

COMMONWEALTH OF MASSACHUSETTS

# MASSACHUSETTS OUTDOORS 2006

STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN



**Deval L. Patrick, Governor**

**Ian A. Bowles, Secretary**  
**Executive Office of Energy and Environmental Affairs**

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STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN

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## Chapter 1. INTRODUCTION to MASSACHUSETTS OUTDOORS 2006

### What is SCORP?

The Statewide Comprehensive Outdoor Recreation Plan (SCORP), *Massachusetts Outdoors 2006* is an update of the SCORP 2000, five-year plan. SCORP plans are developed by individual states to be eligible for federal Land and Water Conservation Fund (LWCF) grants. Since it was first required in 1960, the SCORP has also become an invaluable tool for states to use in planning for future needs and uses of outdoor resources for public recreation and relaxation.



### MASSACHUSETTS LAND & WATER CONSERVATION FUND PROGRAM

The Land and Water Conservation Fund Act was authorized in 1965 (P.L. 88-578, 16 U.S.C. 4601-4-4601-11) and extended in 1987 through FY 2015 (P.L. 100-203). The Act established a funding source for both Federal acquisition of park and recreation lands and matching grants to state and local governments for recreation planning, acquisition and development. It set requirements for state planning and provided a formula for allocating annual LWCF appropriations to the States and Territories. For local communities trying to provide quality recreational areas close to home, the LWCF stateside program is a key tool. Demand for support of worthwhile, eligible projects here, and across the country, has far exceeded available funds. The LWCF stateside program is an effective and efficient mechanism to reclaim a small portion of the limited open space that remains, and to renovate recreational facilities that are seriously overused.

In Massachusetts, the LWCF program is administered through the Executive Office of Energy and Environmental Affairs (renamed from Executive Office of Environmental Affairs, or EOEa, in 2007). The Secretary of Energy and Environmental Affairs is appointed by the Governor to act as the State Liaison Officer for the grant program, and the Director of EEA's Division of Conservation Services is the Alternate State Liaison Officer. Liaison officers are authorized to represent and act for the state when dealing with the Director of the National Park Service on LWCF matters, and have the authority and responsibility to accept and administer funds paid for NPS approved LWCF projects.

Funds can be used by eligible state agencies such as the Department of Recreation and Conservation and the Department of Fish and Game, as well as cities and towns for public conservation and recreation projects. Eligible projects include the acquisition of conservation and recreation land, renovation of existing outdoor recreation areas, or development of new facilities. Massachusetts has received \$94.4 million since 1965. Land acquired or developed with these funds become protected under the Massachusetts Constitution (Article 97) and federal regulations – and cannot be converted from intended use without permission from the National Park Service and EEA. A converted site must be replaced with land of equal value not already in recreational use, and of equal utility to the converted site. Conversion proposals must also be approved by the National Park Service, through EEA. All sites must be open to the general public and legally dedicated to public conservation or recreational use.

The stateside program has been used successfully to aid in acquisition of conservation projects such as hunting and fishing sites, heritage corridors, greenways and riverways as well as funding the development of outdoor recreation facilities. The LWCF program makes an important contribution to the protection of wildlife habitat, water quality, farmlands, and archaeological sites as well as providing a quality outdoor recreation experience. Past projects funded through the stateside program in Massachusetts include Boston Common and Franklin Park in Boston, state Heritage Parks in Holyoke, Lynn, Lowell and New Bedford,

areas in the Blackstone River Valley National Heritage Corridor, and the historic Paine Estate in Wayland.

The impact of these protected conservation and recreation areas can be evaluated in human as well as environmental terms. LWCF projects play an important role in improving the quality of life in many communities by providing access to sites that are close to home and can be enjoyed regardless of mental or physical disability. Inner city residents acknowledge that park and recreation areas offer a positive alternative to crime and gang violence. They also help people to learn to appreciate the value of protecting natural resources, since positive results can be seen in one's own neighborhood.

The LWCF program was purposefully designed to ensure that the local project sponsor (a municipality or state agency) makes a clear commitment to the project. The program only pays up to 50 percent of the total project cost, and many projects have required the local sponsor and neighboring private interests to invest much more than 50 percent. For example, it was estimated that the Lechmere Canal project in Cambridge leveraged ten private dollars for every single public dollar spent. Furthermore, maintenance costs are solely the responsibility of the local sponsors, and future grants are withheld if grantees cannot demonstrate an ability to care for the federally assisted sites they already have. This is a cost-effective partnership program that is making a big difference with very limited funds.

## How was the SCORP Developed?

For the SCORP 2006 update, we have updated all the critical open space maps and data listed in this document. We also include new information on data collection, studies and analysis done since SCORP 2000. For example, we have found the municipal Open Space and Recreation Plans to be a crucial resource for gauging open space planning trends, and for obtaining public input.

Due to the comprehensive nature of the work that was done while developing the 2000 SCORP, most of that work remains in this 2006 document. Work on the 2000 SCORP Report began when the SCORP Technical Advisory Committee (TAC) was established. Committee members included numerous state and municipal employees, recreation professionals, representatives of public interest groups, conservation commission members, and other interested parties. The TAC first developed a series of plan objectives for the *SCORP 2000*. These objectives were to:

- provide reliable data on recreation resource availability and utilization;
- measure public perceptions of, desires for, and satisfaction with existing recreation resources;
- assess the capabilities of state and local agencies to sustain and or expand the current level of outdoor recreation opportunities;
- define and analyze, based upon the above data, the current and future critical outdoor recreation issues in Massachusetts;
- develop, evaluate, and select policies and actions designed to address the defined issues;
- prioritize policy decisions that optimize the efficient and effective use of resources available to the Commonwealth; and
- continue state and municipal eligibility in the federal Land and Water Conservation Fund program.

The TAC then created six core subcommittees based on specific outdoor recreation resources: Public Recreation in Natural and Sensitive Areas, Greenways and Trails, Water Resources, Urban Conservation and Public Recreation, Cultural and Historic Resources, and Wetlands. These subcommittees were directed by the TAC to identify key recreation issues and develop recommendations for their future use and protection.

To assist these subcommittees in their work, the Massachusetts Geographic Information System office (MassGIS) began to implement an aggressive inventory of all open space and recreation areas in the state by mapping the sites and storing data on the facilities. Town by town, information gathered and researched by volunteers and field staff was entered into centralized computers producing maps displaying every protected open space or outdoor recreation site and a data base providing information on ownership, use, facilities and other relevant information. In the past several years, MassGIS has hired an analyst dedicated

to open space mapping and analysis. This has facilitated continued updates of the open space data layer including new acquisitions done by state, federal, municipal and land trust organizations. An intensive effort has also been put towards mapping of the 3,000 permanent, non-state conservation easements in the state which have been approved by the Secretary of Environmental Affairs as required by state law. The open space maps and data, funded in part through the SCORP project, are available to municipalities and other users and are accessible to the general public via the Internet.

## How was the Demand Surveyed?

A third component of the SCORP project was a demand survey to measure public interest in and preference for outdoor recreation resources, activities and issues. A demand survey was developed by the SCORP TAC and refined and conducted by Chadwick, Martin, and Bailey, Inc., an independent research firm.

This survey provided important data for use by the TAC subcommittees and it is hoped this information will be utilized by government entities at all levels when developing public policy on outdoor recreation. More recently, EEA completed a detailed review of 160 Open Space and Recreation Plans completed since 2001. One of the purposes of this extensive effort was to gain additional information on demand for open space and recreation facilities in these communities (26 cities and 134 towns).

## Methodology of 2006 and 2000 versus Previous Plans

An historical hurdle for SCORP reports has been the presentation of data in a way that is useful to policy makers and program managers involved in conservation and outdoor recreation. Formulas designed to integrate inventories on recreation sites, survey results on public perceptions of outdoor recreation, and policy recommendations have tended to be overly prescriptive and difficult to interpret. For this report, data on outdoor recreation sites and data on perceived outdoor recreation needs, as identified through the statewide survey provided in Section III, are provided to help shape policy recommendations at the local, regional and statewide levels. This statewide plan provides the policy recommendations for the state as a whole, and suggests key issues at regional levels that should be incorporated into those regional plans. The local plan policies are not presumed here, but should reflect consistency with the policies and data this SCORP provides. This plan provides the larger geographical context for the local plans.

As a further word on integration of planning at differing geographical and governmental levels, the statewide SCORP reports have been very much that - i.e. oriented to the particular state without substantial reference to the wider geographical context for the state – in our case the New England or northeastern U.S. region. This inherent tendency of state plans is not fully addressed in this update, but is noted for consideration in the formulation of future plans, and as a reminder to the reader to put the information provided here in its New England context. By way of illustration, the survey data is collected specifically and only for visitations to facilities in Massachusetts. Hence, the degree to which those who seek experiences such as mountain hiking, down hill and cross-country skiing, wilderness canoeing, etc. in the northern New England states is not represented here. Conversely, since the survey was directed only to residents of Massachusetts, the visitation of this state's hallmark cultural, historical and coastal sites by out-of-state visitors is also not reflected in the demand and needs data. This point will be reiterated in appropriate locations throughout this plan as a caution in interpreting the data provided.

## Public Input for the 2006 Update

The following is a summary of the Public Input Component of *Massachusetts Outdoors 2006*.

