

CITY OF BURLINGTON, VT **OPEN SPACE PROTECTION PLAN**

Natural Areas



Recreation



Open Space



Adopted by the Burlington City Council: 30 October 2000

CITY OF BURLINGTON, VT

OPEN SPACE PROTECTION PLAN

October 2000



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City of Burlington, VT

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Open Space Protection in Burlington

An Executive Summary

The natural environment is a chief ingredient in defining Burlington's character - making it one of the most attractive and inviting small cities in the country. Burlington's citizens, non-profits, and city government have a proud tradition of protecting its sense of place, natural environment, open spaces, and recreational opportunities.

However, open space in Burlington is dwindling. Between 1960 and 1980, open space decreased by 800 acres, or 12% of the city's total land area. While larger developments downtown and on the waterfront receive most of the attention, smaller developments are slowing consuming remaining open space, and encroaching upon important natural and recreational systems highly valued by the community. Neighborhood opposition to new development is on the increase out of fear of a threat to the city's quality of life. As needed growth continues, a comprehensive plan to protect the city's most vulnerable natural areas and significant open spaces becomes a necessity.

Recent studies throughout the country have debunked the myth that conservation and development are inherently at odds. The fact is that open space conservation is good for everyone - residents, property owners, visitors, and businesses alike - and the bottom line. This is a fact that Burlington clearly recognizes and has long benefited.

It was for these reasons that in 1997 the Burlington City Council passed a resolution calling for the creation of "a plan to protect important natural areas and open spaces."

The goals of this Plan, as adapted by the Conservation Board from the *1996 Burlington Municipal Development Plan*, are as follows:

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.
- Increase the number and quality of small urban open spaces, especially in underserved neighborhoods of the city.

3) Guide development into the city center and neighborhood activity centers.

4) 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.

Open space protection in Burlington embraces the reality that not all lands can or even should be protected from development. As a regional growth center, Burlington must find a balance between conservation and continued development that addresses the needs of the City's diverse population - present and future. By encouraging and accommodating more development, and at higher densities than in surrounding communities, Burlington can also play a very important role in protecting open space and working lands throughout the region. The important thing is to make smart choices based on understanding the resources important to the community's future, and how they work together as part of a more complex system.



Burlington's Open Space Protection Plan consists of three main components:

- 1) A **Vision** where natural areas, parklands, and greenbelts are physically integrated into the urban fabric of the city in order to compliment development with land conservation. Burlington's "vision" embraces two forms of open space that encompass the character of an urban place within a distinctively natural landscape – Significant Natural Areas and Urban Greenspaces.

Significant Natural Areas are the specific focus of this plan, and include a unique collection of features and resources that hold regional significance as natural systems and open land, serve to define the character of Burlington, and are at the foundation of the natural systems that support the city.

Significant Natural Areas:

- Lake Champlain Shoreline
- Winooski River /Intervale
- Englesby Brook/Ravine
- Centennial Brook/Woods
- Natural Heritage
- Surface Waters



Centennial Woods Natural Area

Urban Greenspaces are especially important to Burlington for softening densely developed neighborhoods, creating an aesthetic within the city, and providing small areas of refuge from the urban hardscape. While not within the mandate and scope of this effort, this plan attempts to offer a framework for establishing the significance of these "Urban Open Spaces" within the city. Further evaluation and study in this area is necessary.

Urban Greenspaces:

- Neighborhood Greenspaces
- Urban Waterfront
- Treebelts
- Recreational Linkages & Trails



Starr Farm Community Gardens

- 2) A working **Inventory of Open Spaces** and their important attributes.

This inventory represents the most comprehensive approach to-date for cataloging and characterizing city open spaces and their attributes of interest to the public. The Inventory has two components: a map (Burlington Open Space 1999), and a table (Land Inventory) further describing each of these sites. The Land Inventory, along with the Geography of Open Space, will be used by the City as tools to guide the prioritization and protection of sites.

- 3) A **Plan of Action** that proposes a comprehensive land conservation program for the City through three complimentary approaches:

a) Conservation Education to improve the public's familiarity and appreciation of Burlington's natural areas, to communicate the importance of open space protection, and to encourage public participation in the protection process.

b) Proactive Conservation that identifies sites of the highest priority for protection, and offers the mechanisms and resources to set these lands aside as a legacy to future generations. The keystones to this strategy are the establishment of proactive 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 ;
- Creates a land conservation fund - sustained in-part with dedicated City funding – set aside towards the costs associated with the purchase and long-term protection of open land; and,
- Ensures planning for the long-term stewardship of conservation lands under City ownership.



Lone Rock Point

c) Further Planning & Improved Development Review

to act as a safety net to protect specific resources and features from the adverse impacts that may be associated with nearby development. Proposed recommendations include:

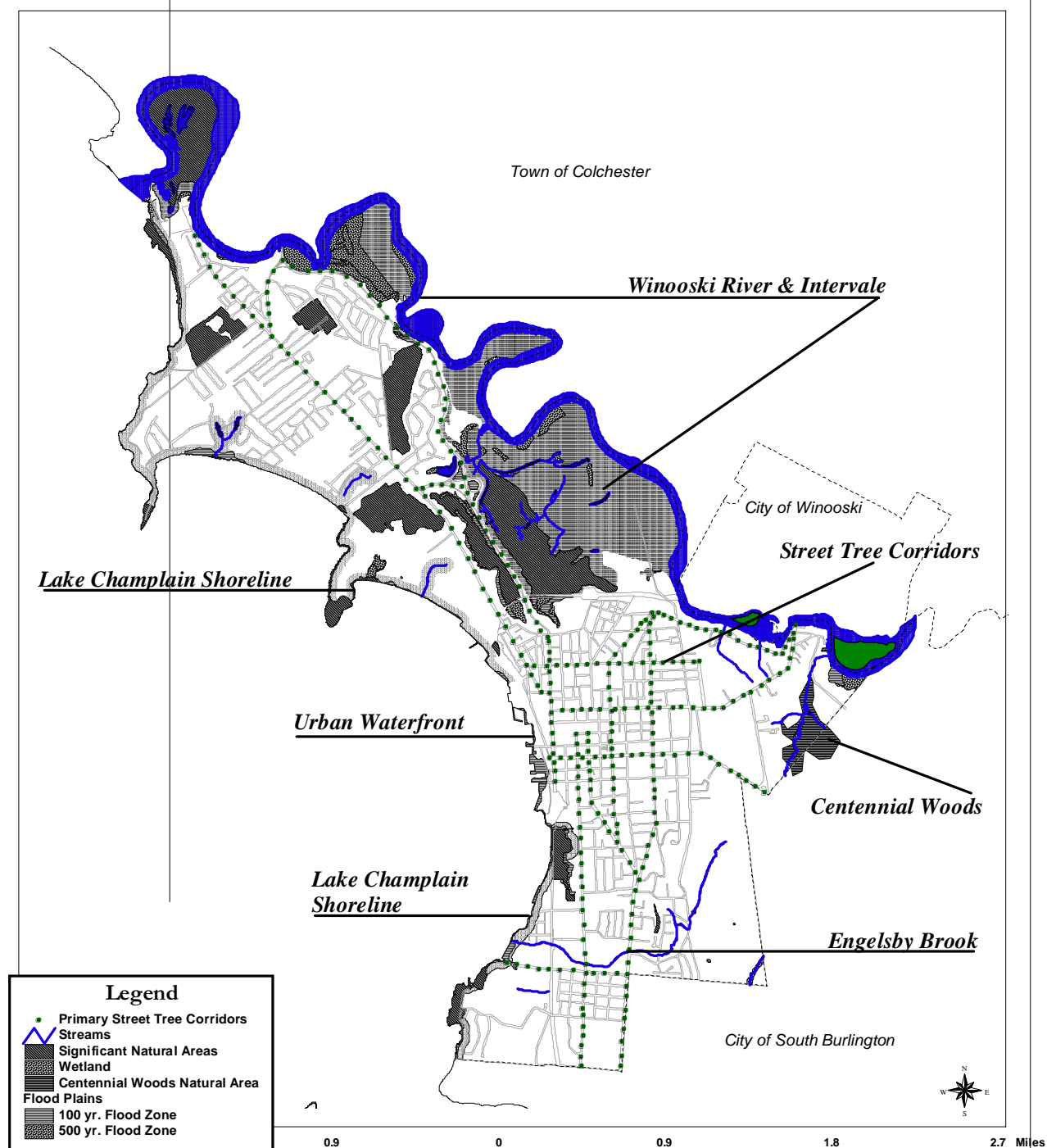
- Inclusion of major policy recommendations in City Master Plan
- Development of related resource information and area plans
- Revised Major Impact Review based on open space protection priorities.
- Modifications to Recreation/ Conservation/Open Space zoning districts.
- Creation of Design Review criteria specific to natural features.
- Defining "Buildable Area" for the purposes of calculating allowable density outside of city growth centers.
- Revised Subdivision Ordinance
- Assessment of Impact Fees for open space.
- Use of the Official Map for high priority sites for protection.

No single component can stand alone as an effective long-term strategy, but together, they create a comprehensive approach for 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.



North Shore Wetland

2000 Burlington Open Space Protection Plan



The Geography of Open Space



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1 *Chapter 1*

INTRODUCTION

A Sustainable City



1.1 Introduction

Foundations of the Plan

Chronology of Events

June 1996: Burlington Municipal Development Plan calls for:

- Protection of all natural areas of local significance through land acquisition, conservation easements, zoning ordinances, appropriate management and education effort

- Implementation of a land conservation program and fund to purchase natural areas or easements, including the adoption of a development impact fee dedicated to natural area purchases

February 1997: City Council Resolution calls for the establishment of a Burlington Conservation Fund Working Group

July 1997: City Council Resolution calls for the creation of a Natural Areas and Open Space Protection Plan which will:

- Identify and map Burlington's significant natural areas and open spaces

- Prioritize areas for protection based in significance and threat

- Recommend appropriate protection measures for each of these areas

- Define responsibilities for implementation of natural areas/open space protection plan

- Recommend timelines for implementation of natural areas/open space protection measures

July 1997: the Conservation Board sponsors a Natural Areas Community Forum

Burlington's natural environment is a chief ingredient in the city's character - making it one of the most attractive and inviting small cities in the country. Burlington's citizens, non-profits, and government have a proud tradition of protecting what is important to them and what sets Burlington apart - its sense of place, natural environment, open spaces, and recreational opportunities.

Recent studies throughout the country have debunked the myth that conservation and development are inherently at odds. The fact is that open space conservation is good for everyone - residents, property owners, visitors, and businesses alike - and their bottom line. This is a fact that Burlington clearly recognizes and has long benefited.

However, open space in Burlington is dwindling. While larger developments downtown and on the waterfront receive most of the attention, smaller developments are slowing consuming remaining open space, and encroaching upon important natural and recreational systems highly valued by the community. Neighborhood opposition to new development is on the increase as residents sense a threat to their quality of life. A comprehensive plan to identify and protect the city's most vulnerable natural areas and significant open spaces has become a necessity.

City Master Plans drafted in 1991 and 1996 catalogued the City's natural areas and documented significant losses in size and number. To redress this trend, these plans recommended a land conservation program and fund for natural areas protection. The City Council authorized the Conservation Board to investigate the need, purpose, and feasibility of this strategy, and to develop this plan for implementation. To achieve this goal, the Board formed a working group

consisting of members of the Conservation Board, City representatives, and the Trust for Public Land.

Core Elements of an Open Space Strategy

In creating any land conservation strategy, planners face tough decisions and questions. They must balance the need for future growth and development with preservation of greenspace, and find ways to choose between potential conservation areas in the face of limited resources and funding. This dilemma raises critical questions: Which area is more threatened? Which is more sensitive? Which will most enhance the values of surrounding areas? How will protection affect development options? Who will pay?

This *Open Space Protection Plan* establishes a framework by which the City of Burlington can: 1) inventory and evaluate natural areas and important open space, 2) prioritize areas for protection, and 3) match high-priority sites with appropriate protection and management strategies.

This plan is composed of four segments which:

- Discusses the benefits of open space in an urban community (Chapter 2);
- Documents the status of open space within the city (Chapter 3);
- Presents a framework for future open space protection (Chapter 4); and,
- Outlines a recommended plan for implementation (Chapter 5).

The Burlington Conservation Board

The charge of the Burlington Conservation Board is to ensure that natural resource and recreation issues are considered and incorporated in City decisions. The Board is composed of volunteer citizens with diverse backgrounds in conservation, law, and policy. The Conservation Board represents the interests of the city both at-large and by ward. The Board serves as an advisory body to the Planning Commission, Zoning Board of Adjustment, and the City Council on natural resource, environmental protection and land conservation issues with its functions and responsibilities defined by the state statute and the local enabling resolution.

1.2 Definitions of Natural Areas and Open Space

Open space is more than just undeveloped land. It includes city greens and treebelts as well as conservation areas and parks. Patches and corridors of open space interspersed throughout the urban landscape weave the fabric of the city together. Together they add natural beauty, provide recreational opportunities, and act as a circulatory system for the city's natural processes such as wildlife movement and hydrological flows. Open space is an integral part of any healthy city.

The City of Burlington is particularly concerned with two categories of open space:

- 1) Open and undisturbed sites with high natural, recreational, and scenic value; and,
- 2) Small pockets or corridors of greenspace within high density neighborhoods and commercial areas.

While the primary focus of this Plan is on the natural and undeveloped forms of open space, public opinion was very clear about the importance of enhancing the most urbanized areas of the city through additional greenspace and good urban design. While this topic is largely beyond the scope of this effort, a framework for further study and protection is outlined. A subsequent amendment in coming years will be prepared to address ways to conserve and enhance urban greenspaces throughout the city.

Functions and Values

Perhaps the best way to define open space is by function. Burlington's open spaces can be defined and identified by the role they plan in the community and range of benefits they provide. In most cases, any one site will fall within more than one part of the definition. This definition has been developed from the core values expressed by the public as part of the planning process. It serves to provide a framework for prioritization of land parcels, as well

as for protection and management strategies tailored to Burlington

Natural areas of local significance and lands with natural values and functions

These are lands with outstanding natural resources. Sustainable forest communities and land containing important wildlife habitat, as well as lands with significant geological and topographical features are included in this category. Lands that serve important natural functions such as wetlands, streams, wildlife habitat corridors and lands that treat stormwater and urban runoff.

- Open spaces with natural values include areas such as the North Beach Wetland, Lone Rock Point, Centennial Woods, and Derway Island.

Working Lands

Working lands provide direct economic and/or functional benefit including those available for agricultural use including community gardens, and forested areas suitable for management. Open lands with functional value include riparian strips, hedgerows and windbreaks.

- Working lands include large portions of the Intervale, woodlands in Leddy Park and the Arms Grant, neighborhood community gardens, and streambank buffers..

Lands with scenic values

The visual beauty of open spaces helps to define Burlington's character. The City would not be the same without the natural views and aesthetic qualities offered by its open space. These lands include both views points and viewsheds, as well as roadsides, greenways, and natural strips.

- Open spaces with scenic values include Ethan Allen Park, the Intervale and the Lakeshore.

Webster's Dictionary defines the words "open" and "space" as follows:

open 1. not closed or barred: an *open field* **9.** relatively unoccupied by buildings, fences, trees, etc.

82. a. the unenclosed or unobstructed country **b.** the outdoors: *vacation in the open*

space 1. the unlimited or indefinitely great three dimensional expanse **7.** linear distance, a particular distance: *trees set at equal spaces*

The Nature Conservancy (1975) defines a "natural area" as:

An area of land or water which: 1) either retains or has reestablished its natural character, although it need not be completely undisturbed, or which 2) retains unusual flora, fauna, geological or similar features of scientific or educational interest.



the Burlington Intervale

The core values and benefits derived from open space and natural areas in Burlington include:

Natural Systems

- Wildlife corridors
- Water, nutrient flows
- Air quality

Working Lands

- Agriculture
- Forestry

Aesthetic

- Lake/mountain vistas
- View corridors

Recreation and Education

- Public access
- Passive recreation
- Research

Historical, Cultural, Archeological

- Historic sites and landscapes
- Cultural sites
- Archeological resources and research

Geographic distribution of Open Space

- High density neighborhoods
- Low income areas

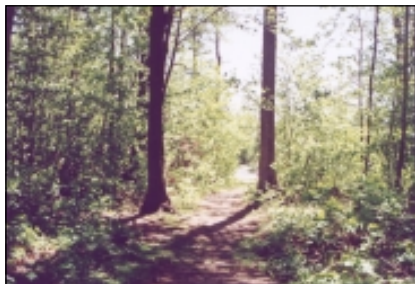
Other Urban Benefits

- Attraction for new development
- Enhancement to commercial activity
- Stabilize and enhance property values
- Stabilize demand for City Services
- A place for spiritual reflection

Lands with recreational and educational values

Burlington has an extensive system of public parks, trails, and vacant lots which provide passive recreational opportunities such as hiking, biking, skiing, picnicking, and photography.

- Open spaces with recreational and educational values include the Bikepath, Ethan Allen Park, and the Intervale.



A well-worn trail winds through the woods off of North Avenue in Burlington.

Lands with historical, cultural, or archaeological values

These lands include archaeological, historical, cultural, and religious sites.

- Open spaces with historical, cultural, or archaeological values include the Intervale, UVM Historic Green, and Ethan Allen Park.

Urban open space lands

These are open spaces with values specific to Burlington's urban setting, such as urban and campus greens, streetscapes, treebelts, parks and cemeteries. All of these aspects provide opportunities for integrating nature into the cityscape.

- Open spaces such as these include city parks including City Hall Park and Waterfront Park; campus greens and lawns; street tree corridors; and neighborhood pocket parks.



the Burlington waterfront

Ruth Page on Open Space

So far, we're pretty lucky in Burlington. When we need to get away from sun-hot, noisy streets and sidewalks and escape the smell of car exhaust, we can visit Ethan Allen Park to listen to the rustling of leaves and inhale air freshened by the oxygen-giving trees. A squirrel ripples across the path, a chipmunk skitters under the leaves, we sit alone on a high rock or look across the lively whitecaps of Lake Champlain to the ancient mountains on the far shore, and with a sigh, we're at peace. Our bodies relax and our minds seem to do the same; everyday worries fade, and life seems clearer. We might even have a sudden vision of where we packed away those photographs the family's been hunting for.

We have two other sizable, life-enriching open-space choices in our city: the farms, wildflower areas, winding paths and meandering Winooski of the Intervale; or the splendid landscape at the foot of our busiest streets. Do open spaces make a difference in our lives? How could they not—we humans evolved with Nature. Of COURSE we still get our deepest strengths from her gifts.

Ruth Page, a noted commentator on Vermont Public Radio, is also a Burlington resident.

1.3 Public Opinion

From the Vision to the Plan

Open Space is for the people of Burlington - present and future. To reflect this, public participation has been an integral element in the development of the *Burlington Open Space Protection Plan*.

Four neighborhood meetings were held in locations throughout Burlington to introduce the Plan and collect citizen feedback. Two newsletters were published and posted throughout the City to update the people of Burlington on the Plan's progress. An informal survey was conducted through a display board at the Fletcher Free Library. A professional poll was conducted gauge the level of support for an open space initiative in Burlington, as well as to determine which aspects of land conservation are most important to residents. A series of meetings were held to discuss draft proposals of the Plan. And finally, the Plan was brought before several integral citizen boards and commissions for formal adoption and buy-in.

Neighborhood Meetings

The neighborhood meeting series began on February 17, 1998 at the Electric Department Auditorium. Subsequent meetings were held on February 22, February 24, and March 3 at the Police Station, Heineburg Senior Center, and Fletcher Free Library, respectively.

At each meeting, Burlington residents came out to discuss their concerns for open space, and ideas about the budding Plan. Citizens cited several concerns, including the importance of public access to open space as well as the importance of monitoring and managing public open space lands once they are protected. Residents

discussed the diverse values that open spaces have for them, from wildlife habitat to recreation, to visual aesthetics. Also cited was the need to balance conservation with development, considering Burlington's role as a regional growth center.

The public response to the Plan has been overwhelmingly positive. Citizens lobbied for the preservation of their favorite places, such as Centennial Woods, the Lake Champlain Waterfront, the Intervale, and the Englesby Ravine, while others suggested projects such as neighborhood clean-ups of existing open spaces. Residents recognize that Burlington is a special city which puts a high value on the outdoors, and that with this Plan, Burlington has an opportunity to set the standard for open space protection.

The Survey

Many people responded to a survey posted on a display board in the Fletcher Free Library and distributed at public meetings. Overwhelming, respondents have been supportive of the creation of an open space protection initiative in Burlington, and most vowed to support the City's efforts to preserve open space through donations to an Open Space Conservation Fund.

Survey respondents were also asked to name their favorite places in Burlington. Responses varied greatly, from City Hall Park to North Beach, from the bikepath to Centennial Woods, from the Barge Canal to the Intervale. While some

residents prefer active recreation activities such as biking and trail running, others get satisfaction just from the knowl-

Planning ideas from Burlington residents:

"Each resident should have access to open spaces in the City on any particular day."

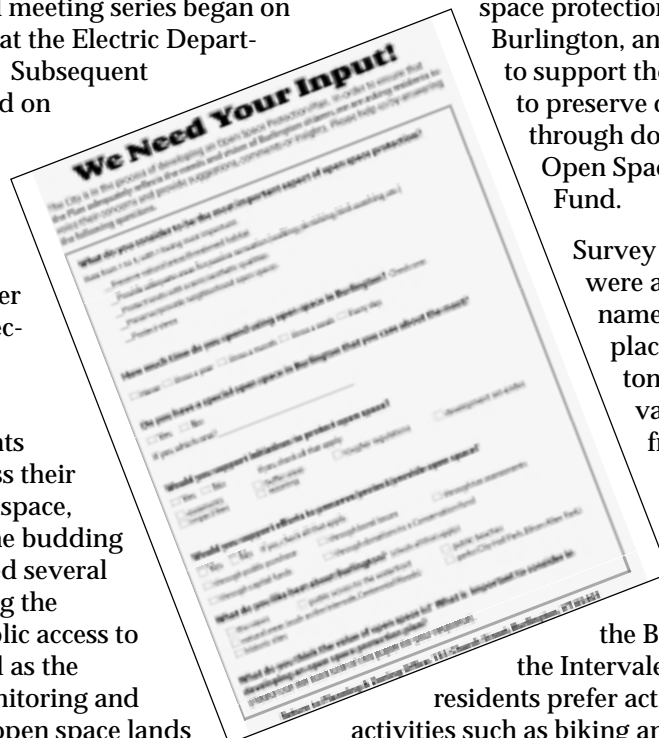
"The City needs unorganized spaces for recreation."

"The City needs a diversity of animal life."

"This open space plan is very important. Burlington's natural areas are wonderful. We need new zoning for natural areas; there's a difference between those and parks."

"Small places are important. They are heavily used and need attention."

"A unique trail experience could be created in Burlington."



Thoughts from Burlington residents:

"Burlington can set the standard for open space."

"Open spaces should reflect Burlington's unique geographic location."

"Burlington's natural areas and views define its character and quality of life."

edge that their city contains valuable natural areas. In fact, when asked to rank the goals of open space protection, a majority of survey respondents chose "preserve natural areas/threatened habitat" as the most important goal, with "provide adequate areas for passive recreation" in a close second place.

Listed below are representative comments from the four public meetings and the survey posed at the Fletcher Free Library, divided into categories.

Neighborhood Open Spaces...

- *Small places are important, heavily used, need attention...examples are Archibald, H.O, Wheeler.*
- *Englesby Brook could be a "kids' haven".*
- *Opportunity for contiguous open space from park to NE Landshare parcel to north of Starr Farm Road.*
- *City needs unorganized spaces for recreation.*
- *Open Space around communities define edges, keep human scale.*
- *Preserve back yards.*
- *Oakledge, Red Rocks, and South Park do serve South End residents.*
- *Neighborhoods should be focused on open space.*
- *There is little open space in the Old North End. This low-income community is quite dense and needs more open space than the less congested parts of town and more affluent people who can drive to open spaces. Thank you for doing all this work.*
- *Think 100 years ahead...use all means to save small, but important areas.*

Concerns regarding development...

- *Zoning caters to developers too much.*
- *Very important...Burlington's natural areas are wonderful...need new zoning for natural areas-there's a difference between those and parks.*
- *Inventory all ordinances that relate to open space.*
- *Review process for subdivision is backwards-o.s. last thing considered.*

Value of Open Space to the City...

- *I think the value of open space is to preserve natural beauty of Vermont which still exists in Burlington. It is rare to have a beautiful city, but we can keep Burlington open, natural, and beautiful. Open space also lets people go outside and enjoy physical activities.*
- *Vermont seems to let public use private land more than other places. This is threatened.*
- *Open spaces should mirror/reflect Burlington's unique geographic location.*
- *Open space which is accessible-contiguous open space.*
- *Open space is an acknowledgment and recognition of our necessary and sacred relationship with the planet. Without it we ultimately wither and die.*

Habitats and Natural Open Spaces...

