NURTURING THE RECOVERY OF THE NORTH RIVER: A PRACTICAL VISION
The purpose of this document is to provide a practical vision for the cities of Salem and Peabody, Massachusetts for nurturing the recovery of the North River and its watershed. The document utilizes local and regional sources of information, including: city plans and updated zoning ordinances, interviews with local experts and officials, grants and other project funding opportunities, and current literature on the topics of community and regional planning, ecological restoration, and development. The complexities of regional planning are discussed as a significant challenge to the successful implementation of any North River rejuvenation plan. Finally, recommendations, in the form of a comprehensive toolkit, are offered for accomplishing this recovery and overcoming the obstacles that face communities to building a regional approach to renewing the North River.
The North River has played a significant role in the region as a location of historical events, a bustling leather tannery industry, and a hub for transportation and trade. The extensive tannery industry promoted growth along the River within the communities of Salem of Peabody, increasing overall economic development in the region, but also severely degrading the water quality of the River. Today the North River is currently listed on the Environmental Protection Agency (EPA) 303d list of impaired waters and suffers from severe flooding, polluted urban runoff, pathogens and visible environmental degradation.

Since 1990, Salem Sound Coastwatch (SSCW) has challenged the negative perceptions and negligent behavior that have resulted from these issues and has advocated for the preservation and environmental protection of the Salem Sound watershed, including the North River.

The purpose of this document is to provide a practical vision for nurturing the recovery of the North River and its watershed. The following pages describe challenges to accomplishing this recovery and strategies, in the form of a comprehensive toolkit, to overcoming these barriers.

The first section defines the physical boundaries and characteristics of the North River from its source at the confluence of its tributaries in eastern Peabody, downstream to where it meets the Danvers River and empties into Salem Sound. A brief history chronicles the events that transformed the River from a viable ecosystem and resource to a dilapidated urban river and is followed by a discussion of the current state of affairs, outlining the overarching goals of this document.
The second section elucidates the goals for the rejuvenation of the North River and challenges to achieving them in both Salem and Peabody separately, as well as regionally. These goals range from very site-specific projects to broader, non-structural changes regarding education and awareness and are:

- Increase Awareness of and Access to the North River
- Efficient Land Use
- Encourage Sustainable Economic Development Along the North River
- Flood Mitigation and Improved Water Quality

The challenges are:

- Lack of a Regional and Comprehensive Planning Model
- Lack of Stewardship and Awareness by Community Members
- Lack of Funding, Resources and Follow Through
- Challenges to Zoning and Development
- Environmental Impairments

The final and most important section of this document is made up of a series of tools and recommendations; all the necessary instruments to overcome the obstacles and accomplish the aims set forth. Procedural recommendations, which are substantive ideas to improve current policies and attitudes toward the North River are:

- Place Based Education Programming
- Regionally Based Community Resource Mapping and Visioning Process
- Watershed Based Approach & Intercity Park
- Create a Playground, Park or Recreation Commission
- Adopt the Community Preservation Act (Salem)
- Take Advantage of Local, State, and Federal Funding
- Create a Corporate Sponsorship Program
More specific, structural policy tools are physical ideas to improve the conditions of the North River and accommodate future development and they include:

- **Smart Growth Policies**
- **Low Impact Development**
- **Development Policies**
- **Daylighting and Restoration of Stream Channels**

This document also contains several maps, charts and tables that clarify and illuminate the goals and strategies proposed. Finally, the appendices provide the reader with an overview of current projects in various stages of proposal and completion in Peabody and Salem (Appendix A), program guidelines for the National Park Service’s *Rivers, Trails and Conservation Assistance Program* (Appendix E), as well as maps (Appendix F) and other reference and background materials for this study (Appendices B, C, D, and G).

The solutions to the problems facing these two cities both related and unrelated to the North River are not quick fixes. By taking the time and effort to explore a regional plan for the entire watershed, however, and to think about the issues broadly instead of tackling each individual problem head on, Peabody and Salem will find that the solutions are not as difficult as they seem.
# Table of Contents

## Introduction

## Goals

## Challenges

## Development of Recommendations

### Section 1: Procedural Recommendations

Substantive ideas to improve current policies and attitudes toward the North River

- **Recommendation 1.1: Place Based Education Programming** 24
- **Recommendation 1.2: Regionally Based Community Resource Mapping and Visioning Process** 28
- **Recommendation 1.3: Watershed Based Approach & Intercity Park** 39
- **Recommendation 1.4: Create a Playground, Park or Recreation** 44
- **Recommendation 1.5: Pass the Community Preservation Act** 45
- **Recommendation 1.6: Take Advantage of Local, State, and Federal Funding** 46
- **Recommendation 1.7: Create a Corporate Sponsorship Program** 50
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 2: Structural Recommendations</td>
<td>Physical ideas to improve current conditions of the North River and accommodate future development</td>
<td>52</td>
</tr>
<tr>
<td>Recommendation 2.1: Smart Growth Principles</td>
<td></td>
<td>52</td>
</tr>
<tr>
<td>Recommendation 2.2: Low Impact Development</td>
<td></td>
<td>61</td>
</tr>
<tr>
<td>Recommendation 2.3: Daylighting and Restoration of Stream Cannels</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
<td>69</td>
</tr>
<tr>
<td>Appendix A: Existing Conditions of Recreational Projects</td>
<td></td>
<td>69</td>
</tr>
<tr>
<td>Appendix B: Discussion of Methods</td>
<td></td>
<td>77</td>
</tr>
<tr>
<td>Appendix C: Background</td>
<td></td>
<td>78</td>
</tr>
<tr>
<td>Appendix D: List of Acronyms and Abbreviations</td>
<td></td>
<td>79</td>
</tr>
<tr>
<td>Appendix E: Program Guidelines for the National Park Service’s Rivers, Trails and Conservation Assistance Program</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Appendix F: Maps</td>
<td></td>
<td>82</td>
</tr>
<tr>
<td>Appendix G: Study Documentation</td>
<td></td>
<td>87</td>
</tr>
</tbody>
</table>
THE NORTH RIVER

Like many of the world’s rivers the North River does not have a distinct source. It is not an isolated entity, flowing from point A to B, untouched by external forces, but rather emerges at the confluence of several tributaries near Peabody Square and flows eastward to Salem Sound. This is where the North River is most obvious and easy to find. At this location, when the tide starts coming in, the salty Salem Sound waters push their way back into the mouth of the river and upstream making the eastern portion of the “River” a tidal estuary.

Entering Salem from the north and curving inland to the west, the North River sweeps past neighborhoods and parkland to the right before ducking under Route 114 from whence it emerges alongside Leslie’s Retreat Park, one of the few green spaces along the waterway. More typical are the impermeable surfaces of roads and parking

"THE ENJOYMENT OF SCENERY EMPLOYS THE MIND WITHOUT FATIGUE AND YET EXERCISES IT; TRANQUILIZES IT AND YET ENLIVENS IT; AND THUS, THROUGH THE INFLUENCE OF THE MIND OVER THE BODY GIVES THE EFFECT OF REFRESHING REST AND REINVIGORATION TO THE WHOLE SYSTEM."

– FREDERICK LAW OLMS TED
INTRODUCTION

Lots, such as border the northern bank, across from the park. A stormwater outfall is visible on this side as well, flowing constantly onto the mudflats that appear here at low tide.

Following the River’s path as it stretches westward across the city, one sees abandoned buildings shedding paint into the water, loose oil booms left idling years after their use has ended and the old Salem Oil & Grease Company nearby which, slicks are still visible. Along some segments there are walking paths which seem to get some use and ducks can be seen searching for food along its banks. For every sight like this, however, there is a submerged and rusty bicycle, a floating tire or a garbage can.

As the River passes into Peabody it loses its tidal characteristics and a few hundred yards later as it crosses Wallis St. at Walnut, it vanishes beneath a building and does not appear again until much farther upstream when it is no longer the North River at all, but one of its three main tributaries: the Proctor, Goldthwaite and Strongwater Brooks. The Goldthwaite is first found (or last found, depending on which direction you are traveling) as it disappears under Marco’s Abbodante Pizzeria. Upstream it passes beneath the abandoned tracks that followed the North River much of its way, is culverted for several hundred yards along Foster Street but makes a glorious reappearance along the beginnings of Peabody’s own Riverwalk.

Just a bit to the north, the Proctor Brook is also alternately culverted and exposed, making its most ironic appearance as a forty-foot span of
daylighted water in the parking lot of the Tannery II apartment complex, offering a fenced-in reminder of this watershed’s history of abuse.

A BRIEF HISTORY

The North River as it is today is the victim of a toxic past, absorbing the byproducts of tanneries for much of the past 200 years. The many steps of the tanning process, including curing, liming, pickling, degreasing, sammying and dying release a barrage of pollutants into the nearby air and water. Sulphides, ammonia, heavy metals like chromium, and even pesticides are all useful materials in the tanning process, but as only some of the chemical is “taken up by the hide, acidic effluents containing unused chemical agents will be generated . . . washing will release unfixed chemicals from the hide . . . all are potentially polluting” (United Nations Environment Programme 1991, 18). The sulphides, along with decomposing animal byproducts, can create obnoxious and toxic odors offensive enough to keep people away from the River altogether on bad days. Leather dust is a potential carcinogen. This is not to mention the dyes, which, when excess was washed off the finished leather, would change the color of the River to that of the dye.

Now imagine the effect that the over 100 tanneries must have had as they functioned along the River’s banks from the early 1800s until the 1980s. As early as 1877, Webber and Nevins (1877) reminisce about the pristine, bygone days of the North River, or “Nahum Keike” as the Indians called it:

“It was then broad and beautiful, extending from Bass River far up into what is now the limits of Peabody. Its waters were pure and undefiled by the refuse of tanneries, and were unobstructed by the many innovations which now line their course” (Webber and Nevins 1877, 80-81).

Later in the same text they describe it as it flowed by the cemetery at Harmony Grove, “now but a dark and murky stream . . . the only blot upon the otherwise charming locality” (Ibid, 190).

Most of the shellfish beds of the estuary and Salem Sound were closed in 1925 (Chase et al 2002, 45) and other aquatic organisms, such as rainbow smelt that spawn in the rivers and streams of Massachusetts were turned out as well, with humans soon to follow.

“WASHINGTON STREET IN THE EARLY DAYS WAS KNOWN AS SCHOOL-HOUSE LANE. IT EXTENDED FROM NORTH TO SOUTH RIVERS WHERE THESE TWO BODIES OF WATER CAME NEAREST TOGETHER. IT WAS SELECTED AS THE PROPER PLACE FOR THE BEGINNING OF THE SETTLEMENT, DOUBTLESS ON ACCOUNT OF THE FAVORABLE MEANS OF DEFENCE . . . BOTH NORTH AND SOUTH RIVERS . . . COULD BE EASILY GUARDED FROM THIS POINT, AS ALSO THE EIGHTH OF A MILE OF LAND BETWEEN THE CREEK AND NORTH RIVER.”

- OLD NAUMKEAG, WEBBER AND NEVINS 1877, 39.
In contemporary writings of the 18th and 19th centuries, the North River is used casually and often to describe the locations of other points of interest, a marker of town or area boundaries and a resource in its own right. By bringing this kind of public focus back to the River as it was in the past, increasing access and awareness and improving water quality, Salem and Peabody will benefit from economic development, a renewed sense of community and will begin to thrive again in a way unimagined since early these settlements became the foundation of this country.

The North River Today

The last tannery was closed in the 1980’s and it can’t be denied that things are looking up for the North River today, compared to the North River of 30 years ago. As with most environmental improvements in the world, however, the job is far from done. Though the river and its tributaries are listed as Class SB and B (saltwater and freshwater swimmable, respectively), they are not meeting their classifications. This is due to contaminated

Contaminated sites along the North River as reported to the DEP
Source of Data: MassGIS
sediments and both point and non-point source pollution, from storm sewers or simple urban runoff. These have led to a myriad of problems such as low dissolved oxygen levels affecting marine life, high fecal coliform levels, and eutrophication (Salem Sound 2000, 2000, 24).

The overarching issue that affects and contributes to all of these other serious environmental concerns is the public’s lack of access to and awareness about the river itself. The common attitude toward the river can be summarized simply by looking at the buildings that line its banks. Every one is built toward the street with hardly a window on the river-facing side. Unlike in downtown Providence where the river has recently become a focus of the community, the cities of Salem and Peabody have literally turned their backs on the North River.

But what sort of exposure does the average resident have to the North River? The Salem News seems to only print stories about it when it overruns its banks in the springtime, causing damage to homes and businesses (“Floods submerge Peabody streets” (Corcoran 2004, A1)). Salem Sound Coastwatch has received some press for its volunteer Stream Teams that go out and clear debris, facilitating the smelt migrations, but none of these infrequently lauded efforts have yet altered the underlying mistrust of the river. During SSCW’s first North River Awareness Week in April 2003, SSCW’s Executive Director, Rob Gough, was approached by a man who said to him, “I’ve been trying to ignore this river my whole life, and now you want me to pay attention to it” (Barbara Warren, personal communication 27 January 2006). It is this fundamental negative attitude that must be changed in order to facilitate ecological and economic improvements of the North River watershed.

Though these issues may seem disparate and in some cases unrelated, it is our goal in the following pages to explain and make recommendations for approaches and solutions to them that are not only related but facilitate each other. For instance, by providing more green spaces along the river, access is increased while the permeable surfaces will reduce runoff. With more access will come more awareness while the decreased runoff will lead ultimately to an improvement in general water quality.
INTRODUCTION

INTO THE FUTURE

The drive to accomplish these goals exists in the form of organizations like Salem Sound Coastwatch (SSCW), and state agencies like Massachusetts Department of Environmental Protection (MDEP), Coastal Zone Management (CZM) and Mass Bays Program. These groups perform their own water quality testing on the waters of the North River for things like fecal coliform (SSCW), dissolved oxygen, pH and heavy metals (MDEP). SSCW has put together Stream Teams made up of local volunteers who clear debris to facilitate the spawning runs of the local smelt. Even the master plans for Salem (City of Salem 1996) and Peabody (Peabody Planning Department 2002) cite the clean-up and beautification of the North River as goals. While reference is made by each city to working with the other to pursue these goals, as of today no solid steps have been made in this direction. Both Peabody and Salem hesitate though the desire is there and the benefits to a clean river and a regional approach to a clean river are many and clear.

James Michener once described Denver’s South Platte River as “sad, bewildered nothing of a river” (Michener 1974). Twenty-five years later, thanks to a commitment from the city’s mayor and a “coalition of government agencies, non-profit organizations, and diverse community representatives,” (CDM 2006) the South Platte is now a revitalized asset that led to redevelopment of the downtown area and returned a sense of community to citizens of Denver (Ibid).

In what could be a model for the North River, the Nashua River has gone from being one of the most polluted American rivers (running red or brown with industrial wastes and dye) to a functional ecosystem fit for recreation in just over 30 years. This turnaround is due in no small part to the Nashua River Watershed Association which represents 31 communities in Massachusetts and New Hampshire. This regional organization has managed to conserve “more than 8,000 acres of land throughout the watershed and 85 miles of greenway along the riverbanks” (Nashua River Watershed Association 2006).

Are the recommendations enclosed in this report politically viable options? We hope so. The simple fact is that there is no state-sanctioned plan to unify the approaches taken by individual cities and the 351 cities and towns of Massachusetts do not have a strong history of inter-municipality planning. Regardless of this present reality, we put our faith in progress and firmly believe that as the cities of Peabody and Salem work together to improve their watershed, it will become more and more clear that the solutions to their many common complaints will grow out of a few shared approaches to these problems. We will describe just how and most effectively to make that happen.
GOALS

“The health of our waters is the principal measure of how we live on the land.”