### 1. The Statewide Land Conservation Plan

#### *Developing the Plan*

In the spring of 2001, EEA land staff teamed up with nonprofit and government partners to develop a statewide land conservation plan that would *set clear land protection goals and guide the land conservation efforts of all partners*. It was clear that only by working together could we hope to leave a legacy of conservation that preserves the valuable natural resources, community character and quality of life we enjoy in Massachusetts. Over a period of eighteen months, a volunteer Task Force of 33 persons from Massachusetts land trusts, conservation commissions, watershed associations, state and federal

natural resource agencies, and regional planning agencies collaborated to identify the highest priority open space areas needed to protect a connected network of the most important water resources, biodiversity habitats, working farms and forests, urban parks, and outdoor recreation areas.

The Task Force was supported by extensive work from MassGIS staff. More than 30 science-based plans and resource-related maps were digitized and overlaid. The Task Force agreed on a method that required three or more maps to coincide on a specific area in order for that resource to be considered of statewide or regional significance (and therefore, to be included in the Plan). The process of creating the map was further guided by a review of 30 municipal open space plans representing the most innovative land conservation plans for urban, suburban and rural communities. Finally, the Plan received in-depth input from municipal officials, recreational user groups and the general public at five public meetings held across the state. In 2003, an additional three meetings were held with 25 state and land trust staff to develop an implementation strategy for the plan.

## **2. Commonwealth Connections: A Greenway Vision for Massachusetts**

DCR, which owns and manages many greenways and trails in the state and works with private groups on many others, teamed up with the Appalachian Mountain Club, the nation's oldest conservation and outdoor recreation organization, and the National Park Service to lead the effort. Most of the information for this project was gathered through a series of interactive workshops, questionnaires and interviews involving hundreds of planners, land managers, grassroots activities, greenway and trail users, non-profit organizations, state and federal agencies and interested citizens. Participants were asked to share their knowledge of existing greenways and trails, to identify critical corridors for conservation and recreation and to work together to develop a broad vision for each region and ultimately for the state. Based on this detailed input and later analysis, DCR and its partners developed a set of recommendations that reflect the major themes and priorities heard across Massachusetts.

## **3. Urban Open Space Assessment Project**

This project is designed to assist community groups in identifying ecologically valuable, socially important sites in urban areas and determining a transformation or preservation strategy for those sites. This project included 24 meetings with stakeholders and interested citizens in Worcester, Lawrence and Holyoke. The meetings also included five focus group meetings. The project also included surveys. The project also included initial literature reviews to make sure that information that had already been collected was used. The project continues to be completed for Fall River and Somerville with private foundation funding and additional meetings are being held there.

## **4. A Summary of the 2005 Urban Land Protection Forum**

To address urban land conservation in Massachusetts, a small group of urban land trusts and urban conservation and land-use professionals have been meeting semi-regularly since 2004 to network, share project successes and stumbling blocks, and address common misperceptions about urban land protection.

The first gathering, *Improving Life in your City or Town: Land Conservation on a Neighborhood Scale*, was a day-long conference that took place in Lowell, MA, in September 2004 with former MA Governor and Presidential Candidate Michael Dukakis as the keynote speaker. With, more than 100 participants, this conference highlighted the uniqueness of urban land conservation work, the importance of sharing information within the state, and the sheer diversity of entities concerned about urban land conservation. The entities represented at this conference weren't just land trusts—participants came from state and federal agencies, municipalities, community development corporations, garden clubs, trail groups, neighborhood associations, watershed associations, environmental justice organizations, and more.

A few months later, participants from the Massachusetts Executive Office of Environmental Affairs saw the need to follow-up on ideas and concerns expressed at the 2004 Lowell conference. EOEA gathered the conference sponsors plus several more likely partners and began planning the *Urban Land Protection Forum: Creating a Land Conservation Agenda in Urban Areas*, described within this document which included 50 urban land conservation practitioners and advocates. EOEA and its partners have begun planning a follow-up urban land protection forum for the spring of 2007.

## **5. 160 Municipal Open Space and Recreation Plans**

States must maintain a current Statewide Comprehensive Outdoor Recreation Plan to qualify for federal Land and Water Conservation Funds. Similarly, communities in Massachusetts are required to prepare a municipal Open Space and Recreation Plan, also approved for a five-year period, to maintain eligibility for state Self-Help, Urban Self-Help, or federal Land and Water Conservation Fund assistance. Currently there are 160 approved plans, making 46% of the state's communities eligible for these discretionary funds through the Division of Conservation Services (DCS).

All DCS grants are partnerships between state and local agencies and are based on recommendations the applicant community makes independently in its Open Space and Recreation Plan prepared by volunteer groups or by consultants with help from DCS. While DCS approved plans are an eligibility requirement for participation in the grant programs, communities often prepare these plans regardless of the availability of grant assistance.

The factors that affect open space are identified and examined during the planning process, and strategies the community may use to protect and enjoy its character, natural resources and open spaces are developed. Protecting open space can provide profound economic benefits by helping to avoid the costly mistakes of misusing or overwhelming available resources. An open space and recreation plan is a blueprint for how to obtain the benefits of development without losing valued environmental assets. Open Space Planning Requirements, a companion workbook, and technical assistance are available from DCS. Open Space and Recreation Plans are not valid until they are approved by DCS.

Public participation is also required for the municipal plans, although each community may decide exactly how they obtain this input. Public participation lies at the heart of any planning effort. If a plan is to truly represent the range of views and hopes of the community, the public must be actively involved in developing it. Some of the techniques used on these plans include public meetings and forums, surveys, visioning sessions, working group meetings, and effective use of the media for education and outreach. Some of the better plans use a variety of these techniques, and some are combined within a single event (e.g., working-groups as a component of a public forum, covered by the local paper). Of the 160 plans currently on file at DCS, the public input statistics are impressive:

- 70%, or 112 planning projects, were compiled using some form of Open Space Planning Committee;
- 223 public meetings were held; and
- 55,516 individuals responded to surveys.

## **Focus on Major Issues**

The SCORP survey, open space and recreation inventory, and TAC policy reports were organized around general categories of natural resources, such as greenways and trails and water resources. From a review of the survey and inventory data and the policy discussions, issues emerged that were common to all of the resource categories. Consequently, these issues have been used as the framework for the recommendations of this report. The six major issues identified in the *SCORP 2000* were: Resource Protection; Planning and Enhancement; Education and Information; Partnerships; Funding; Access and Maintenance.

### **1. Resource Protection, Stewardship, Restoration and Enhancement**

At the heart of both active and passive outdoor recreation is an enjoyment of natural resources: clean air, clean water, healthy wildlife, flourishing habitats and vegetation, and scenic vistas. Quality outdoor recreation experiences are dependent on the protection, sound stewardship, restoration and enhancement of these resources, and, in areas where intense urbanization has displaced the natural environment, reclamation of vacant sites and creative greenway and playground development are needed.

### **2. Education and Information**

Public information and education play a pivotal role in outdoor recreation and must be expanded and tailored to encompass a wide variety of age groups, learning abilities and special needs. Informing the public about recreation sites and opportunities, emphasizing the careful stewardship of natural resource



areas, and communicating the health benefits provided by outdoor recreation, all help to ensure the public's long-term enjoyment of, and support for, outdoor recreation.

### **3. Partnerships**

In today's changing budgetary environment, solutions to all of these SCORP issues can only be realized through creative approaches to programming and protection of recreation resources. Partnership opportunities should be extended to as many partners as possible including both public and private organizations and individuals.

### **4. Funding**

Resolving most of these SCORP issues depends upon two additional factors: the creativity and vision of the people who devote their professional or personal time to improving and expanding outdoor recreation opportunities, and, equally important, funding. In both the public and private nonprofit sectors, local support for outdoor recreation is essential to ensuring sufficient government funding and charitable donations.

### **5. Access**

Outdoor recreation opportunities need to be accessible to all residents regardless of race, color, physical or mental challenges, place of residence, or age. Barriers to use of outdoor resources for recreation and relaxation, including lack of public transportation, physical impediments, and inappropriate or out-dated infrastructure, are all issues that need to be addressed in developing or improving outdoor recreation sites.

### **6. Maintenance**

To accommodate public need, recreation sites, trails, facilities, beaches, and playgrounds must be well maintained and appropriately staffed on a regular, continuous basis. Failure to do so, even for short-term reasons, can have long-term implications, decrease public safety and support, and adversely impact public recreation experiences. Commitment by the federal, state, and local governments to maintenance of outdoor recreation areas is critical, but creative ways to ensure proper maintenance levels must also be explored, including adopt-a-trail, adopt-a-park, and other public-private partnerships.

In addition to these original six issues, the following three were added for the 2006 update

### **1. Urban Focus on Resource Protection, Stewardship and Restoration and Enhancement**

Improve the quality of life in our 51 cities by providing new parks and renovating parks in poor repair, especially in neighborhoods under-served for parks and with a high percentage of young residents.

### **2. Innovate Tools for Land Protection**

Create innovative tools to meet long-range land conservation goals included in the Statewide Land Conservation Plan.

### **3. Long Distance Trail Protection, Development and Issue Resolution**

Work to complete the protection and development of key long distance trails and resolve trail use impacts.