- *Health of wildlife in "wild" areas (rabies a problem)...management to address wildlife.*
- *Wildlife diversity/wild area in city.*
- *Study to look at wildlife travel corridors.*
- *Difference between urban park and wildlife preserve...address this diversity in the plan.*

Based on the public input obtained through neighborhood meetings and an informal survey, Burlington's residents showed a strong interest in supporting an open space protection plan. The aspects of open space that Burlington's residents found most important were:

- Preservation of small open spaces which unify neighborhoods.
- Protection of open space from threatening development and subdivision.
- Connecting existing open spaces.
- Preservation of the City's natural beauty.

The Poll

As a part of the planning process, opinion research consultants Kiley & Company were hired by The Trust for Public Land, Inc. to conduct a poll of 400 registered Burlington voters from April 25 through April 28, 1999.

The purpose of this survey was to gauge public attitudes toward the general issue of open space protection, and to assist policy-makers in designing an open space protection strategy for Burlington.

The poll found that a majority of respondents would overwhelmingly support a City initiative to preserve open space. Highlights from results of the poll are summarized below.

- 69% of those asked thought that having more parks and natural areas will make Burlington a more livable city and improve the quality of life for all residents.
- 81% agreed that protecting parks and natural areas along Lake Champlain and the Winooski River will cut down on pollution and keep local waters safe for fishing, swimming, and boating.
- 74% of respondents would be even more positive about the program to protect open space if City funds for land protection could be leveraged with matching funds from state and federal sources.
- Acquiring more open land to protect it from development ranked 2nd in a list of steps voters feel would do the most to improve the quality of life in Burlington.
- Voters strongly supported the creation of a program to purchase open space even if paid for, in part, by taxing themselves.
- The following are the types of resources respondents said that such a program should protect, in order of priority:
 1. Parks and natural areas along Lake Champlain and the Winooski River that help protect water quality.
 2. Natural habitats for plants, birds, and wildlife.
 3. Scenic views of Lake Champlain and the mountains.
 4. Open land on the downtown waterfront.
 5. Agricultural lands in the Intervale.
 6. Historic and cultural sites.
 7. Neighborhood parks and playgrounds.
 8. Hiking trails and bike paths.



Burlington residents enjoy an autumn stroll through Ethan Allen Park.

2

Chapter 2

VALUE OF URBAN OPEN SPACE

Why Conserve Land?



2.1 Benefits of Open Space

The Natural and Economic Benefits of Open Space Protection

Q: What is the value of open space to you?

A:

"Open spaces will keep Burlington a highly desirable place to live."

"Open space provides a respite from the daily grind. Nature, green spaces, and aesthetically pleasing landscapes all rejuvenate the soul and provide a sense of calm in a hectic world."

"We must make sure the urban area is livable, enjoyable, and healthy. I would like to see an Open Space Plan for 'sustainable development' in Burlington."

"[Open space] is important to our spirit and mental health."

--Some responses from Burlington residents

There is a long-held belief that undeveloped land that even though it may be nice to look at is not economically productive, and that it only really carries its weight in the local tax base after it is developed. Communities are quickly finding out the opposite. More and more studies are showing that conserving open land and choosing carefully where development goes is not contrary to economic health, but essential to it.

The choice we face is not one of environment and aesthetics versus economics, after all. Instead, the fact is that land conservation is a sound investment. Studies comparing the fiscal impacts of development to those of open space protection have found that open space preservation has a more positive impact on a community's economy than most conventional forms of suburban-style development, even when property is preserved through public dollars.

This does not mean that open space protection should be used as an excuse to exclude the diverse housing, schools,

roads, businesses, and services needed to keep a community viable, accessible and sound. In fact, providing affordable housing, infrastructure and protecting open space all involve using land appropriately and concentrating development where it can best be served. Development that destroys community resources and natural features is both economically and environmentally wasteful.¹³

What these findings *do* mean is that development is not a surefire economic boon, and protecting a communities natural resource base pays off.

There are eight compelling reasons why communities can benefit, economically and otherwise, from land protection.

1. Land conservation is often less expensive for local governments than development

All over the country, studies have shown that residential development in particular, but even commercial and industrial development, often do not provide as much in tax revenue as they cost a community in public services and less tangible "costs" to quality of life. Moreover, open space lands, public and private, usually require minimal public service provision, yet can contribute significantly to the economic welfare and vitality of a community. And in cases where public funds are used to protect land and support its continuing uses such farming or forestry, the community is enhanced from the scenic or recreational benefits of preserving the landscape, as well as from supporting industries that pay taxes, create jobs and reflect the community's special heritage.

Studies in nearby Massachusetts and Connecticut show that on average, the residential property tax rate is higher in towns and cities with more residents, commercial and industrial property and jobs, and lower in places where there are more acres of open land per capita. Why? "Cows don't go to school" is an old adage that explains most of why residential development often is a net loss for municipalities. The average homeowner will often pay less in annual property taxes than the cost of schooling his or her children alone for that same period, much less the additional costs of police and fire services, snow removal, sewer and water projects, etc. Plus, as a community grows, the *per person* cost of providing services has actually been found to increase. As towns that were once small enough to need only part volunteer or part time public safety forces upgrade to full



A crisp and sunny fall day on the Burlington Bike Path.

time, as small unpaved roads are converted to paved roads or highways, or as development branches into previously unserved areas, public services are forced to spend proportionately more just to keep up.^{13,17,18}

Retail or industrial development, once thought to be tax-positive for cities and towns, may also bring the need for more public safety, transportation, and other services, due in part to their direct use needs, but also due to a high correlation between these types of development with increased residential development -- homes following jobs...which accounts for why even towns with higher percentages of retail and industrial tax bases often have higher tax burden than those with less.^{17,18}

2. Giving land conservation a high priority encourages more cost-efficient development

It stands to reason that development that uses less land, and that is built in areas already improved with water, sewer, and public safety services, will have less marginal tax impact than development that requires new roads, pipelines, or schools. The concept of "clustering" is not a new one.

"The National Association of Home Builders first documented the economic benefits of clustering in 1976. In evaluating this tool for encouraging development and land conservation at minimal public cost, the association found that a sample 472-unit cluster cost 34% less to develop than a conventional grid subdivision."¹³

Good community planning can take this notion of "clustering" and apply it community-wide, by encouraging open space protection in areas of most natural or recreational need and benefit, and encouraging development in those areas where

investments in public services are most efficient and economical to provide, saving both the community's fiscal and natural assets.

3. Communities with well thought-out land protection programs may improve their bond ratings and become a more attractive place for businesses

Bond ratings are measures of the credit-worthiness of a particular jurisdiction. Communities are rated by bond-rating agencies in order to establish their ability to take on new debt, and are rated in several areas, including one category called "administration", according to Robert Stanley, a lead rating analyst with Moody's Investment Services. "This is where a community's management of open space and agricultural land and pacing of development comes into play. Do we see a strain? Will values continue to support the debt?" Hy Grossman, managing director of Standard and Poor's public-finance department adds that "Community improvements -- parks, libraries, education -- means an attractive community where people will want to live, and that means the community will be better able to meet its debts."¹

Business leaders pay attention to this balance, too. Corporate CEO's say quality of life for employees is the third-most important factor in locating a business, behind only access to domestic markets and availability of skilled labor, while owners of small companies ranked recreation/parks/open space as the highest priority in choosing a new location.

Open space is vital to the function, livability, and aesthetic character of the urban environment. Water and air quality, stormwater management, wildlife habitat, recreational opportunities, and human comfort are all benefits provided by urban open space.

Q: What is the value of open space to you?

A:

"What is the value of peace of mind? of clean air? of quiet times? of watching a tree grow? of hearing a heron or a flock of geese? of clean water? Thank you."

"Open space is an acknowledgment and recognition of our necessary and sacred relationship with the planet. Without it we ultimately wither and die."

"Open space is important for getting in touch with yourself and with nature and for quiet exercise and the appreciation of beauty."

"The value of [open space] is huge. Protecting and increasing natural areas increases home values, keeps people living here, and raises the quality of life."

--Some responses from Burlington residents

These benefits have distinct and quantifiable economic values and are essential to a City's quality of life.

4. Conserving land provides environmental benefits critical to sustaining the health of the city

Open Space: The Lungs of the City

It is well documented that urbanized areas are warmer than surrounding areas due in part to the abundance of rooftops and paved surfaces. As hot air builds and rises into the atmosphere, cooler air is drawn in from suburbs and open spaces which

surround the city. This air is kept relatively clean and cool by the urban open spaces and greenbelts it flows through. In this sense the "fine mesh" of street tree corridors, small woodland patches in parks, open spaces and backyards all act together to purify air as the "lungs of the city." Vegetation traps the particulate matter of airborne pollutants; leaves can effectively absorb ozone and sulfur dioxide; and all plants consume carbon dioxide. A St. Louis study estimated that to take up the 462,000 tons of sulfur dioxide released annually in the city would require 50 million trees, a population which would occupy about 5% of the City's land area. Reduction of

airborne pollutants has been shown to reduce health problems, and thus health care costs, in urban environments.

Climatic Modification

A number of studies in cities throughout the world have established the value of open spaces and vegetated areas in

helping to moderate climate. These areas are important for the reduction of glare, maintaining cooler air temperatures, and reducing heat loading on buildings. Trees in particular are an important factor in mitigating the adverse impacts of high winds on human comfort in the outdoors and heating requirements in the indoors. A study of Richmond, Virginia's 200,000 street and woodland trees concluded that they reduced ambient air temperature in the city, and consequent heat loading on adjacent buildings, reducing air conditioning costs by as much as \$800,000 annually. Open lands mitigate climatic extremes; air temperatures in parklands are typically several degrees cooler in summer than surrounding built-up areas, providing both relief from and moderation of overall temperatures.

Noise Pollution

The Federal Highway Administration has shown in its research that trees, hedges and wooded areas overall reduce sound decibel levels when placed between highways and living and/or work environments. Tree belts 100 feet wide and 45 feet high, for example, can cut highway noise in half. A six-foot high, ten-foot thick deciduous and evergreen hedge can cut the noise of a lawn mower on its other side by 40%. The rustle of leaves, the sound of running water in streams, and even the sounds of songbirds also provide audible alternatives which can mask undesirable urban sounds such as traffic, machinery, etc.

Wildlife Habitat

Burlington's open space areas are home to a surprisingly diverse population of animal species, many of which are found in Vermont's more remote wild lands. In the last five years, the presence of large mammals such as moose, fisher, river otter, mink, fox and deer have been repeatedly documented in the wilder parts of the city. The long-term viability of wildlife populations in the City's conservation areas and undeveloped lands depends on their connection to

Open land provides space for nature to perform a multitude of life-sustaining services that otherwise would have to be provided technologically at great expense:

- degradation of organic wastes
- filtration of pollutants from soil and water
- buffering of air pollutants
- moderation of climactic change
- conservation of soil and water
- provision of medicines, pigments, and spices
- preservation of genetic diversity
- pollination of food crops and other plants" ^{1,3}

open spaces beyond the city limits. Maintaining suitable travel corridors helps sustain and replenish existing wildlife populations. The presence of wildlife also enriches the human experience and provides opportunities for environmental education and stewardship.

Recreation

Most urban dwellers readily appreciate the recreational opportunities provided by a City's open spaces and parklands. Recreational amenities are integral to and support a higher quality of life for both the City's residents and its work force, and also serves as an important attraction for businesses. Numerous studies have also demonstrated that access to adequate open space for active as well as passive recreational pursuits contributes to an individual's mental and physical well-being. Recreation areas in Burlington such as the beaches, waterfront open spaces and trail systems offer a diversity of outdoor experiences which are interconnected with community identity, livability and sense of place.

Water Quality Protection

"Polluted runoff is now widely recognized by environmental scientists and regulators as the single largest threat to water quality in the United States." (Nonpoint source Education for Municipal Officials Project of UCONN Cooperative Extension Service) Phosphorus has been identified as the greatest water quality threat to Lake Champlain. Within the Champlain basin, urban land produces approximately 18% of the average annual nonpoint source phosphorus load to the Lake - much more phosphorus per unit area than either agricultural or forested land (Lake Champlain Basin Program, 1996).

Natural cover plays an important role in reducing the amount of pollutants entering the water supply. Soils filter out many types of contaminants; grasses and ground cover slow the flow of water, allowing sediment to settle; trees reduce siltation by

stabilizing soil along stream banks and hillsides, and slowing the force of precipitation as it reaches the ground. For all these reasons, development within a watershed creates a dual threat to water quality. As natural lands are degraded, their buffering capacity is reduced. And as development spreads in these areas, land and water pollution increases.⁸

Cost savings from land protection in watersheds is well documented. New York City recently decided to invest \$1.5 billion to protect its upstate watershed, including \$260 million for watershed protection, to avoid the immediate need for filtration that would cost more than \$5 billion to build and another \$300 million annually to operate. In Connecticut, where filtration is mandatory, one company spent \$105 million on filtration and water treatment in the decade from 1986 to 1996, the same amount spent in the previous 129 years, and the limited ability to protect already developing watersheds in that state may mean increasing filtration mandates to come. The EPA grants millions of dollars in water quality monitoring waivers in cases where watersheds are protected by natural land buffers. Lake Champlain and its tributaries provide Burlington's drinking water, so protection of the shores of the lake and rivers contribute to the future quality of the drinking supply, as well as an aesthetic treasure.

Flood water retention

"Floodplains function well as emergency drainage systems + for free + when they are left undisturbed...Human encroachment on the natural flood corridors often increases the risk to downstream homes and businesses by increasing the volume of runoff and altering the flood path. The resulting demands for costly drainage improvements, flood control projects, flood insurance, and disaster relief are all, ironically, preventable. Rockland County, Maryland greenways acquisition program was inspired by the county's dismay over the costs of coping with drainage problems caused by encroachment into floodplain systems."¹³

"Nature pervades the city, forging bonds between the city and the earth, air, water, and living organisms within and around it. In themselves, the forces of nature are neither benign nor hostile toward humankind. Acknowledged and harnessed, they represent a powerful resource for shaping a beneficial urban habitat."

--Ann Whiston Spirn,
The Granite Garden

Wetlands are among the richest ecosystems in Vermont in the variety of species they support. Some species, such as the Canada goose, wood duck, great blue heron, muskrat, snapping turtle, and bullfrog live in and depend on wetlands. Other species, including the black bear, moose, deer, wood frog, marsh hawk, and northern pike depend on wetlands during part of their life-cycle or during certain times of the year.²

"Economic growth and development must take place, and be maintained over time, within the limits set by ecology in the broadest sense--by the interrelations of human beings and their works, the biosphere and the physical and chemical laws that govern it...It follows that environmental protection and economic development are complementary rather than antagonistic processes."

--William D. Ruckelshaus, "Toward a Sustainable World"

5. Open space increases property values and the desirability of cities and towns

As early as the 1850's, landscape architect Frederick Law Olmsted justified the purchase of land for New York's Central Park by noting that the rising value of adjacent property would produce enough in taxes to pay for the park. By 1864, Olmsted could document a \$55,880 net return in annual taxes over what the city was paying in interest for land and improvements. By 1873, the park + which until then had cost approximately \$14 million + was responsible for an extra \$5.24 million in taxes each year.²³

Between 1980 and 1990, the percentage of Denver residents who said they would pay more to live near a greenbelt or park rose from 16 percent to 48 percent.

In a June 1995 article from the journal *Planning*, William Lucy and David Phillips expose the reality that suburbs are increasingly facing the same decline, and for the same reasons, that cities have been experiencing for some time. "Decline" was measured in this study as a reduction in the median family income. The housing ages, consumers demand newer and larger units, changes make older neighborhoods less attractive, and investment declines. They also explore the question of why some cities and suburbs in the D.C. area did not

decline, or at least not as rapidly as others. Their conclusion was that combination of good planning, transit and preservation were keys to the winners' success. - the

winner's maintained a sense of place. One particular case in point was the town of Greenbelt, notable for its park and greenway systems. Despite the fact that between 1960 & 1990 the percentage of renters in the

community increased dramatically (from two in five to four in five), that the town tripled in size, and nine of its neighboring communities' median income rate dropped between 20 and 42%, Greenbelt's dropped only 3.6% in that time. Cities such as Portland, Minneapolis, Toronto, and more recently Chattanooga, that are often studied as good examples, are doing the same things, avoiding sprawl by creating healthy city centers and investing public funds to protect natural resources in and around the

6. Outdoor recreation, tourism, and agriculture are big business

city.

A recent article in the *Burlington Free Press* reported that visitors now pump more than \$3 billion into Vermont's economy. The University of Vermont recently completed a study of tourism and the economy of Vermont. This study concluded that "Vermont has become one of the most travel-expenditure-dependent economies in the United States in the 1990s."²⁴ A 1991 survey by the Division of Economics in the U.S. Fish and Wildlife Service notes that wildlife-related recreation is one of the most popular forms of recreation in the United States, boasting annual participation at 109 million, 3 million more than total attendance for all major league baseball, football, basketball and hockey games in the U.S. Natural areas, scenic and historic landscapes, and recreation in nature are growing tourism niches, and investment in the protection of these resources is good business practice.

Conversely, taking these assets for granted can have devastating effects on an economy.

Open Space Benefits Index

Fraction of Denver residents who in 1980 said they would pay more to live near a greenbelt or park: **16%**

Fraction of Denver residents who said this in 1990: **48%**

Estimated amount a three-mile greenbelt near the center of Oakland, California, adds to the value of surrounding properties: **\$41 million**

Estimated value of economic activity supported by open space in New Hampshire: **\$8 billion**

Annual reduction in water treatment costs after the city of Gastonia, North Carolina, relocated its drinking water intake to a lake without surrounding development: **\$250,000**

Estimated annual value of urban trees to improving the air quality of Atlanta, Georgia: **\$15 million'**

Case in point: the May 1996 cover story in the magazine, "Florida Trend" bemoans Florida's decreasing tourism numbers, the number of people driving to Florida having declined as much as 10% per month over the previous several years. "Why is Florida's tourism industry seeing its market share erode?...our mounting competition isn't just from new out-of-state theme parks and beach resorts. Florida tourism is also losing market share because consumers around the globe increasingly prefer destinations that evoke a strong and unique sense of place. In the face of this trend, Florida continues to squander its natural and cultural assets, to the point that its image is now increasingly that of a non-place - a land of generic attractions and condo canyons, surrounded by featureless sprawl that might as well be anywhere....at least 10% of Florida vacationers go home unsatisfied because they couldn't find the Florida they came to see."¹⁶

7. Parks and recreation have been linked to better quality of life and crime prevention in cities across America

There is something for everyone in nature. Executives go fly-fishing to relieve stress and anxiety; inner city recreation areas give kids a positive outlet for their enormous energy, and artists see nature through their second sight. Moreover, this connection between nature and human nature is being rediscovered as an essential character-building conduit. Outward Bound-like exercises are teaching everyone from adolescent offenders to corporate divisions about discipline, self-motivation, and teamwork. 40% of a schoolchild's waking hours are discretionary, and when researchers for a Carnegie study asked adolescents what they wanted most during nonschool hours, safe parks and recreation



centers topped the list. Adults are saying it too. For example, 75% of the Fort Myers, FL children enrolled STARS (Success Through Academics and Recreational Support) in 1991 had a less than 'C' average. Less than 2 years later, 80% of the 1,500 children had brought their grades up to 'C' or better, and the recreation center was not a crime center as some had predicted - in fact Fort Myers reported a 28% drop in juvenile arrests in the first four years of the program. Mayor Smith of Fort Myers proclaimed, "As the mayor of a city that totally committed itself to using recreation and academic support as the vehicle for combating violent juvenile crime, I can tell you that it works...In my judgment it is the best, most cost-effect, and most responsible position to take in the very complex search for solutions to juvenile crime."

8. Open space conservation is an integral aspect of planning for a sustainable city

Planning for a sustainable future means bringing the bigger picture into the view frame. Instead of planning at the scale of a

Tourists' expenditure accounts for 15 percent of Vermont's Gross State Product.²⁴

Burlington, Vermont: The Case For Smart Growth

"Burlington, Vermont—with its dynamic, activist municipal government, and up-and-coming reputation—makes a strong case for the value of sustainable development. The City government, working in partnership with a network of municipally supported nonprofit organizations, pursued a sustainable development strategy before the term was invented. The result has been a city that is considered one of the most livable in the country and promises to be so in the future. A broad spectrum of people in Burlington agree: sustainable development is a valuable concept—even a critical one for our well-being."²⁴

“Sustainable development” is...

...a planning strategy in which the needs of the present are met without compromising the ability of future generations to meet their own needs

--The United Nations World Commission on Environment and Development

...a series of innovations in planning and management of natural resources, economic growth, and community health.

--from “Creating a Sustainable City: The Case for Burlington, Vermont”

...a three-pronged approach that considers economic, environmental, and cultural resources. A sustainable development plan should consider the allocation of these resources not only in the short term, but also over the long term.

--Center for Excellence for Sustainable Development

house lot, cities should plan at the scale of the community and city. The concepts of sustainable development and smart growth are integral to the development of a suitable plan for city growth. These planning paradigms work hand in hand to achieve the goal of just allocation of resources over both space and time, transcending both neighborhoods and generations.

Burlington serves as a “Regional Growth Center” (*Chittenden County Regional Plan*), with the intent to concentrate development within the City to preserve open lands in the surrounding communities. Thus, efficient and sustainable development within the City is of paramount importance. A balance between development and conservation must be achieved within the City to preserve a high quality of life for its residents.

Open space protection is essential to any sustainable development plan. The designation of public open spaces is paramount to ensure long-term quality of life. Evidence suggests that the most successful higher density neighborhoods—those most attractive to home buyers—offer easy access to parks, playgrounds, trails, greenways, and natural open space.³ Not only does open space provide resources for direct use and enjoyment by city dwellers, but it also ensures that natural processes, such as animal movement and hydrological flows, will continue to function at full capacity. Open space serves such natural functions as wastewa-

ter treatment and air pollution control, functions which would be extremely expensive and technologically complicated engineering projects in the absence of open space.

The importance of open space preservation to sustainability has been recognized and addressed by national, as well as local leaders. Clearly, the time for an open space initiative has arrived.

Conclusion

Open space protection can no longer be dismissed as a frill. The economic, cultural, public safety and health benefits of balancing community development with open space protection are increasingly being quantified in economic, as well as social measures that show them to bring significant and diverse values to society. Open space protection is an important component behind successful community development projects, and a major contributor to the character of place that forms the foundation of its economy. Community investment and planning will determine where and how development occurs, how cost effectively it occurs, and whether the most important natural systems are preserved and sustained. Weighing the true costs and benefits of development and of open space protection is the key to making the right investment choices, for in the final analysis, the cost of protecting a community’s important natural systems and open spaces may seem high, but the cost of not protecting them may be much, much higher.



Enjoying the view of Lake Champlain and the Adirondacks from Waterfront Park.

3

Chapter 3

STATUS OF OPEN SPACE

Going, Going, Gone?



3.1 A History of Open Spaces in Burlington

Burlington has always identified with and valued the natural character of the city. Open spaces are integral to the image and identity that Burlington treasures. Among the City's best recognized and most important open spaces include:

The Intervale

Some of the richest agricultural soil in the area lies within the Winooski River flood plain known as the Intervale. As a result, this area has an agricultural tradition that stretches back to its first human settlers. These first farmers were Native Americans who grew beans, corn and squash in the area for hundreds of years. American settlers, including Ethan Allen, later farmed the floodplain throughout the 18th and 19th centuries. The farms in the Intervale, however, have declined in this century, and it became a dumping ground in the 1960's and '70's. Dumps, highway construction and wetland drainage threatened the integrity of the Intervale and obscured its agricultural value.

Nevertheless, farming never completely ceased in the Intervale. Even as the last dairy farms were waning, Burlington residents lobbied to open the area to residents who wanted to grow their own food. To fulfill this demand, Tommy Thompson of "Gardens for All" set up community gardens in 1970.

"The Intervale is a 700 acre flood plain along the Winooski River just one mile from downtown Burlington. The area represents the last prime farm land in the city boundaries. In recent years the Intervale was home to over 200 rusted out cars and mounds of old tires. Today, however, this land has been revitalized and is home to eight small incubator farms, 2 membership farms serving 520 families, a community co-op farm that in 1999 produced 600,000 pounds of vegetables for the City of Burlington, and a large-scale composting project."⁴

In 1986, the Intervale entered its current era when Will Raap, president of Gardener's Supply Company, decided to locate the headquarters of his national mail order company on the far end of the flood plain. Mr. Raap's vision of a sustainable farming experiment was solidified in 1988 when he formed the Intervale Foundation, a non-profit organization. The Foundation took over the task of acquiring additional acreage in the flood plain, administering an incubator program, managing the Green City Farm and operating the compost project. The Foundation is committed to growing food using sustainable agriculture methods such as crop rotation, composting, and non-chemical pest control.⁴

Once targeted for a large industrial park (1960s), today the Intervale is the largest remaining open space left in the city. In addition to serving as the agricultural heart of Burlington, the Intervale is premier wildlife habitat with frequent sightings of deer, fox and mink. The Intervale also functions as an important recreational area for hikers, bikers, boaters, and others.