-Luna Leopold

1. INCREASE AWARENESS OF AND ACCESS TO THE NORTH RIVER

This goal can be accomplished at a number of levels. Certainly this goal could be considered reached with the construction of a single new park, but it is our intent to bring about a community-wide alteration in attitude and bring the river back into daily focus. Such an achievement will exponentially increase the ease with which all other goals may be pursued.

2. EFFICIENT LAND USE

Land use policies have wide-ranging impacts on the quality of life of residents, whether real or perceived. Policies that promote efficient land use create more dense developments, which can allow for more open space, environmental protection, and more livable and walkable neighborhoods.
3. **Encourage Sustainable Economic Development Along the North River.**

The North River is not only a valuable natural and cultural resource in the region, but also a source of economic development opportunities. Due to the impoverished water quality and negative perception of the River, its use for economic development is underutilized in both Salem and Peabody. Improving the River’s quality also contributes to its potentially significant role in the sustainable economic development of both cities—as an ecological asset that promotes economic viability and exemplifies the cultural and historical heritage of the region. National efforts are underway to encourage the role of urban rivers in the revitalization of a city.

4. **Environmental Remediation**

The North River is the largest contributor of fresh water to Salem Sound (Chase et al. 2002). Improving environmental conditions of the North River watershed, such as water quality, brownfield remediation, and flood control is intimately connected to the improvement of the region’s social and economic conditions. For instance, improving the water quality will restore biodiversity, leading to a restoration in the shellfishing industry, an economic opportunity, as well as social opportunities such as kayaking and canoeing.
1. Lack of Regional and Comprehensive Planning

Peabody and Salem have individually created vision statements for planning the future of their perspective cities. Both cities have created Master Plans addressed:

- Existing Conditions and Trends
- Goals and Objectives
- Preferred Strategies
- Drafting of a Final Master Plan

Included in both cities’ plans are considerations for the North River, but neither provides a regional and comprehensive resource for collectively viewing the North River as an amenity and not a liability. Both cities have also looked to outside contractors to organize the planning process. It is imperative that the planning process be rooted in both cities and carried out by stakeholders from Peabody and Salem. Through this approach, community members will feel more vested in the process and support its follow through.
2. **Lack of Stewardship and Awareness by Community Members**

Parts of it look like a drainage ditch. Much of it is hidden behind chain link fences or the windowless backs of buildings. A toxic past has led to a present in which there is a major lack of community focus around issues concerning a river that was once a central feature of the community’s landscape. A sense that the River is beyond repair leads to the kinds of attitudes that do not foster environmental stewardship.

3. **Lack of Funding, Resources, and Follow Through**

There is a lack of funding for things such as purchasing of land, and recreational, educational and ecological projects. This has occurred because other issues have been deemed more important. There has also been a lack of institutional support and follow through for current action plans.

4. **Development Conflicts**

Wherever change and development occur, there will inevitably be conflicts. Developers and residents cannot always agree on the level of development density for a new project that would be sufficient to meet the economic needs of the developer and the character of the neighborhood or district required by the community. Alternatively, there is the potential that development projects deemed economically significant to the community could be given allowances that are harmful to the North River, such as shorter set-backs from the waters edge (this can result in increased run-off). Additionally, after new developments are built, there are no regulations to ensure that the protective requirements set by City Councils and Conservation Commissions continue to be fulfilled (City of Peabody 2003 and City of Salem 2005).

5. **Environmental Impairments**

**Urban Runoff**

Impermeable surfaces such as roads, parking lots and building roofs within the North River Watershed significantly affect water quality and flood control. During storms, limited porous surface area prevents groundwater infiltration and contributes to flooding. Precipitation moves over impermeable urban landscapes, picking up pollutants, and ultimately depositing them into the North River and its
CHALLENGES

The adverse affects of urban runoff are clearly evident in the North River, with its “visible petroleum films, acrid odor, sewage odor, chemical variability, and turbidity (cloudiness),” (Salem Sound Coastwatch 2005, 3) and the loss of habitat for native species like rainbow smelt, shellfish, and other wildlife.

With land development in Salem and Peabody progressing (MassGIS 2006) the problems of NPS pollution will be exacerbated: impervious surfaces and runoff will doubtlessly increase resulting in low infiltration rates, flood hazards, and an overwhelming volume of wastewater during major storms consequently released into water bodies with little or no treatment (Herricks 1995).

Polluted Runoff Impairs:
- Water Quality
- Public Health
- Recreational Uses
- Aquatic Life and Biodiversity

(Torno 1985)

<table>
<thead>
<tr>
<th>IMPERVIOUS SURFACE COVERAGE IN PEABODY AND SALEM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SALEM</strong></td>
</tr>
<tr>
<td><strong>PEABODY</strong></td>
</tr>
</tbody>
</table>

Source: Salem Sound Coastwatch Watershed Analysis (2005)
CHANNELIZATION AND CULVERTING

Channelization, the engineered straightening and lining of the North River with concrete that begins at North Street (Route 114) on the Salem/Peabody town line, results in ecological problems such as the destruction of marine habitats, plant and animal species, and erosion. By restricting the meandering nature of the stream, flooding problems are exacerbated in the downstream areas. Increased water speed and volume, for instance, leaves less time for groundwater infiltration (Urban Creeks Council 2006).

The headwaters of the North River and its tributaries are underground in culverts as a result of infrastructure such as roads, buildings and other urban development. These tributaries once served as natural drainage channels. Burying any opportunity for this natural filtration mechanism to do its job reduces water quality by carrying polluted urban runoff directly into the North River system (Bowditch 2005). During heavy storms, natural stream and river networks will overflow their banks into the floodplains, but culverted systems that can “only carry a finite amount of water” (Urban Creeks Council 2006) often back up, leading to the well documented flooding of homes, stores and the streets of Peabody and Salem.

Culverting also leads to high water pressure and velocity by restricting the “water to a small diameter, leading to erosion and water quality problems downstream,” (Urban Creeks Council 2006) and destroys habitat by preventing fish from migrating upstream. Infrastructure that overlays the buried system is also in danger of these systems failing over time and collapsing (Urban Creeks Council 2006).
In the following pages we present a series of recommendations, both procedural and structural, that can be used to benefit the North River and the cities that adopt them.

The concept of multi-city planning is gaining popularity as people are beginning to realize that not all boundaries are political. Salem and Peabody share a natural resource, the North River, and the best way to protect and enhance that resource is for all bordering cities to take responsibility for it. Place-based education and community visioning programming are programming approaches that follow this same line of reasoning.

The idea of an “intercity park” was developed due to the fact that both Salem and Peabody have shown interest in creating greenways along the North River (see Appendix A for a full description and status of each project). Working together on a project will fulfill their individual goals and maintain the motivation needed to stimulate the completion of their individual projects.

By working together on a single project, the two cities can combine resources, knowledge, and skill and they will find that creating a park does not have to take years from concept to construction. Additionally, each city went through similar planning processes when the individual recreational projects were created – mayor appointed working group, walking along the River to identify possible sites, inviting members of the public to collaborative workshops - and we only recommend that they expand the process to include the other city. An “intercity park” can expand the benefits of a local recreational opportunity, to a regional asset.
The second half of this document contains structural recommendations that were developed due to the fact that each of the cities continues to grow and they need to maintain their economic viability. Smart growth practices are important locally, and as a region, to help ensure that revitalization occurs through a coordinated planning process that allows structural expansion while promoting economic development, preserving the traditional community character and continuing efforts to improve the ecological quality of the North River. Smart Growth practices are significant for the cities to consider due to their already built-out and densely developed characters.

There is also a high potential for sprawl to occur based on their present land use and zoning by-laws and city ordinances. Sprawl is a concern as development subsequently encroaches into greenfield, or undeveloped sites, and open spaces. Salem and Peabody need to employ creative planning policies that allow development, but avoid sprawling land use patterns. Strategies for avoiding sprawl have been outlined in the recommendations, and they include promoting dense development, redevelopment of existing and underutilized sites, mixed land uses, and low impact development techniques such as permeable pavements and vegetated bioswales. Smart growth practices are based on the concept that growth is inevitable, but can be properly dealt with if the planning process is comprehensive and well-thought-out. Smart growth planning encourages comprehensive policies that deal with economic, ecological and community issues with each project.

In regards to the revitalization of the North River, planning that supports smart growth initiatives protects natural resources by limiting sprawl and reducing the ecological impacts that goes along with the additional infrastructure required to support more dispersed development. Practices, such as mixed land use also increases accessibility of retail and commercial needs to residents, reducing dependence on motor vehicles and their associated environmental and public health impacts. In order to successfully implement smart growth practices, both towns must have zoning by-laws, city ordinances, and policies that support these practices such as higher density requirements, mixed-use zoning, protection of open space, and compact development or cluster development.
SECTION 1: PROCEDURAL RECOMMENDATIONS

SUBSTANTIVE IDEAS TO IMPROVE CURRENT POLICIES AND ATTITUDES TOWARD THE NORTH RIVER

“Tell me, I forget. Show me, I remember. Involve me, I understand”
- CHINESE PROVERB

RECOMMENDATION 1.1: PLACE BASED EDUCATION PROGRAMMING

GOALS ADDRESSED: Increase awareness of and access to the North River
CHALLENGES ADDRESSED: Lack of stewardship and awareness by community members

Place-Based Education

“is the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science, and other subjects across the curriculum. Emphasizing hands-on, real world learning experiences, this approach to education increases academic development, helps students develop stronger ties to their community, enhances students appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens” (Sobel 2004, 7).

Place-based education has emerged from over 30 years of environmental education within the United States. Based on the issues, resources and values of the local community, it is a tool for nurturing collaboration between schools and communities and can help to improve a community’s environmental quality and social and economic vitality.
RECOMMENDATIONS

1.1: Placed Based Education Programming

Using a place-based education approach in Peabody and Salem is key in bringing young people and schools into the process of River stewardship and planning. It is a tool for bringing the history, folk culture, social problems, economics, and aesthetics of a community and its environment to the table in an integrated agenda using the local environment (i.e. the North River) as the focus of this agenda.

A place-based education model can be brought into the North River watershed community by linking into the Community-based School Environmental Education project (CO-SEED), a three-year initiative to help schools and communities work together to develop a community and place-based curriculum. They are based out of the Place-Based Education Center at Antioch University and they work with schools throughout New England to encourage partnerships between students, teachers, and community members that strengthen and support student achievement, community vitality and a healthy environment. CO-SEED supplies resources such as professional development, steering committee guidance, vision to action forums, and linkages between schools and community organizations. They have worked successfully with Dearborn Middle School in the Boston area and would be an invaluable resource in starting the place-based education process in Salem and Peabody.

PLACE-BASED EDUCATION MODELS IN MASSACHUSETTS

“DEARBORN MIDDLE SCHOOL, IN THE ROXBURY NEIGHBORHOOD OF BOSTON, BEGAN ITS WORK WITH CO-SEED IN THE FALL OF 2003. WITH MANY STRONG COMMUNITY CONNECTIONS ALREADY IN PLACE, THEY CHOSE TO WORK WITH THE APPALACHIAN MOUNTAIN CLUB IN ORDER TO UTILIZE THE CULTURAL AND NATURAL RESOURCES IN THEIR AREA. “THE AMC REPRESENTATIVE HELPS SUPPORT DEARBORN TEACHERS IN SCIENCE, BRINGING A NATURALIST’S EXPERIENCE AND PERSPECTIVE INTO THE CLASSROOM. WITH CO-SEED AND AMC HELP, TEACHERS ARE TRANSITIONING TO A MORE PROJECT-BASED CURRICULUM THAT GETS STUDENTS OUT INTO THEIR COMMUNITY. THE PROGRAM IS ALSO BRINGING MORE COMMUNITY PARTNERS INTO THE DEARBORN, SUCH AS ALTERNATIVES FOR COMMUNITY AND ENVIRONMENT, THE FOOD PROJECT, AND THE BOSTON PUBLIC HEALTH COMMISSION. FOR CO-SEED TO SUCCEED, IT MUST BECOME A PART OF A SCHOOL’S CULTURE, NOT JUST ITS ACADEMICS. TO ACHIEVE THIS, THE AMC REPRESENTATIVE IS ALSO WORKING WITH THE DEARBORN AFTER SCHOOL ACADEMY (DASA) TO GET STUDENTS INVOLVED IN OUTDOOR LEADERSHIP AND ACTIVITIES. ANOTHER GOAL IS TO TRAIN TEACHERS TO TAKE STUDENTS ON OUTDOOR TRIPS, SO THAT THE CO-SEED PROGRAM CAN CONTINUE EVEN AFTER THE OFFICIAL PARTNERSHIP HAS ENDED” (ANEI 2006).
RECOMMENDATIONS

1.1: Placed Based Education Programming

The William A. Welch School in Peabody has previously worked with Salem Sound Coastwatch on River projects. The Carlton School in Salem is located in close proximity to the River. These schools would be ideal candidates for implementing the first CO-SEED Programs along the North River Corridor.

Once Salem and Peabody schools begin the place-based education process, there are several possible projects that can emerge from the partnerships and be implemented in the schools:

| HABITAT RESTORATION | • Restore riparian habitats along the River  
|                     | • Clear debris from the river  
|                     | • Research native species |
| NATURAL AREAS INTERPRETATION | • Study the history and folklore of the North River and its communities  
|                             | • Complete a natural trail map and guide for conservation of land adjacent to the River  
|                             | • Support Salem Sound Coastwatch in the completion of interpretive signs |
| WATER QUALITY MONITORING | • Work with Salem Sound Coastwatch on one of their Stream Teams, carrying out water quality tests. |
According to studies carried out on schools that utilize a place-based education approach, students:

- Had improved math and reading scores;
- Learned to "do science" rather than just learn about science;
- Had the opportunity to learn at a higher level (Sobel 2004).

There have even been studies done in New England around the effects of place-based education and the Cultivation of Stewardship. As discussed earlier, the primary obstacle to fostering stewardship and healthy attitudes toward the North River stems from a lack of awareness of and access to the North River. A place-based education model would allow young people to see the North River as a viable part of their community and allow students to get involved in the process of planning for the future of the North River.
RECOMMENDATION 1.2: REGIONALLY BASED COMMUNITY RESOURCE MAPPING AND VISIONING PROCESS

GOALS ADDRESSED: Increase awareness of and access to the North River
CHALLENGES ADDRESSED: Lack of funding, resources, and follow through; Lack of regional and comprehensive planning

There is no better time than the present for Salem and Peabody to collaborate and involve a broad array of individuals in harnessing the community-based energy that exists. In order to create a regional approach that brings the two communities together, there needs to be a collaborative “mapping out” process of the resources that both communities have and the highlighting of a regional “vision”. Every step forward has begun with some type of a dream, and in order to foster a sense of place and stewardship for the North River Corridor, stakeholders from both Salem and Peabody need to first come together at the same table to assess what resources exist within their communities, to access their common dreams and begin to explore how to achieve them.

Currently, two tools exist, community visioning and community resource mapping, which are being used in several places across the country to help cities and towns to:

1. Acknowledge that individuals, organizations, and local institutions all have the capacity to create real change in their communities, but no agency can do it alone (National Center for Secondary Education and Transition 2005);
2. Determine their wants and organize around them to achieve their visions (Oregon Visions Project 2005).

Community resource mapping is a process of identifying the knowledge, skills and other human resources that are available within a community and the quantity and quality of natural resources that are present in the geographical area. Community visioning is the process of generating core values, vision, key benchmarks and strategies that define the community’s future. Use a process that provides an opportunity for broad public participation.
Local citizens, planners, elected officials, community activists, and business leaders use the process of community visioning and community resource mapping to create a better future for their community. By using sustainable regional development and stewardship of the North River Corridor as a focal point, community resource mapping and visioning will allow the cities of Salem and Peabody to unify and strengthen their similar dreams, while also highlighting and dealing with their differences.

