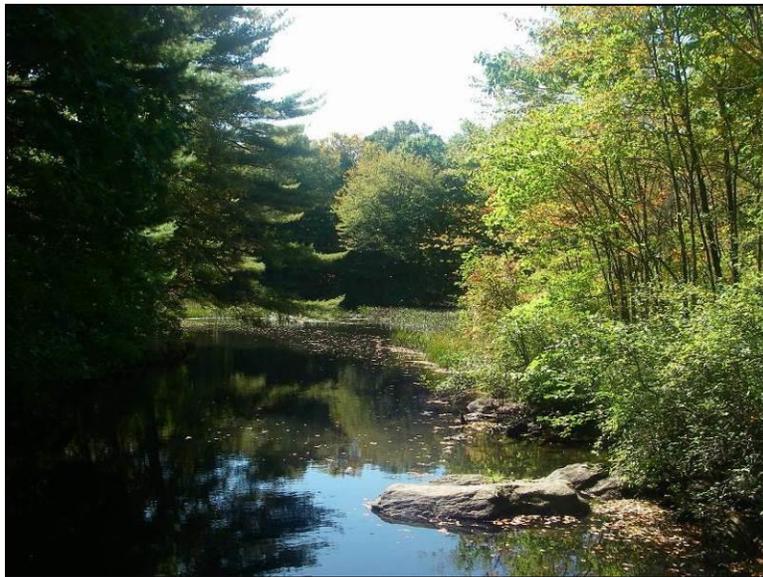
Probate, Legal and Tax Implications of Conservation – prepared by the Law Offices of Kahan, Kerensky and Caposella, LLP.

Resource 2:

'I think I want to permanently protect my land! Now what do I do?' – distributed at the Protecting Family Lands and Forests Forum on April 18, 2013.

Resource 3:

'Tax Incentives for Open Space Preservation – Examining the Costs and Benefits of Preferential Assessment' – Lincoln Institute of Land Policy article from October 2013 publication.



View of Skungamaug River at Folly Lane Bridge