City of Burlington
Open Space Protection Plan

March, 2014

Prepared by:

Landslide Natural Resource Planning
P O Box 311
East Middlebury, VT 05740

Phone: 802-388-9278
www.landslideinc.com

City of Burlington
Open Space Protection Plan
As adopted March 31, 2014

Prepared under the direction of the Burlington Conservation Board
Matt Moore, Chair
Will Fender, Vice Chair
Scott Mapes
Don Meals
Jeff Severson
Miles Waite
Damon Lane
Zoe Richards
Stephanie Young

Burlington Conservation Board, Scott Gustin, Senior Planner, sgustin@ci.burlington.vt.us,
149 Church Street Burlington, VT 05401/ http://www.burlingtonvt.gov/Planning/Telephone: (802) 865-7188

Contents

1.0 Introduction

1.1 Purpose of this Update

Thirteen years ago, recognizing the importance of open space to our quality of life, social interactions, economic well-being and environmental health, the City of Burlington completed the first Open Space Protection Plan. Since then, many of the goals identified in the first plan have been completed, some lands have been conserved while others have been developed and the perspective of residents has changed. This update, rather than a wholesale replacement of the 2000 plan, adapts the original vision and goals to reflect progress made on past goals and changes in the public perception of needs for open space. It also provides greater analysis and policy guidance for natural areas, urban agriculture, and green infrastructure - items contemplated, but not fully articulated, in the original plan. The fundamental components of open space planning established in the 2000 plan – Conservation Education, Land Conservation, and Planning and Development Review - are retained. This update is an addendum to the 2000 Open Space Protection Plan and both are incorporated by reference into the Municipal Development Plan.

This update is based on an extensive public outreach process. We touched base with Burlington residents to find out what was on their minds regarding open space quality, availability and access in the City today. Next, the open space inventory was updated to reflect the current status and use of open space in the city. We then combined the social information from the outreach with the geographic information of the updated inventory in a table that can be used to inform open space acquisitions in the coming years. Finally, we articulated policy goals to guide future decisions relating to open space land uses.

1.2 Vision

Burlington is a place where open spaces and the built environment are intertwined with one another in a symbiotic relationship that helps to make Burlington the unique place that is it. The conservation of open space enhances the quality of life for residents and allows for the continued functioning and restoration of the natural systems of which we are a part.

Open space consists of natural areas, urban agriculture, parklands, greenbelts, rain gardens and pocket parks.

Natural Areas are those places where innate systems are allowed to function with little interference from humans. These areas serve to define the character of Burlington and are the foundation of the natural systems that support the city.

Urban Agriculture encompasses community gardens, market gardens, and the working farmlands of the Intervale and a growing interest in community orchards and edible landscaping.

Community Garden at Calahan Park.

Parklands are generally owned by the City and managed for specific recreational purposes, including developed recreational areas (ball fields and tennis courts) and beaches and rustic trails and natural areas.

Green Infrastructure, such as greenbelts, rain gardens, and pocket parks, soften densely developed neighborhoods by providing small areas of refuge from the urban hardscape. We have added small lawn areas within the urban core to the inventory of open spaces to identify potential places for green infrastructure in the most developed part of the City.

1.3 Established Goals of Open Space Planning

1) Protect and preserve natural areas and open spaces of local, regional, and statewide significance for the benefit of future generations.
2) Maintain and improve the integrity of natural and recreational systems within the City:
   - Protect, maintain, and enhance the City's urban forest, including both large patches of woods and wooded corridors/treebelts that provide places of refuge and travel corridors for wildlife and people;
   - Protect the shorelines and waters of Lake Champlain, the Winooski River, and other water sources from damage and degradation;
   - Preserve scenic viewpoints and viewsheds; and
   - Increase the number and quality of small urban open spaces, especially in underserved neighborhoods of the city.

3) Ensure long-term stewardship and appropriate public access to natural areas and open space, including improved opportunities for pedestrian access and interaction throughout the City.

The Open Space Protection Plan (OSPP) is a plan of action that has been successfully implemented through the creation of a comprehensive land conservation program for the City. It is also a living document that must adapt to evolving public needs for open spaces. Three complementary approaches form the foundation for this plan:

1) **Conservation education** improves the public's familiarity with and appreciation of Burlington's natural areas. It communicates the importance of open space protection and encourages public participation in the land conservation process.

2) **Proactive conservation** identifies sites of the highest priority for protection and offers resources to conserve these lands for today and as a legacy for future generations. The keystone of this strategy is the establishment of the Conservation Legacy Program which:
   - Prioritizes lands that are most important and suitable for long-term protection based on the City's open space vision and the presence of important natural or recreational features;
   - Administers a land conservation fund to assist with the costs of purchasing land or conservation easements; and
   - Ensures the stewardship of City owned conservation lands.

3) **Land use planning** that guides land use decisions related to open space lands including:

- Conserved lands;
- Protected natural resource areas;
- Open space lands with potential for acquisition and conservation; and
- Open space lands with potential for identified open space priorities such as green infrastructure or urban agriculture.

Together these three strategies create a comprehensive approach to open space protection. This framework is designed to be flexible, so that it can evolve with the needs and priorities of the City of Burlington as they change over time.

1.4 Open Space in the Big Picture

Burlington has a number of adopted plans and reports that guide specific aspects of City life. Many of these plans call for the stewardship and conservation of open spaces and the important natural functions that they provide to residents. **Plan BTV**, the **Climate Action Plan**, the **Urban Agriculture Task Force Report**, the **Urban Forestry Master Plan** and numerous natural area plans and wildlife inventories all identify the link between ecological integrity, social well-being and our quality of life. Specific topics include transportation and local recreation, stormwater management and water quality, local gardens, farms and food production, and urban forestry and carbon sequestration. The OSPP is part of the City's Municipal Development Plan. Plan BTV, the Downtown & Waterfront update of that plan, identifies several major themes pertinent to open space protection:

- Ecological Integrity;
- Urban Agriculture; and
- The Green Machine (a system of gray and green infrastructure proposed to handle stormwater runoff in the urban core).

The OSPP supports Plan BTV by including an inventory of open spaces within the City and characterizing them according to open space priorities. The OSPP addresses ecological integrity through the lens of natural communities and their relative abundance. It addresses the importance of local food production by mapping existing community gardens, large agricultural lands and prime agricultural soils. This information enables us to identify underserved areas of the City and to target open space lands for potential community garden or other agricultural use. Finally, the OSPP supports the need to improve the quality of stormwater running off city streets and rooftops by identifying open spaces, particularly within the urban core, that may be utilized for stormwater management in the form of rain gardens, infiltration parks, or other green measures that lessen impacts on our existing stormwater infrastructure and the receiving waters of Lake Champlain.

The Parks and Recreation Department is undergoing the first ever city wide parks master planning process just as the OSPP update is being finished. The Master Plan will address needs within the existing park infrastructure – including maintenance and capital improvements. The Parks Master Planning process will use public input collected during the OSPP update as well as the OSPP Inventory to inform their process.

Figure 1. Open Space Priorities in other City Plans

1.5 Accomplishments

Many of the goals identified in the original OSPP were accomplished, including on-going conservation education, the creation of the Conservation Legacy Program and its associated fund, and the identification and conservation of natural resource areas through the land use map and zoning by-law.

1) Conservation Education

- The CLP program has successfully developed and supported active interpretation in City natural areas through guided nature walks. In the future, the program looks to achieve active interpretation in natural areas through partnerships with conservation organizations.
- Work Days – The CLP partners with schools and community groups to provide meaningful hands on experiences for volunteers and students. These work days help the City manage the trails and invasive species within City urban wilds while also providing learning opportunities for the volunteers engaged in the projects.

2) Proactive Conservation through the Conservation Legacy Program and Fund

- A fund dedicated to conservation and stewardship of Burlington's open spaces was established in 2004. The money comes from a ½ cent on the property tax which accumulates annually. Thirty percent of the revenue goes to operations and the remaining 70% is for land acquisition.
- Since its inception, the fund has been used to conserve 23 acres of forest land, wetland, and community garden land, enabled the conservation of an additional 181 acres of agricultural land in the Intervale, and is enabling the conversion of the McKenzie parcel, in the Intervale, from field to productive agricultural land.
- Creation of the Land Steward position within the Department of Parks and Recreation. The Land Steward is responsible for fulfilling the goals of the OSPP. The fund pays 75% of the salary of the Land Steward (the other 25% comes from the Trees and Greenways tax).
- Community gardens – Burlington's Community garden program represents the most significant volunteer/user lead management of open space in the city. This program raises approximately $20,000 annually which is used directly in the management of the community garden network, which includes:
  - 14 community gardens
  - 650 plots
  - 700 active gardeners
  - 9 acres of garden area
  - 7.5 acres in cultivation
- Access to conserved lands has been improved.

3) Land Use Planning and Improved Development Review

- Natural resource areas, including wetlands, waterways, flood hazard areas, and significant natural areas were delineated with regulatory standards established for development in or adjacent to them. These standards are administered through the zoning permit process with review criteria based on protecting the functions and values of the resource

Burlington Electric Department land conveyed to Intervale Center in 2007, facilitated with Conservation Legacy Fund.

1.6 Conservation Board OSPP Update Goals

The OSPP is a project of the Conservation Board. At the start of the process the following ideas were brought forth by their members:

- Update the open space inventory and delineate lands conserved with the Conservation Legacy Fund;
- Identify potential pocket parks which provide small shared community spaces that enhance social interaction and create green refuges especially in the Urban Core;
- Integrate green infrastructure and stormwater management into the open

space network. In addition to providing stormwater retention and infiltration, improving water quality and reducing demands on the City's Sewer treatment plant, these areas can potentially function as pocket parks;

- Evaluate opportunities for community gardens and urban agriculture – awareness of the importance of providing people with opportunities to grow their own food and teach children about agriculture has grown significantly since the last plan. Urban agriculture helps meet many goals identified across subject plans including sustainability, reducing our carbon footprint, and improving water quality;
  - Delineate formal and informal trails with an emphasis on improving access and connectivity throughout the network;
  - Assess natural communities – understand which natural communities are currently represented in the existing public land inventory and assess the feasibility of having more or all native communities represented across City Park lands;
  - Develop standards for creating and updating management plans for Burlington's key natural areas;
  - Identify underserved areas of the city by type of open space land – i.e. access to natural areas, community gardens, pocket parks, and developed recreation sites; and
  - Update the matrix of open space priorities used to guide land acquisition decisions by the Conservation Legacy Program.

1.7 Update Process

The OSPP update started with wintertime public outreach to the Neighborhood Planning Assemblies (NPA's) at four different meetings (some NPA's share meetings). A fifteen minute presentation provided background information, followed by time for questions and group comments. Large paper maps were on the wall so that people could put comments directly onto them. An online public input tool that allowed users to place comments on a map of the city and to review and comment on the comments of others was also utilized. In addition to the NPA meetings, a stakeholder meeting was held with 15 attendees from local and state conservation groups. (See Appendix C for a list). Meetings were also held with the Parks & Recreation Commission, Planning Commission, Conservation Board, Burlington Area Community Gardens Board, and city staff. In all, an array of comments was collected in meetings and online that helped guide the update process. A second round of springtime public outreach with all of the NPA's was used to present findings and revised open space goals and objectives garnered from the first round of outreach. In large part, these findings, goals, and objectives were affirmed by NPA meeting attendees.

Additions to the Plan from Public Outreach:

- Green roofs (part of Green Infrastructure)
- Bike path improvements
- Potential park acquisitions
- Views
- Waterfront access
- Wildlife corridors

- Opportunities for Urban Food Forestry (edible landscaping)

2.0 Public Input Results

A total of 355 comments were collected during the update. Specific comments maybe be found in appendix D.

2.1 Bike Path Improvements

Five distinct locations were suggested to improve bike path connectivity:

- Howard-Kilburn Street access
- Burlington College connection
- Intervale access via bike at the south end of 127 and at the north end by utilizing the pedestrian "Bridge to nowhere" across 127.

Topic	Number
Bikepath Improvements	23
Green Roofs	11
Greenbelt	1
Management of Existing Public Land	169
Observation	22
Potential Park	57
Rain Garden	18
Stormwater	2
Trail	1
Urban Ag	12
Views	17
Waterfront Access	19
Wildlife Corridor	3
Total	355

Table 1. Public Outreach Summary

2.2 Green Roofs

Cherry Street parking garage was proposed to host a green roof. Green roofs are one tool in the "Low Impact Development" toolbox for helping slow stormwater runoff and providing green space in urban areas. An additional benefit of creating open space on the parking garage could be opening up views in all directions.

2.3 Greenbelts

Greenbelts are the areas along road right of ways that are unpaved. They have traditionally been managed as lawn areas with street trees growing in them. Increasingly cities are using them to treat stormwater runoff by establishing rain gardens and swales. These green strips and their associated trees reduce heating in the summer months and provide habitat for birds and green spaces for people to enjoy.

Trail Work, McKenzie Park.

2.4 Management of Existing Public Land

By far the area that received the most public comment was management of existing public lands. Approximately 22 different areas were addressed by 169 comments received on this subject. The comments range from requests for new uses (dog parks and urban agriculture), to management of existing trail networks and identification of underutilized public lands. Leddy Park received 30 comments, many on the value of the trails and undeveloped recreational opportunities in the park. Appendix B

provides a summary of the on-line comments by category as well as location.

2.5 Observations

Twenty-two general observations were recorded, mostly focused on natural history and areas of positive social interaction. There is some overlap between this category and "Management of Existing Public Land".