BENEFITS

Salem and Peabody can benefit from these processes in the following ways:

a) Identifying new resources within their communities;
b) Avoiding duplication of services and resources;
c) Cultivating new partnerships and relationships;
d) Providing information across agencies that work on environmental issues;
e) Encouraging collaboration (NCSET 2005).

Benefits of using the visioning process include:

a) Development of a long-range community plan or an “umbrella” vision for existing plans and policies. This is especially important for the North River watershed, which already has several separate plans currently on the table. (OVP 2005);
b) Complement state-mandated land use plans;
c) Introduction of broader dimensions into local planning;
d) Building consensus for the future (OVP 2005).

CRUCIAL TO ESTABLISHING A FRAMEWORK FOR THE VISIONING PROCESS IS:

A) SETTING A TIME FRAME - SELECTING A TARGET YEAR FOR THE VISION TO BE CREATED

B) DETERMINING A FOCUS - THE ENTIRE NORTH RIVER WATERSHED IS THE FOCUS

C) IDENTIFYING TARGET AREAS - LINKING ECONOMIC DEVELOPMENT, ECOLOGICAL, RECREATIONAL AND EDUCATIONAL AMENITIES OF THE NORTH RIVER

SOURCE: “A GUIDE TO COMMUNITY VISIONING: HANDS-ON FOR LOCAL COMMUNITIES” OREGON VISIONS PROJECT.
RECOMMENDATIONS

1.2 Regionally Based Community Resource Mapping and Visioning Process

STEP I: PREMAPPING PHASE

In the pre-mapping phase, the necessary partners come together to establish a purpose. The purpose and overall direction for this mapping exercise, laid out by Salem Sound Coastwatch, can be to:

- Gain a better understanding of the North River and its potential to help create a sense of watershed identity;
- Assess the opportunities available to the North River watershed region, in order to encourage the community to view the River as an amenity and not a liability;
- Synthesize the current information and ongoing projects into a more regional approach.

With this in mind, a list of all stakeholders must be made to ensure that they are all a part of the mapping process. Often times certain stakeholders are left out of the process. This may be due to a lack of outreach or resources for carrying out the outreach effort. When this occurs it is more difficult to get buy-in from members of the community that do not feel vested in the project.

Involving the right stakeholders is critical to achieving your goals. Policy makers and legislators often have a limited time span in their prospective positions. Due to this, plans that were written two or three years ago under one leadership may risk being put aside when the "new guard" is ushered in. This is a reality, and it is important that the planning process be rooted in the experiences of the citizens of Salem and Peabody, in conjunction with advocates and policy makers.

The choice of stakeholder recruitment depends on the intent of the mapping process. When considering task force membership, it is essential to look beyond traditional organizations and involve a range of individuals with significant ties to the community as well as those who represent community diversity. It is also important not to only include organizations dealing with traditionally defined "environmental concerns."
Groups that are often overlooked include:

- Parents/family representatives;
- Neighborhood associations;
- Youth representatives;
- Representatives from community-based organizations;
- Community development representatives;
- Representatives from faith-based organizations;
- Representatives from lower-income communities;
- Representatives from elder communities;
- Student organizations.

It will be beneficial to find organizations or agencies that already work collaboratively within Salem or Peabody, or to find similar organizations that exist within Salem and Peabody. Examples of such organizations include:

1. The Alliance of Neighborhood Associations (Salem and Peabody chapters);
2. North Shore Community Action Program (www.northshorecap.org) an anti-poverty agency that serves both Peabody and Salem community;
3. Massachusetts Association for Community Action (MASSCAP), a statewide association that works with community development agencies to ensure the self-sufficiency of low-income communities throughout Massachusetts. They work with agencies that organize in both Salem and Peabody;
4. ACTION INC. This organization provides a comprehensive array of services to low-income and working poor families in Essex County. They work with a broad range of ages (including youth and elderly) and also do environmental awareness programming;
5. Salem and Peabody YMCA (Peabody will be opening a new YMCA in January 2007).

These agencies and organizations have a history of bringing underrepresented communities to the table to discuss the future of their communities. They also have the contact information and resources needed to do outreach on the scale necessary for an effective pre-mapping process.

Salem Sound Coastwatch and the Metropolitan Area Planning Council (already working in Salem through their Metro Boston Regional Visioning Project) can act as initial liaisons and contacts for bringing community members together for the beginning phases of this process. They are a respected organization and have been
STRATEGIES TO MAKE STAKEHOLDERS FEEL VALUED:

1. Rotating task force meetings so that different members can host meetings at their locations.
2. Identifying someone from the task force to facilitate or perhaps co-facilitate each meeting and take notes.
3. Rotating facilitator responsibilities from meeting to meeting.
4. Establishing committees and workgroups.
5. Orienting and supporting all new partners.
6. Mentoring any new partners.
7. Creating opportunities for partners to celebrate success and develop mutual trust.

(OREGON VISIONS PROJECT 2005, 21)

It makes sense to use a well respected, existing community group as the liaison in the planning stages and add partners as the process proceeds.

STEP II: COMMUNITY PROFILE

The next step for the Salem and Peabody North River watershed taskforce begins with creating a profile, or identifying characteristics of the North River watershed area such as geography, natural resource base, community institutions, and educational, environmental, and recreational resources. Included in this step is usually the development of a “statement of community values” (OVP 2005, 8).

Salem and Peabody both have previously funded the creation of community profiles that can be used as templates. These profiles can be found at the Mass.gov website. An important part of this process is the “collaboration” that can take place, having both cities sit down and compare and contrast their community profiles to highlight possible points of interest for sustainable development along the River.

Working within the North River watershed communities for a substantial amount of time, and have links and connections to community members. Once more stakeholders join the process, different members of the task force can take on leadership roles.

Building and sustaining newly formed partnerships takes commitment. Stakeholders will remain committed to those activities that allow them to share ownership in both the process and its results (Stasz 1998).

Once stakeholders agree to participate on the task force, strategies are put in place to keep them engaged. Individuals are more likely to stay involved if they feel the purpose of the mapping process is compelling and that their participation is both valuable and valued.
DRIVING QUESTION: “WHERE ARE WE NOW, I.E. WHAT IS THE CURRENT STATE OF THE NORTH RIVER WATERSHED?” ANSWERING THIS QUESTION WILL INCLUDE REVIEWING CURRENT PLANS FROM SALEM AND PEABODY AROUND THE NORTH RIVER WATERSHED. THIS PROCESS WILL ALSO BE AN EDUCATIONAL MOMENT FOR MANY INVOLVED STAKEHOLDERS AS DIFFERENT PLAYERS LEARN ABOUT THE VARIETY OF ISSUES IN THE NORTH RIVER WATERSHED.

PLANNING ACTIVITIES: RESEARCH AND DATA COLLECTION, COMPILATION AND ANALYSIS. DIFFERENT METHODS CAN BE USED TO GATHER INFORMATION. THE INFORMATION COLLECTION METHODS YOU SELECT DEPEND ON THE TYPE OF INFORMATION YOU WANT AND THE STAKEHOLDERS WHO ARE SHARING THE INFORMATION. POSSIBLE METHODS INCLUDE QUESTIONNAIRES, SURVEYS, INTERVIEWS (BOTH TELEPHONE AND PERSONAL), FOCUS GROUPS, ROUNDTABLE DISCUSSIONS, AND WRITTEN OR ORAL PUBLIC TESTIMONY. NO SINGLE COLLECTION METHOD CAN PROVIDE ALL THE NECESSARY INFORMATION TO SUPPORT GOOD DECISIONS. SALEM AND PEABODY CAN UTILIZE A “SUSTAINABILITY INDICATOR” APPROACH TO DETERMINE THE SUSTAINABILITY OF CURRENT DEVELOPMENTALONG THE RIVER. REMEMBER, MUCH DATA ALREADY EXISTS WITHIN YOUR COMMUNITY AND IS AVAILABLE FOR YOUR USE SUCH AS CITY PLANS AND PRIORITIES, STATE AND LOCAL OUTCOMES DATA, LOCAL UNIVERSITY STUDIES, AND SCHOOL-LEVEL SURVEYS.

A SIGNIFICANT FIRST STEP IN THE RESOURCE MAPPING DATA COLLECTION PROCESS IS TO SCAN THE SALEM AND PEABODY COMMUNITIES FOR EXISTING AND POTENTIAL RESOURCES. SPECIFICALLY, YOU NEED TO DETERMINE WHAT YOUR COMMUNITY HAS TO OFFER THAT WILL ASSIST YOU IN MEETING YOUR GOALS. FOR INSTANCE, THE NORTH RIVER WATERSHED ALLIANCE HAS CONDUCTED SEVERAL STUDIES AND SURVEYS AROUND NON-POINT SOURCE POLLUTION PREVENTION OF THE NORTH RIVER.

PRODUCTS: COMMUNITY PROFILE, VALUES STATEMENT. THIS WILL BE THE CUMULATIVE DOCUMENT.
STEP III: THE PROBABLE SCENARIO

The third step is determining the direction that the community is headed if current conditions continue. For instance, what health concerns are at risk if the North River continues to experience current contamination levels? What is the financial future for Peabody households that continue to experience seasonal flooding? How will attempting to plan independent of one another affect each city’s experience of the North River?

A “probable scenario” should be developed to describe what the North River watershed “would look like at some point in the future if it stays on its current course” (OVP 2005, 8).

“VISION IS THE ART OF SEEING THE INVISIBLE”
-JONATHAN SWIFT

STEP IV: THE PREFERRED SCENARIO

The next step in the visioning process is asking the question “what does the community want the North River watershed to become?” or “What do you want it to look like?” A “preferred scenario” is developed to envision what the community will look like if there are new responses to the trends. For instance, questions such as
“How will carrying out plans to build the Riverwalk improve the community?” or “How can interpretive signs and river arts festivals affect community attitudes towards the North River? The North River watershed vision statement will be based on this preferred scenario.

“How the future is not completely beyond our control. It is the work of our own hands.”

- Robert F. Kennedy

The “single probable scenario” approach will allow Salem and Peabody to discuss the preferred alternative and move more quickly towards a plan. The “preferred scenario” is likely to include components of Salem and Peabody’s individual plans. The strength of the “preferred scenario” is that it will have been created within a collaborative and regional effort.

- Driving question – What do we want the North River to be?
- Planning activity – Create a preferred scenario.
- Product – Preferred scenario vision statement.

**STEP V: CREATION OF AN ACTION PLAN**

The final step is creation of an action plan that will answer how you can apply the community’s resources to achieve the preferred scenario. Key in this process is linking into existing programming and plans that have not received the necessary funding or follow through for completion. One example which will be discussed further is the Riverwalk project.
RECOMMENDATIONS

1.2 Regionally Based Community Resource Mapping and Visioning Process

The creation of the action plan can prove to be the most challenging step because in several instances the action plan is viewed as the final step. In actuality, it is just the beginning. Some of the challenges that lead to the action plan not being carried through are:

- The community never completes development of an action plan;
- The community develops an action plan but does not involve key stakeholders;
- The community fails to monitor progress in implementing its action plan (OVP 2005).

"IN DREAMS BEGIN RESPONSIBILITY"
-WILLIAM BUTLER YEATS

There are a number of tools that can be used to insure follow through. These include:

- Celebrate the completion of the visioning process with a special event;
- Consider restructuring the task force into a vision/action plan implementation team;
- Encourage city mayors, councilors and staff to refer to the action plan/vision in their daily activities, and use it as an overlay for planning and budgeting (OVP 2005).

Implementation of a North River watershed plan will depend on realistic and measurable actions, as well as setting a future date for revisiting the vision and action plan and updating them.
"The city of Newberg, Oregon faced the problem of having difficulties in finding consensus in a regional plan for creating a vision for their future. In order to solve this problem, the city decided to provide a forum for local citizens to discuss, debate and ultimately decide on their community’s future.

Newberg linked up with a nearby city of Dundee, along with the School District, the Park and Recreation District, and Chamber of Commerce. Collectively, their combined budget was only 10,000 dollars.

Newberg kept costs down by relying on existing staff. City staff prepared a “Community Snapshot” analyzing the trends and issues affecting the Chehalem Valley, and they used a consultant only to conduct a community survey. Chehalem also reduced their costs by relying heavily on a 28-member steering committee for community representation; and producing only a few highly focused, targets communication pieces.

One key communication vehicle was a slide show prepared by city staff that depicted the probable future of Chehalem Valley if current trends remained unchecked. The slide show proved to be a dramatic wake-up call alerting community members to the need for change. The local jurisdictions involved now use the Chehalem Future Focus vision as their guide in making public policy decisions.

It seems like every time something comes up for a policy decision, we ask ourselves, ‘How does this fit with our vision?’ said Duane Cole, Newberg City Manager” (OVP 2005, 22).

**COMMUNITY MAPPING AND VISIONING RESOURCES**

There is currently a wealth of information to assist communities who wish to begin the collaborative planning process.


The full text of this 85-page book is online. This Guide sets forth sound principles and alternative ways to approach the process of strategic planning. Chapter titles include:

INVolVING THE PUBLIC

The success of the community mapping and visioning process depends greatly on public involvement. Some helpful hints for successful community involvement include:

- Schedule and publicize public meetings well in advance and in varied locations;
- Hold community tours;
- Create newsletters and special publications;
- Avoid scheduling meetings that are too long;
- Avoid scheduling public meetings that will conflict with holidays, vacations or community events;
- Serve food to attract community members;
- Supply child care for families.

Financial restraints do not have to halt this project. By joining together, Salem and Peabody can combine their resources to carry out an effective action plan that will serve to promote the River as an amenity for present and future generations.
RECOMMENDATION 1.3: WATERSHED BASED APPROACH & INTERCITY PARK

GOALS ADDRESSED: Increase awareness of and access to the North River; Environmental remediation
CHALLENGES ADDRESSED: Lack of funding, resources and follow through; Lack of regional and comprehensive planning; Environmental impairments

The Cities of Salem and Peabody must approach the improvement of water quality in the North River and its tributaries through effective land use and watershed management plans implemented by local government, and delineated by the natural boundary of the watershed as opposed to jurisdictional boundaries. Section 319(b) (4) of the Clean Water Act asserts: “A state shall, to the maximum extent practicable, develop and implement a management program under this subsection on a watershed-by-watershed basis within such state” (Clean Water Act 2002). This approach is promoted by the EPA as the “key framework for dealing with problems caused by urban runoff and other sources that impair surface waters” (US EPA 2005).

It is clear from the visions and goals outlined in the North River Canal Corridor Neighborhood Master Plan and the City of Peabody’s Master Plans that both Salem and Peabody see the importance of open space, recreational areas and protecting the North River. In addition, both communities have undergone successful visioning exercises that brought the individual cities together to develop a list of what was important to the community. See Appendix A for a full report on the history and status of proposed recreational projects in Salem and Peabody.

In each instance, however, the Riverwalk and recreational plans have taken a back seat to other issue such as flood mitigation and re-zoning. Timing can mean the difference between shelving a master plan or breaking ground on a new project, but community support and available resources are also key elements to implementing a plan.

