LRN: 00D131I

SWP-BOS2-44

Interactive Qualifying Project

2000 Inventory of Boston's Urban Wilds

Boston Project Center
D-Term 2000

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The City of Boston Environment Department

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May 5, 2000

This project is submitted in partial fulfillment of the degree requirements of Worcester Polytechnic Institute. The views and opinions are those of the authors and do not necessarily reflect the opinions of Worcester Polytechnic Institute or the City of Boston Environment Department.

Abstract

Urban Wilds are crucial areas of natural land that are being lost to development. This project was designed to overcome the lack of communication and information currently undermining Boston's protective attempts in order to minimize further loss. Data collected through visiting unprotected Wilds was used to determine each Wild's importance and recorded in a database that included images and current ownership information for each Wild, thus creating a source of centralized information.

Acknowledgements

As a group, there are many individuals we would like to thank for their invaluable assistance with our project. First, we express our gratitude to our liaison Richard McGuinness and the rest of the Environment Department staff for their constant support and guidance. We would also like to thank Tim Smith of the Boston Parks and Recreation Department for providing us with essential information regarding Boston's open space plan. In addition, we would like to show our appreciation to the staff of the Boston Natural Areas Fund for allowing us access to their office and files as well as to David Lavelle for his aid in our Urban Wild ownership research effort. Finally, we greatly appreciate the guidance and diligence of our advisors Steve Pierson and Fabio Carrera.

Authorship Page

Each of the four project group members equally contributed to the creation of the maps, graphs and information found in this report. In addition, each member diligently produced information and material that was presented to our liaison in addition to the report.

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1. Executive Summary

Amongst the tumult of a city filled by cars and commotion lie the last remaining solaces of natural, undeveloped land. Rare though they are, these Urban Wilds contain examples of vegetation, vernal pools, wetlands, salt marshes and other unique features that help to maintain an ecological balance within the city. Furthermore, these gems of nature are psychologically important to the city, serving as bastions of refuge and tranquility.

In Boston, unfortunately, over a third of the Urban Wilds have been lost to development in the past twenty-five years. Several agencies exist within the city to protect these Wilds from further development. At the forefront of these environmental agencies, the Boston Conservation Commission (BCC) works to acquire undeveloped Urban Wilds throughout the city and transfer them to the Boston Parks and Recreation Department for permanent protection. The success of the BCC, however, has been compromised because of incomplete record keeping and a lack of central organization between Boston's agencies. In many cases, Wilds that could have easily been protected have been lost because these agencies were unaware of the existence of specific developmental threats.

Our inventory and analysis focused on Wilds that were not protected as of 1990, the last time a survey of Boston's Urban Wilds had been performed. Wilds are considered permanently protected from development only when owned by an environmentally minded agency such as the BCC or Parks and Recreation Department. As of 1990, 74 of Boston's 143 Urban Wilds remained unprotected. These Wilds were still undeveloped but lacked any guarantee of remaining so.

The aim of this project was to aid the BCC in updating the status of Boston's unprotected Urban Wilds and provide a means for more efficiently preserving those remaining. Our first step was to assess the threat of each Wild due to its ownership. Also, a list highlighting Wilds that were most important to the city of Boston was designed to aid the BCC and other environmental agencies in appropriately focusing their protective resources. Finally, the findings of our research constituted the first all-encompassing

review of Boston's unprotected Urban Wilds in over a decade, creating electronic and paper resources for the purpose of protecting these Wilds in the future.

Determining the ownership of a Wild is a particularly important objective because it directly relates to a Wild's threat of development. Privately owned Wilds are often at high risk because the developmental intentions of the owner are unknown to protective agencies such as the BCC. The developmental risk of a publicly owned Wild is directly related to the agency by which it is owned. Wilds owned by protective agencies such as the BCC or Parks and Recreation Department are at no risk of being developed, while Wilds owned by the Boston Redevelopment Authority or the Department of Neighborhood Development are at a high risk of being lost.

In order to successfully create an electronic database and provide functional conclusions to the BCC, our methodology included extensive research and field data collection. Research was conducted within various city departments and agencies in an attempt to determine an individual Wild's threat of development due to its ownership. In order to both update each Wild's condition and obtain the necessary data for constructing an importance rating, the 74 unprotected Urban Wilds were visually inspected and assessed.

Within every unprotected Urban Wild, current condition was ascertained by observing the amounts of litter and dumping as well as any signs of developmental encroachment. The accessibility and scenic value of the Wild to the public was also observed. Natural features such as bodies of water and rock outcroppings determine a Wild's uniqueness and ecological importance; for this reason, natural features were recorded and given a rating that represented their size and condition.

Development of a standardized rating system in order to determine the importance of an Urban Wild depended heavily upon the natural features that were catalogued during field data collection. Most crucial, were signs of ecological importance such as wetlands because so few of these vital attributes are left in Boston. The importance rating also considered neighborhood need due to a lack of open space and low income. Every neighborhood received a score based upon its income and open space acreage and that score was applied to the importance rating for each Wild within that neighborhood. A final tally of each Wild's score was calculated using all of the above criteria.

The results of this project included four major accomplishments. The condition of each Wild, including whether or not it had been developed upon since 1990, was evaluated. Also, we found that it was nearly impossible to determine the specific ownership of public Urban Wilds. An importance rating system was developed and applied to each of the 74 remaining unprotected Wilds. Finally, two tools for managing Urban Wild information were developed and provided to the BCC.

Our survey of Boston's Urban Wilds suggested that the loss of undeveloped land continues, however, this information may not be entirely accurate. Some of the apparent losses in acreage could be due to discrepancies between the methods for calculating acreage in the 1976 and 1990 surveys. Unlike these previous surveys, the 2000 inventory calculated Wild acreage using the Parks Department's maps of city parcels, which may not always coincide correctly with Urban Wild boundaries. Analysis of collected data does show that the condition of Wilds and their neighborhood minority level do not correspond. On the other hand, areas of low income generally have slightly higher amounts of litter and dumping.

Research into the ownership of Wilds resulted in a rather interesting finding. While exact ownership can easily be determined through assessment data for Wilds with private owners, there is no written record for the specific agency ownership of publicly owned Wilds either in the Registry of Deeds or the records of specific agencies. This has proven to be especially true for transfers between city agencies. This surprising finding made the task of assessing a Wild's ownership virtually impossible.

A significant accomplishment of our project was the completion of an importance rating system in order to determine the overall value of each Urban Wild to the City of Boston. We found that some Wilds are significantly more important to the city of Boston than others. This rating system shows the overall importance of each Wild as well as the features that contributed to determining each Wilds importance status. Since the criteria for these priorities have changed several times in the years following the first survey, we have also compiled lists of important Urban Wilds based on individual characteristics such as the presence wetlands, connectivity, and open space need. This will maintain the system's versatility, thus, providing a useful tool to the BCC for years to come.

The final outcome of our results and analysis was the production of an electronic tool for organizing Wild data as well as a hard copy of information collected in notebooks. The results of our research and field data collection were organized into two main electronic databases. The first was designed to feature permanent Urban Wild information and the second was used to file time-dependant data for each Urban Wild. In order to make these databases more useful we linked them to a digital map of the City of Boston, created using GIS software, thus integrating this information into a spatial format. In addition to a computerized database, a series of notebooks was constructed to organize the same information. One notebook for each neighborhood was created and divided into subsection for each Wild. In addition, a description, previous survey information, street maps and available ownership documentation was included. The completion of these notebooks is the first time that all available information regarding Boston's Urban Wilds have been gathered together in a consistent, organized fashion

The importance of Urban Wilds increases as these natural treasures continue to be consumed by human development. To this date, the majority of Boston's Urban Wilds remain unprotected. Through the use of their new, centralized information sources and importance rating system, the BCC will be able to more effectively protect Urban Wilds for future generations.

2. Introduction

Amid a city composed of concrete and man-made structures lay a few remaining solaces of the natural beauty that once dominated the land now comprising the city of Boston. These areas left undisturbed by human development are known as Urban Wilds. Unlike parks, Urban Wilds are purposefully left to grow naturally and do not contain facilities or any sort of development beyond unpaved pathways. The importance of these Wilds is great and increases as fewer refuges of nature remain within cities. Their wooded land and sheer cliff sides provide a welcome relief from the monotonous view of the city. Many citizens value these rare nature spots as places to escape from city life and refresh themselves in the untouched beauty of nature. Not only do Urban Wilds provide a place of refuge but they also serve as learning tools for school children and adults in regions that make it otherwise impossible to experience the environment first hand. In addition, there are also obvious environmental benefits to Urban Wilds since they help reduce noise, air and water pollution.

Despite their great importance to the city, Boston's Urban Wilds are threatened by development, thus, leading to several actions on the part of concerned parties. Recognizing the value of Urban Wilds and their need for protection, the Boston Redevelopment Authority, a city agency, commissioned an inventory of Boston's Urban Wilds in 1976. Then in 1977, a group of environmentally aware individuals founded the Boston Natural Areas Fund for the sole purpose of protecting Boston's Urban Wilds. In its attempt to continue the protection process, the BNAF updated the BRA's 1976 survey in order to determine which undeveloped Wilds were still unprotected. Based on the findings of the BNAF survey, it was evident that many of the Urban Wilds existing in the 1976 survey had either been lost or degraded. Most likely, the trend has continued and more Wilds have been lost forever in the years following the 1990 survey.

In order to end the continuing development of Urban Wilds, Boston must carefully monitor the status of its few remaining open spaces. The Boston Conservation Commission, or BCC, is concerned with saving Boston's Urban Wilds. The BCC would like to update the BNAF's 1990 Urban Wild survey with a focus on the Wilds that remain unprotected. Wilds are considered protected when they are owned by an environmental

agency. Other methods of protection exist, such as restriction regulations, but are not always permanent or effective. Since 74 Wilds remained unprotected after the 1990 survey and time constraints would not allow the inventory of every Wild, this project was only concerned with land whose future was yet uncertain.

Aiding the BCC in protecting these threatened Wilds was the primary goal of this project. To achieve this, we created a system for cataloguing, monitoring, and evaluating the importance of Boston's unprotected Urban Wilds. We visited each site and assessed its current status, including accessibility, ownership, condition, and level of protection. These parameters were used to determine which Urban Wilds contained the most important features of a Wild and ought to be protected. This project's analysis should increase the efficiency by which the BCC and other agencies work to preserve the remaining urban open spaces in the city of Boston.

The remainder of this report has been arranged into the following sections: Background, Methodology, Results and Analysis, and Conclusions and Recommendations. The Background section has been included in order to provide an understanding of the different topics to be covered within this report. The next section, Methodology, describes what our project team did to inventory the condition, ownership, and importance of Boston's Urban Wilds. A Results and Analysis section follows Methodology and presents the findings of our project and the analyses that led to our conclusions. In the final section of the report, Conclusions and Recommendations, we discuss the scope of our findings and suggest any issues that have arisen which we feel might help the BCC to better protect Boston's Urban Wilds.

3. Background

Among the buildings, streets, and homes of Boston lay its Urban Wilds, which help to bring a sense of nature to the city. In order to maintain this natural setting within the city, many believe it is essential to preserve these Wilds. However, some citizens and organizations, such as the Boston Department of Neighborhood Development, view Urban Wilds as parcels of land that should be developed to satisfy the large demand for housing in Boston. Thus, the city is sometimes forced to answer a question: does the need for more housing and development outweigh the benefits of a greener, more open city? While developing these Urban Wilds will provide the city with more revenue and housing for it's residents, the ecological and psychological benefits of certain Urban Wilds within a neighborhood are important to the city as well. It is the scope of this chapter to present the importance of Urban Wilds and the efforts used to preserve them.

Since the BNAF's 1990 survey was aimed at the protection of Boston's natural open spaces, we first studied the importance of these natural areas within a city, both ecologically and psychologically. We have also included a discussion of the BNAF's 1990 report. Finally, in order to understand the process by which parcels of land are protected from development, we outline tools such as ownership, restrictions, and incentives that are used by authorities for the preservation of open spaces.

3.1. Nature in Cities

One of the main reasons our project team updated Boston's 1990 survey of Urban Wilds was to help the city protect the few Urban Wild areas that still exist within its confines. In order to appreciate the importance of preserving natural Urban Wilderness within Boston, one should understand the positive ecological and psychological benefits of these Urban Wilds in urban settings. Also, an understanding of the history of Boston's interest in nature is important in comprehending the motivation behind updating Urban Wild information.

3.1.1. Ecological and Psychological Benefits of Urban Wilds

The preservation of Urban Wilds helps to prevent the ecological demise of the city. These Urban Wilds contain examples of nature such as trees, grass, vegetation, plants, vernal pools, wetlands, salt marshes, streams, swamps, and standing water that maintain the ecological balance within the natural habitat. They aid the cleaning of Boston's water supply by filtering storm water runoff. Trees are of the utmost environmental importance however, due to their ability to reduce pollution within an urban environment. Trees are thus contributing to reducing the global warming problem, which is in part due to the large amount of carbon dioxide released into the air by home heating. Urban trees and their soil reduce the carbon dioxide build up in the atmosphere by seizing carbon through photosynthesis.[1] An eighty-foot beech tree for example, can remove the amount of carbon dioxide produced by two single-family houses.[2]

Not only do trees remove carbon from the atmosphere, but they remove particulate matter as well, thanks to their leaves and needles. According to A. Bernatzky, author of Tree Ecology and Preservation, a street lined with healthy trees can decrease particulate matter in the atmosphere up to as much as 7000 particles per liter of air. Other pollutants in the air, such as nitric oxide, nitrogen dioxide and ammonia, can also be removed from the atmosphere by trees. Tree foliage captures these pollutants from the air and uses the nitrogen in the growing process. Trees also capture sulfur dioxide and ozone in the atmosphere for growing purposes.[3]

Trees also help reduce noise pollution by absorbing high frequency sounds in their branches, twigs, and leaves. According to D.I. Cook, author of "Trees, Solid Barriers, and Combinations: Alternatives for Noise Control," a belt of trees thirty meters wide and 15 meters tall has been proven to decrease highway noise by six to ten decibels, which is approximately a fifty-percent decrease in terms of sound energy.[4]

Trees are energy-savers too. They reduce the fossil fuel consumption enough to decrease half the current atmospheric accumulation of carbon dioxide that contributes to greenhouse gases. An urban tree can prevent fifteen times more carbon from entering the

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1 James J. Kielbaso et al. The American Forestry Association, 14.
2 *Ibid.*, 22.
3 *Idem.*
4 *Ibid.*, 25.

atmosphere through energy conservation than it can through biologically seizing the carbon. The fossil fuel energy used to heat buildings in the winter is decreased by the presence of trees because they protect buildings and homes from high winds.[5]

By shading homes and buildings, trees also reduce electricity use for air conditioning in the summer. This is important because in the United States nine percent of the residential electrical use is due to air conditioning. By placing trees and shrubs in appropriate locations, daily electrical use for air conditioning can be reduced by up to fifty percent as attested to by John Parker, author of Uses of Landscaping for Energy Conservation.[6]

In addition to being ecologically beneficial, Urban Wilds are also psychologically beneficial to city dwellers because they provide a place of recreation, education, leisure, and beauty for individuals to enjoy.[7] People need a place of refuge that will allow them to relax and rejuvenate themselves away from the hustle and bustle of the city. Access to public natural areas is a defining factor in the quality of life of urbanites. Given the opportunity, people will choose to live in an area surrounded by nature. However, the availability of nature is limited in urbanized areas, therefore increasing the value of parks and Urban Wilds in the cities.[8]

People not only want to live in a natural environment, but they want to live in close proximity to people too. William Kornblum, author of "The Psychology of City Space" states, "the desirability of living near attractive land or seascapes at the same time that one is close to other people is a feature of modern, urban temper. It is a value duality that goes quite far in explaining the ecology of modern metropolitan growth."[9]

3.1.2. History of Nature in Boston

Like most modern metropolises, Boston is a city torn by the push to develop and the desire to preserve nature within its limits. Even as long ago as the mid 1800's, when

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5 *Ibid.*, 14.
6 *Ibid.*, 16.
7 James S. Bicak, et al. "Preserving Our Urban Wilds: A Biology Education Resource" The American Biology Teacher, 351.
8 William Kornblum. Urban Open Spaces, ed. Lisa Taylor, 15.
9 *Idem.*

Boston was still being planned, key players such as Fredrick Law Olmsted successfully defended the importance of maintaining natural open spaces within the developed portions of the city.

Fredrick Law Olmsted, the mastermind behind Boston's Emerald Necklace, was described as a man who "held strong convictions about the need for developing healthful cities".[10] Olmsted believed that the park was more than just an ornament to decorate a city. Rather, he argued that parks and open spaces provide the necessary means for citizens to refresh themselves in nature. He also thought that natural open spaces aided in the improvement of health, mind-set, and morals of city dwellers.[11]

Past legislation also illustrates the path of environmental preservation in Boston. While serving as a United States Senator, George F. Hoar introduced a bill to ban the interstate trade of feathers in 1898 [12]. The bill failed, but it set a trend for bills that would try to protect nature. In 1901, the Lacey bill was introduced, making it illegal to ship birds that were protected by a state out of that particular state[13]. The trend of protecting nature has continued in Boston for nearly one hundred years and has also progressed to the local government.

Boston has done a great deal to preserve the natural environment of the city. Mayor Menino appropriated $250,000 for the purchase of open spaces over 5 years starting in 1998[14]. According to Justine Liff, commissioner of the Boston Parks and Recreation Commission, 2,200 acres of open land within the City of Boston contains 215 parks and playgrounds ranging in size from 0.05 to 527 acres."[15] In addition, the city contains the oldest botanical garden in the nation, the Public Gardens.[16] The city government is not alone in its efforts to promote preservation; Boston residents have also actively taken up the task of protecting nature within their city.

The citizens of Boston have worked hard to demonstrate the importance of nature in their lives. In April of 1999, the site of the Condor Street Urban Urban Wild was a dilapidated plot of land that was being used as a trash dump. Due to a grass roots

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10 Lawrence Kennedy. Planning the City Upon the Hill, 82.
11 *Idem.*
12 *Idem.*
13 *Idem.*
14 Moran, James. "Keeping Jamaica Plain Hill 'Green and Glorious'" A24.
15 *Idem.*

movement and action by nearby residents, the Condor Street Urban Wild is currently under repair. The contaminated soil will be removed and replenished by the summer of 2000. The cost of restoring the site is estimated to be between $400,000 and $500,000[17].

Boston is a city rich with a history of environmental awareness. From the days of Fredric Law Olmsted, to today's environmental agencies working to protect the city's Urban Wilds, the policies of the city have reflected its citizens environmental concerns.

3.2. Relevant Boston Agencies

Without the concern of several key agencies, both public and private, many of Boston's Urban Wilds would probably no longer be in existence today. The five groups most closely associated with the movement to preserve these remaining Wilds are: the Boston Environment Department, the Boston Redevelopment Authority, the Boston Conservation Commission, the Boston Parks Department, and the Boston Natural Areas Fund. To illustrate the function that these agencies play in the protection of Boston's Urban Wilds, we have included descriptions of the agencies as well as the means of their direct involvement with Boston's Urban Wilds. We have also included agency descriptions of the Boston Assessing Department and the Department of Neighborhood Development due to their relevance to this project.

3.2.1. City of Boston Environment Department

The Environment Department is a division of the Boston municipal government created to improve living conditions throughout the city by protecting Boston's natural resources. Since the Environment Department is the sponsor of our study, it is important to understand the role the department plays within the city of Boston, and this is best conveyed through a description of the many sub-agencies that are under the department's jurisdiction.

One subdivision of the Environment Department is the Greater Boston Urban Research Partnership (GB-URP), which was created by the Environment Department in

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16 *Idem.*
17 *Idem.*

1996 in order to aid communities within Boston in any issue of environmental concern. For example, the GB-URP is currently working closely with the Environmental Protection Agency and the community of Chelsea in a program concerned with the ecological revitalization of the heavily abused Chelsea Creek.[18]

Boston's Environment Department is also responsible for the creation and maintenance of the Boston Environmental Strike Team, or BEST, which is charged with the enforcement of environmental, public health, and safety laws and regulations throughout the city. One chief concern of BEST is to combat the illegal transfer and dumping of hazardous wastes in Boston, and the team achieves this through both the stern prosecution of violators as well as the implementation of programs for local environmental education.[19]

The Environment Department also oversees a commission on Open Space Initiatives, which is currently aiding the city through the co-development of the Mayor's Open Space and Urban Land Acquisition policies. In addition, the Open Space commission is concerned with such environmental issues as the restoration of portions of Boston's Emerald Necklace and such Urban Wilds as Jamaica Pond and Hellenic Hill.[20]

Through its numerous commissions and task forces, the Environment Department is helping to protect Boston's land, air, and water resources. This effort is continuing to raise the standard of living for all of Boston's inhabitants and is helping to preserve and protect the natural environment of the city.

3.2.2. Boston Redevelopment Authority

In 1961, the Boston Redevelopment Authority (BRA) was the primary city planning agency overseeing the implementation of any development plans. The BRA's responsibilities include proposing and administering renewal plans, developing comprehensive redevelopment guidelines, and creating capital improvement programs for municipal departments. The BRA was created in an effort to curb the decay and dispersion of both business and population in the city of Boston. The purpose of the

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[18] City of Boston Environmental Department Homepage. Available from http://www.cityofboston.com/environment.

[19] *Idem.*

BRA was also to take an overall look at the city of Boston and make its citizens aware that the government is interested in the future of its city lands. For forty years, the BRA has been responsible for city planning, zoning and economic development in the city of Boston [21]

While the BRA's main work is in the areas of urban renewal and development, it was this organization that first began to look at Boston's Urban Wilds as resources that deserved to be protected. In 1976, the BRA conducted the first survey of Urban Wilds in an effort to plan for the future of Boston's Urban Wilds.[22]

3.2.3. Boston Conservation Commission

The Boston Conservation Commission (BCC) is the agency charged with protecting the city of Boston's natural resources. The BCC is responsible for protecting the public interest in areas that involve the welfare of urban open spaces or natural areas. The Mayor appoints seven Commissioners as well as the Executive Secretary that make up the BCC.[23]

The Commission holds public hearings in order to receive the public's input on the city's open spaces and the efforts to protect them. They also gather to review permits to work within 100 yards of BCC owned and protected property. The BCC also holds the power to fine up to $25,000 a day for unauthorized alteration of lands under their jurisdiction.[24]

Some of the natural areas protected by the Commission include: Boston Harbor; the Charles, Chelsea, Neponset, Mystic and Muddy Rivers; Mother Brook; Stoney Brook; Fort Point and Reserve Channels, Jamaica, Chandlers; Sprague, Mill, Wards, Leverett, and Turtle Ponds; the Belle Isle Inlet and Marsh, Constitution, Carsons, Malibu, Tenean and Boston Harbor Island Beaches.[25]

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20 *Idem.*
21 Roger Trancik. Finding Lost Space, 139-141.
22 City of Boston BRA Homepage. Available from http://www.ci.boston.ma.us/bra/.
23 Boston Conservation Commission Pamphlet.
24 *Idem.*
25 *Idem.*

The BCC works together with the Boston Natural Areas Fund (BNAF) to ensure the continued existence of Boston's Urban Wilds. The BCC represents the government in this public/private partnership charged with preserving the City's Urban Wilds; the BNAF is the privately owned partner.[26]

3.2.4. Boston Natural Areas Fund[27]

In 1977, a group of environmentally aware Bostonians began the task of protecting the city's Urban Wilds from development. The organization they founded, the Boston National Areas Fund (BNAF), has been a key player in the preservation of Boston's Urban Wilds as well as an important factor in the education of Boston's citizens to the plight of Urban Wilds. The unique public/private partnership between the BNAF and the Boston Conservation Commission has been a powerful tool in protecting Boston's Urban Wilds.

With the backing of the city's Environment Department, the BNAF set about the task of preserving Boston's Urban Wilds. The BNAF is actually a private, non-profit organization. Eugenie Beal, Norman Byrnes, Richard Fowler, Cecile Gordon and Katherine Kane formed the group after realizing that the difficult task of protecting Urban Wilds would be most easily achieved by an organization not tied up in the red tape most government departments face. Initial finances were provided by the Jessie B. Cox Charitable Trust, and additional backing soon followed.

When the BNAF came into existence in 1977, the group's work focused mainly upon the city's Urban Wilds. The BRA had just completed the first survey of Boston's Urban Wilds with the goal of increasing public awareness concerning the almost desperate conditions of Boston's open spaces. The report was meant as a preliminary tool for data collection; thus, it contained no methodology for protecting the land.

Working along side the Boston Conservation Commission, the BNAF was alerted to threats of development to Urban Wilds and began setting up agreements with public agencies and community groups in order to preserve these natural parcels. The method for saving Urban Wilds was simple: acquire Urban Wilds and prevent their development.

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[26] BNAF 1990 Urban Wild Survey

Initially, the partnership bought six parcels for a total of $1,033,690. Several Urban Wilds were also purchased solely by BNAF and turned over to the Boston Conservation Commission.

Funds for acquiring Urban Wilds began to dwindle in 1988, so the BNAF set about developing programs to increase awareness and educate the public on the need for Urban Wilds. Annual newsletters and guided tours were begun and still continue. Key to forming public awareness was the 1990 Urban Wilds survey. After two years of collecting data, the report and a supporting database became powerful tools for the BNAF, public agencies, community groups and other non-profit organizations in making land use decisions in the public interest.

3.2.5. Boston Parks and Recreation Department

The Boston Parks and Recreation Department is responsible for over 2,000 acres of open space within the City.[28] In addition to managing Boston's natural resources on a daily basis, the Department is also responsible for the publication of Boston's Open Space Plan. This plan deals directly with Boston's Urban Wilds and is designed to aid the entire city and each of its neighborhoods in future plans for open land usage.

An environmentally conscious agency, the Parks Department works to protect its existing Urban Wilds as well as to gain control over Wilds whose developmental future is uncertain. Any of Boston's Urban Wilds owned by the Parks Department can be considered highly protected and in low threat of development.

3.2.6. Department of Neighborhood Development

The goal of the Department of Neighborhood Development (DND) is to make Boston one of the most inhabitable cities in the nation. The agency plans to do this by redesigning Boston's communities with the hopes of building strong neighborhoods by using public resources in a tactical manner. In order to attain their goal, the DND provides programs and services through the following working divisions: Capitol

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27 *Idem.*

28 http://www.ci.boston.ma.us/parks/

Construction, the Office of Business Development, Housing Services, Real Estate Services, Homeowner Services, and Home Buyer Assistance. [29]

The above divisions of DND allow the Department to control much of the housing development in Boston. It is for this reason that the Department is a threat to Urban Wilds within the city. DND wants to develop any land that it can, therefore any Urban Wild in its possession is in severe danger of being developed.

3.2.7. Boston Assessing Department

The Boston Assessing Department ascertains the worth of all personal and real property located within the City of Boston for the purpose of taxation.[30] The Department is required by law to assess all property at a complete and reasonable cash value annually. The Department also administrates all property tax data records and keeps correct parcel ownership information based on recorded property transactions at the Registry of Deeds. Spatial data that is relevant to correct parcel identification is also recorded by the Department.[31]

The Assessing Department is an important resource for determining the ownership of each Urban Wild because it lists the owner of each parcel of land in Boston. The Department also provides exemption codes, addresses, mailing addresses of owners, and parcel identification codes for each of the Urban Wilds in Boston. Taxes paid on parcels of land and the book and page number that locates the deed of the parcel in the Registry of Deeds books can also be acquired at the Assessing Department.

3.3. BNAF 1990 Survey of Urban Wilds[32]

In 1990, the BNAF performed its own study of Boston's Urban Wilds in order to determine any changes in condition since the previous report. The BNAF found that 40 of the sites from the 1976 survey were now lost, while 38 others had been protected. Along with these findings, the survey detailed methods the BNAF would use to preserve

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29 http://www.ci.boston.ma.us/dnd/

30 http://www.ci.boston.ma.us/assessing/

31 http://www.ci.boston.ma.us/assessing/

more Urban Wilds, based upon each site's individual characteristics. The following section describes the 1990 survey in more detail.

3.3.1. Methodology of the 1990 Survey

The 1990 data was collected primarily through a field survey that included information on vegetation, topography, geology, hydrology, current uses and accessibility. The methodology was developed by a BRA landscape architect, a City of Boston Parks and Recreation Department planner, naturalists and the secretary of the BCC. Assessments of Unprotected Urban Wilds were rated as either Degraded or Intact by a qualitative method.

Information on the types of vegetation in each Urban Wild was thought important both as an assessment of current conditions and as a site history. Data was gathered on the different species of trees, shrubs, and flowers at each Urban Wild. Also included in the inventory, were estimations of slope and wetland types. Finally, information on the rocks and ledges present in each Urban Wild was recorded. Photos were taken of all the sites, and research was conducted to determine the ownership of each Urban Wild. Also, a sketch of each site was produced to pinpoint its location, boundaries and prominent features for each existing Urban Wild not yet under protection. The collected data was used to create a database for the BRA, the Boston Environment Department, and the Boston Parks and Recreation Department.

The 1976 BRA report assigned each Urban Wild a numeric identification based upon the neighborhood where the site was located. The 1990 survey continued to use these same identifiers though some of the neighborhood boundaries have changed. An attempt by the BRA survey to assign each Urban Wild a Priority Action Number designating its likelihood of being threatened by development proved unsuccessful according to the 1990 survey. Therefore, no similar attempt was made by the BNAF.

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[32] *Idem.*

3.3.2. Results of the 1990 Survey

The 1990 survey found that a significant amount of Urban Wilds had been lost since the BRA report of 1976. In those 14 years, more than 600 acres of the original 2033 acres of surveyed Urban Wilds had been developed. Eight Urban Wilds were altered only in part, but the damage done was irreversible. Thirty-two Urban Wilds were destroyed by buildings or paved over for parking lots. Included in these thirty-two is Governor's Island Cove, the largest Urban Wild in 1976, which was lost during the expansion of Logan Airport. Every neighborhood included in the report suffered from some loss of Urban Wilds, according to the 1990 survey. The original 1976 report had found 143 Urban Wilds and of these, 84 remained in 1990, at least in part, without any sort of protection. While still in about the same condition as in 1976, each of the Urban Wilds was determined to be at risk of being developed.

The BNAF had been successful in protecting some of Boston's Urban Wilds. Twenty-six entire Urban Wilds, as well as parts of 10 others, had been successfully protected by 1990. These lands are now either under the control of the Boston Conservation Commission or the Metropolitan District Commission. Three more Urban Wilds are protected by conservation regulations (please see Appendix 7.8 on page 115 for a description of these regulations).

Belle Island Marsh is now an MDC natural area after being supported by an East Boston advocacy organization. Twenty percent of the Urban Wilds from 1976 were protected by 1990. Many of the Urban Wilds from the 1976 report that remained undeveloped in 1990 were not protected however and these Urban Wilds must be further divided into three groups: intact, unprotected; degraded, unprotected; altered, unprotected. Intact, unprotected Urban Wilds remained just as they were in 1976. Sometimes, this was because the owner had purposefully left the Urban Wild untouched. Other times, the land was simply not valuable for development. Degraded, unprotected Urban Wilds are still recognizable as the ones survey in 1976, however, they have been reduced in size and condition by human interventions. For instance, the New Haven Street Urban Wild had been partially developed into homes and the rest had been degraded by those who lived close by. The way this Urban Wild was developed, without any public concern, shows the ease with which Urban Wilds can be lost. The final group,

altered, unprotected, only applies to two Urban Wilds. These are Urban Wilds of land that had inarguably changed since the 1976 survey, though not in a way to warrant a Lost label. For instance, one open green space had been turned into a large flower garden by nearby residents. The scenery had changed but in no way had the beauty of the landscape been lost.