2.6 Potential Parks

Twenty-eight distinct areas were identified as potential parks with 57 comments supporting them. Suggested acquisitions ranged from beaches to large forested tracts to pocket parks.

2.7 Rain Gardens

Eighteen comments supporting rain garden development were focused primarily on the Callahan Park rain garden. Neighbors on Caroline Street are interested in creating a rain garden in the greenbelt and would like direction from the City.

2.8 Stormwater

A stormwater demonstration project was suggested for a parking lot at Leddy Park and better drainage at Oakledge Park was called out.

2.9 Trails

Although trails and trail maintenance accounts for many of the comments regarding management of existing public lands, only one comment identified a separate trail not already on public land.

2.10 Urban Agriculture

Eight sites were identified for potential urban agricultural use on existing public land as well as on private land.

2.11 Views

Seventeen comments on the importance of views to Burlington's livability were registered with interest in maintaining and opening up views as development occurs. A number of people were interested in utilizing the views from parking garages and creating open, green spaces on top of them, including an idea to install telescopes that let you zoom into the distant Adirondack peaks.

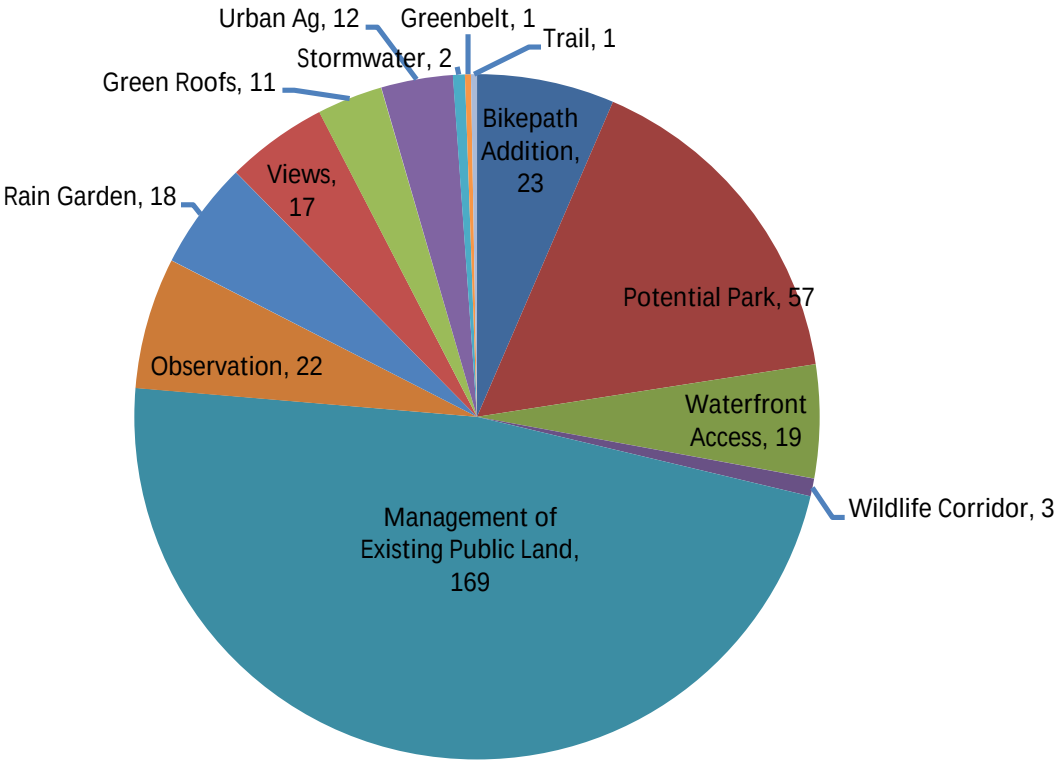
2.12 Waterfront Access

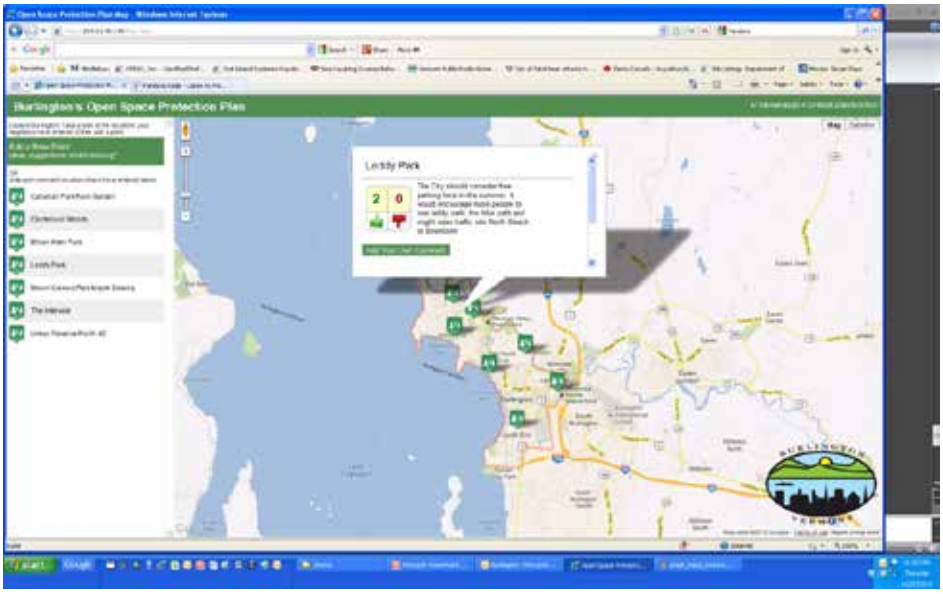
Nineteen different comments regarding seven different waterfront access areas were made.

2.13 Wildlife Corridors

Three different areas for wildlife corridors were called out via public input. A UVM student group has expanded upon existing wildlife habitat and corridor reports and has identified barriers to movement along these corridors (Greater Burlington Wildlife Corridor Analysis, Spring 2013). The student report also proposes methods to remove the barriers or lessen their impacts.

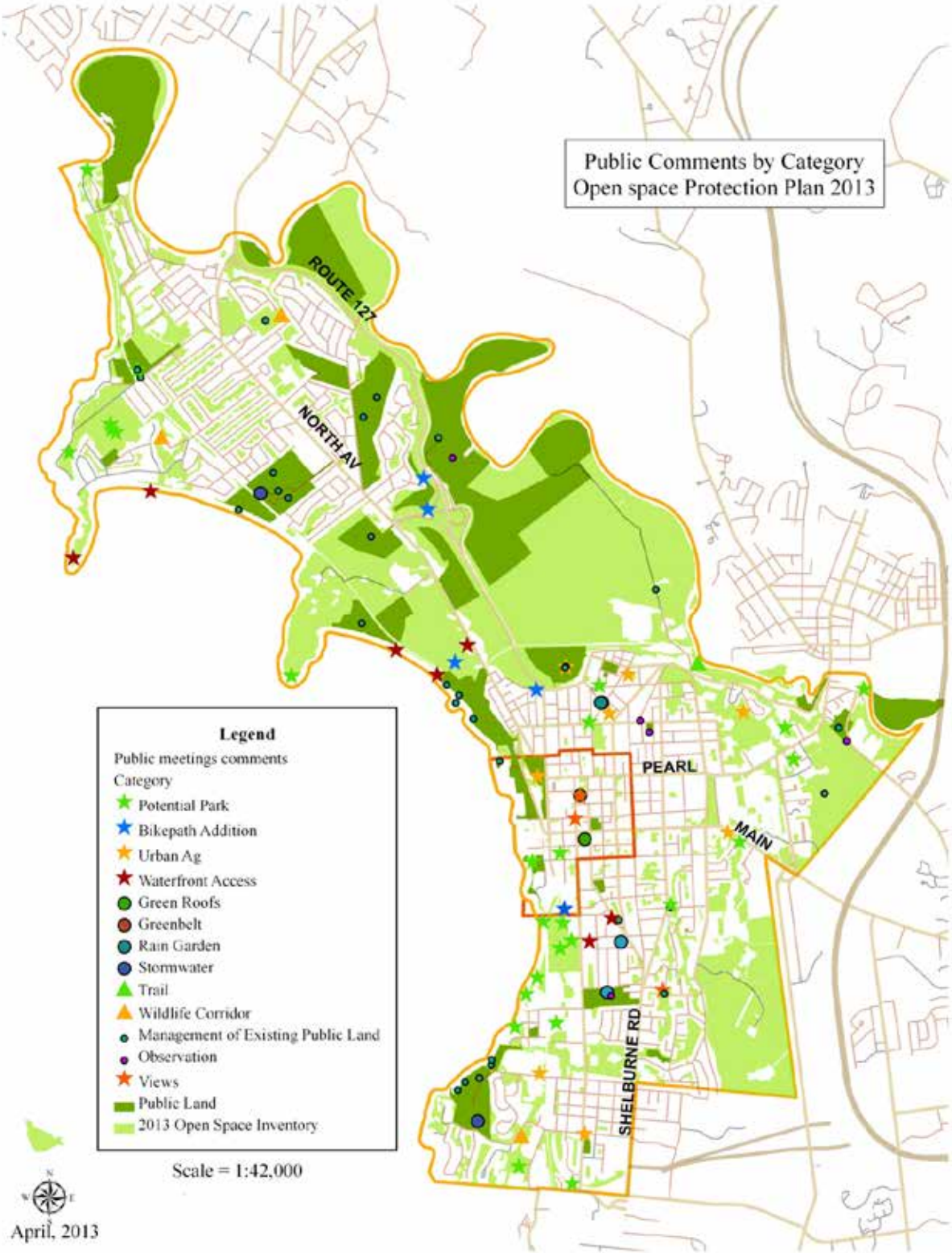
Chart 1. Public Comments





Public input tool on Google Maps.

Map A. Public Input by Category



3.0 Open Space Inventory

What constitutes open space? Because open spaces provide many benefits and functions it is important that we understand what types of land we are considering "open" as we begin to think about how much land is necessary in each category to meet the needs of Burlington residents today and in the future. For example, although Burlington is 49% open, if we consider only publicly owned land, the City is 15% open space.

The open space inventory was updated using the most recent available color aerial photography from Bing maps (2012). State's black and white aerial photography (2007) was used where leaf off was necessary to see detail. A detailed explanation of the update process may be found in Appendix D at the end of this document. Overall, open space outside of the Urban Core was included in the inventory if it was greater than one acre or a specific type of land use as described below. Generally the same land use categories were used as in the 2000 plan, however, a small lawn category (~ 900 square feet or greater) was added to inventory potential pocket parks or other green infrastructure in the Urban Core. Existing rain gardens and some areas for potential rain gardens were added. The Large Mowed Lawn inventory was expanded, especially in the New North End. Although these lands are private backyards, they still provide important open space functions, including access to high quality soils for gardening and connectivity for certain wildlife species.

Table 3 Open Space Fun Facts

Fun Facts
• 6,784 acres of city area
• 3,304 acres of open space
• 49% open space
• 1,266 acres in Floodplain (38%)
• 37 parks (w/in 1,070 acres)
• 3 public beaches
• 3 cemeteries
• 2 dog parks
• 6 urban wilds
• 42 trail miles (public and private)

Table 2. Open Space Inventory

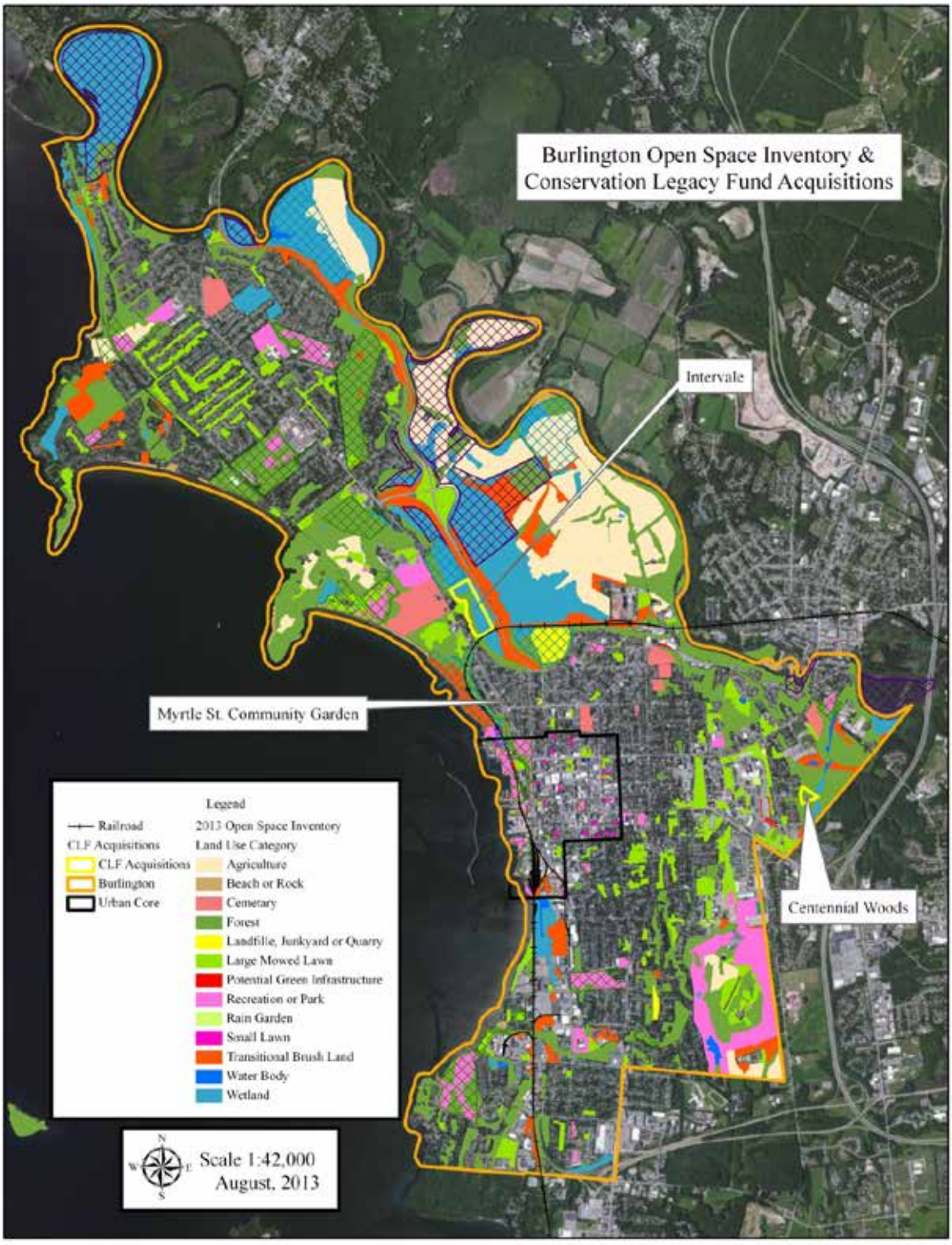
Land Use Category	Acres
Agriculture	562.7
Beach or Rock	23.8
Cemetary	78.7
Forest	1167.0
Landfill	23.6
Large Mowed Lawn	295.7
Potential Green Infrastructure	1.8
Rain Garden	0.8
Recreation or Park	267.3
Small Lawn	5.0
Transitional Brushland	261.0
Waterbody	16.3
Wetland	599.9
Grand Total	3303.7