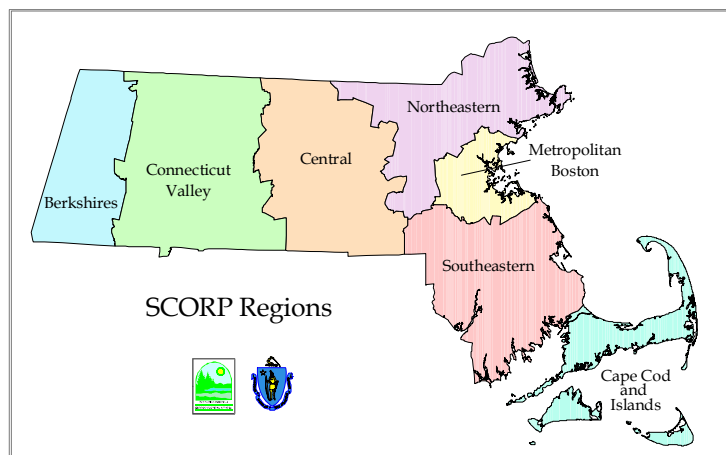
## About This Report

The *SCORP 2006* is organized into eight sections:

- Chapter 1. Introduction to *Massachusetts Outdoors 2006*;
- Chapter 2. Open Space and Recreation Supply;
- Chapter 3. Demand;
- Chapter 4. Needs Assessment;
- Chapter 5. The Regional Perspective;
- Chapter 6. Subcommittee Policy Reports;
- Chapter 7. Policies and Recommendations; and
- Chapter 8. Conclusion.

The SCORP report has traditionally been divided into a series of planning regions to make the report more meaningful and useful to the reader. To maintain continuity with previous plans, the *SCORP 2006* uses the seven-region model presented in the 2000 and 1988 SCORP. The boundaries of these seven regions generally correspond to county boundaries and are closely related to the planning regions that are used by other resource planning agencies. Recreation demand and needs findings are organized around this seven region model.

**Figure 1. 2006 SCORP Planning Regions**



## Outdoor Recreation Planning and Conservation Planning

This report primarily focuses on outdoor activities that take place on dedicated recreation resources (open space resources) such as parks, forests, beaches and trails. This report does not address outdoor recreation issues as they relate to predominantly built environments, such as bicycling on state roadways, though such areas can be and are significant resources for outdoor activities. State and local governments, highway and public works departments and planning agencies should consider the potential offered by roadways, plazas and other built areas for quality outdoor recreation experiences.

The major theme or issue of Resource Protection, Stewardship, Restoration and Enhancement referred to on the previous page acknowledges that outdoor recreation depends heavily on the quality of the environment for its satisfaction. Indeed, several activities surveyed and reported in the following sections – e.g. walking, photography, hiking, hunting, fishing, camping - are greatly influenced not only by the general attractiveness of the environment, but as much by the health of the wildlife and plant communities encountered. In these pursuits, there is a true and evident intersection of human recreation and environmental conservation interests.

However, it would be presumptuous to term this outdoor recreation plan as being synonymous with comprehensive open space issues whose ecosystem concerns go well beyond the scope of the survey of Massachusetts residents and an inventory of facilities. Open space advocates and environmental agencies such as the Massachusetts Executive Office of Energy and Environmental Affairs look forward to a time when such integration of comprehensive planning will occur.

For the present, however, we must look instead for the consistency of this SCORP, and actions which flow out of it, with other existing open space documents having either a specific conservation objective or a more comprehensive open space focus. Several such reports and studies have recently been released specific to Massachusetts, including:

- *The Statewide Land Conservation Plan*, Executive Office of Environmental Affairs, 2003.
- *BioMap: Guiding Land Conservation for Biodiversity in Massachusetts*, Mass. Div. of Fisheries and Wildlife, Natural Heritage and Endangered Species Program, 2001.
- *Massachusetts Natural Heritage Atlas: 12th Edition*, Mass. Div. of Fisheries and Wildlife, Natural Heritage and Endangered Species Program, October, 2006.
- *Living Waters: Guiding the Protection of Freshwater Biodiversity in Massachusetts*, Mass. Div. of Fisheries and Wildlife, Natural Heritage and Endangered Species Program, 2003.
- *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands*, Department of Environmental Protection, March 2006.
- *Comprehensive Conservation Wildlife Strategy*, Mass. Div. of Fisheries and Wildlife, July 2006.
- *Commonwealth Connections: A Greenway Vision for Massachusetts*, The Department of Conservation and Recreation, the Appalachian Mountain Club and the National Park Service, July, 2002
- *Urban Open Space Assessment Project*, The Trust for Public Land and the Urban Ecology Institute, July, 2006
- *A Summary of the 2005 Urban Land Protection Forum*, EOEa, Boston University, Greater Worcester Land Trust, Lowell Parks and Conservation Trust, The Trustees of Reservations, The Trust for Public Land and the Urban Ecology Institute, November, 2006.

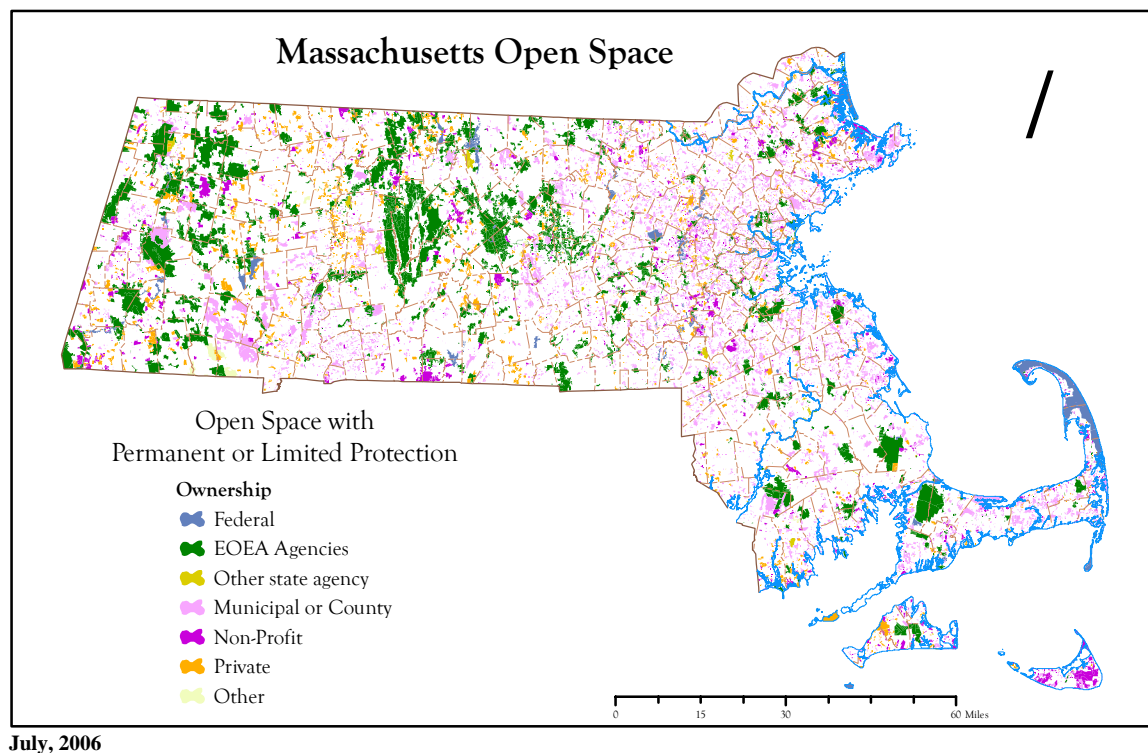
We seek in this report, and we encourage users of this report, to look to these additional planning documents for guidance and to balance recreation and conservation interests. We hope you will find this report a useful and valuable tool in your planning efforts and that the recommendations presented will be carefully considered when developing local and regional policies. We welcome your comments and suggestions regarding this report. Please direct all comments to the Executive Office of Energy and Environmental Affairs, Division of Conservation Services at (617) 626-1015.

## Chapter 2. OPEN SPACE AND RECREATION SUPPLY

Massachusetts is fortunate to have a rich variety and abundance of natural splendor and related recreation amenities. From Race Point on Provincetown to the top of Mount Greylock in the Berkshires, residents and visitors alike can find opportunities for most any pursuit they can think of - from skiing and skating in the winter, to sailing and swimming in the summer, to hiking and hunting in the fall. Recreation opportunities abound in rural, suburban and urban settings. In many cases, open spaces such as greenways, bikeways, long distance trails, and river corridors help connect these settings, creating a continuum of landscapes and built environments that introduce residents and visitors to different aspects of the Commonwealth's land, people and industry. This section summarizes the recreation opportunities available in Massachusetts.

Massachusetts has been a leader in the open space arena, both in the public and private sectors. With 160 land trusts, the state has the second largest number of private land trusts in the nation. Together with the public agencies, the inventories reveal that current recreation and protected conservation resources in Massachusetts account for over 20% of the land area of the state.