The 1990 surveyors found it difficult to decide if the Urban Wilds were in the same, better, or worse condition than in the 1976 BRA report because much of the original information was incomplete or not exact. However, it was possible to classify the Urban Wilds into three categories: Lost, Protected, or Unprotected. Lost Urban Wilds had been developed or irrecoverably degraded by unsolicited uses such as parking. If the Urban Wild had been changed but at least half of it remained undeveloped, then a judgment call was made as to whether the Urban Wild was to be considered lost. The BNAF judged a Urban Wild as lost if: "It had been so reduced in size or shape that it cannot be understood to be what it was in 1976 or the natural features have been so altered by human activity as to be unrecognizable from the 1976 description." In order to be deemed protected, an Urban Wild must meet certain criteria. First, the site must have maintained the same acreage as in the 1976 report. Second, ownership must be held by an agency or institution whose charter includes land protection or a legal encumbrance such as a conservation restriction. Finally, the natural features of the Urban Wild must not have been altered by human actions. Only natural changes of condition are allowed.

3.3.3. 1990 Recommendations by BNAF

According to the BNAF, being called an Urban Wild is not enough to protect a site from development. A program to study, publicize, manage and protect the Urban Wilds was suggested. Urban Wilds not yet owned by the BCC should be transferred permanently to their control. As of 1990, there were 18 Urban Wilds owned by city agencies that are not responsible for conservation of public lands. Nine of these Urban Wilds were held by the Real Property Department.[33] The MDC should acknowledge the Urban Wilds program and take the initiative to gain ownership of Urban Wilds from

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[33] *Idem.*

other state departments. Consolidating Urban Wilds under the BCC or the MDC does not guarantee that the land will be protected forever, but it does give them a chance to be embraced by the public, thus strengthening their future as Urban Wilds.[34]

3.4. Methods of Protecting Urban Wilds

When a particular parcel of land has been identified as important or endangered, concerned agencies are left with several options for protecting that land. The most obvious and effective method is to buy the Urban Wild from the present owner. When lack of funds prevents this, regulations and incentives can be used to protect the land from development while it remains under private ownership. Education of the public provides another tool for protecting Urban Wilds without causing a financial burden on the government. Finally, it is important that once an Urban Wild has been found and protected it is also maintained, so as to be useful to the public.

3.4.1. Protection by Direct Ownership

In order to effectively protect Urban Wilds, it is first necessary to understand how ownership affects Urban Wild conservation. Typically, land in the United States that has been set aside for public use belongs to the government. Federal, State and local agencies may also purchase land for the purpose of protection. In addition, certain private, non-profit organizations purchase natural environments with the intent of leaving them undeveloped.[35] The combination of public and private agencies working to buy undeveloped land is probably the most effective way of guaranteeing the preservation of natural conditions of Urban Wilds.

Being owned by the city of Boston is not enough to guarantee protection of Urban Wilds. There are several agencies within the City of Boston, which own parcels of open land for the purpose of preservation. However, there are numerous other agencies within the city that purchase land with the intention to develop it. Agencies whose ownership guarantees an Urban Wild's protection include the BCC, BNAF, and the Boston Parks

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34 *Idem.*

35 Phillip M. Hoose. Building an Ark, 26.

Department. The Department of Neighborhood Development (DND) and BRA are both examples of agencies that purchase parcels of land for development.

To aid in protection of the Urban Wilds, the 1976 report had urged that 14 city-owned Urban Wilds be transferred to the BCC where they would be preserved. They were transferred for one year, but nine were returned to the Real Property Department. The BRA holds titles to three Urban Wilds. As of 1990, other agencies of Boston owned all or part of some Urban Wilds including: The Health and Hospitals Department, the School Department and the Boston Water and Sewer Commission.[36]

State ownership is just as precarious a situation as municipal ownership. The 1990 survey found seven Urban Wilds owned by state agencies that were not protected from development. The Metropolitan District Commission (MDC), which is the primary state agency with the ability to acquire and preserve land, has acquired several Urban Wilds in Boston since 1976. Other state agencies hold titles to Urban Wilds without any protection, including: the Massachusetts Port Authority, the Massachusetts Turnpike Authority, the Department of Mental Health and the Massachusetts Bay Transportation Authority.[37]

Even the Federal Government owns a portion of Boston's Urban Wilds. While the West Roxbury Rivermoor Urban Wild is not actively protected by its owner, the U.S. Army Corps of Engineers, the BNAF considers it protected because development would defeat the purpose of the Army ownership since these wetlands are meant to store water as part of the Federal Charles River flood control network.[38]

3.4.2. Regulations

When direct ownership is impossible due to financial or other restrictions, regulations can be used to protect the public interest. Regulation is a term used to denote almost any kind of government intervention. In the specific case of urban conservation, regulation can be broken down into two types: hard and soft regulation. Hard regulations

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36 BNAF 1990 Boston Urban Wilds Report, 22.
37 *Ibid.*, 23
38 *Ibid.*,, 14

have been set by legislature and carry penalties for noncompliance. Soft regulations, on the other hand, are voluntary and not enforced.[39]

Soft regulation is the mechanism of protection that works through agreement rather than coercion. Examples of soft regulation include: treaties, conventions, charters, guidelines, and codes of practice. These tools of regulation provide a guideline for what is acceptable and provides means for volunteers to check each other. They are, however, voluntary and therefore not enforceable in any way. A volunteer that steps outside the soft regulations can receive no more punishment than the disapproval of his peers.[40]

Hard regulations affect the building process. Most often, zoning regulations are used to limit the types of structures erected in a certain area. The constraints created by zoning are important factors in urban planning[41].

Zoning

Zoning is a form of hard regulation that dictates what can be built in any given location, and how large it can be. The main purpose of zoning is to regulate industrial and commercial encroachment into areas where people live. To provide an understanding of this function of zoning, we have included a more detailed look into the zoning laws of Boston and finally the method of zoning for open spaces within the city.

Zoning also plays an extremely important role in the designation and protection of Boston's Urban Wilds. The zoning of Urban Wilds in Boston is limited however; public Urban Wilds may be zoned, but privately owned Urban Wilds can only be zoned with the written consent of the owner.[42] A brief history of zoning and an overview of zoning structure can be found in Appendix 7.8.1, on page 115.

Boston Zoning

Zoning is important for designating land use as well as maintaining the land areas where Urban Wilds are located. As New England's largest city, Boston has many businesses, industries, and residences within its boundaries. Boston created a zoning

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39 J. Mark Schuster. Preserving the Built Heritage, 34.
40 *Ibid.*, 35-6
41 *Ibid.*, p. 35

code that divides the city into districts; this code also provides a definition for an Urban Wild open space subdistrict, which is of utmost relevance to this project. It is important to know how the zoning code works in order to understand how Boston zones its lands.

The Boston Zoning Code contains 73 articles that regulate land in Boston. The functions of the Boston Zoning Code are listed in Article 1 and are the following:

- To promote the health, safety, convenience, morals, and welfare of the inhabitants of the City.
- To encourage the most appropriate use of land throughout the City.
- To prevent overcrowding of land; to conserve the value of land and buildings.
- To lessen congestion in the streets.
- To avoid undue concentration of population.
- To provide adequate provision for transportation, water, sewerage, schools, park and other public requirements.
- To preserve and increase the amenities of the City.[43]

The Zoning Code also defines the different districts that Boston is split into. According to Article 3 of the Boston Zoning Code the city is divided into districts, classes, and subdistricts. Some districts are broken down into classes, due to the different types of land use required by residential, industrial, and business districts. The city is divided into the following districts:

- Downtown districts;
- Neighborhood districts;
- Three classes of residential districts: single family, general, and apartment;
- Seven classes of industrial districts: general, restricted manufacturing, light manufacturing, maritime economy reserve, waterfront, waterfront manufacturing, and waterfront service;
- Two classes of business districts: general and local;
- One class of open space districts: open space;
- The Harborpark District[44];

The business, industrial, and residential classes are each divided into subdistricts. The size and height of different structures in each class require the classes to be broken into subdistricts that regulate different size buildings. The Harborpark District, neighborhood districts, downtown districts, and special districts are divided into subareas and subdistricts to properly regulate the different land uses inside the districts. The open

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42 Boston Redevelopment Authority. Boston Zoning Code and Enabling Act, 44.

43 *Ibid.*, 1.

space district is divided into subdistricts in accordance with Article 33 of the Boston Zoning Code.[45] According to section 33-12, Urban Wild open space subdistricts include land that is not part of the city's park system.

Open Space Zoning in Boston

Urban Wilds are zoned within the open space district. An open space is defined as land that is either undeveloped or nearly free of buildings and other structures.[46] Open space public lands can receive the open space district designation, however private property can only be zoned as open space with the written approval of the owner.[47]

By permanently preserving the city's open space resources, Article 33 enhances the city's resident's quality of life. The objectives of this article are:

- To recover Boston's conservation heritage of Olmsted parks.
- To stop the commercial development of open spaces.
- To coordinate local, state, and regional open space plans.
- To sustain and advocate the visual identity of individual and distinct districts.
- To improve the appearance of neighborhoods by protecting the natural green spaces.
- To promote and provide buffer zones between opposing land uses and alleviate the effects of air and noise pollution.
- To protect the supply of open space and vegetation everywhere in Boston so that the city will be supplied with acceptable air quality and natural light.[48]

This article classifies different open space areas by topography, forest cover, flood plain, water, urban edge, scenic value, or unusual geologic features so that the spaces will be utilized appropriately. The subdistricts are then created from the different classifications of land in the district. The following are the nine open space subdistricts within the open space district:

- Urban Wild
- Recreation
- Shoreland
- Parkland

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44 *Ibid.*, 44.
45 *Idem.*
46 Vivian Loeb Kasen and Marilyn Spigel Schultz . Encyclopedia of Community Planning and Environmental Management, 279.
47 Boston Redevelopment Authority, 44.
48 *Ibid.*, 267.

- Community garden
- Cemetery
- Waterfront access area
- Urban plaza
- Air-right.[49]

Urban Wild open space subdistricts include: quarries, undeveloped hills, woodlands, rock outcroppings, meadows, scenic views, Urban Wild life habitats, inland waters, flood plains, fresh water wetlands, or any estuary, pond stream, creek, river, lake, or any land under said waters. Only unpaved pathways are permitted in Urban Wild open space subdistricts. These subdistricts are limited to passive recreational uses and conservation.[50]

Through zoning, the city is able to limit development on certain pieces of land or even entire areas within a neighborhood. Such zoning laws provide very strict limitations for developers and are the most powerful, broad tool that the government has for preserving Urban Wilds. However, preserving a Urban Wild from development does not necessarily determine its preservation since maintenance may be required.

3.4.3. Incentives

The full burden of preserving natural open spaces cannot be left to the ownership and regulatory power of the government. Financial constraints alone make other means of offering protection for Urban Wilds necessary. Instead, the government offers incentives to private owners for maintaining their land as public, open space. In essence, if the owner does as the government wishes to ensure preservation of his property, he in turn receives public funds. The money may be given directly in the form of grants or indirectly as tax reductions[51].

Direct incentives take on the form of grants meant for a particular purpose such as maintenance or restoration. The grant may be less expensive than the outright buying of the property or the private owner may be better equipped to maintain the Urban Wild

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49 *Idem.*

50 *Ibid.*, 270.

51 *Ibid.*, 53-5

than the government agency supplying the grant. Such offers cause competition amongst interested owners as each vies for limited funds. This can be beneficial in ensuring that agencies only distribute money for the most important Urban Wilds. This is only the case, however, if the agency is able to successfully judge grant needs.[52]

Indirect incentives do not involve any sort of direct transfer of money and no expenditure by the state is recorded. Tax based incentives comprise the majority of indirect incentives, but loans and guarantees against loss are also means of enticement. Indirect incentives are favorable because they are simple for the government to implement and the private owner retains a more prevalent position of control over his own land than in other methods of protection.[53]

3.4.4. Information

One underestimated tool of conservation is the use of information. The government can educate the public about the laws and tools that exist to protect Urban Wilds. Once educated, the public can be stirred to action by being made aware of the importance of conservation within an urban setting. Educating the public provides the government with a less expensive means of preserving the city's Urban Wilds.[54]

As people's tolerance for environmental neglect decreases and their desire for natural reserves within the city increases, more and more Urban Wilds will be saved. This will cause circular reinforcement as more Urban Wilds create additional areas for educators to teach about the ecosystems of Urban Wilds in their classes. Seminars and tours are good means of educating the public about nature within the city. The few such programs running in Boston in 1990 were unable to meet the demands of the very interested public and should be expanded.[55]

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52 *Ibid.*, 55-6
53 *Ibid.*, 56-7
54 *Ibid.*, 102
55 BNAF., 20

3.4.5. Management and Maintenance of Urban Wilds

Unfortunately, protection of Urban Wilds cannot be a one-time endeavor. Trespassers can damage sites, especially if the land is owned privately and the boundaries are not enforced. Part of the problem stems from the idea that Urban Wilds are unused. Urban Wilds that encourage use are less likely to be trespassed upon or abused. Part of this encouragement will come from the management and maintenance of the Urban Wild.

Urban Wilds are not meant to be urban wilderness. In order to be accessible to human users, signs and paths need to be implemented. To some extent, even parking may be necessary though public transportation should make all Urban Wilds accessible. Regular maintenance of the Urban Wilds is also required. Urban Wilds require a budget for general cleanup as well as trail expansion and maintenance. [56]

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[56] *Ibid.*, 21

4. Methodology

As established in Chapter 2, Urban Wilds are important to the natural habitat of Boston and are therefore worth the efforts of protecting. However, they continue to be lost because the BCC and other protective agencies have no updated system for monitoring these Wilds. In light of this, our goal was to help the BCC create a system for cataloguing, monitoring, and protecting all of Boston's Urban Wilds. To achieve this goal, it was necessary to complete five main objectives: data collection, database construction, GIS map generation, and data analysis.

4.1. Preparation

Before we could create a method for cataloguing Boston's Urban Wilds it was necessary to determine what relevant pieces of information were needed for each Wild. Once we decided upon parameters we were able to create a field form for data collected on site.

4.1.1. Urban Wild Parameters

Our group decided to update the 1990 survey only with information regarding the current overall physical condition of each unprotected Urban Wild. The 1990 survey, however, was created by a team of specialists over a period of two years and included data about the vegetation, topography, geology, hydrology, current uses, and accessibility of each Urban Wild. We chose not to include items that were not likely to have greatly changed within the past decade and would be beyond our means of determining. Those parameters that were subject to change, such as condition and accessibility, were recorded on our field form. The parameters we chose to update were intended to reflect not the ecological risk of the individual Urban Wilds, but rather the developmental risk.

The parameters we selected to update are as follows:

- Ownership
- Parcel Identification
- Urban Wild Acreage

- Usage
- Access

Ownership

Ownership remains an extremely important issue in assessing an Urban Wild's threat of development because its ownership has a direct effect on its risk of being lost to development. Boston's Urban Wilds can be either privately or publicly owned, however, both public and private Wilds can be at risk of development based upon their specific owners. Boston's privately owned Urban Wilds, regardless of specific ownership, can be at an extremely high risk of development because protective agencies such as the BNAF and the BCC are not able to closely monitor them. Often, these protective agencies are not immediately aware of an owner's intent to sell or develop an Urban Wild resulting in missed opportunities for protection.

The risk of development for public Wilds, on the other hand, is specifically dependent upon the agencies that actually hold the deed to the Wilds. For example, Wilds owned by the BCC have little to no risk of being lost to development, while Urban Wilds owned by the Boston Housing Authority (BRA) are at a much greater risk of being lost. To account for these discrepancies in our risk analysis, we recorded the specific agency that owns each Wild in our database.

Urban Wild Identification

In order to facilitate comparison with the available data from previous surveys of Boston's Urban Wilds, we chose to continue with the method of naming, grouping and labeling the Urban Wilds by neighborhood in the manner used in the BRA's original 1976 report. The neighborhoods considered in 1976 and their respective numbers are listed in Table 1.

Name	Number	Name	Number
East Boston	01	Dorchester	11
Charlestown	02	Roslindale	12
Allston-Brighton	08	West Roxbury	13
Jamaica Plain/Mission Hill	09	Hyde Park	14
Roxbury	10	Mattapan	15

Table 1. Neighborhoods

Within each neighborhood, individual Urban Wilds were given unique numbers. A complete listing of the Urban Wilds by name, neighborhood, and number as established in the 1976 survey by the BRA can be found in Appendix **7.1**, on page 77. In addition, PID numbers for each parcel were assigned using the assessment information.

Urban Wild Acreage

A useful way to monitor significant changes in the Urban Wilds over the past 25 years was through acreage comparison, as the area of each of Boston's Wilds have been recorded in the 1976 and 1990 surveys. Although we had originally intended to directly measure the acreage of each wild through visual inspection in the field, this method would have been extremely difficult as it is very time-consuming and there are often no physical boundaries of the Wilds to base our measurements upon. Fortunately, we were able to obtain current area data from information provided to us by the Boston Parks and Recreation Department. This data was calculated with MapInfo software from a recently updated GIS layer featuring boundaries of Boston's parks and open spaces. We were then able to compare the Urban Wild's acreage in 1990 to the Parks Department acreage to see if there were any changes in acreage. This data was particularly useful in mapping developmental trends as it directly measured the physical demise of the Urban Wilds.

Urban Wild Usage

The citywide and community importance of Urban Wilds can be verified to a degree through the extent of its usage. Our group estimated Urban Wild usage through visual evidence such as trails, litter, and dumping. We rated litter and dumping on a one to five scale one being light and five being heavy. All of these signs demonstrate that the Wilds are frequented by local residents and help to justify their protection.

Urban Wild Accessibility

Accessibility is also an important factor in determining citywide and community importance. The location of a Wild is an important aspect of its accessibility because an Urban Wilds that is conveniently located is more likely to be used by the public. For example, a Wild near main streets would be easier to access than a Wild located on private ways or in the outskirts of the city. Man-made pathways that allow easy access throughout the Urban Wild, as well as any signage are also good indications of accessibility. Fences and no trespassing signs on the other hand are indicators of inaccessible Urban Wilds.

4.1.2. Field Form

After determining the appropriate and necessary field form parameters and the manner in which they would be collected, our next step was to create a field form that would allow us to record data at each Urban Wild site. Data gathered with the field form encompassed all the pieces of information that our project team needed to collect through visual inspection of the Wilds.

The field form focused on natural and man-made features of the Urban Wild as well the accessibility and condition of the Urban Wild. The natural features we looked for included rock outcroppings, bodies of water, and opportunistic plants because these factors were all deemed important by the BCC. Buildings, monuments, and fences were among the man-made features recorded. We also examined the accessibility of each Urban Wild. In doing this we decided whether the Urban Wild could only be used for viewing pleasures or if it could be entered. We also noted whether the Urban Wilds had

trails or signage because these allow for better accessibility. After analyzing this criteria we rated the ease of finding the Urban Wild and the overall accessibility on a scale of one to five; one being easy and five being difficult.

Litter, dumping, erosion, structure condition, and signs of encroachment are all aspects we selected to rate the condition of the Urban Wilds. Litter, dumping, and erosion were all rated on a scale from one to five, one being light and five being heavy. The condition of structures was also rated on a one to five scale; one being poor and five being excellent condition. A copy of the form can be found in Appendix 7.3, on page 85, and the procedure for completing the form can be found in Appendix 7.4 on page 86.

4.2. Data Collection

The data collection encompassed both site and agency visits. The BCC and the Boston Parks Department were our first resources for data collection. After obtaining information from these two Boston agencies we were able to begin collecting data at the Urban Wild sites. There were also specific Boston agencies that we visited in order to determine the ownership of city-owned Urban Wilds.

4.2.1. Agency Resources

Before visiting Boston's Urban Wilds for data collection, it was necessary to obtain sufficient background information regarding each Wild. Not only was this information helpful in locating the individual Wilds while in the field, it also provided us with pieces of data that could not be determined through visual inspection of the Wilds themselves, namely ownership and assessment information. Our primary means of obtaining this information was through visits to protective agencies throughout the city, as well as the Boston Assessment Department.

The Boston Parks and Recreation Department provided us with an updated GIS open space layer that contained 1999 assessing information such as Urban Wild owners, land value, and parcel identification numbers. In addition, both the Parks and Recreation Department and the BCC provided us with preliminary ownership documentation, including lists of possible owners for public Urban Wilds. Both lists of Urban Wilds

owned by the City of Boston lacked specific agency ownership however, making it necessary for us to find other means for determining detailed ownership information.

In order to determine detailed ownership we had to first look at how Urban Wilds were identified in the Boston Assessing Department. Every Urban Wild has its own code, however some Urban Wilds are comprised of sub-parcels, meaning that there are different divisions of land within the Urban Wild. In order to correctly identify all of the parcels within in the Urban Wild, parcel identification numbers were assigned to each parcel. These identification numbers were useful because they are used by the Boston Assessing Department to keep track of important parcel information, including ownership data.

Our first task in collecting ownership data was to gather Fiscal year 2000 assessment data in the Boston Assessing Department. From their records, we were able to update the exemption codes for each parcel as well as find book and page numbers for ownership records kept in the Registry of Deeds for some Wilds. Exemption codes provide limited information about the status of each parcel and its owner. For instance, an exemption code of F2 denotes that the Wild is owned by the BCC and thereby protected. The book and page numbers were used in the Registry of Deeds.

All documents relating to real estate within the City of Boston are recorded in the Registry of Deeds. These documents include deeds, mortgages, releases, and liens. Records are indexed in books by grantor and grantee as well as assigned a book and page number. The Registry contains documents from as far back as the year 1639 though electronic records of book and page numbers go back only as far as 1987. Our hope was that this registry would provide the specific owner for Urban Wilds that were only recorded as being owned by the City of Boston. However, tracking down one such Urban Wild yielded no more information and it was determined that the Registry of Deeds was not a worthwhile tool in completing our project.

With the use of the assessment information and the Urban Wild information given to us by the BCC and the Parks Department we visited agencies within the city that may own Urban Wilds. The purpose of these agency visits was to determine which of the city owned Wilds a particular agency owns.

4.2.2. Field Data Collection

Although were able to gather some preliminary Wild data through agency visits, it was also necessary to complete a visual inspection of each Wild. After gathering assessment information, we visited each Wild to complete our field form and obtain digital images. The entire field process was simplified by mapping out routes to each Wild prior to visiting them in teams of two. In addition, our visits were planned so that we focused on a single small area of Boston at a time, but visited all of the Wilds within that area. During our inspections, we toured the perimeter of each Urban Wild, looking for any signs of encroachment or unusual features within the Wild. After touring each Wild we recorded any natural or man-made features, as well as the Wild's usage, accessibility, and condition. We paid particular attention to any changes that had occurred since the 1990 survey was completed.

4.3. Urban Wild Databases

After creating a standardized field form and physically collecting data for each of the Urban Wilds, our group was faced with the task of organizing all the data we had collected in a meaningful manner. To do this, we chose to create databases using Microsoft Access. The final organizational structure of our information utilized two main databases. The first was designed to feature permanent Urban Wild information and the second was used to file time-stamped pieces of temporary data for each Urban Wilds. These databases were created with consideration to our goal of helping the BCC to prioritize the attention they give to individual threatened Urban Wilds.

The permanent data included the unique names and numbers assigned to the Urban Wilds in 1976, and geographical location of each Urban Wild. An additional table was used in this database to record information of all the parcels contained within each wild, including private owners, tax exemption codes and property values. Also, this database incorporated a brief description taken from the BNAF's 1990 survey. These files were then grouped into neighborhoods, with boundaries and location of Urban Wilds remaining consistent with those used in the BRA's 1976 survey.

The second database was created to organize all the data for each Urban Wild that could possibly change between surveys. These fluctuating parameters included the acreage, ownership, protection status, condition, and the usage of each Urban Wild. This database also contains the results of our field assessments and a form that allows this information to be viewed in a user-friendly format. Information used in this database was assigned a specific time-stamp based upon the year it was collected. This information was used in our analysis to determine Urban Wilds that had the greatest risk of development. Protection priority was in part assigned to Urban Wilds based upon trends highlighted by this database.

In addition to the two main databases, another database was created to store digital photos of each Urban Wild that we surveyed, as well as accompanying captions. This auxiliary database was used to accommodate the larger required file sizes of the digital images. This was done in order to prevent slowing computational times within the main databases.

4.4. Urban Wild Notebooks

In order to further satisfy the BCC's need for an immediate summary of Urban Wilds in question, notebooks were created to provide the agency with a hard copy of our database as an organized reference tool. Unlike the electronic database that may become obsolete due to advances in technology, these notebooks are a paper copy of all data collected regarding the status, ownership, and importance of the unprotected Urban Wilds.

In total, ten notebooks were made, one for each neighborhood, with the exception of North and South Dorchester, which were combined into one notebook in order to stay consistent with the previous survey's Urban Wild identification numbers. Each neighborhood notebook contains a main page for each Urban Wild in that neighborhood, which provides the following:

- Name
- Wild identification number
- Public or private organization
- Picture of Wild
- 1990 survey description

- Importance factor and ratings

In addition, each file contained ownership documentation for the Wild, as well as a copy of the 1976 and 2000 field forms and relevant maps.

The ownership documentation was gathered during agency visits. Copies of the 1976 field form were provided by the BNAF and the 2000 field form was completed during site observations. Through the use of GIS map layers provided by the Parks and Recreation Department, maps were created to show the boundaries and location of the 74 unprotected Urban Wilds.

4.5. Mapping Urban Wilds

Once our project team had completed our databases, our next objective was to create computerized maps. These maps were linked to the information stored within our databases and used to illustrate the information in a spatial format. In order to create our GIS map, we chose to use MapInfo's "MapInfo Professional Version 5.5," based on the availability, popularity and compatibility of the software.

Our team decided to begin with a street map featuring all of Boston and then offer the ability to focus in on individual districts within the city. The original GIS street maps of Boston were provided to us by the City of Boston Environment Department, and were taken directly from city records. On top of the street maps we chose to add an open space layer for Boston obtained from the Boston Parks and Recreation Department that graphically distinguished between developed and undeveloped regions of land within the city, as well as depicted the boundaries of the existing Urban Wilds.

4.6. Analysis

After collecting all of our data and creating our databases and GIS map layers, we were able to analyze the results of our Urban Wild inventory. For this, we focused on three main areas: an overview of all of Boston's Urban Wilds and the role they fulfill

within the city, a breakdown of the specific ownership of the Wilds and, finally, the relative environmental importance of each Wild to the city.

4.6.1. Urban Wild Overview

The purpose of our Urban Wild overview was to analyze way in which Boston's Urban Wilds fit into the city as a whole. For this analysis we compared the acreage of Boston's Urban Wilds to the total acreage of open spaces within the city. An analysis was also preformed on a smaller scale to compare the Wilds on a neighborhood basis and time related acreage data was analyzed to track the changes in Boston's Urban Wilds by neighborhood over the past quarter of a century. Finally, the condition of Wilds within each neighborhoods were analyzed against socio-economic data, including median income and poverty percentages, in an attempt to determine any societal trends.

4.6.2. Importance

In order to determine the importance of each Wild, we developed a ranking system based upon criteria that we deemed vital in assuring Boston's natural well being. The criteria we selected are:

- Wetlands
- Open Space within Neighborhood
- Connectivity
- Large Scenic Features
- Neighborhood Income
- Rock Outcroppings
- Small Scenic Features
- Litter
- Dumping
- Accessibility

For each variable of importance, a range of one through five was assigned to each Wild, depending upon the extent to which that variable added to the importance. For instance, a Wild with a few scattered spots of standing water would receive a lower score than one that was made primarily of wetlands. Open space need and Income were both

scored using a range developed through MapInfo. Each neighborhood received a one to five score that was applied to all the Wilds in that neighborhood. Connectivity applies to the Parks and Recreation Department's plan to create "green belts" through the city of Boston by connecting open spaces. Wilds were ranked based upon the ease by which they could be integrated into one of these green belts. The aesthetic value of any Wild is enhanced by the presence of rock outcroppings. The score for this category was based upon the size and area covered by rocks or ledges. The condition of Wilds was rated based upon the amount of litter and dumping in the Wild. Overall accessibility was determined by the presence or lack or an entrance, trails and signage. Two categories, large and small scenic features, did not follow the one to five rating. Instead, they received a 0 if no such feature was present or a 1 if it was. These features include any natural asset such as wetlands, rock outcroppings, or unique plant life. Small scenic features are less than 5 acres in size and large features are those greater than 5 acres.

In addition to this one through five ranking, a weighted value was applied to each variable in order to show the relative importance of that variable. For example, the rating for wetlands would be multiplied by ten while that of rock outcroppings would only be multiplied by three in order to account for the greater importance of wetlands. A copy of the ranking system can be found in Appendix 7.5 on page 88.

5. Results and Analysis

In order to maximize its protective capabilities, the BCC must recognize the overall significance of each Urban Wild within Boston. To achieve this, it is important to first inventory the Urban Wilds. In addition, through knowing the specific ownership of each Wild, protective agencies can better assess the threat of development to these Wilds. Also, by examining individual criteria of each Wild, the BCC can determine the relative ecological and societal importance of each Wild. To aid in this process, this chapter will include an overview of Boston's Urban Wilds and their role in the city as well as a discussion of our findings regarding Wild ownership and will conclude with the results of our importance determination for each Wild.

5.1. Urban Wild Overview

Although two comprehensive surveys of Boston's Urban Wilds have been completed, the most recent contains information that is already a full decade old. In the time that has passed since the 1990 survey, a handful of these Wilds have become protected, while others have been lost forever. In order for the BCC to maximize their protective capabilities it is essential for them to understand the current role of Boston's Urban Wilds as a subdivision of the city's open space. In this section, we will provide an updated discussion of the presence and condition of Urban Wilds throughout Boston.

5.1.1. Urban Wild Presence in Boston

Boston's 74 unprotected Urban Wilds are scattered throughout the city, as can be seen in Figure 1. The Wilds are most common in areas further outside of the downtown section of the city and can be found in all of Boston's neighborhoods, with the exceptions of Back Bay, Central, South End and South Boston.