Table 4 Public Land Acreage

Public Land Type	Acres
City Park	364.9
Other Open Space	239.9
Winooski Valley Park District	431.7
Total	1,036.4

The 2000 inventory contained 3,247 acres of open space lands, whereas the 2013 inventory contains 3,304 acres – a net change of + 57 acres. While it is tempting to compare the acres of open land inventory from 2000 to 2013, the first generation of data were collected at a much coarser scale than this update and thus some of the categories were potentially over or under represented in the first inventory.

Map B. Open Space Inventory



4.0 Public and Private Partnerships

Although 49% of Burlington is open space today, only 15% of the City is in public ownership. Many important open spaces are privately owned and generously shared with the people of Burlington by their owners. In addition to maintaining and increasing the acquisition fund to purchase these lands if they become available, the City must work to maintain positive relationships with property owners by communicating with them regularly and addressing management issues as they come up.

Additionally, many of the goals identified in the Open Space Protection Plan depend upon all property owners to support them through conscious choices regarding development and management of privately owned land. Actions that private landowners of developed lots can take to help support the Open Space Protection Plan are:

- Removing unnecessary fencing or providing gaps in fences, especially in areas that are part of contiguous open lands. This will make it easier for wildlife to travel through developed neighborhoods to the larger parks and the Lake;
- Planting native trees and shrubs that are wildlife friendly; and
- Reducing stormwater runoff to improve water quality in Lake Champlain by installing smaller or pervious driveways, capturing roof runoff with rain barrels, disconnecting gutters from city sewers, and implementing infiltration practices.

5.0 Natural Community Types

> *A natural community is an interacting assemblage of organisms, their physical environment, and the natural processes that affect them.* (Thompson and Sorenson, page 58)

Natural communities provide a framework for organizing and understanding the natural world at the landscape level. Conservation biologists agree that conserving biodiversity can best be achieved by conserving all of the different types of natural communities. Natural communities are critical to maintaining healthy populations of indigenous plants and animals. They provide a generalized measure of how the current landscape compares to that of pre-European settlement.

While Burlington functions as the regional growth center for Chittenden County, conservation of representative natural community types is one goal of the open space protection plan. Natural communities are important for educational purposes but also because many species of wildlife successfully make their livings close to and in some cases even in, the City. Opportunities for residents to interact with nature within the city improve quality of life and allow us to learn about and explore the natural world without getting in a car.

The potential for natural communities in Burlington was assessed for this plan using the Natural Resource Conservation Service (NRCS) soil survey data linked to Natural Community Types as defined in Wetland, Woodland Wildland (Thompson & Sorenson). The potential natural community map was created by using the naturally vegetated lands from the open space inventory and joining them to the soils map and linking that to the natural community types. (For a detailed description of each natural community type, please refer to

Wetland, Woodland, Wildland.) The information in this analysis provides a preliminary basis for further onsite investigation as to the presence of any potential natural community type.

The soil data for Burlington includes 772 acres of unmapped area in the urban core, 441 acres of fill land and 222 acres of water. These lands were included in the total acres for consistency throughout the plan. To evaluate the current status of possible natural communities in Burlington, only lands that are un-mowed, and therefore have the potential to have natural communities present were included on the map. Without doing extensive field work, it is not possible to say what natural communities actually exist currently on all of these vegetated lands, however, the assumption of this analysis is that if they are unmanaged, they are likely to have or evolve toward pre-settlement natural communities. Field work is required in order to evaluate the natural communities at each site and this information is for planning purposes only.

For the purpose of this analysis, the percent of each natural community present before settlement was compared to what could exist today if the currently forested and transitional shrub lands are either in their natural community or evolving towards it.

Of the twenty-two natural community types understood to be present in Burlington before European settlement, all of them may either still exist or have the potential to exist based on the 2013 open space inventory and the soil data. The potential existing community types are skewed toward wetlands, which is understandable because wet areas are harder to develop and filling them is restricted. Eight natural community types are either relatively rare or are non-existent on current public lands. Note that the management plans for four of the city's urban wilds (Ethan Allen Park, McKenzie Park, Mount Calvary Red Maple Swamp, and Arms Grant property) outline and address verified natural community types within these urban wilds.

Mixed Forest, East Avenue; conserved with Legacy Fund.

Table 5. Relatively Rare Natural Community Types

Under Represented Natural Community Types	
Alluvial land	Red maple-black ash swamp/lowland spruce fir forest
Hemlock-northern hardwood/northern hardwood forest	Red maple-black ash/alder swamp
Mesic maple-ash-hickory/northern hardwood limestone forest variant	Terrace escarpments, silty and clayey
Northern hardwood forest/rich northern hardwood forest	Valley clayplain
Red maple-black ash swamp/calcareous red maple-tamarack swamp	Wet clayplain

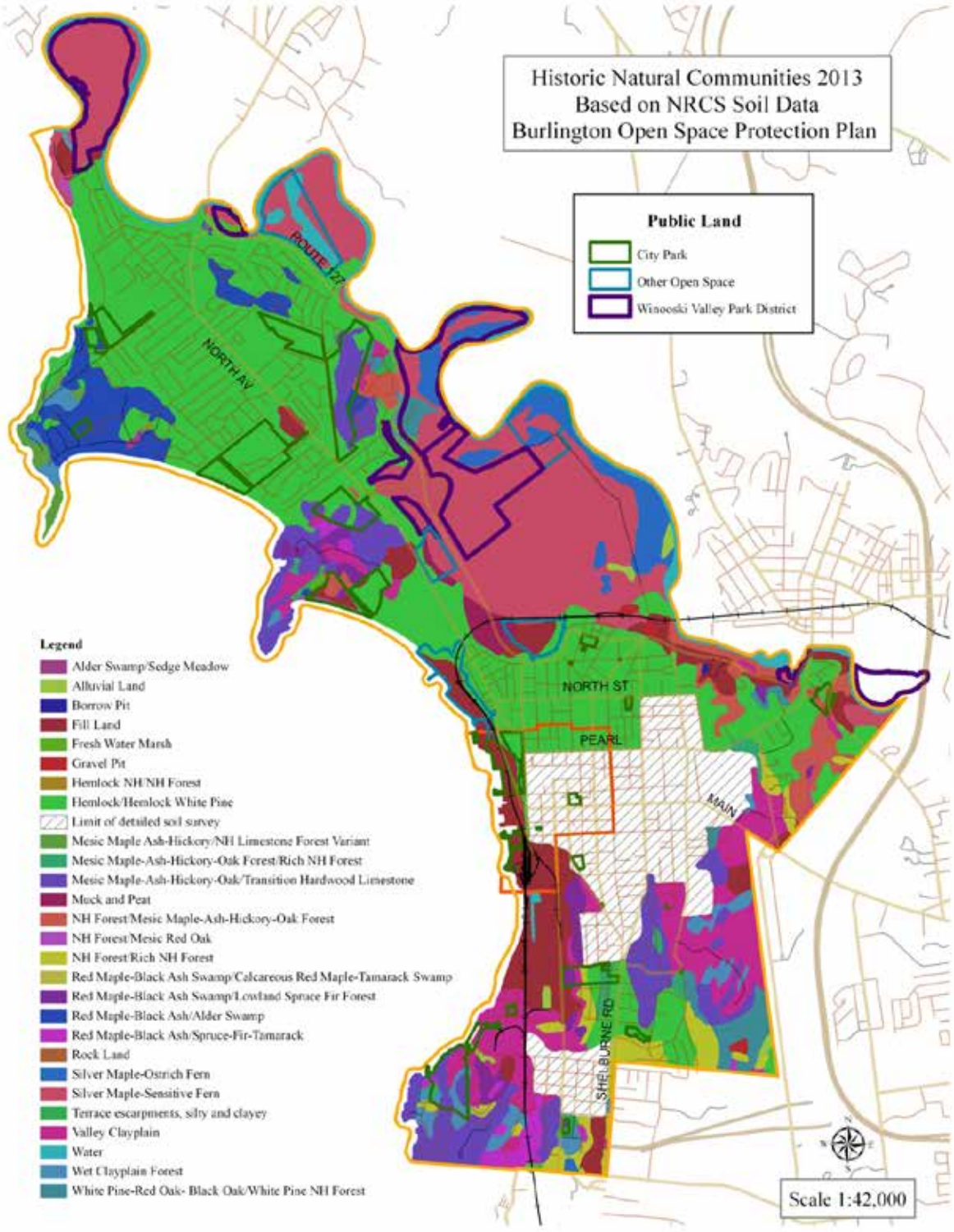
When considering future areas for restoration or conservation, it is recommended that community types that currently are at a lower percentage of the landscape than before settlement are prioritized.

Table 6. Field Mapped Natural Community Types on Public Land

Park	Natural Community Type
Ethan Allen	Mesic Oak-Hickory-Northern Hardwood Forest
	Dry Oak-Hickory-Hophornbeam Forest Northen Hardwood Forest
	Temperate Calcareous Cliff Community
Arms Grant	Mesic Maple-Ash-Hickory-Oak Forest
	Transition Hardwoods-Limestone Forest
McKenzie	River Beach Complex
	Floodplain Forest
	Open Wetlands
Mt. Calvary	Rare Sandplain Swamp (variant of the Red Maple-Sphagnum Acidic Basin Swamp)

Winter berry in Arms Park.