This is the time to move forward with recreational opportunities along the North River – Salem has just passed the new zoning ordinance and Peabody received a grant to make a dent in their flood mitigation strategies. Our recommendation is that the two cities take advantage of the momentum surrounding these two projects and channel it into a project along the North River.
**PRINCIPLES TO THE WATERSHED BASED APPROACH:**

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>LOCAL APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLACE-BASED FOCUS</strong></td>
<td>Action should be addressed through management units defined by the North River Watershed boundary, not city lines.</td>
</tr>
<tr>
<td><strong>STAKEHOLDER INVOLVEMENT AND PARTNERSHIPS</strong></td>
<td>Partnerships should be formed between public agencies, private groups and non-profit organizations. The people most affected by the planning decisions should be involved in the planning process ensure “local quality of life (and) economic stability.”</td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL GOALS AND OBJECTIVES</strong></td>
<td>The success of watershed management plans should be measured by improvements to the water resources, such as increase in the quantity of smelt eggs.</td>
</tr>
<tr>
<td><strong>PROBLEM IDENTIFICATION AND PRIORITIZATION</strong></td>
<td>Salem’s and Peabody’s natural resource conditions should be assessed and documented. Any threats to human or ecological health should be identified and prioritized based upon sound scientific data and methods.</td>
</tr>
<tr>
<td><strong>INTEGRATION OF ACTIONS</strong></td>
<td>Actions should be taken in a “comprehensive and integrated manner,” and continually evaluated and adapted.</td>
</tr>
</tbody>
</table>

Source: US EPA, National Management Measures to Control Nonpoint Source Pollution from Urban Areas

**A LOOK AT REGIONAL PARKS IN MASSACHUSETTS**

There are a number of linear parks that run through multiple towns in Massachusetts, such as:

- **Charles River Reservation** – Boston, Cambridge, Newton, Waltham, and Watertown
- **Neposnet River Greenway** – Milton and Quincy
- **Minuteman Trail & Bikeway** – Arlington, Bedford, Cambridge, and Lexington

What sets these projects apart from the proposed park along the North River is that the Massachusetts Department of Conservation & Recreation (DCR) owns the land that houses the three linear parks. In the case of the North River, the individual cities and communities will need to work together to make the vision a reality because the DCR will not be the motivators, designers, engineers, and fundraisers for their intercity park.
Our belief is that by creating a project that the two communities can work on together, they can jumpstart their plans for recreational spaces along the North River and give these projects the boost they need to move to the top of the community’s list of priorities. By combining their resources and knowledge and working as a regional entity, the two cities will have greater opportunities to implement a recreational space along the North River at their border.

We suggest an area at the Peabody-Salem line on Harmony Grove Road, which has already been suggested as a possible site for collaboration. This area is less urban than the rest of the corridor and there is open space bordering the north side of Harmony Grove Road (See Map 1 in Appendix F). The land on the north side of the road is owned by the Harmony Grove Cemetery and the land on the south side is leased by the South Essex Sewerage District.

In addition to creating an urban park in this area with landscaping, a playground, and benches, both cities can fulfill their goals of creating a “Gateway” as well as developing programming that will allow visitors to explore the history and culture of Salem and Peabody while increasing their awareness of the North River and the benefits it has to offer.

PROCESS

The first step in creating a joint park is to get representatives from each city together in a room to discuss their goals and visions and to identify the issues on which they agree and disagree.

In the past, both city mayors have appointed committees to assess recreational opportunities and this should be no different. Mayor Michael Bonfanti of Peabody and Mayor Kimberley Driscoll of Salem should appoint a number of key members of the community to an Intercity Park Working Group to handle the logistics of planning a project such as this and to act as the project’s governing body.

A public “call for participation” should go out in both cities at least one month prior to the first meeting. Using ads in newspapers, on local television and radio stations, and word-of-mouth, the working group can spread information about the project such as contact information and details for the first meeting. The Neighborhood Associations in Salem should receive targeted outreach as they are considered to be the “grassroots” organization that members of the community will listen to (Jim Treadwell, personal communication, 21 March 2006).
RECOMMENDATIONS

1.3: Watershed Based Approach & Intercity Park

Once the working group has been formed, the public has been informed, and meeting details have been confirmed, a regional planner – from the Metropolitan Area Planning Council, for example – can be hired to work with the two communities and moderate these discussions.

In order to have a greater effect on the communities, Peabody and Salem should take advantage of the National Parks Service’s (NPS) Rivers, Trails, and Conservation Assistance Program (RTCA). The RTCA Program’s Vision is to create “a network of parks, rivers, trails, greenways and open spaces that promotes quality of life and links people to their natural and cultural heritage” (NPS RTCA 2005). This is directly in line with both Salem and Peabody’s visions.

Bringing an unaffiliated outsider into the process will bring a fresh perspective to an issue that both communities have already spent a good amount of time examining. Another benefit is that a representative from the National Park Service is not affiliated with either city and therefore is not subject to the political and community pressures that, in the past, have gotten in the way of protecting the North River and conserving the land around it.

According to their program guidelines (see Appendix B), RTCA will provide the communities with technical assistance and help in building partnerships to achieve community-set goals, assessing resources, developing concept plans, engaging public participation through education, and identifying potential sources of funding, for up to one year.

Additionally, the Trust for Public Land’s Parks for People – New England program works with local communities and governments to create and restore urban parks. This program provides technical and

Volunteers in Action: Great Barrington Housatonic River Walk

In 1988, the first section of what is now the Housatonic River Walk was cleared of debris. Over 25 years later, 2,000 volunteers have removed 365 tons of debris from the banks of the Housatonic River, which was suffered years of neglect and damage from industrial waste.

Property owners along the river have so appreciated the work done by the community volunteers, that they have granted public access to their property and permission to install a walking trail, in exchange for these clean-ups.

But volunteers did more than just clean up trash along the banks of the river. Their hard work turned the vision of a public greenway into a reality and volunteers have installed drainage systems, planted native species, and built sections of the walkway. These hands-on projects have re-connected the citizens with the resource and their renewed sense of stewardship will benefit the river for generations to come.

Source: http://www.gbriverwalk.org/
leadership assistance in order to increase awareness, develop strategic partnerships, raise funds, and engage the community in the process of creating an urban park.

Salem Sound Coastwatch can act as the lead project partner and work with representatives from each city (such as city planners and citizens involved in the previous master plans) when applying for assistance. Since each city has already worked through a Master Plan for the recreational projects, it should not be difficult to demonstrate support for the projects as well as their specific goals. In addition, our study area encompasses some of the elements that NPS looks for when evaluating a project, such as providing physical connections among the resources and combining natural resource conservation and outdoor recreation.

Once a moderator has been confirmed, a series of meetings should follow. These meetings will be similar to those held during the creation of Peabody and Salem’s Master Plans, and some of the agenda items might be:

- Develop a simple vision statement;
- Determine the elements that representatives from each city would like to include in the park;
- Decide on a name for the park. A creative way to get citizens involved may be to hold a contest in which community members come up with names for the park and participants vote on their favorite.
- Work with local planners and developers to create a physical design plan for the recreational area;
- Solicit help from volunteers (see sidebar for an example of the impact volunteers can have on a project like this);
- Determine appropriate avenues of funding, possibly creating a committee to identify and apply for grants, work with local businesses to secure private funding, and reach out to the community for equipment donations.

Once the plans are finalized and funding is secured, construction can begin. With the help of local volunteers and a collaborative team of engineers, construction should not take more than one year. When the “Intercity Park” is completed, the two cities should hold a celebration, inviting the press and possibly even the Governor to demonstrate the success of cross-border collaboration to other communities in Massachusetts. The hope is that this process will motivate community members and spur the development of previously planned recreational facilities along the North River.
RECOMMENDATION 1.4: CREATE A PLAYGROUND, PARK OR RECREATION COMMISSION

GOALS ADDRESSED: Increase awareness and access to the North River
CHALLENGES ADDRESSED: Lack of funding, resources, and follow through

This will get the recreation projects off planner’s plates and into the hands of people who can spend all day working on implementing these projects. More importantly, establishing a Playground, Park or Recreation Commission will make each city eligible for funding through programs that provide funding for the acquisition and development of conservation and recreation land, such as the Massachusetts Urban Self-Help Program, pursuant to 301 CMR § 5.04 (3a). In the past, this program has funded a number of community parks throughout Massachusetts, while most grant programs are geared toward greenways and trail development (see Recommendation 1.6 below). Therefore, the creation of a Playground, Park, or Recreation Commission will increase the amount of available funding to parks and playgrounds in the area, as well as the Intercity Park recommended above.

WHAT DOES ADOPTING THE CPA MEAN TO SALEM RESIDENTS?

Salem can raise between $570,000 and $1.1 million dollars to go toward new projects each year - but the real question is what will residents have to pay in order to support those funds. At the current residential tax rate of 11.71 per $1000 of value in Salem, the following tables illustrate the CPA tax that would be paid by a typical homeowner given a range of property values, surcharge rates, and exemptions:

1) Typical CPA Tax with no exemptions:

<table>
<thead>
<tr>
<th>Surcharge</th>
<th>$100,000</th>
<th>$200,000</th>
<th>$300,000</th>
<th>$500,000</th>
<th>$750,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>$11.71</td>
<td>$23.42</td>
<td>$35.13</td>
<td>$58.55</td>
<td>$87.83</td>
</tr>
<tr>
<td>2%</td>
<td>$23.42</td>
<td>$46.84</td>
<td>$70.26</td>
<td>$117.10</td>
<td>$175.65</td>
</tr>
<tr>
<td>3%</td>
<td>$35.13</td>
<td>$70.26</td>
<td>$105.39</td>
<td>$175.65</td>
<td>$263.48</td>
</tr>
</tbody>
</table>

(2) Typical CPA Tax with first $100,000 exempt:

<table>
<thead>
<tr>
<th>Surcharge</th>
<th>$100,000</th>
<th>$200,000</th>
<th>$300,000</th>
<th>$500,000</th>
<th>$750,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>$0.00</td>
<td>$11.71</td>
<td>$23.42</td>
<td>$46.84</td>
<td>$76.12</td>
</tr>
<tr>
<td>2%</td>
<td>$0.00</td>
<td>$23.42</td>
<td>$46.84</td>
<td>$93.68</td>
<td>$152.23</td>
</tr>
<tr>
<td>3%</td>
<td>$0.00</td>
<td>$35.13</td>
<td>$70.26</td>
<td>$140.52</td>
<td>$228.35</td>
</tr>
</tbody>
</table>

SOURCE: Community Preservation Coalition 2006 - Based upon spreadsheet model from MA Executive Office of Environmental Affairs.
RECOMMENDATION 1.5: PASS THE COMMUNITY PRESERVATION ACT (SALEM)

GOALS ADDRESSED: Increase awareness and access to the North River
CHALLENGES ADDRESSED: Lack of funding, resources, and follow through

The Community Preservation Act (CPA) allows cities and towns to create a local Community Preservation Fund (CPF), which provides money to acquire open space, preserve historic areas, and support affordable housing by raising local property taxes. A number of cities and towns in Massachusetts have passed the Act and they have created over 700 units of affordable housing, preserved over 200 historic resources, and conserved almost 6,000 acres of open space (Community Preservation Coalition 2006).

Peabody is one of the cities that has adopted CPA and they have used the funds to pay for the first section of the Riverwalk ($65,000), to hire a consultant to design a bikeway ($162,000), and to purchase private property to preserve open space ($70,250). If Salem adopts the CPA, the likelihood that their proposed recreational projects will break ground will increase significantly.

According to City Planner, Tania Hartford (personal communication, 21 March 2006), Salem receives most of its funding for similar projects through the Community Development Block Grant Fund (CDBG). The problem with the CDBG is that the funds can only be used in certain lower income areas and when the most recent census came out, it turned out that the areas where many of the recreational projects had been sited were no longer eligible for this type of funding. With the CPA, Salem will have a new stream of funding that will be able to support any projects approved by the Community Preservation Committee.

We strongly recommend that Salem start the CPA process now – getting the word out, educating residents, putting it on city council agendas – so that it can be on the ballot in November.

There are a number of resources to help communities adopt and implement the CPA, including sample ballot language and a guide to local adoption, online at http://www.communitypreservation.org, or by contacting Dorrie Pizella or Katherine Roth at (617) 367-8998.
RECOMMENDATION 1.6: TAKE ADVANTAGE OF LOCAL, STATE, AND FEDERAL FUNDING

GOALS ADDRESSED: Increase awareness and access to the North River
CHALLENGES ADDRESSED: Lack of funding, resources, and follow through

The following funding opportunities have been compiled through an extensive search of private, state, and federal listings. This is by no means a complete list, but the programs listed below are applicable to our recommended projects and the list is meant to provide a starting point. SSCW and local officials can use this list as they begin to look for additional funding to get the recommended and previously proposed recreational projects off the ground (see Appendix A for a full list of previously proposed trail and greenway projects along the North River). They have been listed in order of perceived difficulty and length of the application process, from least difficult to most intensive.

NATIONAL TRAILS FUND:
This privately funded, national grant program provides funds to nonprofit organizations to help acquire land and conservation easements, build and maintain trails, and help in building a constituency to support the projects.
Funding Range: $500 to $10,000
Administered by: American Hiking Society
Eligibility: Must be a nonprofit 501 (c)(3) organization.
Materials Requested: Cover Sheet, Description of Organization, Project Description, Project Budget, Project Timeline
Proposals Due: November 1
Regional Contact: Ivan Lenin, (301) 565-6704 ext. 208, ilevin@americanhiking.org
NEW ENGLAND GRASSROOTS ENVIRONMENT FUND:
This small grants program would provide funding for community involvement in projects such as the trail systems and stormwater management techniques.

Funding Range: up to $2,500

Administered by: New England Grassroots Environment Fund

Application Guidelines: http://www.grassrootsfund.org/guide_1.html

Eligibility: Incorporated organizations (with or without established 501(c)(3) status) and unincorporated, ad hoc groups in Connecticut, Maine, Massachusetts, New Hampshire, Vermont and Rhode Island

Materials Requested: Cover Sheet, Project Description, Project Budget, Financial Forms, Applicant Profile

Proposals Due: January 15 / May 1 / September 15

Regional Contact: Cheryl King Fischer, (802) 223-4622, fischer@grassrootsfund.org and Ginny Callan, callan@grassrootsfund.org

RECREATIONAL TRAILS PROGRAM:
This national program makes funds available to states to develop and maintain recreational trails and trail-related facilities for non-motorized and motorized recreational trail uses.

Funding Range: $2,000 to $50,000 and the funds can only cover 80% of the total trail project.

Administered by: Massachusetts Department of Conservation and Recreation (DCR)


Eligibility: All state, regional, municipal, and some federal government agencies, as well as IRS-approved not-for-profit organizations.

Materials Requested: Cover Sheet, Project Description, Need for Project and Community Support, Budget, Financial Forms

Proposals Due: mid-April

Regional Contact: Jennifer Howard, (413) 586-8706 ext. 18, jennifer.howard@state.ma.us
RECOMMENDATIONS

1.6: Take Advantage of Local, State, and Federal Funding

ESSEX NATIONAL HERITAGE COMMISSION PARTNERSHIP GRANTS – TRAILS & GREENWAYS:
This matching grant program provides seed money to organizations for heritage education, preservation, interpretation, archives and trails projects.
Funding Range: $1,000 to $5,000
Administered by: New England Grassroots Environment Fund
Eligibility: Non-profit organization/institution as evidence by IRS non-profit determination letter or Educational institution, municipality, state/local government
Materials Requested: Application Form & Tax Exemption Letter, Project Budget Form, Project Budget Narrative, Evidence of Matching Funds, Project Summary, Project Implementation Summary, Supporting Materials, Section 106 Project Notification Form
Proposals Due: March 1
Regional Contact: Ben Murphy, (978) 740-0444, benm@essexheritage.org

TARGETED WATERSHEDS GRANTS PROGRAM (EPA):
This program was designed to encourage successful community-based approaches and management techniques to protect and restore the nation’s waters and it could fund all of our recommendations.
Funding Range: $600,000 to $900,000, and a 25% non-federal match is required
Administered by: U.S. Environmental Protection Agency
Nomination Guidelines: http://www.epa.gov/owow/watershed/initiative/
Eligibility: Watershed nominations must be submitted by the Governor.
Materials Requested: Abstract, Workplan (10 pages), Budget Form, Grants Management Experience, Letters from Active Partners, Letters from Individuals or Businesses Committing to Providing Some or All of the Match, Maps.
Nomination Due: must be nominated by the Governor or Tribal Leader in mid-May
Regional Contacts: Rob Adler, 617-918-1396, adler.robert@epa.gov or Jerry Potamis, 617-918-1651, potamis.gerald@epa.gov
URBAN RIVER VISIONS PROJECT INITIATIVE:

The UrbanRiver Visions project began in 2002, and is designed to make the most of a river’s potential as a focal point for revitalization of downtowns in Massachusetts (EOEA 2006). The goals of the project include collaboration with community officials, private business stakeholders, and residents in developing a comprehensive approach to the renewal of the urban river that incorporates environmental, economic and social perspectives. Since 2005, a total of $589,000 in funding has been provided to four communities as part of a pilot program. More funds will be distributed by the EOEA to continue with the successful implementation of the program (Ibid).