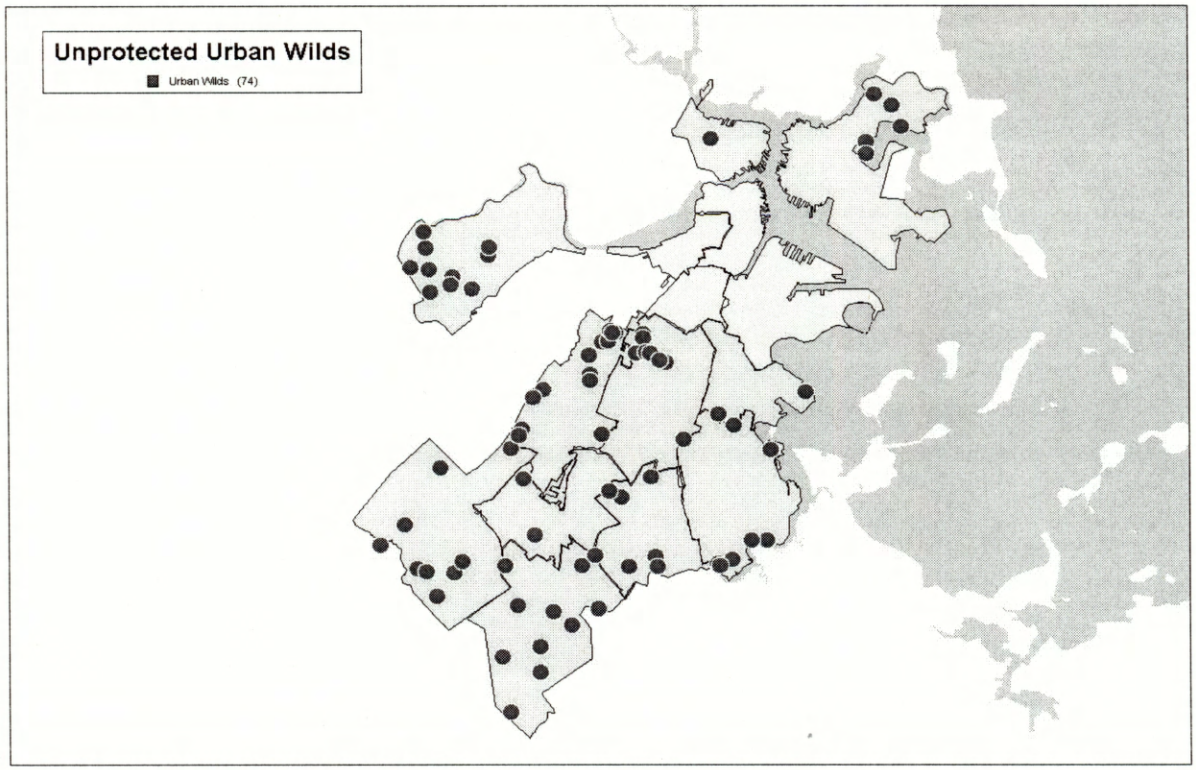


Figure 1. Boston's Unprotected Urban Wilds

Through examination of digital maps, the total area covered by unprotected Urban Wilds in Boston was calculated to be approximately 770 acres. This number is only a minute portion of the total land area of Boston, however, it is the rarity of these Wilds that has a direct influence on their importance, as will be discussed in Section 5.3. This section, on the other hand, focuses on Urban Wilds throughout the city, within each neighborhood, and changes in the number of Wilds and their acreage since the 1976 survey.

Urban Wilds are located in eleven of Boston's fifteen neighborhoods. Jamaica Plain/ Mission Hill contains 14 Wilds, the greatest number of these eleven neighborhoods. Dorchester, Allston-Brighton, and Hyde Park are not far behind Jamaica Plain/Mission Hill however, with ten Urban Wilds each. Charlestown has the fewest Urban Wilds of all the neighborhoods, and contains only the Charlestown Overlook Wild. A summary of the number of Urban Wilds per neighborhood can be found in Figure 2.

The number of Urban Wilds in each neighborhood, however, is not indicative of the total acreage in each neighborhood because they are not directly related to one another. A good example of this can be seen in the comparison of Dorchester and Roslindale. While Dorchester has more than double the number of unprotected Urban Wilds that Roslindale has – ten to four wilds, respectively – the amount of Wild acreage in Roslindale is nearly six times that of Dorchester. A breakdown of the number of Urban Wilds in each neighborhood as well as the total Urban Wild acreage in each neighborhood can be found in Figure 2 and Figure 3 below. By comparing these figures, we can draw the conclusion that the number of Urban Wilds in each neighborhood is not representative of the acreage in that neighborhood.

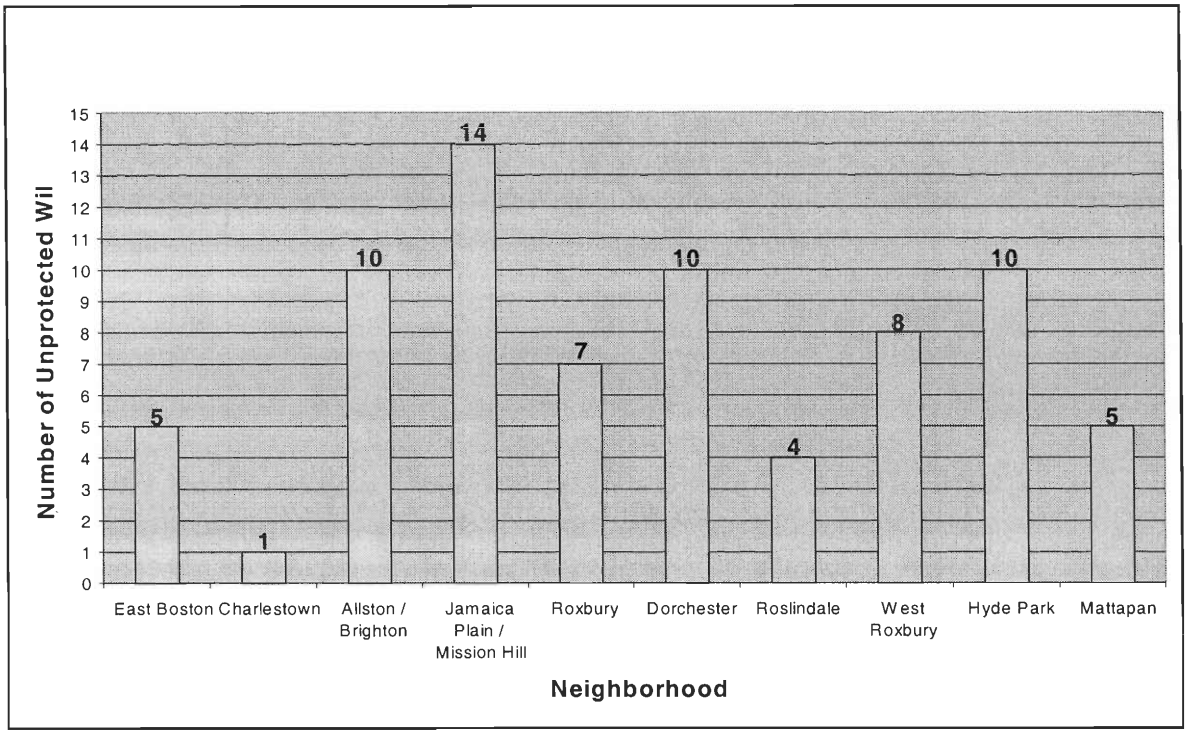


Figure 2. Number of unprotected Urban Wilds in each neighborhood.

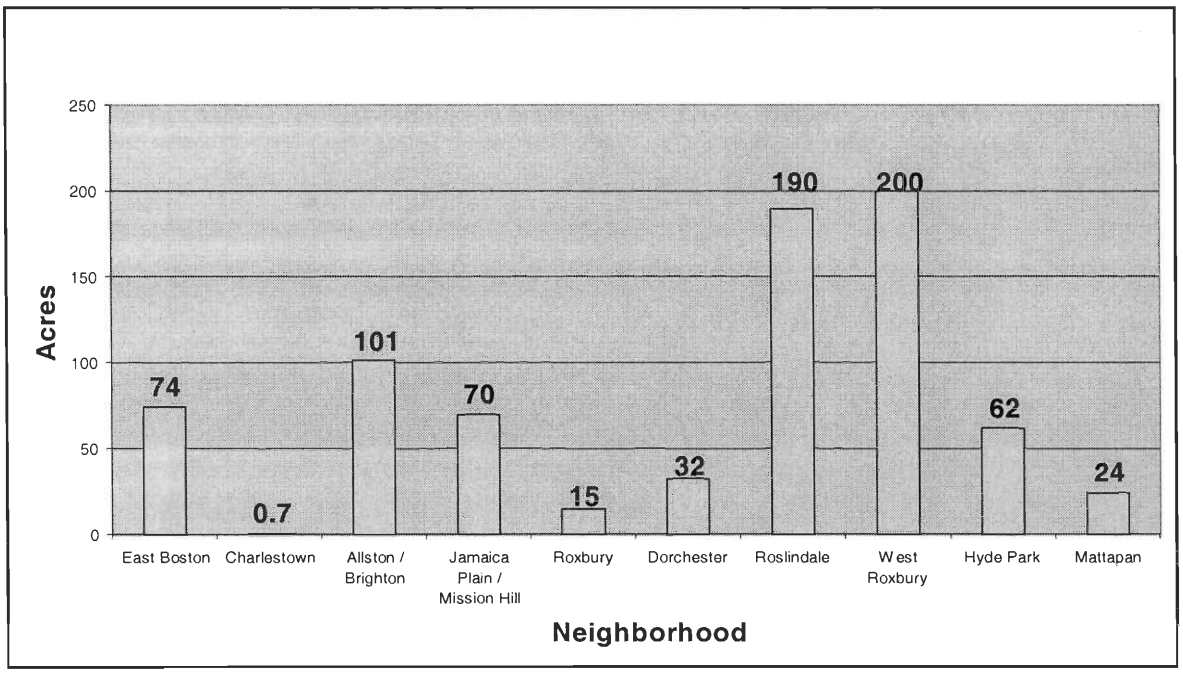


Figure 3. Total acres of Urban Wilds in each neighborhood.

In addition to outlining the current role of Urban Wilds within Boston, it was also necessary to determine the way in which this role has evolved throughout the final quarter of the twentieth century. To do this, we have compared the acreage of each Urban Wild across the three surveys and have determined the way in which these areas have changed within each neighborhood between the two survey periods.

Acreage for individual Urban Wilds has been determined three times, in the years 1976, 1990, and 2000. For most neighborhoods, the total amount of Urban Wild acreage has decreased during each survey period, as can be seen in Figure 4. This figure includes both protected and unprotected acreage in order to avoid any confusion that may occur regarding the protection of an Urban Wild. For instance, Penn R.O.W., an Urban Wild, was protected between the 1990 survey and 2000 inventory and would have been seen as a loss if the focus were solely based on unprotected Wilds. There are however, three obvious losses of Urban Wild acreage, Judge Street in Jamaica Plain/ Mission Hill and Saint Sebastian's and portions of Mount Saint Joseph's in Allston/ Brighton. From these

losses, Allston/ Brighton lost 12.9 acres and Jamaica Plain/Mission Hill lost 0.4 acres. The remaining reasons for acreage loss, however, are not as evident.

Although Figure 4 below shows a notable decrease in Urban Wild acreage for most neighborhoods between the years 1990 and 2000, two extenuating factors must be considered. First we must take into account the manner in which the Wilds' acreage was determined. The acreage data for the 1976 and 1990 surveys was determined through parcel maps from the Boston Assessment office. For 2000 acreage data, however, we have used mapping software to calculate Wild areas based upon borders provided by the Parks and Recreation department. In direct comparison, these Wild boundaries are often smaller than those depicted in parcel maps. This factor can explain some portion of the Wild acreage lost over the past decade.

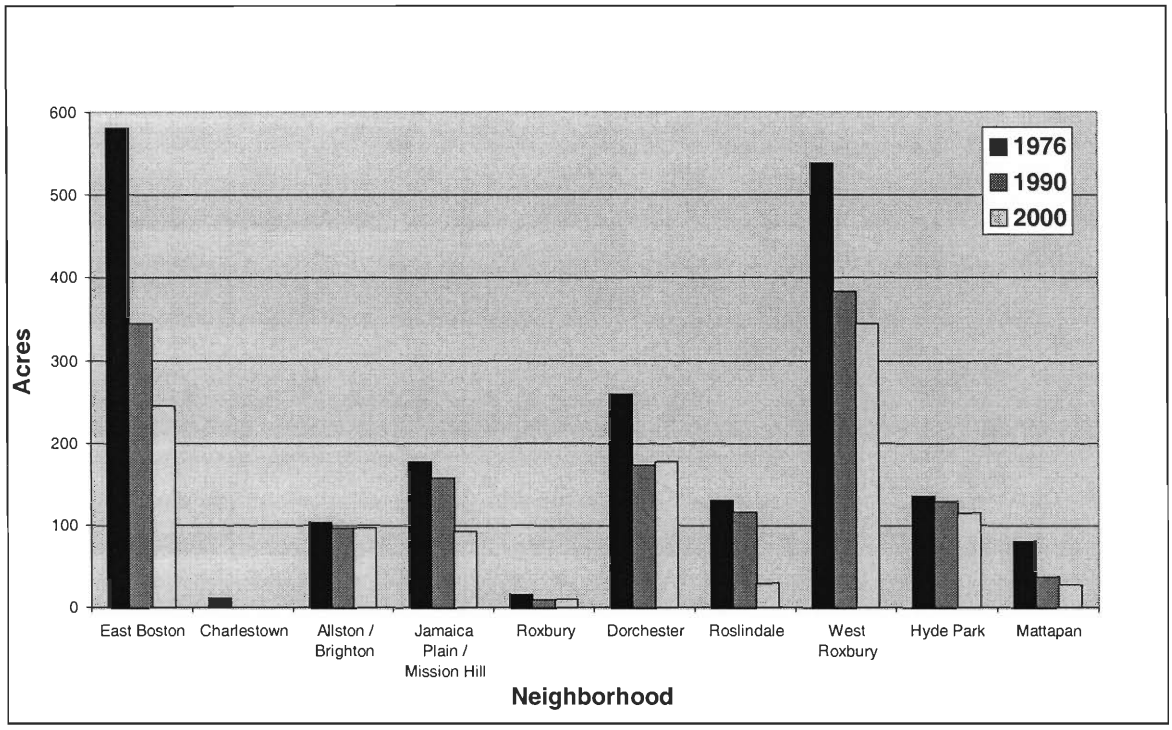


Figure 4. Urban Wild Acreage in 1976, 1990, and 2000.

The second consideration when comparing the loss of Urban Wilds is the duration of time between the years in which the acreage was calculated. The period of time between the first and second area calculations is 40 percent greater than between the

second and third, thus the loss would be assumed to be more significant as well. After analysis of acreage data we established that there was no definite trend in acreage loss between the two time periods, as illustrated in Figure 5.

In the cases of some neighborhoods, such as Charlestown, Roxbury and Dorchester, a much greater percentage of land was lost between the two available time periods, even if these periods are averaged to account for their different magnitudes. For other neighborhoods, especially Jamaica Plain and Roslindale, the percentage of acreage lost has actually increased over the second time period. Finally, East Boston has experienced almost identical acreage loss between the two periods when percentage standardization is applied. In light of these discrepancies, it cannot be said that the rate of Wild loss has decreased across the city over the past ten years, nor can it be generalized that Wilds are being lost at a greater rate. However, these results do show that only in the neighborhood of East Boston has the average rate of Wild loss remained constant over the past twenty-four years.

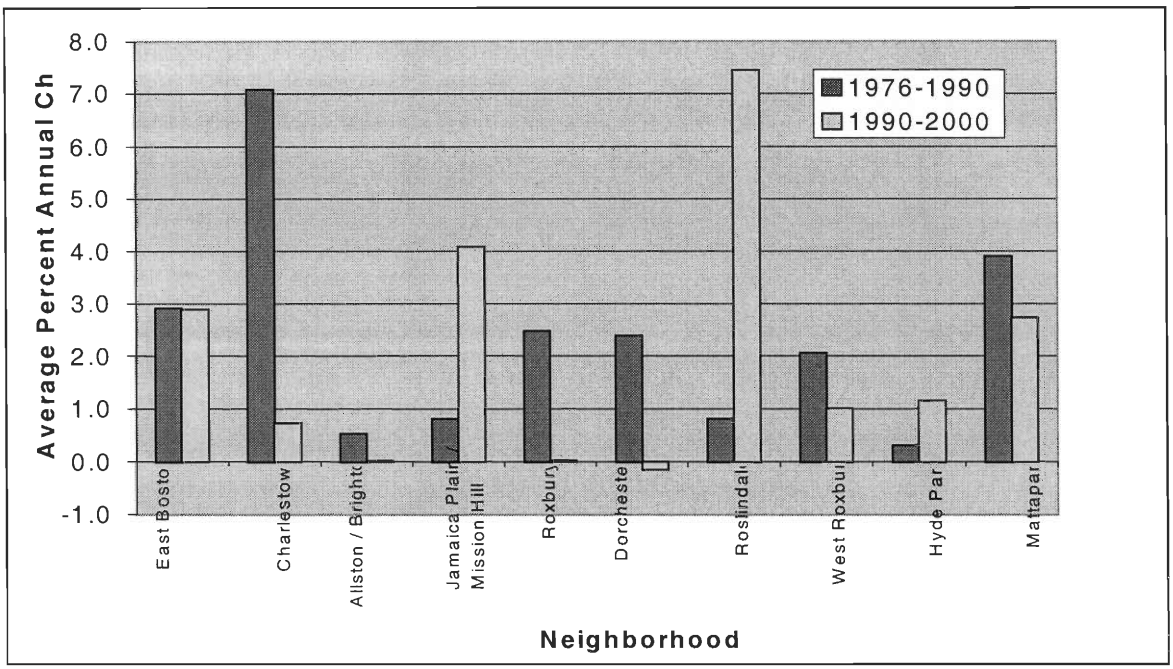


Figure 5. Loss of Urban Wild Acreage as percentage of neighborhood acreage at start of time period, standardized by period length.

Urban Wilds, however, are not the only form of open space within the City of Boston; the open space designation also includes cemeteries, parks, and public gardens. In order to be classified an Urban Wild, an area of land must be left to grow passively. While other examples of open spaces do not fall under this classification, they are important to the well being of the community. As shown in Figure 6, the 768 acres of Urban Wilds is only a fraction of the total open space in Boston. Though it may appear that Boston's Urban Wilds only represent an insignificant portion of open space within the city, the very opposite is true. These rare, unprotected Urban Wilds make up thirteen percent of Boston's open space and are important to the city.

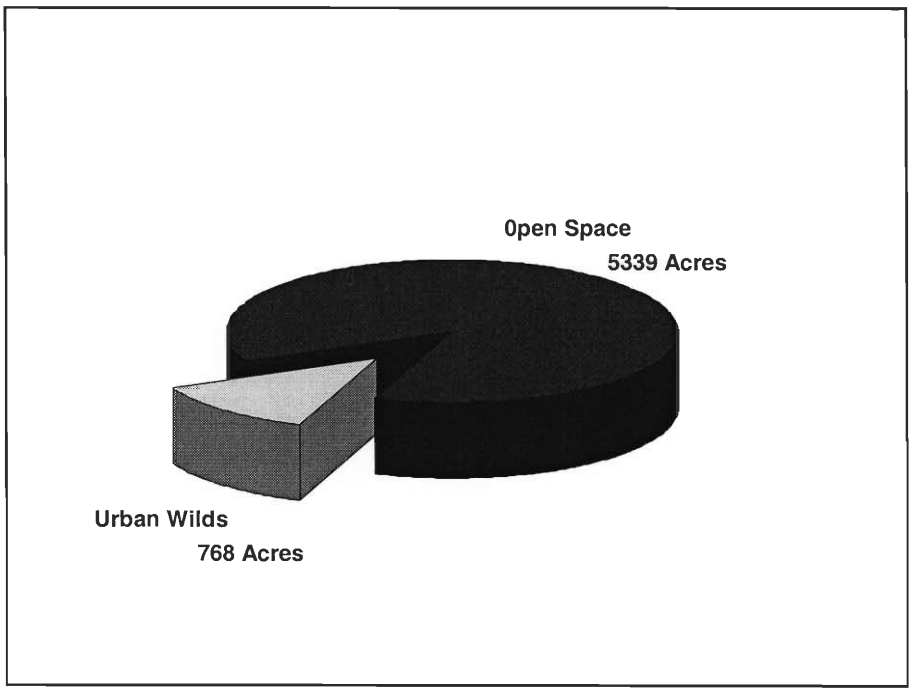


Figure 6. Acres of total Open Space vs. acres of Urban Wilds.

When considering the importance of an Urban Wild the amount of other open space within the neighborhood must also be taken into account. As discussed earlier, open spaces may be made up of various types of land and must also be factored in when evaluating the need for undeveloped land. Though West Roxbury and Roslindale appear

to contain about the same acres of Urban Wilds in Figure 3, West Roxbury actually has 1520 acres of open space compared to Roslindale's 496 acres, as seen in

Figure 7. Thematic maps featuring Urban Wild and Open Space Acreage data for each neighborhood can be found in Appendix **7.6**, on page 89.

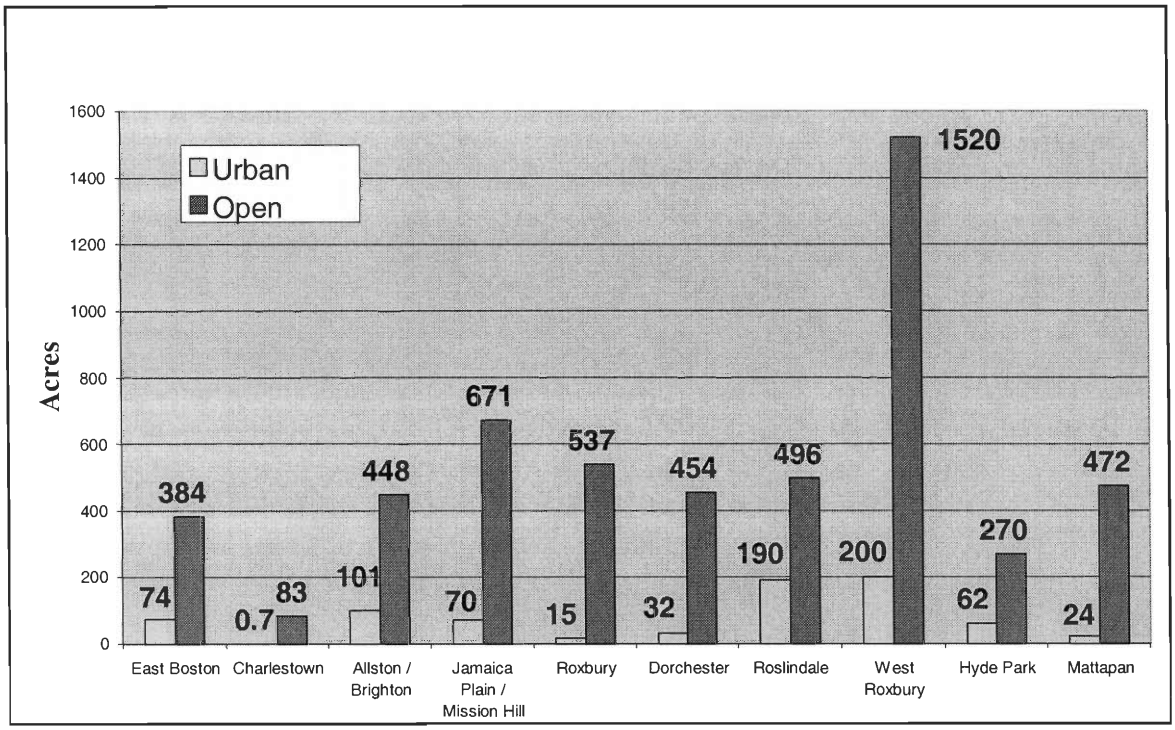


Figure 7. Acres of Open Space contrasted to acres of Urban Wilds in each neighborhood.

5.1.2. Condition

A Wild's condition was based upon the evaluation of the amount of litter and dumping as defined in our methodology. During our inventory, each Wild received an individual litter and dumping score, which we averaged as an easy means for comparing Wilds by their physical condition. We found the overall condition rating of the Urban Wilds to be a two for both litter and dumping. With a score of one being light and five being heavy, this demonstrates that the average Urban Wild was in good condition with respect to the amount of litter and dumping within it. We then compared the condition of

each Urban Wild with socio-economic data from the 1990 US Census, including the median income, poverty level, and minority population of each neighborhood. Thematic maps of these analyses can be found in Appendix **7.6**.

Although no direct trends were found between Wild condition and minority and poverty levels, their seemed to be some correlation between condition and median income. While there are some discrepancies, neighborhoods with lower median incomes – such as Roxbury, East Boston and Mattapan – tended to contain a greater percentage of Wilds that received poorer ratings for litter and dumping than neighborhoods with higher median incomes. To further support this finding, the three neighborhoods with the highest incomes, Charlestown, Hyde Park and West Roxbury, were also the only neighborhoods to contain absolutely no Wilds with large amounts of dumping and littering. A comparison of Wild condition to neighborhood median income can be found in Figure 8. The greater concentration of dark blue in the lower left corner of this chart illustrates the relationship between low median income levels and poor Wild condition.

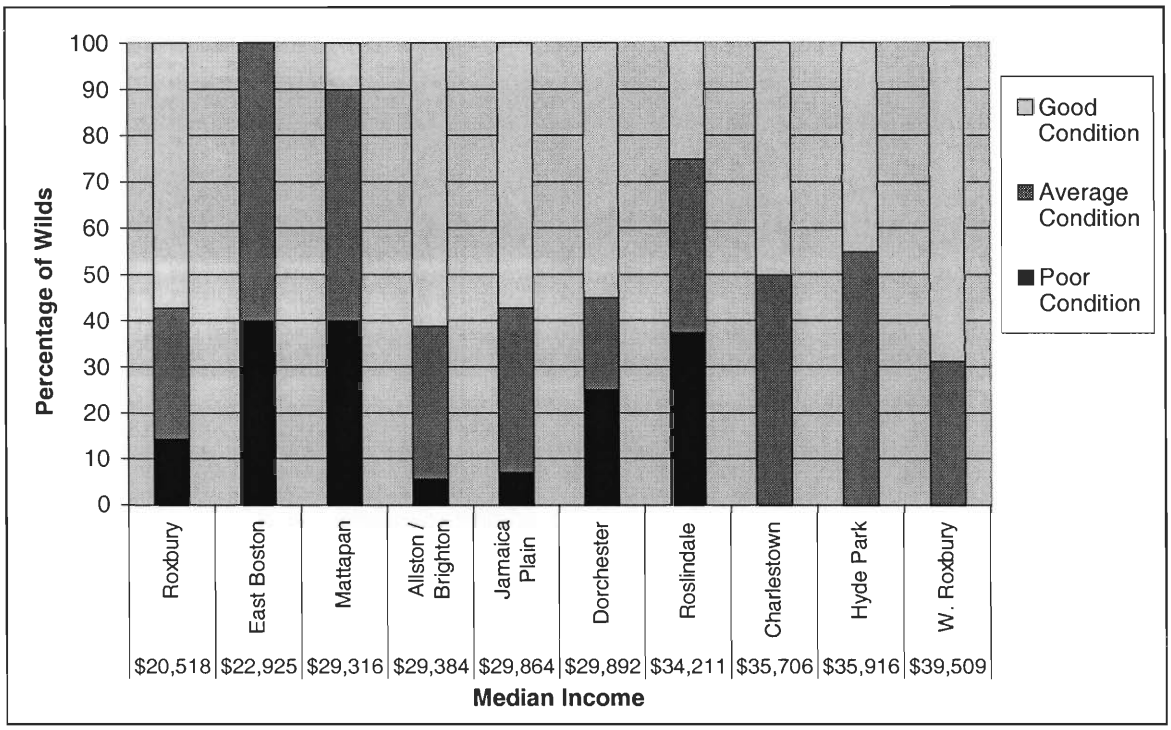


Figure 8. Condition (Litter and Dumping ratings) as compared to Median Income by neighborhood.

5.2. Ownership

In addressing the ownership issues of unprotected Urban Wilds we found there to be 39 private and 32 public Wilds. This however leaves out three Urban Wilds whose public or private designation is unknown due to the lack of a Parcel Identification number at the Assessing Department. The comparison of acreage for publicly and privately owned Wilds is even closer than the number, thus again illustrating the fact that the number of Urban Wilds has no direct relation to their acreage.

We were also unable to determine the specific owner of Wilds that had been transferred between city agencies through either the Assessing Department or the Registry of Deeds. The files of the BNAF, BCC, DND, and Parks and Recreation Department lacked records of permanent ownership as well. Our attempts at creating an organized collection of ownership data has revealed the inaccurate record keeping and lack of communication between city departments. This has decreased the efficiency by which The BCC has been able track and protects The Wilds.

Through investigation and comparison of records on file at the Assessment Department, BCC, BNAF and Parks and Recreation Department we were able to create a tentative list of specific agency ownership of Boston's 32 publicly owned unprotected Wilds. A listing of publicly owned Wilds can be seen below in Table 2. Although we were unable to find definitive ownership documentation for any of the publicly owned Wilds, it was possible to suggest tentative ownership for nearly half of them. In these cases, multiple sources in agreement of specific ownership were available, and are noted in the table below. The column in Table 2 labeled "Reference" indicates the most reliable source of ownership documentation and the column labeled "Likely Agency" lists the most probable owner of the Wild. Fiscal Year 1999 information regarding specific ownership of Boston's privately owned Urban Wilds can be found in Appendices 7.7.1 and 7.7.2.

UWP ID	Name	Ownership	Likely Agency	Reference	Multiple Sources Available
1405	Boundary II	Public	PARKS	BCC	No
1406	Dell Avenue Rock	Public	PARKS	BCC	No
1407	West Street	Public	PARKS	BCC	No
1422	Neponset I	Public	MDC	99	Yes
1404	Boundary I	Public	COMM	99	No
1316	Dana	Public	DND	BCC	No
1311	New Haven Street	Public	MBTA	99	Yes
1309	Rivermoore	Public	COB	99	No
1320	West Roxbury High	Public	COB	99	No
1304	Hancock Woods	Public	MDC	99	Yes
1204	Eldon Street	Public	BCC	99	Yes
1413	Pleasantview	Public	DND	BCC	No
1505	Woodhaven	Public	PARKS	BCC	No
1501	Gladeside I	Public	PARKS	BCC	No
1205	Canterbury II	Public	MDC	99	Yes
1206	Boston State	Public	MAS	BCC	Yes
1506	Bluehill Rock	Public	BHA	99	Yes
1114	PennROW	Public	MDC	99	Yes
1108	Meeting House Hill	Public	BPS	99	Yes
1109	Eldon Street	Public	DND	90	No
1123	Calf Pasture	Public	BWSC	99	Yes
0108	Wood Island Bay	Public	MASSPORT	99	Yes
0107	MBTA Extension	Public	MBTA	99	Yes
0104	Bayswater Street	Public	MASSPORT	99	Yes
0203	Charlestown	Public	BRA	99	Yes
1001	Dudley Cliffs	Public	COMM	99	Yes
1009	John Eliot Square	Unknown			Yes
1012	Rockledge St.	Public	COB	99	No
1006	Warren Gardens	Public	BRA	90	No
0906	Nira Avenue Rock	Public	BCC	99	Yes
0915	Oakview Terrace	Public	COB	99	No
0803	St. Sebastian's	Unknown		99	Yes
0801	Turnpike Overlook	Public	TURN	99	Yes
1409	Sprague Pond	Public	DND	BCC	Yes

Table 2. Public Wilds and their owners. Reference column indicates most reputable source of ownership data, where "99" refers to FY99 Assessment data and "90" refers to the BNAF's 1990 Urban Wilds Survey.

5.3. Importance

In order to aid the BCC in properly monitoring the use of Boston's Urban Wilds we have applied our importance ranking system, as discussed in section 4.6.2, to all of Boston's unprotected Wilds. The results of this importance ranking will be the focus of this chapter.

5.3.1. Overall Importance

Our ranking of the overall importance of each unprotected Wild revealed a wide spectrum of unique Wilds. The average score was 87.15 out of a total possible score of 200. A distribution of these ratings has been illustrated in Figure 9 below.