Map C. Historic Natural Communities



Map D. Potential Natural Communities

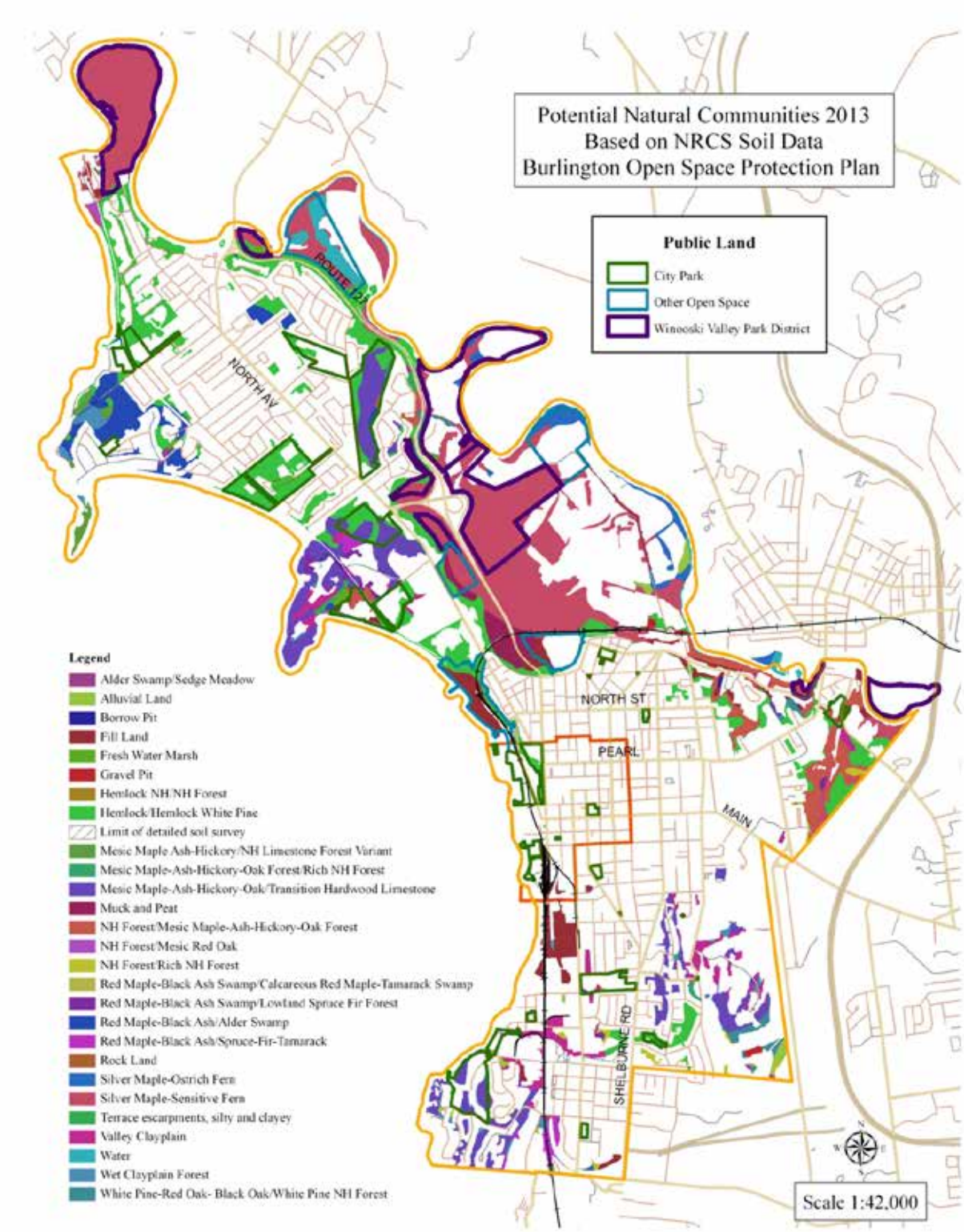


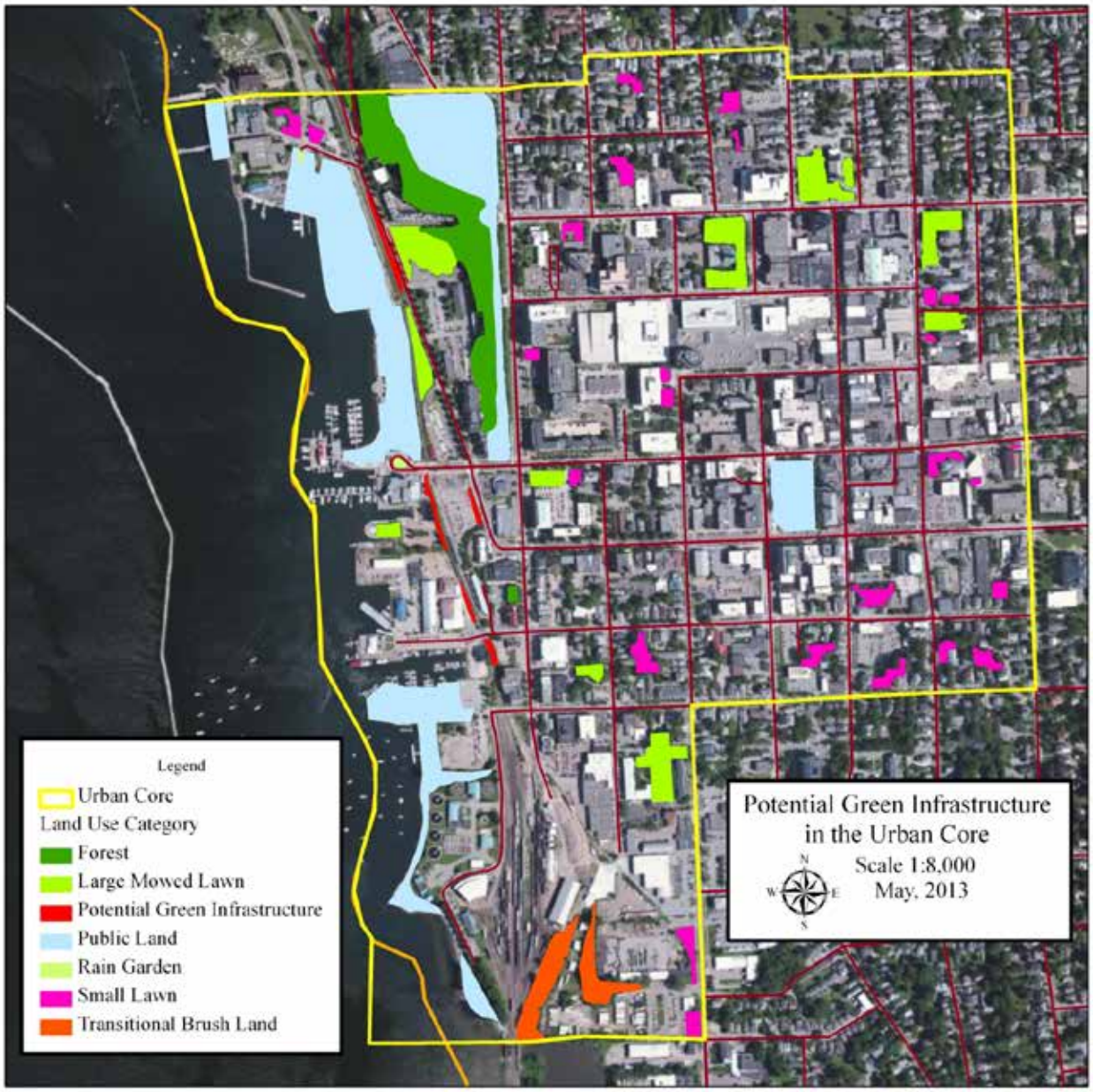
Table 7. Natural Community Acreage

Natural Community Type	Acres Before Settlement	Percent	Existing Un-mowed Open Lands	Percent	Un-mowed Public Lands	Percent
Alder Swamp/Sedge Meadow	3.0	0.0%	1.4	0.1%	N/A	N/A
Alluvial Land	22.1	0.3%	13.7	0.7%	0.4	0.05%
Borrow Pit	1.2	0.0%	0.9	0.0%		
Fill Land	440.7	6.5%	99.9	4.9%	31.9	4.62%
Fresh Water Marsh	7.7	0.1%	6.8	0.3%	3.2	0.46%
Gravel Pit	10.2	0.2%	4.9	0.2%		
Hemlock NH/NH Forest	1.1	0.0%	0.7	0.0%		
Hemlock/Hemlock White Pine	2216.8	32.7%	473.2	23.4%	138.8	20.08%
Limit of detailed soil survey	771.5	11.4%	10.8	0.5%		
Mesic Maple Ash-Hickory/NH Limestone Forest Variant	29.5	0.4%	13.7	0.7%		
Mesic Maple-Ash-Hickory-Oak Forest/Rich NH Forest	44.0	0.6%	4.0	0.2%	0.2	0.03%
Mesic Maple-Ash-Hickory-Oak/Transition Hardwood Limestone	416.5	6.1%	232.9	11.5%	69.2	10.02%
Muck and Peat	42.0	0.6%	39.2	1.9%	8.5	1.22%
NH Forest/Mesic Maple-Ash-Hickory-Oak Forest	143.5	2.1%	101.3	5.0%	11.5	1.67%
NH Forest/Mesic Red Oak	8.7	0.1%	6.7	0.3%	3.1	0.45%
NH Forest/Rich NH Forest	130.6	1.9%	16.1	0.8%	0.4	0.06%
Red Maple-Black Ash Swamp/Calcareous Red Maple-Tamarack Swamp	2.8	0.0%	0.2	0.0%		
Red Maple-Black Ash Swamp/Lowland Spruce Fir Forest	74.8	1.1%	14.7	0.7%	0.3	0.05%
Red Maple-Black Ash/Alder Swamp	213.0	3.1%	79.3	3.9%	2.7	0.39%
Red Maple-Black Ash/Spruce-Fir-Tamarack	56.5	0.8%	17.2	0.9%	0.2	0.02%
Rock Land	0.1	0.0%				
Silver Maple-Ostrich Fern	172.8	2.6%	49.3	2.4%	23.6	3.41%
Silver Maple-Sensitive Fern	1114.4	16.4%	658.4	32.6%	357.4	51.73%
Terrace escarpments, silty and clayey	10.1	0.1%	6.8	0.3%		
Valley Clayplain	410.5	6.1%	71.9	3.6%	3.4	0.49%
Water	222.4	3.3%	49.2	2.4%	31.0	4.49%
Wet Clayplain Forest	103.6	1.5%	23.3	1.2%	1.1	0.16%
White Pine-Red Oak- Black Oak/White Pine NH Forest	105.0	1.6%	23.9	1.2%	3.8	0.55%
Total	6775.2	100.0%	2020.6	100.0%	690.7	100%

6.0 Green Infrastructure

Green infrastructure is an important component of the urban landscape, providing an oasis of green, a place to sit and enjoy art and for stormwater management practices such as rain gardens or infiltration parks. There were twenty seven open space areas with green infrastructure potential identified within the urban core area ranging in size from 800 ft^2 to 22,000 ft^2. They are categorized as "small lawn" on the map below.

Map E. Potential Green Infrastructure in the Urban Core



7.0 Urban Agriculture

In September 2012, the Urban Agriculture Task Force completed a thorough study of the issues facing urban agriculture in the City and made policy recommendations to address them. The complete report can be found online at: http://burlingtonfoodcouncil.org/our-projects/uatf/. The report states that:

> Urban agriculture can be broadly defined as **growing food within a city**. The term can embody a range of activities, including home, school, rooftop, and community gardens, urban livestock and poultry, beekeeping, commercial farming, and the use agricultural structures such as of greenhouses and hoop houses. Some definitions of urban agriculture encompass postproduction activities such as processing, distribution, and marketing. Urban agriculture can be commercial, noncommercial, or a hybrid. In terms of scale, urban food production can occur in a space as small as a container on a balcony all the way up to agricultural fields many acres in size. (Page 10, Urban Ag Task Force Report to City Council, Sept. 2012).

Table 9 Prime Soils on Undeveloped Land

Rating	Acres
Prime	439.7
Prime - frequent flooding	146.8
Statewide	748.4
Statewide - steep	91.9
Statewide - wet	655.4
Total	2,082.3

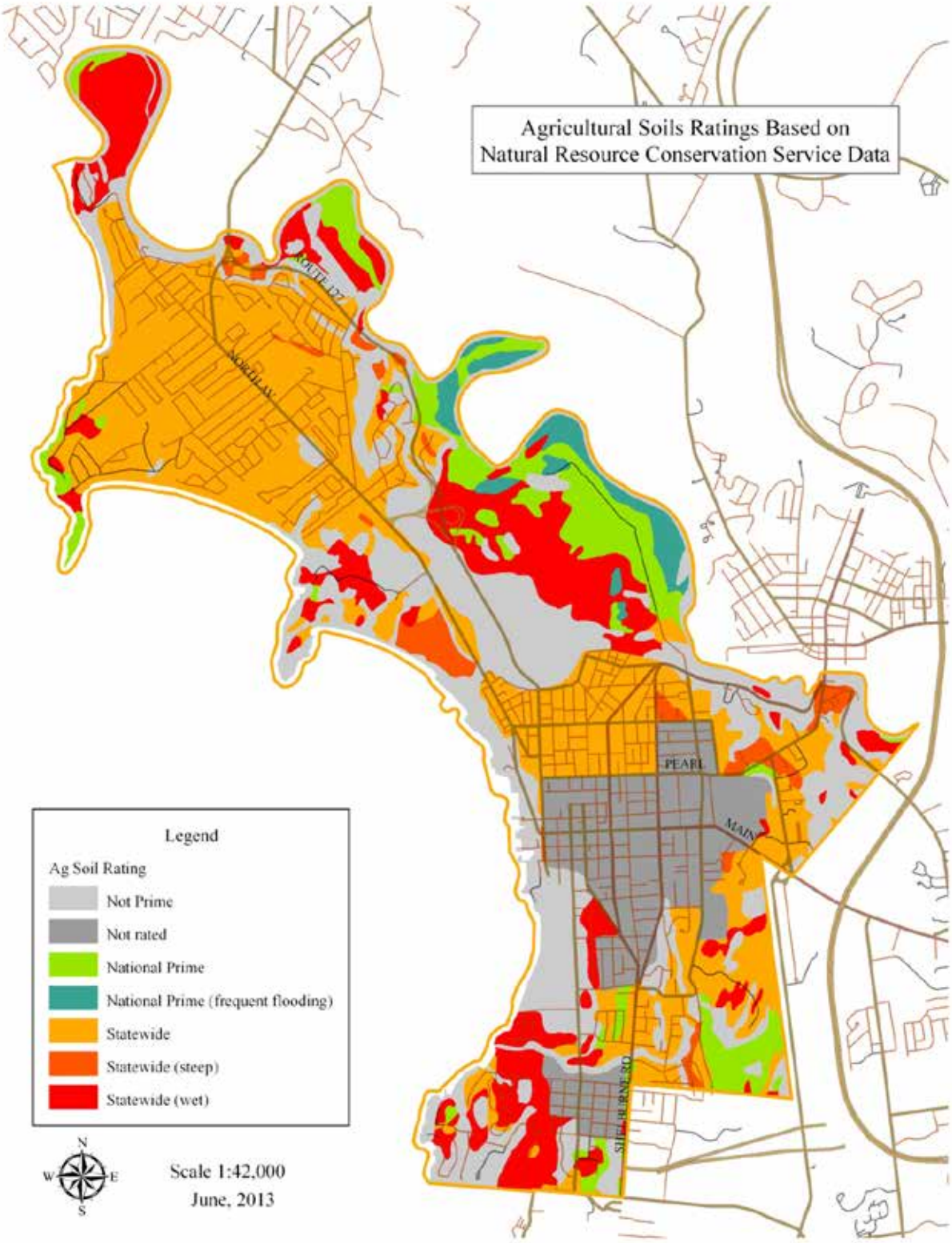
Planning for open space conservation in Burlington includes consideration of urban agricultural opportunities, specifically access to land for community gardens, market gardens, and larger agricultural enterprises. There are currently 14 community garden areas totaling 11.4 acres within Burlington (7.5 tillable acres). However, of these acres, over 6 of them are in the Intervale.