Funding Range: Varies

Administered by: Executive Office of Environmental Affairs (EOEA) through the Community Preservation Act


Eligibility: Developer must have initiated Urban River Visioning Charette before the municipality submits application.

Materials Requested: Among other things, the graphical representations or artist renderings of the community vision and action plan will be evaluated.

Regional Contact: Sara DiPietro, (617)-626-4909, Sara.DiPietro@state.ma.us
RECOMMENDATION 1.7: CREATE A CORPORATE SPONSORSHIP PROGRAM

GOALS ADDRESSED: Increase awareness and access to the North River
CHALLENGES ADDRESSED: Lack of funding, resources, and follow through; Lack of stewardship and awareness by community members

Salem Sound Coastwatch can work with community groups and the regional visioning group alluded to earlier to solicit private contributions to help fund some of the projects along the North River. One suggestion would be to start with companies located along the North River as they have a vested interest in the resource, such as:

- The Bioengineering Group (Salem)
- Bill’s Auto Clinic (Salem)
- All Creatures Veterinary Hospital (Salem)
- MDB Construction (Salem)
- Marco’s Pizzeria (Peabody)
- Tannery II Apartments (Peabody)
- Tannery Gardens (Peabody)
- Stop & Shop (Peabody)

Salem Sound Coastwatch can offer these companies visibility along the canal corridor – placing logos on trail signage, placards on benches, creating an Adopt-A-Trail program – in exchange for funding. Not only will the companies receive recognition for helping a stressed resource but they will extend their reach into a new community because the North River is an urban river that runs through high traffic areas in both Salem and Peabody.
1.7: Create a Corporate Sponsorship Program

**Campaign for the North River: Corporate Sponsorships**

- **Adopt-A-Bench.** This is a very popular program across the nation and companies can purchase benches for anywhere from $200 - $5,000 depending on size, materials, and details.

- **Adopt-A-Trail.** This is great for companies because they receive exposure (signage) in exchange for maintaining trails and greenways.

- **Vegetated Bioswale.** This project is ideal for one of the companies located on Commercial St. across the river from Leslie’s Retreat Park. For $6,000, a company could fund the construction of the bioswale, possibly volunteer to maintain it, and see their logo on signage in and around Leslie’s Retreat Park (which is a well-used dog park).

- **Flowers.** Companies can improve the landscaping along the North River by donating flowers at $1 per bulb, with a possible minimum donation of $50.

- **Levels of Funding.** Providing companies with different levels of funding allows them to donate a certain amount of money that can go into a general fund, in exchange for varying levels of exposure (i.e., logo on website or logo on signage). Some ideas for these levels are provided below and SSCW can work with companies and other organizations to determine appropriate trade-offs.

  - **Friend** = $50 - $500
  - **Supporter** = $1,000 - $5,000
  - **Sustainer** = $5,000 - $10,000
  - **Patron** = $10,000 and up

Nurturing the Recovery of The North River: A Practical Vision
RECOMMENDATION 2.1: PROMOTE SMART GROWTH PRACTICES

GOALS ADDRESSED: Efficient land use; Encourage sustainable economic development along the North River; Environmental remediation

CHALLENGES ADDRESSED: Development conflicts; Environmental impairments

Some objectives of Smart Growth include:

- Avoiding sprawl;
- Designing communities that reduce car use;
- Encouraging public transit and other transportation alternatives;
- Protecting environmentally sensitive areas;
- Reducing and preventing air, land and water pollution.

Smart growth is an initiative that rejects the notion of “all or nothing” in regards to development. It is not against the suburbs, the automobile or growth. However, in contrast to urban sprawl it “promotes redevelopment, the preservation of open space and the maximization of existing infrastructure” (Goodwin
Proctor 2002, 1) to achieve strong communities, economic development, and a healthy environment (U.S. Environmental Protection Agency 2001). Supported by the EPA, smart growth principles can reduce urban runoff by minimizing impervious surfaces through more compact development; minimizing parking areas and street widths; using porous surfaces, rather than concrete and asphalt; utilizing open and natural drainage systems; and landscaping with native vegetation to retain soil moisture and conserve water (U.S. Environmental Protection Agency 2001a).

Smart growth aims to reduce impermeable surfaces and assist with efficient land use through three efficient land use techniques:

1. “Cluster development” builds the same number of lots as a traditional development, but leaves 30 to 80% of the site undisturbed by “clustering development into concentrated areas” (U.S. Environmental Protection Agency 2001a, 43). The square footage of buildings may be the same, but the lot sizes are reduced, and road lengths subsequently decreased. In many cases, this means planning boards will have to re-address zoning by-laws and city ordinances to accommodate for cluster development. This technique can result in substantial change from the large lots and plethora of streets and parking lots that result in “conventional urban fringe and suburban development” (U.S. Environmental Protection Agency 2001a, 43) which leads to stormwater runoff “almost 50 percent greater than more compact development.” (U.S. Environmental Protection Agency 2001a, 43). It is important to note that compact development must go hand-in-hand with open space preservation.

Both Salem and Peabody allow for cluster residential developments, which promote the efficient use of land in harmony with its natural features (City of Salem 1991 and City of Peabody 2003). The goal of cluster development as described in the City of Salem Zoning Ordinance (1999) is, “to protect and promote the health, safety, convenience and general welfare of the inhabitants of the city” (Ibid, 35). The North River is already developed and built-out, and there are several redevelopment options present in both cities along the River. Cluster development is a viable option which is in accordance with the goals of this report to maintain access to and protect the ecological resources of the River.
2. “Infill and brownfield development” involves converting old “buildings and facilities into new uses (redevelopment)” (U.S. Environmental Protection Agency 2001a, 37), or building on the voids and parking lots of developed areas, thereby reducing the loss of permeable surface areas. In 1994, researchers at the University of California at Berkeley’s Institute of Urban and Regional Development conducted a survey of planning directors in 1,200 political jurisdictions and concluded that there is “substantial capacity” for infill development in urban areas (U.S. Environmental Protection Agency 2001a, 38). Brownfield development is particularly important to the rejuvenation of the North River as it aims to clean up and redevelop these contaminated sites by removing or capping the polluted soil, which can considerably improve water quality by eliminating or reducing the contaminated runoff (U.S. Environmental Protection Agency 2001a).

In Massachusetts the state’s cleanup law, Chapter 21E, and cleanup regulations, the Massachusetts Contingency Plan (MCP), must be followed in order to investigate, assess or cleanup any site. Incentives are available to developers in the form of financial assistance, limits on liability and flexibility in remediation schedules (Executive Office of Environmental Affairs, 2005). There are a significant amount of contaminated sites along the North River. Map 3 in Appendix F is an image of these sites that have been reported to the MassDEP (MassGIS). Table 2.1.1 outlines specific state and federal programs, which offer assistance for lenders, developers and other parties involved in brownfield redevelopment projects.

There is significant potential for brownfield and infill redevelopment in both Salem and Peabody due to the abandoned industrial sites in the region. Several sites in Salem have been identified as potential sources for redevelopment, including sites within the McIntire National Register Historic District and several recommended for National Heritage Register listing. They include: The old Sylvania site, the Flynntan site, and the waterfront parcels along Franklin Street (City of Salem 2003). In Peabody, a small patch of land adjacent to the North River near the border of Salem is zoned Light Industrial and includes potential infill and brownfield sites for redevelopment.

3. Mixed-use development combines multiple uses on one site and is an example of a smart growth tool that enhances economic development and simultaneously decreases the need for additional development by supplying residential, commercial and retail needs all in one (Executive Office of Environmental Affairs, 2005).
RECOMMENDATIONS

2.1: Promote Smart Growth Practices

Smart growth practices that emphasize redevelopment in collaboration with mixed uses of the land will benefit both Salem and Peabody as they provide additional opportunities for growth without destroying open space (which is incredibly sparse if not non-existent in the urban centers) and also fosters economic development and ecological protection.

Compact development’s success in reducing urban runoff and efficiently using land has been exemplified in the following studies:

- “The New Jersey Impact Assessment” conducted by New Jersey’s Center for Urban Policy Research determined that the ”State’s compact development plan would produce 40 percent less water pollution than more dispersed development patterns” (U.S. Environmental Protection Agency 2001, 42);

- A Chesapeake Bay watershed study found that compact development used about one-third as much land and half the impervious surfaces of a dispersed development, resulting in “43 percent less runoff than the more dispersed development” (U.S. Environmental Protection Agency 2001, 42).

AMHERST, MA PLANNED UNIT DEVELOPMENT

THE PLANNED UNIT DEVELOPMENT BY-LAW WAS UTILIZED TO CREATE A UNIQUE COMMUNITY IN AMHERST. KNOWN AS PIONEER VALLEY CO-HOUSING, THIS COMMUNITY CONSISTS OF 36 RESIDENTIAL UNITS WITH A COMMUNITY CENTER, ARTIST STUDIO AND WORK SPACE. THE RESIDENTS WORK CLOSELY TOGETHER SHARING IN A COOPERATIVE ENVIRONMENT SUCH THINGS AS CHILD CARE, GARDENING AND COOKING.

A UNIQUE ASPECT OF THIS COMMUNITY IN AMHERST IS THE NARROW LOOP ROAD WHICH IS CLOSED TO MOST AUTOMOBILES. RESIDENTS CAN FEEL FREE FROM THE SOUND OF AUTOMOBILES AND CHILDREN CAN SAFELY PLAY.

SOURCE: SKELLY 2003, 26
Zoning regulations have significant impacts on communities as they affect land use through controls on the intensity of use, the types of uses, and the dimensions of developments (American Planning Association 2005b). Zoning can be important in protecting the River by promoting efficient land use through high-density and mixed-use developments, thereby reducing sprawl and associated negative impacts. Sprawl has been identified as costly to local governments that must support the infrastructure burden of spread-out developments, and a contributor to ecological degradation due to the loss of open-space and undeveloped areas, increased impervious surfaces that result in more urban runoff and increased reliance on vehicles resulting in more air polluting emission (Sierra Club 2005). Despite the existence of the NRCC neighborhood mixed-use district in Salem and zoning provisions in Peabody that provide allowances for increasing the density of development by allowing a greater number of housing units, such as the Continuing Care retiring Communities (CCRC) and the Municipal Properties Reuse Development Districts (City of Peabody 2002, City of Salem 2005), there remain zoning strategies in both cities that conflict with the sustainable rehabilitation of the North River. Present land-use policies and zoning by-laws and city ordinances in Salem and Peabody could be improved to better protect against sprawl and help foster a more viable natural resource. Peabody is currently revising their city-wide zoning and finishing up the Open Space Plan, which provides opportunities for these improvements (Barbara Warren, personal communication, 24 April 2006).

The zoning map of the North River watershed (Map 5 in Appendix F) illustrates that only a small patch of land in the watershed is zoned for mixed-use, which promotes efficient land use and protects against sprawl. There are several other sites being looked at for redevelopment in the cities where mixed-use development could be useful for promoting economic development in addition to efficient land use. These sites include: Furlong Park in Salem, which is located on the coastline and holds significant economic and recreational potential, and the industrial area in Peabody on Main St, which has potential infill sites for redeveloped and is located near the commercial downtown. Presently, mixed-use development is prohibited in certain areas around the North River, including the previously stated Industrial District in Peabody (City of Peabody 2003). Mixed use and high-density developments are vital for protecting the North River and necessary in these cities since they are already about two-thirds built-out and have limited undeveloped space (City of Peabody 2002, City of Salem 1996). Despite the shortage of undeveloped land, Peabody residents are worried about the level of development density conflicting with the neighborhood feel of the city (City of Peabody 2002). In 1996, Peabody Council voted to increase the minimum lot size in R1A districts from 7,500 square feet to 15,000 square feet, decreasing the potential for more dense development and opening up the potential for sprawl (City of Peabody 2002). Salem’s
RECOMMENDATIONS

2.1: Promote Smart Growth Practices

residential minimum lot requirement is also 15,000 square feet, which similarly may result in larger, less dense development plots and more sprawl (Salem 2005).

Land uses for the North River watershed are highlighted in the Map 4 in Appendix F. The majority of land use in the Watershed for both cities is largely dominated by high-density residential and commercial use.

OVERLAY ZONES

Any use within a district overlaying any other district established within an ordinance is only allowed by obtaining a special permit from the planning board. Both Salem and Peabody have established Wetlands and Flood Hazard Overlay Districts. These districts are intended to regulate development in areas that seasonally and periodically flood. The flood boundary districts in both cities follow the one hundred-year floodplain established by the Federal Emergency Management Agency (FEMA), as well as the respective Flood Insurance Rates Maps (FIRM) for the cities. The flood boundary and floodway maps for Peabody are dated May 15, 1980 (City of Peabody 2003) and Salem’s is dated March 15, 1977 (City of Salem 2005). The Wetlands Districts are defined by the Massachusetts Wetlands Conservancy Map for each city, which outlines the important waterways and in Peabody also includes areas within 30 feet of the waterways (City of Peabody 2003). Tributaries of the North River in Peabody, including the Proctor Brook and Goldthwaite Brook are included in the Overlay Zone.

MIXED-USE ZONING

Mixed-use land developments are creative strategies to support more efficient land use, particularly in areas that are already densely developed. As defined by “The Model Smart Land Development Regulations” by the American Planning Association (APA) (2005c) mixed-use districts have the following goals:

- Provide for mixed-use buildings with neighborhood-serving retail, service, and other uses on the ground floor and residential units above the nonresidential space;
- Promote development that exhibits the physical design characteristics of pedestrian-oriented, storefront-style shopping streets;
- Promote the health and well-being of residents by encouraging physical activity, alternative transportation, and greater social interaction. (Ibid, 2)
RECOMMENDATIONS

2.1: Promote Smart Growth Practices

In both Salem and Peabody, zoning can encourage mixed land uses by allowing mixed-uses in more districts, provide flexible zoning throughout the North River Corridor, and streamline the permitting process for mixed-use developments.

Presently, Peabody does not allow mixed-uses in the industrial zoned area adjacent to the North River and bordering with Salem. As shown on Map 4, this area is also next to commercial and high-density residential land use, making it an ideal location for mixed-use.

PLANNED UNIT DEVELOPMENT

These fully planned communities allow for flexible elements, design and uses. Uses can be industrial, commercial, retail, or mixed. The tool’s overlay zone offers a flexible district, which relaxes some regulations that can be cost-effective, and provides the community with an agreeable development, ultimately accomplishing mutually beneficial goals for the community and developer.

Salem’s Neighborhood Master Plan for the North River Canal Corridor is an example of a Planned Unit Development. The goal of the NRCC Residential Mixed-Use Zoning Ordinance, “encourages the best use for the North River Canal Corridor physically, economically, environmentally, and socially while promoting the best interests of the residents of the city” (City of Salem 2005). Planned Unit Developments could also be useful in Peabody as a way to focus development and encourage economically viable developments in a particular area. A possible area of interest could be the Light Industrial Zoning District near the border of Salem, which also has a large number of infill sites.