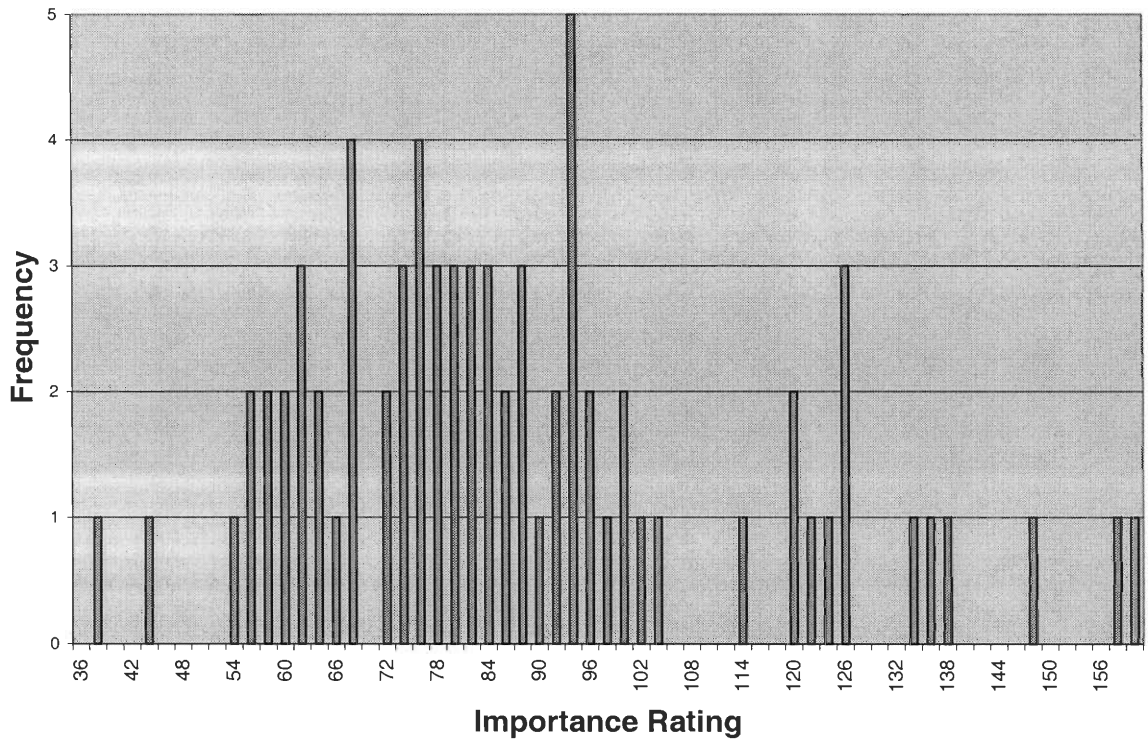


Figure 9. Distribution of importance rankings for unprotected Urban Wilds

As Figure 9 shows, there is a great disparity between the overall importance of Boston's Urban Wilds. While most Wilds fall between the range of 50 and 110, there are

sixteen Wilds that lie beyond the extremes of these ranges. Thirteen of these sixteen Wilds scored above the 110 rating; these Wilds are therefore of the most importance to Boston.

A detailed summary of scores for each of Boston's unprotected Wilds can be found in Table 3. As evident from Table 3, Fairview Quarry scored the highest rating of 159.5. This Wild is of great ecological importance due to its wetlands and scenic features. Also, Fairview Quarry is located in a neighborhood that demonstrates a high need for Urban Wilds due to Hyde Park's few Open Spaces. New Haven St. scored the lowest of all the analyzed Wilds with a total importance rating of 36.5. This was largely due to its neighborhood's lack of need for Urban Wilds. West Roxbury already contains the largest amount of Open Space in Boston and is one of the wealthiest neighborhoods in the City. Finally, New Haven St. did not contain any significant natural features or ecologically important aspects.

UWP ID	URBAN WILD	Total
1414	Fairview	159.5
1404	Boundary I	158
1405	Boundary II	148
1312	Roxbury Latin	136.5
0912	Lawrence	135
1304	Hancock	134
1118	Keystone	126
1320	West Roxburry	125
0104	Bayswater	125
1407	West Street	123.5
1419	Mother Brook I	120.5
1204	Eldon Street	119.5
1503	Pendergast	119
1409	Sprague Pond	113
1001	Dudley Cliffs	102.5
1507	Gladeside II	101.5
1103	Boston Gas	100
1309	Rivermoor	99
1422	Neponset I	96.5
0107	MBTA	96
1120	Granite	94.5
0812	Foster St. Rock	94
1011	St. Monica's	94
1012	Rockledge	94
0810	Foster St. Hill	93

UWP ID	URBAN WILD	Total
1413	Pleasantview	92.5
0917	Williams Street	92
0101	Don Orione	90.5
1006	Warren	90
1003	Alpine	87.5
0807	Kennedy Rock	87
1125	Huntoon Rock	86.5
1124	Adams Rock	85.5
0906	Nira Rock	84.5
0808	Leamington	84
1506	Blue Hill Rock	83
1123	Calf Pature	82.5
1009	John Eliot	82
0902	Alleghany I	80.5
1004	Juniper	80.5
1505	Woodhaven	80
0914	Parker Hilltop	79
0916	Rock Hill	79
0903	Alleghany II	77.5
0909	Chapman	77.5
1406	Dell Avenue	77
0108	Wood Island	75.5
1114	Penn ROW	75
1313	West Roxbury	75
0918	Hellenic Hill	75
0809	St. John's	74
0804	Cenacles	73.5
1108	Meeting House	73.5
1501	Gladeside I	71.5
1205	Canterbury II	71
0915	Oak View	67
0904	Judge Street	67
0802	Crittenton	66.5
1411	Euclid Street	66.5
0801	Turnpike	65.5
0901	Harvard Quarry	63.5
0803	St. Sebastians	63
0806	Mt. St. Josephs	62
1206	Boston State	61
0102	Tower Street	60.5
0911	Daughters of	60
0910	Showa	60
0203	Charlestown	57.5
1316	Dana Road	57
1107	The Humps	55
1109	Eldon Street	54.5

UWP ID	URBAN WILD	Total
1307	Oak Ridge	53.5
1201	Metropolitan	42.5
1311	New Haven	36.5

Table 3. List of every unprotected Urban Wild along with its UWP code and the overall importance score.

5.3.2. Importance by Individual Criterion

In the decades following the original survey of Boston's Urban Wilds, the priorities for Wild protection have changed on several occasions. Inevitably, in the years following this 2000 inventory the same will be true. In an effort to account for the dynamic focus of the BCC and to increase the adaptability of the importance rating we have included an analysis of the Urban Wilds based upon individual criterion.

Currently, the most important criterion for Urban Wild protection is the presence of wetlands, due to their importance in sustaining the ecological balance of the City. Wilds that received a score of 4 or 5 are listed below in Table 4. These Wilds have been noted because they all contain extensive wetlands.

UWP ID	URBAN WILD	Water
1419	Mother Brook I	5
1409	Sprague Pond	5
1320	West Roxburry	5
1309	Rivermoor	5
1118	Keystone	5
0104	Bayswater	5
1414	Fairview	4
1407	West Street	4
1404	Boundary I	4
1312	Roxbury Latin	4
1304	Hancock	4
1204	Eldon Street	4
0912	Lawrence	4

Table 4. Important Urban Wilds due to the presence of wetlands.

The importance of wetlands is exemplified by the fact that seventy-four percent of the unprotected Urban Wilds do not contain any, as can be seen in Figure 10. Of those

Wilds containing wetlands, most received a high score demonstrating that the existing wetlands are extensive.

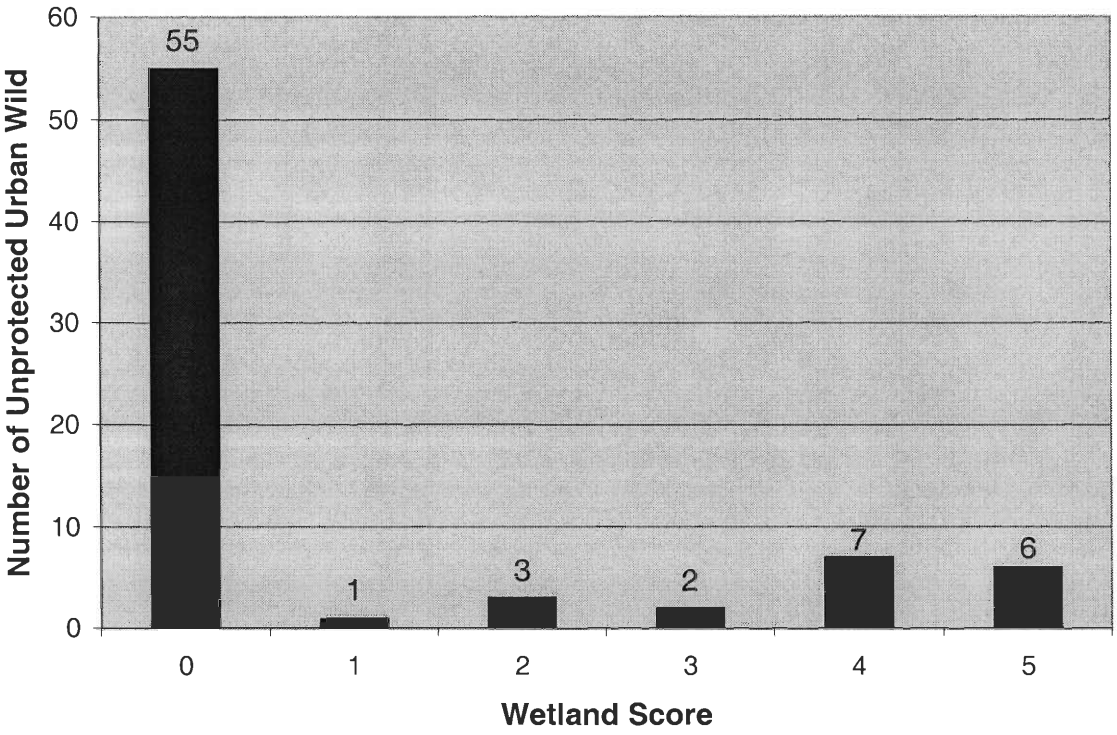


Figure 10. Wetland distribution throughout the Urban Wilds.

As mentioned before, the value of each Wild differs and is related to the Urban Wild and open space acreage in each neighborhood and has been included in our rating system. As would be expected, Wilds found in neighborhoods with minimal open space are the most important Wilds on the basis of open space benefits. Charlestown and Hyde Park, the two neighborhoods that contain the least amount of open space acreage in Boston, rank the highest. The Wilds that fall into these two neighborhoods are shown in Table 5.

UWP ID	URBAN WILD	OS
0203	Charlestown	5
1422	Neponset I	4
1419	Mother Brook I	4
1414	Fairview	4
1413	Pleasantview	4

UWP ID	URBAN WILD	OS
1411	Euclid Street	4
1409	Sprague Pond	4
1407	West Street	4
1406	Dell Avenue	4
1405	Boundary II	4
1404	Boundary I	4

Table 5. Urban Wilds residing in neighborhoods that lack open space.

A look at the rest of the Wilds and there open space ranking shows that half of the Urban Wilds scored a three based on their neighborhood's need for open space. Figure 11 below shows the distribution of the open space importance of Wilds.

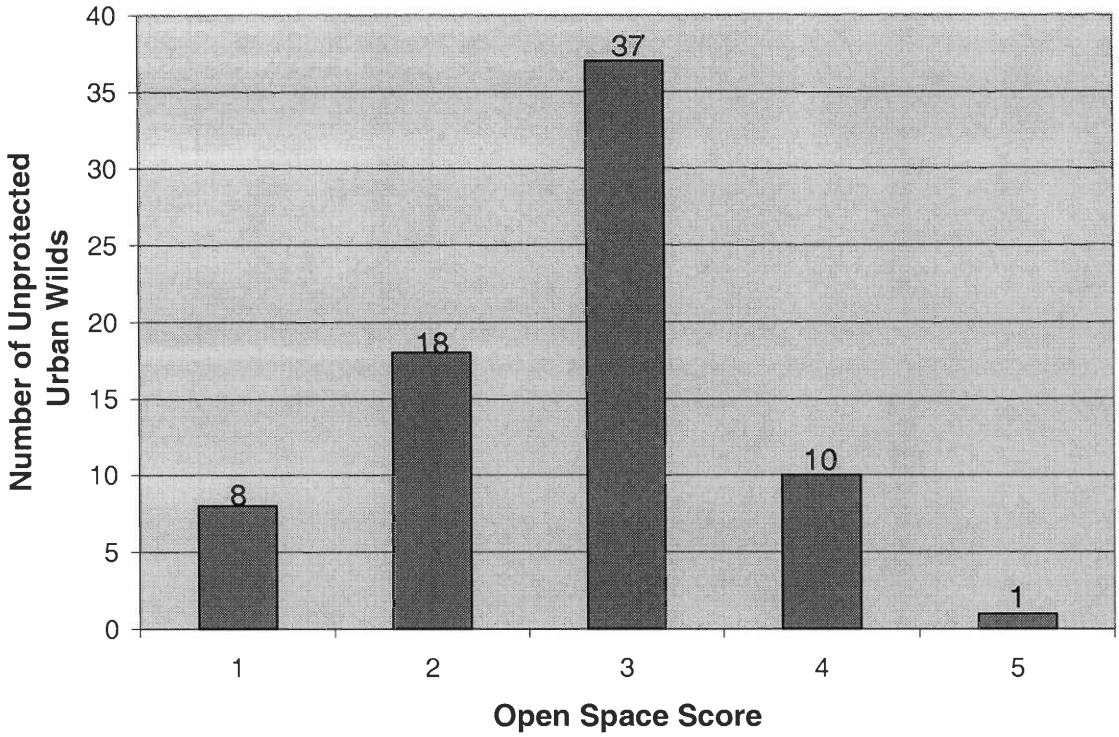


Figure 11. Open Space distribution among the Urban Wilds

The connectivity of each Wild was determined by assessing its proximity to other open spaces, and Wilds. Wilds that would easily connect to other open spaces received higher ratings than the Wilds that are separated by a significant distance. Table 6 lists the Wilds that were already in contact with other Wilds or open spaces.

UWP ID	URBAN WILD	Connectivity
1503	Pendergast	5
1414	Fairview	5
1413	Pleasantview	5
1405	Boundary II	5
1404	Boundary I	5
1320	West Roxbury	5
1313	West Roxbury	5
1312	Roxbury Latin	5
1309	Rivermoor	5
1304	Hancock	5
1206	Boston State	5
1205	Canterbury II	5
1123	Calf Pasture	5
1120	Granite	5
1114	Penn ROW	5
1103	Boston Gas	5
1001	Dudley Cliffs	5
0918	Hellenic Hill	5
0914	Parker Hilltop	5
0909	Chapman	5
0906	Nira Rock	5
0812	Foster St. Rock	5
0810	Foster St. Hill	5
0809	St. John's	5
0804	Cenacles	5
0107	MBTA	5
0104	Bayswater	5

Table 6. Wilds receiving the highest connectivity score.

The above table only represents the connectivity of the 29 Urban Wilds that received a five, the highest possible score. However, this only represents the connectivity of two-fifths of the Urban Wilds. The other Wild connectivity scores can be seen in Figure 12 below. Luckily for the Parks and Recreation Department, forty-eight of the unprotected Wilds, which represent sixty-five percent of the total, have high connectivity ratings.

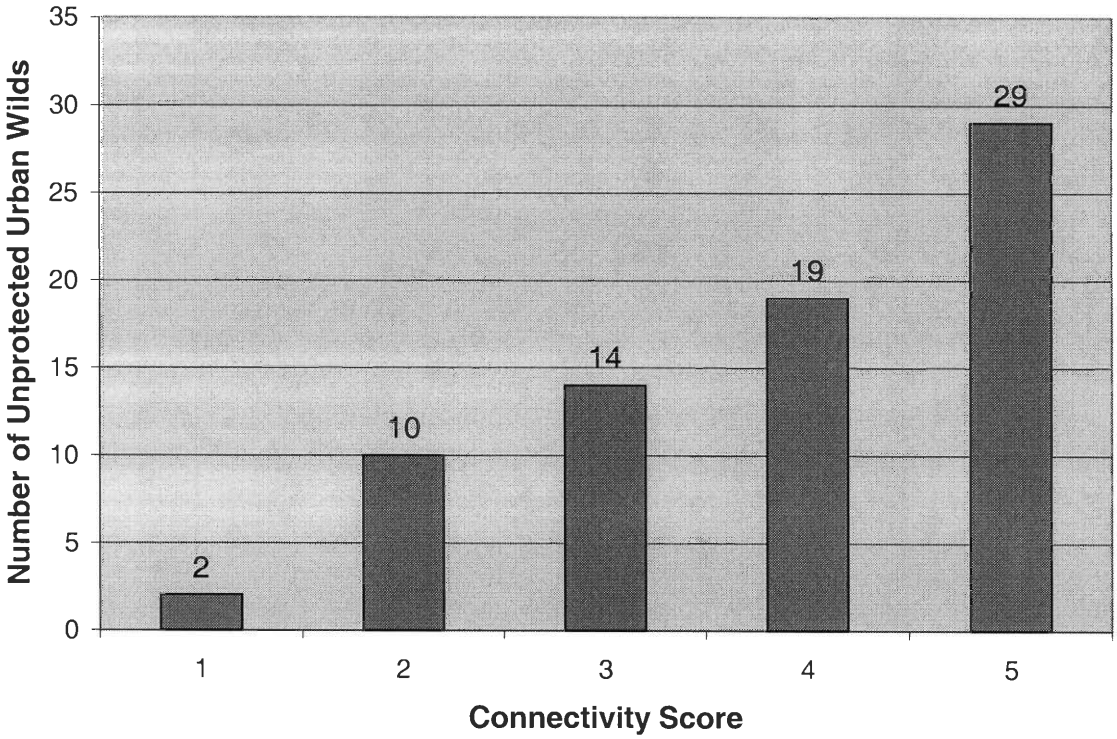


Figure 12. The connectivity of Urban Wilds to other open space.

Large scenic features, as previously stated, can be a body of water, rock outcropping, or any unique aspect of a Wild that is between 5 and 25 acres. An Urban Wild either has large scenic features or does not, therefore, we used a simple yes or no rating. As can be seen in Table 7, only nine of the unprotected Urban Wilds possess large scenic features. This in turn displays the rarity of large features within Urban Wilds.

UWP ID	URBAN WILD NAME
0912	Lawrence Farm
1204	Eldon Street
1304	Hancock Woods
1312	Roxbury Latin School
1320	West Roxburry High School
1404	Boundary I
1405	Boundary II
1414	Fairview Quarry
1503	Pendergast Preventorium

Table 7. List of Wilds that contain large scenic features.

The neighborhood income, though not as crucial to the importance rating of the Wilds, demonstrates the need for the preservation of more open spaces in less prosperous areas. Table 8 lists the Wilds that are located in neighborhoods with the lowest income.

UWP ID	URBAN WILD	income
1012	Rockledge	5
1011	St. Monica's	5
1009	John Eliot	5
1006	Warren	5
1004	Juniper	5
1003	Alpine	5
1001	Dudley Cliffs	5
0108	Wood Island	5
0107	MBTA	5
0104	Bayswater	5
0102	Tower Street	5
0101	Don Orione	5

Table 8. Wilds that are in neighborhoods with the lowest income.

In contrast, the highest median income neighborhoods in Boston do not contain Urban Wilds; therefore, the lowest score of one is not possible for any Wilds. Fifty-three percent of the Urban Wilds reside in median income neighborhoods receiving a score of four. These points are illustrated in Figure 13 below.

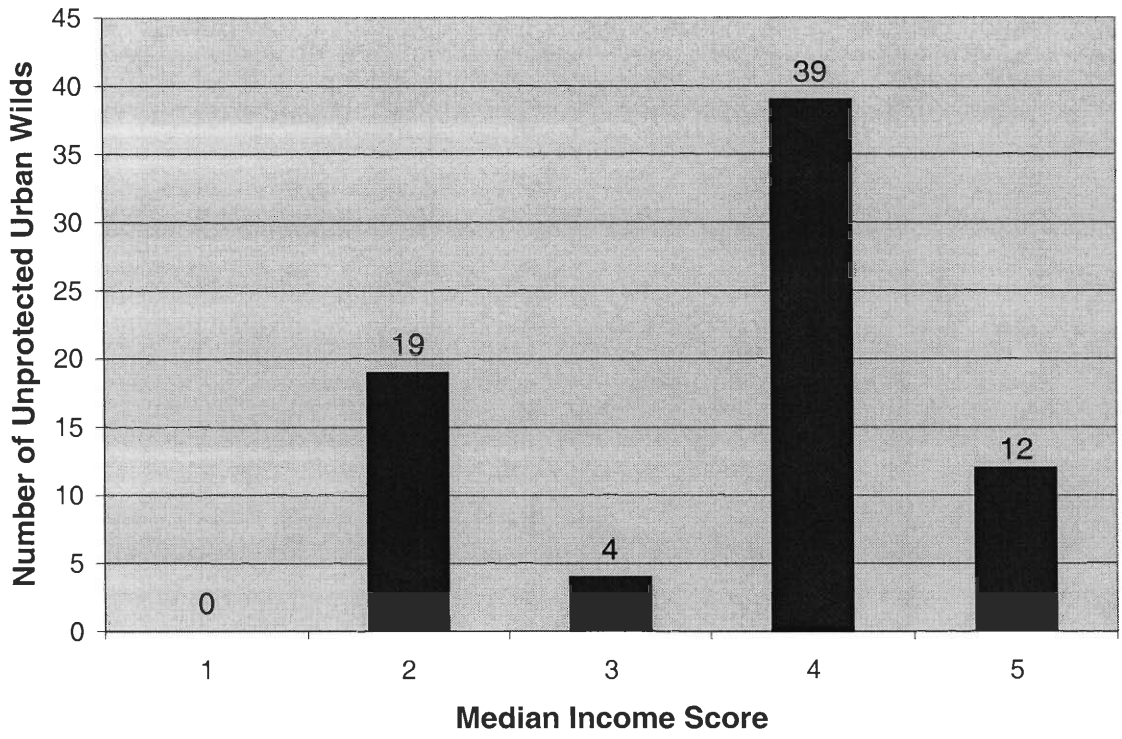


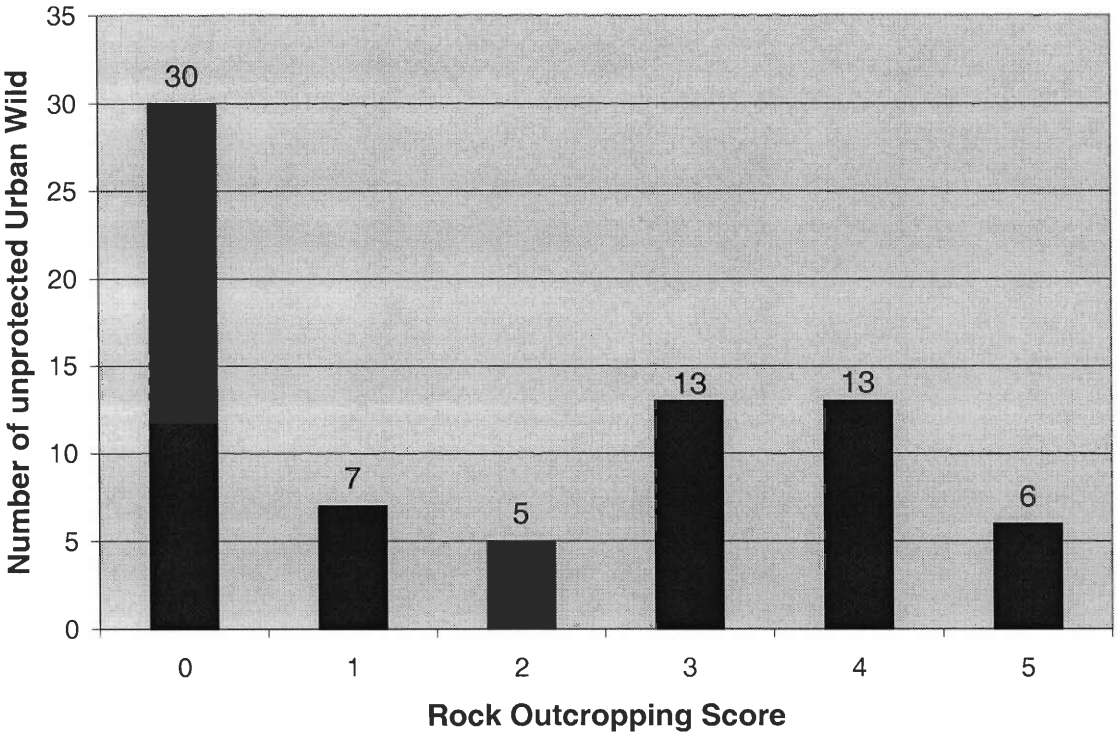
Figure 13. Displays the number of unprotected Urban Wilds by median income.

The individuality of rock outcroppings contributes to the determination of an Urban Wild's uniqueness. Table 9 displays the Wilds that contain rock outcroppings covering a significant portion of the Wild.

UWP ID	URBAN WILD	Rocks
1125	Huntoon Rock	5
0916	Rock Hill	5
1001	Dudley Cliffs	5
0807	Kennedy Rock	5
1124	Adams Rock	5
1313	West Roxbury	5
1312	Roxbury Latin	4
1307	Oak Ridge	4
1507	Gladeside II	4
1406	Dell Avenue	4
1414	Fairview	4
1012	Rockledge	4
1011	St. Monica's	4
1503	Pendergast	4
1506	Blue Hill Rock	4
0902	Alleghany I	4
0812	Foster St. Rock	4
0808	Leamington	4
1120	Granite	4

Table 9. Wilds that are important to Boston due to expansive rock outcroppings.

Thirty of the seventy-four Urban Wilds, however, do not have any rock outcroppings, thus, making those that do contain this natural feature even more important. The majority of these Wilds received scores between three and four,



Small scenic features, as stated previously, are less then 5 acres, and include rock outcroppings, bodies of water, and marshes and were scored in the same way as large scenic features. Wilds receiving a score for scenic features are displayed in Table 10. There are fifty Wilds included in this listing, a significant fraction of the 74 Wilds we have inventoried. This result was expected because many Urban Wilds were originally designated as such for their unique scenic features.

UWP ID	URBAN WILD
0101	Don Orione
0107	MBTA

UWP ID	URBAN WILD
0807	Kennedy Rock
0808	Leamington

UWP ID	URBAN WILD
0810	Foster St. Hill
0812	Foster St. Rock
0902	Alleghany I
0903	Alleghany II
0906	Nira Rock
0909	Chapman
0912	Lawrence
0914	Parker Hilltop
0915	Oak View
0916	Rock Hill
0917	Williams Street
0918	Hellenic Hill
1001	Dudley Cliffs
1003	Alpine
1004	Juniper
1006	Warren
1009	John Eliot
1011	St. Monica's
1012	Rockledge
1103	Boston Gas
1108	Meeting House
1118	Keystone
1120	Granite
1123	Calf Pasture
1124	Adams Rock
1125	Huntoon Rock
1205	Canterbury II
1304	Hancock
1307	Oak Ridge
1312	Roxbury Latin
1313	West Roxbury
1316	Dana Road
1404	Boundary I
1405	Boundary II
1406	Dell Avenue
1407	West Street
1409	Sprague Pond
1413	Pleasantview
1414	Fairview
1419	Mother Brook I
1422	Neponset I
1501	Gladeside I
1503	Pendergast
1505	Woodhaven
1506	Blue Hill Rock
1507	Gladeside II

Table 10. Wilds containing scenic features that are less than 5 acres.

The condition of the Wilds was determined by observing the amount of litter and dumping in the Wild. Each Wild was rated on a scale from 1 to 5, with one corresponding to no litter or dumping and 5 meaning the Wild has been heavily dumped and littered upon. The condition of the Wilds did not significantly contribute to determining the importance; instead it was used to distinguish between Wilds that were already receiving similar scores. The Wilds that are in the best condition can be seen in Table 11.

UWP ID	URBAN WILD NAME
1409	Sprague Pond
1405	Boundary II
1404	Boundary I
1320	West Roxburry High School
1316	Dana Road
1313	West Roxbury Quarry
1304	Hancock Woods
1103	Boston Gas Company Easment
1012	Rockledge Street
1011	St. Monica's
1009	John Eliot Square
0916	Rock Hill
0915	Oak View
0914	Parker Hilltop
0912	Lawrence Farm
0911	Daughters of St. Paul
0910	Showa Women's Institute
0810	Foster St. Hill
0809	St. John's Seminary
0808	Leamington Rock
0807	Kennedy Rock
0806	Mt. St. Josephs

Table 11. Wilds scoring highest in condition due to low dumping and low litter.

Similar to condition, accessibility was not of primary concern when determining the importance of Wilds. The accessibility of a Wild could easily be improved by agencies such as BCC and the Parks Department. Table 12 shows Wilds that received high accessibility ratings.

UWP_ID	URBAN WILD	Accessibility
0915	Oak View	1
1311	New Haven	1
1304	Hancock	1
1012	Rockledge	1
0914	Parker Hilltop	1
0104	Bayswater	2
0107	MBTA	2
0203	Charlestown	2
0802	Crittenton	2
0812	Foster St. Rock	2
0902	Alleghany I	2
0903	Alleghany II	2
0909	Chapman	2
0101	Don Orione	2
1003	Alpine	2
1506	Blue Hill Rock	2
1006	Warren	2
1123	Calf Pasture	2
1201	Metropolitan	2
1316	Dana Road	2
1320	West Roxburry	2
1414	Fairview	2
1001	Dudley Cliffs	2

Table 12. Wilds that are easily accessed. These Wilds contain an obvious entrance. In this case, a score of one represents greater accessibility.

5.4. Management System

The primary accomplishment following our data collection was the development of an electronic database as well as notebooks to serve as definitive resources of Urban Wild information. Presented to the BCC, this management system catalogues existing unprotected Urban Wilds. The purpose of this system is to provide the BCC with a quick and accurate reference to the status, ownership, and importance of Wilds in question. The electronic database's strength comes from its potential to be updated as information changes. Also, the database provides a useful tool for analyzing data. The notebooks provide sources of permanent data as well as copies of valuable ownership documentation to the BCC.

6. Conclusions and Recommendations

The BCC has been charged with the task of preserving the remaining undeveloped Urban Wilds in Boston. Our goal was to aid their effort by creating a single database for organizing information and developing a rating system for determining Wild importance. To meet this goal, we completed four primary accomplishments. The first was a complete inventory of Boston's unprotected Urban Wilds. Next, we found that the ownership of publicly owned Wilds cannot be determined through city records. The importance rating and the management system are the final two accomplishments of this project and will be provided to the BCC for future use. The following section discusses conclusions based upon our findings as well as our recommendations to the BCC.

Our inventory of Boston's Urban Wilds resulted in three main conclusions. First, the loss of Urban Wild acreage decreases with each survey but does not necessarily represent the true loss due to inconsistencies in acreage calculation. Area discrepancies may be due to the fact that acreage for the year 2000 was calculated using MapInfo while previous surveys were done through field measurements. Also, there does appear to be a slight correlation between a neighborhood's median income level and the condition of Wilds that reside within it in that lower income areas tend to contain Wilds with greater amounts of litter and dumping. Furthermore, we discovered no trends between an area's poverty level or minority population and the Wild's subsequent condition.