Table 8 Community Garden Acreage

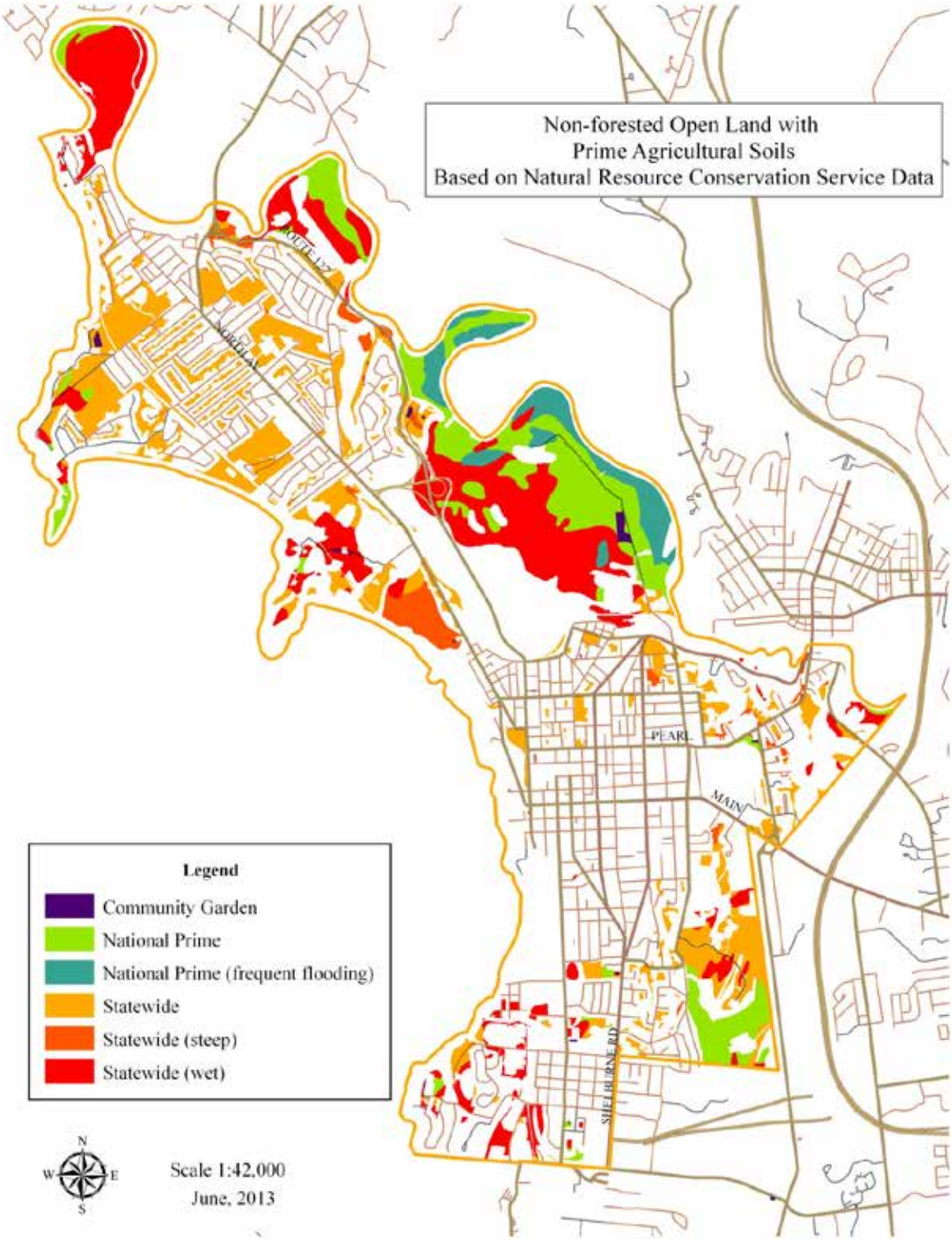
Name	Acres
Archibald Neighborhood Garden	0.1
Avant Garden at Myrtle Street	0.1
Baird Community Garden	0.1
Calahan Community Garden	0.3
Champlain Community Garden	0.4
Discovery Garden	0.2
Ethan Allen Homestead Community	0.8
Lakeview Community Garden	0.1
Medical Center Community Garden	0.3
Riverside Community Garden	0.1
Rock Point Community Garden	0.7
Starr Farm Community Garden	1.8
Tommy Thompson Community	6.2
Wheelock Community Garden	0.3
Total	11.4

A GIS analysis was done to identify areas for future community gardens or commercial agriculture sites. The land use categories of Large Mowed Lawn, Small Mowed Lawn and Transitional Brush Land from the updated Open Space Inventory were sorted based on the presence of State or National Prime agricultural soils from the 2011 NRCS soils data. These areas are the most likely to be readily available for conversion to another use, compared to currently forested land or recreation fields. Many of these lands are privately owned and any change of use would be in partnership with the current owner.

Map F. Citywide Prime Agricultural Soils



Map G. Open Land with Prime with Agricultural Soils



8.0 Trails

Trails provide access to open land for recreational purposes, transportation alternatives for walkers and bicyclists and corridors for wildlife movement throughout the City. Much of the of the public input relating to management of already owned public land was about trail management and impacts on natural areas and water quality.

Trails and associated access to open space account for the largest benefit of private open land to the general public. Many owners of large open spaces generously allow for public access to their property. When planning for open space management in the City, it is critical to remember the role private land plays in enhancing quality of life for all residents.

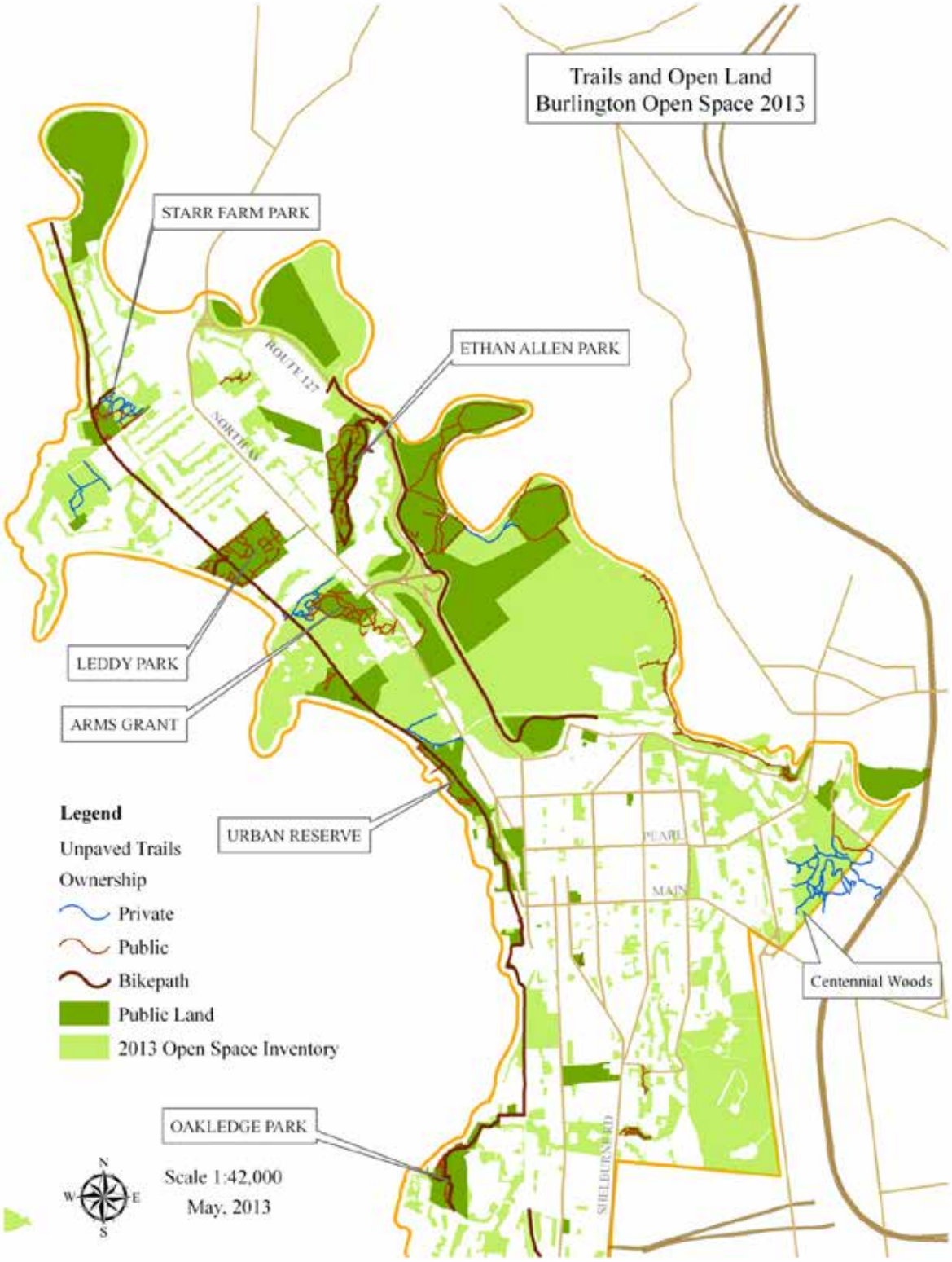
According to a recent trail inventory, completed by the Parks and Recreation Department, Burlington has approximately 29 miles of trails that are not part of the formal bike path system. Of these, twenty one miles are on public land and the remaining eight are on private land. These trails are a little more than half formal (16.5 miles), dirt (24 miles) in good condition (16.8 miles) and split almost evenly between foot paths (16 miles) and multi-use paths (13 miles).

Impromptu ski trail, North Beach.

Table 10. Trail by Type

Type	Miles
Paved Bikepath	12.8
Public unpaved	21.3
Private unpaved	7.6
Total	**41.7**

Map H. Trails


Trails and Open Land
Burlington Open Space 2013
STARR FARM PARK
ETHAN ALLEN PARK
LEDDY PARK
ARMS GRANT
URBAN RESERVE
OAKLEDGE PARK
Centennial Woods
ROUTE 127
NORTH AV
PEARL
MAIN
SHELBURNE RD
Legend
Unpaved Trails
Ownership
Private
Public
Bikepath
Public Land
2013 Open Space Inventory
N
W
E
S
Scale 1:42,000
May, 2013

9.0 Access to Publicly Owned Open Space

One measure of the inventory of open space is how far people must travel to access different outdoor opportunities. There are 10,290 residential properties in Burlington. Of these:

- 2,046 are more than ¼ mile away from a public park;
- 8,712 are more than ¼ mile away from public waterfront access; and
- 7,314 are more than ¼ mile away from a community garden space.

10.0 Open Space Planning Goals and Actions

The OSPP, as part of the Municipal Development Plan, supports open space goals identified in that plan and provides action steps to meet them. Input from the public, city boards and commissions, and other stakeholders is included under the four main categories of this plan:

- Natural Areas
- Urban Agriculture
- Parklands Access and Connectivity
- Green Infrastructure

10.1 Natural Areas

Within the city limits, it is possible that there were historically 22 unique natural communities. As the city has developed over the generations, many of these natural communities have experienced significant loss and fragmentation. However, today there is potential that all or most of them can continue to exist. Since the 2000 OSPP was adopted, there have been a number of ecological and wildlife studies that assess the significance and functions of our natural communities and the need to protect them. The city's urban wilds contain and protect a host of these natural communities. Protection of remaining natural communities outside of these urban wilds, particularly those that are rare at the local or state level, is a priority.

The Natural Areas Zone included in the city's Comprehensive Development Ordinance (based on Significant Natural Areas identified in the 2000 OSPP) may be amended to include rare or otherwise significant natural communities verified by onsite analysis. In addition, the OSPP may be used to help the city prioritize acquisition of presently unprotected natural communities and may also be used to target open space links and wildlife corridors between natural communities to reduce further fragmentation.

Goal: To provide access to representative natural community types within the Burlington parks system for residents, especially children, to be able to experience and learn about the different plants and animals that live in them.

Actions:

- Continue to field map natural community types on existing public land and update the open space inventory accordingly.
- Begin field mapping of natural community types on private land with interested landowners.
- Prioritize the conservation of under-represented natural community types when evaluating conservation projects.
- Create a GIS database of field mapped natural community types.

- Work toward conserving the pre-settlement ratio of natural community types among conservation lands.
- Incorporate findings of existing wildlife reports into open space acquisition and protection decisions.

10.2 Urban Agriculture

Like most communities in Vermont, Burlington originally contained large tracts of farmland. Much of that farmland has been developed; however, residents are embracing the importance of local food production to promote sustainability, enhance healthy living, and provide food security. The September 2012 Burlington Urban Agriculture Task Force report addresses in depth the current state of small and large scale agriculture in Burlington and identifies a number of measures to promote and sustain the expansion of our agricultural base. The OSPP can build on the Urban Agriculture Task Force report by guiding acquisition or other protections for open space lands either currently in agricultural production or that may be appropriate to use for new agricultural production.