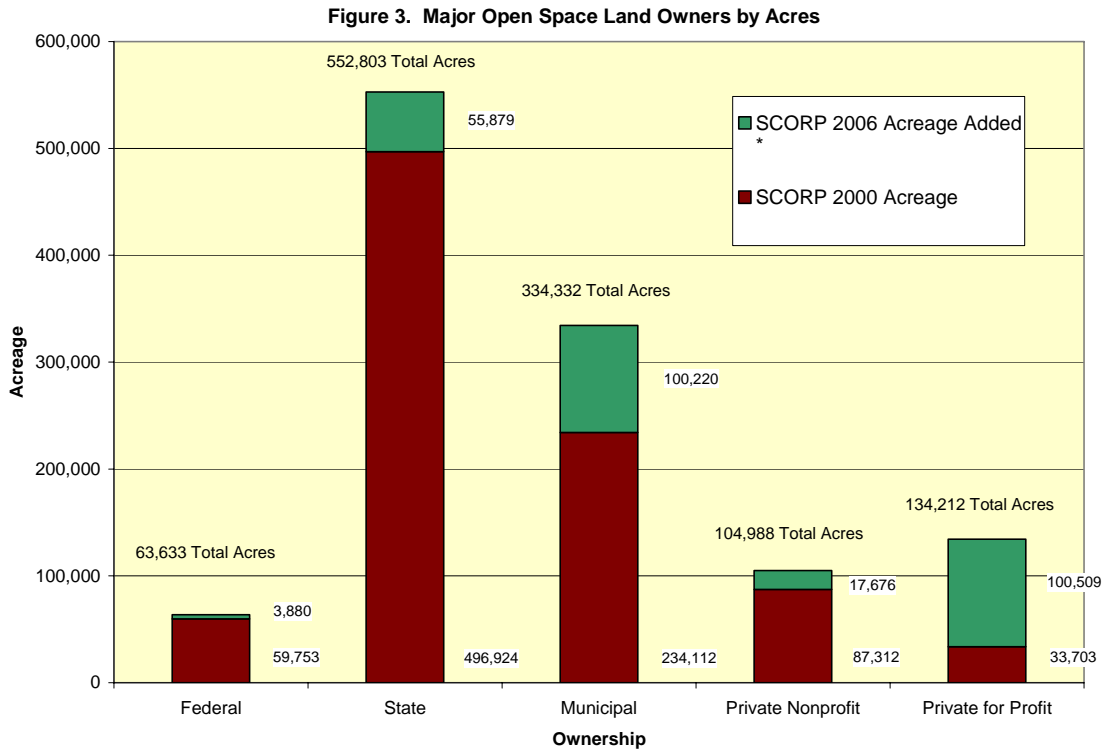
### Ownership and Management of Open Space Lands



**Figure 2. Massachusetts Open Space Shown by Type of Owner**

#### State Agencies

State Agencies are the principal landowners, responsible for over 550,000 acres. These sites tend to be quite large as indicated by the relatively small number of sites owned by state agencies. Municipalities are the second largest landowners but own the greatest number of sites (over 15,000). Private nonprofit and for profit owners are also important recreation landowners.



The larger state forests include October Mountain at 16,127 acres, Myles Standish at 14,700 acres, and Mt. Greylock State Reservation at 12,500 acres. The state's environmental agencies within the Executive Office of Energy and Environmental Affairs (EEA) control most of the Commonwealth's open space resources. EOEa agencies include the Department of Conservation and Recreation (DCR), which manages state parks, beaches, forests; and regional water supplies in the central part of the state that serve the metropolitan area; and the Department of Fish and Game (DFG), which oversees marine resources as well as terrestrial wildlife management areas. A full range of recreation activities, both passive and active, are provided by these two agencies. DFG sites are generally open to the public free of charge, although income is generated through hunting and fishing licenses to support further land acquisition.

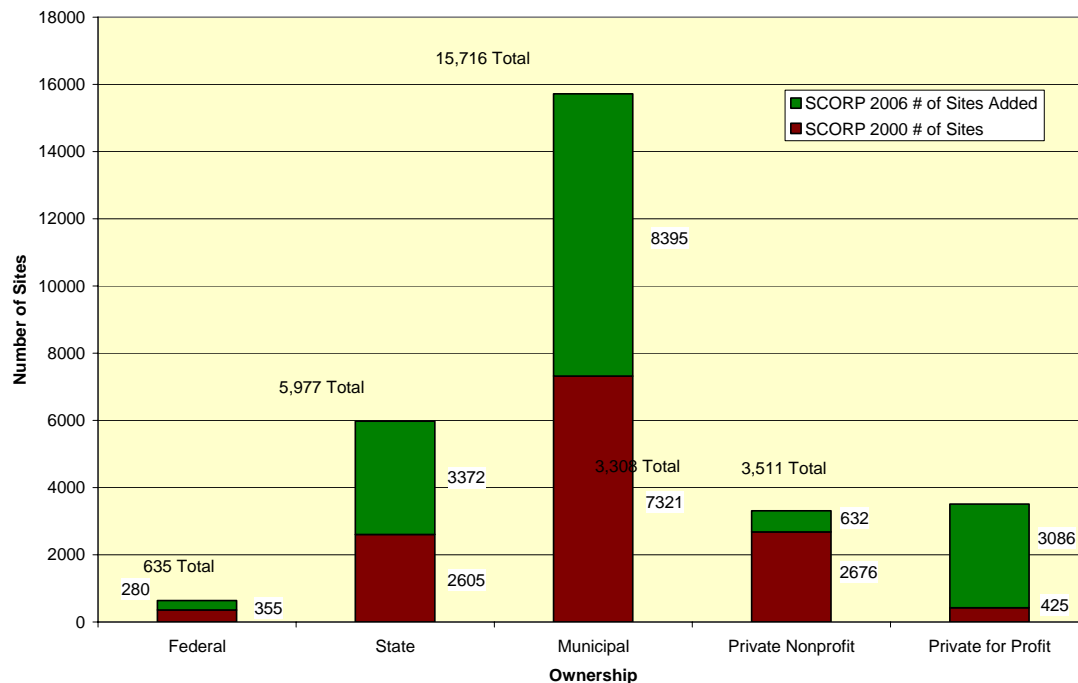
In addition, the EOEa includes three land protection programs that are dedicated to assisting less-than-fee or non-state ownership of resources. Two are administered through the Department of Agricultural Resources (DAR), which protects agricultural and soil resources, and the scenic and economic (food production) resources associated with farming; and the third through the Division of Conservation Services (DCS), which administers EOEa's approval of non-state funded Conservation Restrictions (easements), and grants conservation and recreation funds (both state and federal) to the cities and towns through their parks and conservation commissions. Both DAR and DCS programs operate on a competitive application basis.

### **Municipalities**

Municipalities are the second largest landowners in the state, but own the greatest number of sites, over 15,000. Total acreage under municipal ownership reflects both the infusion of state and federal funds and the growth in importance of the conservation commissions created by the state legislation in 1957. The commissions' main goal is resource conservation, and they are usually responsible for managing municipal conservation land. In addition, these commissions are the administrators of the state and local wetlands and river protection permitting processes, an increasingly heavy burden that has become the focal point of most commissions' energies. In many cases, this responsibility has been addressed to the exclusion or detriment of active local land protection and management efforts. In response, many towns have developed open space committees and local land trusts to fill conservation needs. The 1998 passage of the

Cape Cod Land Bank in fact institutionalizes this development for 15 towns plus the town of Marion, by requiring such committees while leaving their make-up to the towns to decide. The possibility of joint membership of some members from the conservation commissions, planning boards and recreation commissions is thus left open.

**Figure 4. Major Open Space Land Owners by Number of Sites**



\* Please note that Figure 4. also reflects the fine tuning of MassGIS data collection since SCORP 2000. The clarified definitions of parcels and other data management categories, as well as better data collection methods, has had an impact on the numbers for 2006 versus 2000

Parks and recreation departments are major municipal land managers and are responsible for a large number of sites. School departments should also be considered, for contained within nearly every school property is some kind of outdoor recreation facility, often with unrestricted access if not legally protected open space. The acreage controlled by water departments are also significant, but often have restricted recreation access due to both real and perceived conflicts between protection of water quality and recreation use.

#### **Private Nonprofit and For-profit Owners**

Private nonprofit and for-profit owners are also important recreation landowners, although the scope of recreation activity or population served by these sites is much more limited or special purpose than the publicly owned “portfolio”. Among private nonprofit land managers, land trusts protect the greatest number of acres. The state’s three largest land trusts, Massachusetts Audubon Society, the Trustees of Reservations and The Nature Conservancy alone account for over 75,000 acres.

The type of recreation activities allowed on private nonprofit sites varies with the mission of the organization. In the case of land trusts, the primary goal is most often resource conservation, and therefore, certain types of active recreation are restricted. Opportunities for more passive pursuits, however, such as nature study, walking, and historic appreciation are abundant. Other private nonprofits have a more active recreation focus. For example, fish and game clubs provide numerous opportunities for hunting and fishing, while Boy Scout and Girl Scout camps provide a full range of both active and passive

recreation opportunities. Indeed, these latter two groups of land owners, controlling nearly 12,000 acres of land largely without permanent open space protection represent one of the most important land protection opportunities in Massachusetts. As demonstrated in several recent DCR and DFG acquisitions, the sale or gift of conservation restrictions to the state or other qualified recipient, while leaving the fee ownership, use and management of the land with the private owners, can be of great benefit to both the public and these recreation oriented non-profit groups.