SMART GROWTH IN ACTION: THE REDEVELOPMENT OF FRANKLIN STREET WATERFRONT PARCELS

Adjacent to Furlong Park on Franklin Street are several waterfront sites of particular interest because of their location on the Salem Sound, which provides potential recreational and economic opportunities along the city’s 16 mile coastline. Local residents deeply identify with the coastline, as it is a significant and unique component of their sense of place. The coastline is, at the moment, greatly underutilized.

Residential, commercial, industrial, transportation and utility uses take up the majority of the coastline (City of Salem 1996). The City’s waterfront has been studied (Ibid) and a series of propositions have been put forth
for its redevelopment through the creation of “downtown waterfront public spaces” that include a marina, walkways, parks and festival programming (Ibid). Challenges to its redevelopment include limited access to the waterfront, complexities due to multiple property owners, and a lack of community vision for exactly what the redevelopment of the site should be used for. The NRCC Working Group could not find agreement among the community concerning the Franklin Street Waterfront Parcels. There is a lot of support for redeveloping the sites for open space and expanding Furlong Park to enhance recreational uses. There is also significant support for mixed use development, which could enhance the economic development opportunities along the waterfront. Several land uses presently exist on the site, and the area is already zoned for mixed use.

Smart growth initiatives that integrate the preservation of environmental resources, economic development, recreational uses and pedestrian oriented design are recommended to sustainably develop the Franklin Street Waterfront Parcels. The proposed Downtown Maritime District in this area would focus attention on redeveloping the sites using compact and mixed use development, including preference for water recreation expansion. Compact, mixed-use development will help preserve open space and pedestrian oriented design will ensure that the development’s feel is in line with that of the surrounding neighborhood. Developers will be attracted to the sites for the financial potential, and residents of Salem for its community value (Salem 1996). Community visioning tools can be used to create a planning strategy that is in line with the economic needs of the City and the desires of the Community.

One factor that may contribute to the decision of the community regarding the Franklin Street Waterfront Parcels is the revival of a water transit shuttle from Salem to Boston, which is presently in the works. This project will provide economic and transportation opportunities locally and regionally. This recent development places more focus on Salem’s coastline, which provides additional momentum for the rejuvenation of the waterfront sites and could propel plans for redeveloping the Franklin Street parcels and Furlong Park onto the City’s agenda in the near-future.
### Recommendations

#### 2.1: Promote Smart Growth Practices

## Economic Incentives to Promote Smart Growth Planning

### Table 2.1.1 Sources of Assistance for Brownfield Redevelopment Projects

<table>
<thead>
<tr>
<th>Brownfield Initiative</th>
<th>Department/Office</th>
<th>Action</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brownfields Covenant Program</td>
<td>The Office of the Attorney General</td>
<td>Provides additional liability relief in exchange for a commitment to clean up a site and undertake a project adding to the economic or physical revitalization of the community.</td>
<td>Office of the Attorney General, McCormack Building, One Ashburton Place, Boston, MA 02108, (617) 727-2200, <a href="http://WWW.AGO.STATE.MA.US/SP.CFM?PAGEID=1230">WWW.AGO.STATE.MA.US/SP.CFM?PAGEID=1230</a></td>
</tr>
<tr>
<td>Brownfield Federal Tax Deduction Program</td>
<td>Massachusetts Department of Environmental Protection</td>
<td>Provides tax breaks and flexible cleanup schedule for sites given special designation.</td>
<td>Catherine Finneran, 617-556-1138 or go to <a href="HTTP://WWW.MASS.GOV/DEP/BWSC/BROWNFLD.HTM">HTTP://WWW.MASS.GOV/DEP/BWSC/BROWNFLD.HTM</a></td>
</tr>
<tr>
<td>Urban Brownfields Site Assessment Program</td>
<td>The Executive Office of Environmental Affairs (EOEA)</td>
<td>Provides up to $70,000 in funding for initial assessment of brownfield site. Requires 25% match by the local government.</td>
<td>David Lutes, 617-626-1049</td>
</tr>
<tr>
<td>Brownfields Economic Redevelopment Initiative (BEDI)</td>
<td>U.S. Department of Housing and Urban Development</td>
<td>Provides grants to low- and moderate income areas for brownfield redevelopment costs, and projects that create or preserve jobs and businesses and increase the local tax base.</td>
<td>U.S. Department of Housing and Urban Development 451 7th Street S.W., Washington, DC 20410 Telephone: (202) 708-1112 TTY: (202) 708-1455</td>
</tr>
</tbody>
</table>

Source of Information:
Executive Office of Environmental Affairs, 2005 and US Environmental Protection Agency, 2005
RECOMMENDATION 2.2: LOW IMPACT DEVELOPMENT

GOALS ADDRESSED: Efficient land use; Environmental remediation; Increased awareness and access to the North River

CHALLENGES ADDRESSED: Development conflicts; Environmental impairments

Another strategy for achieving efficient land use is through low impact development (LID). LID is appealing to more developed and built-out cities such as Salem and Peabody because it is an adaptable approach, which can be useful in new development, redevelopment and revitalization projects, as well as open space.

The City of Salem has taken some initial steps – it has received a grant and developed a stormwater ordinance – to ameliorate some of the adverse ecological impacts of land development and land use by creating the Stormwater and LID Ordinance, which “provide[s] reasonable guidance for site planning and for the control of post-development stormwater runoff for the purpose of protecting local water resources from degradation. This ordinance regulates the post-construction stormwater controls for both new and redevelopment projects, and erosion and sediment control for construction sites” (2005).

Some key low impact development recommendations include the use of bioswales and permeable surfaces.

BIOSWALES

Serving as a sustainable drainage system, bioswales, also known as vegetated swales, are aesthetically pleasing landscaped features which collect pollutants stormwater runoff from impermeable surfaces, and allow the water to slowly percolate into the ground, filtering its contaminants.

Bioswales are an alternative to the more common engineered approaches to managing stormwater, in which the runoff is moved directly through pipes, increasing its velocity, and releasing contaminated runoff directly into the North River (City of Salem 2005).

Note that when occurring in a floodplain, a swale is commonly referred to as a buffer. As such, these two terms will be used interchangeably in this recommendation.
Opportunity for bioswales in the North River watershed:

**Leslie’s Retreat Park**

Leslie’s Retreat Park is one of two parks along the North River in Salem and it is moderately used for recreational purposes. One of the major drawbacks to Leslie’s Retreat Park is that there is no railing where the park meets the edge of the canal, which clearly creates a safety issue and the city will not take full ownership of the property until the proper safety requirements have been met.

Instead of installing a railing, the City of Salem should create a swale, or in this case a buffer, along the border of Leslie’s Retreat Park. According to the Environmental Protection Agency (EPA), “a vegetated swale is a broad, shallow channel with a dense stand of vegetation covering the side slopes and bottom” (1999, 1). By creating a border of dense vegetation, people and animals will keep away from the edge of the canal. Additionally, the buffer will help to improve the water quality of the North River by trapping particulates and reducing run-off, and it will improve the drainage issues at Leslie’s Retreat Park by promoting infiltration.

The EPA estimates the capital cost of a 10-foot wide, 1.5-foot deep vegetated buffer in an area such as Leslie’s Retreat Park - where the ground is already cleared, so site preparation will be minimal - to be about $6,000 (EPA 1999). Maintenance includes lawn mowing, debris removal, and site inspection which are activities that the Department of Public Works already has in place at this location.

For more information on vegetated buffers, from basic background to suggestions on designing and planting buffers, please refer to the Berkshire Regional Planning Commission’s Massachusetts Buffer Manual and Demonstration Project.

The lack of a barrier creates risk for users of the park. A bioswale eliminates this risk.
PERMEABLE SURFACES

One way to decrease the amount of untreated run-off that reaches the North River is to use fewer impermeable surfaces. As discussed in Appendix A, the width of the proposed multi-use trails and bikeways in Salem and Peabody can not be further decreased due to MassHighway regulations, but the cities should look at using more permeable materials instead of, as proposed in the master plans, brick and cement. MassHighway is updating these regulations (currently in draft form) and the new guidelines would allow for a minimum width of 8-feet in certain instances (Massachusetts Highway Department 2006).

There is currently a bikeway planned along the Proctor Brook – just off I-95 at Lowell St – which is currently slated to be an 10-foot wide, paved path. There are a number of alternative materials that can be used to pave the pathways and the city engineers should look into options such as bituminous permeable paving (best for pedestrian-only and low-volume, low-speed areas) and permeable paving (best for dense urban areas).

Table 2.2.1 was provided by the Partnership for Advancing Technology in Housing (2005) and it outlines the difference in cost between traditional paving materials (asphalt) and newer, less impervious materials. As you can see, the costs of permeable paving are slightly higher than traditional paving but these costs are often off-set as drainage and other problems improve. Another factor to take into consideration is that the cost of asphalt is increasing as oil prices increase.

An additional item to keep in mind is that because permeable pavements are not yet widely used, Salem and Peabody will need to find qualified experts to install it. Another option is to train city workers to install these materials so they have the skills to become experts as more and more builders request permeable pavement.
RECOMMENDATION 2.3: Daylighting and Restoration of Stream Channels

GOALS ADDRESSED: Environmental remediation
CHALLENGES ADDRESSED: Environmental impairments

Daylighting is the excavation and restoration of portions of the North River lying in underground culverts and pipes. More literally, it is “opening the river up to the daylight.” Opportunities for daylighting may exist in Peabody and should be explored as future development is proposed.

Providence River, Providence Rhode Island

The Providence River, which runs through downtown Providence, Rhode Island, was once considered a major “liability.” Lying culverted beneath the pavement of highways and parking lots, contaminated with sewage, its potential as a recreational, cultural, economic and ecological asset was completely ignored. Through the process of daylighting, 1,150 feet of asphalt and concrete that covered the river and its tributaries has been removed through the city’s ten-year, $60 million effort (Smithsonian). More importantly, the derelict landscape has been replaced with a pedestrian friendly, local and tourist destination, known as Waterplace Park. Walks and parks have been placed along the water’s edge, while footbridges cross the river, turning the formerly vehicle-oriented environment into a pedestrian haven. The park hosts festivals, a summer concert series, and the waterbody itself welcomes kayakers, gondolas, and most famously, Waterfire – an art installation which comes alive in the summer to celebrate the river, as thousands of onlookers gather to view braziers set ablaze down the center of the river (McWilliams 2003, Smithsonian 2005).

The Providence River, after daylighting, is a well-used community resource.


Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601) is amended by adding at the end the following:


**INTERVIEWS**


Lazares, Stewart. Member of the Community Preservation Committee and Planning Board. Peabody, MA. Personal communication. 24 March 2006.

Port, Andrew. (Former) City Planner. Peabody, MA. Personal communication. 7 March 2006.

Treadwell, Jim. Member of the Northfields Neighborhood Association. Salem, MA. Personal communication. 21 March 2006.

Warren, Barbara. Executive Director, Salem Sound Coast Watch. Salem, MA. Personal communication. 27 January 2006

Warren, Barbara. Executive Director, Salem Sound Coast Watch. Salem, MA. Personal communication. 24 April 2006
APPENDIX A: EXISTING CONDITIONS OF RECREATIONAL PROJECTS

NORTH RIVER CANAL CORRIDOR IMPROVEMENTS (SALEM)

GOALS
The goals and objectives of the 2003 Neighborhood Master Plan for the North River Canal Corridor were to encourage good redevelopment and transportation improvements using the following methods:

- create a vision statement for the corridor;
- make connections and unlock redevelopment;
- create pedestrian paths and redevelop key sites and potential new streets;
- improve the identity, waterfront access, and connections along Franklin St;
- create an Urban Village and Gateway to downtown at Bridge St and Boston St;
- strengthen Leslie’s Retreat Park as a neighborhood amenity;
- strengthen the identity of Bridge St and Park Edges; and
- enhance pedestrian access to and through the MBTA station.
Process
There were two phases to the interactive planning process used in creating the 2003 Neighborhood Master Plan for the North River Canal Corridor. The first phase was led by the North River Corridor Planning Project Working Group, which was a 20-member working group made up of business owners, residents, and volunteers appointed by Former Mayor Stan Usovicz. This working group looked at existing conditions, issues and opportunities, and developed vision statement for the master plan.

The vision statement outlined the following hopes for the North River Canal Corridor:
- to create appropriate development while preserving historic character;
- to address transportation issues for existing and new developments; and
- to enhance the public realm in keeping with unique neighborhood character by creating an accessible network of open spaces, landscape and streetscape improvements.

For the second phase of the project, the city of Salem sought the involvement of outside consultants to help develop scenarios for the North River Canal Corridor. Three types of consulting firms were brought into the process: an environmental specialist (Goody, Clancy & Associates), a transportation specialist (Earth Tech Inc.) and an economics specialist (FXM Assoc). When the initial scenarios were produced, they were presented to the North River Corridor Planning Project Working Group and the public for comments. The comments were then addressed and incorporated into the illustrative plan that followed, which went back out the working group and the public for feedback. The consultants further refined their plans per second-round remarks and created the Master Plan.

Description of Project
Some of the elements of the proposed project that pertain to recreation along the North River are as follows:
- To enhance the canal edge with trees, benches, landscaping, sidewalks, and maintenance, possibly funded by public-private partnerships.
- To provide a waterfront pathway along both the north and south banks of the North River;
- To seek opportunities to incorporate water-dependent uses;
- To provide pedestrian connections between Furlong Park, Leslie’s Retreat Park and the MBTA Station and to connect these to the downtown area via the MBTA with a pedestrian pathway;
- To connect Leslie’s Retreat Park to surrounding neighborhoods in order to improve safety and access to the park. The plan proposed two new pedestrian access points at Bridge St – one between Flint and North Streets to connect the Federal St. neighborhood to the park and the other through the extension...
of Commercial St to Bridge and the associated relocation of the existing entrance to the MBTA lot. In addition, they supported a safety rail along edge of canal and an additional pedestrian bridge to directly link Downtown to Mason Street;

- To improve the image of Leslie’s Retreat Park by solving the park’s drainage problems, creating park clean-up programs, and building relationships with business- and home-owners in the area. The Master Plan also encourages support of the Bridge Street reconstruction project to complement the park edge and to provide adequate landscaping and pedestrian connections;
- To build programming into Leslie’s Retreat Park and any other parks that may be created along the River. This may include adding art exhibitions, children’s play areas, and historic interpretive venues and programming.

**Current Status**

Unfortunately, little has been done to fulfill the recreational aspects of the North River Canal Corridor Neighborhood Master Plan. Salem City Planner Tania Hartford attributes this to the fact that Salem has spent the last few years focusing their time and money on creating and passing their new zoning by-laws and beginning construction of the Harbor Walk (personal communication, 21 March 2006).

The following recreational spaces currently exist along the North River in Salem:

- **Leslie’s Retreat Park:** Built adjacent to Bridge St in 1999, this park was an effort to mitigate the wetlands destroyed during the construction of the new Salem-Beverly Bridge (Jim Treadwell, personal communication, 21 March 2006), not to increase recreational opportunities along the North River.

Currently, the City of Salem cannot technically take ownership of this park until a railing is built between it and the water.

Additionally, the Department of Parks and Recreation plans on turning the most Eastern part of the park into a dog park. While this will increase the use of the park, the city needs to be sure to keep plastic bags available for pet owners to clean up after their dogs. Upon my visit to the park, the receptacles that have been built for this purpose were empty. If animal waste is left on the ground, it will easily run-off into the North River.
and further pollute this resource.

According to a number of Salem residents, Leslie’s Retreat Park is primarily used as an impromptu dog park, and occasionally people sit on the benches, and access the pedestrian bridge as they run through the park.

Currently, there have been no efforts to improve the park’s drainage problem, incorporate programming into the park, improve connections to other neighborhoods, develop a park clean-up program, or build relationships with local businesses.