There are presently 14 community gardens in Burlington, but the largest single space used for them (6+ acres of a 9.25 acre community garden total) is in the Intervale. A better balance of community garden distribution throughout the city is a priority. The open space inventory includes 2,082 acres of prime agricultural lands. Eighty acres are contained within public lands, and 403 acres are contained within lands that may be readily converted to agricultural use such as recreational fields, lawns, and transitional shrub land. The open space inventory may be used to help guide the location and establishment of additional community gardens, particularly in underserved areas of the city, and it may also help prioritize conservation of currently unprotected agricultural lands.

Sustainability Academy students at the Avant Community Garden in Myrtle Street Pocket Park, conserved with Legacy Fund.

Over the past decade, the number of cities integrating fruit and nut trees into municipal planning has risen. During this time, over 40 North American cities have established public urban orchards, food forests, edible parks, or other similar landscape features. A combination of factors have contributed to this phenomenon including public interest, increased concerns over local food security and public health, and an effort to explore novel methods of engaging urban citizens in open space planning and maintenance. Initiatives can roughly be broken down into three types: planting, harvesting, and mapping, and are collectively referred to as *urban food forestry*. As with community gardens and other agricultural lands, the open space inventory may be used to inform

decisions as to where urban orchards, food forests, and the like may be established.

Goal: To support urban agricultural initiatives by:

- Prioritizing the development of agricultural areas and new community gardens spaces in underserved neighborhoods through the utilization of existing public lands or by acquiring additional lands where necessary.
- Supporting food forestry and edible landscape initiatives.

Actions:

- Evaluate the need/desire for community garden space in areas identified as underserved and acquire garden space accordingly.
- Evaluate the need/desire for larger scale agricultural lands in areas with appropriate soils and other necessary site characteristics.
- Work with the City Arborist to establish criteria for installing edible landscaping where public input identified opportunities and in other locations.
- Add fruit and nut trees to community gardens.
- Map community fruit trees and opportunities to graft existing trees.
- Establish volunteer organizations to oversee the maintenance and harvest of community fruit trees.
- Convert small areas of marginal public land into miniature orchards or food forests.
- Collaborate with groups like Branch Out Burlington to increase the number of fruit trees planted on private land, which could be utilized in urban gleaning projects.

10.3 Parkland Access, Connectivity, and Trails

Burlington is blessed with 37 parks on 1,070 acres of land. This parkland is primarily managed by the city and the Winooski Valley Park District and includes places for active and passive recreation, access to urban wilds/natural areas, dog parks, and public beaches. Much of this parkland, however, is concentrated within the Winooski River floodplain/Intervale area and also within a stretch of waterfront from the downtown to North Beach. There is relatively little parkland within the city's urban core and older neighborhoods south of Manhattan Drive and Riverside Avenue and also in the New North End west of North Avenue.

The city also contains some 42 miles of recreational trails. Most, but not all, of these trails are on public lands, and many of the trails exist in disconnected clusters. Enhancing public access to parklands and improving trail connectivity is a priority. The OSPP may be used to identify open space lands within areas of the city with little or no public parkland and may be used to guide acquisition of new parks for these underserved areas. The OSPP may also be used to identify potential corridors to connect disjointed trails networks and to inform the acquisition of lands or easements to provide improved connectivity.

Trails are a valuable amenity in our parks, providing access and opportunities for recreation. Trails can also present management challenges. As access to park land increases, so do user-created trails. In

many instances, these user-created trails negatively impact natural areas within the parklands and can threaten rare or endangered plants, or they can be established in areas that are otherwise not suitable.

Goal: To provide public park access to all neighborhoods of the City and enhance pedestrian and bicycle connectivity among new and existing parks.

Actions:

- Prioritize conservation acquisitions in underserved neighborhoods.
- Prioritize implementation of bike path connections identified during the public process, the Parks Master Plan, and in the recent Bike Path Taskforce report.

Goal: To provide formalized access to and within Burlington's public natural areas through established trail networks that are suitable for the soil conditions, slope, and ecology.

Actions:

- Continue to monitor and inventory trail networks throughout Burlington.
- Encourage users to access formalized trails through the implementation of appropriate way finding, interpretation, and trail head development.
- Identify funding sources to support the formalization and rerouting of informal trails.
- Work with private landowners who have existing trail networks to identify the highest appropriate level of public/private partnership that supports increased access to trail networks.

10.4 Green Infrastructure

Stormwater runoff is the single largest non-point source of water pollution in the United States today. The Champlain Valley is no exception. Burlington has historically treated a significant portion of its stormwater runoff through the combined stormwater/sanitary sewer system. This combined system, however, can be overwhelmed by large storm events and results in sewer overflows from our wastewater treatment plants into Lake Champlain. The separate stormwater system, because it is not combined with the sanitary sewer system, does not overwhelm the city's wastewater treatment plants, but it offers no treatment at all.

Due to increasing pressures on the combined sewer system, increasingly stringent requirements from the U.S. Environmental Protection Agency, and the public's desire for clean water, Burlington has made significant efforts to improve how it handles stormwater. Chapter 26, the city's Wastewater, Stormwater, and Pollution Control ordinance, adopted in 2008, established a stormwater program within the city and put Burlington far ahead of the minimum requirements established by the

Rain Garden at Calahan Park.

State of Vermont for stormwater management. It establishes performance measures for stormwater management at a fine scale to address the myriad of small city parcels within Burlington, and it specifically acknowledges and promotes the use of green infrastructure such as rain gardens, bioswales, and infiltration chambers to handle stormwater.

Plan BTV: The Downtown & Waterfront Plan builds on the idea of green infrastructure and lays forth an ambitious plan to create a Green Machine consisting of rain gardens, green plazas, green streets and the like to capture and treat stormwater with green infrastructure that mimics natural processes. The OSPP may be used to help implement the Green Machine and to help strengthen the city's network of green infrastructure generally. Acquisition or protection of green spaces that are appropriate for stormwater management functions within the city center and established neighborhoods is a priority. The open space inventory identifies open spaces down to the micro scale, particularly within the urban core, that may contribute to the city's green infrastructure network.

Goal: To increase the inventory of pocket parks within the urban core that can provide multiple benefits, including infiltration and/or retention of stormwater, respite from the urban landscape, and shade.

Actions:

- Field verify potential green infrastructure identified in the open space inventory and evaluate its usefulness for providing stormwater treatment and pocket park space.
- Prioritize acquisition of potential green infrastructure sites.

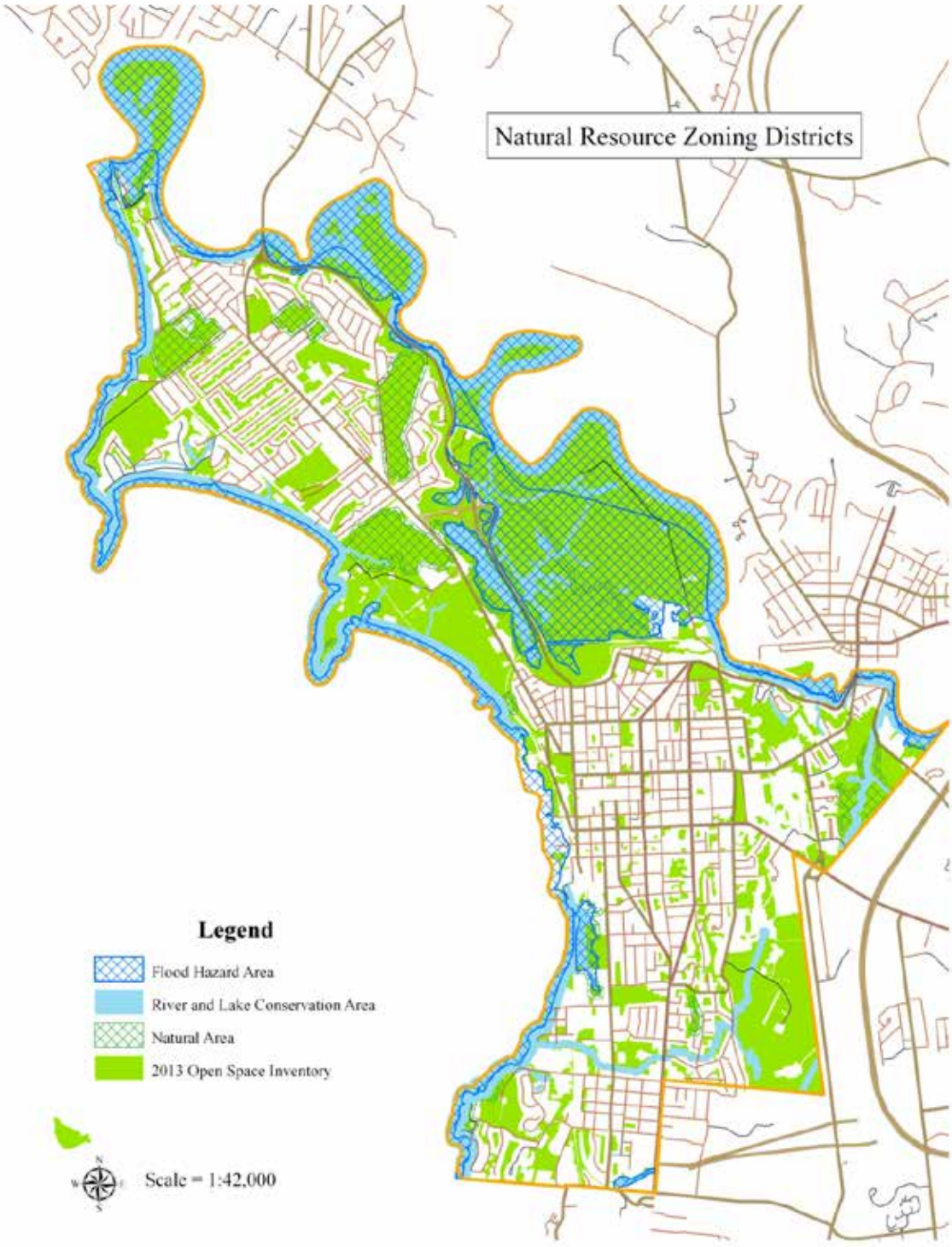
11.0 Implementation

The core principles of open space planning in Burlington were established and clearly articulated in the 2000 Open Space Protection Plan: Conservation Education, Land Conservation, and Land Use Planning and Development Review. These core principles remain valid today. Within this established framework, this update serves as an addendum to the original plan to include and address residents' open space needs and priorities as they have evolved over the past thirteen years. The information within this update is intended to enable better, more informed decision making as related to conservation education, open space preservation, and land use planning.

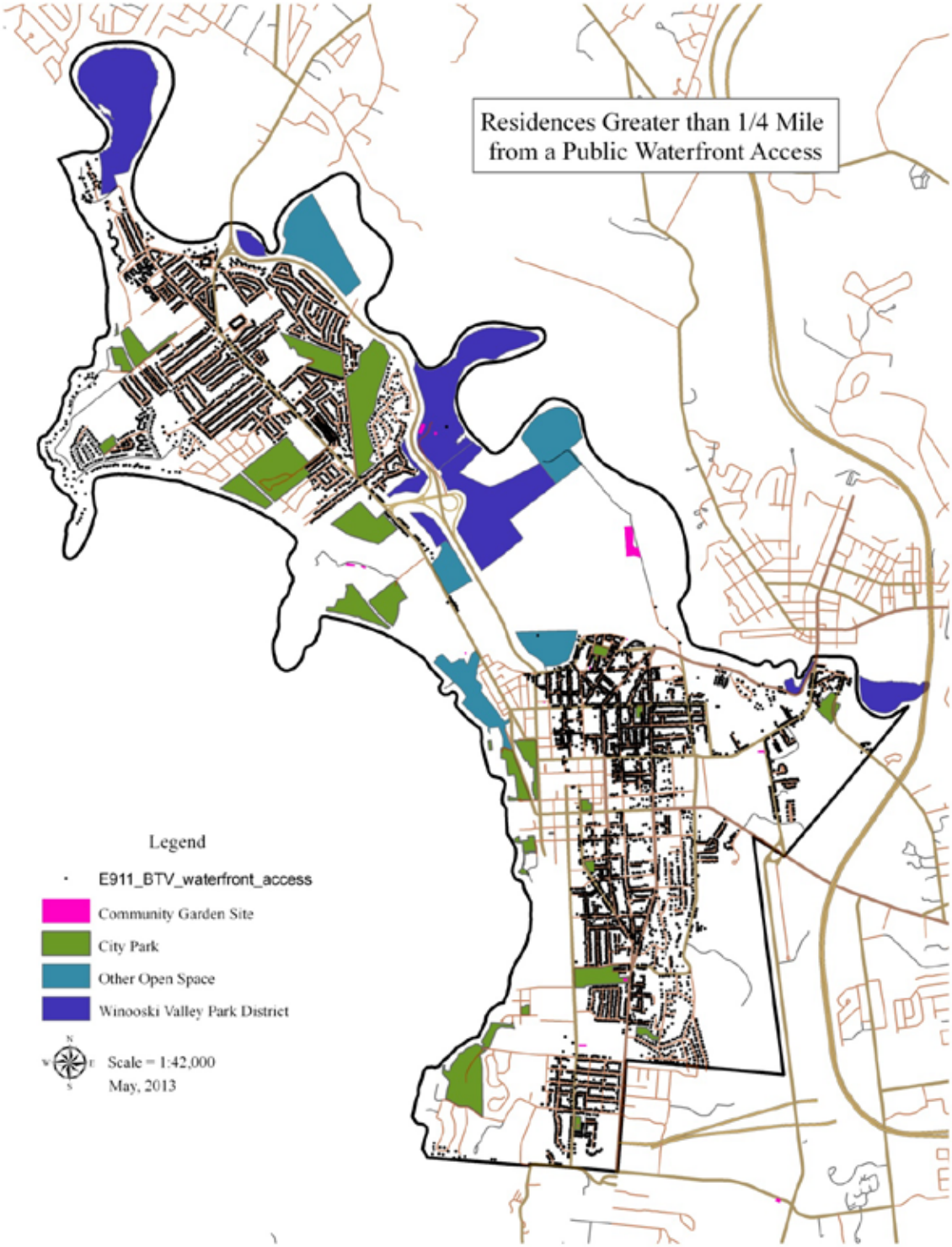
The Open Space Protection Plan is a living document and will be administered by the Conservation Legacy Program in partnership with public and private parties and is intended to evolve over time as the primary guide for open space planning within the city.