Private for-profit recreation resources include golf courses, campgrounds, and ski areas. Golf courses have had particularly notable growth in popularity in recent years, perhaps exceeding a similar trend in tennis during the 1980's. Private campgrounds, although they occupy little land area and are not abundant statewide, add to the somewhat constrained supply of public campgrounds, especially in certain parts of the state. Another private recreation resource not reflected in the chart data are the private marinas, which, although they also occupy little space, are abundant and significant resources in the coastal region and on major lakes and rivers. All downhill ski areas in Massachusetts are privately operated (although several lease public land), and although they generally offer less vertical drop and fewer runs than the major northern New England resorts, they offer the great advantage of being eminently easier to reach. The expansion of night skiing and snow making capability has strengthened the niche market of these local areas.

Taken together, the for-profit recreation facilities add a much valued dimension to recreation opportunity in Massachusetts. While available on a fee basis and generally representing significant costs not available to all households, they provide a type and level of service difficult if not impossible for the public landowners to offer. They also help to address demand, thereby reducing demand on public and non-profit facilities.

### **The Federal Government**

The federal government owns and manages a smaller but strategic number of sites, most notably the Cape Cod National Seashore, the Parker River, Great Meadows and Oxbow National Wildlife Sanctuaries and the Cape Cod Canal, all important elements of the recreation and conservation complex of sites in Massachusetts. In addition, there are a number of small sites that also have very high visitation numbers, including the Minuteman National Park and U.S.S. Constitution.

Joint ventures with federal, state and local interests have been very successful. In Southeastern Massachusetts, the Waquoit Bay Research Reserve and Mashpee National Wildlife Refuge in the coastal plain ponds north of Myles Standish State Forest in Plymouth are outstanding examples where several joint acquisitions have been completed since 2000. In the Connecticut Valley, conservation restrictions on 2,000 acres along the Deerfield River were achieved through the Federal Energy Regulatory Commission's licensing of hydropower facilities. The USDA Forest Service's Forest Legacy Program has helped the state and land trust community protect over 3,000 acres since 1995 with many acquisitions completed since 2000.

Among the federal agencies, the National Park Service (NPS) is the largest federal landholder, mainly due to their holdings in the Cape Cod National Seashore. The Department of Defense (DOD) is the second largest landholder, and although these lands have traditionally been inaccessible for recreation, they play an important role in protecting wildlife and plant habitats due to large, relatively undisturbed buffer areas that accompany defense installations. DOD sites are also important in light of recent decisions to close military installations, creating the need for military land re-use plans which could potentially include recreation use. Three active examples in Massachusetts include the former Natick Laboratories property in Sudbury and Hudson, now largely a DCR State Forest, the Oxbow National Wildlife Refuge, formerly part of Fort Devens, and, still pending, the possibility of conversion of wetland portions of the Weymouth Naval Air Station to conservation use. The extraordinary Mass. Military Reservation conversion now in progress is actually a property in state ownership, under lease to the National Guard, Coast Guard and Air Force. The plan to convert 15,000 acres of its northern section to wildlife refuge and water supply protection has been finalized since 2000 with state legislation dedicating the land to conservation the signing of an agreement between the state and federal agencies. The Army Corps of Engineers (ACOE)

and U.S. Fish and Wildlife Service (FWS) account for the majority of the remaining federal agency holdings.

In terms of recreation use of these lands, the NPS provides the greatest number of recreation opportunities for swimming, hiking, picnicking, and boating along the National Seashore, along with providing opportunity for historic appreciation (sightseeing, photography) and touring at their many historic sites. FWS limits recreation to protect important habitats and wildlife but still provides opportunities for walking, hiking, boating, and nature study. ACOE's main mission is water management, but they do allow various forms of water-based recreation and biking in some areas.

### **Updating the SCORP Inventory**

The 1988 *SCORP* contained a comprehensive inventory of open space and recreation facilities for the entire state. Data was collected on federal, state and local lands, providing information such as owner, location, access, and facilities for each property.

In 1993 a project to update the 1988 inventory, create a new database to store the information, and most importantly, link the new database to a geographic information system (GIS) began. This inventory is continually updated by staff at MassGIS, regional planning agencies, municipalities and other organizations. The land resources supply data from the ongoing inventory presented here are limited in this discussion to the number of acres and sites under different ownership. However, a host of additional data, including information on public access, primary use, address, secondary interests (e.g. conservation restrictions) is available through MassGIS.

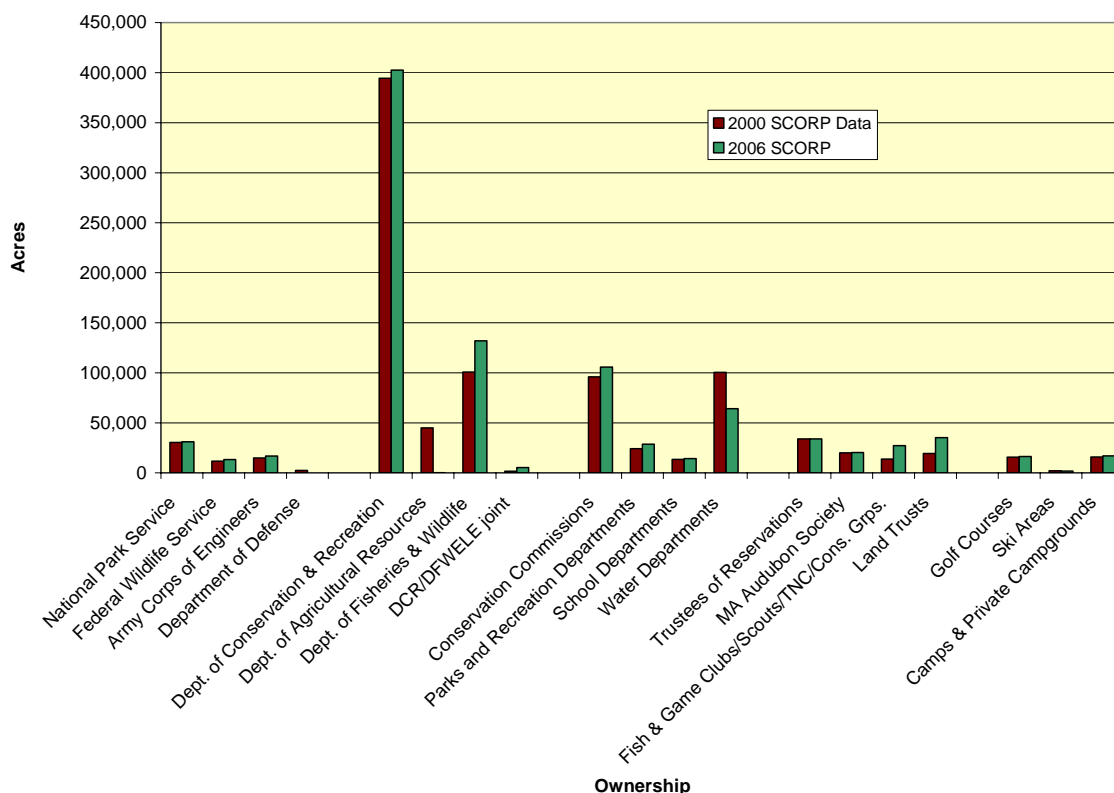
This project, the Open Space Mapping Project (OSMP), allows spatial display and analysis of both open space and outdoor recreation data through GIS, as well as improved viewing capabilities. The *SCORP 2000* contributed to the development of this new open space update, database, and GIS link, and future planners should find the system a valuable tool in developing subsequent *SCORP* documents. Data from the Open Space Mapping Project is contained in this report. For more information on OSMP please visit the web site at <http://www.mass.gov/mgis/massgis.htm>.

### **Distribution of Recreation and Protected Land**

A review of the status of protected open space shows that approximately one-fifth of the Commonwealth's land area is protected. Note, however, that only a portion of the recreation areas listed in the chart below are permanently protected open space. Protected areas are generally all state and most federal lands (not ACE facilities, nor DOD installations), but only some municipal and private lands. Facilities or land owned by municipal school departments, boards of selectmen, fish and game clubs, Boys and Girls Scouts, golf courses, ski areas and private campgrounds and camps generally have either temporary or no "protected" status. Without legal protection, these areas are vulnerable to a change of use, and the resources could easily be lost.



Figure 5, Acreage Held by Major Open Space Landowners



Studying the statewide and regional distribution of the lands shown in the table below reveals conclusions that are at once both obvious and surprising. Not surprisingly the largest region, the Connecticut Region, also has the largest open space and recreation acreage. Similarly, the smallest region, the Metropolitan Boston Region, has the smallest open space acreage. A comparison by percentage, however, of the amount of open space to the size per total land area in the region reveals that the Connecticut Region ranks only fourth highest among the planning regions, while the much more urbanized Metropolitan Boston Region ranks third. This statistic becomes even more striking when you consider that the Metropolitan Boston Region contains approximately 32% of the state population but only 4.8% of the land area.