The Urban Reserve

The history of the lakefront property known as the "Urban Reserve" began with the onset of industrialization. Like so much urban waterfront, the area was created out of fill excavated from the shoreline and backfilled behind wooden cribbing. As the post Civil War timber industry boomed, the land was created between 1870 and 1872 to serve as a timber processing area for the nation's most important lumber port, and later as a corridor for the growing railroad.

As the timber industry moved west, the petroleum industry moved into the area. Conveniently served by water and rail, the abandoned lumber yards became a regional oil storage facility. Since World War I, the shoreline fill has housed 19 above-ground oil tanks. As the industry

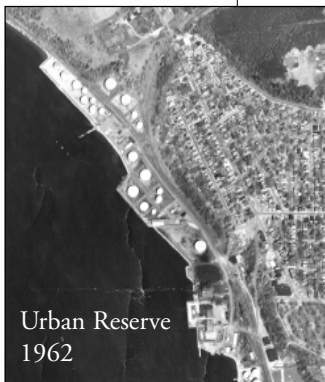


Agriculture and recreation on the Intervale.

Burlington has set aside a 45 acre portion of waterfront land as the Urban Reserve. The City has cleaned up this degraded industrial area within an overall plan to focus development energies in the downtown core and to leave a significant portion of the "rediscovered" waterfront as a landbank for future generations.⁴

A Success Story in the Making: The Urban Reserve

An industrial site until the 1960s, the Urban Reserve has seen great improvements since its abandonment and later purchase by the City. Notice the significant increase in vegetation in the past 36 years.



changed its storage methods, the tanks were phased out and abandoned in the late 1960s. They sat dormant until their removal, beginning in the 1980s and the area has remained largely vacant.

In the late 1980s, Burlington's long-term waterfront plan began to take shape. The City hoped to acquire this abandoned oil tank storage site with an eye towards obtaining more access and control of the city's lakeshore. In 1991, this plan came into fruition when the City purchased the 40 acres of land from the Central Vermont Railroad. The land was designated an "Urban Reserve" under the following mission:

- To preserve a large natural area from unwanted development
- To reserve the right for future generations to determine what level of development should occur at this site
- To concentrate the efforts of Burlington's development activities within the downtown business district and waterfront commercial district

In coming years Burlington residents will have the challenge and opportunity to participate in planning for the future of the Urban Reserve. For now, the property is held in trust by the City for its future citizens.⁴

The Barge Canal

The Barge Canal, also located on the shore of Lake Champlain, was the site of a coal gasification facility from the early 1900s until 1966. The canal was created to provide access for coal barges to feed the facility. By-products from the operations—particularly coal tar—were dispersed on the site, resulting in ground water, surface water, soil, and sediment contamination that remains today.

In 1983, the EPA placed the site on a National Priority List under the guidelines of the Superfund program. The EPA proposed a \$50 million cleanup plan that was to commence in 1992. This plan was however rejected by the City based on the exorbitant cost, and very limited and dubious scientific evidence. Outside investigators concluded that the EPA "cleanup" would produce air quality and health hazards more serious than the threat posed by the site if left alone. These findings spurred a groundswell of opposition from local citizens, the City and State governments, and numerous environmental organizations.

Citizen activism achieved a clear victory in 1993 when the EPA abandoned its cleanup plan, and agreed to work with the City to develop a new plan. The result was the creation of the "Pine Street Barge Canal Coordinating Committee", a first-in-the-nation effort to let residents find a cleanup plan they could support. This group, created with the collaboration of City officials and the EPA, was charged with the responsibility of developing a plan for managing the site that meet local concerns and maintained compliance with the federal law that put the canal onto the Superfund list in the first place. A new plan for the site was approved in 1999.

City Parks

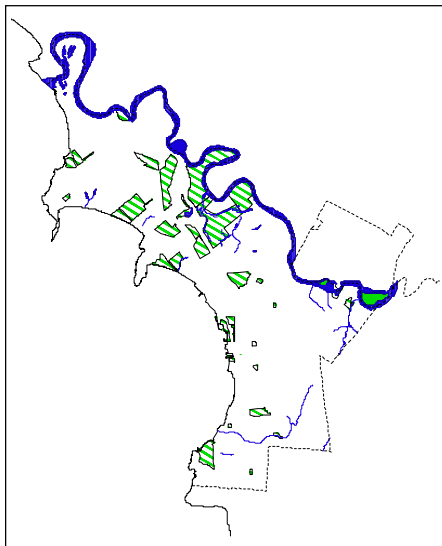
Public parks provide a number of functions, and serve a variety of populations. District parks protect natural areas as well as provide recreational opportunities such as hiking and biking on trails. Neighborhood parks typically offer playground equipment to serve small areas of the City, and quick access to green spaces and the outdoors to City residents. Small urban open spaces such as City Hall Park have been at the core of Burlington's sense of place and civic culture. In many ways, the very identity of any city is shaped by the character of its public spaces.

Burlington currently contains approximately 980 acres of public park land. This figure includes both parks that are managed for public use and those that remain undeveloped for passive recreation and/or conservation purposes.¹⁰ The majority of this land is owned and managed by City's Dept. of Parks and Recreation and the Winooski Valley Park District.

The Department of Parks & Recreation currently owns and manages 530 acres of recreation and conservation land in Burlington. The system under their management includes City Parks, Neighborhood Parks, Playfields, Special Use Areas and District Parks.



A postcard depicts City Hall Park in the 1800s.



Burlington Public Parks, 1999 (City & WVPD)

Many of Burlington's public parks have rich and varied histories:

- **Battery Park**, an impoundment area during the War of 1812, now houses a band shell, fountains, promenade, and playground. Burlington residents have always enjoyed viewing the lake and Adirondacks from Battery Park

- **Ethan Allen Park**, one of the City's largest parks, has a history that dates back to the Native American era, when it was used by the Abenaki as a camp and forage site. The tower on the site was dedicated in 1905 as a monument to American Revolution hero Ethan Allen.^{25, 26}

- The City purchased **North Beach** from the Arthur farm in 1918.²⁶ Locally known as the best sandy beach in Chittenden County, North Beach has been a popular summer spot in Burlington for many years.



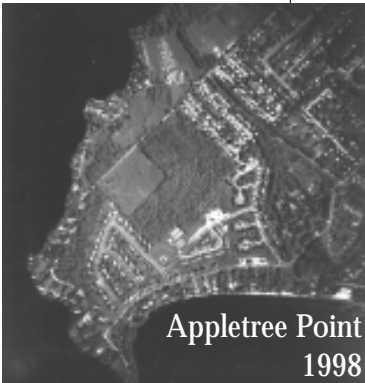
A girl enjoys North Beach in the mid-1920s.

Since its inception in 1972, the Winooski Valley Park District has spent over \$2.5 million on land acquisitions and improvements throughout the eight member communities. To a large extent, these have been "defensive expenditures" in order to preserve open space in response to development pressures. The Park District acquired 1,722 acres of land between 1972 and 1996, including 12.25 miles of river shoreline. 450 acres of the WVPD land is located in Burlington, including portions of the Intervale and the historic Ethan Allen Homestead.¹⁰

3.2 Burlington's Current State

Open Space Trends

According to the Vermont state Department of Environmental Conservation, 466 acres of Vermont's wetlands were destroyed or impaired between 1990 and 1997.²



The American Farmland Trust estimates that 4.2 million acres of prime or unique farmland were converted to urban uses between 1982 and 1992—a loss of nearly 50 acres every hour.¹

Going, going, gone?

Burlington's open space is disappearing at an alarming rate. Between 1960 and 1980, 800 acres of open space was consumed by development representing approximately 12% of the city's estimated total land area of 6,500 acres. Between 1980 and 1989, Burlington's lost another 16% of its open spaces, reducing the total open space to approximately 22% of the city's area.

In the 1990s, the erosion of open space has continued unabated, reaching a critical stage and threatening the city's quality of life. While large commercial and residential development in the downtown and on the waterfront receives a lot of attention, smaller developments are slowing consuming remaining open space, and encroaching upon important natural and recreational systems highly valued by the community. Neighborhood opposition to new development is on the increase.

The Region

In developing an Open Space Plan for Burlington, consideration of regional open space connections is of paramount importance. The City and all of its systems, whether natural or recreational, are closely connected to the surrounding region. Imagine a bicycle path that ends abruptly at the city boundary or a watershed protection program that does not extend into the neighboring town. Clearly, Burlington will benefit from partnerships with neighboring communities and the region when considering open space conservation policies. Already, agencies such as the Chittenden County Regional Planning Commission and the Winooski Valley Park District both work on a larger scale to include regional considerations in open space planning.

Just as in Burlington, open space is dwindling in the surrounding communities. Similar pressures, in the form of sprawl-type development, are impacting all types of open space, from agricultural

land to forested areas and wetlands. Residential and commercial sprawl and its accompanying infrastructure run through the landscape like a web, disconnecting open spaces from each other and disrupting natural processes.

For example, Chittenden County has experienced more wetland destruction in recent years than any other area of the state. As the population of the suburban communities surrounding Burlington continues to increase in coming years, pressures to develop the remaining wetlands will rise.²

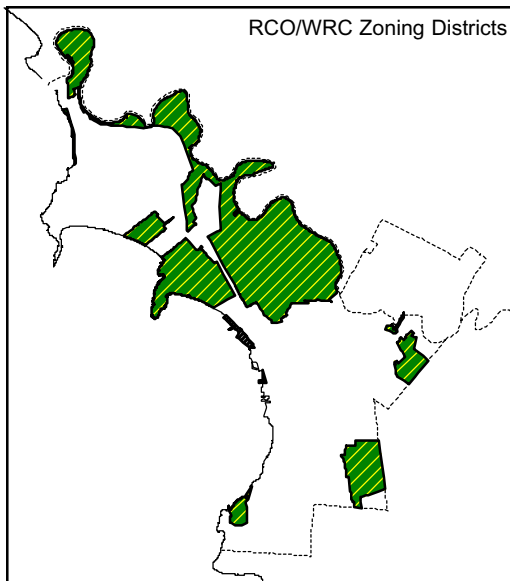
Agricultural lands have experienced a similar decline as farmers have found subdividing and selling their farmland more profitable than farming. According to the Census of Agriculture, the number of farms in the County declined steadily between 1950 and 1992 from 1,330 to 405 farms. By 1992, farmland had dropped from 72.6% of the County's land base in 1950 to just 24.0%.⁶

How is open space protected?

Past conservation efforts of the city have largely been targeted to specific areas such as the waterfront, or driven by individual development applications. Regulation has been the primary protection mechanism over the past several years.

Zoning is perhaps the most comprehensive means by which the City currently protects open space and natural areas. Burlington's zoning ordinance designates these areas as Recreation, Conservation, Open Space (RCO or WRC Districts). Within this district, generally no new residential or commercial development is permitted unless it is accessory to an agricultural use. While on its face this appears very restrictive, a variety of public and institutional uses are allowed including libraries, dormitories, laboratories and places of worship are permitted (in some cases conditionally).

The City's subdivision regulation has been the most widely used tool to acquire public open space. Prior to the assessment of Impacts Fees in 1992, a subdivision of over 3



acres required a 15% percent set aside for park and recreational purposes. Several city parks were acquired using this method including:

- Northshore Beach
- South Meadow Park
- Strathmore Park
- Appletree Park
- Crescent Woods Park

While useful in some situations, regulation is not an effective long-term solution to land protection. Regulations are subject to change depending on the political and economic climate. Furthermore, zoning is often too cumbersome and imprecise to protect a specific site for a specific purpose. Regulation requires a strong commitment by City officials and developers alike for compliance and enforcement, without which regulatory changes are ineffective. Finally, regulation of development does not permanently set aside areas of open space, or ensure its availability for public use and enjoyment.

Other Efforts to Protect Open Space

Local agencies have undertaken conservation efforts to preserve open spaces within the city. These conservation efforts fall mainly under the responsibilities of two public entities: the City through the Dept. of Parks & Recreation and the Winooski Valley Park District (WVPD). Recent acquisitions in Burlington have included:

City Acquisitions:

- Burlington Bike Path
- Waterfront Park
- Boathouse
- Expansion at Perkins Pier
- Roundhouse Point
- Urban Reserve

WVPD Acquisitions:

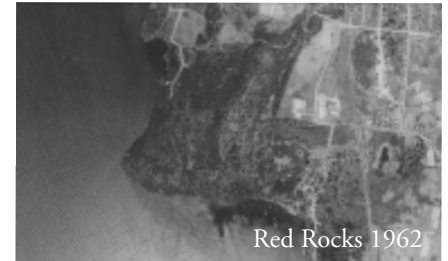
- Salmon Hole
- Derway Island

A newly created Winooski Valley Greenscape Coalition has formed in an effort to unify and advocate for stewardship of the lands in the Winooski valley. The Coalition, according to their draft mission statement, will “bring together all the various people and organizations of the Winooski valley who care about this corridor of natural beauty, human history, and fruitful agriculture.”¹¹ Current conservation programs in place in the Winooski valley include the WVPD, the Intervale Foundation, the Ethan Allen Homestead, the Richmond Conservation Commission, and the City of Burlington; the Coalition aims to advocate for interlocking stewardships between these organizations.

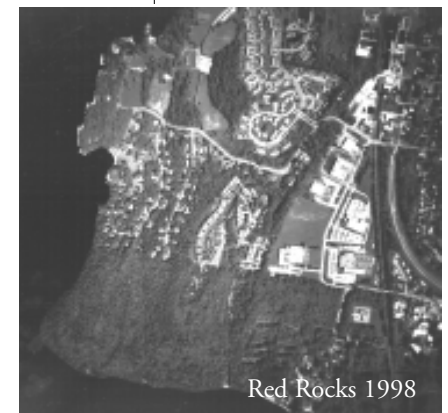
Finally, some areas have been conserved through the action of individual property owners and nonprofits. Examples include the sale of development rights on 65 acres of UVM’s Centennial Woods Natural Area by the University to the VT Land Trust; the renewal of a 100-year lease for seasonal camps on the former Flynn Estate property;

“Over the years, I have watched my favorite places disappear.”

--a Burlington resident



Red Rocks 1962



Red Rocks 1998

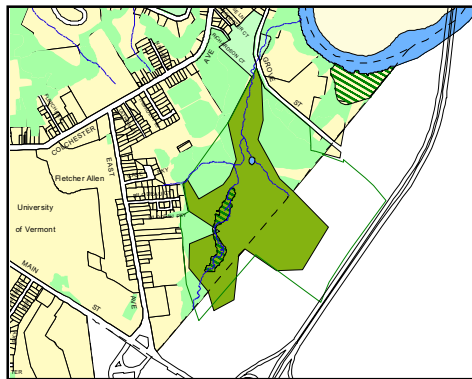
About 18% of Vermont’s stream-miles and 22% of our lake and pond acres are estimated to be impaired or polluted, and even more have potential threats to their designated uses.²

acquisition of agricultural land in the Intervale by the Intervale Foundation; and the transfer of approximately 9 acres of the Mount Calvary Red Maple Swamp by the Burlington Housing Authority to the City.

Profiles of Open Spaces at Risk

The following series is intended to illustrate examples of open spaces within the City, and some of the challenges they face under the current protection framework in Burlington.

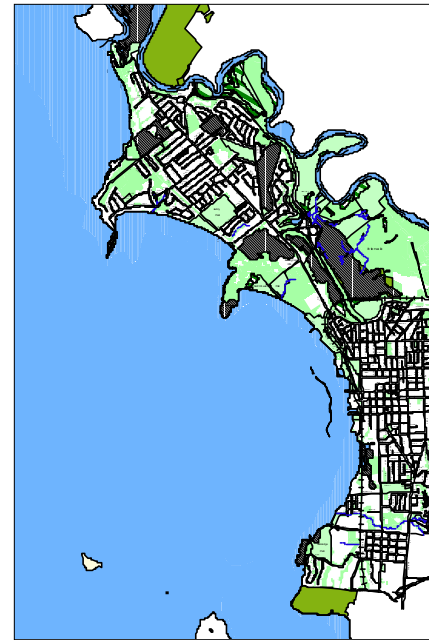
- **Centennial Brook & Woods:** This significant open space is experiencing incremental development on its margins, and is a good example of the impacts and pressures caused by adjacent development. This area is identified as an important natural area by both the City of Burlington and the City of South Burlington, and is zoned for conservation. 67 acres (44 in Burlington) of this site has been permanently protected by UVM and the Vermont Land Trust, yet much more of this sensitive area remains largely unprotected.



Centennial Brook Area

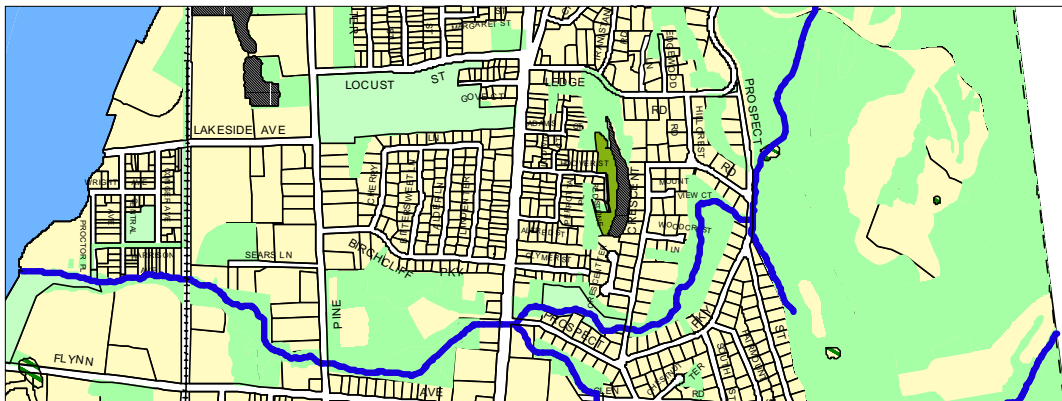
- **Lake Champlain Waterfront:** The waterfront represents an area of very high public interest and competing pressures for development. The waterfront runs the entire length of the City's western boundary, and has varying degrees of protection through zoning. While some areas are publicly

Lake Champlain Shoreline



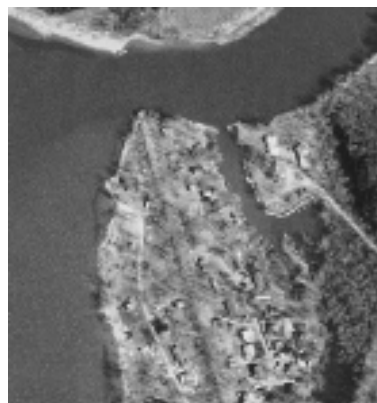
owned or zoned for Recreation/Conservation/Open Space, most of the shoreline is zoned for commercial use or low-density housing. As the Appletree Bay aerial photos on an earlier page demonstrate, "Waterfront Residential-Low Density" zoning often results in larger lots built on previously undeveloped land, and a loss of public access to the lake.

- **Sisters of Mercy Property:** This large undeveloped lot near the University had been available for public use for many years. High-density development potential, a critical need for more housing in the city and financial needs of the long-time owners resulted in a development proposal for the site. Many neighborhood residents expressed great concern over the loss of open space and impact on important natural resources. The lack of citywide priorities for open space protection left the Planning Commission and Zoning Board with little information and policy to guide their decision-making. This may have helped to prolong a long and expensive regulatory and legal struggle between the developer and the neighborhood.



Englesby Brook

- **Englesby Brook:** Englesby Brook is one of the very few surface waters that pass directly through the city on its way to the lake. The watershed encompasses several zoning districts of varying uses and intensities. The result is a fragmented stream corridor where portions of the brook are culverted as it passes under several commercial properties, and development continues to encroach upon the stream bank. The brook is a primary source of non-point pollution entering the lake, and is largely responsible for the closure of Blanchard Beach to swimming.
- **North Shore/Mouth of the River:** The northern lakeshore and mouth of the Winooski River is a sensitive and dynamic natural environment. Large areas of wetland, floodplain and river delta create an environment that is valuable for many species of wildlife and aquatic plants. It is also subject to constant change as the natural ebb and flow of the lake and the river constantly rearrange the shoreline. However, portions of this area are zoned for commercial uses and higher densities – a hold over from long outmoded aspirations.



Mouth of the River

Challenges to Open Space Protection

Despite these efforts, Burlington has no comprehensive and coordinated process for open space protection. The primary challenges facing the City fall into three key areas: defining public priorities, assignment of stewardship responsibility, and a lack of resources for acquisition and management.

City policy has consistently identified the importance of open space and natural area

protection as part of city land use and development planning efforts. Until now however, Burlington has not defined and articulated its priorities regarding what resources should be protected and where. This has increasingly left the City in the undesirable position of reacting to plans to develop property with high natural and open space value with little direction offered to guide decision-making. Conversely, property owners do not know the City's conservation priorities, and therefore have

The following six maps depict areas of distinct change in open space between 1988 and 1999. The shaded areas represent mapped open space existing in 1988 on the left and in 1999 on the right.

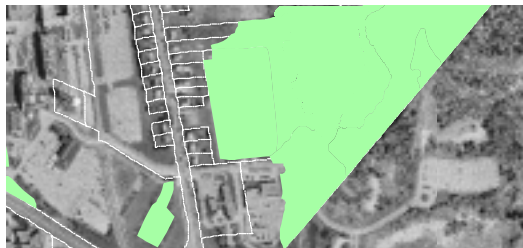
1988

Riverside Avenue

1999



East Avenue



Appletree Point



no ability to consider city objectives before submitting development plans. This is further complicated an increase in neighborhood opposition to new development that is seen as threatening open space and quality of life.

Second, no municipal entity currently has the combination of authority, resources, skills, and equipment necessary to effectively acquire, oversee, and manage conservation land. The Dept. of Parks & Recreation has approximately 190 acres of conservation lands ("District Parks") as part of its land holdings. However, the Department is primarily in the business of owning and operating active public recreational facilities, and does not have the financial resources or staff necessary to accommodate additional lands. The Burlington Conservation Board has the authority to acquire, oversee, and manage undeveloped public land for conservation purposes. However, they too do not have the financial resources, the staffing, or the equipment necessary to carry out this function.

Finally, Burlington has not dedicated local funding to leverage state and federal resources for future land protection and stewardship efforts. This makes it very difficult to act in a timely manner when opportunities arise. The City must rely on third parties to act on its behalf. Additionally, many state and federal funding sources for land conservation require matching funds from local sources. While these obstacles have been overcome in the past, it makes the conservation projects more complex, more risky, and more costly in the end.

The City has identified these issues as major gaps in the current process and framework of city land conservation efforts. This plan addresses these issues, and attempts to fill these gaps in order to ensure that open spaces and natural areas important to the City of Burlington are protected as a legacy to future generations.

Future Pressure on Open Space

Future growth and development in Burlington is not only inevitable, but highly desirable. As a regional growth center and largest city in the state, development should and will continue to reshape and revitalize the city. From a regional perspective, concentrating future development into existing population and economic centers is a strategy that helps preserve working farms and forestland, makes for a more efficient use of public infrastructure, and protects the environment and landscape from the effects of suburbanization.

Between the summer of 1999 and the spring of 2000, Burlington's citizens engaged in a community visioning process called "*The Burlington Legacy Project*." Led by a diverse group of people from all segments of the community, the project spent nearly a year tapping the wisdom of hundreds of Burlington residents who shared insights drawn from a rich vein of everyday experience. The end-result was a vision of the future of the city which very much ratified the regional vision of an urban growth center.

The *Legacy Project* provides a roadmap for change that will guide Burlington's future as the vital economic, social, and cultural hub of the region. It envisions growth into a "real city" with both a significantly higher population (as high as 65-80,000 people within 30 years) and an outstanding quality of life, including a thriving business sector; full, high-wage employment; a vibrant downtown and waterfront; excellent housing opportunities; strong social supports; and an environment that is managed and protected with great care.

The *Legacy Project* recognizes that if the city is to grow significantly, then protection of important open space and natural areas must be among the highest priorities in order to preserve the city's quality of life.

4

Chapter 4
FRAMEWORK FOR OPEN
SPACE PROTECTION
A Geographic Model



4.1 Framework for Protection Goals and Objectives

*As Burlington continues to develop, remaining natural areas become more vulnerable to encroachment and their ecology more endangered. Presently the city has approximately 650 acres of natural area either publicly owned or permanently protected by easements. **The City will work to retain a four-to-one ratio of developed land-to-protected natural areas in an effort to ensure that natural areas are protected as other land is developed.** To offset new development, additional natural areas should be permanently protected by the City, State of Vermont, Winooski Valley*

*Park District, the Nature Conservancy, and other conservation groups. **For each four acres of new development, one acre should be set aside by the developer as a natural area.***

To encourage additional protection, the City should develop a land conservation purchase program based on the value and vulnerability of natural areas of local and state significance. Areas protected through this program should remain primarily undisturbed; they should not be considered recreation parks, although pathways or trails might be appropriate in designated areas.

--1996 Burlington Municipal Development Plan, Natural Environment Section

The following goals and objectives outline the basis for the *Burlington Open Space Protection Plan* as adapted by the Burlington Conservation Board from the 1996 *Burlington Municipal Development Plan*.