Clouds at North Beach.

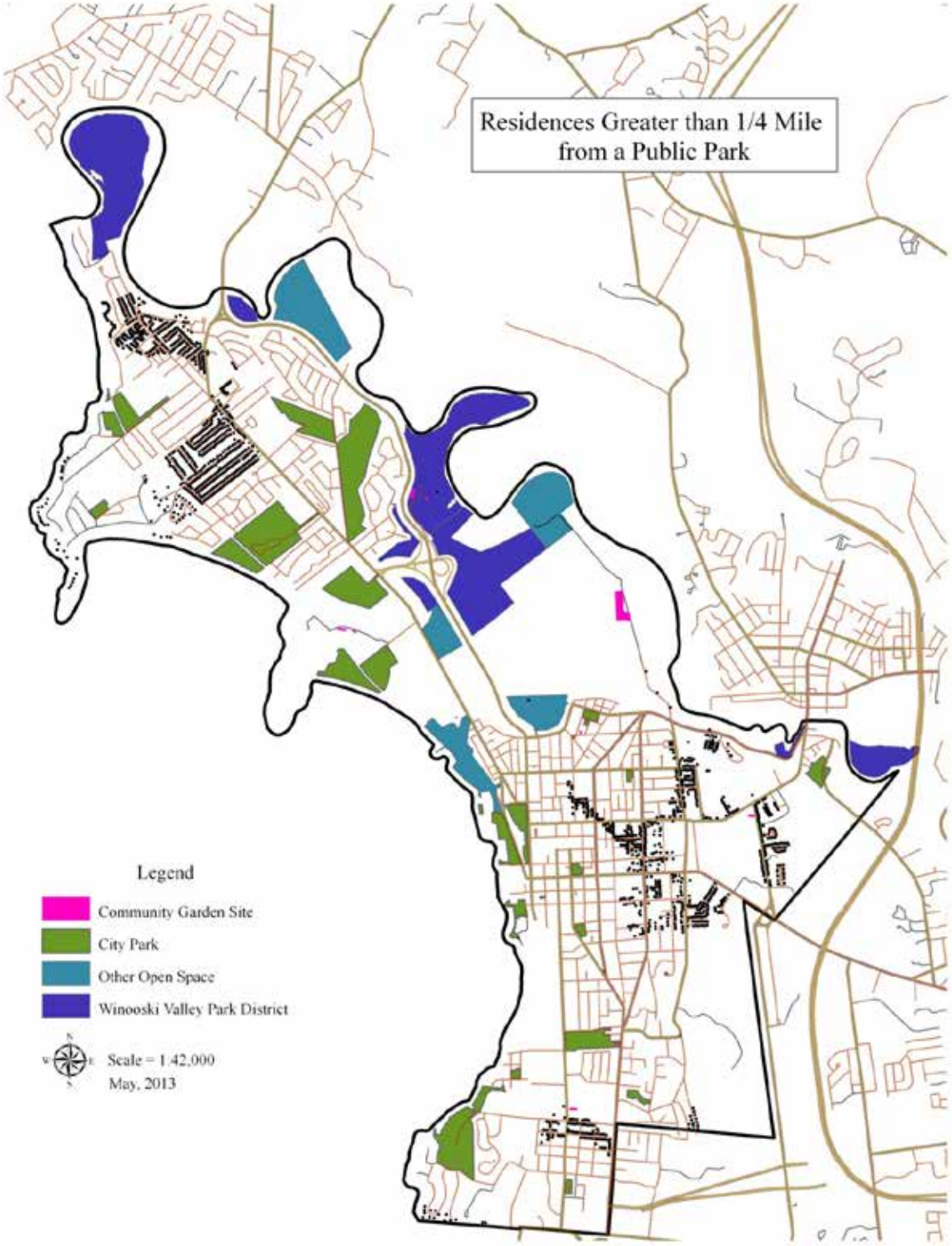
Map I. NR Zoning districts



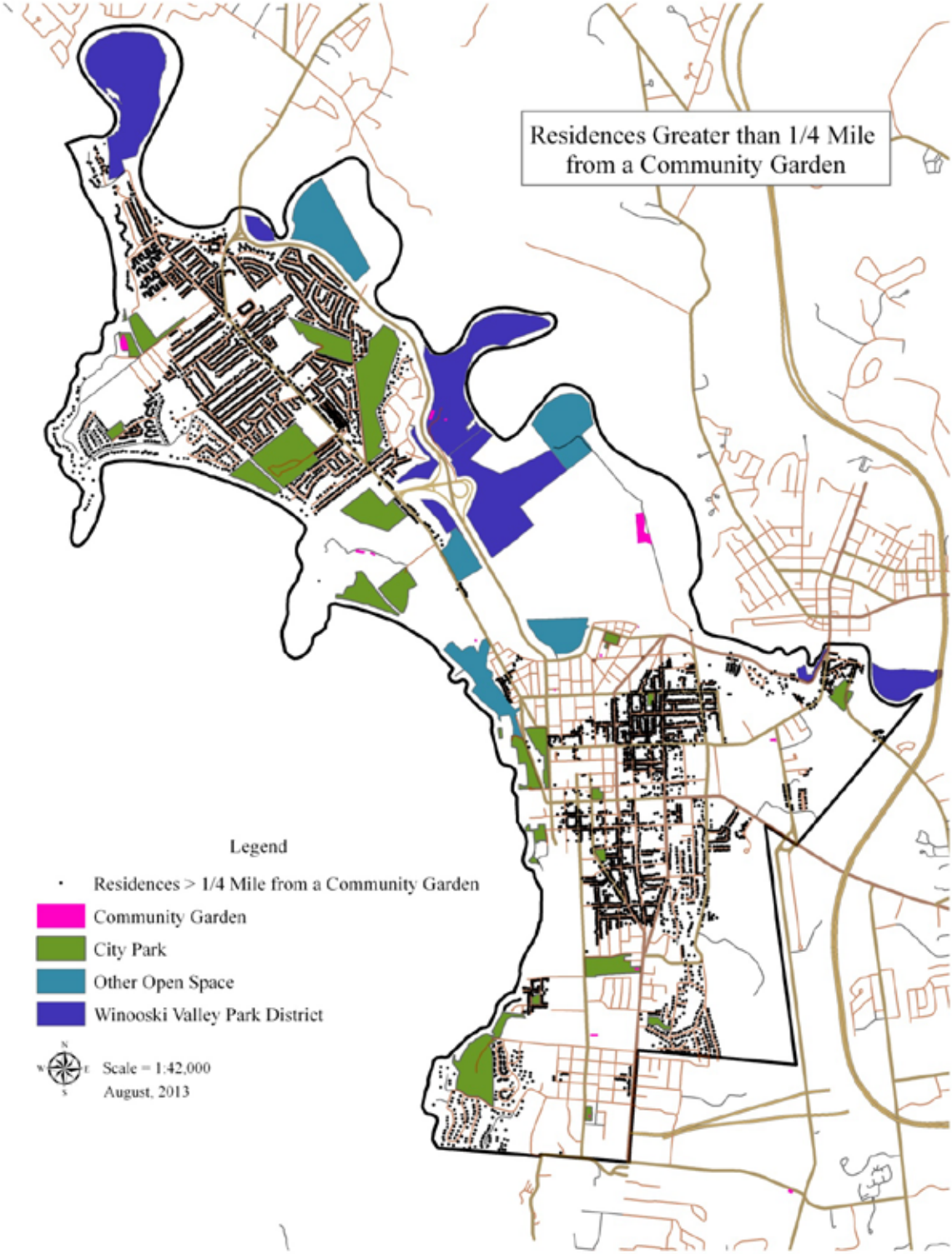
Map J. Residences Greater than ¼ mile from a Waterfront Access



Map K. Residences Greater than ¼ mile from a Public Park



Map L. Residences Greater than ¼ mile from a Community Garden



Appendix A. Public outreach comments not on a map

Ward 6 – January 10, 2013, Greek Orthodox Church

1. Please keep area bounded by Burlington Country Club with recreation land and not institutional district zoning.
2. Please make it a priority to install rain gardens at Edmonds School. Will control stormwater and provide a great public example.
3. 48 miles of trails is great but too bad they aren't connected. Can't get there from here!
4. Ward 6 Map – urban forest canopy bridging street on Cliff Street between So. Willard and Summit Ridge – home to huge number of special birds and wild animals; beautiful trees, cool in summer, lets a person feel the forest in the city. Potential park on N.E. side of intersection.
5. Yes! Please give guidance for ways to beautify the greenbelt. They are underutilized spaces with great potential.

Ward 5 – January 17, 2013

6. Properties – priorities for conservation long term – land adjacent to Blodgett Oven Factory – incredible beach, open space currently only open to employees. If property changes hands (almost did recently) city should acquire open lands for public.
7. Lone Rock Point – incredible property. The diocese currently allows access (with permission). If sold to different owner, could be at risk.
8. Add to plan inventory places where people access the water (lake and river) – boat launch in Intervale.
9. Oakledge Park – Blanchard Beach – opportunity to improve a path to southern edge of beach for use as launching canoes, small sailboats. Currently it is steep and eroded, making it difficult to wheel a dollied boat down to the water.

Ward 1/2/3 – January 22, 2013

10. Does our data (in the slide show) include private cemetaries? No.
11. Should the wetland zone map be updated to reflect climate change? The City recently updated the wetland maps using LIDAR and aerial photography.
12. FEMA updated flood maps for Burlington right before the spring 2011 floods. The "new" maps were off by 1.2'.
13. My top two concerns in our natural areas are rogue trails and people and pets (off leash dogs). Dan Cahill responds: Parks has tried to close "rogue" trails and limit access but the use tends to return. We are trying to embrace our user groups and upgrade trails as opposed to pushing them to the margins. However, ecological integrity remains paramount.
    Public responds: OK but there are steep grades in Ethan Allen Park where biking is inappropriate. Maybe try signs where bikes can go and where they cannot (with an explanation of why not). You will never get 100% but you can improve the situation enough to solve the problem.
14. Centennial Woods is vulnerable to overuse pressure. The neighbors are the best stewards and really appreciate it.
15. Paul Bierman has a great presentation on the increase of impervious surfaces in rental properties around the UVM campus. SG reply: "parking creep" is on code enforcement's radar. Many of these properties do not have permits to increase parking."
16. The better a park is maintained, the better it is sustained.
17. Schmanska Park is very deteriorated/not very welcoming. The parking is confusing – consider adding an entrance for a visual cue (like was done for the Intervale a number of years ago). (entered on the map)

18. Pomeroy Park – gets lots of use for basketball (North Street).
19. The pocket park at North/Hyde/School is lovely to walk by and surprisingly well maintained.
20. I am happy to be a resident of Burlington with so many nice parks!

Ward 4/7 – January 23, 2013 – these notes were part of an open forum Q&A

21. Concerns about Leddy Park – how it is designated and future management as an undeveloped park.
22. Public access to beach needs to be increased.
23. Wildlife corridors – Rubenstein Project.
24. Does Protection Plan address dumping/garbage? Channel 17 has photos taken by attendee of dumping.
    - Ø Dan Cahill (DC) responds: this is an on-going issue for City Urban Wilds. Increased access makes it easier to dump. We are always looking for ways to address it.
25. Where/how do trails fit into OSPP? Plans for monitoring and closing some?
    - Ø DC: Trails=use, highly used=increased conservation priority. Inventory allows us to quantify and plan for them. It also helps with maintenance but also helps identify inappropriate trails for closure.
26. Bridges over beltway – one goes nowhere on west side. Any consideration to linking to the bike path on North Avenue?
27. Potential access from North Avenue behind BTV College.
28. There are many trails on private property – I understand the need for the inventory but were property owners notified?
    - Ø DC: Yes and some of them did not want the trails on their properties shown publicly with the inventory.
29. Garbage mentioned above was from the City not the public. City was authorizing itself to use it (Urban Reserve) as a toxic dump.
30. How did the City justify using this area as a staging area for dumping?
    - Ø Scott Gustin (SG) responds: A couple of approvals – one for work on the breakwater and also approval of the Moran re-development. Neither included a permit for dumping.
    - Ø DC: Mapping of the urban reserve with UVM graduate students is happening right now. What are the conservation values of the Urban Reserve? One unique aspect is that this is former lake (i.e. the land is fill).

Chip Allen's feedback was given directly to Dan Cahill before the meeting started as Chip could not stay for the whole meeting. Chip@allenvt.com – please send draft plan.