Beyond the condition of each unprotected Wild, an assessment of the threat by development was made. Efforts to protect Wilds have often been thwarted due to poor communication between departments and inconsistent ownership documentation. Over 70 Wilds still remain unprotected in Boston and should be considered in danger of development. The exact threat to these Wilds has been difficult to determine because their ownership is still in question. Surprisingly, specific ownership of public Wilds is poorly, if at all, documented by specific city agencies and the Registry of Deeds.

Our third major conclusion was that the overall importance of each of these endangered Wilds ranged greatly. This demonstrates that a few especially important Wilds epitomize the characteristics that make an Urban Wild important and unique. For this reason, some of the city's Wilds are evidently of much greater importance than others. Of the 74 unprotected Urban

Wilds, Fairview Quarry scored the highest importance and Boundary I and II are the most important publicly owned Urban Wilds. Wetlands are considered the most important feature due to ecological concerns and the three previously mentioned Wilds are included in the list of 13 properties containing wetlands, as seen in Table 4, deemed significant due to the presence of water.

Our final accomplishment was the creation of a management system for organizing and analyzing Urban Wild information. This system included an electronic database and a hard copy organized within notebooks.

In light of these conclusions, we advise a standardized system for documenting Urban Wild ownership and transfers be developed and the information recorded within the Registry of Deeds using specific agency names. We suggest that this information also be recorded by each agency and kept up to date through an improved system of inter-department communication. Such a system would greatly increase the efficiency of protective agencies such as the BCC and Parks and Recreation Department.

The Wilds listed in Table 4 would be easier to protect than most due to the Wetlands Protection Act. These Wilds are also of greater importance because of the ecological significance wetlands possess. Thus, we recommend that the BCC concentrate on protecting these Wilds before anymore of Boston's few remaining wetlands are lost. This would best be accomplished if the BCC could, as it wishes, concentrate entirely upon the dealings of Boston's wetlands. In order to facilitate this, the BCC ought to transfer all Wilds that don't contain wetlands to the Parks and Recreation Department. The Urban Wilds Boundary II, Dell Avenue Rock, West Street, Woodhaven, and Gladeside I are already owned by the Parks and Recreation Department and should now be considered protected. Furthermore, thirty Wilds are highlighted in Table 6 as being most conducive for combining open spaces into larger green ways. We advise the Parks and Recreation Department to purchase these lands for the purpose of guaranteeing their protection as well as providing a means for constructing an expansive system of open spaces in Boston.

Finally, we suggest improving the methods of protection and maintenance of Urban Wilds through the following actions. To prevent a significant loss of Wild acreage, we recommend the establishment of a public awareness and education system in order to increase public influence for the protection of open spaces. We also suggest implementing a citywide

clean up of Urban Wilds. This could be accomplished through volunteers, city employees, and students. Wilds in better condition will be more valuable to the city as well as more inviting to its citizens.

7. Appendix

7.1. BNAF 1990 Urban Wild Parcel Survey Data

No.	Name	1990 Status	1976 acres	1990 acres
01_01	Don Orione	UI	9.5	9.5
01_02	Tower Street	UD	0.5	0.5
01_03	Belle Isle Marsh	P	139.4	152
01_04	Bayswater Street	UI	10	10
01_05	USNaval Reservation	L	15.8	0
01_06	Chelsea Dreek Meadow	L	30.5	0
01_07	MBTA Extension	UI	0.6	0.6
01_08	Wood I. Bay Marsh	UI	152	152
01_09	Condor Street Beach	P	8.9	8.9
01_10	Condor Street O'Look	PD	10.4	10.4
01_11	Gov. Island Cove	L	203	0
01_12	Golden Stairs	P	0.2	0.2
02_01	Mystic Overlook	L	0.7	0
02_02	Schafft"s Cove	L	9.7	0
02_03	Ch'town Overlook	UI	0.7	0.7
08_01	Turnpike Overlook	UI	7.2	7.2
08_02	Crittenton Hospital	UI	3	3
08_03	St. Sebastian's	UI	6.4	6.4
08_04	Cenacles	UI	17.5	17.5
08_05	Victory Gardens	L	1.5	0
08_06	Mt. St. Joseph's	UD	6.5	6.5
08_07	Kennedy Rock	UI	2	2
08_08	Leamington Rock	UI	0.5	0.5
08_09	St. John's Seminary	UI	42	42
08_10	Foster Street Hill	UI	5.7	5.7
08_11	Oakland Quarry	L	2.3	0
08_12	Foster Street Rock	UD	5	5
08_13	Wallingford Rock	L	3	0
08_14	Euston Path Rock	L	0.7	0
09_01	Harvard Quarry	UI	6.6	6.6
09_02	Alleghany I	UI	0.2	0.2

No.	Name	1990 Status	1976 acres	1990 acres
09_03	Alleghany II	UD	1	1
09_04	Judge Street	UI	0.4	0.4
09_05a	Back of the Hill	L	8.1	0
09_05b	Back of the Hill	P	3.4	3.4
09_06	Nira Avenue Rock	UI	1.5	1.5
09_07	Cranston Street	L	0.2	0
09_08	Sheridan Hillside	L	0.2	0
09_09	Chapman Runyon	UI	12.3	12.3
09_10	Showa Women's Institute	UI	39.9	39.9
09_11	Daughters of St. Paul	UI	11.6	11.6
09_12	Lawrence Farm	UI	25.9	25.9
09_13	Bussey Brook	UI	20	20
09_14	Parker Hilltop	UI	4	4
09_15	Oakview Terrace	UI	0.4	0.4
09_16	Rock Hill	UI	0.5	0.5
09_17a	Williams Street	UD	4	4
09_17b	Williams Street	L	5.3	0
09_18	Hellenic College	UD	35.6	25.6
10_01	Dudley Cliffs	UA	1.7	1.7
10_02	St. James	L	0.5	0
10_03	Alpine	UI	2.5	2.5
10_04	Juniper Terrace	UI	1.6	1.6
10_05	Fountain Street	L	2.5	0
10_06	Warren Gardens	UI	1.5	1.5
10_07	Puddingstone Garden	P	0.6	0.6
10_08	Franklin	L	2	0
10_09	John Elliot Square	UI	0.1	0.1
10_10	Cedar Street	P	0.5	0.5
10_11	St. Monica's	UI	1.3	1.3
10_12	Rockledge Street	UI	0.5	0.5
10_13	Glen Hill	L	1.4	0
11_01	Patten's Cove	P	9.2	9.2
11_02	Savin Hill Cove	P	28.9	28.9
11_03	Boston Gas Easement	UI	3.2	3.2
11_04	Fernald Terrace	P	0.06	0.06
11_05	Troy Landfill	P	19.1	19.1

No.	Name	1990 Status	1976 acres	1990 acres
11_06	Morgan Memorial	L	1	0
11_07	The Humps	UI	0.8	0.8
11_08	Meeting Hoouse Hill	UI	2.8	2.8
11_09	Eldon Street	UI	1.8	1.8
11_10	Geneva Ave. Cliffs	P	1.5	1.5
11_11	R&S Machine	L	11.3	0
11_12	O.G. Kelley	P	19	19
11_13	Taylor Street	P	0.1	0.1
11_14	Right of Way Shores	UI	6.3	6.3
11_15	PennCen RR Easement	UI	3.3	3.3
11_16	Schoolboy Track	P	51.4	51.4
11_17	Hallet Street Brook	P	3.4	3.4
11_18	Keystone Shoreline	UA	0.6	0.6
11_19	Hilltop Street	P	1	1
11_20	Granite Ave. Ledge	UI	0.2	0.2
11_21	Cedar Grove Ponds	L	3.5	0
11_22	Lower Mills Gorge	L	0.7	0
11_23a	Calf Pasture	UD	89	20
11_23b	Calf Pasture	L		0
11_24	Adams Rock	UI	0.4	0.4
11_25	Huntoon Rock	UI	0.2	0.2
12_01	Metropolitian Ave.	UI	2.5	2.5
12_02	Canterbury I	L	2.5	0
12_03	Grew Avenue	L	12	0
12_04	Eldon Street	UD	11	11
12_05a	Canterbury II	UD	68	8
12_05b	Canterbury II	UI		60
12_07	Boston State Hosp.	UI	34	34
13_01a	Bakalar	L		0
13_01b	Bakalar	UI	43	12
13_01c	Bakalar	P		17
13_02	Brandegee(Allandale)	P	10.6	10.6
13_03a	Souther	P	17	2.4
13_03b	Souther	UI		14.6
13_04	Hancock Woods	UD	52	47
13_05	Waverly Road	UD	1.8	1.8

No.	Name	1990 Status	1976 acres	1990 acres
13_06	Parkway Pond	L	3.3	0
13_07	Oak Ridge	UD	0.3	0.3
13_08	Dump Shoreline	P	8.9	8.9
13_09a	Rivermoor	P		8.2
13_09b	Rivermoor	UI	24.6	1.2
13_09c	Rivermoor	UI		0.5
13_09d	Rivermoor	P		14.9
13_10	Spring street Marsh	L	30.3	0
13_11	New Haven Street	UD	9.7	9.7
13_12	Roxbury Latin School	UI	76.4	76.4
13_13	West Roxbury Quarry	UI	70	70
13_14	Rockview	L	1.2	0
13_15	Dragon Rock	L	1.2	0
13_16	Dana Road	UI	0.9	0.9
13_17	Hancock(Leatherbee)	P	7.9	7.9
13_18	Sawmill Brook	P	68.8	68.8
13_19	Centre Marsh	L	5.3	0
13_20a	W. Roxbury H.S.	L	30	0
13_20b	W. Roxbury H.S.	UD	10	10
13_22	Searle Road Rock	L	0.6	0
14_01	Sally Rock	L	0.7	0
14_02	Sherrin Street	P	30.2	30.2
14_03	Monterey Hilltop	P	6.5	6.5
14_04a	Boundary I	UI	16	9.8
14_04b	Boundary I	P		7.1
14_05a	Boundary II	P	44	17
14_05b	Boundary II	UI	27	27
14_06	Dell Avenue Rock	UI	1.3	1.3
14_07a	West Street	P	1.5	0.6
14_07b	West Street	UI		0.9
14_08a	Railroad Avenue	P	1.2	1.2
14_08b	Railroad Avenue	P		2.1
14_09	Sprague Pond (water)	UI	1.4	1.4
14_10	Readville Maples	L	2.8	0
14_11	Euclid Street	UD	3.9	3.9
14_12	West & Austin	UI	0.3	0.3

No.	Name	1990 Status	1976 acres	1990 acres
14_13	Pleasantview	UI	0.5	0.5
14_14	Fairview Quarry	UI	6.7	6.7
14_15	Belnel	P	1.3	1.3
14_16a	Dana Avenue	P	1.9	0.2
14_16b	Dana Avenue	L		0
14_17	Margin Street	L	0.4	0
14_18a	Allis Chalmers	P	3.4	1.6
14_18b	Allis Chalmers	L		0
14_19	Mother Brook I	UI	0.4	0.4
14_20	Mother Brook II	P	6	8.7
14_21a	Mother Brook III	P		0.5
14_21b	Mother Brook III	P	4.5	1.8
14_21c	Mother Brook III	L		0
14_22	Neponset I	UI	2	2
14_23	Neponset II	L	3.2	0
15_01	Gladeside I	UI	4.5	10
15_02	Livermore	L	30	0
15_03	Pendergast Preventorium	UD	20.8	20.8
15_04	Willowwood Rock	P	0.2	0.2
15_05	Woodhaven	UI	2.1	2.1
15_06	Blue Hill Rock	UI	0.8	0.8
15_07	Gladeside II	UI	1.1	1.1
15_08	Baker Chocolate Seawall	UI	1.5	1.5

7.2. 2000 Public V Private For Unprotected Wilds

Neighborhood	Wild ID	Name	Ownership
East Boston			
	0101	Don Orione	Private
	0102	Tower Street	Unknown
	0104	Bayswater Street	Public
	0107	MBTA Extension	Public
	0108	Wood Island Bay Marsh	Public
Charlestown			
	0203	Charlestown Overlook	Public
Allston / Brighton			
	0801	Turnpike Overlook	Public
	0802	Crittenton Hospital	Private
	0803	St. Sebastian's	Unknown
	0804	Cenacles	Private
	0806	Mt. St. Joseph's Academy	Private
	0807	Kennedy Rock	Private
	0808	Leamington Rock	Private
	0809	St. John's Seminary	Private
	0810	Foster St. Hill	Private
	0812	Foster St. Rock	Private
Jamaica Plain			
	0901	Harvard Quarry	Private
	0902	Allegheny I	Private
	0903	Allegheny II	Private
	0904	Judge Street	Private
	0906	Nira Avenue Rock	Public
	0909	Chapman-Runyon	Private
	0910	Showa Women's Institute	Private
	0911	Daughters of St. Paul	Private
	0912	Lawrence Farm	Private
	0914	Parker Hilltop	Private
	0915	Oakview Terrace	Public
	0916	Rock Hill	Private
	0917	Williams Street	Private
	0918	Hellenic Hill	Private

Neighborhood	Wild ID	Name	Ownership
Roxbury			
	1001	Dudley Cliffs	Public
	1003	Alpine Street	Private
	1004	Juniper Terrace	Private
	1006	Warren Gardens	Public
	1009	John Eliot Square	Unknown
	1011	St. Monica's	Private
	1012	Rockledge St.	Public
Dorchester			
	1103	Boston Gas Company Easment	Private
	1107	The Humps	Private
	1108	Meeting House Hill Overlook	Public
	1109	Eldon Street	Public
	1114	PennROW	Public
	1118	Keystone Shoreline	Private
	1120	Granite Avenue Ledge	Private
	1123	Calf Pasture	Public
	1124	Adams Rock	Private
	1125	Huntoon Rock	Private
Roslindale			
	1201	Metropoiltan	Private
	1204	Eldon Street	Public
	1205	Canterbury II	Public
	1206	Boston State Hospital	Public
West Roxbury			
	1304	Hancock Woods	Public
	1307	Oak Ridge	Private
	1309	Rivermoore	Public
	1311	New Haven Street	Public
	1312	Roxbury Latin School	Private
	1313	West Roxbury Quarry	Private
	1316	Dana	Public
	1320	West Roxbury High School	Public
Hyde Park			

Neighborhood	Wild ID	Name	Ownership
	1404	Boundary I	Public
	1405	Boundary II	Public
	1406	Dell Avenue Rock	Public
	1407	West Street	Public
	1409	Sprague Pond	Unknown
	1411	Euclid Street	Private
	1413	Pleasantview	Public
	1414	Fairview Quarry	Private
	1419	Mother Brook I	Private
	1422	Neponset I	Public
Mattapan			
	1501	Gladeside I	Public
	1503	Pendergast Preventorium	Private
	1505	Woodhaven	Public
	1506	Bluehill Rock	Public
	1507	Gladeside II	Private

7.3. Field Form

Parcel Name: **Collection Team:**
Parcel Code: **Date:**

Natural Features

Rock Outcroppings: No___ Yes___ Comments_____
Bodies of Water: No___ Yes___ Comments_____
Opportunistic Plants: No___ Yes___ Comments_____

Man-Made Features

Buildings: No___ Yes___ Comments_____
Monuments: No___ Yes___ Comments_____
Fences: No___ Yes___ Comments_____
Other:_____

Access

Viewable ____ Accessible ___
Trails: No___ Yes___ Comments_____
Signage: No___ Yes___ Comments_____
Finding Location: Easy 1 2 3 4 5 Difficult Comments_____
Overall Accessibility: Easy 1 2 3 4 5 Difficult Comments_____

Condition

Litter: Light 1 2 3 4 5 Heavy Comments_____
Dumping: Light 1 2 3 4 5 Heavy Comments_____
Erosion: Light 1 2 3 4 5 Heavy Comments_____
Structures: Poor 1 2 3 4 5 Excellent Comments_____
Signs of Encroachment: No___ Yes___ Explain_____

Pictures

Number	Comments
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

7.4. Field Form Procedure

The following guidelines were used when completing Urban Wild field forms:

Litter

1) Light – Wild is nearly completely without signs of littering.
2) Light/Moderate – Litter is present but very sparse.
3) Moderate – Litter is very apparent from most areas of the Wild but does not cover the Wild entirely.
4) Moderate/Heavy – Litter is present throughout Wild.
5) Heavy – Litter is present throughout Wild and covers a significant portion of the ground.

Dumping

1) Light – No signs of dumping.
2) Light/Moderate – Dumping present but in small amounts (i.e. lawn clippings and leaves from about one home).
3) Moderate – Dumping present (from several sources or one large source such as Hotel)
4) Moderate/Heavy – Dumping that begins to encroache upon the Wild (i.e. fill, stone, debris from construction).
5) Heavy – Large amounts of dumping that begins to take up a significant portion of the Wild (i.e. fill, stone, debris from construction).

Erosion

1) Light – No obvious signs of erosion.
2) Light/Moderate – Small amounts of erosion in erosion prone areas.
3) Moderate – Erosion is obvious along hill slopes.
4) Moderate/Heavy – Erosion has begun to change the landscape.
5) Heavy – Erosion has changed the landscape significantly.

Structures

1) Poor – Structures are broken down and obviously left without maintenance for an extended period of time.
2) Fair – Structures are broken down or beginning to fall into disrepair.
3) Good – Structures remain in good shape but are not new or regularly maintained.
4) Very Good- Structures are nearly new or well maintained.
5) Excellent – Structures appear new and in nearly perfect shape.

Finding Location

1) Easy – Wild was viewable from main road and easily distinguished from surroundings.
2) Moderate – Wild was off side road or was not easily distinguished from surrounding.
3) Difficult – Wild was not off of any road or could not be distinguished from surroundings at all.

Overall Accessibility

1) Easy- Signage marked Wild and presented a clear, unobstructed entrance.
2) Easy/Moderate – No signage but obvious, unobstructed entrance was present.
3) Moderate – Entrance was possible but not through an intended entrance.
4) Moderate/Difficult – Obstructed entrance.
5) Difficult – Unable to enter.

7.5. Importance Weighting

Percent of total	Variable	Multiplier	Rating	Description
25%	Water/Wetlands	10	0-5	1:some isolated small areas of standing water 5:expansive marshes
20%	Open Space acreage in Neighborhood	8	0-5	5:little open space in neighborhood
15%	Connectivity	6	0-5	0:isolated and small 5:ideally located
12.50%	Scenic Feature Large	25	0-1	0:no 1:yes 5<25 acres
10%	Open Space by Neighborhood Income	4	0-5	1:higher income 5:lower income
7.50%	Rock Outcropping	3	0-5	0:none 5:all of the parcel
5%	Scenic Features Small	10	0-1	0:no 1:yes < 5 acres
2.50%	Condition	1	0-5	1:poor 5:excellent
2.50%	Accessibility	1	0-5	1:poor 5:excellent

7.6. Thematic Maps

The following maps illustrate data gathered throughout the most recent inventory of Boston's Urban Wilds.

7.6.1. Boston's Urban Wilds

7.6.2. Urban Wild Ownership

7.6.3. Neighborhoods by Open Space Acreage

7.6.4. Neighborhoods by Urban Wild Acreage

7.6.5. Urban Wilds with Wetlands

7.6.6. Urban Wilds with Rock Outcroppings

7.6.7. Urban Wild Dumping Rating by Neighborhood Income

7.6.8. Urban Wild Dumping Rating by Neighborhood Minority

7.6.9. Urban Wild Dumping Rating by Neighborhood Poverty

7.6.10. Urban Wild Litter Rating by Neighborhood Income

7.6.11. Urban Wild Litter Rating by Neighborhood Minority

7.6.12. Urban Wild Litter Rating by Neighborhood Poverty

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incorrectly
numbered

IQP/MQP SCANNING PROJECT

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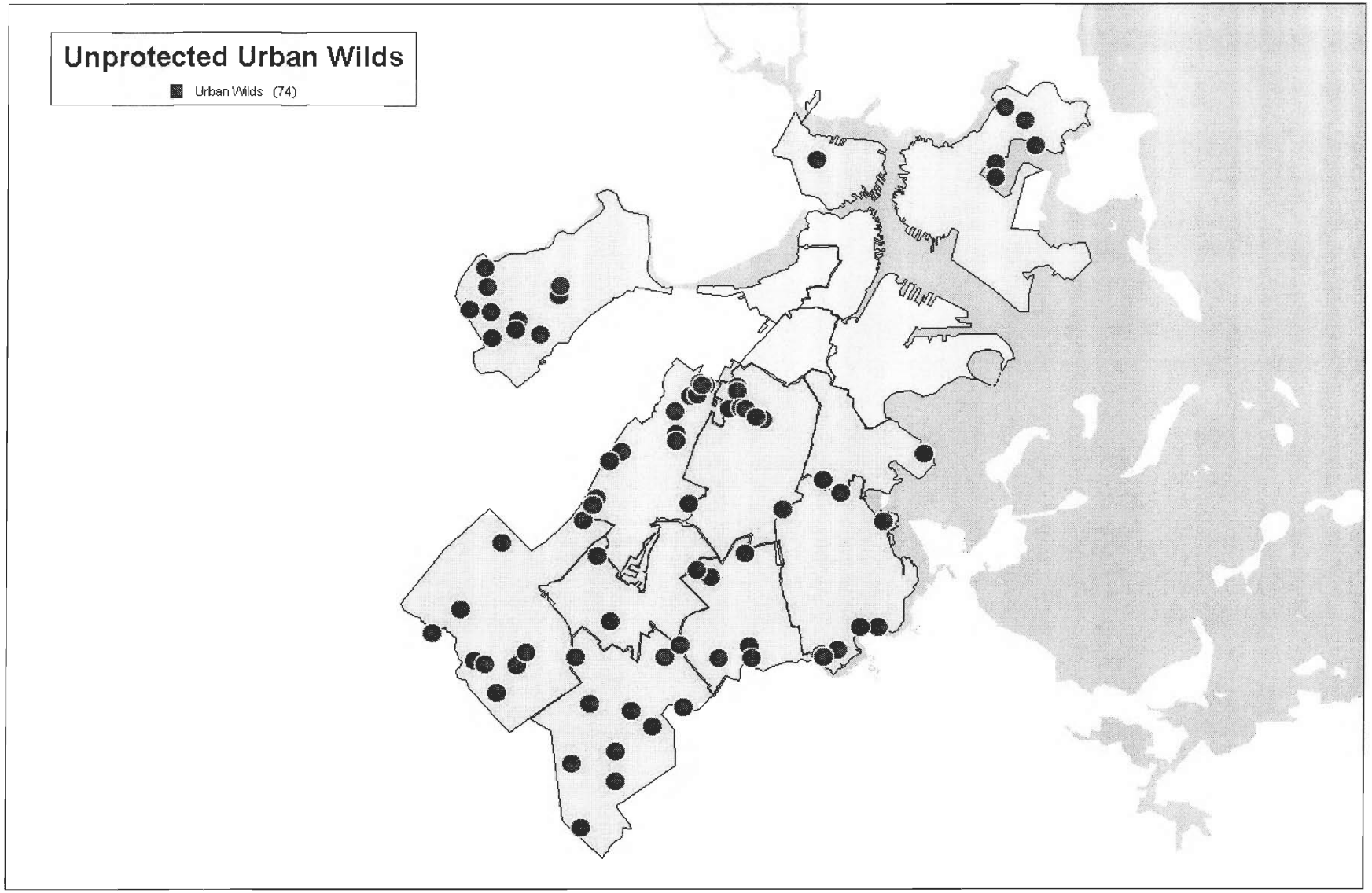
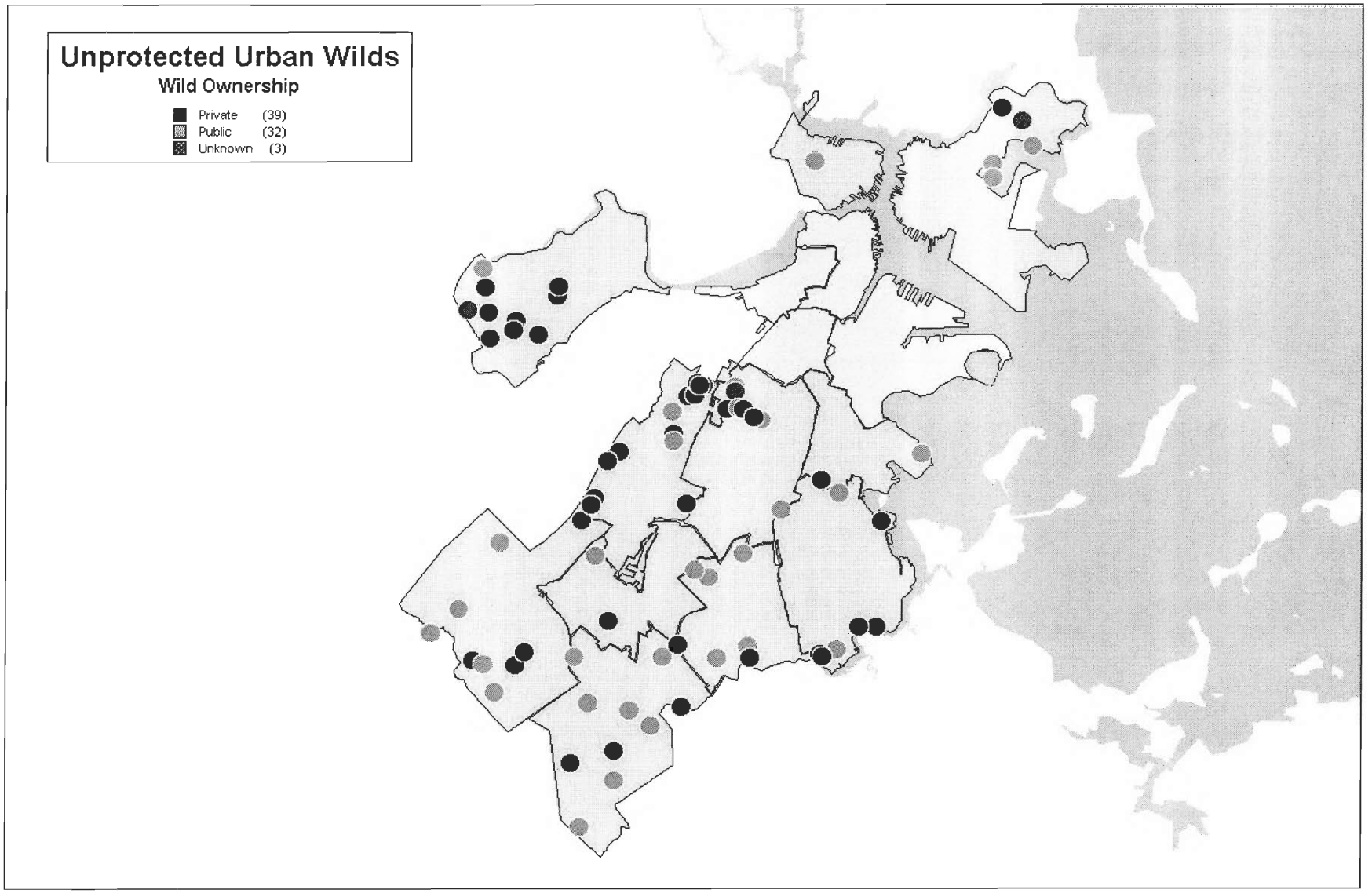
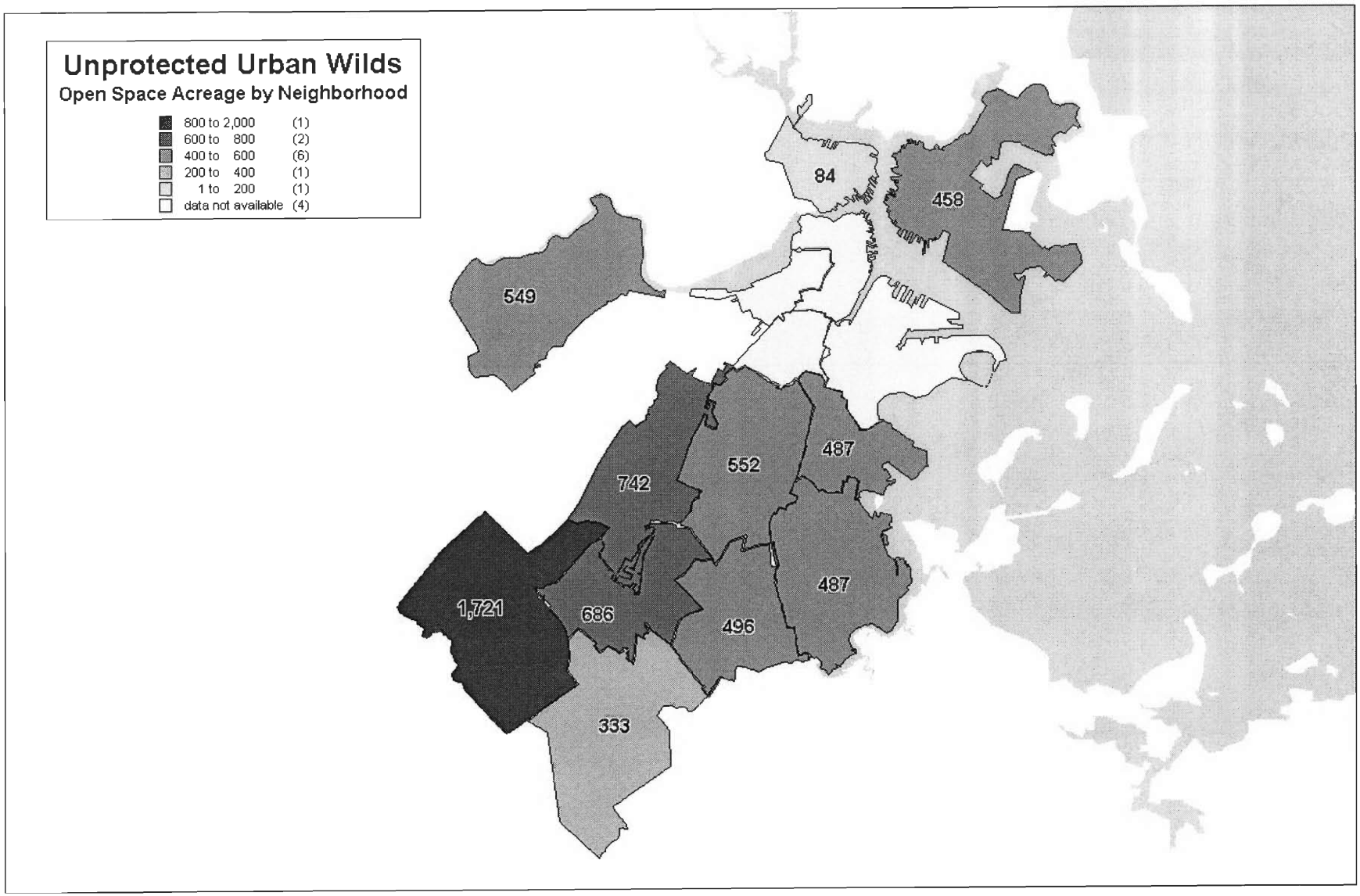
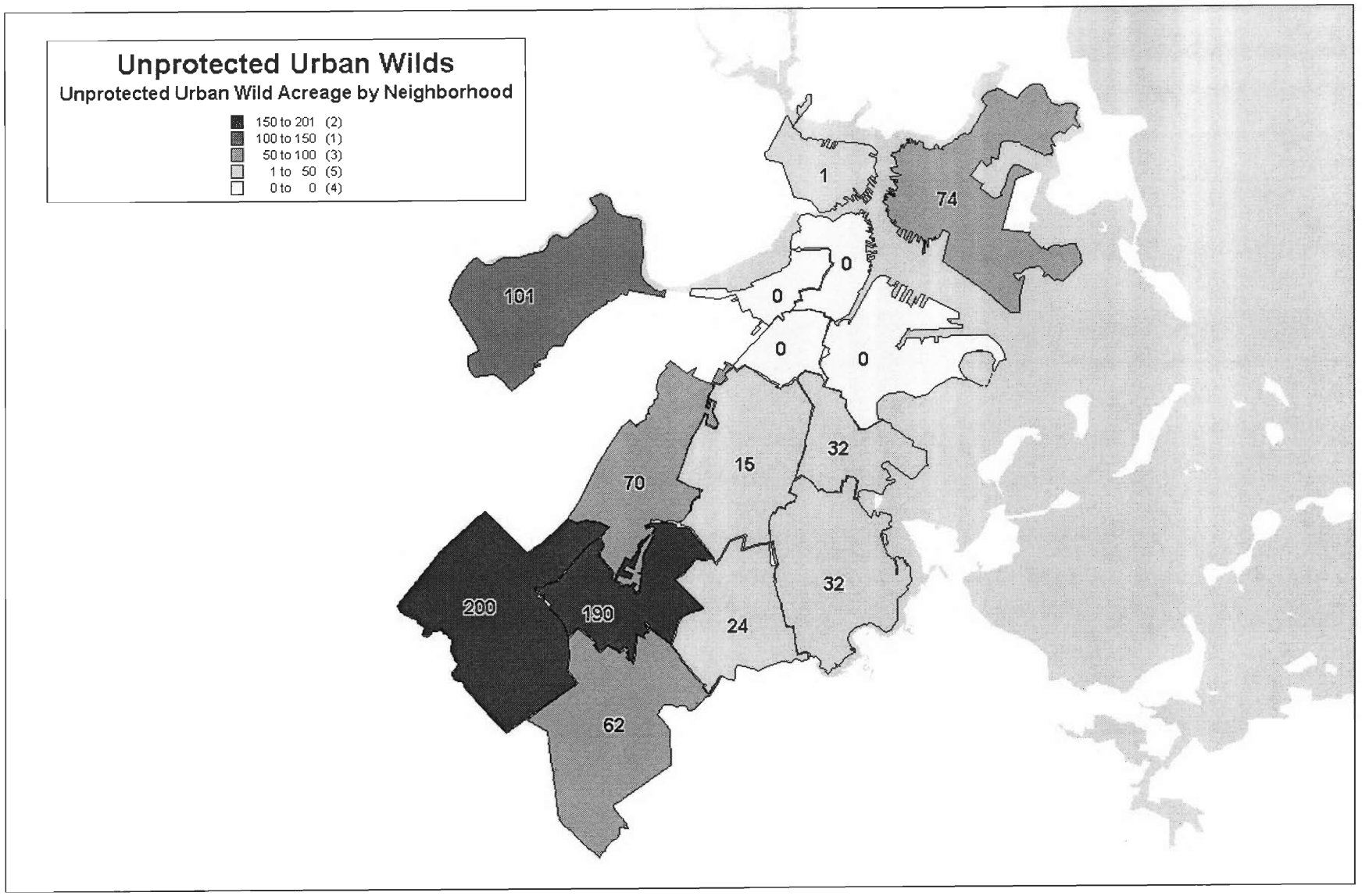
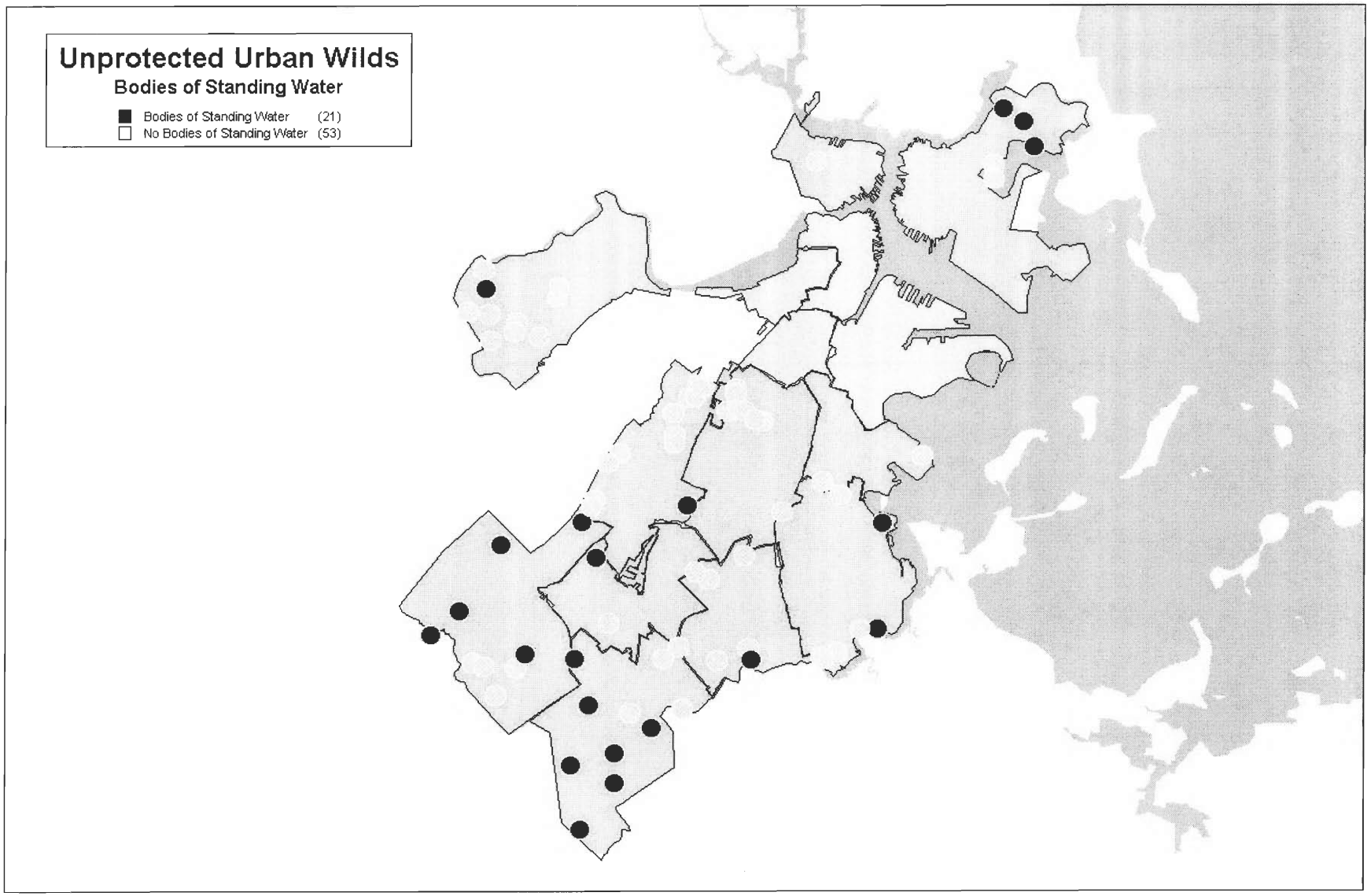
WORCESTER POLYTECHNIC INSTITUTE