- **Furlong Park:** In addition to the North River Canal Corridor Neighborhood Master Plan’s call for improved connections to Furlong Park, Salem’s comprehensive Master Plan also calls for the extension of Furlong Park. There is currently a junkyard adjacent to the grounds of the Park and the plans to replace it with an extension of the playground have not been acted upon.

What is noticeably missing from the short list above is any mention of a waterfront walkway or water-dependent uses.

**PEABODY BIKEWAY**

**Goals**
The stated goal of the Peabody Bikeway project was to reuse an abandoned stretch of railroad track as a multi-use, recreational trail in order to occupy and largely preserve property that would otherwise be subject to continued piecemeal development over time.

**Process**
The City of Peabody hired Green International Affiliates, Inc., a group of consulting engineers, to design the Bikeway and to handle obtaining the necessary permits. Due to the fact that portions of the Bikeway would run through a number of residents’ backyards, the City held neighborhood meetings to get feedback and input on the proposed design.

**Project Description**
The Peabody Bikeway is one of the major elements of the City’s long term open space planning (Otto & Port 2001) and it will extend 4.6 miles, from the Middleton Line to Route 128. The majority of the Bikeway will run along the Ipswich River but a section of the trail will run parallel to the Proctor Brook, which is a tributary of the North River.

The approximately $2.75 million project will be funded by the Massachusetts Highway Department’s (MassHighway) Transportation Improvement Program. In compliance with MassHighway standards, the Bikeway was scheduled to be a 10-foot bituminous concrete surface roadway with 2-foot wide crushed stone shoulders on either side, in order to accommodate emergency vehicles. As mentioned previously, an updated version of these regulations is currently in draft form, and would decrease the minimum width to 8 feet (Massachusetts Highway Department 2006).

Creation of the Bikeway will alter over 12 acres of land and add 5 acres of impervious surfaces to the area (Haney 2006). In order to mitigate the disturbances caused by the construction of the Bikeway, the City of Peabody has agreed to the following:

- To replicate wetlands at two areas along bikeway adjacent to existing wetland areas;
- To ensure that storm drainage will utilize overland sheet flow off the paved road directed away from developments (but directly into rivers and brooks);
- To re-utilize existing culvert crossings;
- To restore any protected areas that are disturbed to pre-existing conditions upon completion of the project;
- To use plantings to control sedimentation and erosion;
- To limit the amount of construction in proximity to smelt habitat

**Current Status**

According to Peabody City Planner Blair Haney (personal communication, 20 March 20 2006), the Bikeway is 100% designed and the City of Peabody has gained ownership and easements on the land needed to build the Bikeway. This was a relatively easy process because the ownership of land is centralized in the Massachusetts Bay Transportation Authority (MBTA) and the Guilford Rail System.

The City of Peabody is waiting for the state to complete the review of its permits and to apply for a water quality certificate before they can begin construction. The current project timeline spans two years between breaking ground and project completion.
PEABODY RIVERWALK

GOALS
According to Laidler, the Peabody Riverwalk “began in 1990 as a dream of a riverfront park that would bring new vitality to a tired industrial corridor in Peabody” (2004, 3), and in reality, this is the truth. Peabody is not easily accessible from regional transportation, making it an un-attractive location for industrial firms to move to and the thinking behind the Riverwalk is that it would create connections to make the area more accessible (Otto & Port 2001).

Some of the additional stated goals of the project were:

- To connect open space and create a park that residents can enjoy and take pride in;
- To provide a setting for exploring Peabody’s history;
- To plan for future mass transit;
- To reduce congestion and energy consumption throughout downtown Peabody;
- To improve the environment by providing a landscaped corridor, which would keep surrounding properties cool in the summer and shield them from winds in the winter;
- To mitigate flooding by providing flood storage in the banks of the River and to help dilute non-point source pollution before entering the North River;
- To improve pedestrian safety with an auto-free zone for pedestrian circulation;
- To attract people to the heart of the City any time of day, any day of the week.

PROCESS
As mentioned earlier, the Peabody Riverwalk was first envisioned in the 1990 Master Plan Update and the participatory planning process began in 1992, when residents, business-owners, and community leaders came together to develop a plan for the future of their City. The City worked with citizens groups, such as the Master Plan Task Force, the Open Space Plan Advisory Committee, and the North River Neighborhood Plan Task Force (appointed by Former Mayor Peter Torigan) to create a plan that would bring the North River into the open.

Some of their recommendations were:

- To reclaim the River as the centerpiece of a new urban park;
- To promote the North River corridor as an open space, transit-, pedestrian-, and historic-link;
- To focus on the North River and its tributaries as vehicles for redevelopment.

In 1993, the Department of Community Development and Planning sponsored a public design competition to
accomplish the following (Otto & Port 2001):

- To focus attention on neglected river;
- To spark the imagination of business groups and citizens;
- To highlight connections between the river, historic buildings, and rail line;
- To show how backs of buildings could be altered to take advantage of the scenery and pedestrians provided by the Riverwalk;
- To show how businesses could weave together to create an urbane outdoor area in a major urban center;
- To consider how visitors and residents could enjoy the River’s edge.

The judges were professionals in the design world and City leaders, and it is interesting to note that the North River is not mentioned once in the criteria they used when assessing entries. The entrants were required to include a continuous paved path along the half-mile length of land that stretches between Peabody Square and the Peabody-Salem line, as well as secondary paths to cultural and historic landmarks. Additionally, designs had to incorporate edges formed by fences, plantings, or walls of buildings to separate the primary path when it abuts North River and the railroad right-of-way.

A local winner, Jorge Enes, was named and while his design adhered to Peabody’s existing character, he ignored potential re-use of vacant sites for parks or economic development opportunities.

According to Andrew Port, former City Planner (personal communication, 7 March 2006), the City of Peabody probably could have had more interaction with residents and members of the private sector in the planning of the Riverwalk.

**Project Description**

The Peabody Riverwalk would create a greenway approximately one-mile long, from Peabody’s eastern boundary with Salem to the George Peabody House Civic Center. It was also noted that a joint effort between Salem and Peabody would facilitate a connection along the River adjacent to Harmony Grove Road.

This linear park would run primarily along the North River and incorporate some of Enes’ design recommendations, including a tree-lined walkway and community garden plots full of native flower and plant species. Because of lead and other soil contaminants, there should, for the time being, be no edible crops. It was also suggested that plans for the park should allow for a passenger terminal to be located near Peabody Square for future region-wide mass transit system (Otto & Port 2001).
The minimum desirable width for the walkway was 20 feet and the walkways would be composed of unit pavers (brick, concrete) or scored concrete with brick edging, 4ft in width. In order to clearly define edges between segments of the corridor, it was recommended that paving edging, such as granite, be used (Otto & Port 2001).

One of the key elements of the Riverwalk is that much of the land required for the project is located in the floodplain and the floodway, meaning that it can not be intensely developed. Therefore, the creation of the Riverwalk will ultimately ensure the protection of open space. Yet, the location of the proposed Riverwalk requires the City of Peabody to acquire land and easements in order to maintain continuous corridor and this is a large portion of the project’s $1.575 million budget.

**Current Status**

Currently, an approximately 100-foot section of the Peabody Riverwalk has been built along Foster Street. In April 2004, a paved path (that will be 300-feet upon completion) was created along the Goldthwaite Brook (tributary of the North River) and a new “pocket park” was built, with trees, benches, and picnic tables, as well as a kiosk about the Riverwalk and historic connections. This $62,000 stretch of the Riverwalk was funded through the Community Preservation Fund, after they received approval from the City Council.

The idea is to build the Riverwalk as developers rebuild the land along the corridor. This initial section of the project was built in conjunction with the redevelopment of a brownfield site. The project met it’s downfall because the land needed to develop the Riverwalk is fragmented and the City needs to purchase each parcel,
or secure an easement, from individual owners before they can build. Apparently, $1.6 million in federal
grant money has been approved for the Riverwalk but the funds will not be released until all agreements with
landowners along the route are in place (Laidler 2004).

According to Blair Haney (personal communication, 20 March 2006), the Riverwalk has since taken a back seat
to flood mitigation and the Bikeway due to the complications in acquiring land.

APPENDIX B: DISCUSSION OF METHODS

We have spent a lot of time synthesizing city documents and researching different opportunities available to
benefit the North River within the context of these plans.

We have conducted numerous interviews with representatives from both Salem and Peabody in order to get
a balanced point of view. These conversations have allowed us to look deeper into the elements of the city
documents mentioned above because we are talking to people who were involved with the creation of the
plans and people who live and work in our study area. Through our interviews, we have been able to ascertain
information about why projects and plans have not been implemented, what the barriers to change have been in
the past, and what issues are actually important to residents.

Specifically we have had and will continue to have discussions with:
- past and present planners;
- planners who specialize in regional planning;
- educators and historians;
- city mayors;
- members of the community at large

The last piece of our methodology is research on items such as funding opportunities, average costs of our
recommendations, and examples of implementation of projects similar to our recommendations. We have
looked at instances of regional visioning and community mapping, and integrated successful techniques into our
recommendations. We have also identified other examples of river redevelopment in similar communities to get
a sense of different projects and methods used to turn rivers into amenities.
APPENDIX C: BACKGROUND

ABOUT SALEM SOUND COASTWATCH

Salem Sound Coastwatch is a non-profit coastal watershed protection group. It takes a watershed approach to solving environmental problems in the Salem Sound Watershed, while seeking to work cooperatively with the public and private sectors. For the past 16 years, SSCW has been bringing people and organizations together to address the problems facing the region, such as the presence of invasive species in coastal areas, water pollution in public beach areas, degradation of anadromous fish spawning habitats and, of course, the polluted and ignored North River.

ABOUT THE NORTH RIVER AND THE PROJECT

The North River and its associated tributaries – Proctor, Goldthwaite, Tapley and Strongwater brooks – form a highly urbanized stream system that flows through the cities of Peabody and Salem, Massachusetts and into Salem Sound. The North River in the past has also been used for direct sewage discharge and tannery waste; today surface runoff during heavy rains continues to contribute to nonpoint source pollution. Indeed, the North River still does not meet federal Clean Water Act standards. Both Peabody and Salem have established long-term planning and redevelopment initiatives for the North River area, and there are projects underway in both cities concerning developments along the North River, such as a bikewalk in Peabody beginning at the Salem line. However, there is little communication between Salem and Peabody concerning the North River, and no comprehensive planning that carries the goals of the North River Watershed beyond city boundaries. For these reasons, the Salem Sound Coastwatch has asked our team to develop a series of recommendations that will encourage the communities to view the North River as an amenity.
APPENDIX D: LIST OF ACRONYMS AND ABBREVIATIONS

AMC: Appalachian Mountain Club
APA: American Planning Association
BMP: Best Management Practices
BRAC: Brownfield Redevelopment Access to Capital
CCRA: Continuing Care Retiring Communities
CDBG: Community Development Block Grant
CO-SEED: Community-based School Environmental Education
CPA: The Community Preservation Act
CPF: The Community Preservation Fund
CZM: Coastal Zone Management
DASA: Dearborn After School Academy
EOEA: Executive Office of Environmental Affairs
EPA: Environmental Protection Agency
FEMA: Federal Emergency Management Agency
FIRM: Flood Insurance Rates Maps
IMPs: Integrated Management Practices
LID: Low Impact Development
MAPC: Massachusetts Area Planning Commission
MASSCAP: Massachusetts Association for Community Action
MassHighway: Massachusetts Highway Department
MBDC: Massachusetts Business Development Corporation
MBTA: Massachusetts Bay Transportation Authority
MDEP: Massachusetts Department of Environment
NCSET: National Center for Secondary Education and Transition
NPS: National Park Service
NRCC: North River Canal Corridor
OVP: Oregon Visions Project
RTCA: Rivers, Trails, and Conservation Assistance Program
SSCW: Salem Sound Coastwatch
APPENDIX E: PROGRAM GUIDELINES FOR THE NATIONAL PARK SERVICE’S RIVERS, TRAILS AND CONSERVATION ASSISTANCE PROGRAM

Application Guidelines

About the Program
The National Park Service (NPS) manages some of our nation’s most historic sites, scenic resources, and critical natural areas. The NPS also provides assistance to communities to conserve their local natural resources and develop new close-to-home outdoor recreation opportunities through the Rivers, Trails, and Conservation Assistance (RTCA) Program. RTCA staff work in urban, rural, and suburban communities to help applicants to conserve rivers, preserve open spaces, and develop trails and greenways. RTCA staff rely on a variety of natural resource conservation and outdoor recreation projects, including multi-use trails, single-purpose trails, greenways, water trails/bikeways, river corridor conservation, land protection, and park planning.

RTCA Program staff help with partnership-building to achieve community-set goals, organizational development, accessing resources, developing concept plans, public education and participation, and identifying potential sources of funding. RTCA can assist with identification of public and private funding sources but does not provide direct grants. Project partners may be federal agencies, state or local agencies, tribes, non-profit organizations, or citizen groups. RTCA assistance is for one year and may be renewed for a second year if warranted.

RTCA’s strategic plan directs our program for the next four years, to provide assistance on projects that create networks of trails, parks, rivers, greenways, and open spaces, as well as projects that help NPS areas with gateway and adjacent natural resource conservation and outdoor recreation issues.

For further information about RTCA and the work we are doing around the country with nearly 300 community partners, please visit our national web site at http://www.nps.gov/rtca.

Project Selection Criteria
Applications for RTCA Program assistance are competitively evaluated by our regional offices, based on how well the applications meet the following criteria:

1. Initial project partners are identified and a lead project partner is designated. Note: The lead partner may be a federal agency, state or local agency, tribe, non-profit organization, or citizen’s group. Federal agencies including the National Park Service may be the lead partner only in collaboration with a nonfederal partner.

2. Project has specific, partner-defined goals and anticipated measurable results that are clearly stated; support the National Park Service mission and RTCA mission and strategic plan goals; protect important natural resources or enhance outdoor recreation opportunities; and will have results that occur within an appropriate timeframe.

3. There is a commitment by lead project partners to significant public involvement and outreach in the project.

4. Roles and contributions of initial project partners, including RTCA, are identified. There is a commitment by initial project partners to cooperate and to provide or obtain the resources necessary to implement the project.

5. There is evidence of broad support for the project.

Preference is given to a project that also:
- a, provides physical connections among resources;
- b, includes an NPS area as an actively involved project partner;
- c, includes both natural resource conservation and outdoor recreation;
- d, partnerships with a health organization.

Consultation with an RTCA staff before an application for assistance is made helps clarify RTCA roles and contributions and also helps identify how the selection criteria might apply to your conservation and outdoor recreation goals.

Projects are locally requested and led and should include significant public involvement and outreach. Projects should also include the commitment, cooperation, and cost-shar ing of all partners. Assistance is for one year and may be renewed for a second year if warranted. The RTCA involvement in these partnerships requires all partners to monitor progress and measure success during and after completion of the project.
How to Apply for RTCA Program Assistance

1. Contact Information:
   Please provide information about the initial project partner(s), including name of a primary contact, organization, address, phone, fax, and e-mail. Designate a lead project partner.

2. Project Description and Anticipated Results:
   • Provide the name of the project and project location.
   • Identify what populations in your community will be served by the project.
   • Describe briefly the anticipated results of the project and why the project is important.
   • Identify anticipated on-the-ground results: For example resources created, conserved, enhanced or made available to the public – the number of river miles improved by restoration projects; the number of river miles conserved with enhanced protection status; the number of multi-use trail miles created; the number of acres of parkland restored; the number of acres of wildlife habitat restored.
   • Describe the related important natural, cultural, historic, scenic, and recreational resources within the project area.
   • Describe other expected accomplishments: For example an increased community commitment to stewardship, a new conservation organization, or the development of a concept plan for a trail.
   • Outline the background or prior activity on the project (if any), the current status, and a proposed schedule for completion.