31. Invest in impediments at Ethan Allen Park – informal and rogue bike use is causing significant trail issues.
32. User education – encourage quiet and appropriate bike use.
33. Restrict bicycles to pavement.
34. Pileated woodpecker – preservation of aesthetic and accessible to wildlife – part of user education.
35. Keep active recreation in lawn i.e. picnics/playground/field use.
36. Tower pathway – grave or paved pathways? Reconsider gravel.
37. Dogs seems about 50%.

Appendix B. Summary of On-line comments

On-line Comments by Category	Sum of VotesUp
Bikepath Addition	**19**
Burlington College	10
Howard-Kilburn St access to bike path	9
Green Roofs	**10**
cherry st parking garage	10
Management of Existing Public Land	**156**
Bike Path between North Ave and Starr Farm Rd.	4
Blanchard beach	6
Centennial Woods	15
ethan allen homestead	10
Ethan Allen Park	8
Leddy Park	30
Leddy Park Beach	4
Leddy Park-stormwater runoff	1
Manhattan Drive Field	7
Moran Plant	2
Mount Calvary Red Maple Swamp	4
North Beach	8
Oakledge entrance	7
park at St Paul & So. Winooski Ave	1
Starr Farm Playground and Fields	8
The Intervale	16
Urban Reserve/North 40	18
wild flowers in this park, behind a church	7
Observation	**16**
Burlington: Views of the Lake	2
Flynn Estate	8
Leddy Park Beach	4
wild flowers in this park, behind a church	2
Potential Park	**43**
appletree point public access	2
Blodget Beach	1
Burlington College	1
Flynn Estate	1
Flynn Estate at Appletree Point	19
Island line trail dock	1
Pine St open land south of Maltex Bldg.	7
Starr Farm Playground and Fields	2
Winooski River outlet west side	9
Rain Garden	**17**
20 Caroline ST Rain Garden and extended it to Loc	6
Callahan Park Rain Garden	11
Urban Ag	**8**
Battery park slope	1
Citywide home gardens	1
Manhattan Drive Field	5
Water facility terraced slope facing Davis center	1
Views	**17**
Burlington: Views of the Lake	12
cherry st parking garage	1
Ledge Road & Iranistan	4
Waterfront Access	**15**
Appletree Point Lakefront	2
appletree point public access	12
Burlington College woods' path to beach	1
Grand Total	**301**

Appendix C. Partners meeting attendees

Partner	Contact
Winooski Valley Park District	Yumiko Jakobcic
Intervale Center	Rob Hunt
Regional Planning Commission	Dan Albrecht
Burlington Permaculture	Mark Krawczyk
Rock Point	Chuck Courcy
Vt Community Garden Network	Jess Hyman
Trust for Public Land	Roger Krussman
Trust for Public Land	Kate Wanner
Crow's Path	Teage O'Connor
UVM & Burlington College Professor	Zac Ispa-Landa
BHS Parent and Volunteer - Nordic Program	David Lustgarten

Appendix D. Burlington Open Space Protection plan: Land Inventory

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
1				18.3								144.4	162.7				138.9	328				Derway Island
2				1.7								1.5	3.2					5	Yes			
4	8.8	1.7		10.5							0.4	7.2	28.7		Yes		6.6	569	Yes			North Shore Wetland
5				3.6		0.3							3.9			0.3		519				
6	7.7	0.4		39.9		1.2			13.0		4.5		66.7	1.8	Yes	16.1	13.9	1194	Yes	Yes		Flynn Estate
7				7.7									7.7					411				
8				6.8							10.0		16.9		Yes	10.0		23	Yes			
9						0.4							0.4			0.4		6	Yes			
10				39.7					3.7		17.7	11.0	72.1	0.83		14.4	3.7	1072	Yes	Yes		Flynn Estate
11						2.0							2.0			2.0		22				
12						0.6					1.6		2.2		Yes	2.2		32	Yes			
13		1.0		7.0		3.8							11.8		Yes	1.1		42	Yes			Apple Tree Point
14		1.3									1.5		2.8		Yes	1.1		55	Yes			
15				7.0									7.0		Yes			380	Yes			
16		1.1				1.4							2.6		Yes	1.4		255	Yes			
17				4.0		17.1							21.2		Yes	17.1		728				
18						2.6							2.6			2.6		305				
19						5.5							5.5			5.5		262				
20						3.4							3.4			3.4		211				
21				1.9									1.9					55				
22				1.0		1.1							2.1			1.1		725				
23			15.5	116.3		8.6			25.5		21.6	22.5	210.1	2.8	Yes	38.1	95.3	1250				Ethan Allen Park
24						3.4							3.4			3.4		129				
25				2.4		0.3							2.7			0.3		110				
26						6.5							6.5			6.5		9				
27	489.8	4.1		156.2		0.9					86.8	2.4	312.0	1052.1	7.2	Yes	12.4	392.5	70			Intervale East
28				1.7							3.6		0.9	6.3		Yes	0.9	0.1	3			

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
29				22.4		2.2					19.8		50.2	94.5	0.2		2.1	34.0	2			Intervale West
30				1.9		3.0					3.3			8.2			1.9		8			
31						2.4								2.4			2.4		400			
32						2.3								2.3			2.3		387			
33						3.7								3.7			3.7		375			
34						4.4								4.4			4.4		311			
35						1.0								1.0			1.0		183			
36						1.2								1.2			1.2		216			
37				37.1		1.7			6.7					45.5	2.3	Yes	8.4	42.5	140			Leddy Park
38		1.2		14.0										15.2	0.9	Yes		13.6	47	Yes		Leddy Park
39						1.0								1.0			0.4			Yes		Mt. Calvary Swamp
40	18.8		38.6	132.4		27.5			20.7		2.5		1.2	241.8	4.4		17.6	56.1		Yes		Arms Grant
41	8.5	9.3		75.0		7.5			1.9		18.9		5.8	127.0	1.3		1.4	34.9		Yes	Yes	Lone Rock Point/North Beach
42				7.6							5.4		5.5	18.4					3			
43				25.6	20.7						7.0		3.4	56.7			0.0	32.2	14			Old Landfill
44				10.0										10.0	0.1			8.2				
45										0.5	0.2			0.7				0.7				
46									0.6					0.6				0.6				
47				6.8		1.2	0.04		6.5					14.6			6.2	10.3				
48										0.3				0.3				0.1				
49										0.1				0.1				0.1				
50								0.03	0.9					1.0				1.0				
51									7.7					7.7				7.5				
52						0.5								0.5				0.5				
53						0.6								0.6			0.6		50			
54						0.4								0.4			0.4		63			
55			5.7											5.7					91			
56									0.5					0.5			0.5					
57						0.8								0.8			0.8		45			
58									3.0					3.0			3.0	2.7				

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
59									0.3					0.3			0.3	0.2				
60						0.2								0.2			0.2					
61						1.2								1.2			1.2					
62							0.24							0.2					12			
63			7.2	1.9										9.1					128			
64			3.1											3.1					64			
65			2.3	3.0										5.3					207			
66									1.3					1.3			1.3	1.2				
67				51.9		9.6			2.1			0.5		64.1		Yes	3.4		2191		Yes	
68						1.2								1.2			1.2		195			
69						2.9								2.9			2.2		131			
70						1.1								1.1					167			
71				0.9										0.9					189			
72				0.1		5.1	0.28		1.7	4.1	1.0			12.3			1.8	1.7	2044		Yes	
73									3.9					3.9				2.9		Yes	Yes	
74									0.6					0.6						Yes		
75											13.0	4.1	16.2	33.3						Yes	Yes	Barge Canal
76		0.3		1.9		3.7								5.8						Yes	Yes	
77											0.7		1.8	2.5								
78						0.4								0.4								
79				2.6										2.6		Yes						
80				3.0				0.03	14.9					17.9		Yes	7.8	16.6				
81						0.8								0.8					6			
82						0.3								0.3					15			
83									1.8					1.8	0.1			1.7				
84				0.8										0.8		Yes						
85						1.1								1.1					6			
86						1.0								1.0					16			
87									0.9					0.9					167			
88									1.3					1.3					199			

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
89						0.3								0.3				132				
90						5.2								5.2				114				
91						1.1								1.1				79				
92						1.9								1.9				53				
93				0.4										0.4								
94						0.8								0.8								
95									1.3					1.3			0.0					
96						0.9								0.9								
97				4.0										4.0				18				
98				1.7										1.7		Yes		47				
99				7.3		3.3								10.6		Yes	3.0	27				
100				0.5										0.5		Yes		60				
101				0.7										0.7				223				
102						0.5								0.5				198				
103						5.3								5.3			0.0	184		Yes		
104						0.5								0.5				186				
105						1.8								1.8				238				
106						0.9								0.9				203				
107						0.6								0.6				160				
108						9.0								9.0				287				
109						0.3								0.3				181				
110						0.1								0.1				195				
111						0.3								0.3				211				
112						4.0								4.0				337				
113				0.5										0.5				134				
114						5.9								5.9				116				
115				2.7										2.7				138				
116						8.7								8.7			5.6	145				
117	0.2					14.0	0.58	0.70						15.4			5.1	1747				
118						0.9								0.9				93				

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
119							0.22							0.2				140				
120				1.0		3.4								4.3		Yes	3.4	413				
121						1.9			2.0					4.0			3.7	100				
122						1.6								1.6				23				
123						0.4								0.4			0.0					
124						0.3								0.3			0.2					
125									8.2					8.2			2.1	1				
126	28.9			54.8		21.4			100.1		12.1	3.4	0.4	221.2		Yes	113.9	110				Golf Course
127				2.3										2.3		Yes						
128				12.1										12.1		Yes		14				
129						0.4								0.4								
130						0.7								0.7								
131				1.0										1.0								
132											0.6			0.6			0.3					
133				8.0	2.9									10.9	0.3							Redstone Quarry
134				1.3										1.3								
135				5.0										5.0	0.6	Yes		2.5	25			
136		3.3		29.4										32.7	1.6	Yes		4.8	363			Salmon Hole
137				15.3							0.8		6.9	23.1				0.8			Yes	
138			6.3	75.5		1.2			7.8		10.2	4.5	3.4	109.0	4.1	Yes	5.3	6.5	1342			Centennial Woods
139				1.5										1.5					112		Yes	
140						1.1								1.1			0.2		122			
141				0.9										0.9					149			
142						0.8								0.8			0.8		136			
143				0.8										0.8		Yes			14			
144				0.3										0.3					14			
145						0.5								0.5			0.5		25			
146				2.2										2.2		Yes			41			
147						0.8								0.8			0.8		70			
148				9.6		1.4			5.3		4.8	0.6		21.7		Yes	4.9		651			

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
149				7.1						2.9			10.0		Yes			283				
150										3.3			3.3		Yes			18				
151						1.6							1.6				1.3					
152						0.8							0.8						Yes			
153				1.0		0.5			0.3				1.8		Yes		0.5		Yes			
154				3.5		2.7							6.3		Yes	1.6	3.0	21	Yes			
155										0.6			0.6		Yes			14				
156										0.5			0.5		Yes			40				
157						0.7							0.7					36				
158										0.4			0.4		Yes			43				
159						0.5							0.5					110				
160				0.7									0.7					66				
161				0.5									0.5		Yes			57				
162						0.9							0.9					86				
163				0.4								4.2	4.5		Yes							
164								1.0					1.0			0.3						
165						0.4							0.4					2				
166								1.8					1.8			0.7	1.6	11				
167						2.5							2.5					14				
168				8.4									8.4		Yes			18				
169										3.8			3.8		Yes	0.7		8				
170				12.9		6.8							19.7		Yes			19		Yes		
171				8.3							0.2		8.5		Yes			45				
172				30.4		0.4			23.7				54.5	0.7	Yes	11.5	39.8	10	Yes			Oakledge Park
173				7.4							0.6	1.0	8.9		Yes			15				
174				2.8									2.8					15				
175				1.5									1.5					13				
176				1.4		0.4							1.8		Yes			37				
177				0.8									0.8					63				
178											0.1	0.5	0.6					121				

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update

Plan Area	Agriculture[1]	Beach or Rock[1]	Cemetary[1]	Forest[1]	Former Landfill or Quarry[1]	Large Mowed Lawn[1]	Potential Green Infrastructure[1]	Rain Garden[1]	Recreation or Park[1]	Small Lawn[1]	Transitional Brushland[1]	Water[1]	Wetland[1]	Total Acres	Miles of Trails	Under-represented Natural Community[2]	Agricultural Opportunities[3]	Acres of Public Land	Underserved Residences Within 1/4 mile	Lakefront Access	Identified as a Potential Park[4]	Name
179						1.6								1.6			1.0		202			
180				3.6										3.6								
181						2.9								2.9			0.0					
182						3.1					1.1			4.2		Yes	1.2		205			
183						0.7								0.7			0.5		87			
184				0.5										0.5					20			
185				12.3										12.3								
186		0.1												0.1								
187											0.6			0.6		Yes						
188							0.18							0.2								
189							0.24							0.2				0.1				
190						16.6								16.6			0.9					
191						0.6								0.6			0.6					
192						0.4								0.4			0.4		151			
193								0.07						0.1				0.0				
Total Acres	**562.7**	**23.8**	**78.7**	**1167.0**	**23.6**	**295.7**	**1.8**	**0.8**	**281.0**	**5.0**	**261.0**	**16.3**	**599.9**	**3317.4**	**0.0**		**387.4**	**981.2**	N/A			

Notes: [1]Land use category; [2]Based on pre-settlement proportions; [3]Lawns and shrub/scrub lands with prime ag. soils;[4]From public input during this plan update