Figure 6. Open Space and Recreation Acreage by Planning Region

Planning Region	Population 2000 Census	Regional Land Area	Open Space/ Recreation Acres	% Regional Land Area in OS/Recreation	Contribution to State Open Space Total	% Total MA Land Area
Berkshire	143,418	597,043	193,192	32.4%	16.2%	3.9%
Connecticut Valley	703,502	1,185,741	277,863	23.4%	23.3%	5.5%
Central	834,160	962,131	214,369	22.3%	18.0%	4.3%
Northeastern	1,471,391	762,829	164,707	21.6%	13.8%	3.3%
Metropolitan Boston	2,074,516	239,795	66,053	27.5%	5.5%	1.3%
Southeastern	1,278,500	915,981	161,163	17.6%	13.5%	3.2%
Cape Cod & Islands	253,196	353,235	113,793	32.2%	9.6%	2.3%
Statewide	6,758,683	5,016,755	1,191,140	23.7%		23.7%

A large percentage of protected lands occurs, as expected, in the Berkshire Region (29.5% of regional land area in open space use), yet a much higher percentage of recreation and protected lands occur on the Cape and Islands (42.1%), and the Berkshires are followed closely by the Metropolitan Boston Region, which has achieved 26.0%. The Northeastern Region ranks fifth in open space acreage and percent of regional land area in open space, while having the second highest population. As recently recognized, the Southeastern Region trails the state in percentage of land area protected or in recreation use at 14.0%, yet has the third largest population, just behind that of the Northeast at 1.1 million and growing rapidly.

Recognizing this trend compelled the EOEa to embark on the Scenic and Natural Diversity (SAND) Program to dedicate a minimum of \$30 million in open space funds to this region in the period of Fiscal Years 1998 through FY 2001. This funding also recognized this region and the Cape as the most rapid growth areas of the Commonwealth over the last and next 10 years. Some 7,135 acres were added to the open space inventory through this program. Many other important conservation parcels have been protected since 2001. Among the many exciting additions in the Southeastern Region are:

- Conservation and hunting areas in Mattapoisett and Rochester at the Haskell Swamp;
- The protection of the 800 acre Camp Catchlot adjacent to the Myles Standish State Forest; and
- The new 206 acre Nasketucket Bay State Park in Mattapoisett providing over 3000 linear feet of new coastal access.
- The 300 Santuit Pond acquisition in Barnstable and Mashpee – the largest remaining unprotected land on the Cape
- The permanent dedication of the 15,000 acres at the Mass. Military Reservation to conservation
- The dedication of 425 acres of prime agricultural land to permanent conservation at the state prison facility in Bridgewater
- The acquisition of 3,800 acres adjacent to state and city water supply land in Fall River to create the Southeastern Mass. Bioreserve in partnership with the state, city and The Trustees of Reservations which is planning to build a visitor center to serve the urban youth of the Fall River area on land it acquired as part of this project
- The acquisition of 28 acres with one half mile of ocean front at the former Joslin Diabetes Camp in Plymouth by the Town in partnership with DCR and the Wildlands Trust of Southeast Mass.
- The protection of 1,200 acres important for many rare species to complete the “Plymouth Challenge” project
- The acquisition of 1,600 acres in Halifax including the largest cranberry bog in the world where the restoration of this wetland area is now being planned

Since 2003, EOEa has increased its focus on protecting threatened important natural resource land in high growth areas near existing protected land. When measured by the number of people living within one mile of each acre protected, EOEa has doubled this figure over the past 4 years. Also, the “connectedness” of each acre protected (as measured by length of common boundary with existing protected land) has increased by 46% in the past 4 years. Statewide, other major additions to the inventory since the 2000 SCORP include:

- Two acquisitions in Groton – the 260 acre Gibbet Hill parcel and the 360 acre Surrenden Farm – among the most scenic parcels in central Massachusetts
- The Tully Initiative along the New Hampshire border which protected 9,000 acres in over 100 parcels via working forest conservation easements in four towns linking to thousands of acres already protected in this highly valuable natural resource area
- A conservation easement over the 135 acre Thompson Island, the last unprotected island in Boston Harbor
- The dedication of 1,500 acres in Templeton to permanent conservation at a state school for the mentally retarded
- The acquisition of 135 acres extending the Neponset River Greenway with an innovative partnership of DCR and The Trustees of Reservations that includes an endowment for future care of the land

- The acquisition of a 234 acre former ski area in Holyoke adjacent to several thousand acres of protected land on the Mt. Tom range in partnership with DCR, USFW, The Trustees of Reservations and the Holyoke Boys Club with the ski lodge now used as an outdoor center for urban youth

In addition, the Martha's Vineyard and Nantucket Land Banks, providing dedicated local funding for open space acquisition, have been in operation throughout the period since 1988, having great effect in the islands' efforts to meet the demands placed upon them for scenic, water-based, and historical recreation visitation. To these innovative funds the Commonwealth added legislation and matching funds to create a Cape Cod Land Bank, commencing operation July 1, 1999.

Now every community has the opportunity to create its own source of local funds using one of the most significant conservation and recreation land tools to be added in Massachusetts in recent years, the Community Preservation Act. This state law allows cities and towns to raise their local property taxes and dedicate this funding to conservation and recreation projects, affordable housing, and historic preservation projects with at least 10% required to be allocated to each area. The municipal funding is matched by a state deed transfer tax. In the past four years, the 119 municipalities that have adopted this law have spent \$87.5 million on conservation projects and \$15.5 million on recreation projects.

### **Per Capita Distribution of Recreational Areas**

Clearly, the geographic distribution of recreational areas, or sites, must also be viewed in light of population distribution, and it is obvious with the concentration of population in the eastern part of the state, near the coast, that people are far less evenly distributed than are acres. The per capita acres of recreation and conservation land available within the Metropolitan Boston Region are predictably low, at .03 acres per person (or 300 acres per thousand, as some of the national recreation standards would be expressed). This region is followed by the Northeastern and Southeastern Regions, at .11 and .13 acres per capita respectively. A little more surprising, notwithstanding the presence of the state's second largest city, Worcester, is that the large Central Region only reports .26 acres of open space per capita. Conversely, the Berkshires and Cape Cod and Islands Regions seem flush with recreational opportunity, at 1.35 and .45 acres per capita respectively, until one stops to think of the level of both in-state and out-of-state visitation these particular regions receive. Figures for the out-of-state visitors, as will be noted again, are not represented in the demand survey figures provided in the next chapters.

The discussion of these supply-side statistics and patterns in the policy and recommendation sections in subsequent chapters must grapple with the age-old dilemma of making sites accessible to people where they live, while also recognizing the value placed on wilderness experience and travel to exotic locations whose very power of attraction comes from their distance from home. Massachusetts' environmental agencies have come to know that both are critically important.

### **Types and Uses of Recreational Areas**

Recreation takes many forms. It can be active or passive, physically challenging or psychologically soothing, an individual endeavor or a family activity. Recreation can be pursued in one's own backyard, or in a state park miles from home. Most importantly, recreation is a diversion from the routine of every day life. It is what we do for relaxation, how we spend time with family and friends, and how we keep in touch with the natural world around us. It is as Webster's defines it: "a refreshment in body or mind".

The raw number of acres in either protected or recreation use (and not always protected open space) reported in the prior section is further refined here, and expressed more specifically in terms of the number of recreation sites, and types of recreational activities represented. To render the large amount of information produced in this SCORP a little easier to grasp, the 38 specific recreational activities documented here have been grouped into five general categories:

- field-based;
- passive;
- trail-based;
- water-based; and

- wilderness.

This categorization represents a slight elaboration on the 1988 SCORP categories, where “Natural Resource Facilities” have now been broken into “Wilderness”(e.g. camping, hiking) and “Passive” (e.g. sunbathing, nature painting and photography) activities. The former “Recreation Facilities” are now “Field –Based Activities” which includes baseball, basketball, football, soccer, golf, tennis, playgrounds, volleyball and ice skating at rinks. Collectively, all of these activities require formal and often extensive site development. The former “Transportation Activities” are now described as “Trail-Based Activities”.

The five general categories of recreational activities that are available across the state are listed below. The table shows availability of these activities, whether formally or informally available. That is, activities that occur at sites that are not designated for that activity are counted. The purpose of the data is to show the activities that are actually occurring, not only those that have been designed for, and consequently this method gives an expanded estimate of activities. The total number of sites for all activities across the state is listed at the top of the table. Activities have been grouped into five categories based on the similarity of the recreational areas, or resources, on which they take place.

**Figure 7. Number of Sites by Activity \***

Activity	Statewide	Berkshire	Connecticut Valley	Central	Northeastern	Metropolitan Boston	Southeastern	Cape Code and Islands
# of Sites	10,963	488	1,283	2,526	2,526	1,956	2,107	1,326
Field-Based	9,920	516	1,554	1,379	2,041	2,217	1,580	631
Passive	8,708	525	1,009	1,024	2,066	1,241	1,552	1,291
Trail-Based	12,859	1,041	2,038	1,935	3,466	1,208	2,041	1,130
Water-Based	7,853	476	933	1,008	1,545	781	1,514	1,572
Wilderness	1,619	162	286	276	296	30	319	150

\* 2000 SCORP Data

Statewide, the largest number of existing recreational areas appears to be dedicated to trail-based and field-based activities, with the number of sites for passive recreation and then water-based activities following relatively closely. By a long margin, however, the fewest number of sites are available for wilderness activities.