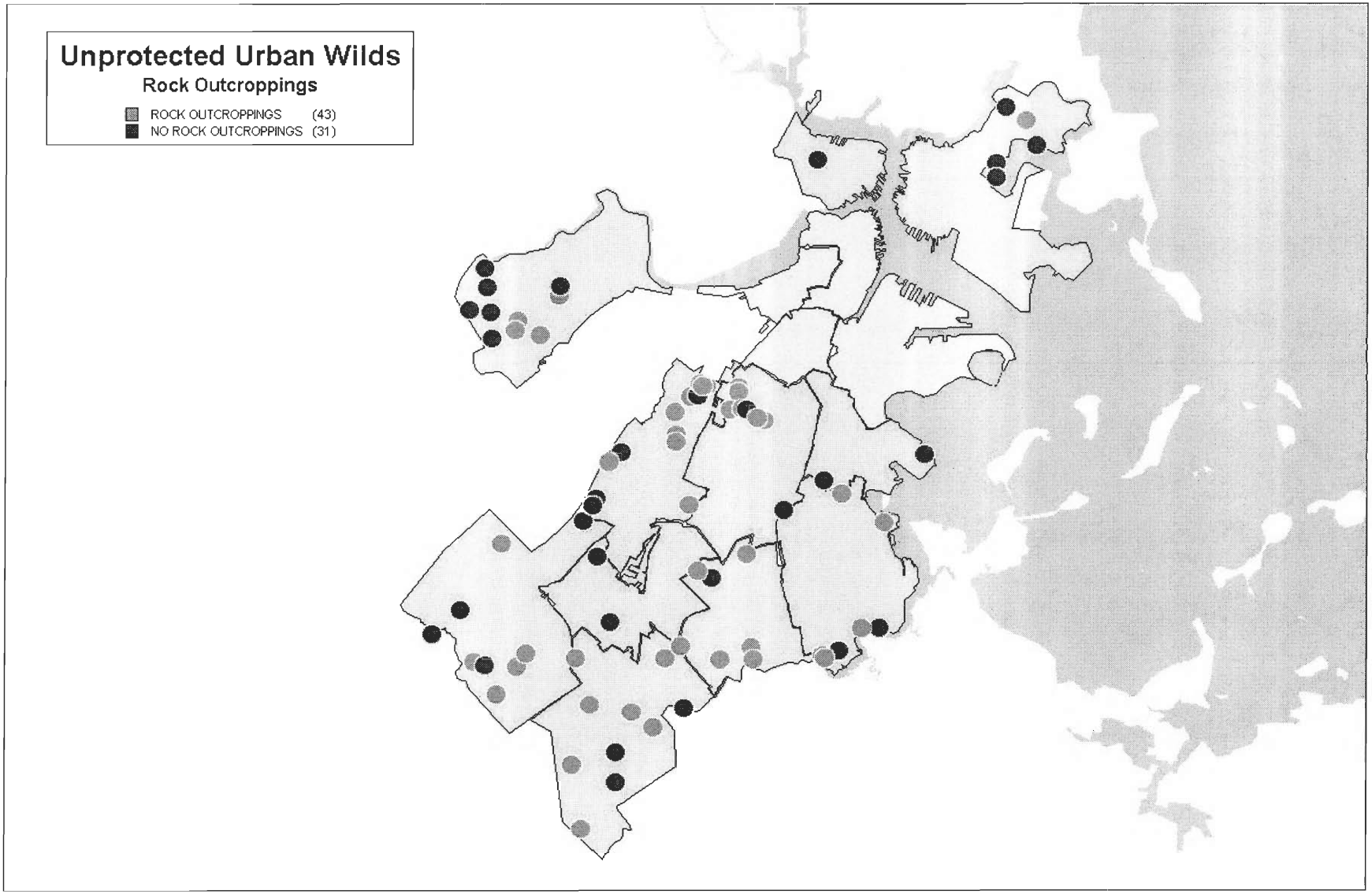

Unprotected Urban Wilds
Urban Wilds (74)

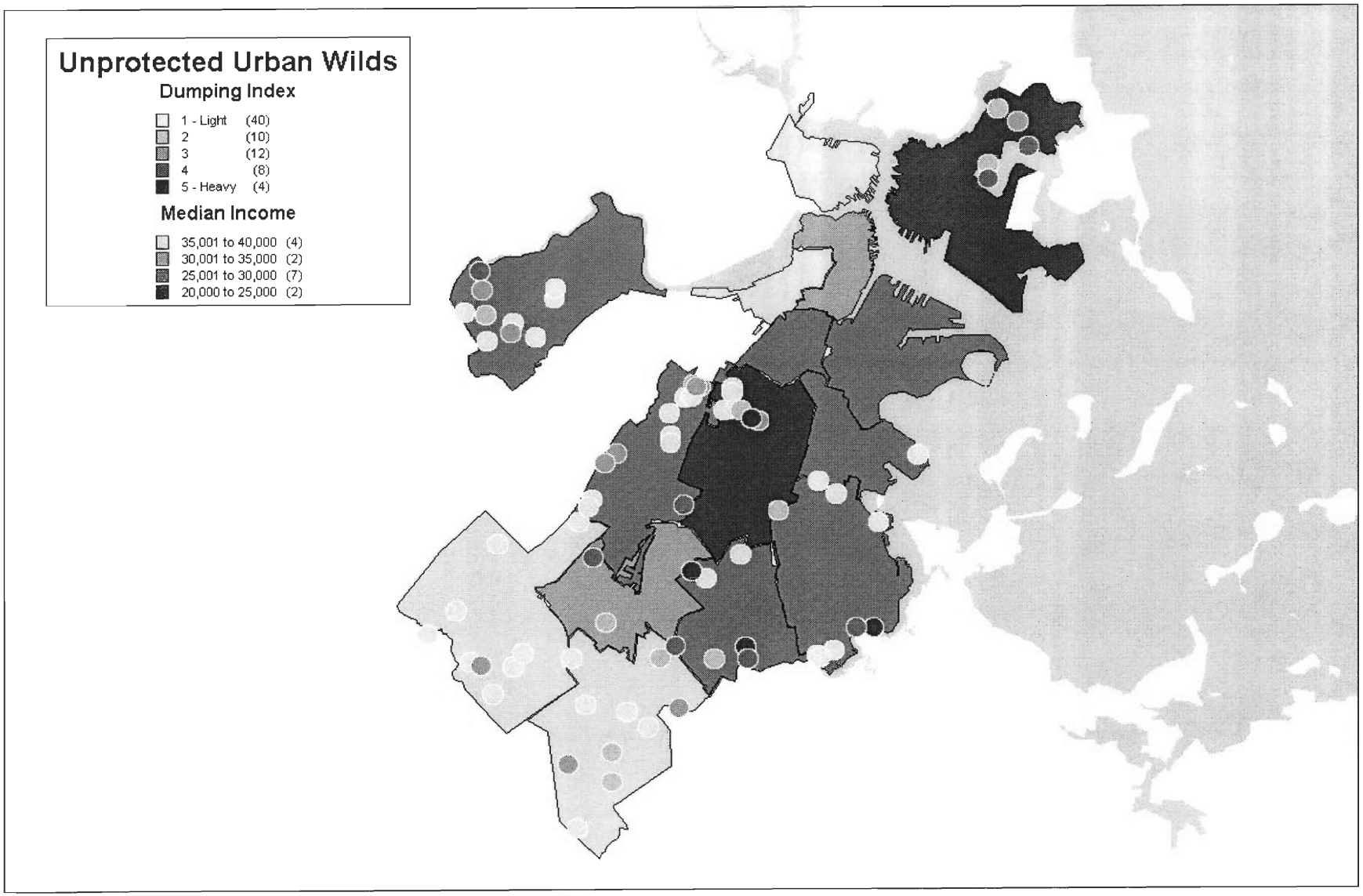

Unprotected Urban Wilds
Wild Ownership
Private (39)
Public (32)
Unknown (3)

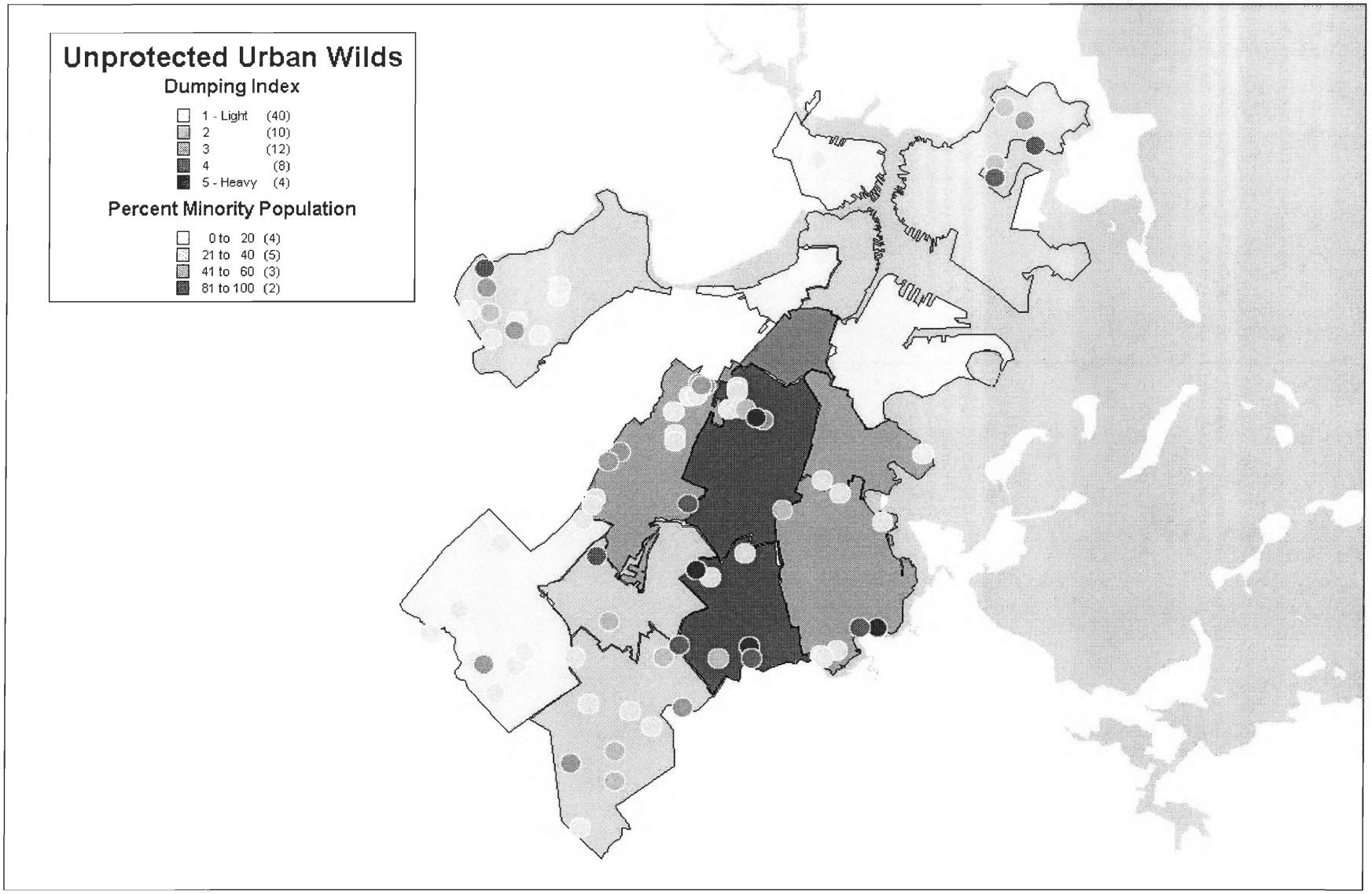

Unprotected Urban Wilds
Open Space Acreage by Neighborhood
800 to 2,000 (1)
600 to 800 (2)
400 to 600 (6)
200 to 400 (1)
1 to 200 (1)
data not available (4)
84
458
549
742
552
487
487
1,721
686
496
333

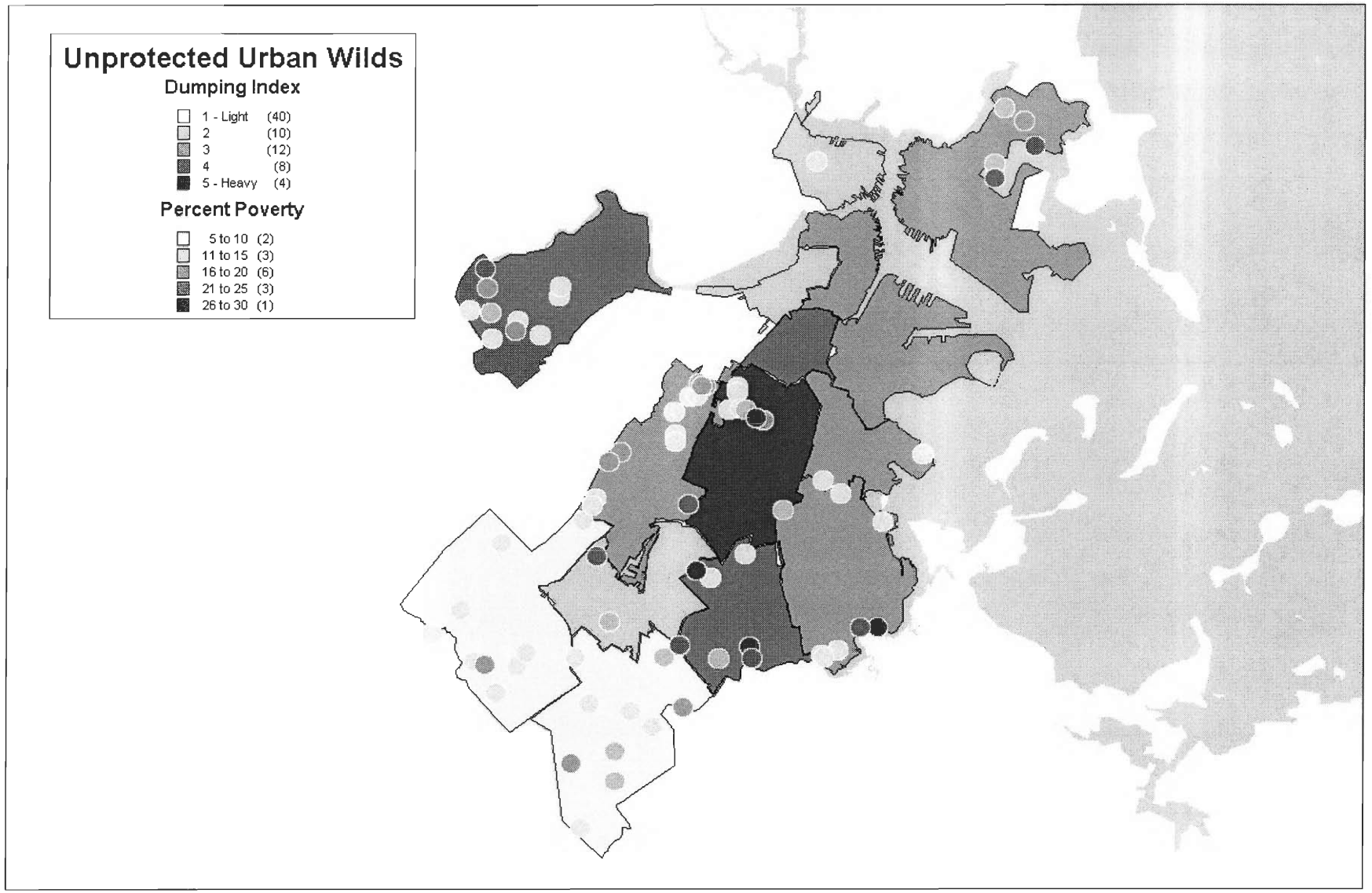

Unprotected Urban Wilds
Unprotected Urban Wild Acreage by Neighborhood
150 to 201 (2)
100 to 150 (1)
50 to 100 (3)
1 to 50 (5)
0 to 0 (4)
1
74
101
0
0
0
0
70
15
32
32
200
190
24
62

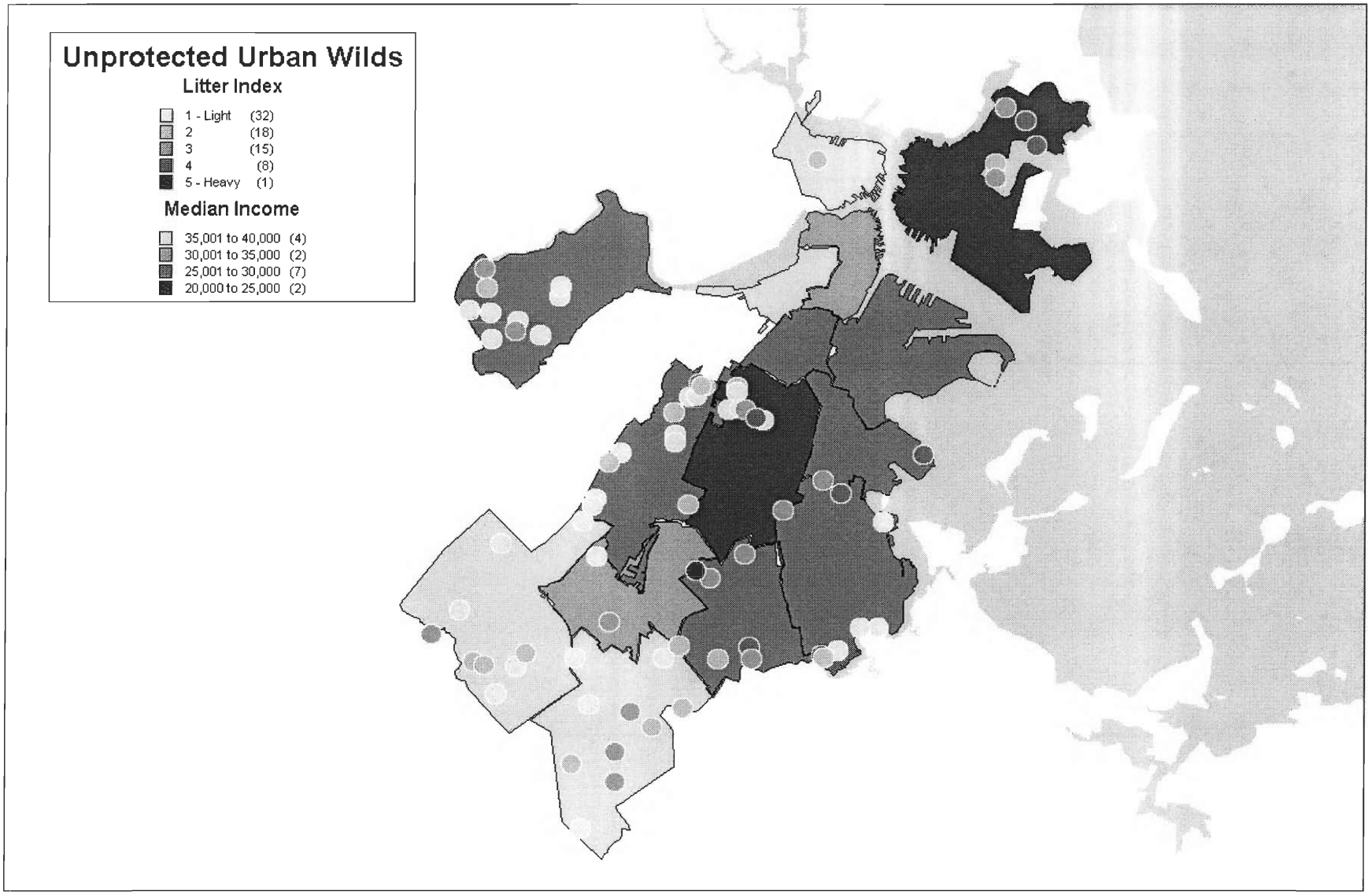

Unprotected Urban Wilds
Bodies of Standing Water
Bodies of Standing Water (21)
No Bodies of Standing Water (53)

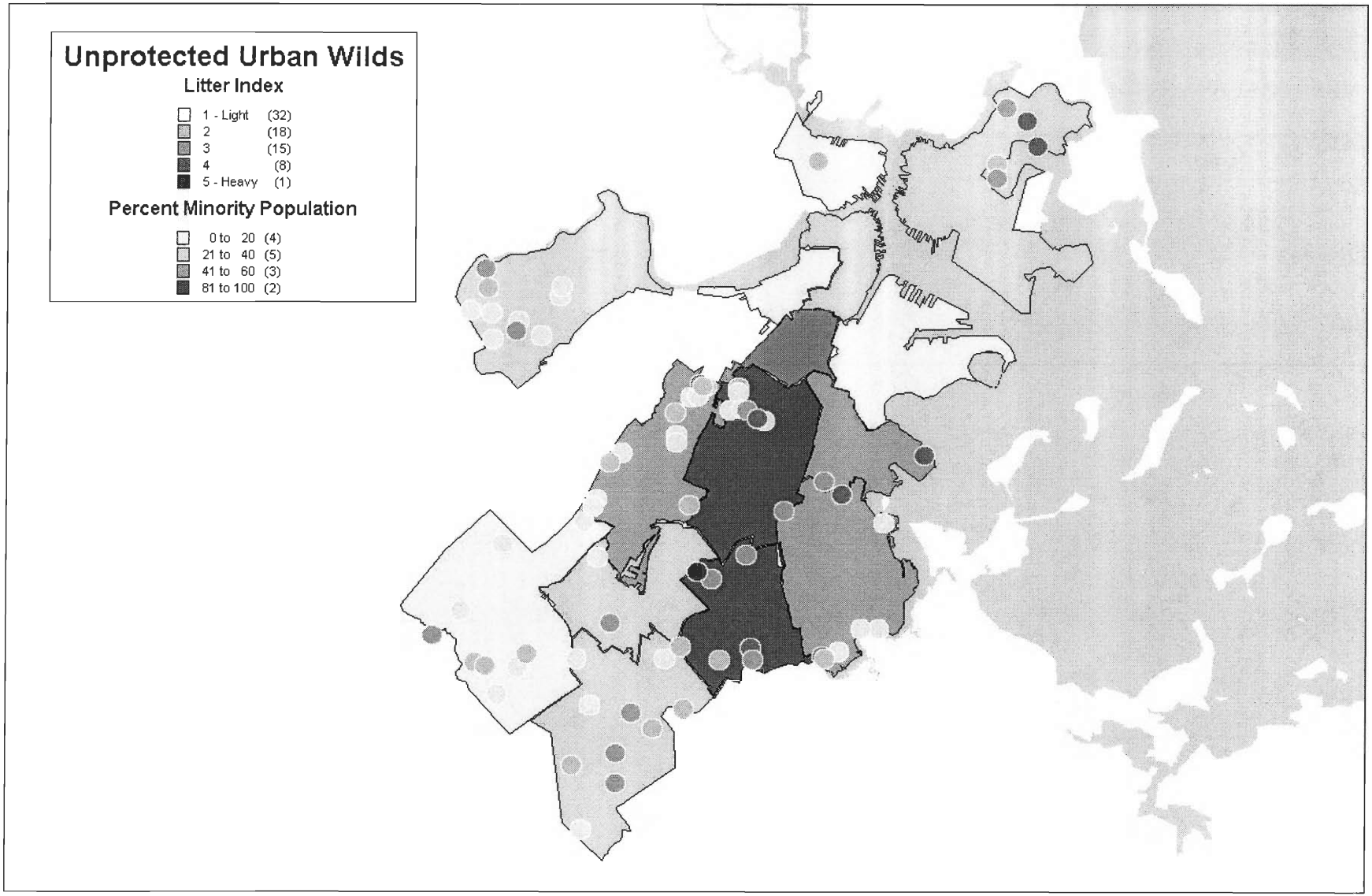

Unprotected Urban Wilds
Rock Outcroppings
ROCK OUTCROPPINGS (43)
NO ROCK OUTCROPPINGS (31)