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 features from damage and degradation.
 - Preserve scenic view points and viewsheds.
 - Increase the number and quality of small urban open spaces, especially in underserved neighborhoods of the city.
3. Guide development into city growth centers including the city center, institutional core areas, and neighborhood activity centers.
4. 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.

An Introduction to the Plan

Areas of open space are an essential element of every successful community. As noted in the previous chapter, open and green spaces offer a host of environmental, social, and financial benefits. Protection of open space has long been an interest and objective of the City for many years. Pressure to develop existing open space and sensitive areas will continue to mount as the city becomes increasingly built-out and development seeks out increasingly sensitive and marginal sites.

While the City welcomes new development, it must be guided into areas that are best suited and desirable – not just those sites that remain undeveloped. For this to be effective, the City approaches this challenge from two fronts – identifying areas where new and more intensive development is welcome and encouraged (neighborhood activity centers, core-campus areas and the downtown for example), and identifying those areas that should be protected over the long term – the purpose of this plan.

Open space protection in Burlington embraces the reality that not all lands can or even should be protected from development. As a regional growth center, Burlington must find a balance between conservation and continued development that addresses the needs of the City's diverse population – present and future.

Burlington must strike a balance between protecting available open space and serving as a regional growth center.

Burlington's plans for the future strongly encourage continued growth within the city – concentrated largely within city-defined growth centers such as the center city, neighborhood activity centers and institutional core areas.

By encouraging and accommodating more development, and at higher densities than in surrounding communities, Burlington will also play a very important role in protecting open space and working lands throughout the region.

The important thing is to make smart choices based on understanding the resources important to the community's future, and how they work together as part of a more complex system.

The idea is not to protect everything, but to protect what is most important.

Burlington's *Open Space Protection Plan* consists of three main components:

- 1) A framework that will be used to define the city's land conservation priorities – described as the *Geography of Open Space* (Section 4.2);
- 2) A working inventory of existing open spaces and their important attributes (Sec. 4.3); and,
- 3) A plan of action that recommends the creation of a comprehensive land conservation program for the City through three complimentary approaches: **Conservation Education, Proactive Conservation, and Planning and Improved Development Review** (Sec. 4.4).

No single component can stand alone as an effective long-term strategy, but together, they create a comprehensive approach for 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. Each is further described later in this chapter.

4.2 Geography of Open Space

A Dynamic Vision for the Future

"We must conceive of stewardship not simply as one individual's practice, but rather as the mutual and intimate relationship, extending across the generations, between a human community and its place on the earth."

--John Elder

"Among the obvious features is our relationship with the water. Of the 32 miles that make up our political boundary, 25 miles are defined by the Winooski River and Lake Champlain. No point in the city lies more than 1 and 3/4 miles from either of these two water bodies. In addition to this proximity, when we consider the streams which flow through the city, it's easy to see that much of what we do in our daily activities has the potential for adversely impacting the water which is vital for our own drinking, healthy aquatic life, and high quality recreational experiences."

--1996 Burlington Municipal Development Plan

The *Geography of Open Space* provides an over-arching vision for the future of Burlington's landscape. This is a vision of a city where natural areas, parklands, and greenbelts are physically integrated into the urban fabric to complement development with conservation - where natural and recreational systems play an essential role in enhancing environmental quality, economic prosperity, and quality of life.

The *Geography of Open Space* identifies significant natural areas and open spaces found throughout the city regardless of their current ownership or level of protection. It is intended to provide a vision within a city-wide context for open space rather than identify individual properties or sites.

These areas were identified through the use of a process which overlays and analyzes many of functional, cultural, and environmental characteristics of the city. These characteristics include zoning, neighborhoods, parklands, built form and infrastructure, topography and hydrology, forestlands and floodplains. Discernible geographic patterns emerged from the analysis. Specific objectives for each area are offered to guide future decision making.

Burlington's "vision" embraces two forms of open space that define the city's character of an urban place within a distinctively natural landscape - **Natural Systems** and **Urban Greenspaces**. As noted previously, significant natural systems are the primary focus of this Plan. However, this plan does offer a general framework for evaluating the importance of urban open space, and recommends it be amended after further evaluation and study.

1. Natural Systems

"Natural systems" include a unique collection of features and resources that hold regional significance as natural systems and open land; serve to define the character of Burlington; and, are at the foundation of the natural systems that support the city. A common theme underlying each of these sites/resources is their relationship to important water features and true natural significance.

These are the features and systems that act as the heart, lungs and circulatory system of the City - protecting air and water quality as well as providing viable habitat and travel corridors for wildlife. Although these areas should be protected and managed primarily as natural areas, many other public benefits can be realized through their protection and sensible management. These include low-impact recreational use where appropriate; interpretation of natural and cultural features; and, scientific research and education.

These areas should be considered priority areas for long-term protection via public acquisition, and be of heightened interest in any regulatory review process. Because they are so important to the health of the City, and so sensitive, this Plan recommends special attention be paid to any open space within or contiguous to these areas. Each are described below, and are identified on the *Geography of Open Space* Map found later in this chapter.

A. Lake Champlain Shoreline

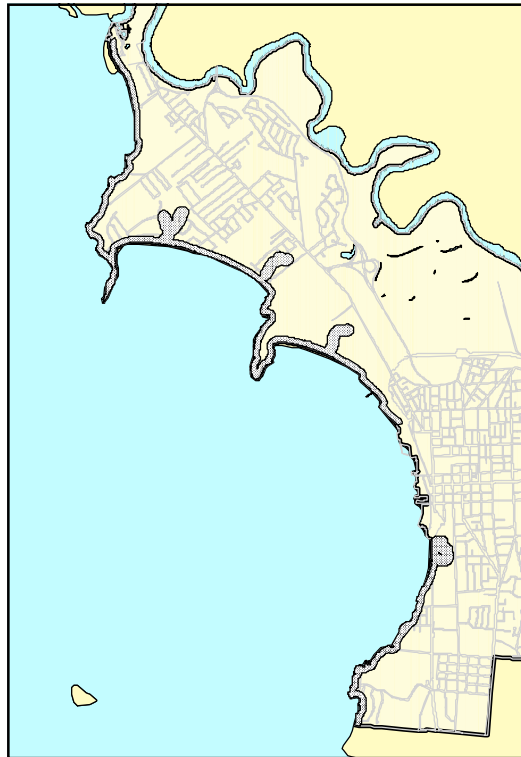
The dominating element of Burlington's landscape, natural environment, historical development, and sense of place is Lake Champlain. Although the shoreline of the lake defines the 12+-mile western boundary of the city, the area of most significant natural interest is the lakeshore north of the Moran Plant and south of Roundhouse Point. These portions of the lakeshore contain important wetland complexes such as the Barge Canal, North Beach and

Northshore Wetlands, and the Mouth of the River. They also contain prominent and sensitive lakeshore features such as Appletree Point, Lone Rock Point, and Oakledge. Much of the shoreline appears to be important as habitat for mink, which have been documented from the Northshore Wetland to the Burlington Boathouse, and from Blanchard Beach to South Cove Beach. Many other species of wildlife from migratory waterfowl to amphibians rely on the lakeshore for habitat.

Several areas of publicly protected land can be found along the lakeshore, but many more undeveloped or lightly developed areas remain. Development pressure will continue to mount, as these areas become increasingly attractive sites for residential and commercial uses.

The Lake Champlain shoreline is an area of high priority for long-term protection with the primary objectives including:

- Protection of the shoreline from further encroachment by development, and buffering the lake and wetlands from sources of non-point pollution;
- Preserving natural features and communities, cultural sites, and remnant woodlands.
- Preserving shoreline natural, cultural, and geological sites for education and research.
- Providing public access where feasible and appropriate;
- Preserving prominent views – both from the land of the lake and the Adirondak Mountains beyond, and from the lake of the bluffs, forests, city and mountains;
- Develop and maintain corridors for people and wildlife to move freely between areas of publicly protected lakeshore.



Lake Champlain Shoreline

B. Winooski River Corridor/Intervale

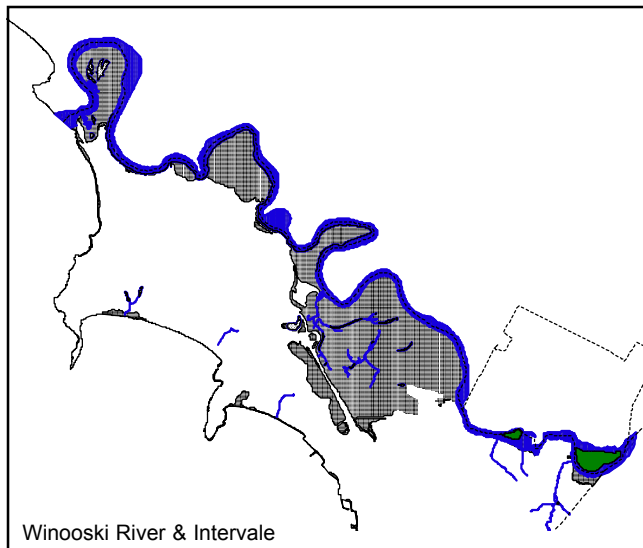
The Winooski River defines Burlington's 11+-mile northern boundary, and is part of a much larger riparian system, cultural landscape, recreational corridor, and agricultural zone that reaches to the eastern edges of Chittenden County. For Burlington (as well as neighboring Colchester), this corridor includes the large agricultural area referred to as the "Intervale;" extensive wetlands including Intervale East, Intervale West, Derway Island and Osprey; wildlife habitat, and important natural communities. This regionally significant river corridor contains the largest contiguous undeveloped open space in Burlington, and serves as an important wildlife travel corridor between Burlington, Colchester, Winooski, and South Burlington in all seasons. Finally, the river banks and upland areas are rich

"What had once been an abandoned, unkempt waterfront with rusted out oil tanks and overgrown railroad tracks is now filled with people playing frisbee, picnicking and riding their bikes. Others are waiting for a boatride aboard the Ethan Allen or purchasing tickets to take the Sugarbush Express trainride to Charlotte. Burlington has turned around to face the lake and its residents see it now as a vibrant place of recreation." ⁴

Of the 32 miles which make up Burlington's political boundary, 25 are defined by water. No point in the City lies more than 1 3/4 miles from either the Winooski River or Lake Champlain.

"No matter what is beyond, an expanse of water can never fail to have a refreshing counter interest to the inner parts of a city..."

--Frederick Law Olmstead, letter published in *The Century Magazine*, October 1886



with cultural resources dating back to the region's first native inhabitants.

While much of the river bottom has "de facto protection" due to its unfavorable site and building conditions, regulation does not always ensure careful management of natural assets or public access for recreation. Therefore some form of public ownership may be necessary for certain sites.



Winooski River

The riverbank is also a dynamic environment where change is the norm. Particular attention needs to be paid to the "mouth of the river" and the steep sections of riverbank along the northern side of Riverside Ave. and Grove St. This is an increasingly unstable riverbank as the river continues to cut into the bank, and is fast becoming unsuitable for any type of development.

The Winooski River Corridor/Intervale is an area of high priority for long-term protection with the primary objectives including:

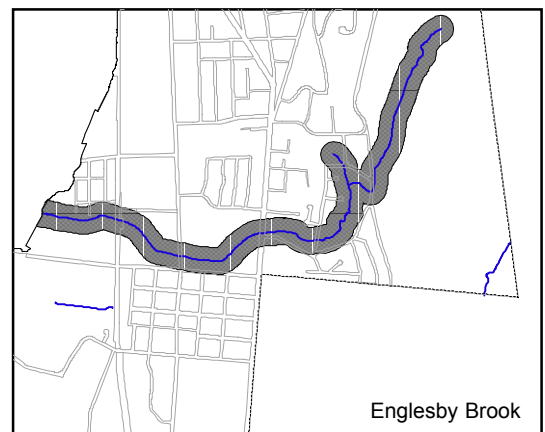
- Protection from further encroachment by development, and buffering the river and wetlands from sources of non-point pollution;

- Preserving natural features and communities, cultural sites, and remnant woodlands;
- Preserving high quality agricultural areas for the production of food and fiber;
- Protecting private property from natural hazards such as flooding and landslide;
- Preserving riparian, cultural, and agricultural sites for education and research.
- Providing public access where feasible and appropriate;
- Preserving prominent views across and within the river basin;
- Developing connections, for both people and wildlife, between areas of publicly protected river shore.

C. Englesby Brook

Englesby Brook passes directly through the southern end of city on its way to the lake. Traversing residential neighborhoods and commercial/industrial areas, Englesby serves as an important part of the urban hydrological network, and offers many natural and aesthetic qualities as well.

The brook however, is a primary source of non-point pollution entering the lake, and is largely responsible for the closure of Blanchard Beach. This system has tremendous potential as an urban greenway, and travel corridor for wildlife. Several efforts are underway to clean-up and restore this riparian corridor.



Englesby Brook is an area of high priority for long-term protection with the primary objectives including:

- Protection of the ravine itself from further encroachment by development and buffering the stream from sources of non-point pollution;
- Improving the water quality of the brook as it enters Lake Champlain;
- Preserving natural features and communities, cultural sites, and remnant woodland;
- Protecting private property from natural hazards such as flooding and landslide;
- Providing public access where feasible and appropriate;
- Developing connections, for both people and wildlife, between areas of publicly protected stream bank.

D. Centennial Woods

Centennial Woods is an 87-acre forest community found on the city's eastern boundary and shared with the City of South Burlington. The Vermont Natural Heritage Program describes the area to include: White Pine-Northern Hardwood Forest, Mesic Transition Hardwood Forest, Hemlock Forest, Shallow Emergent Marsh, Cattail Marsh, Woodland Seep/Spring Run, and Scrub-Shrub Wetland.

This deltaic-remnant of the Champlain Sea hosts numerous small streams and wetlands in its matrix of mature upland forest communities. It stands out as one of the few

remaining examples of predominantly upland wildlife habitat within the city and boasts recent sightings of moose, fisher, and red fox. The area is also heavily used for education and research by the University, and for passive recreation by the entire community.

While the University of Vermont has taken steps to permanently protect 67 acres of this area, more remains. The area is also greatly influenced by development on the fringes which impacts water quality and threatens to limit access to and through the site for wildlife.

Centennial Woods is an area of high priority for long-term protection with the primary objectives including:

- Protection from further encroachment by development and buffering the brook and wetlands from sources of non-point pollution;
- Preserving natural features and communities, cultural sites, and remnant woodland;
- Preserving a large and diverse forest community for education and research;
- Providing public access where feasible and appropriate;
- Developing connections, for both people and wildlife, between areas of publicly protected sites.

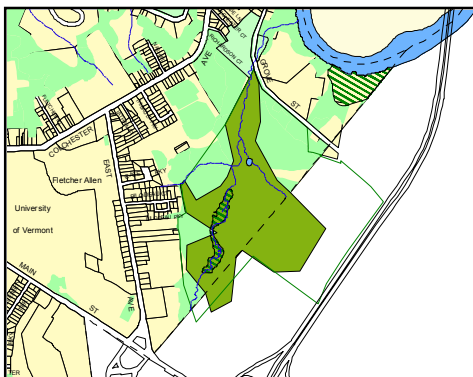
E. Natural Heritage Communities/Surface Water

While the previous four geographic areas encompass the majority of sensitive sites found throughout the city, several small areas remain and must be included for protection. These areas are best defined by type, and include: Vermont Non-Game and Natural Heritage Program sites; wetlands and adjoining riparian systems; and all surface water found on 1:24,000 USGS maps. Examples include the Mount Calvary Red Maple Swamp, UVM's Redstone Quarry Natural Area, Flynn Estate, Ethan Allen Park, the Arms Grant, and numerous small streams and wetlands.

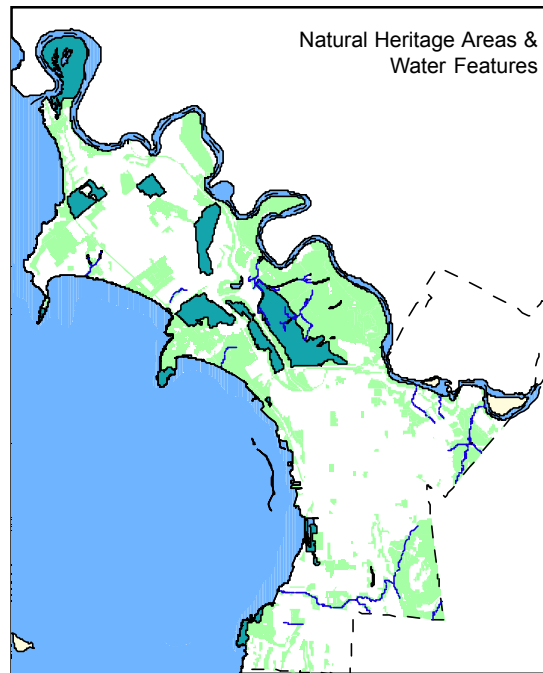


"A small space, it should not be forgotten, may serve to present a choice refreshment to a city, provided the circumstances are favorable for an extended outlook upon natural elements of scenery."

--Frederick Law Olmstead, letter published in *The Century Magazine*, October 1886



Centennial Brook Area



While often small and remote, these features are important natural assets and are integral components to the city's natural infrastructure. They feed the larger natural systems and offer areas of respite and refuge for people and wildlife within the urban fabric of the city.

These are areas of high priority for long-term protection with the primary objectives including:

- Protection from further encroachment by development, and protecting surface waters and wetlands from sources of non-point pollution;
- Protect and enhance water quality near public beaches and other water-based recreation areas from sources of non-point pollution;
- Preserving natural features and communities, geologic features and cultural sites for education and research.
- Providing public access where feasible and appropriate;
- Developing connections and corridors for wildlife between areas of publicly protected sites.

2. Urban Greenspaces

The second category of open space that is especially important to Burlington are those that are considered "urban open space." These types of sites were identified by the community as being a very important factor in supporting neighborhood quality of life and the overall livability of the City.

The City's interest in these areas is for softening densely developed neighborhoods, creating an aesthetic within the city, and providing small areas of refuge from the urban hardscape.

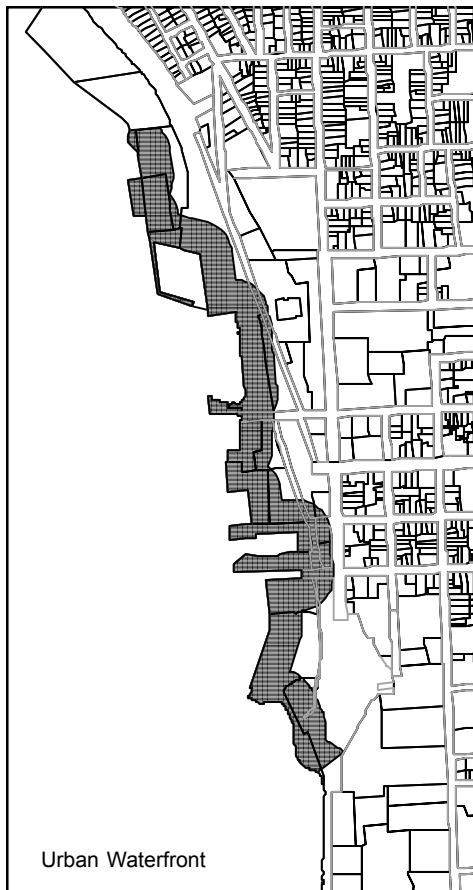
A. Neighborhood Greenspaces

Neighborhood greenspaces contribute substantially to the livability and sense of community in the more densely populated areas of the city, particularly the Old North End and the South End. Public parks, cemeteries, community gardens, pocket parks, and even expansive front and back yards create a "green" fabric that define and enhance neighborhoods. They offer places for recreation, community gatherings, interaction with neighbors, and quiet reflection.

Protection of neighborhood greenspace provides an opportunity to secure, and possibly expand, open space in portions of the city currently under-served. Future efforts may concentrate on securing community gardenspace, expansion of cemeteries, creation of pocket parks, protecting prominent yard areas, and managing pockets of urban forest.



Starr Farm Community Gardens



Urban Waterfront

B. Urban Waterfront

The Urban Waterfront, between the Moran Plant and Roundhouse Point, is an area of very intense public and private activity and interest. This portion of the waterfront is widely celebrated for its public space, history, special events, and water-based activities. It is a place where careful and tasteful mixed-use development is encouraged in order to support the creation of a "year-round waterfront."

The water-side portion of the Urban Waterfront is within the Burlington Breakwater, and the subject of the most intensive use as the site of ferry service, excursion boats, transient and seasonal boating facilities. Future plans intend to further organize and enhance water-based activities in this portion of the Burlington Harbor.



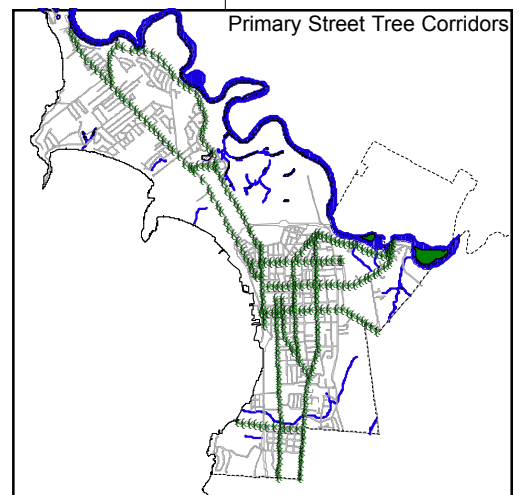
Urban Waterfront

In New York City, the long-neglected Bryant Park, located behind the New York Public Library, recently underwent a five-year, \$9 million renovation. Today, Bryant Park offers lawns, flower gardens, news and coffee kiosks, pagodas, a thriving restaurant, and hundreds of movable chairs under a canopy of trees. On some days, more than 4,000 office workers and tourists visit the park, and more than 10,000 people gather for special events.¹

However, providing adequate greenspace and unrestricted access to the lakeshore is a matter of passionate public interest and concern. Future efforts must take into account views of the lake and Adirondak Mountains, access to the water for car-top boats such as canoes and kayaks, water quality, and access to the shoreline by pedestrians as important open space objectives for this area.

C. Treebelts

Burlington is a city of trees; streets and backyards abound with a canopy of green. This resource is threatened, however, by increased environmental stresses such as air pollution and urban runoff, insects and disease, climactic events such as the 1998 Ice Storm and the drought of 1999, as well as by continued development. Urban forestry initiatives, linked with open space protection, can place a higher priority on the cultivation and enhancement of treebelts. This serves to establish connectivity and continuity of green throughout Burlington, defining the



Primary Street Tree Corridors

Urban Trees in Atlanta

- Proportion of tree cover in the total land area of Atlanta, Georgia: 27%
- Estimated annual value of this tree cover to improving Atlanta's air quality: \$15 million
- Additional annual economic benefits to air quality that would be realized if Atlanta's tree cover were increased to 40 percent, the proportion recommended by the forestry organization American Forests: \$7 million
- The amount Atlanta's current tree cover has saved by preventing the need for stormwater retention facilities: \$883 million
- Additional economic benefits in stormwater retention that would be realized if Atlanta's tree cover were increased to 40 percent: \$358 million
- Decline in natural tree cover in the Atlanta metropolitan area since 1972: 60 percent³

city's sense of place while providing numerous environmental benefits.

Treebelts are especially important when one considers the density of the neighborhood in which it is located, and the role they play in the overall urban design of the city. The most important of which are identified as a "Primary Street Tree Corridors," as delineated in the 2000 *Burlington Street Tree Planting Plan* and include Gateways, North Ave, Battery St, Shelburne Rd, North and South Willard Sts, St. Paul St, North and South Winooski Aves, Riverside Ave, Colchester Ave, Pearl St, Main St, and the Northern and Southern Connectors.