This table also illustrates that opportunities for certain field activities are significantly more abundant in one region than another. Basketball, tennis, and playground opportunities are more abundant in the urban the Metropolitan Boston Region than in the suburban and rural regions. As with field activities overall, this finding can be attributed to the relatively small area required for these facilities and the limited land area available for recreation in the metropolitan Boston area. Sightseeing and touring opportunities are most abundant in the Metropolitan Boston and Cape Regions, most likely a result of the high concentrations of recognized historic sites.

A look at regional patterns reveals some unexpected patterns. The Berkshire towns report the fewest number of total sites – perhaps because of larger size of sites and lesser population. However, even the number of wilderness and trail sites, which would be expected to be larger, is much lower than other regions.

Conversely, the Northeastern Region, encompassing Middlesex and Essex Counties, ties the Central Region for the largest number of sites overall and reports significantly more individual sites of all kinds than all other regions. While surprising, this conclusion is born out to some degree by the survey of where state residents have reported recreation experience (see Chapter 3: Demand). That 1995 survey ranks the Northeastern Region first or second in 7 out of 12 categories of reported usage of facilities in the region. Yet, the Northeastern Region contains only a modest number of the state’s total recreation acreage, ranking fifth out of the 7 regions in open space acreage. This implies both a higher density of activity per site, and

higher utilization and visitation rates than other regions. Most notable is the much larger number for passive and trail-based activities in the Northeast than other regions.

Other patterns of different regional activity worth noting here are the apparently strong supply of trail-based, water-based and wilderness activity in the Southeastern Region, a region which ranks in the mid to low ranges in total number of sites and acreage respectively. Also, the rough three-way tie for supply of water-based facilities among the Cape, the Northeastern and the Southeastern is notable. Notwithstanding, the Cape and Islands, renown nationally and world-wide as a beach and resort destination, it is clear that state residents have equal numbers of water-based facilities on the North Shore (Northeastern Region) and South Shore and South Coastal areas (Southeastern Region). The varying usage of these resources reported by state residents, however, reveals interesting resource patterns that underlie these generalities. These patterns will be discussed in the following Demand chapter.

Field-based activities are the most abundant within the Metropolitan Boston Region, which is reasonable to expect considering the region's large population (thus high recreation demand), the limited acreage available for the development of open space and recreation facilities, and the relatively small areas required for field facilities. Field-based activities rate as the second most abundant on Cape Cod, the Northeastern and Southeastern Regions.

### **Access for People with Disabilities**

One overriding characteristic of recreation facilities and activities important to a significant portion of the public is access for people with disabilities. The Chadwick, Martin and Bailey Inc. demand survey identified that over 20% of Massachusetts' households contain someone with a disability. Sensitivity to those with special needs has risen over the years, culminating in 1990 with passage of the Americans with Disabilities Act (ADA). The ADA requires that open space and recreation facilities, among many others, are accessible to people with disabilities. The 1988 inventory revealed that the most accessible facilities at open space and recreation sites were comfort stations and visitor centers. The resources themselves were generally less accessible. Statewide inventory findings revealed accessibility levels as high as 24% at facilities for field activities, while many of the water-based facilities and trails reported much lower levels of access.

State and municipal park and open space agencies are implementing plans to address access issues for people with disabilities. Information on the accessibility of recreation sites is generally available from the state agency, municipality or nonprofit organization that manages the site.

Finally, it should be noted that total abundance is only one measure of availability. The qualitative aspects of the recreation experience are also of great importance. For that reason, levels of use and satisfaction are explored in the following chapter on demand.

## Chapter 3. DEMAND

Central to a discussion and determination of recreation needs is an understanding of recreation demand. The Information Subcommittee was responsible for determining the approach to demand analysis in the *SCORP 2000*. The first step in this evaluation was a review of the 1988 demand data to assess its usefulness to the new SCORP. Several years had passed since the previous survey had been conducted, and that approach was structured around resources, not activities. Consequently, the Subcommittee began to determine a new approach for the *SCORP 2000*.

A general population survey was designed, conducted, and analyzed in preparation for this report. The consulting firm of Chadwick, Martin, and Bailey in Boston developed the survey. Detailed methodology, findings, and a copy of the survey instrument for the phone survey can be reviewed by contacting the Division of Conservation Services.

### Summary of General Population Survey Methodology

The main focus of the demand analysis was on development of the general survey. The major objectives of this survey were to present usage patterns, test satisfaction with outdoor recreation areas, and evaluate unmet needs. Resources in the Commonwealth were organized into 12 groups and data were collected and analyzed according to these groups.

The sample for the survey was all Massachusetts residents 18 years of age or older. Respondents identified themselves as 18 years or older but not necessarily as head of household. Respondents were selected proportionately from the seven SCORP planning regions. An oversample of two groups, African-American and Hispanic, were collected to ensure sufficient representation. These oversamples were collected using lists of minorities based on the density of racial and ethnic distribution and resident surnames.

Telephone interviews were selected as the survey tool. Twenty-minute interviews were conducted in the first three weeks of April, 1995. Calls were made during weekday evenings and on weekends during the daytime. Respondents were selected using a random digit dialing procedure, ensuring selection of unlisted phone numbers. A three-callback rule was followed to ensure that all potential respondents were given the opportunity to participate in the study.

A total of 1,434 samples were obtained (including oversamples) and were weighted by region, age, race, and gender based on the 1990 U.S. Census data. This method gave a more accurate statewide representation.

Respondents were asked about their resource use within the past 12 months, including number of visits, overall satisfaction, and type of activities participated in. Respondents were also asked about satisfaction and dissatisfaction with specific sites based on a random selection of two resources from within the 12 categories of resources they had indicated visiting. These categories represent the range of natural resources available in the Commonwealth.

Respondents were then asked detailed questions about the two most often visited resource areas, including location, ownership, and mode of travel. Finally, respondents were asked about unmet need, funding for recreation; basic demographic characteristics were also collected. Throughout the survey, respondents were allowed to give open-ended answers to most questions. This method generated more accurate responses, as respondents indicated exactly how they felt rather choosing from a limited, pre-selected response list. Open-ended responses were then coded and recorded.

It is important to note that results shown are based on the region people live in, which is not necessarily the region they visit to recreate. Information on location of recreation resources is available, but the majority of the results are based on place of residence. Finally, statistically significant differences are noted on certain data tables. This notation indicates statistical difference from statewide results.

### Survey Limitations

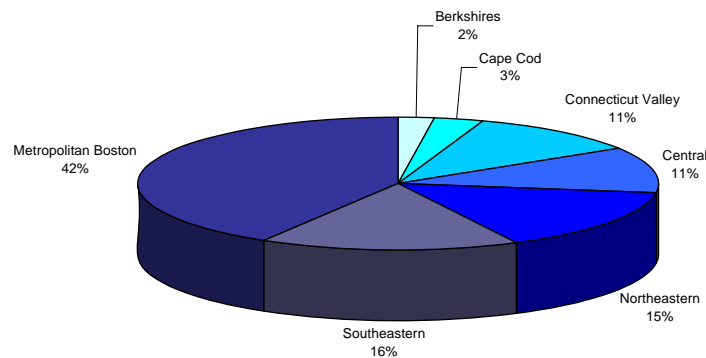
The fundamental nature of sampling is that a relatively small number of individual members of a population are selected and used to make inferences about the general population. An adequate sample size is chosen to ensure sample statistics accurately represent those of the population. Sampling always involves some degree of error usually due to the sample size and population.

In this study the error rate for the entire sample was 2.6%. However, the error for each regional sample changes, depending on the regional sample size. The quotas that were set for each region result in higher confidence levels at larger sample sizes. For example, the error range for regions where over 100 calls were made was 9.8%, while the range for the Metropolitan Boston Region, where 600 calls were made, was 3.9%. Although there is variation among sample error, all error ranges are within acceptable limits, allowing reasonable confidence in data accuracy.

The statewide results shown in this study should be considered carefully. Statewide measures do not give proper insights into regional differences, which many times are more significant and more revealing. Regional results have been reported whenever possible, but due to the expense of data collection and resulting limitations on sampling population, certain results can only be reported at the state level. In these cases, regional analyses do not provide adequate sample sizes to yield meaningful results.

### Sample Population

Of the 1,434 interviews completed, the majority were taken from respondents within the eastern portion of the state: the Metropolitan Boston, Northeast, and Southeastern Regions. The more heavily populated areas required larger sample sizes. The survey sample closely followed the racial makeup of the state, as well as the age breakdown and percent of those households with a disabled person.



**Figure 8. Respondent Profile by Region**

### Demand for Recreational Areas

As mentioned earlier in this report, recreational activities were grouped into 5 general categories. Similarly, recreational areas were also grouped into 12 general categories. The Information Subcommittee felt that the demand survey would be most useful if it could provide clear indications of both the types of recreation activities, as well as types of recreational areas (or resources) that should be provided across the Commonwealth. Demand data was analyzed, and findings were reported in terms of these 12 recreational areas. Each type of area is defined as follows:

## 12 Major Recreational Areas

Recreational Area	Description
Rivers or streams	Rivers or streams and associated lands
Lakes or ponds	Lakes or ponds and accompanying lands (e.g., lake or beach)
Coastal beaches or coastal shorelines	Beaches, cliffs, rocky shorelines
Wetlands	Inland or coastal marshes, estuaries, bogs, swamps
Bikeways	Paved corridors primarily for bike use such as the Cape Cod Rail Trail
Trails or greenways	Corridors of open space or long distance trails.
Wildlife conservation (or management) areas	Significant wildlife habitat areas or sanctuaries (e.g., Audubon Sanctuaries)
Mountains	Mountain ranges (e.g., The Berkshires)
Forests	State, town, or private forest lands
Agricultural lands	Farm lands, orchards, vineyards
Historic or cultural sites	Buildings, landscapes, archeological sites
Parks and Golf Courses	Local or neighborhood parks, often in urban environments (e.g., playgrounds and totlots, basketball and tennis courts, baseball fields, soccer fields, and town commons); and golf courses.