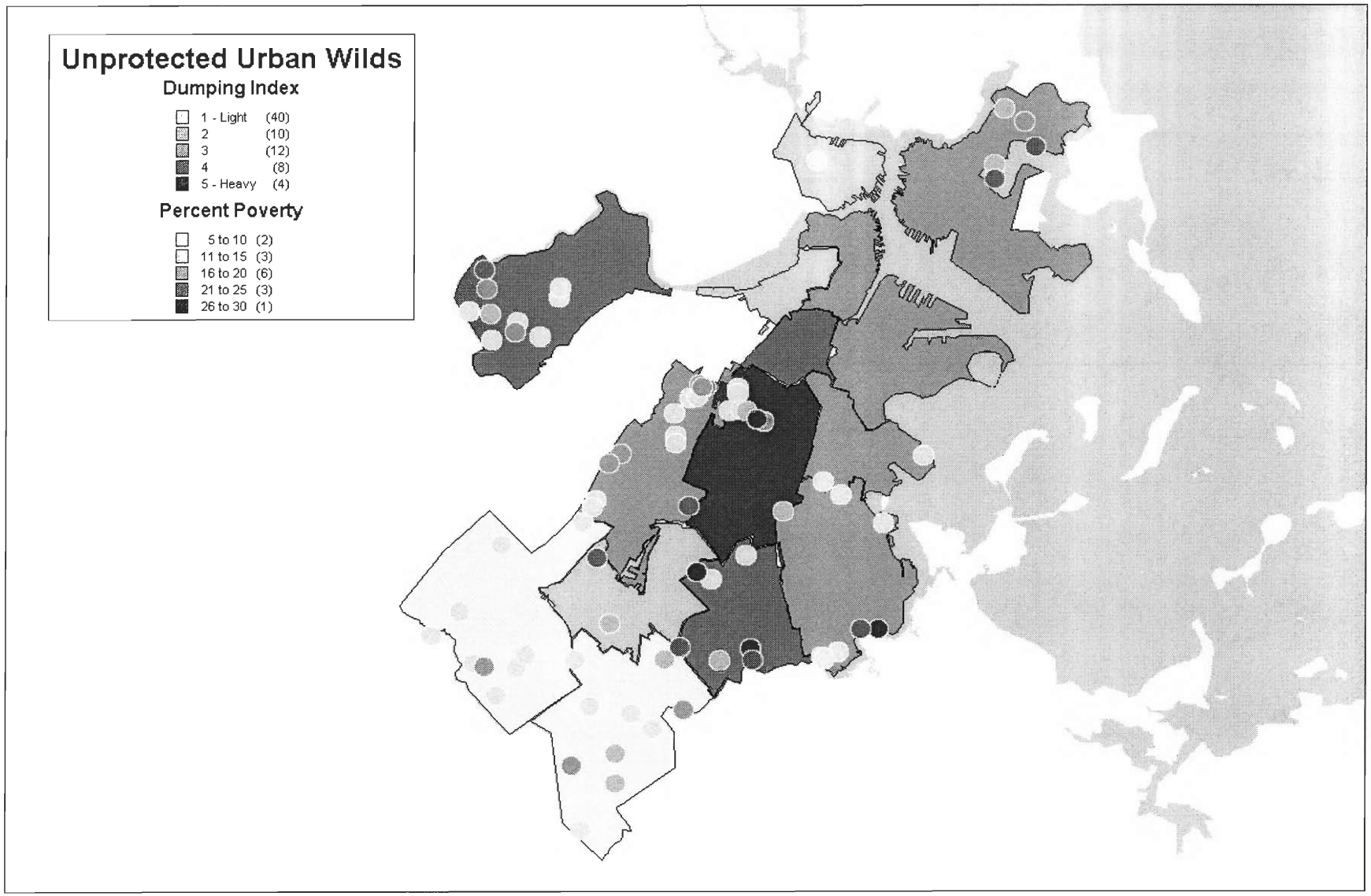

Unprotected Urban Wilds
Dumping Index
1 - Light (40)
2 (10)
3 (12)
4 (8)
5 - Heavy (4)
Median Income
35,001 to 40,000 (4)
30,001 to 35,000 (2)
25,001 to 30,000 (7)
20,000 to 25,000 (2)


Unprotected Urban Wilds
Dumping Index
1 - Light (40)
2 (10)
3 (12)
4 (8)
5 - Heavy (4)
Percent Minority Population
0 to 20 (4)
21 to 40 (5)
41 to 60 (3)
81 to 100 (2)


Unprotected Urban Wilds
Dumping Index
1 - Light (40)
2 (10)
3 (12)
4 (8)
5 - Heavy (4)
Percent Poverty
5 to 10 (2)
11 to 15 (3)
16 to 20 (6)
21 to 25 (3)
26 to 30 (1)


Unprotected Urban Wilds
Litter Index
1 - Light (32)
2 (18)
3 (15)
4 (8)
5 - Heavy (1)
Median Income
35,001 to 40,000 (4)
30,001 to 35,000 (2)
25,001 to 30,000 (7)
20,000 to 25,000 (2)


Unprotected Urban Wilds
Litter Index
1 - Light (32)
2 (18)
3 (15)
4 (8)
5 - Heavy (1)
Percent Minority Population
0 to 20 (4)
21 to 40 (5)
41 to 60 (3)
81 to 100 (2)


Unprotected Urban Wilds
Dumping Index
1 - Light (40)
2 (10)
3 (12)
4 (8)
5 - Heavy (4)
Percent Poverty
5 to 10 (2)
11 to 15 (3)
16 to 20 (6)
21 to 25 (3)
26 to 30 (1)

7.7. FY99 Unprotected Wild and Sub-Parcel Assessment Data

7.7.1. Unprotected Wilds with Sub-Parcel ID's and FY99 Owner Names

UWP ID	UWP NAME	PID	Owner Name
0102	Tower Street	0101869000	ORREGO TERESA
0101	Don Orione	0102279000	SONS DIVINE PROV INC
0108	Wood Island Bay Marsh	0104126000	MASS PORT AUTHORTY
0107	MBTA Extension	0104126001	MASS PORT AUTHORTY
0104	Bayswater Street	0104126002	MASS PORT AUTHORTY
0107	MBTA Extension	0104298008	MASS PORT AUTHORITY
0104	Bayswater Street	0104399000	ORIENT HEIGHTS YACHT CLB INC
0203	Charlestown Overlook	0200736000	BOSTON REDEVELPMENT AUTH
0203	Charlestown Overlook	0200737000	BOSTON REDEVELPMENT AUTH
1001	Dudley Cliffs	0903319000	COMM OF MASS
1012	Rockledge St.	0903696000	CITY OF BOSTON
1012	Rockledge St.	0903697000	CITY OF BOSTON
1012	Rockledge St.	0903698000	CITY OF BOSTON
1012	Rockledge St.	0903699000	CITY OF BOSTON FCL
1012	Rockledge St.	0903708000	CITY OF BOSTON
1004	Juniper Terrace	0903742000	KEITH REALTY CORP
0903	Allegheny II	1000578000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000579000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000580000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000581000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000582000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000583000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000584000	BOS SOC REDEMP FATHERS
0903	Allegheny II	1000598000	BOS SOC REDEMP FATHERS
0901	Harvard Quarry	1000616000	HARVARD COLLEGE
0901	Harvard Quarry	1000617000	HARVARD COLLEGE
0902	Allegheny I	1000687000	HARVARD COLLEGE
0902	Allegheny I	1000688800	HARVARD COLLEGE
0904	Judge Street	1001071000	MCGONAGLE JOSEPH
0904	Judge Street	1001072000	RAMOS MARCIA Y
0914	Parker Hilltop	1001213000	N E BAPTIST HOSPITAL
0906	Nira Avenue Rock	1001694000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001697000	CITY OF BOSTON
0906	Nira Avenue Rock	1001717000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001718000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001719000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001720000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001721000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001722000	CITY OF BOSTON FCL

UWP ID	UWP NAME	PID	Owner Name
0906	Nira Avenue Rock	1001723000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001724000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001725000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001726000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001727000	CITY OF BOSTON FCL
0906	Nira Avenue Rock	1001728000	CITY OF BOSTON FCL
0917	Williams Street	1102946000	CITY OF BOSTON BY FCL
0917	Williams Street	1102947000	CITY OF BOSTON BY FCL
0917	Williams Street	1102948000	CITY OF BOSTON BY FCL
1011	St. Monica's	1110070600	ST MARGARET SOC OF
1006	Warren Gardens	1200493000	CITY OF BOSTON
1003	Alpine Street	1201391000	SAVINGS BANK SERVICE CORP
1003	Alpine Street	1201410000	ST JOSEPHS COMMUNITY INC
1003	Alpine Street	1201414000	ROMAN CATH ARCH BOSTON
1003	Alpine Street	1201457000	CITY OF BOSTON
1003	Alpine Street	1201458000	CITY OF BOSTON
1003	Alpine Street	1201459000	BRAYBOY ROBERT L
1003	Alpine Street	1201480000	FOUNTAIN HILL SQUARE CONDO
1123	Calf Pasture	1303400000	COMMONWEALTH OF MASS
1123	Calf Pasture	1303413000	CITY OF BOSTON
1109	Eldon Street	1401140000	CITY OF BOSTON
1506	Bluehill Rock	1404238000	BOSTON HOUSING AUTH
1206	Boston State Hospital	1405196000	COMMWLTH OF MASS
1205	Canterbury II	1405199002	COMMWLTH OF MASS
1205	Canterbury II	1405200000	COMMWLTH OF MASS
1108	Meeting House Hill Overlook	1500364000	CITY OF BOSTON
1107	The Humps	1502805000	CITY OF BOSTON BY FCL
1107	The Humps	1502806000	CITY OF BOSTON
1107	The Humps	1502807000	CITY OF BOSTON BY FCL
1107	The Humps	1502808000	CITY OF BOSTON
1103	Boston Gas Company Easment	1600230000	BOSTON GAS CO MASS CORP
1114	PennROW	1602563000	MASS BAY TRANSPTN AUTHOR
1114	PennROW	1602723000	MASS BAY TRANSP AUTH
1114	PennROW	1602775000	COMMONWLTH OF MASS
1114	PennROW	1602777010	METROPOLITAN PETROLEUM INC
1114	PennROW	1602784000	MASS BAY TRANSPTN AUTHOR
1114	PennROW	1604196010	COMM OF MASS MDC
1114	PennROW	1604196020	COMMONWEALTH OF MASS
1114	PennROW	1604201001	COMMONWEALTH OF MASS
1114	PennROW	1604201010	COMMONWEALTH OF MASS
1114	PennROW	1604312001	COMM OF MASS MDC
1114	PennROW	1604313001	COMM OF MASS
1118	Keystone Shoreline	1604327000	KEYSTONE APARTMENTS CO LPS
1120	Granite Avenue Ledge	1605374000	PROP CEDAR GROVE CEMETRY

UWP ID	UWP NAME	PID	Owner Name
1114	PennROW	1605384000	COMMONWEALTH OF MASS
1114	PennROW	1605385000	MASS BAY TRANSP AUTH
1124	Adams Rock	1703619000	GILMORE MAUREEN D ETAL
1125	Huntoon Rock	1703640000	PAROLIN MARK J
1114	PennROW	1703668000	MASS BAY TRANSP AUTH
1114	PennROW	1703668010	COMMONWEALTH OF MASS
1114	PennROW	1703668030	COMMONWEALTH OF MASS
1114	PennROW	1703680000	MASS BAY TRANSP AUTH
1114	PennROW	1703702000	MASS BAY TRANSP AUTH
1501	Gladeside I	1800113000	CITY OF BOSTON
1507	Gladeside II	1800382003	HARDEN JOHN IVERY ETAL
1507	Gladeside II	1800382004	PINKNEY EDGAR LEE ETAL
1507	Gladeside II	1800382008	CHANGEAU WILSON
1507	Gladeside II	1800382009	CHANGEAU WILSON ETAL
1507	Gladeside II	1800382010	NIEVES WANDA I
1507	Gladeside II	1800382011	JEAN FRITZ A ETAL
1507	Gladeside II	1800382014	MCNAUGHTON ANN H
1411	Euclid Street	1801498000	BAY STATE PAPER COMPANY
1505	Woodhaven	1801850000	CITY OF BOSTON
1505	Woodhaven	1801851000	CITY OF BOSTON
1503	Pendergast Preventorium	1803370800	CHURCH OF GOD INC
1503	Pendergast Preventorium	1803370850	MATTAPAN ENTERPRISES
1503	Pendergast Preventorium	1803370900	BOSTON BANK OF COMMERCE
1407	West Street	1804415000	COMMWLTH OF MASS
1201	Metropoiltan	1804963002	MCGREEVY THOMAS J TRST
1201	Metropoiltan	1804963003	MCGREEVY THOMAS J JR
1201	Metropoiltan	1804963004	CITY OF BOSTON BY FCL
1201	Metropoiltan	1804974000	LAWRENCE JOY E
1201	Metropoiltan	1804979000	TOBIN ROBERT H TRST
1201	Metropoiltan	1804980000	SELEWICH LUCY J
1201	Metropoiltan	1804981000	CHOATE JOHN LILLARD ETAL
1201	Metropoiltan	1804982000	FERNANDEZ GILDARDO
1201	Metropoiltan	1804983000	FERNANDEZ GILDARDO
1201	Metropoiltan	1804984000	MARCYES WARREN F ETAL
1404	Boundary I	1806010000	COMMONWEALTH OF MASS MDC
1404	Boundary I	1806011000	CITY OF BOSTON
1404	Boundary I	1806013000	COMMONWEALTH OF MASS
1413	Pleasantview	1807234800	BODI STEVEN R TS
1413	Pleasantview	1807244000	KEATING JOSEPH P
1413	Pleasantview	1807245000	CITY OF BOSTON BY FCL
1413	Pleasantview	1807246000	PALOMBO JOSEPH W
1407	West Street	1808753000	CITY OF BOSTON
1407	West Street	1808754000	CITY OF BOSTON
1407	West Street	1808754100	CITY OF BOSTON
1406	Dell Avenue Rock	1808897000	CITY OF BOSTON

UWP ID	UWP NAME	PID	Owner Name
1419	Mother Brook I	1809288000	STAR MARKETS COMPANY INC
1419	Mother Brook I	1809291000	YUKON/HYDE PARK AV
1422	Neponset I	1809855001	COMMONWLTH OF MASS
1405	Boundary II	1811446000	CITY OF BOSTON
1405	Boundary II	1811447000	CITY OF BOSTON
1405	Boundary II	1811449000	CITY OF BOSTON BY FCL
1414	Fairview Quarry	1812269064	KCI MANAGEMENT CORPORATION
1414	Fairview Quarry	1812269065	KCI MANAGEMENT CORPORATION
1414	Fairview Quarry	1812269066	KCI MANAGEMENT CORPORATION
1414	Fairview Quarry	1812269067	KCI MANAGEMENT CORPORATION
1414	Fairview Quarry	1812269068	KCI MANAGEMENT CORPORATION
1414	Fairview Quarry	1812269069	KCI MANAGEMENT CORPORATION
1409	Sprague Pond	1813005000	CITY OF BOSTON
0916	Rock Hill	1900202000	RAISZ JONATHAN MARK
0916	Rock Hill	1900203000	RAISZ JONATHAN MARK
0916	Rock Hill	1900204000	FIELD ROBERT
0916	Rock Hill	1900205000	DUARTE LUIS
0916	Rock Hill	1900206000	LEBLANC AUREL D ETAL
0916	Rock Hill	1900207000	HANNIGAN IRENE E
0916	Rock Hill	1900208000	PETERSEN ROBERT B
0916	Rock Hill	1900257000	HERNANDEZ HERIBERTO
0916	Rock Hill	1900258000	TOMPKINS R JOSEPH
0918	Hellenic Hill	1902206000	GREEK ARCH HOLY CROSS
0909	Chapman-Runyon	1902264000	ZAYEK REVERAND FRANCIS M
0910	Showa Women's Institute	1902456000	SHOWA BOSTON INSTITUTE
0911	Daughters of St. Paul	1902518001	DAUGHTERS OF ST PAUL INC
0912	Lawrence Farm	1902622002	LAWRENCE JAMES 3RD ETAL
1313	West Roxbury Quarry	2002970000	W ROX CRUSHED STONE CO
1313	West Roxbury Quarry	2002990000	W ROX CRUSHED STONE CO
1313	West Roxbury Quarry	2003110000	WEST ROX CRUSHED STONE CO
1313	West Roxbury Quarry	2003230001	W ROX CRUSHED STONE CO
1312	Roxbury Latin School	2003261001	THE TRUSTEES OF THE
1313	West Roxbury Quarry	2003261020	WEST ROXBURY CRUSHED STONE
1204	Eldon Street	2005121100	CITY OF BOSTON
1304	Hancock Woods	2006994000	ZUKER EDWARD E TS
1304	Hancock Woods	2006994050	MDC
1304	Hancock Woods	2006995000	MDC
1304	Hancock Woods	2006996000	MDC
1320	West Roxbury High School	2008982000	CITY OF BOSTON
1309	Rivermoore	2009228020	PAPPAS-RIVERMOOR DEVELOPMENT
1309	Rivermoore	2009228040	UNITED STATES OF AMERICA
1311	New Haven Street	2009856001	MASS BAY TRANS AUTHORITY
1307	Oak Ridge	2010519000	TOBIN DOROTHY F
1307	Oak Ridge	2010519001	VIRGIN MARGARET

UWP ID	UWP NAME	PID	Owner Name
1316	Dana	2010904000	CITY OF BOSTON
1316	Dana	2010905000	CITY OF BOSTON
1316	Dana	2010906000	CITY OF BOSTON
1316	Dana	2010907000	CITY OF BOSTON
1316	Dana	2010908000	CITY OF BOSTON
1316	Dana	2010909000	CITY OF BOSTON
1316	Dana	2010910000	CITY OF BOSTON
1316	Dana	2010911000	CITY OF BOSTON
1316	Dana	2010912000	CITY OF BOSTON
1316	Dana	2011001000	CITY OF BOSTON
1316	Dana	2011002000	CITY OF BOSTON
1316	Dana	2011003000	CITY OF BOSTON
1316	Dana	2011004000	CITY OF BOSTON
1316	Dana	2011005000	CITY OF BOSTON
1316	Dana	2011006000	CITY OF BOSTON
1316	Dana	2011007000	CITY OF BOSTON
1316	Dana	2011008000	CITY OF BOSTON
1316	Dana	2011033000	CITY OF BOSTON
1316	Dana	2011034000	CITY OF BOSTON
1316	Dana	2011035000	CITY OF BOSTON
1316	Dana	2011036000	CITY OF BOSTON
1316	Dana	2011037000	CITY OF BOSTON
1316	Dana	2011038000	CITY OF BOSTON
1316	Dana	2011039000	CITY OF BOSTON
1316	Dana	2011040000	CITY OF BOSTON
1316	Dana	2011058000	DONOHUE WILLIAM L
1316	Dana	2011059000	DONOHUE WILLIAM L
1316	Dana	2011060000	DONOHUE WILLIAM L
1316	Dana	2011061000	DONOHUE WILLIAM L
1316	Dana	2011062000	DONOHUE WILLIAM L
1316	Dana	2011063000	CITY OF BOSTON
1316	Dana	2011064000	CITY OF BOSTON
1316	Dana	2011075000	CITY OF BOSTON
1316	Dana	2011076000	CITY OF BOSTON
1316	Dana	2011077000	CITY OF BOSTON
1316	Dana	2011078000	CITY OF BOSTON
1316	Dana	2011085000	GALLAGHER MAUREEN G
1316	Dana	2011086000	CITY OF BOSTON
1316	Dana	2011087000	CITY OF BOSTON
1316	Dana	2011088000	CITY OF BOSTON
1316	Dana	2011089000	CITY OF BOSTON
1316	Dana	2011090000	CITY OF BOSTON
1316	Dana	2011091000	CITY OF BOSTON
1316	Dana	2011092000	CITY OF BOSTON
1316	Dana	2011093000	CITY OF BOSTON

UWP ID	UWP NAME	PID	Owner Name
1316	Dana	2011094000	CITY OF BOSTON
1316	Dana	2011095000	CITY OF BOSTON FCL
1316	Dana	2011096000	CITY OF BOSTON
1316	Dana	2011097000	CITY OF BOSTON
1316	Dana	2011098000	CITY OF BOSTON
0807	Kennedy Rock	2101272000	JOSEPH P KENNEDY JR
0806	Mt. St. Joseph's Academy	2101375010	CONGREGATION OF SISTER OF
0806	Mt. St. Joseph's Academy	2101375100	CONTINENTAL HEALTHCARE IV
0808	Leamington Rock	2102662000	CEDRONE WILLIAM E
0808	Leamington Rock	2102663000	NEUWIRTH DONALD
0802	Crittenton Hospital	2203326000	FLORENCE CRITTENDON LEAGUE
0801	Turnpike Overlook	2203417000	MASS TURNPIKE AUTHORITY
0803	St. Sebastian's	2204563000	KURSON DONALD K
0804	Cenacles	2204704000	EF SCHOOLS INC
0810	Foster St. Hill	2204956000	DISCALCED CARMELITE FRIARS
0812	Foster St. Rock	2204960001	ROMAN CATH ARCH OF BOS
0809	St. John's Seminary	2205234000	ST JOHNS ECCLES SEMINARY
0809	St. John's Seminary	2205266000	MULLIGAN JOSEPH I JR ETAL
0809	St. John's Seminary	2205267000	ROMAN CATH ARCH OF BOS
0809	St. John's Seminary	2205268000	BOSTON ECCLES SEMINARY
0915	Oakview Terrace	5001000000	
1009	John Eliot Square	5002000000	
1114	PennROW	5003000000	
1206	Boston State Hospital	5004000000	
1206	Boston State Hospital	5005000000	
1407	West Street	5006000000	
1407	West Street	5007000000	

7.7.2. Unprotected Wilds and Sub-Parcels with FY99 Zoning Codes and Property Values.

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
0102	Tower Street	0101869000	R2	104		56500	68300
0101	Don Orione	0102279000	E	985	33	506000	0
0108	Wood Island Bay Marsh	0104126000	E	985	72	126996000	174867500
0107	MBTA Extension	0104126001	E	985	72	126996000	174867500
0104	Bayswater Street	0104126002	E	985	72	126996000	174867500
0107	MBTA Extension	0104298008	E	985	72	689500	0
0104	Bayswater Street	0104399000	C	384		78000	249000
0203	Charlestown Overlook	0200736000	E	908	O	37000	0
0203	Charlestown Overlook	0200737000	E	132	O	16400	0
1001	Dudley Cliffs	0903319000	E	130	2	65800	0
1012	Rockledge St.	0903696000	E	132	J	4600	0
1012	Rockledge St.	0903697000	E	132	J	4900	0
1012	Rockledge St.	0903698000	E	130	J	34400	0
1012	Rockledge St.	0903699000	E	132	J	10300	0
1012	Rockledge St.	0903708000	E	132	J	9700	0
1004	Juniper Terrace	0903742000	RL	130		150600	0
0903	Allegheny II	1000578000	E	132	32	13400	0
0903	Allegheny II	1000579000	E	132	32	10200	0
0903	Allegheny II	1000580000	E	132	32	10300	0
0903	Allegheny II	1000581000	E	132	32	10500	0
0903	Allegheny II	1000582000	E	132	32	10700	0
0903	Allegheny II	1000583000	E	132	32	10900	0
0903	Allegheny II	1000584000	E	132	32	15900	0
0903	Allegheny II	1000598000	E	985	32	0	300000
0901	Harvard Quarry	1000616000	A	112		317500	79000
0901	Harvard Quarry	1000617000	RL	130		50000	0
0902	Allegheny I	1000687000	RL	130		12900	0
0902	Allegheny I	1000688800	RL	130		13600	0
0904	Judge Street	1001071000	RL	130		9500	0
0904	Judge Street	1001072000	RL	130		9500	0
0914	Parker Hilltop	1001213000	C	342		1287500	115500
0906	Nira Avenue Rock	1001694000	E	130	J	52200	0
0906	Nira Avenue Rock	1001697000	E	130	J	64800	0
0906	Nira Avenue Rock	1001717000	E	132	J	7000	0
0906	Nira Avenue Rock	1001718000	E	130	J	7000	0
0906	Nira Avenue Rock	1001719000	E	130	J	7000	0
0906	Nira Avenue Rock	1001720000	E	130	J	6900	0
0906	Nira Avenue Rock	1001721000	E	130	J	6900	0
0906	Nira Avenue Rock	1001722000	E	130	J	6600	0

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
0906	Nira Avenue Rock	1001723000	E	130	J	10000	0
0906	Nira Avenue Rock	1001724000	E	130	J	9600	0
0906	Nira Avenue Rock	1001725000	E	130	J	10300	0
0906	Nira Avenue Rock	1001726000	E	130	J	10600	0
0906	Nira Avenue Rock	1001727000	E	130	J	10100	0
0906	Nira Avenue Rock	1001728000	E	132	J	8800	0
0917	Williams Street	1102946000	E	986	J	30000	500
0917	Williams Street	1102947000	E	985	J	14000	500
0917	Williams Street	1102948000	E	985	J	12000	1000
1011	St. Monica's	1110070600	E	985	32	265500	866500
1006	Warren Gardens	1200493000	E	986	F	192500	0
1003	Alpine Street	1201391000	RL	132		45300	0
1003	Alpine Street	1201410000	EA	986	OO	497500	5784000
1003	Alpine Street	1201414000	E	985	11	72500	0
1003	Alpine Street	1201457000	E	132	J	4100	0
1003	Alpine Street	1201458000	E	132	J	4400	0
1003	Alpine Street	1201459000	RL	132		4800	0
1003	Alpine Street	1201480000	CM	995		0	0
1123	Calf Pasture	1303400000	E	985	2	36558000	94128500
1123	Calf Pasture	1303413000	E	985	T	1005000	591000
1109	Eldon Street	1401140000	E	130	J	97100	0
1506	Bluehill Rock	1404238000	E	973	K	1500000	5610700
1206	Boston State Hospital	1405196000	E	985	2	3393000	0
1205	Canterbury II	1405199002	E	985	2	1344500	2188000
1205	Canterbury II	1405200000	E	985	2	3490500	0
1108	Meeting House Hill Overlook	1500364000	E	985	A	614000	1878500
1107	The Humps	1502805000	E	130	J	56900	0
1107	The Humps	1502806000	E	132	J	2000	0
1107	The Humps	1502807000	E	132	J	5500	0
1107	The Humps	1502808000	E	132	J	5800	0
1103	Boston Gas Company Easment	1600230000	I	427		13816500	9000000
1114	PennROW	1602563000	E	985	42	352500	0
1114	PennROW	1602723000	E	985	42	91500	0
1114	PennROW	1602775000	E	986	92	100500	0
1114	PennROW	1602777010	CL	391		69000	0
1114	PennROW	1602784000	E	985	42	265000	0
1114	PennROW	1604196010	E	985	92	37500	0
1114	PennROW	1604196020	E	986	92	190000	0
1114	PennROW	1604201001	E	986	92	154000	0
1114	PennROW	1604201010	E	986	92	95000	0
1114	PennROW	1604312001	E	985	92	56500	0
1114	PennROW	1604313001	E	985	92	22000	0
1118	Keystone Shoreline	1604327000	EA	986	OO	1891500	7385000
1120	Granite Avenue Ledge	1605374000	E	985	12	5150000	274500

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
1114	PennROW	1605384000	E	986	92	277500	0
1114	PennROW	1605385000	E	985	42	532500	312000
1124	Adams Rock	1703619000	RL	132		35500	0
1125	Huntoon Rock	1703640000	RL	132		10700	0
1114	PennROW	1703668000	E	986	42	35000	0
1114	PennROW	1703668010	E	986	92	7000	0
1114	PennROW	1703668030	E	986	92	32500	0
1114	PennROW	1703680000	E	985	42	84500	0
1114	PennROW	1703702000	E	985	42	156500	0
1501	Gladeside I	1800113000	E	985	M	6765000	13347500
1507	Gladeside II	1800382003	R1	101		46100	68300
1507	Gladeside II	1800382004	R1	101		46200	63300
1507	Gladeside II	1800382008	R2	104		45200	75900
1507	Gladeside II	1800382009	R2	104		46700	93900
1507	Gladeside II	1800382010	R2	104		51200	70000
1507	Gladeside II	1800382011	R2	104		50900	76300
1507	Gladeside II	1800382014	RL	132		6400	0
1411	Euclid Street	1801498000	CL	391		153500	0
1505	Woodhaven	1801850000	E	130	J	56500	0
1505	Woodhaven	1801851000	E	130	J	48100	0
1503	Pendergast Preventorium	1803370800	E	970	11	196500	347000
1503	Pendergast Preventorium	1803370850	CL	391		10500	0
1503	Pendergast Preventorium	1803370900	CL	391		315500	0
1407	West Street	1804415000	E	130	92	61300	0
1201	Metropoiltan	1804963002	RL	132		9800	0
1201	Metropoiltan	1804963003	RL	132		13900	0
1201	Metropoiltan	1804963004	E	132	J	13300	0
1201	Metropoiltan	1804974000	R1	101		71000	100200
1201	Metropoiltan	1804979000	R1	101		74900	73300
1201	Metropoiltan	1804980000	R1	101		64100	57800
1201	Metropoiltan	1804981000	R1	101		63500	49700
1201	Metropoiltan	1804982000	R1	101		64100	80300
1201	Metropoiltan	1804983000	RL	130		47500	0
1201	Metropoiltan	1804984000	R1	101		77700	38000
1404	Boundary I	1806010000	E	985	92	2362500	0
1404	Boundary I	1806011000	E	985	C	907000	0
1404	Boundary I	1806013000	E	130	92	897700	0
1413	Pleasantview	1807234800	RL	130		70000	0
1413	Pleasantview	1807244000	RL	132		8300	0
1413	Pleasantview	1807245000	E	132	J	5500	0
1413	Pleasantview	1807246000	RL	132		5600	0
1407	West Street	1808753000	E	985	F2	8000	0
1407	West Street	1808754000	E	985	F2	73000	0
1407	West Street	1808754100	E	130	V	167200	0
1406	Dell Avenue Rock	1808897000	E	985	J	158000	0

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
1419	Mother Brook I	1809288000	C	324		447000	1660500
1419	Mother Brook I	1809291000	I	400		547000	819000
1422	Neponset I	1809855001	E	985	92	435500	0
1405	Boundary II	1811446000	E	985	J	343500	0
1405	Boundary II	1811447000	E	985	J	460500	0
1405	Boundary II	1811449000	E	132	J	69300	0
1414	Fairview Quarry	1812269064	RL	130		70400	0
1414	Fairview Quarry	1812269065	RL	130		70400	0
1414	Fairview Quarry	1812269066	RL	130		70400	0
1414	Fairview Quarry	1812269067	RL	130		70400	0
1414	Fairview Quarry	1812269068	RL	130		70600	0
1414	Fairview Quarry	1812269069	RL	130		133600	0
1409	Sprague Pond	1813005000	E	985	C	94500	1000
0916	Rock Hill	1900202000	R3	105		75200	163000
0916	Rock Hill	1900203000	RL	132		5200	0
0916	Rock Hill	1900204000	R1	101		60800	129600
0916	Rock Hill	1900205000	R1	101		59000	69700
0916	Rock Hill	1900206000	R1	101		60100	63000
0916	Rock Hill	1900207000	R1	101		60600	57100
0916	Rock Hill	1900208000	R2	104		60500	72500
0916	Rock Hill	1900257000	C	332		52000	136500
0916	Rock Hill	1900258000	C	332		28500	24000
0918	Hellenic Hill	1902206000	E	985	31	2802000	1964500
0909	Chapman-Runyon	1902264000	E	985	31	697500	0
0910	Showa Women's Institute	1902456000	E	985	31	4954500	7539000
0911	Daughters of St. Paul	1902518001	E	985	33	1956500	0
0912	Lawrence Farm	1902622002	AH	389		15000	181300
1313	West Roxbury Quarry	2002970000	RL	130		136800	0
1313	West Roxbury Quarry	2002990000	RL	130		445900	0
1313	West Roxbury Quarry	2003110000	I	405		1058500	190000
1313	West Roxbury Quarry	2003230001	RL	130		298500	0
1312	Roxbury Latin School	2003261001	E	130	31	2202500	0
1313	West Roxbury Quarry	2003261020	RL	130		12300	0
1204	Eldon Street	2005121100	E	130	F2	214100	0
1304	Hancock Woods	2006994000	A	114		2384000	5916500
1304	Hancock Woods	2006994050	E	130	92	71100	0
1304	Hancock Woods	2006995000	E	130	92	4267000	0
1304	Hancock Woods	2006996000	E	130	92	74700	0
1320	West Roxbury High School	2008982000	E	976	V	9285000	35060500
1309	Rivermoore	2009228020	CL	391		115000	0
1309	Rivermoore	2009228040	E	130	1	841800	0
1311	New Haven Street	2009856001	E	130	42	261000	0
1307	Oak Ridge	2010519000	RL	132		6900	0
1307	Oak Ridge	2010519001	RL	132		8600	0
1316	Dana	2010904000	E	132	J	5900	0