D. Recreational Linkages and Trails

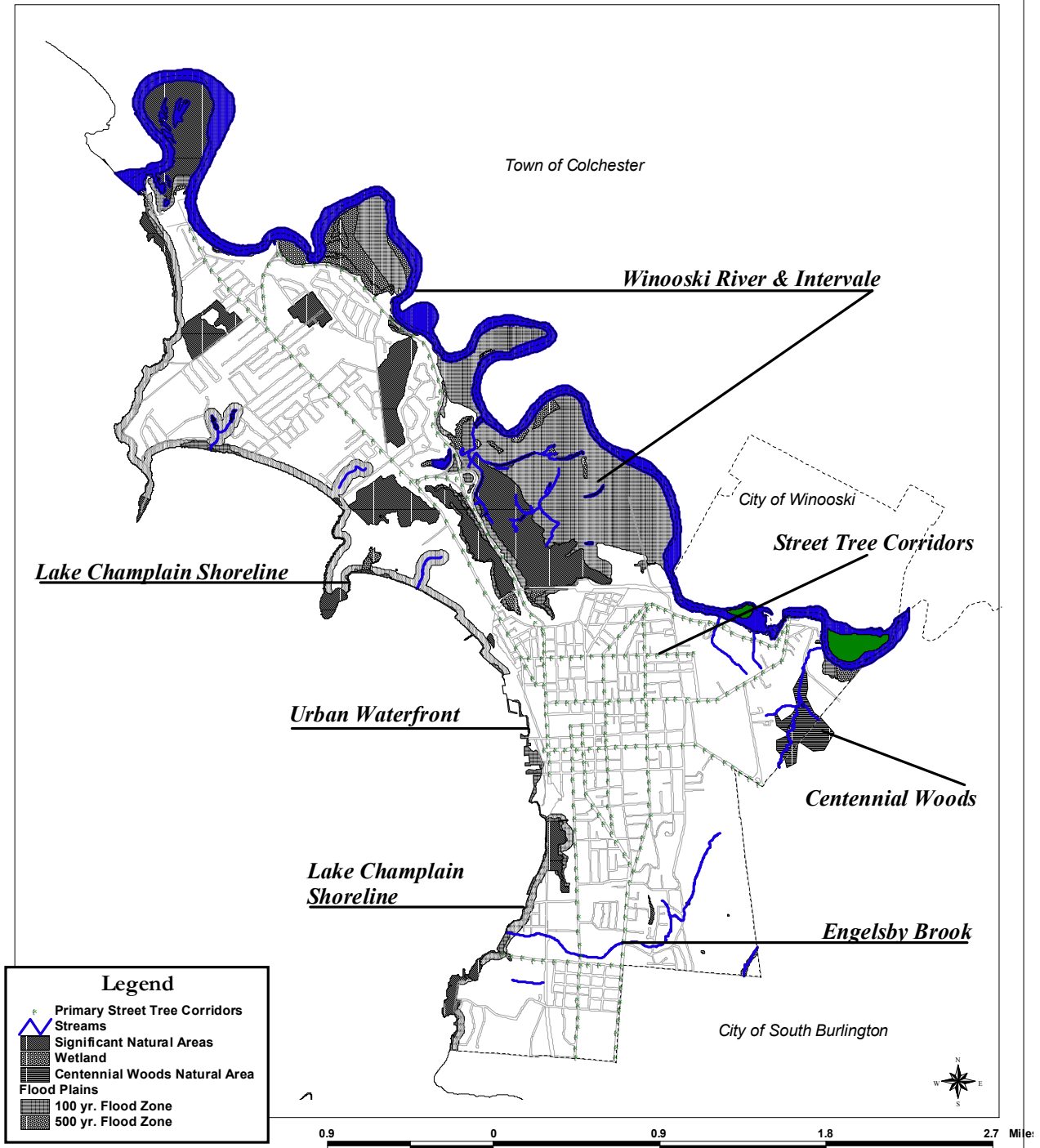
Just as connections between natural areas are important to the integrity of natural systems and enable travel corridors for wildlife, so is connectivity between neighborhoods, community facilities, and recreational areas. These include access to schools, parks and natural areas, trails linking neighborhoods to each other, and trail systems such as the bike path.

Trails and paths provide an important transportation function to those without automobiles, and are an enjoyable and clean alternative to motorized travel. While some information is available for certain trails, much more work needs to be done to identify these trails, and understand how they are used. Future efforts may also include acquisition of trail easements to preserve public access to the routes.



River Walk Trail along the Winooski River

2000 Burlington Open Space Protection Plan



The Geography of Open Space

4.3 The Land Inventory

A Tool for Open Space Protection

This section of the Plan complements the “*Geography of Open Space*” by offering an inventory of open space currently found within the city. While Section 4.2 prioritizes general areas of the city for future protection, this section provides important background information that will be necessary for evaluating specific sites.

How the Inventory Was Developed

This inventory is the most up-to-date list of some of the larger or more important open spaces in the City of Burlington. It was developed from an exhaustive review of previous maps and studies, some done by the City of Burlington, some by area students, and others by other researchers. Burlington residents added to the inventory through a series of public meetings. This inventory represents the most comprehensive approach to-date for cataloging and characterizing city open spaces and their attributes of interest to the public.

The Inventory has two components: a map (**Burlington Open Space 1999**), and a table (**1999 Land Inventory**) further describing each of these sites.

A 1988 inventory of open space and undeveloped sites in Burlington served as the base map. Based on aerial photography, this inventory identified spaces of significant size (generally over 1 acre) known at the time. To these were added sites that have been identified since 1988. Open space that has been converted to other uses during that time were deleted from the map.

Each site was evaluated based on existing research by the consultant team, to develop a list of attributes that would help define the resources present and areas of likely public benefit/interest.

Each site attribute, such as size, location, zoning, and ownership are identified on the inventory. The second component identifies qualities and attributes associated with each site. These characteristics are grouped into the following categories: natural values, working values, recreational and educational values, historical and cultural values, and other urban open space values or uses. Within each of these six broad categories, several specific features were identified that each open space might possess.

How to Use the Inventory

The Burlington Open Space Protection Plan’s Land Inventory is a living document that will require regular monitoring and updating as the city changes. The *Inventory* itself makes no attempt to rank or prioritize sites for protection. The *Inventory*, along with the *Geography of Open Space*, will be used by the City as informational tools to guide the prioritization and protection of sites, as explained in this Plan.

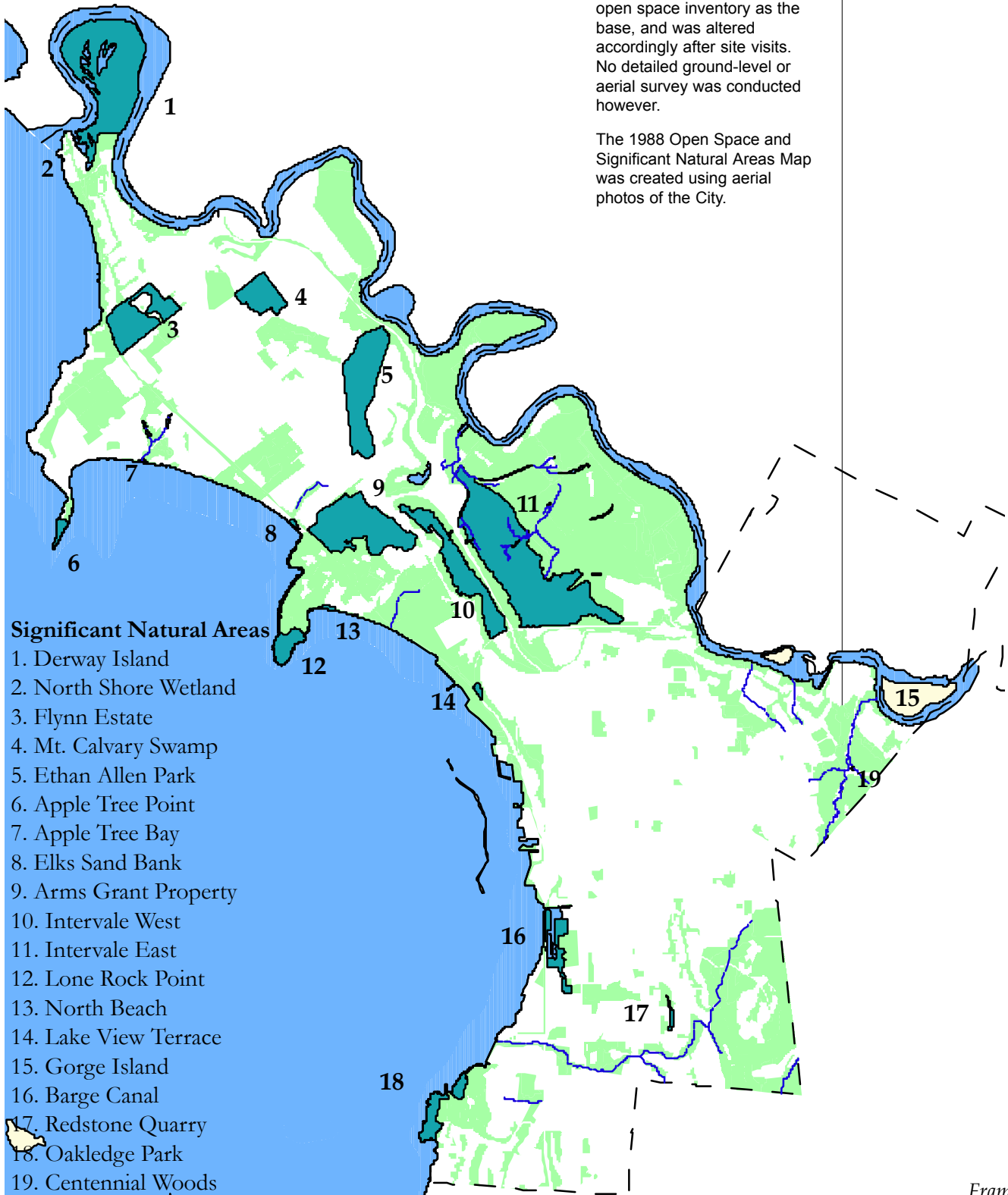
The following pages contain a sample of the kind of information contained in the Land Inventory. The entire inventory as of the completion of this plan can be found as an attachment. Revisions and updates are anticipated.

The Land Inventory is designed, not as an exhaustive list of all of Burlington’s open spaces, but as a framework for future identification, protection, and management of open space parcels.

1999 Open Space Inventory

The 1999 Open Space Map was developed using a 1988 open space inventory as the base, and was altered accordingly after site visits. No detailed ground-level or aerial survey was conducted however.

The 1988 Open Space and Significant Natural Areas Map was created using aerial photos of the City.



Inventory Data

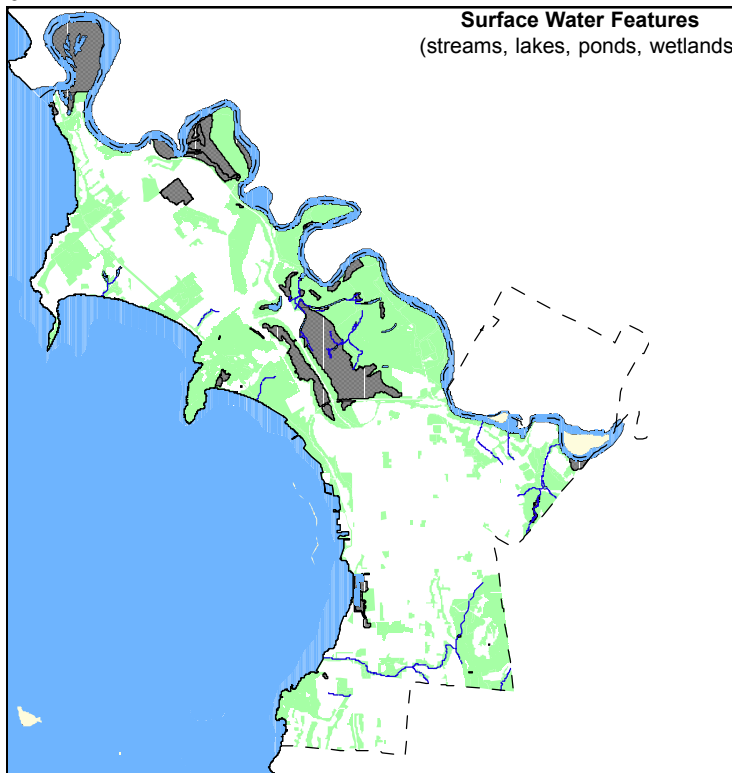
The following series of maps provided the foundation to the development of the Inventory and the Geography of Open Space to determine areas of particular sensitivity and value.

What You Can Do To Protect Wetlands

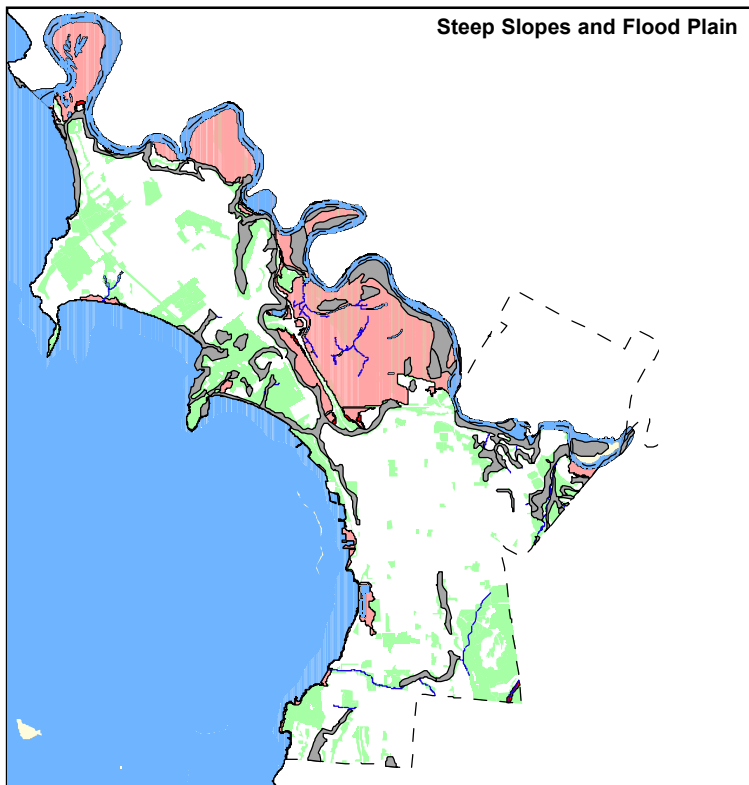
- Get to know the wetlands on your property and in your town, and share their uniqueness than others
- Help draft local wetlands protection guidelines in town plans and zoning regulations
- Join or support town conservation commissions, and encourage them to make site visits on projects that involve wetlands
- Conduct an inventory of the wetlands in your town
- Support wetlands education efforts, including efforts for landowners who own wetlands
- Start or join a watershed association to protect and restore your watershed
- Find alternatives to using pesticides and fertilizers in yards and gardens
- Support the Lake Champlain Basin Program, the Vermont Natural Resources Council, and other organizations that spearhead programs to protect and restore wetlands²

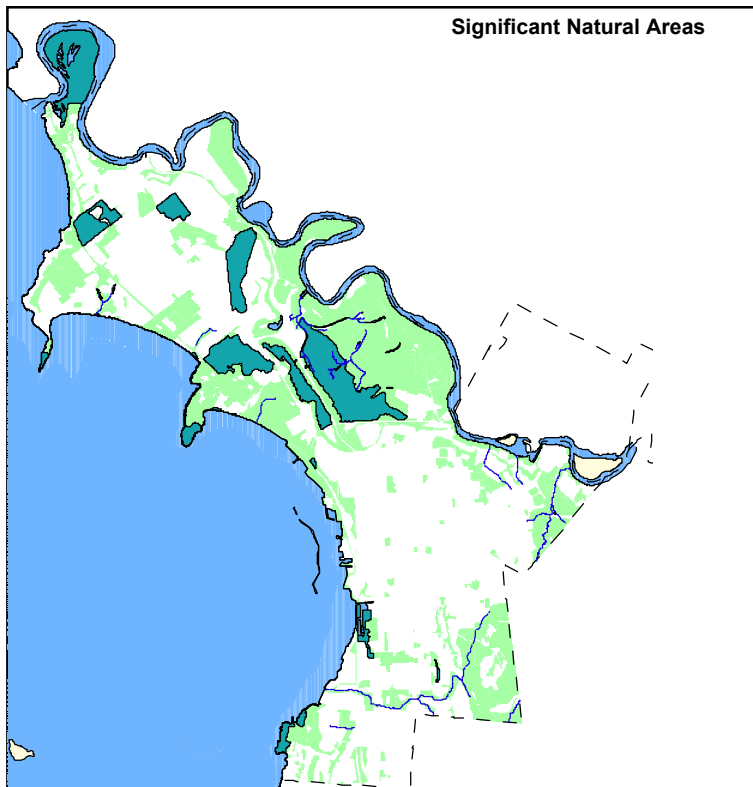
Some of these actions require hard work, difficult choices, and personal dedication. But when we begin to decrease the impacts each person makes on the environment, we start building a healthier and more sustainable future for ourselves, our children, and all species that share the planet.²

Surface Water Features
(streams, lakes, ponds, wetlands)

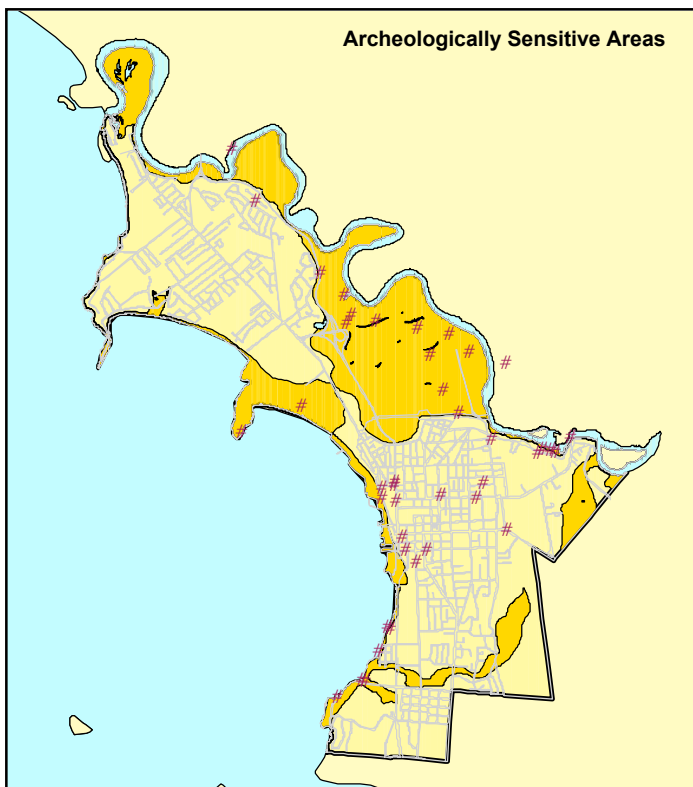


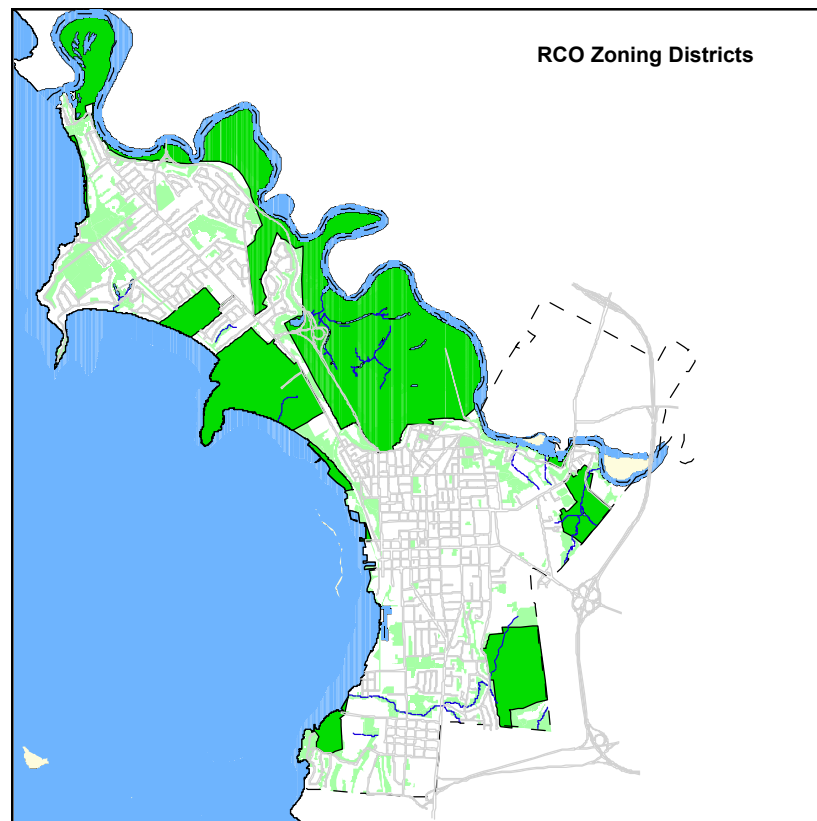
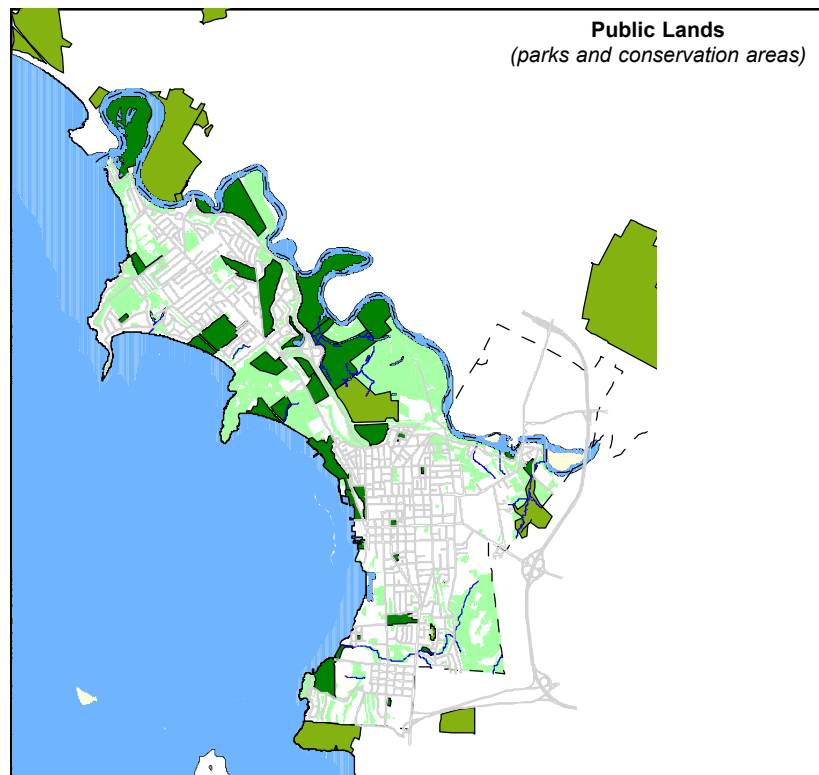
Steep Slopes and Flood Plain





"The habitats of both common and rare species are compromised by humans, but rare species are especially at risk. Human activities and other causes have placed 187 species on the state's endangered and threatened list, including 34 animals and 153 plants. The common loon, softshell turtle, sedge wren, and wild lupine are all on the list. Eight more species currently are being considered for the endangered or threatened list, and another 586 animals and plants are considered rare or uncommon in Vermont."²





4.4 A Plan of Action

Recommendations for Open Space Protection

The *Burlington Open Space Protection Plan* presents a far-reaching strategy that will enable the City to pursue and implement its long-held goals for open space protection. This **Plan of Action** introduces and describes a comprehensive land conservation program for the City of Burlington that is to be implemented through three complimentary approaches:

- 1) **Conservation Education** to improve the public's familiarity and appreciation of Burlington's natural areas, to communicate the importance of open space protection, and to encourage public participation in the protection process;
- 2) **Proactive Conservation** that identifies sites of the highest priority for protection, and offers the mechanisms and resources to set these lands aside as a legacy to future generations. The cornerstones to this approach include the creation of a *Burlington Conservation Fund* by the City, and the establishment of a *Conservation Legacy Program* which will guide the acquisition of conservation land; and,
- 3) **Future Planning and Improved Development Review** to continue the planning process for open space protection in the city, and act as a safety net for specific resources and features from the adverse impacts that may be associated with nearby development.

No single component can stand alone as an effective long-term strategy, but together, they create a comprehensive approach for open space protection. This framework is designed to evolve with the needs and priorities of the City of Burlington as they change over time. Each is further described below.

1) **Educate people about the importance of the natural resources found throughout the community, and how they benefit our quality of life.**

Opportunities must be provided for city residents to become better aware and informed about the beautiful places and important resources found in Burlington, and how these add to quality of life, environment, and the economy. With this knowledge and insight, residents will better appreciate the diversity of the city's landscape and understand the importance of long-term protection.

Public education is primarily the responsibility of the Burlington Conservation Board. However, every effort must be made to work in partnership with the many state and local agencies, and non-governmental organizations that share an interest in land conservation and stewardship. Examples include the Winooski Valley Park District, the VT Land Trust, the Lake Champlain Land Trust, VNRC, The Trust For Public Land, and many others.

Partnerships help to spread the workload, cost, and message to a broader constituent base. The Conservation Board may also be able to draw upon citizens with specific interests, talents and skills willing to volunteer their time to broaden the Board's capability and capacity in this regard.

Opportunities for public outreach and education include:

- **Educational programs in schools:** Many of Burlington's teachers are interested in teaching about the natural environment and conservation. By offering a source of local knowledge and information, school children can learn about nature in their own backyards, and bring this knowledge back home to their families. Examples include VINS' ELF Program and the Orton Institute's place-based educational programs.

- **Interpretive walks and tours:** People love to learn first-hand. By creating opportunities to experience some of the city's natural places, people can begin to appreciate how valuable these places are to the community. Burlington is rich with knowledgeable guides who may be willing to offer an evening or weekend morning to share their love of nature. Nature walks can be combined with local history and archeology to further broaden the discussion and interest.

- **Publications and Media:** Newsletters, interpretive guides, posters, calendars, etc. can all be used to celebrate natural areas, educate the public, advertise events, and promote conservation. Experience and research indicates that a broader use of media is an effective means of reaching and educating the public. Publications can be posted on the internet to widen their circulation, or offered for sale to help offset the cost of outreach programs. Other forms of outreach should include public service announcements, cable and commercial TV, and radio programming.