3. Commitment for Public Involvement:
   Describe the type and level of public involvement you anticipate during the development of this project.

4. Roles, Resources, and Contributions:
   • Describe the kind of technical assistance or role you are seeking from the RTCA program.
   • Describe the roles and contributions of all project partners listed in part 1 above.
   • Identify other types of resources available for the implementation of your project.

5. Support for the Project:
   • Describe the support you anticipate from interested stakeholders, such as public agencies, nonprofit organizations, and landowners.
   • Support letters from elected officials, community leaders, and cooperating organizations are strongly recommended.

Related Strategic Initiative (optional)
Describe how the project:
• provides physical connections among resources, includes an NPS area as an actively involved project partner;
• includes both natural resource conservation and outdoor recreation;
• partners with a health organization.

Other National Park Service Assistance Programs
Besides providing technical assistance through the Rivers, Trails, and Conservation Assistance program, the National Park Service gives targeted help in a number of related areas through the following programs:

- Hydropower Recreation Assistance: Provides technical assistance on recreation access and facilities, instream flows for recreation, and riparian corridor protection to all participants in Federal Energy Regulatory Commission (FERC) hydropower licensing and relicensing proceedings. For more information, visit www.nps.gov/hydro.
- Land and Water Conservation Fund: Provides 50% matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. For more information, visit www.nps.gov/lwca.
- Federal Lands to Parks: Helps State and local agencies acquire, at no cost, surplus Federal land and facilities for parks and recreation. For more information, visit www.nps.gov/flp.
- National Heritage Areas: Provides assistance to National Heritage Areas designated by Congress. For more information, visit www.cr.nps.gov/heritageareas.
- Rivers and Trails Studies: Undertaken by NPS when authorized by Congress for potential additions to the Wild & Scenic Rivers System or National Trails System. For more information, visit http://planning.nps.gov.
- Historic Preservation: There are a variety of National Park Service programs offering assistance for a range of resources including archeological sites, battlefields, and historic landscapes. Some of these programs offer direct assistance to the public, others work through State Historic Preservation Offices. For more information, visit www.cr.nps.gov.
- Challenge Cost Share: A 50-50 matching grant program to support National Park Service Units and programs through partner support. For more information, visit http://www.nps.gov/ccsp.

RTCA Program Vision
A network of parks, rivers, trails, greenways and open spaces that promotes quality of life and links people to their natural and cultural heritage

RTCA Program Mission
The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education and inspiration of this and future generations. The NPS cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout the country and the world.

The Rivers, Trails, and Conservation Assistance (RTCA) Program implements the natural resource conservation and outdoor recreation mission of the National Park Service in communities across America.

RTCA Strategic Plan Goals
1. RTCA will help create local, regional and state networks of parks, trails, greenways and open spaces by collaborating with community partners and National Park areas in every state.
2. RTCA will hold itself and project partners accountable through measures that demonstrate success and maximize the impact of program financial and human resources.
3. RTCA will be recognized and sought out as the community assistance arm of the National Park Service for conservation and outdoor recreation.
Nurturing the Recovery of The North River: A Practical Vision

APPENDICES

APPENDIX F: MAPS

MAP 1

PEABODY BIKEWAY
RECOMMENDATIONS

Prime Location for Permeable Surfaces

- Decrease runoff
- Improve water quality
- Increase awareness of and access to river

FRANKLIN STREET WATERFRONT
PARCELS RECOMMENDATIONS:

Prime Waterfront Redevelopment

- Located on Salem’s coastline
- Increase open space
- Enhanced recreational uses
- Compact mixed-use development

WELCH SCHOOL RECOMMENDATIONS:
Opportunity for Stewardship and Community Outreach

- Create co-located placed-based programming
- Increase awareness of and access to river
- Initiate river restoration programming including
- Students collaborate with Salem Sound Coastwatch to
  create interpretive signs and water quality tests

HARMONY GROVE ROAD
RECOMMENDATIONS

Prime Location for an Intimacy Park

- Located on the border of Salem and Peabody
- Residents of each city participate in planning
- Increase awareness of and access to river
- Motivate community to implement individual projects

LESLIE’S RETREAT PARK
RECOMMENDATIONS

Prime Location for a Vegetated Buffer

- Improve water quality
- Aid in park drainage
- Increase public safety
MAP 2

Salem and Peabody, Massachusetts

Features
- Rivers

Source of Data: MassGIS
MAP 3

Contaminated Sites Within the North River Watershed: Salem and Peabody, Massachusetts

Features
- Rivers
- Contaminated Sites

Source of Data: MassGIS
## Sites of Contamination in the North River Study Area

<table>
<thead>
<tr>
<th>ID</th>
<th>NAME</th>
<th>ADDRESS</th>
<th>TOWN</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AMERDA HESS STATION</td>
<td>90 NORTH ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>2</td>
<td>NO LOCATION AID</td>
<td>23 DOWNING RD</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>3</td>
<td>COMMERCIAL PROPERTY</td>
<td>3 MASON ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>4</td>
<td>HERITAGE INDUSTRIES</td>
<td>22 FOSTER ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>5</td>
<td>NORTH RIVER</td>
<td>NORTH ST SALEM HBR</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>6</td>
<td>PROPERTY</td>
<td>5 OLIVER ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>7</td>
<td>PEABODY FIRE</td>
<td>150-166 MAIN ST &amp; 21 CALLER ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>8</td>
<td>VICTORY TANNING CORP FMR</td>
<td>23 UPTON ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>9</td>
<td>NO LOCATION AID</td>
<td>BRIDGE ST &amp; GOODHUE ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>10</td>
<td>LITWIN MOTORS</td>
<td>406 ESSEX ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>11</td>
<td>INDUSTRIAL PROPERTY FMR</td>
<td>27 CALLER ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>12</td>
<td>COMMERCIAL PROPERTY</td>
<td>234 BRIDGE ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>13</td>
<td>NO LOCATION AID</td>
<td>60 GROVE ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>14</td>
<td>UNIVERSAL STEEL</td>
<td>2399 BRIDGE ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>15</td>
<td>NO LOCATION AID</td>
<td>70-92 BOSTON ST</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>16</td>
<td>NO LOCATION AID</td>
<td>72 R CENTRAL ST</td>
<td>PEABODY</td>
<td>TIER1D</td>
</tr>
<tr>
<td>17</td>
<td>NO LOCATION AID</td>
<td>12 WOODBURY CT</td>
<td>SALEM</td>
<td>TIER1D</td>
</tr>
<tr>
<td>18</td>
<td>BOB KAT TANNING</td>
<td>166 MAIN ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>19</td>
<td>NO LOCATION AID</td>
<td>101 REAR FOSTER ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>20</td>
<td>GROSSMANS INC</td>
<td>96 FOSTER ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>21</td>
<td>NEW AGE AUTO</td>
<td>34 RAILROAD AVE</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>22</td>
<td>VIP SOUSA SERVICE</td>
<td>174 MAIN ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>23</td>
<td>STAHL FINISHING</td>
<td>13 CORWIN ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>24</td>
<td>41 HARDY ST / MASINO LEATHER</td>
<td>8 WALNUT ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>25</td>
<td>SUNOCO SERVICE STATION</td>
<td>105 NORTH ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>26</td>
<td>CENTENNIAL PARK</td>
<td>CENTENNIAL DR</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>27</td>
<td>UNIVERSAL STEEL &amp; TRADING CORP</td>
<td>297-305 BRIDGE ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>28</td>
<td>NORTH OF MAIN ST</td>
<td>20-22 HOWLEY ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>29</td>
<td>MASON ST</td>
<td>105 NORTH ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>30</td>
<td>CORNER CALLER &amp; WALNUT ST</td>
<td>75 WALNUT ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>31</td>
<td>RODS TOWING</td>
<td>171 BOSTON ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>32</td>
<td>FORMER TRANSFORMER AREA</td>
<td>143 LYNNFIELD ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
<tr>
<td>33</td>
<td>FMR GAS STATION</td>
<td>45 BOSTON ST</td>
<td>SALEM</td>
<td>TIERII</td>
</tr>
<tr>
<td>34</td>
<td>NO LOCATION AID</td>
<td>HINGSTON ST</td>
<td>PEABODY</td>
<td>TIERII</td>
</tr>
</tbody>
</table>

The Tier 1D classification, as defined in accordance with 310 CMR 40.1500 (MassDEP), states that the responsible party of the contaminated site failed to provide a required submittal to DEP by a specified deadline (Ibid). The Tier II classified site is given to a site that scores below a 350 under the Numeric ranking System and/or after a Response Action Outcome Statement indicating that a Temporary or Permanent Solution has been achieved for the contaminated site.
TUFTS UNIVERSITY

Dear Beck Saggesse, Chris Mancini, Monica Magari, Katie Theis, Pandora Thomas,

This letter is your official notification that your research project

Salem Sound Coastwatch: Nurturing the Recovery of an Urban River

(Protocol # 0602018)

is exempt from further IRB review for the following reasons:

2. Research involving the use of educational tests, survey procedures, interview procedures, or observation of public behavior UNLESS the information is recorded in a manner in which the subject can be identified AND disclosure would place the subject at risk of criminal or civil liability or be damaging to financial standing, employability, or reputation. This does not apply where the subjects are children except where it involves passive observation of public behavior.

3. Research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior where subjects are elected or appointed officials or candidates for public office.

Please be sure to print a copy of this notification for your files.

Helen A. Page
IRB Administrator
February 28, 2006

Helen A. Page, Ed.D.
Associate Director of Research Administration
Office of the Vice Provost for Research
20 Professors Row
Tufts University
Medford, MA 02155
Phone: 617-627-5187
FAX 617-627-3673
Email: helen.page@tufts.edu
I. Introduction

Project (i.e., team) number:  6
Project title:  Nurturing the Recovery of an Urban River

This Memorandum of Understanding (the “MOU”) summarizes the scope of work, work product(s) and deliverables, timeline, work processes and methods, and lines of authority, supervision and communication relating to the Field Project identified above (the “Project”), as agreed to between (i) the candidates for the Master of Arts degree enrolled during the spring 2005 semester in the Field Projects and Planning course (UEP-255) (the “Course”) offered by the Tufts University Department of Urban and Environmental Policy and Planning (UEP) who are identified in Paragraph (1) below (the “Field Projects Team”); (ii) Salem Sound Coastwatch (SSCW), further identified in Paragraph (2) below (the “Client”); and (iii) a Tufts faculty member directly involved in teaching the Course during the spring 2005 semester.

II. Specific Provisions

(1) The Field Projects Team working on the Project consists of the following individuals:

1. Becky Saggese  email address:  Elizabeth.Saggese@tufts.edu
2. Chris Mancini  email address:  Christopher.mancini@tufts.edu
3. Katie Theis  email address:  Catherine.theis@tufts.edu
4. Monica Magari  email address:  Monica.magari@tufts.edu
5. Pandora Thomas  email address:  Pandora.thomas@tufts.edu
The Client’s contact information is as follows:

Key contact/supervisor: Barbara Warren
Email address: barbara.warren@salemsound.org
Telephone number: (978) 741-7900
FAX number: __________________________________
Client name: Salem Sound Coastwatch
Address: 201 Washington St, Suite 9
         Salem, MA 01970
Web site: www.salemsound.org

The goal/goals of the Project is/are:
Our goals are to:
- Gain a better understanding of the North River and its potential to bring the watershed together to create a sense of watershed identity.
- Assess the opportunities available to the North River watershed region, in order to encourage the community to view the River as an amenity and not a liability.
- Synthesize the current information and ongoing projects into a more regional approach.

The work processes and methods by which the Field Projects Team intends to achieve this goal/these goals is/are:
- Review case studies to analyze success of similar projects.
  - e.g. WaterFire project in Providence, RI; Revitalization of the Connecticut River (Hartford); Creating a Sense of Regional Identity in the Hudson River Valley
- Assess maps of brownfields, open space, public vs. private land, developed vs. to be developed land, etc.
- Use the Salem Sound Coastwatch staff and Board of Directors as resources and experts.
- Talk to local officials in Peabody and Salem (e.g. mayors), Peabody and Salem Planning Boards.
- Assess public opinions, using public meeting notes, op ed pieces, public opinion databases, etc.
- Assess financial implications – costs of projects, how to raise money for the projects, availability of grants, etc.
- Review existing master plans and current development in Peabody and Salem.
- Attend local meetings – conservation commissions, planning board, etc.
- Identify and interview community members and stakeholders from Peabody and Salem to assess public perception of the issue and history of the issue.
- Assess local media coverage of the North River, using local papers and local television reports.

The Project work products and deliverables are:
We hope to create a regional plan for North River watershed, with a focus on:

a. Introduction:
   - We will present a brief history of the issue.
- We will present a brief history of the North River watershed, its communities and its natural history.
- We will compile a list of stakeholders.

b. Recreational Opportunities:
- Specifically, we will look at the Riverwalk and North River Canal Corridor.
- We will analyze and synthesize current information and plans developed by Peabody and Salem.
- We will provide a recommendation on how the North River watershed region should proceed.

c. Development Opportunities:
- Specifically, we will look at the Zoning and Planning Regulations for Peabody and Salem.
- We will analyze and synthesize current regulations for Peabody and Salem.
- We will provide a recommendation on how the North River watershed region should proceed.

d. Ecological Opportunities
- Specifically, we will address Flood Mitigation and Water Quality.
- We will analyze and synthesize current regulations and plans for Peabody and Salem.
- We will provide a recommendation on how the North River watershed region should proceed.

e. Education & Awareness:
- We will make recommendations on how to create a sense of place and stewardship for the North River Corridor.
- We will provide recommendations for programs, events, etc. to increase community awareness and the presence of the North River in their everyday lives.

(6) The anticipated Project timeline is:
Monday, February 6 Signed MOUs due
Monday, February 27 Initial project outline due
Monday, April 3 Draft report due
Monday, April 24 Presentation, 8:45 – 11:30 am
** This date and time has not been confirmed but we will let Barbara and SSCW know as soon as we have scheduled our final presentation.
Wednesday, May 3 Final reports due

(7) The lines of authority, supervision and communication between the Client and the Field Project Team are:
Becky Saggese will act as the primary contact for the Field Project Team and the team will be under the supervision of Barbara Warren at Salem Sound Coastwatch.
The understanding with regard to payment/reimbursement by the client to the Field Projects Team of any Project-related expenses is:

III. Additional Representations and Understandings

A. The Field Projects Team is undertaking the Course and the Project for academic credit and therefore compensation (other than reimbursement of Project-related expenses) may not be provided to team members.

B. Because the Course and the Project itself are part of a larger academic context, it is understood that the final work product and deliverables of the Project (the “Work Product”) – either in whole or in part – may and most likely will be shared with others inside and beyond the Tufts community. This may include, without limitation, the distribution of the Work Product to other students, faculty and staff, release to community groups or public agencies, general publication, and posting on the Web. Tufts University and the Field Project Team may seek and secure grant funds or similar payment to defray the cost of any such distribution or publication. It is expected that any issues involving Client confidentiality or proprietary information that arise in connection with a Project will be narrow ones that can be resolved by discussion among the Client, the Field Projects Team and a Tufts instructor directly responsible for the Course (or his or her designee).

C. It is understood that this Project may require the approval (either through full review or by exemption) of the Tufts University Institutional Review Board (IRB). This process is not expected to interfere with timely completion of the project.
IV. Signatures

Barbara Warren
For Barbara Warren, Salem Sound Coastwatch
By: [PRINTED NAME]
Date: 2/5/2006

Representative of the Field Projects Team
Elizabeth Sager
By: [PRINTED NAME – only one team member’s signature is necessary]
Date: 2/6/2006

Tufts UEP Faculty Representative
Rusty Russel
By: [PRINTED NAME]
Date: Feb 6, 2006