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
1316	Dana	2010905000	E	132	J	6500	0
1316	Dana	2010906000	E	132	J	5100	0
1316	Dana	2010907000	E	132	J	4400	0
1316	Dana	2010908000	E	132	J	6000	0
1316	Dana	2010909000	E	132	J	3600	0
1316	Dana	2010910000	E	132	J	3600	0
1316	Dana	2010911000	E	132	J	3600	0
1316	Dana	2010912000	E	132	J	3600	0
1316	Dana	2011001000	E	132	J	4400	0
1316	Dana	2011002000	E	132	J	4200	0
1316	Dana	2011003000	E	132	J	4900	0
1316	Dana	2011004000	E	132	J	3200	0
1316	Dana	2011005000	E	132	J	2100	0
1316	Dana	2011006000	E	132	J	2100	0
1316	Dana	2011007000	E	132	J	2200	0
1316	Dana	2011008000	E	132	J	2200	0
1316	Dana	2011033000	E	132	J	2800	0
1316	Dana	2011034000	E	132	J	2700	0
1316	Dana	2011035000	E	132	J	5200	0
1316	Dana	2011036000	E	132	J	6900	0
1316	Dana	2011037000	E	132	J	6600	0
1316	Dana	2011038000	E	132	J	6400	0
1316	Dana	2011039000	E	132	J	6100	0
1316	Dana	2011040000	E	132	J	5900	0
1316	Dana	2011058000	RL	132		1200	0
1316	Dana	2011059000	RL	132		1100	0
1316	Dana	2011060000	RL	132		1200	0
1316	Dana	2011061000	RL	132		1200	0
1316	Dana	2011062000	RL	132		1200	0
1316	Dana	2011063000	E	132	J	2300	0
1316	Dana	2011064000	E	132	J	2300	0
1316	Dana	2011075000	E	985	J	19000	0
1316	Dana	2011076000	E	985	J	20000	0
1316	Dana	2011077000	E	132	J	6000	0
1316	Dana	2011078000	E	132	J	6300	0
1316	Dana	2011085000	RL	132		5800	0
1316	Dana	2011086000	E	132	J	4500	0
1316	Dana	2011087000	E	130	J	42500	0
1316	Dana	2011088000	E	132	J	9500	0
1316	Dana	2011089000	E	132	J	9500	0
1316	Dana	2011090000	E	132	J	6900	0
1316	Dana	2011091000	E	132	J	5200	0
1316	Dana	2011092000	E	132	J	2600	0
1316	Dana	2011093000	E	130	J	42200	0
1316	Dana	2011094000	E	132	J	7500	0

UWP ID	UWP NAME	PID	LU	PType	Exmpt_Code	FY99_Land	FY99_Bldg
1316	Dana	2011095000	E	132	J	4800	0
1316	Dana	2011096000	E	132	J	4900	0
1316	Dana	2011097000	E	132	J	7700	0
1316	Dana	2011098000	E	132	J	3200	0
0807	Kennedy Rock	2101272000	E	985	33	5175000	8034000
0806	Mt. St. Joseph's Academy	2101375010	E	985	31	2995000	58500
0806	Mt. St. Joseph's Academy	2101375100	C	304		1694000	4008000
0808	Leamington Rock	2102662000	RL	132		4500	0
0808	Leamington Rock	2102663000	RL	132		8400	0
0802	Crittenton Hospital	2203326000	E	979	33	841000	1511500
0801	Turnpike Overlook	2203417000	E	985	62	1480500	0
0803	St. Sebastian's	2204563000	RL	130		1137200	0
0804	Cenacles	2204704000	RC	031		2456000	3285600
0810	Foster St. Hill	2204956000	E	985	11	1763000	406000
0812	Foster St. Rock	2204960001	E	985	11	1126000	0
0809	St. John's Seminary	2205234000	E	985	31	2287500	0
0809	St. John's Seminary	2205266000	R1	101		96000	187400
0809	St. John's Seminary	2205267000	E	985	31	1426000	0
0809	St. John's Seminary	2205268000	E	985	31	12116500	20168500
0915	Oakview Terrace	5001000000				0	0
1009	John Eliot Square	5002000000				0	0
1114	PennROW	5003000000				0	0
1206	Boston State Hospital	5004000000				0	0
1206	Boston State Hospital	5005000000				0	0
1407	West Street	5006000000				0	0
1407	West Street	5007000000				0	0

7.8. Zoning

Zoning dictates what can be built in any given location and the size of what is built. The main purpose of zoning is to regulate industrial and commercial encroachment into areas where people live. To provide an understanding of this function of zoning, we have included a brief history of zoning in America, as well as a more detailed look into the zoning laws of Boston and finally the method of zoning for open spaces within the city

7.8.1. History of Zoning

Zoning originates from the nuisance doctrine, which prohibits landowners from creating or acting in any way that is a nuisance to their neighbors in the community. In 1887 the United States Supreme Court ruled on *Mugler v. Kansas* that the manufacture of alcoholic beverages was "a noxious use" that would "inflict injury upon the community." The court found for Kansas and gave the state permission to close the plaintiff's brewery with no compensation provided.[57]

Twenty-nine years later, in 1916, New York City was the first city to instate a zoning ordinance in the United States. Then in 1926, in *Village of Euclid v. Ambler Realty Co.*, the United States Supreme Court ruled that zoning was constitutional and since then it has been used primarily for the purpose of keeping industrial and commercial development out of residential areas.[58] Residential areas however can be developed in industrial and commercial districts.[59]

7.8.2. Zoning Overview

Zoning divides a community into districts and specifies permitted and prohibited uses of each district. It also regulates many aspects of development within each district, including height and bulk of development, intensity of development, parking, setbacks, yard sizes, and lot sizes.[60] Zoning regulations are documented in a zoning ordinance, which includes a map that divides the

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57 Nancie G. Marzulla and Roger J. Marzulla. Property Rights: Understanding Government Takings and Environmental Regulation, 111.

58 Kasen, 438.

59 *Idem.*

60 *Idem.*

community into numerous zones. These maps are adequately detailed, allowing a parcel of land to be identified easily. The ordinance also includes text that stipulates what can be built in each zone and how each structure may be used. Four specific matters are usually included in the zoning ordinance text: site plans, uses of structures, structure characteristics, and procedural concerns.[61] The ordinance regulations are most successful in controlling the land use in areas that are not fully developed. By restricting the growth of the area and forcing the development to take place somewhere else, regulation can alter the urban design of these areas.[62]

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61 John M. Levy. Contemporary Urban Planning, 117.

62 *Ibid.*, 118.

7.9. Social Implications

Cataloguing the city of Boson's Urban Wild parcels creates a terrific opportunity for the city to use these lands for the good of its people. By placing Urban Wilds and other such open spaces within its city limits, Boston opens itself up to many benefits such as new educational tools, environmental preservation, and overall social health.

Perhaps one of the least obvious advantages of designating areas within cities as Urban Wilds is for educational purposes. Setting aside a piece of land so that it is allowed to grow Urban Wild and maintain an ecological system of its own may be the best chance many city dwelling children have to observe nature. Urban Wilds offer a first-hand way of teaching the science of ecology and nature. Besides elementary education value, Urban Wilds also educate environmentally unsound citizens as to the importance of land conservation and preservation. "Today there is a growing acceptance of the fact that ignorance of science, like ignorance of the law, is an unjustifiable excuse for environmental abuse"[63]. By providing a means for the public to see and experience nature near there own homes, the city is able to promote environmental awareness and concerns as well as develop and appreciation for nature that no classroom education could produce.[64]

The United States government began to implement measure to ensure a protected environment in the 1960's and 70's. Beginning with the National Environment Protection Act of 1969, the federal government has begun to successfully regulate pollution discharges as well as assess the levels of pollution created in the country. While areas such as air and water pollution have shown great improvement since regulations were set into place, efficient use of land is just

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63 Benjamin Dysart III and Marion Clawson. Managing Public Lands in the Public Interest, 56.

64 *Idem.*

now becoming an issue.[65] Balancing the economical needs of and industrial nation with the environmental concerns of an increasingly nature savvy people is a demanding issue.

Perhaps the most important aspect of open spaces and Urban Wilds in society is their unique characteristic, which allow citizens the opportunity to refresh themselves in nature on occasion. Open spaces and Urban Wilds represent an attempt to integrate the social and economic advantages of urban living with the idealistic view of community and natural beauty. The planner of Boston's expansive park system believed that such refuges of nature could humanize large cities and help to dissolve social classes.[66] While it may be a bit presumptuous to believe that an array of beautiful scenery will bring about equality and peace within the city of Boston, certainly these little get away spots provide some form of release for each of the diverse classes of Bostonians.

The trend in today's society has begun to move toward a desire for natural open spaces. Whereas in the 1980's the top draw for new home buyers were tennis courts and golf courses, more and more people now wish to be near areas that will allow them to draw closer to nature and the environment. An increased interest in such activities as hiking, bicycling, and bird watching have fueled these desires through the 1990's. In 1995, biking trails, hiking paths, and open spaces were in great demand by new home seekers.[67]

In order to truthfully discuss the social implications of Urban Wild parcels in Boston, it will also be necessary to point out any disadvantages that may arise. For instance, there are possible economic concerns. Is this study really necessary? Will maintaining these areas after they have been evaluated be worth the money? While the initial study may be relatively inexpensive, it will not be entirely worthwhile unless followed up by some sort of action. This

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65 Henry Diamond and Patrick Noonan. Land Use in America, 134-5.
66 Lawrence Kennedy. Planning the City Upon the, 92.

action may be very costly to the city. Depending upon the conditions of these parcels, the cost of repair and maintenance could run high. Also, the city may find that some people do not want any of these Urban Wilds interfered with, even for improvement.

A healthy society in today's heavily urban world requires some means of escape. Urban Wilds and natural open spaces offer means of getting back in touch with our roots. Surrounded by the beauty of nature, social classes no longer matter, for anyone can appreciate the wonders of the Urban Wild lands that still exist within the highly developed city of Boston.

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[67] Diamond, 181.

7.10. 1990 Importance by Neighborhood

Most Important Unprotected Urban Wilds of City Wide Significance

Site #	Name	Location	Owner
01_08	Wood Island Bay Marsh	East Boston	Massport
08_09	St. John's Seminary	Brighton	Roman Catholic Archdiocese
09_01	Harvard Quarry	Mission Hill	Harvard University
09_12	Lawrence Farm	Jamaica Plain	Private
09_13	Bussey Brook	Jamaica Plain MBTA	Harvard University/City
09_14	Parker Hilltop	Mission Hill	New England Baptist Hospital
09_18	Hellenic Hill	Jamaica Plain	Greek Orthodox Church
11_14	Right of Way Shores	Dorchester	Conrail
11_15	Penn Central Railroad	Dorchester	Conrail
11_23	Calf Pasture	Dorchester	Boston Water &Sewer Commission
13_12	Roxbury Latin School	West Roxbury	Private School/BFI
13_13	West Roxbury Quarry	West Roxbury	Private School/BFI
14_04	Boundary I	Hyde Park	Private Owners/City
14_05	Boundary II	Hyde Park	Private Owners/City
14_11	Euclid Street	Hyde Park	Patriot Paper Corp.

7.11. 1990 Fate of Unprotected Parcels

UW#	Name	1990 Fate
01_05	USNaval Reservation	L(paved, built on)
01_06	Chelsea Creek Meadow	L(paved)
01_11	Governor's Island Cove	L(filled)
02_01	Mystic Overlook	L(housing)
02_02	Schrafft's Cove	L(filled)
08_05	Victory Gardens	L(housing)
08_11	Oakland Quarry	L(housing)
08_13	Wallingford Rock	L(housing)
08_14	Euston Path Rock	L(house, cutting)
09_05a	Back of the Hill	L(housing)
09_07	Cranston Street	L(house)
09_08	Sheridan Hillside	L(house)
09_17	Williams Street	L(school and parking)
10_02	St. James	L(playground, house)
10_05	Fountain Street	L(housing)
10_08	Franklin	L(paved)
10_13	Glenn Hill	L(house)
11_06	Morgan Memorial	L(paved)
11_11	R&S Machine	L(condos)
11_21	Cedar Grove Ponds	L(filled)
11_22	Lower Mills Gorge	L(condos)
11_23b	Calf Pasture	L(Umass, JFK)
12_02	Canterbury I	L(parking, school)
12_03	Grew Avenue	L(housing)
13_01a	Bakalar	L(housing)
13_06	Parkway Pond	L(housing)
13_10	Spring Street Marsh	L(built on)
13_14	Rockview	L(built on)
13_15	Dragon Rock	L(built on)
13_19	Centre Marsh	L(filling)
13_20a	W.Roxbury H.S.	L(school)
13_21	Searle Road Rock	L(housing)
14_01	Sally Rock	L(built)
14_10	Readville Maples	L(built)

14_16b	Dana Avenue	L(garage and parking)
14_17	Margin Street	L(fenced, paved)
14_18b	Allis Chambers	L(condos, access)
14_21c	Mother Brook III	L(paved parking)
14_23	Neponset II	L(built on)
15_02	Livermore	L(school&alteration)

7.12. 1990 Neighborhood Statistics

Neighborhood	No. in 1976	1990 Intact	1990 Degraded
East Boston	12	4	1
Charlestown	3	1	0
Allston-Brighton	14	8	2
Jamaica Plain	18	12	3
Roxbury	13	7	1
Dorchester	25	10	2
Roslindale	6	3	2
West Roxbury	21	7	5
Hyde Park	23	10	1
Mattapan	8	5	1
Totals	143	67	18

7.13. 1990 Protected Parcels

UW#	Name	1990 Fate
01_03	Belle Isle Marsh	P(MDC)
01_09	Condor Street Beach	P(BCC)
01_12	Golden Stairs	P(BCC)
09_05b	Back of the Hill	P(BCC)
10_07	Puddingstone Garden	P(BCC)
10_10	Cedar Street	P(BNAF)
11_01	Patten's Cove	P(MDC)
11_02	Savin Hill Cove	P(MDC)
11_04	Fernald Terrace	P(BCC)
11_05	Troy Landfill	P(MDC)
11_10	Geneva Ave. Cliffs	P(BCC)
11_12	O.G.Kelley	P(MDC)
11_13	Taylor Street	P(MDC)
11_16	Schoolboy Track	P(MDC)
11_17	Hallet Street Brook	P(MDC)
11_19	Hilltop Street	P(P&R)
13_01c	Bakalar	P(CR)
13_02	Brandegee(Allandale)	P(BCC)
13_03a	Souther	P(Rehab/CR)
13_08	Dump Shoreline	P(BCC)
13_09d	Rivermoor	P(MDC)
13_09a	Rivermoor	P(Army COE)
13_17	Hancock(Leatherbee)	P(BNAF)
13_18	Sawmill Brook	P(MDC)
14_02	Sherrin Street	P(BCC)
14_03	Monterey Hilltop	P(BCC)
14_04b	Boundary I	P(P&R)
14_05a	Boundary II	P(MDC)
14_07a	West Street	P(MDC)
14_08a	Railroad Avenue	P(MDC)
14_08b	Railroad Avenue	P(BCC)
14_15	Belnel	P(MDC)
14_16a	Dana Avenue	P(MDC)
14_18a	Allis Chalmers	P(Blake CR)

14_20	Mother Brook II	P(BCC)
14_21b	Mother Brook III	P(BCC)
14_21a	Mother Brook III	P(MDC)
15_04	Willowwood Rock	P(BCC)
	Condor Street	
01_10	Overlook	P/D

7.14. Annotated Bibliography

The following is a list of sources that were useful in writing our project proposal, and contain brief description of the publication.

7.14.1. Levy, John M. Contemporary Urban Planning. New Jersey: Prentice-Hall, 1997.

Levy's book, which focuses on urban planning, begins with the urbanization of America in the nineteenth century and then goes on to discuss the history of urban planning. Legal issues, politics, social issues, comprehensive planning, and the controls of land-use were all topics of discussion. Urban planning ties in many factors including urban design, capital facilities, urban renewal, community development, transportation, economic development, and growth management. Levy also touches upon national planning in the United States and the need for a theory on urban planning.

The section on land use control was most relevant to our project. Discussion on zoning was the most important, as it regulates land use. This publication defines zoning and discusses the affects it has on land use. The zoning ordinance –which has two parts - is defined and explained in detail. The first part of the zoning ordinance is the map that divides the community into numerous zones. The second part of the ordinance is the text that stipulates what can be built in each zone and how each structure may be used.

7.14.2. Kasen, Vivian Loeb, Marilyn Spiegel Schultz. Community Planning and Environmental Management. New York: Facts on File, 1984.

This publication consists of over 2,000 articles on the different types of community planning and environmental management and focuses on the following community planning topics: economic development, land use regulation, transportation planning, community facility planning, social planning, analytic techniques and tools, urban design, housing, open space management, historic preservation, and recreation. The Environmental management subjects discussed in this encyclopedia are air and water quality management, land and soil management, solid waste management, energy conservation, and flood control.

The text provides definitions for an urban area, sprawl, and leapfrog development. The definition of an urban area allows an individual to picture the area where a parcel is located. Sprawl and leapfrog development are useful in discovering how an Urban Wild parcel was developed. The history of zoning and reasons for its development were discussed as well. In the United States zoning is the most common way to regulate land development and was instituted for the purpose of keeping industrial and commercial development out of residential areas.

7.14.3. Boston Redevelopment Authority. Boston Zoning Code and Enabling Act. Boston: Boston Redevelopment Authority, 1994.

The Boston Redevelopment Authority published the Boston Zoning Code and Enabling Act for the Boston Zoning Commission. The code provides the reader with every aspect of Boston's zoning regulations.

Boston is split into several zoning districts. Some of these districts are separated into classes and some of the classes are in turn divided into subdistricts. The open space district and the nine open space subdistricts are of most importance to this project. The Urban Wild open space subdistrict appears to be of most relevance since it begins to define an Urban Wild parcel. Article 33-12 of the Boston Zoning Code defines an Urban Wild open space subdistrict as land that is not part of the city's park system which comprises quarries, undeveloped hills, woodlands, rock outcroppings, meadows, scenic views, Urban Wild life habitats inland waters, flood plains, fresh water wetlands, or any estuary, pond stream, creek, river, lake, or any land under said waters (Boston 270). Urban Wild open space subdistricts and Urban Wild parcels seem to be the same from the definition of an Urban Wild open space subdistrict.

7.14.4. Kusler, Jon A. Land Use Issues of the 1980's. Edited by James H. Carr and Edward E. Duensing. (New Brunswick, N.J.: Rutgers, 1983) chap. 10.

This publication describes the land use issues of the 1980's and discusses future land use issues. It is divided into four sections: Factors Affecting Land Use Demand, Institutional Controls on the Supply of Land, Modifying Land Use Regulation, and Future Land Use Considerations. This book describes the relationships in the different demands of land development such as energy, agriculture, transportation, nonresidential and residential development. It also discusses land use regulation, the limits on the supply of land, natural criteria, and critical area legislation.

Regulation of sensitive lands is of most importance to this project. This chapter of the book describes why zoning was instated to protect natural resources on the state and local level. The protection of natural resources is an important aspect of zoning.

7.14.5. Whyte, William H. The Last Landscape. Garden City, NY: Doubleday & Co., 1968.

The value of this book is found in its information on zoning as well as its discussion of open spaces. Since, in at least some cases, an open space is also an Urban Wild parcel, much of the information in this book will also pertain to our project. The author makes political arguments relevant to the subject of land use in urban areas.

"Through zoning ordinances, the community can say what land is not to be developed and how much space there should be for each building in areas that can be developed" (p. 35).

Zoning is perhaps the most powerful tool used to protect open spaces from development as well as maintain the sort of community that a group of citizens desire. Zoning regulations can

even be issued for the simple purpose of maintaining the aesthetic value of an area. In fact, the first comprehensive zoning ordinance came about when a group of merchants on Fifth Avenue wished to prevent a series of garment factories from disrupting the character of their area. Zoning would seem to be the friend of open spaces, however, as Whyte points out, shoddy zoning can actually lead to a waste of valuable land.

The practice of large lot zoning is said to squander land rather than protect it. By maintaining a minimum lot size, communities force developers to build small houses on large areas of land. The original belief behind this policy was that large plots would increase the value of the homes so that fewer people would settle an area. However, the tactic has proven unsuccessful. Instead, the most efficient use of land comes about from small plots of concentrated housing.

Another interesting concern raised in this book is the development of open spaces into parkland. Many feel that this not only protects land from development, but also adds to the society by providing safe, clean exposure to nature. However, others are disturbed at the thought of manicured landscapes and laid out picnic areas. Also, the track records of most picnickers and other park goers remains rather poor as far as park maintenance is concerned.

The book also mentions that the first open space grant program was created in 1961. Since that original $133 million grant, other federal agencies have created their own grants as well as State institutions, which contribute some $455 million for open space programs.

7.14.6. Bicak, Charles J., James S. Bicak, and Laddie J. Bicak. "Preserving Our Urban Wilds: A Biology Education Resource." The American Biology Teacher 55, no. 6 (1993): 350-6.

This article describes the different uses for Urban Wild, unmanaged lands. Such lands are often located in urban areas and provide a tranquil spot for walkers and hikers to rest as well as a resource for biological and environmental education. The authors believe that cities should preserve these undeveloped lands because they are places of nature and imagination. These Urban Wilds are also an asset to the biology teachers who use them for educational purposes.

This article describes an Urban Wild as being a public or private unmanaged forest, lake, stream, or creek. These areas are undeveloped parcels of land that lie within the city. These lands would be of great value if they were maintained as Urban Wild areas. They would provide people with a serene Urban Wilderness environment.

Urban Wild areas are an important element of a city. By preserving Urban Wild parcels of land the city can create a place of recreation, leisure, beauty, and education for individuals. Urban Wilds provide people with a place away from city reminders. An individual can surround oneself with nature and forget the busy city with all of its buildings and pollution.

7.14.7. Laurie, Ian C. ed. Nature in Cities. New York: John Wiley and Sons, 1979.

"Nature in Cities" is a collection of essays written by professionals who have been involved with both the science and planning that goes into designing a major city. In particular, the essays focus in on the importance and functionality of incorporating nature into the development of an urban region. The work itself is subdivided into major topics including the history of nature in urban cities, landscape planning and management, and the philosophic and ecological context of nature in the city.

The two essays within this book that hold the most significance to our Urban Wild parcel project are "Trees in the City" by David Pitt, Kenneth Soergell II, and Ervin Zube and "Urban Woodlands" by Rob Tregay. "Trees in the City" is particularly valuable in both identifying the cultural value and history of trees in the city as well as delineating the positive environmental effects of trees in urban regions. This essay also provides some useful information regarding the problems of managing trees within a city. "Urban Woodlands" provides a loose definition of Urban Wilds – which was helpful in our preliminary attempts to determine the meaning of the phrase – and also highlights reasons to incorporate woodlands into any urban design.

Although this book has little information on the cataloguing and surveying of Urban Wild parcels it does go to great lengths detailing benefits such parcels of land hold for any urban society. This book should be helpful, if the need arises to justify the existence of or dependence upon Urban Wild parcels within the city of Boston.

7.14.8. Zaitzevsky, Cynthia. Fredrick Law Olmsted and the Boston Park System. Boston, MA: Harvard UP, 1982.

This Book is divided into three sections. The first section describes the terrain of Boston from before the Pilgrims settled through 1878. The second portion of the book details the process by which the Boston Parks were designed. Within the same section Olmsted's theory of the restoration value of natural scenery is also detailed. The final section of the book states Olmsted's design process.

This publication will be useful in assessing which Urban Wild urban parcels will make a viable park because it details the aspects a parcel of land that are necessary for park creation.

7.14.9. Arnold, Henry F. Trees In Urban Design. Toronto: Van Nostrand Reinhold LTD, 1980.

Trees in Urban Design details the usage of trees within the city. Arnold believes that by placing trees throughout a city a person will enhance its beauty. The beauty of the trees will enhance the character of the city and attract more tourists. But the trees must be placed in such a way as not to hide the buildings, but rather to enhance them.

A significant portion Boston's character is derived from the placement of the red oak, sycamore, and thornless honeylocust trees. Some places within Boston, such as City Hall Plaza, are not suitable for trees. The glaring sun during the summer and unrelenting, bitter wind during the winter make the plaza an unpleasant location for trees or vegetation. Arnold also states that

in cities like Boston and New York the areas surrounding train stations are devoid of trees because there is not enough space around the stations for them.

This publication will aid the team in examining the tree patterns of Boston's Urban Wild parcels. While investigating each parcel, we will be able to compare different types of trees and observe how each type flourishes in any given area. Through this observation the group will have the capability to make recommendations to the city of Boston as to which type of trees should be planted in each location.

7.14.10. Clawson, Marion and Benjamin C. Dysart III ed. Managing Public Lands in the Public Interest. New York: Praeger, 1988.

This book contains a series of articles and essays dealing with public lands and the public interests which drive the formation of these areas. Topics include the nature of public lands as well as the nature of people who use public lands. Many of the essays focus on discerning how and why such an appreciation for open land and public spaces has developed within modern cities.

Two articles appear especially interesting and may pertain to our topic of Urban Wild Parcels. The first, "Nature Protection and Appreciation: A New or Old Concept?" argues that nature, even within cities, has long been appreciated, and therefore protected, by the public. The article also states that any allocation of these public lands must first take into account these cultural aspects.

The second article, "Policy in an Urban Recreational Area," discusses issues of land meant for "nonuse." This essay brings to point the need to educate individuals about the importance of the often unseen Urban Wildlife. Finally, the essay discusses the reasonability of a fully functioning ecosystem within a city.

This book does not pertain to Urban Wild Parcesl specifically, but may be useful in background material as well as in explaining how this work is useful on a social level. The information in these essays can be used to justify leaving land untouched or even the justification of spending money on such "nonuse" land.

7.14.11. Diamond, Henry L. and Patrick F. Noonan Land Use in America. Washington D.C.: Island Press, 1996.

This book is actually described by the authors as a project. Experts such as mayors, governors, builders, farmers, and policy advocates were used to create the views presented in this work. The project details the some states' plans for the use of lands as well as predicting the future possibilities of land use in America. The most demanding work created in this book is an agenda for land use in the 21st century.

Since the writing collected in this book does pertain to land use and the planning behind it, there may be some connections to the predicament of Urban Wild Parcels. However, no specific information is found in the book on Urban Wild Parcels. Much of the work centers around concerns such as drinking water. One section does refer to finding more efficient use for land and the importance of using the limited and valuable land we have. Since Urban Wild

Parcels could be looked at as a waste of space, the information could be useful in determining the value of constructing these parcels into useful property.

7.14.12. Cranz, Galen. The Politics of Park Design. Cambridge, MA: MIT Press, 1982.

This book deals with the history of park use and how that use has changed over time. This includes classifying the many different types of park goers. Also, the authors detail the powers behind the making of parks as well as the benefits of parks to the city in general as well as the individual inhabitants. Finally, the book deals with the role of parks in the past, present, and future as they pertain to social influence.

The information in this book could be useful if the assumption that these Urban Wild Parcels will indeed be developed into parks turns out to be true. In that case, we will need to write a background on parks as well as outline what aspects make a park a successful one. It may also be useful to know who the powers that be deciding on our new parks are. The book outlines idealist, professionals, and Bureaucrats. Finally, knowing what sort of people use parks and to what purposes will aid us in evaluating which parcels of land demonstrate promise as future parks.

7.14.13. Kielbaso[R25], J. James, Gary A Moll, and R. Neil Sampson. Urban Forests, Carbon Storage, and Energy Conservation. Washington D.C.: The American Forestry Association, 1991.

This reference is a small report, published by the American Forestry Association, focusing on the positive ecological role played by trees in urban environments. In addition, this paper contains subdivisions which address opportunities and means for citizens to support and encourage the growth of urban forests, as well as a program for mapping and rating regions of urban forests within one's town or city.

There are two main sections of interest to our project team within this paper. The first, which covers the positive role forests play in an urban setting, contains a great deal of statistical and environmental data which could be helpful in justifying Boston's need for wooded regions. This section focused on urban trees role in carbon storage, air pollution and smog reduction, improved water quality, noise reduction and improvement in human health.

The second useful section within this report is a form designed for numerically rating and evaluating the condition of any region of urban forest. Our project team will modify this form to create a standardized method for numerically rating the condition of the Urban Wild parcels. Once we have created our database for Boston's Urban Wild parcels we will use this form as an objective way of rating the condition of the individual Urban Wild parcels.

7.14.14. Lawrence Kennedy. Planning the City Upon A Hill (Amherst: The University of Massachusetts Press, 1992)

This book gives a detail of the history of Boston's development. One particular area of the book pertains to areas in Boston that were set aside specifically in order to remain undeveloped. Most of this information relates to the Emerald Necklace and the rest of Boston's parks as Fredrick Law Olmsted designed them. However, Olmsted adamantly believed in the importance of nature areas within large cities and Kennedy recites several of his philosophies on this subject.

The views presented in this text are helpful in establishing the social implications of Urban Wild Parcels and their preservation as well as a background on the sort of forces that drove Boston to develop as it did. There is also information in this book to justify not only leaving land undeveloped but also spending large amounts of money in order to maintain Urban Wilds for the public good.

7.14.15. Phillip M. Hoose. Building an Ark (Covela, California: Island Press, 1981)

This book outlines many of the tools available for preserving open spaces. It details the strengths and weaknesses of each process by which private or public organizations secure the natural state of Urban Wilds. The two most prominent tools are ownership and restrictions. Falling closely within the restriction category are incentives used to persuade the owner to protect his/her land from future development. Other tools include public education and appreciation.

While ownership is described as the most powerful tool for protecting land, it also falls short of being the most effective one because of the high cost of buying land. Restrictions are adequate, however, they may be difficult to place without interrupting the rights of the private owner. Incentives such as tax deductions and public recognition can be used to persuade the owner to either place restriction on the land or even outright donate it to the government or other protection agency.

Public education can create an assertive force in lobbying for the preservation of Urban Wilds. This is also a much cheaper way of protecting Urban Wild Parcels. However, no land is guaranteed protection just because the public wants it to be so.