- **Public Events:** Planning and sponsoring special events are another way of getting the word out and generating support for open space protection. Examples include: guest speakers, benefit concerts, photo contest, clean up days, etc. Many opportunities exist to collaborate with other groups on special days including Arbor Day, Earth Day, Green-Up Day, etc.

- **Adopt-a-Site Program:** Local businesses and service organizations may be willing to volunteer time and/or raise/donate money to oversee, clean-up or otherwise help protect specific sites around the city.

2) Provide a **legacy of lands** set aside for conservation and passive recreation to benefit future generations.

Land acquisition is a central element of the *Open Space Protection Plan*. Ultimately, the purchase of land by a public or non-profit organization is the only option that assures long-term protection for significant natural areas and open space. For an acquisition program to be successful however, predictable and timely action is required. Burlington must have a process that identifies sites of the highest priority for protection, and provide the mechanisms and resources necessary to set these lands aside as a legacy to future generations.

The cornerstone of this strategy is the establishment of a **Burlington Conservation Fund** which is sustained in-part with a predictable, local funding source dedicated toward the cost of purchasing land and related costs of acquisition and management; and, a pro-active **Conservation Legacy Program** which prioritizes lands that are most important and most suitable for long-term protection, and assures proper planning and long-term stewardship of property acquired by the City.

Why choose to acquire land?

Burlington, like many other communities across the nation, is increasingly viewing natural and recreational lands not as "vacant," but as community assets that support residential quality of life, drinking water quality, food security, tourism and other business development, and a sense of place and history defined by a unique landscape. With this realization comes the responsibility for nurturing and protecting those assets over the long term.

While regulation can limit the number, nature, or extent of land use, our system of laws vests in property owners the right to use their real estate as they see fit, within certain regulatory limitations. Regulation

does not guarantee a particular land use on a property, but only sets parameters within which such a use can occur. Regulatory limitations can also change over time in response to land use and political trends, or new information. Land that may have been permissible to build on in 1970 may no longer be considered appropriate today (i.e. wetlands).

Conversely, technological improvements continue to make it possible for to build in places where cost and practicality would otherwise have rendered them "unbuildable." Arguably then, the only way to assure permanent protection of certain special lands and the natural resources on them - or to put land to a specific use such as public recreation - is to own the land, or rights in it.

Acquiring land for scenic, natural, and recreational purposes is one of the surest ways for any community to secure its most important land assets from incompatible development in an uncertain future. In 1998 more than 120 open space funding measures were adopted across the country. In 1999, an additional 55 local and county measures were approved.

An ongoing, well-funded, and predictable program of land protection is the best way for a community to invest in strategic land acquisition, and take advantage of matching funds that may be available from state, federal, private and non-profit sources.

Potential donations of land, as well as potential purchases, should be screened through the same process, to ensure that the City only acquires the most appropriate resources in a way that does not create an unreasonable burden on city resources.

The remainder of this Chapter outlines recommendations for the creation of a *Burlington Conservation Fund* and a *Conservation Legacy Program* for future land acquisition and stewardship.

The Burlington Conservation Fund

Funding is a crucial aspect of any land conservation program, and Burlington is no exception. Without the resources necessary to see this Plan through to fruition, the vision and objectives articulated will remain only on these pages.

Many communities throughout the state and nation have established local conservation funds to be used for the permanent protection of open land. National examples include 16 of 21 counties in New Jersey, Portland, Oregon, and Boulder, Colorado. Local examples include: Jericho, Williston, Shelburne, Hinesburg, Berlin, and Stowe.

The 1996 *Burlington Municipal Development Plan* recommended that the City "implement a land conservation program and fund to purchase natural areas and easements..." In February 1997, the Burlington City Council passed a resolution calling upon the Conservation Board to research a strategy that would lead to the establishment of a "Burlington Conservation Fund."

The creation of such a fund is a fundamental recommendation of the *Open Space Protection Plan*. In fact, the establishment of a Fund must precede nearly all other aspects of this Plan. A local conservation fund will allow the City of Burlington to be proactive, and therefore effective, in protecting, acquiring, and managing lands for the benefit and enjoyment of future generations.

Following is an outline of options and considerations which should guide the creation of a Land Conservation Fund by the Burlington City Council. These options address the purpose and structure, funding mechanisms and governance.

Purpose and Structure:

At the very least, a land conservation fund is dedicated to acquisition and conservation initiatives. This approach best addresses the specific needs and community objectives for land conservation. However, it may be advantageous to consider structuring the

The essential aspects of any local conservation fund for Burlington include:

- a) The creation of a **dedicated repository** for funds raised and/or allocated that is separate from the city's General Fund and whose assets can be carried over from year to year.
- b) The use of a range of funding options including the creation of a **source of local capital** to leverage other sources of funding.
- c) **Fiscal oversight** and authority vested in the City Council and Board of Finance.
- d) A **reasoned rationale and reliable process to allocate funds** for the acquisition of interests in land and its long-term stewardship.

Many cities and towns in Vermont have established land conservation funds, through various pathways:

Charlotte: Conservation fund funded by 2 cent/dollar property tax increase, passed by overwhelming 80% of voters.

Hinesburg: Raised \$5,000 at 4th of July 1995 parade and auction.

Shelburne: Preserved 29 acres along the LaPlatte River, funded by The Nature Conservancy, VHCB, Conservation Trust Fund, the Vermont Duck Stamp Fund, and the Shelburne Open Space Acquisition Fund.

South Burlington: Conservation fund funded by 1 cent/dollar property tax increase in 2000.

Stowe: \$600,000 bond issue funded by tax increase.

Waitsfield: \$20,000 budget appropriation.

fund to also benefit other important needs within the community. Options for structuring such a fund that should be considered include:

- A “land conservation fund,” similar to those found in many other communities around the state and country, that is dedicated specifically to land conservation and management.
- A “housing and land conservation fund” built upon the existing Burlington Housing Trust Fund where the funding is used to support both affordable housing and land conservation.
- A fund that links housing, historic preservation and land conservation.

Regardless of the purpose and possible linkages, the proposed conservation fund must be a dedicated repository for funds raised and/or allocated that is separate from the city’s General Fund, able to receive funding from a variety of city and non-city sources, and whose assets can be carried over from year to year.

Funding Options:

It is highly unlikely that the City could fund land conservation entirely on its own. Therefore a Burlington Conservation Fund must rely on a range of city and non-city funding sources.

Almost without exception, federal, state and foundation funding requires a tangible local commitment in order to demonstrate local support for the project. The leverage local funding provides makes city dollars go much further than they otherwise would on their own.

In addition to leveraging non-city sources, local funding provides an annually recurring and predictable investment without posing an increased burden on the other fiscal needs of the City. Local funding can also be used to insure responsible long term stewardship for land that is purchased by the city in the future.

A range of city funding options that should be considered include:

• **Capital Budget:** The City allocates funding for capital projects in the Capital Improvement Program (CIP) which includes a 1-year Capital Budget and 5-year Capital Program. The use of General Fund capital dollars would not have an additional impact on the individual property-owner or taxpayer as they are borrowed. However, funds would have to be allocated on an annual basis and would directly compete with several important capital improvement needs of the City.

• **Bonds:** The City, with voter approval, can issue bonds that would capitalize a Burlington Conservation Fund over a specified period. Several states (California, Florida and Maine) have recently used bonds to create significant statewide environmental and conservation programs. Bonding would provide a consistent source of income with little additional impact on the individual taxpayer. However, bonds are only issued for a specified time period. To maintain the revenue stream after the term expires would require the approval and issuance of another bond, or the use of alternative sources.

• **Dedicated Tax:** The City can create a tax (or expand an existing tax) whose revenue is specifically dedicated to land conservation and management. Examples include a dedicated property tax, a real estate transfer tax, a regional gas tax, or a sales tax. There are examples of other dedicated taxes in the city including the street tax and the housing tax. A recent poll of Burlington voters found that there is strong public support for a local tax that would be used to support a Burlington Conservation Fund. The VT Housing and Conservation Trust Fund is supported by a real estate transfer tax as are the land bank commissions of Martha’s Vineyard and Nantucket in Massachusetts. A major benefit of the property transfer tax is that it does not

impose an additional burden on the property tax, and it builds upon a clear relationship between land development and land conservation.

- **Impact Fees:** The City could amend the Impact Fee Ordinance to include an assessment for impacts on open space and natural areas created by new development. The use of impact fees is limited to capital needs of the city that are directly related to the impacts of growth and development. The City currently assesses impact fees for fire, library, school, streets, and parks. The use of Impact Fees would then be linked to the City's Capital Budget and Program

- **Annual Budget Allocation:** The City may allocate operating funds in the General Fund portion of the Annual City Budget towards the Burlington Conservation Fund. Many local governments in Vermont annually allocate general fund dollars for land conservation programs. The use of operating funds in the annual budget would not pose an additional impact on the individual property-owner or taxpayer. However, funds would have to be allocated on an annual basis and would directly compete with all other operating needs of the City.

Additional funding for land conservation activities can come from any number of city and non-city sources. Examples of non-city sources include:

- **Federal Funds:** The City may seek funds from federal programs which support open space initiatives including: the Land and Water Conservation Fund (LWCF), the US Forest Service's Urban & Community Forestry Programs, the EPA Sustainable Development/Community grants, the Safe Drinking Water Act, TEA-21 Enhancement Program Grants, National Park Service trail and historic preservation grants, Community Development Block

Grants, Better America Bonds (proposed), congressional appropriation, and others.

- **State Funds:** The City may seek grants from state programs which support open space initiatives including: the VT Housing & Conservation Fund, the VT Urban & Community Forestry Program, VT Recreational Trails grants, state appropriation, and others.

- **Local Fund-Raising:** The City may hold fund-raising events to raise money for open space protection and purchase. These may include a benefit concert with local bands, and auction with donated goods and services, or an outdoor fair with donations from local businesses--each with a small entrance fee or donation. Private fundraising is often most effective when in partnership with other public, private and non-profit organizations.

Governance:

Governance issues for a Burlington Conservation Fund include who has the authority to allocate and spend monies from the fund, and who is assigned the managerial oversight of the purposes for which the funding is used. It is of central importance that the conservation interests of the Conservation Board be balanced with the administrative and stewardship responsibilities of the Parks & Recreation Department in any governance structure that is used.

Because a Burlington Conservation Fund would use public monies, fiscal oversight from a public body is necessary. As with nearly all other fiscal matters of the City, the Board of Finance (comprised of the Mayor, City Treasurer and representatives from the City Council) and the City Council hold the fiduciary responsibility of the community. It is then a logical conclusion that the Board of Finance and City Council would have the final authority regarding the allocation and expenditures of revenues from any conservation fund that were to be created.

In some Cape Cod communities, development has been so furious that property taxes have doubled to pay for schools and other services. The water table is being polluted by septic tanks, and roads are clogged with traffic.

In November 1998, voters decided that one sure way to protect the Cape's open land was to buy it. Fifteen communities—every town on Cape Cod—passed a 3 percent property tax surcharge to fund the purchase of open space for a Cape Cod Land Bank, at an average annual cost of \$57 per household.³

In many cities, such as Boulder, Colorado, open space programs funded by taxes have been implemented by an amendment to a city's charter.

The Council may however choose to designate by resolution some responsibility to another body. One example is the creation of a Board of Trustees comprised of Conservation Board, Parks & Recreation Commission, and perhaps Planning Commission members. It would be their responsibility to oversee and monitor the activities of the fund, finalize a process for allocating fund revenues, and make recommendations to the Board of Finance and City Council regarding budgets and allocations.

Managerial oversight of the conservation fund could be the responsibility of the Conservation Board through their staff or the Parks and Recreation Department. The fund manager would be responsible for maintaining fund records, collecting and dispersing monies, raising non-city funds, monitoring the actual use of fund monies and annual reporting to the Board of Trustees and City Council.

Because in nearly all instances land purchased under a conservation fund would become part of the City's park system, management and stewardship responsibilities would likely fall to the Parks & Recreation Department under the direction of the Conservation Board.

Fund Allocation:

The process for how, when and for what purposes funds from the proposed Burlington Conservation Fund are used needs to be well established from the very beginning. The Burlington Conservation Fund should support a variety of activities related to natural area and open space protection in Burlington, including:

- **Land Acquisition**

- Acquisition of land, or interests in land, by the City for permanent conservation and protection.
- Legal and other fees associated with land acquisition.
- Service on any debts associated with land acquisition.

- Reimbursement to the General fund for tax revenue lost from any property tax remission for land conservation.
- Providing local matching funds to a partnering land conservation organization for the acquisition of land or interests in land in the city.

- **Land Management***

- Preparing long term stewardship and management plans for conservation land newly acquired by the City.
- Monitoring and enforcement of city-owned easements.
- Limited capital costs associated with the implementation of long term stewardship and management plans for conservation land newly acquired by the City.

- **Administrative costs***

- Administrative costs associated with fund management and acquisition planning.
- Information, research and analysis of open space trends and issues.
- Conservation Education Programs.

*The percentage of the Fund used for administration and management purposes should be limited. The Burlington Housing Trust Fund, for example, allocates 60% of funds to housing projects, 25% to cover administrative costs of these projects, and 15% to staffing. The Burlington Conservation Fund could follow a similar breakdown, adjusted over time. These funds could be allocated directly to the Conservation Board or the Parks & Recreation Department as part of the annual City Budgeting process.

Conservation Legacy Program

In partnership with the creation of a Burlington Conservation Fund is a recommendation that the City establish a *Conservation Legacy Program* which plays a central role in the acquisition and stewardship of important open spaces and natural areas within the city. The Burlington Conservation Legacy Program would be comprised of three programmatic elements:

- **Conservation Education**
- **Land Acquisition Planning**
- **Stewardship and Management**

The implementation of such a program will require a partnership within City government between the Burlington Conservation Board and the Parks & Recreation Department where the Conservation Board plays a primary policy role while the Department undertakes some or all of the stewardship responsibilities. Two alternatives exist for future consideration.

The first is a program that formalizes the Parks & Recreation Department's mission as it relates to natural areas. Seats on the Parks & Recreation Commission would be added or dedicated to people with specific land conservation expertise and interests. The Conservation Board would play an oversight role in the development of acquisition projects and long-term stewardship activities that are undertaken directly by the Department and its staff. Future acquisition of natural areas would be additions to the "District Parks" portion of the city parks system.

The second is a program that takes better advantage of the Conservation Board's existing mission and authority to acquire and manage conservation land. The Conservation Board and its (expanded) staff would have direct responsibility for developing acquisition projects and implementing long-term stewardship in coordination with or under contract to the Parks & Recreation Department. Future acquisition of natural areas would be

combined with "District Parks" as either part of the existing city parks system or a parallel system of "Urban Wilds."

The optimal nature of such a relationship will require further discussion and evaluation by both entities, and final endorsement via resolution and agreements. The remainder of this section outlines some of the major considerations and options for the creation of such an acquisition program.

Acquisition Methods

The type or method of acquisition chosen for any particular property or resource is largely dependent on the purpose of the acquisition. Knowing the objective of the purchase is essential to the project design and negotiation strategy. Although most often when we think of a land purchase we think in terms of full (fee-simple) ownership, consideration should be given to the full array of acquisition methods, used singly or in combination, in order to construct the most appropriate and cost effective protection project. Some examples are:

1) Own the land outright (fee simple) and manage it. The simplest and most straightforward method to acquire land, whether by donation or purchase, is acquisition of a full fee ownership, and is frequently the only option a Seller will consider. Owning and managing land is the best way to retain the most control over a property. However, it frequently involves higher costs for up-front purchase and continuing management responsibilities.

2) Own the land (fee simple) and agree to have another party manage it. This method preserves the benefits of owning the land, but reduces the ongoing responsibilities by involving another party in its management, either through mutual agreement, or under contract. In ideal circumstances a managing entity can be identified which has a compatible or similar interest in maintaining the property, and would perform the management duties at low or no cost to the owner. Proper management is ultimately the most important consideration to ensure the

Based on a poll conducted by the Trust For Public Land, the most important improvements that Burlington residents would like to see this program effect are *preserve -and- protect functions*:

- Protecting the quality of drinking water
- Improving water quality for fishing and boating
- Protecting natural habitat of plants and wildlife
- Preserving scenic views of the lake and mountains¹²

Purchase-of-development-rights (PDR) programs began on the East Coast and have since spread across the country. Fifteen states and dozens of county and municipal governments now sponsor PDR programs, with funds from some transactions coming from both state and local sources. State PDR programs alone have protected more than 470,000 acres.³

continuing security of the features the acquisition was intended to protect or provide.

3) Acquire a partial interest in the land.

Owning real estate may be thought of as owning a “bundle of rights” that may be divided or shared in almost limitless combinations. It is often possible to strategically protect the essential values prized by the community without owning the property outright. For example, if a farmer uses a field for agriculture, which also provides an extraordinary scenic view of the lake beyond, the City may offer to purchase a scenic easement, restricting development on that field. Alternatively, the City could offer to purchase the property, with the landowner retaining the agricultural rights. In either case, both the scenic views and agricultural views are protected. In fact, in many cases this flexibility may be the only option that allows the interests of both Buyer and Seller to be met.

Five of the most common examples of partial interest involve:

a) A “Conservation Restriction” or “Conservation Easement.”

When a landowner sells or donates a conservation easement or restriction, they agree to restrict their use of the property for development or other activities of concern to the buyer or donee. These easements are usually permanent, and require careful research, thinking and legal documentation to be effective, but have proven to be one of the most relied-upon conservation tools. Landowners may be compensated for putting their land under easement by public purchase of the easement and/or property tax consideration.

b) Use rights

A landowner may sell or donate his or her rights to use their property in a specific way. For example, the City may purchase a trail easement to allow

the public to recreate on a linear path through the property.

c) Deferred interests

Deferred interests include remainder interests, most commonly used to allow a landowner to continue to inhabit their property for the remainder of their lives, or for a certain use or ownership to continue for a period of years. In such cases, the property is conveyed subject to the landowner’s ongoing use. The full ownership of the property by the City is deferred until that time is up.

d) Partial undivided interests

Land may be owned by more than one individual or entity. A typical example is when land is willed to heirs who will each then own an undivided partial interest in the land in a certain percentage, usually equal percentages. It is possible to purchase or accept ownership of one of these interests. Owning a partial interest may allow the City to be a “spoiler” - preventing unwanted development or other activities on the property - however, other owners may also be able to prevent the City from using the property as it wishes.

e) Limited development

Sometimes a property can be partially developed in a way that protects the most important natural values of the whole tract. The advantage to this type of protection is that the development may help pay the cost of protecting the remaining open space. However, partial development is often a complex and risky endeavor requiring professional expertise.

4) Long term lease or easement/Right of First Refusal. When it is desirable to own a property or an interest in it, but the landowner is currently not willing or able to sell or donate, the best solution may be to enter into a limited term lease or easement, and ask for the right of first refusal when the landowner is ready to sell. A lease or temporary easement, though impermanent,

allows the City to use or protect the property on an interim basis and continue to develop a relationship with the landowner. A right or first refusal gives the City the opportunity to match any offer the landowner would otherwise accept, insuring against losing the property to another buyer without forewarning.

5) Special Municipal Powers. As a municipality, the City has other methods of acquiring land not available to individuals and non-profits. While these have a somewhat regulatory flavor, they are best suited for discussion here. In either case, the same prioritization and project planning efforts must be completed in order to justify their purchase.

a) Inclusion of priority sites on the "Official Map"

The "Official Map" is a map, approved by the City Council, of sites and properties that are slated for future public use. Often they include the location of future streets, schools, parks, and other public facilities. If development is proposed for a site found on the Official Map, the City has 120 days to acquire the land for the slated public purpose. Like a Right of First Refusal, this gives the City the option to step in to protect a site before it is developed, but does not bind the City to any action until a specific development proposal is made.

b) Condemnation

Condemnation, or the power of eminent domain, allows the City to acquire – at the fair market value – any property for a public purpose where "the public good, necessity and convenience of the inhabitants of the municipality" would be served. While a choice of last resort, condemnation remains an option for consideration when no other method of acquisition is suitable or available.

c) Development Review

Communities are enabled to create set asides for open space and recreation land under local subdivision regula-

tions. Burlington has used this successfully in the past as noted previously. Additionally, standards for planned residential developments (PRD's) and planned until developments (PUD's) can require applicants to set aside open space and recreation land.

The Role of Partnerships

It is unusual for any municipality to have dedicated staff sufficient to perform all of the tasks necessary to complete a successful project. Partnering is a good way to marry the strengths of individuals or organizations to accomplish what would be difficult or impossible to accomplish alone. Burlington is fortunate to have so many potential partners readily available. These include city departments; state and federal agencies; adjacent communities; local, regional, and statewide land trusts; state and national non-profit organizations; and regional conservation organizations.

In forming partnerships, it is important to understand that three things are necessary for the partnership to flourish: there must be 1) benefit to all partners in the outcome; 2) a clear understanding of the partnership roles; and 3) a voice in the process commensurate with the risk and commitment of the parties. That said it is common for organizational missions and interests to overlap. Several common partnership models for towns or cities working cooperatively with outside entities include:

- **Pre-acquisition/Project Management**

Assistance: Cities and towns rarely have sufficient staff or resources to manage large or multiple acquisition projects, and they can rarely risk public funds in anticipation of a future appropriation. Private land trust organizations have more flexibility. They are often in a better position to negotiate with landowners and enter into contracts to secure site control (purchase or option agreements) on property that the City might otherwise not be able to acquire in a timely manner.

In November, 1998, voters across the country approved more than 100 ballot measures that triggered, directly or indirectly, more than \$7.5 billion in new state and local funding for land acquisition, easement purchase, park improvements, and protection of historic resources.

"There is little open space in the Old North End. This low-income community is quite dense and needs more open space than the less congested parts of town and more affluent people who can drive to open spaces. "

--a Burlington resident

"The most important value is to preserve habitat, and connections of existing protected areas are critical. Habitat fragmentation is a major threat to biodiversity in this area."

--a Burlington resident

- **Fund-Raising:** Fund-raising can be a time-consuming and complex endeavor. Cities and towns often look to leverage their own funds with others to make their acquisition dollars go further, and nonprofit organizations partnering with the City on a project may be willing and able to help. Raising funds from private individuals versus federal or state sources require different skills and staff expertise, another consideration in choosing partners. (See appendix list of Cash & Non-Cash, Public & Private funding sources)
- **Management Assistance:** Many land trust, educational and neighborhood organizations may act as managers or volunteers to public agencies charged with managing land for the public. Management can include trail maintenance, endangered species habitat protection; educational studies; or easement monitoring, to name a few.
- **Public Access Grant:** Open space may be purchased by an external entity. Land may be purchased by either a public or nonprofit organization with public access granted to the City. This could be achieved either through matching funds or through a group of purchase partnerships.

Acquisition Priorities:

While a Land Legacy Program will benefit greatly by leveraging funds from a range of sources, and collaborating with others to form strategic partnerships, it will never be in a position to protect all of the sites worthy and in need of protection at one time. It is necessary to define priorities and a process to consider and evaluate future acquisitions.

Citizen input gathered in open neighborhood meetings, formal and informal surveys, and public hearings reveals the public's strong interest in seeing important City lands protected, and their views on the relative importance of particular areas to natural and recreation needs city-wide.

The *Geography of Open Space* defines a citywide vision for open space protection by identifying the major landforms, natural features, and community development patterns of significance to the open space protection needs of the City. In doing so, it identifies priority areas for long term protection including land acquisition. These priority areas are:

Significant Natural Areas:

- Lake Champlain Shoreline
- Winooski River Corridor/Intervale
- Englesby Brook/Ravine
- Centennial Brook/Woods
- Natural Heritage Sites/Surface Waters

Urban Open Spaces:

- Neighborhood Greenspaces
- Urban Waterfront
- Treebelts
- Recreational Linkages & Trails

With the help of these priorities, and the *Open Space Inventory* as an information tool, the City can develop a rating system (a model of which is included in the Appendix) that provides a clear and objective system for evaluating lands for possible public acquisition. In addition to lands identified by the City, interested citizens should be encouraged to offer their suggestions.

As it finalizes its ranking system, the City may decide to assign numerical rankings, or simply establish a review checklist of significant issues. While only one or two properties might be pursued for acquisition at any one time, it is advisable to work from a list of up to 5-10 priority sites.

Project Design & Evaluation

As a property is identified for potential acquisition, a plan or strategy must be developed in order to articulate the public interests in the property, the proposed likely use(s) and stewardship responsibilities, identify the most appropriate method of

acquisition, and identify likely funding sources and project partners. Among the many issues to be considered and addressed, include:

- The natural, scenic, cultural, or recreational attributes of the land and how they advance the community's goals for land conservation and protection;
- An assessment of the properties availability for purchase, and the level of threat present to important resources;
- A preliminary outline of future use(s) and stewardship requirements;
- The capacity of the City to advance the project in a timely manner and serve as a responsible steward of the proposed property;
- The need to enter into strategic partnerships with outside groups;
- The lead entity or team responsible for negotiating the acquisition process;
- The most appropriate acquisition method, and the estimated cost of acquisition and long-term stewardship;
- The most appropriate funding source(s) and strategy for obtaining them;
- The lead entity or team responsible for long-term monitoring and/or stewardship.

To verify the site's natural, recreational, or cultural attributes and inform management decisions, a site visit by appropriate staff and/or volunteers should be done for each potential acquisition. A report or checklist should be developed to record the findings of each site visit.

Many issues contribute to the relative priority of a parcel. In addition to natural or recreational functions, such issues as geographical distribution, accessibility to the public, threat of imminent development, special funding availability, links to other protected areas, etc. should be considered.

Stewardship

Regardless of what is protected and for what purpose, any future acquisition of land must consider the capacity of the City to responsibly manage and care for the resource. This must be an important part of the project design phase of the process, and be the subject of more detailed stewardship planning once the site has been acquired. Specific issues to be considered and addressed include future uses, rehabilitation and capital improvement needs, ongoing oversight and responsibility, and funding. This City's limited capacity in this regard must be partnered with other organizations and governments in order to assure long-term responsible stewardship.

3) Include open space priorities in future planning by the City, and make strategic improvements to City development review process to protect important resources.

Future Planning

Planning is a continuing process. Once a plan has been completed, the community changes and plans must be able to evolve to stay relevant. Planning is also a web of related, yet distinct efforts – each dedicated to its own purpose, yet linked to one-another. For these reasons, the open space priorities and recommendations contained in this Plan must be incorporated and expanded in future planning by the City.

A) Municipal Development Plan:

The City's Municipal Development Plan, or Master Plan, presents Burlington's vision for land use and development over the next ten to twenty years. A municipal development plan is prepared and adopted every 5 years in accordance with state statute, and is the City's principal guide directing policy and decision-making regarding future land use and

development. All city ordinances and decisions related to land use and development are intended to implement this vision and plan for the community.

The current Municipal Development Plan was adopted in 1996 and will under-go a revision in anticipation of renewal in June 2001. This revision of the City's Master Plan should specifically include the central priorities and major policy recommendations of this Plan.

B) Capital Improvement Plan

A Capital Improvements Plan (CIP) is a plan and schedule for the expenditure of funds, from a variety of sources, for public improvements over a six-year period. A CIP has two components: (1) a capital budget which lists and describes capital projects to be undertaken in the coming fiscal year; and, (2) a capital program which lists and describes capital projects proposed to be undertaken in each of the following five fiscal years.

By providing a multi-year overview of expenditures and projects, the CIP allows the city to assess its capital needs and schedule essential improvements over time, and in a way that is consistent with the community's development priorities and financial capability. The CIP also provides a picture of what various city departments are proposing to the public and encourages improved scheduling and coordination of projects. While not always feasible, land acquisition proposals should be identified in the City's Capital Improvement Program whenever possible.

C) Urban Greenspace Plan

As noted previously, a second category of open space that is especially important to Burlington are those that are considered "urban open space." These types of sites were identified by the

community as being a very important factor in supporting neighborhood quality of life.

The City's interest in these areas is for softening densely developed neighborhoods, creating an aesthetic within the city, and providing small areas of refuge from the urban hardscape. While not within the original mandate and scope of this planning effort, this Plan offers a framework for establishing their significant within the city. Further evaluation and study in this area is recommended, and this Plan should be amended accordingly.

D) Continued Inventory and Data Development

The *Land Inventory* developed as part of this Plan must be maintained in order to remain accurate and useful to the acquisition program proposed. Other pieces of information about the community and its resources must be gathered and added. Examples of additional information needed includes:

- Informal trails and paths
- Wildlife habitat and travel corridors
- Low-level aerial photography
- Land use and land cover

Land Use Regulation and Development Review

Improvements to Burlington's regulations concerning land use and development are another method of protecting important natural systems and assets. Regulations act as a safety net to protect specific resources and features from the adverse impacts that may be associated with nearby development. Regulations are however limited in their effectiveness over the long-term, because they are subject to change depending on the political and economic climate. The following changes, however, can be effective in increasing the level of open space protection when combined with

efforts toward public education and acquisition.

A) Major Impact Review:

Article 10 of the *Burlington Zoning Ordinance* is referred to as “Major Impact” and ensures that projects of major significance or impact receive a comprehensive review under an established set of criteria. A Major Impact Review is conducted as part of a Conditional Use hearing. Major Impact is triggered largely by the size and scale of a proposed development project with some geographic criteria included.

The City should amend Article 10 of the *Burlington Zoning Ordinance* to ensure that any proposed development located in particularly sensitive parts of the City and/or involving particularly sensitive resources be subject to Major Impact Review. This is not intended to specifically stop future development in these areas, but to ensure a higher level of review and enable protection of important resources and features.

The 1999 *Open Space Inventory* and the *Geography of Open Space* should be used as the primary mechanisms to define the geographic extent of areas that should be subject to Major Impact Review, and the resource features/attributes that should be protected. The following type of locational criteria for proposed development serves as an example:

- Within 250-feet of the shoreline of Lake Champlain;
- Within 100-feet of the 100-year floodplain elevation of the Winooski River;
- Within 250-feet of the centerline of Englesby Brook;
- Within 250-feet of Centennial Brook;
- Within 100-feet of a Natural Heritage Communities;
- Within 100-feet of any wetland; or,
- Within 100-feet of any water bodies or watercourses found on 1:24,000 USGS

Maps. (The USGS Map information is to be used until such time that the Burlington GIS data for hydrological systems is updated.)

B) Zoning Districts:

The current extent of the Recreation/Conservation/Open Space (RCO) zoning districts covers most of the important natural areas and open space identified by this Plan. However, some notable exceptions remain. For example, the mouth of the Winooski River is currently zoned Waterfront Commercial North (WFCN). This is a very dynamic and sensitive natural environment, and is inappropriate and unsuitable for development.

Another example is the southern bank of the Winooski River parallel to Riverside Avenue. The bank in this area is highly unstable and increasingly unsuitable for development. Both locations warrant further protection, and should be considered for rezoning as originally proposed in the City’s Municipal Development Plan.

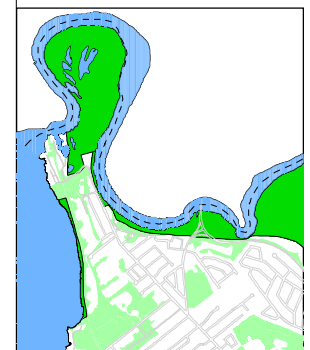
The *Open Space Inventory* should be used to identify other such unprotected areas. The RCO District should be modified where appropriate to include significant areas and corridors - especially those immediately adjacent to existing RCO areas and part of important natural or recreational systems.

C) Design Review and Lot Coverage:

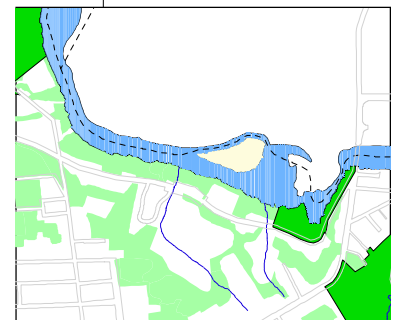
Burlington has set a precedent of extensive design review authority over the past 20 years. Included within the Design Review Overlay District is the Recreation/Conservation/Open Space (RCO) District. The City’s current Design Review criterion, listed under Article 6 of the *Burlington Zoning Ordinance*, however, is deficient in the way of review criteria specific to natural, recreational, and open space resources.

The following maps illustrate areas where there are large areas of open space adjacent to the current RCO zoning district.

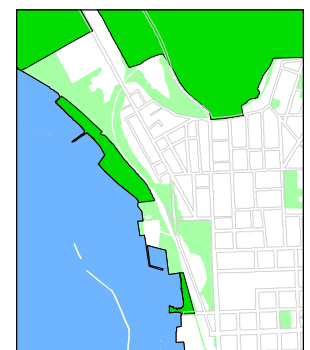
The hatched areas represent open spaces currently zoned RCO, while the shaded areas represent open spaces into which the RCO districts could possibly expand.



Mouth of the Winooski



Riverside Avenue



Northern Waterfront

The City should develop Design Review criteria to be applied specifically in the RCO Design Review District that address the protection of natural systems and open space. This initiative would provide design criteria that are more sensitive to the needs, issues, and values of natural areas and open spaces inherent to these areas of the city. This will serve as an additional measure of protection for the larger and more cohesive natural areas and significant open spaces.

These criteria should be guided by principles of landscape ecology, and consider (1) large patches of undisturbed natural vegetation, (2) connectivity between patches, (3) natural vegetation along water courses, and (4) providing a heterogeneous distribution of nature throughout the city.

Additionally, one or more new criteria should be added to the Design Review criteria that apply within the more densely developed portions of the city. This will ensure a measure of protection for small portions or linkages between or within larger natural systems. The purpose is to ensure the retention of existing open space, water and recreational corridors, and vegetation within the context of an urban environment.

With only a few exceptions does lot coverage (the percentage of a lot that can be developed) allowances in the city reach 100%. The *Open Space Inventory* and the *Geography of Open Space* can be used to identify key public values and resources, and guide the review process to ensure the required greenspace includes the most important and useful portions of a site rather than whatever remains along the margins.

D) Buildable Area Definition:

Currently, the allowable density for proposed development is calculated

based on the entire area of the parcel. This includes portions of the property that cannot be developed due to physical or other limitations. This can have the effect of encouraging development (1) where the buildings are at a much larger scale than those found in the surrounding neighborhood in order to make use of the allowable density on a constrained site; and (2) concentrating the allowed density on a small portion of a constrained site thereby building beyond the capacity of the site to support development. Both situations can be detrimental to the City's natural systems and neighborhoods, and the goal of preserving valuable open space.

The City should amend Article 30 of the *Burlington Zoning Ordinance* to include a definition of *Buildable Area* for the purposes of calculating allowable density in certain parts of the city. The "buildable area" would be limited to only that portion of a property suitable for the construction of structures or other forms of land development, and exclude such areas that are: underwater or subject to flooding, slopes greater than 30%, and lands within the right-of-way of an existing or proposed public street.

Designated growth centers and activity zones such as the downtown, neighborhood activity centers and institutional campuses should be exempted from this provision as they are places where higher density development is desired and encouraged. Offering density bonuses for the protection of important resources and sites could also be considered. Density bonuses are currently available to developments that provide affordable housing or public parking.

E) Subdivision Ordinance & Impact Fees:

Much of the public acquisition of land that has occurred in recent years has been the result of the *Subdivision Ordinance*. This system has been replaced by the assess-

ment of Impact Fees for recreational facilities. The fees collected however are only available for capital costs associated with new/expanded recreational facilities and not for the protection of open space per se.

The City should consider a new Impact Fee that specifically targets the impact of development on the loss of open space as a component of the public infrastructure. This money would be placed in the *Burlington Conservation Fund* for use in the acquisition of land as outlined above.

The *Subdivision Ordinance* also requires the preservation of “natural features and trees.” However, land that is set-aside as “open space” often does not include the most important and sensitive resources and features. The Subdivision Ordinance should be amended to specify the types of natural resources and features that must be preserved, and the *Open Space Inventory* and the *Geography of Open Space* as tools to provide specific direction to the subdivision review process.

F) Official Map:

As noted previously, the Official Map provisions enabled under state statute provides an opportunity for a municipality to articulate the public interest in a

property and facilitate its eventual purchase. The City must act to purchase the property within 120 days of the submittal of an application to develop the property, or the project will continue through the normal development review process.

This can be an especially useful tool for use regarding natural areas and open space protection. When properties have been identified as possessing significant natural features and open space, and are found to be a high priority for public acquisition, inclusion on the Official Map can serve as a de facto “right of first refusal” until such time that a development proposal is offered for review.

The City should use the Official Map to delineate potential purchases of high priority areas as an interim protection measure. These would include areas immediately adjacent to or part of an important natural or recreational system, expansions to city parks and cemeteries, pocket parks and community garden sites, and high-priority natural areas.

5

Chapter 5

IMPLEMENTATION PLAN

The Framework in Action



5.1 Implementation Plan

Making the Framework a Reality

Strategic Partners in Conservation Education include:

- Dept. of Parks and Recreation
- Winooski Valley Park District
- UVM Natural Areas Center
- Lake Champlain Basin Science Center
- Branch-Out Burlington!
- Burlington Schools
- Lake Champlain Committee
- VT Institute for Natural Science
- VT Housing & Conservation Board

As described in Chapter 4, this Plan outlines a series of recommendations aimed towards achieving long-term protection for Burlington's most important natural areas and open spaces. For this Plan and vision to become a reality however, it will take the careful and thoughtful coordination of the recommendations proposed, adequate and ongoing financial support, and the support of a wide range of individuals and organizations.

This Chapter outlines a series of actions necessary to implement key recommendations of this Plan, and suggest strategic partners. Following each action are tasks that are necessary for the successful completion of the action.

Educate people about the important resources found throughout the community and how they improve our quality of life.

1. Create a standing committee of the Conservation Board that will be charged with developing and implementing an **ongoing conservation education program**. This committee should include representatives from other interested organizations and individuals with skills and interests to offer from outside the Board to broaden the Committee's capacity and capabilities.

2. The Conservation Board should develop an **annual work plan and budget for conservation education** initiatives to be funded by the City Council as part of the annual City budgeting process. Increased funding to the Conservation Board will be necessary for additional staff time and direct expenses related to educational programs - some, but not all of which may come from the proposed Conservation Fund.

3. Work with the UVM School of Natural Resources, the Environmental Program and the Natural Areas Center to **share information and provide internship opportunities** for students to develop and carry out conservation education programs.

4. Develop **collaborative working relationships** with other organizations dedicated to conservation education.

5. Organize a series of **ongoing education programs** such as:

- a) Organize an annual Earth Day event and program.
- b) Re-establish the annual Photo Contest.
- c) Collaborate with Branch-Out Burlington! on projects such as the "Awesome Tree Contest" and the *Tree Walk* brochures.
- d) Provide educational programs in local schools.
- e) Offer seasonal Interpretive Walks and Tours.
- f) Develop outreach products such as publications, interpretive guides, maps, newsletters, or a web site.

6. Identify and **work with owners of properties** that possess important conservation and recreational value about measures they can take to protect and manage these sites. Educate them about the important resources on their property, the benefit they provide the community, and things they can do as stewards of these resources. Recognize these private stewards for the service they are providing the community.

Provide a legacy of lands set aside for conservation and passive recreation to benefit future generations.

Capacity Building...

1. Develop a Memorandum of Understanding (MOU) between the Conservation Board and the Dept. of Parks and Recreation regarding the creation of a **Conservation**

Legacy Program, and the oversight and stewardship of property held by the City for conservation and passive recreational purposes. This MOU should provide a framework for collaboration between the Dept. of Parks and Recreation and the Conservation Board that seeks to best match the responsibilities, skills and capabilities of both.

This MOU should address the following issues at a minimum:

- Creation of a distinct city land conservation program designed to provide long-term protection for Burlington's significant natural and recreational assets.
- Oversight and management of a local conservation fund.
- Oversight and management responsibilities for city-owned lands set aside for conservation and passive recreational purposes.
- Acquisition and stewardship planning responsibilities for city-owned lands set aside for conservation and passive recreational purposes.
- Annual work plans and budgets for land conservation initiatives to be funded as part of the annual City budgeting process. Increased funding to the either the Parks & Recreation Dept. or the Conservation Board will be necessary for additional staff time and direct expenses related to land conservation initiatives.

2. Collaborate with the UVM School of Natural Resources, the Environmental Program and the Natural Areas Center to share information and resources, and provide internship opportunities for program students. This is a source of expertise for management planning, conservation education, and seasonal staffing.

4. With assistance from the Dept. of Planning & Zoning, develop and maintain the information necessary to monitor land use and development trends within the city and assess its impact on Burlington's significant natural and recreational assets. Information needs include: land use and land cover, periodic aerial photography (including orthophotography at a minimum scale of 1:1,250), surface water, slope, recreational trails, and wildlife habitats and corridors. All of this information will be used as aids in keeping the Open Space Inventory current.

Purchase ...

1. By resolution of the Burlington City Council, and perhaps a City Charter change, establish a "**Burlington Conservation Fund.**" Such a fund must be capable of receiving monies from a variety of public and private sources, and should provide an annual report of its activities.

2. Identify and approve a source of local funding to annually invest in the proposed Fund. These funds should be used to leverage other sources of funding including state and federal grants and appropriations, and private donations. Options that should receive the greatest consideration are: a dedicated property tax and a real estate transfer tax.

3. Maintain a reference list of private, state, and federal funding sources to support acquisition, planning, and management activities. At a minimum, this should include the VT Community Foundation and other private foundations, VT Housing and Conservation Trust Fund, the Land and Water Conservation Fund, and individual donation.

4. Develop a marketing and outreach strategy to be used in soliciting appropriations, grants, and donations to the Fund. One option to consider is "rounding-up" a property tax and/or utility bill where the customer can choose to round up the invoice amount to the nearest \$1 with the additional payment going directly to the Fund.

Strategic Partners in Program Development include:

- Dept. of Parks and Recreation
- Dept. of Planning & Zoning
- Burlington Planning Commission
- City Attorney's Office
- VT Housing & Conservation Board
- Trust For Public Land
- UVM Natural Areas Center
- Local and regional land trusts

Strategic Partners in Financing include:

- Board of Finance
- Mayor and City Treasurer
- City Attorney's Office
- VT Housing & Conservation Board
- Trust For Public Land
- Dept. of Parks and Recreation
- Local and Regional Land Trusts

Encourage Voluntary Donations...

1. Identify property owners who may be interested in making permanent gifts of land or conservation easements to public agencies and qualified private nonprofits to ensure their long-term protection.
2. Develop information and educational materials regarding the tax benefits associated with the donation of land to government and non-profits.
3. Collaborate with non-profit organizations and land trusts that may be willing to provide assistance and hold easements or property for conservation purposes.

Prioritize...

1. Finalize a decision-making process regarding evaluating conservation projects for possible purchase from willing land-owners and those interested in donating land. Such an evaluation should include a detailed site analysis, a comparison of threats, possible uses and management needs, consideration of available resources, and likely protection methods.
2. Develop a protocol for approaching and negotiating with owners of properties targeted for possible acquisition. This protocol should include close coordination with the City Attorney's Office, and opportunities for collaboration with non-governmental organizations.

Provide Economic Incentives...

1. Identify and evaluate a range of economic incentives to be offered to property owners in exchange for the protection of important conservation and recreational resources. Options for consideration may include property tax remission, management assistance, liability relief, income tax credit for permanent gifts of land or conservation easements to public agencies and qualified private nonprofits, etc. A report should be prepared with recommendations provided to the Board of Finance for consideration.

Include open space priorities in future planning, and improve city ordinances and the Development Review Process.

1. Include major policies and programs of the *Open Space Protection Plan* in the next revision of the *Burlington Municipal Development Plan* due in June 2001.
2. Include land acquisition proposals in the City's annual Capital Improvement Program.
3. Develop a workplan and budget proposal for the development of an "Urban Greenspace Plan" for the City to address the open and greenspace needs and issues associated with the "urban open spaces."
4. Amend the *Burlington Zoning Ordinance* to expand areas within the City subject to Article 10: **Major Impact Review** (to replace the proposed Ordinance Amendment: ZA 99-01a - "Open Space Interim Zoning"). Such an amendment would add the "Significant Natural Areas" as defined in Chapter 4, and further described in Chapter 5 of this Plan, to areas within the City subject to Article 10. This would not specifically foreclose development in these areas, but would ensure a closer review for "undue adverse impacts" by the city.
5. Amend the *Burlington Zoning Ordinance* to expand the extent of the **RCO zoning district** to include significant areas and corridors identified in the inventory that are immediately adjacent to existing RCO areas and part of an important natural or recreational system.
6. Amend the *Burlington Zoning Ordinance* to include a **Buildable Area Definition** that would exclude sensitive areas from a property's density calculation. Such areas should include those inundated by water including streams, ponds, lakes, wetlands, and other bodies of water; flood plains or other areas subject to seasonal or periodic

flooding; and lands with a slope in excess of 30%. Designated growth centers and activity zones where higher density development is encouraged should be exempt.

7. Amend the *Burlington Zoning Ordinance* that would revise the **Official Map** to target sites for future public acquisition. Areas immediately adjacent to or part of an important natural or recreational system, expansion of parks and cemeteries, and high priority natural areas are examples of properties to be considered as warranted.

8. Amend the *Burlington Subdivision Ordinance* to include protections for significant natural areas and open space. This effort should be done in collaboration with the Depts. of Parks and Recreation and Public Works as part of a comprehensive re-write of the City's Subdivision Ordinance.

9. Amend the *Burlington Zoning Ordinance* to create **new Design Review Criteria** that is specific to the natural resource objectives of the RCO Design Review Districts of the city. This effort should be done in collaboration with the Design Review Board.



Strategic Partners in Planning and Review include:

- Planning Commission
- Zoning Board
- Design Review Board
- Department of Planning and Zoning
- City Council Ordinance Committee

References:

1. "Open Space Investments Pay Big Returns." *Land and People*. The Trust For Public Land. Spring, 1999.
2. Brenda Hausauer, *Vermont Fact Sheets*. July, 1998.
3. Steve Lerner and William Poole, *The Economic Benefits of Parks and Open Space: How Land Conservation Helps Communities Grow Smart and Protect the Bottom Line*, The Trust for Public Land, 1999.
4. Joshua Brown, "Creating a Sustainable City: The Case of Burlington, Vermont." Prepared for the Mayor of Burlington's Office, May, 1997.
5. "Center For Excellence for Sustainable Development" web page, www.sustainable.doe.gov
6. "The Case for a Healthy Community: The History of Sprawl in Chittenden County," Champlain Initiative, March, 1999
7. "Foresters Offer Backyard Guidance." Burlington Free Press. June 3, 1999.
8. "Brownfield Basics: An Environmental Writer Backgrounder for Journalists." Tepper, Esther. "Environmental Writer" web page: www.nsc.org/ehc/ew/issues/ew97jun.htm
9. "State Innovations" "Environmental Council of the States" web page: www.sso.org/ecos/innovate.htm
10. City of Burlington, Vermont 1996 Municipal Development Plan.
11. "Winooski River Greenscape Coalition: To Save a Working Landscape for Chittenden County" Draft Mission Statement.
12. "GreenSense: Financing Parks and Conservation," Spring 1996 vo.2, no.1
13. "The Economic Benefits of Land Conservation," by Holly L. Thomas, Senior Planner, Dutchess County Planning Department
14. "Studies pinpoint value of tourism to Vermont," *Burlington Free Press*, May 13, 1999.
15. "1991 National Economic Impacts of Nonconsumptive Wildlife-Related Recreation," Report 91-6, January 1997, Division of Economics, U.S. Fish and Wildlife Service, Department of the Interior.
16. *Florida Trend Magazine*, March 1996
17. "The Effects of Development and Land Conservation on Property Taxes in Connecticut Towns," prepared for the Trust for Public Land by Ad Hoc Associates, May 1995.
18. "Community Choices, Thinking Through Land Conservation, Development and Property Taxes in Massachusetts," prepared for the Trust for Public Land by Ad Hoc Associates, 1998.
19. *An Ounce of Prevention: Land Conservation and the Protection of Connecticut's Water Quality*, The Trust for Public Land, January 1998.
20. "Healing America's Cities," The Trust for Public Land, 1995.
21. "National Park Service," 1995, 7-3.

22. John L. Crompton, Lisa L. Love, and Thomas A. More, "An Empirical Study of the Role of Recreation, Parks, and Open Space in Companies (Re) Location Decisions," *Journal of Park and Recreation Administration* (1997), 37-58.
23. Tom Fox, "Urban Open Space: An Investment that Pays," A Monograph Series (New York, NY: Neighborhood Open Space Coalition, 1990) 11-12, quoted from *The Economic Benefits of Parks and Open Space*, The Trust for Public Land, 1999.
24. "Impact of Tourism on State's Economy Surveyed by UVM," Rutland Business Journal, vol. 16, no. 7, Jul/Aug 1999.
25. "Master Plan for Ethan Allen Park," Prepared for the City of Burlington Parks and Recreation by Land•Works, July, 1995.
26. David E. Robinson and Mary Ann DiSpirito, *Images of America: Burlington*, Arcadia Publishing, Dover, New Hampshire, 1997.
27. Ann Whinston Spirn, *The Granite Garden*, Basic Books Pub, New York, 1984.
28. Michael Hough, *Cities and Natural Processes*, Routledge Pub, New York, 1995.
29. Kevin Platt, "City Greenways," *Urban Land*, March, 1999, vol. 58, no. 3.
30. *Burlington Street Tree Planting Plan*, Prepared for the City of Burlington Parks and Recreation by Land•Works et al., 2000.
31. *Where the Wild Things are: Large Mammal Habitat and Corridors in Burlington*, prepared for the Winooski Valley Park District by Alicia Daniel and Mark Ward, July 2000.
32. *Burlington Legacy Project Action Plan*, City of Burlington, May 2000.
33. *Burlington Harbor Management Plan*, prepared for the City of Burlington Parks and Recreation by Dufresne-Henry, Inc., 2000.

Appendix 1.

The Land Inventory

The following pages present a tabular version of the 1999 Open Space Inventory completed for this Plan. The inventory is divided into two sections - the first provides basic information about each area including location, zoning, type of ownership, etc., while the second provides more resource-specific information. Therefore each site is listed twice.

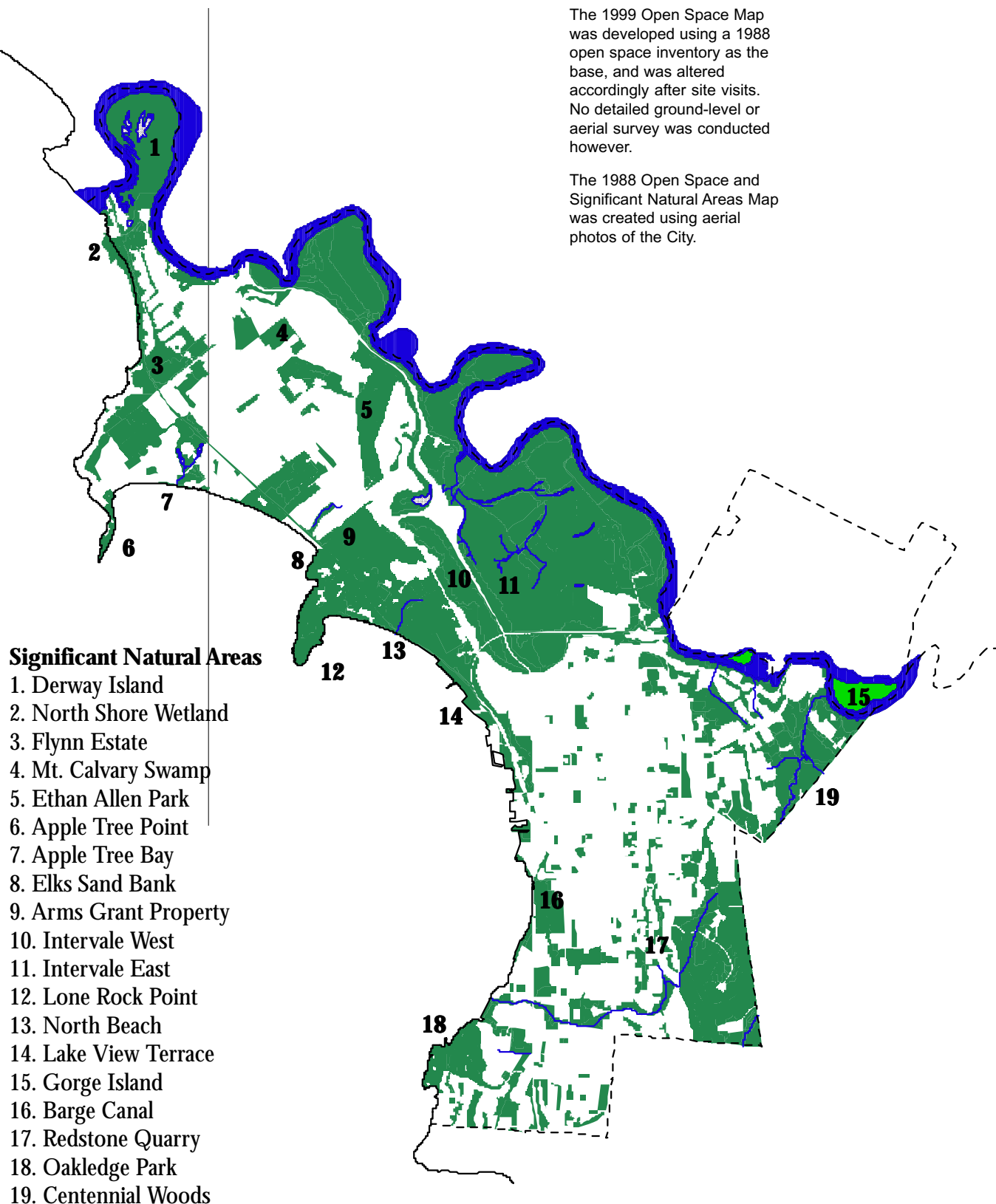
The inventory is largely a collection of previous studies and evaluations of important natural resources in the city. In some cases this information has been revised based on present conditions, but not all.

The Inventory is intended to be an information tool which will require regular updates and revisions to be completely useful. It is not expected to be a complete and comprehensive listing of all sites and resources in the City that possess important values, but a starting point.

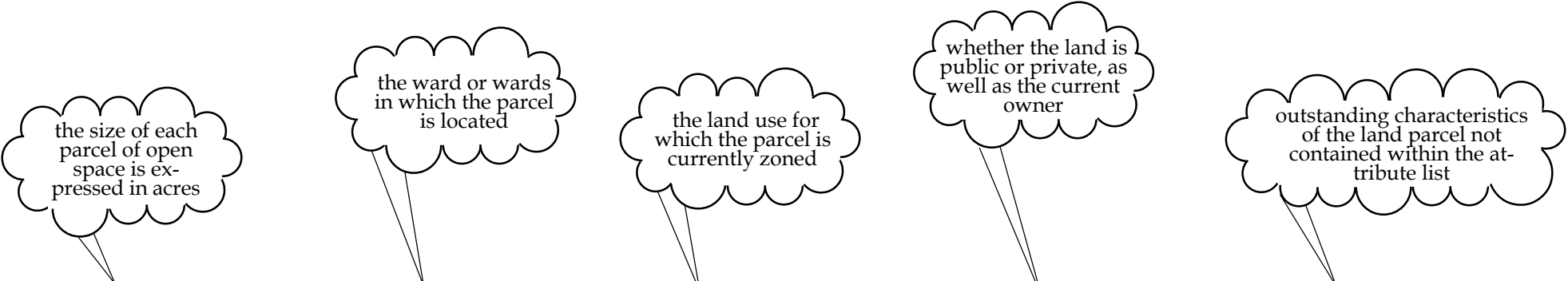
1999 Open Space Inventory

The 1999 Open Space Map was developed using a 1988 open space inventory as the base, and was altered accordingly after site visits. No detailed ground-level or aerial survey was conducted however.

The 1988 Open Space and Significant Natural Areas Map was created using aerial photos of the City.



The Inventory:
A Sample Page



Burlington Open Space Protection Plan: Land Inventory																				
NAME OF SITE	SIZE ³ (acres)	LOCATION (WARD #)							ZONING ¹					OWNERSHIP					NOTES	
		1	2	3	4	5	6	7	commercial	residential	university campus	RCO	comments	private	public	quasi-public (cons.)	quasi-public (non-cons.)	comments		
127 Woods								⊙	⊙	⊙			⊙						important corridor	
Appletree Bay					⊙				⊙				⊙						threatened lakeshore plant sp, important for migratory waterfowl, shore birds	
Appletree Point					⊙				⊙				⊙						2 rare plant spp, important for migratory waterfowl, shore birds, song birds	
Arms Grant											⊙			⊙					important forested area; vernal pools; corridor; wildlife and song bird habitat	
Baird Park					⊙				⊙						⊙					
Barge Canal					⊙				⊙			zoned for enterprise	⊙			⊙	GE, Blodgett, Davis Dev. Co.		represents one of the few remaining “wild” areas in city core; habitat will improve with time	
Blodgett’s					⊙				⊙	⊙				⊙					highly significant for shore birds	
Burlington Bikeway				⊙	⊙			⊙	⊙		⊙				⊙					
Burlington Country Club						⊙					⊙	⊙		⊙					large open area; important for wildlife and birds	
Calahan Park					⊙				⊙						⊙					
Centennial Woods		⊙									⊙				⊙		UVM Natural Area		significant educational value; NA center is seeking expansion	
Champlain School					⊙				⊙					⊙					adjacent to Englesby Ravine	
Chittenden Green						⊙			⊙					⊙						
City Hall Park				⊙											⊙					
Crescent Road						⊙			⊙					⊙					corridor value	
Crest Road Woods					⊙				⊙					⊙					includes Burlington Skate Park	



Lands with natural values and functions

- 1. Sustainable forest community
- 2. Land containing critical wildlife habitat for migratory waterfowl, fish, and other wildlife
- 3. Shorelines of surface waters, including the Winooski River, Lake Champlain, wetlands, wildlife tributaries, and natural drainage ways. Also buffers to waters and wetlands.

- 4. Geological and soil features of local, regional, or state significance
- 5. Corridors that link natural communities and other wildlife habitats
- 6. Natural Heritage Sites: includes significant natural communities or rare, threatened, or endangered species.
- 7. Significant topography, including unusual or striking features such as cliffs, ravines, gorges, etc.

- 8. Any established research site, baseline site, or site that provides valuable resources for education or has exceptional natural beauty
- 9. Lands used to store/treat floodwaters, stormwaters, urban runoff
- 10. Lands which could be restored to a natural state over time

Lands With Working Values

- 1. Undeveloped lands over 1 acre with soils of high agricultural potential
- 2. Lands currently in commercial agricultural use
- 3. Hedgerows, windbreaks, or wooded strips/corridors
- 4. Working forest: forests which are managed for timber production under an approved forestry management plan.
- 5. Lands for private and community gardens

Lands With Scenic Values

- 1. Viewshed
- 2. View points
- 3. Roadsides, greenways, natural strips, tree belts

Lands With Recreational and Educational Values

- 1. Public parks
- 2. Corridors and lands which create and/or link hiking and biking paths
- 3. Lands with passive recreational values such as hiking, picnics, and photography, biking, skiing, skating, etc.
- 4. Golf courses

Lands With Historical, Cultural, or Archaeological Values

- 1. Archaeological sites
- 2. Historical, cultural, and religious sites (old farms, historic buildings, historically significant landscape)
- 3. National Register site or site within a National Register District

Lands With Other Urban Open Space Values

- 1. Lands which provide access to open spaces, natural areas, and waters, or which link or connect open spaces but not necessarily as “natural” corridors
- 2. Urban and campus greens
- 3. Streetscapes and treebelts
- 4. Cemeteries
- 5. Parking lots and vacant lots

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 - 2. See attachment for more detailed attribute category descriptions.
 - 3. Size of open spaces to be determined from Burlington GIS

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- 5. Burlington Parks Department
- 6. 1999 Land•Works consultant team
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Appletree Bay					⊙				⊙					⊙						threatened lakeshore plant sp, important for migratory waterfowl, shore birds
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Arms Grant					⊙							⊙			⊙					important forested area; vernal pools; corridor; wildlife and song bird habitat
Baird Park						⊙			⊙						⊙					
Barge Canal						⊙			⊙				zoned for enterprise	⊙			⊙	GE, Blodgett, Davis Dev. Co.		represents one of the few remaining “wild” areas in city core; habitat will improve with time
Blodgett’s						⊙			⊙	⊙				⊙						highly significant for shore birds
Burlington Bikeway				⊙	⊙			⊙	⊙	⊙		⊙			⊙					
Burlington Country Club							⊙				⊙	⊙		⊙						large open area; important for wildlife and birds
Calahan Park						⊙				⊙					⊙					
Centennial Woods		⊙									⊙				⊙			UVM Natural Area		significant educational value; NA center is seeking expansion
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City Hall Park				⊙											⊙					
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Derway Island								⊙				⊙			⊙				significant natural communities and rare plants
Dewey Drive Woods					⊙				⊙					⊙					open space
Elks Sand Bank					⊙				⊙					⊙					rare plant sp.
Englesby Brook							⊙		⊙					⊙					wildlife corridor; water quality
Ethan Allen Park								⊙				⊙			⊙		City Park		2 threatened and 2 rare plant spp; significant communities; topography
Fletcher Allen		⊙									⊙				⊙				
Flynn Avenue Woods			⊙			⊙			⊙					⊙					
Flynn Estate					⊙				⊙					⊙	⊙		City/private		one of few natural sandplain forest areas remaining in City; 2 rare plant spp.
Forest Street Woods								⊙	⊙		⊙			⊙					corridor value
Gorge Island		⊙										⊙		⊙		⊙	Gr. Mtn. Power, WVPD		rare plant sp; significant natural communities
Hardy Avenue Corridor					⊙			⊙	⊙					⊙					corridor value
Intervale East		⊙						⊙				⊙		⊙		⊙			City's most important natural area; many values
Intervale Southwest				⊙					⊙					⊙					part of Intervale system
Intervale West								⊙				⊙		⊙			⊙	Winooski Valley Park District	rare plant sp; archaeological sites, wetlands

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Kingsland Green							⊙		⊙					⊙					
Lakeside Park						⊙			⊙										
Lake View Terrace								⊙	⊙					⊙					endangered plant sp; includes Battery Park
Leddy Park					⊙						⊙			/			City Park		significant wooded area
Lone Rock Point					⊙						⊙			⊙			Episcopal Diocese		several rare plant spp; significant natural communities, important for migratory song birds
Mansfield Avenue		⊙							⊙					⊙					corridor value
Mansfield Avenue Extension		⊙							⊙					⊙					
McCrea Farm								⊙			⊙			⊙			Winooski Valley Park District		agriculture; "wetland"
Mt. Calvary Red Maple Swamp					⊙				⊙					⊙					1 threatened and 2 endangered plant spp.
North Avenue Cemetery								⊙			⊙			⊙					wildlife corridor value; part of larger complex
North Beach					⊙						⊙				⊙		City Park		one of best sand beaches in VT, relict dune is only remaining dune in VT, rare plant sp.
North Gate Road Corridor					⊙				⊙					⊙					corridor value
Northshore Wetland					⊙						⊙			⊙	⊙		Northshore Dev. Co, City of Burlington		2 state threatened plant spp; important geomorphological features

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Burlington Open Space Protection Plan: Land Inventory																				
NAME OF SITE	SIZE ³ (acres)	LOCATION (WARD #)							ZONING ¹					OWNERSHIP					NOTES	
		1	2	3	4	5	6	7	commercial	residential	university campus	RCO	comments	private	public	quasi-public (cons.)	quasi-public (non-cons.)	comments		
Oakledge Park						⊙			⊙		⊙			⊙	⊙			City Park	2 rare plant spp; important for migratory song birds	
Old Landfill			⊙	⊙							⊙			⊙					part of Intervale system	
Pomeroy Cemetery		⊙							⊙					⊙					corridor value	
Pomeroy Park			⊙						⊙						⊙					
Redstone Quarry							⊙		⊙								⊙	UVM Natural Area	educational and scenic values	
Roosevelt Park			⊙						⊙						⊙					
Salmon Hole		⊙							⊙			⊙		⊙					endangered plant sp; important for water birds	
Schifilliti Park								⊙	⊙						⊙					
Smalley Park						⊙			⊙						⊙					
South Campus		⊙									⊙				⊙					
South Woods						⊙			⊙					⊙						
Southern Connector ROW																				
Stirling Place Woods					⊙				⊙					⊙					open space	
Summit Ridge Green							⊙		⊙					⊙						
Sunset Cliff					⊙				⊙					⊙					migratory song birds; has old field	

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Urban Reserve								⊙				⊙	waterfront conservation		⊙			State of Vermont	unusual stretch of open land		
UVM Admissions							⊙				⊙				⊙						
UVM Athletics							⊙				⊙				⊙						
UVM Campus		⊙									⊙				⊙						
UVM Green		⊙									⊙				⊙						
UVM Redstone							⊙				⊙				⊙						
Venus Avenue Woods								⊙		⊙					⊙						
VT National Guard Armory								⊙		⊙					⊙						
Waterfront Park				⊙					⊙						⊙						
Western Avenue Area					⊙					⊙					⊙				recreation		
Winooski River		⊙	⊙					⊙							⊙	⊙			fisheries; recreation		

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Land•Works 6/24/99

Burlington Open Space Protection Plan: Land Inventory

EXPANDED LAND INVENTORY ATTRIBUTE LIST

Natural Areas of local significance/Lands with natural values and functions

1. Sustainable forest community
2. Land containing critical wildlife habitat for migratory waterfowl, fish, and other wildlife
3. Shorelines of surface waters, including the Winooski River, Lake Champlain, wetlands, wildlife tributaries, and natural drainage ways. Also buffers to waters and wetlands.
4. Geological and soil features of local, regional, or state significance
5. Corridors that link natural communities and other wildlife habitats
6. Natural Heritage Sites: includes significant natural communities or rare, threatened, or endangered species.
7. Significant topography, including unusual or striking features such as cliffs, ravines, gorges, etc.
8. Any established research site, baseline site, or site that provides valuable resources for education or has exceptional natural beauty
9. Lands used to store/treat floodwaters, stormwaters, urban runoff
10. Lands which could be restored to a natural state over time

Lands With Working Value

1. Undeveloped lands over 1 acre with soils of high agricultural potential
2. Lands currently in commercial agricultural use
3. Hedgerows, windbreaks, or wooded strips/corridors
4. Working forest: forests which are managed for timber production under an approved forestry management plan.
5. Lands for private and community gardens

Lands With Scenic Values

1. Viewshed
2. View points
3. Roadsides, greenways, natural strips, tree belts

Lands With Recreational and Educational Values

1. Public parks
2. Corridors and lands which create and/or link hiking and biking paths
3. Lands with passive recreational values such as hiking, picnics, and photography, biking, skiing, skating, etc.
4. Golf courses

Lands With Historical, Cultural, or Archaeological Values

1. Archaeological sites
2. Historical, cultural, and religious sites (old farms, historic buildings, historically significant landscape)
3. National Register site or site within a National Register District

Lands With Other Urban Open Space Values

1. Lands which provide access to open spaces, natural areas, and waters, or which link or connect open spaces but not necessarily as “natural” corridors
2. Urban and campus greens
3. Streetscapes and treebelts
4. Cemeteries
5. Parking lots and vacant lots

Appendix 2.

An Acquisition Process Step-by-Step

The acquisition process, outlined below, establishes a system that the City can employ in identifying priority parcels; receiving authorization to pursue their purchase; and defining and implementing strategies for the negotiation, funding, and management of the property. This process acknowledges throughout, that any decisions regarding which land to acquire, and how, should be grounded in an understanding of:

- The community's goals for land conservation and protection;
- The natural, scenic, cultural, or recreational attributes of the land;
- Projected future use and management of the property;
- The projected cost of acquisition and/or management;
- Applicable protection and funding options;
- The potential for cooperative partnerships to further program goals.

Step 1: Prioritize Sites for Acquisition

Community Goals: This Plan provides three important tools in prioritizing properties for acquisition. The *Geography of Open Space* (Chapter 4.2) identifies the major landforms, natural features, and community development patterns of significance to the open space protection needs of the City. It also defines a citywide vision for open space protection.

The *Open Space Inventory* (Chapter 4.3) identifies many of the City's remaining undeveloped lands, together with an overview of their natural, cultural, and recreational attributes. The Inventory will require regular updating if it is to remain accurate and useful.

Finally, citizen input gathered in open neighborhood meetings, formal and informal surveys, and public hearings reveals the public's strong interest in seeing important City lands protected, and their views on the relative importance of particular areas to natural and recreation needs city-wide. The public's attitudes and priorities for open space protection should be consulted on a regular basis in the future.

With the help of these tools, the Conservation Board can develop a rating system that provides a clear and objective system for evaluating lands for possible public acquisition. In addition to lands identified by the Conservation Board, landowners and interested citizens should be encouraged to offer their suggestions to the Board. As it finalizes its ranking system, the Board may decide to assign numerical rankings, or simply establish a review checklist of significant issues. While only one or two properties might be pursued for acquisition at any one time, it is advisable for the Board to work from a list of up to 5-10 priority sites. The City's Board of Finance should be kept advised of the Conservation Board's work plan on a regular basis.

Initial ranking of the properties require the following three steps.

a) Site Visit: To verify the site's natural, recreational, or cultural attributes and inform management decisions, a site visit by appropriate staff and/or volunteers should be done for each potential acquisition. A report or checklist should be developed by the Conservation Board to record the findings of each site visit.

b) Assess Relative Importance: Many issues contribute to the relative importance of a property. The priority for protection begins with the presence and quality of natural, scenic, cultural, or recreational resources and functions on the site. Sometimes, an evaluation will identify a site with such superlative

attributes that it is a clear priority for protection. More often, however, one site may have outstanding views, but little in the way of natural amenities, or be a very sensitive natural site with little or no recreational value. To decide between otherwise dissimilar, but highly valuable sites, the City will need to consider a wide range of factors in order to determine relative importance.

What is the quality of the resource(s) present?

Is it contiguous to existing open space?

Is it in a neighborhood with relatively little open space?

How important is it to surrounding neighborhood as open space?

What would be the impact to the surrounding area if the site were to be developed?

How big is the site/parcel?

c) Assessment of Threat, Potential Cost, & Availability: Finally, the City must try to determine the level of threat present to the resources on the site, and its potential availability. Obviously very sensitive resources that are under an imminent threat are of a higher priority. But if an owner is unwilling to sell, or wants an exorbitant price, other options may have to be considered. These and other relevant issues should be included in the review process. Once a priority list is established, the principal goals and purpose of each proposed acquisition should be clearly identified.

Step 2: Project Design

As a property is identified for potential acquisition, a detailed plan or strategy must be developed in order to articulate the public interests in the property, propose likely uses and stewardship responsibilities, identify the most appropriate method of acquisition, and identify likely funding sources and project partners. At this point, the Conservation Board will need to consult with the Department of Parks & Recreation - particularly if the property is to be owned and managed by the City. The prioritization process outlined above will help to identify the public values and likely uses of any given site.

Among the many issues to be considered and addressed, include:

- The capacity of the City to advance the project in a timely manner and/or the need to enter into strategic partnerships with outside groups;
- The lead entity or team responsible for negotiating the acquisition process.
- A preliminary outline of future use and management.
- The most appropriate acquisition method;
- The estimated cost of acquisition and long-term stewardship;
- The most appropriate funding source(s) and strategy for obtaining them;
- The lead entity or team responsible for long-term monitoring and/or stewardship.

Step 3: Present Recommendations to City Council

Once the Conservation Board has identified and prepared an acquisition plan for one or more properties, the next step is to present the Board's findings to the Mayor and City Council, and request authorization to act. Due to the need to preserve confidentiality concerning transactions and negotiations, this presentation must be made to the Council in Executive Session. Conservation projects where the City will not hold any specific interests in land do not require City Council approval. However, the Mayor and the City Council should be kept apprised of acquisition efforts where the Conservation Board is involved.

The Conservation Board presentation should include a summary of the decision-making process leading to the selection of the recommended acquisition priorities, including the principle purpose of each proposed acquisition, anticipated funding sources, acquisition strategy, potential partnerships, and future uses.

If the Council is satisfied that the priorities, goals and strategy outlines are well supported, its preliminary vote to proceed will authorize the Conservation Board to work with the City Attorney's office and project partners to secure preliminary agreements/contracts with the landowners and/or a partner organization to acquire the approved properties.

Once a contract is in place, the Conservation Board will return to the Council for final approval of the acquisition, and, if local funding is needed, to appropriate funds towards the purchase.

Step 4: Negotiate Agreement to Purchase/ Perform Due Diligence

Once the project design is in place, authorization to proceed is obtained, and it is clear who will be negotiating with the landowner, the negotiation process begins. Negotiations can be protracted, or go very quickly, depending on the circumstances. Often they will require many iterations and consultation between the parties. The objective is usually a signed, written agreement, which will entitle the City, or other project partner, to purchase the property at a price and on terms that are achievable and agreeable to both the buyer and seller. A common condition of such an agreement involves the performance of various legal and physical inspections of the property, known as "due diligence."

Step 5: Request Final Approvals - Secure Final Funding

Once a Purchase and Sale agreement is in place, the Conservation Board will return to the City Council for final approval of the acquisition under the terms of the negotiated agreement, as well as approval of any local funding necessary to complete the project. By this time, all sources of funding should be specifically identified if not yet secured. This is the final City approval step unless the terms or fund-raising status of the project changes unexpectedly, in which case the Board would likely have to return to the Council before closing.

**Step 6: Close and Convey Property
Responsibility to Management Entity**

If steps 1 through 6 have been done well, step 7 should be routine. Final details are worked out in the legal paperwork and the interest in the property is conveyed to the buyer. At this point, the management of the property also transfers to the buyer or its management partner or contractor. Management agreements, baseline reports and monitoring schedules for easements would also be developed.

**Step 7: Complete/Update Stewardship
Plan. Implement & monitor regularly.**

It is often impossible to fully understand or predict the uses that any property will be put to prior to owning it. Once a piece of property has been purchased by the City, a more thorough *Stewardship and Management Plan* must be prepared – even if it is for an interim period or for property that is not intended for “active use.” Furthermore, management is an ongoing enterprise. It is important to monitor or inspect the property regularly, to put a management plan in place, and to periodically update the plan as circumstances dictate and resources allow.

Step 8: Annual Reporting

Once a year, the Conservation Board should prepare a report to the Council and the community detailing the program’s initiatives, successes, and challenges, including a list of properties acquired under the program to date, and any issues related to the management of properties acquired through the program or under the oversight of the Conservation Board.