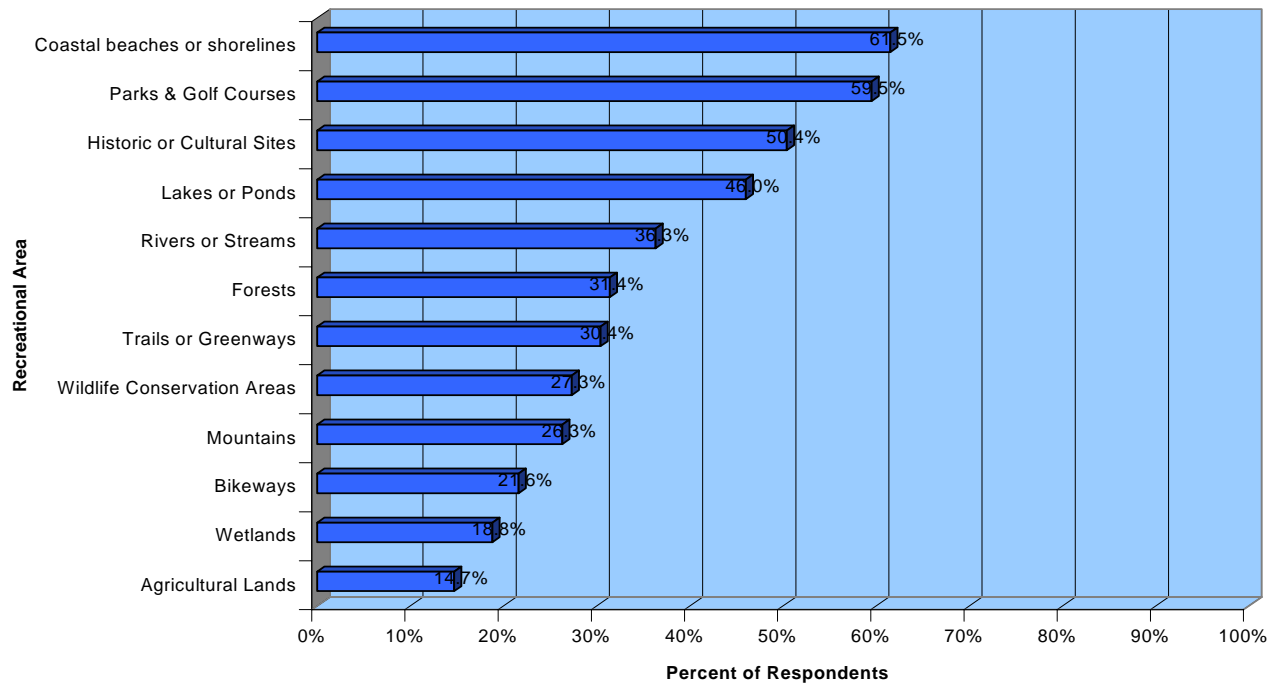
These recreational categories were created based on the type of resource area necessary to accommodate the various recreational activities. Please note that while the last category, Golf Courses and Parks, may seem rather broad at first. It was based on the concept that these are recreation areas that require development in order to accommodate recreational activities. For a separate and more detailed analysis of which types of recreational activities were in demand, i.e. golf or soccer or playgrounds, please refer to Chapter 5: The Regional Perspective.

### The Popular Outdoor Recreation Areas Statewide

Based on survey responses of how many day trips and overnight trips were taken in the last 12 months prior to the survey to sites in Massachusetts, the relative popularity of the outdoor recreation areas can be ranked. The resource areas experienced by most residents statewide (visitation rates higher than 30%) were:

- the coastal beaches and shorelines, with 61.5 % of respondents indicating visitation, and a projected usage of nearly 111 million person-trips annually;
- golf courses, parks, playground and tot lots were reported by 59.%; at 101 million person-trips per year, respondents also reported use of these facilities on a high frequency, relative to other categories;
- historic or cultural sites (50.4%);
- trips to lakes or ponds (46%);
- rivers and streams, (36.3 %);
- forests (31.4%); and
- greenways or trails (30.4 %).





**Figure 9. Statewide Experience with Recreational Areas**

These percentages, representing the proportion of the population that has experienced these areas at least once during the last 12 months, is further refined in the table below. This table expresses a combination of both the frequency and number of visitors in a “projected” (inferred rather than a direct site count) number of annual visits. Note how the relative popularity of historical or cultural sites falls in rank order, while wetlands rise dramatically when expressed in this fashion, and how agricultural land areas and wildlife conservation areas reverse their rank order. Bikeways and mountain areas also reverse their rank order when total projected demand in days is computed.

**Figure 10. Projected Number of Daily Visits to Recreational Areas \***

<b>Recreational Area</b>	<b>Average # Day Trips</b>	<b>Average # Overnight Trips</b>	<b>Total # Day Trips</b>	<b>Total # Overnight Trips</b>	<b>Average # Trips †</b>	<b>Projected Annual # of Daily Visits ††</b>
Rivers or streams	8.16	1.37	11,676	1,959	10.87	50,711,492
Lakes or ponds	10.33	1.54	14,754	2,199	13.36	62,282,064
Coastal beaches or shorelines	15.88	3.98	22,716	5,697	23.79	110,925,292
Wetlands	5.23	2.28	7,488	3,268	9.78	45,605,872
Bikeways	4.02	0.06	5,758	86	4.14	19,284,286
Trails or Greenways	4.98	0.17	7,123	246	5.31	24,763,884
Wildlife Conservation Areas	2.13	0.12	3,047	168	2.36	11,001,474
Mountains	1.91	1.10	2,741	1,573	4.11	19,144,450
Forests	6.23	0.99	8,924	1,424	8.21	38,282,396
Agricultural Lands	2.86	0.85	4,093	1,225	4.56	21,277,754
Historic or Cultural Sites	4.22	0.23	6,030	334	4.67	21,781,812
Parks and Golf Courses	21.23	0.28	30,108	407	21.56	100,557,956

\* Based on total sample regardless of whether the respondent visited the recreational areas or not.

† Each overnight trip is counted as two day trips.

†† Projections based on state population of individuals 18 years or older: 4,663,350.

### Frequency of Visits to Recreation Areas

The frequency of usage varies across the types of areas as well. Typical median scores for yearly visits range from three to six (visits per year) across the types of resource areas. A few of the areas exhibit relatively high frequency of usage. For example, visitors to the collective category of golf courses, parks, playgrounds and tot lots report doing so a median of 15 times per year, the highest frequency of all the areas. Coastal beaches and shorelines, at 12 times per year median, are very popular destinations for repeat visits too. The least often visited recreation areas are the wildlife conservation areas and mountains, at a median of three times per year. Proximity appears to determine the frequency of visits.

These results must also be viewed with the Massachusetts context in mind. For example, visitors to the mountains may prefer out-of-state locations, such as the White Mountain National Forest. Also, the grouping of the resource areas into bundles of like facilities further influences the interpretation of the data, e.g. there are likely many more historic and cultural sites, or golf courses, neighborhood parks, playgrounds, and tot lots than there are bikeways, or even ponds in Massachusetts. Thus, the responses to this survey indicate current usage and perceptions, which reflect the relative availability and proximity of these resource groups as much as, or more than, the highest preferences (need). Need analysis is developed in Chapter 5.

Coastal areas are known attractions and need little explanation of popularity. Neighborhood parks are convenient and abundant, and consequently are heavily used. The high level of usage of cultural and historic sites might be explained both by their abundance in many Massachusetts communities, and by a high level of awareness among the public of what is historic, or possibly by state residents acting as hosts to out-of-state visitors who appear to have very high interest levels in the historic character of this region. As indicated in the discussion of regional results, the proximity and abundance of the resource within a given planning region can sometimes explain apparent preferences for resources. For example, preferences for bikeways are relatively low statewide (10th out of 12), but within regions where significant bikeways are located (Cape Cod and the Minutemen Trail, for example) preferences are much higher.

### Activity Based Analysis of Recreational Areas

In addition to preferences for various recreational areas, survey respondents were asked to identify the specific activities in which they have recently participated. Thirty-eight (38) specific recreational activities were analyzed. The twelve activities most widely pursued (by more than 10 % of all respondents) in the state, in rank order, were:

ACTIVITY	Percentage of Respondents
1. Walking	56.5 %
2. Swimming	54.6 %
3. Sightseeing, tours, events	54.0 %
4. Hiking	30.8 %
5. Fishing	26.5 %
6. Playground	26.1 %
7. Golfing	24.7 %
8. Picnicking	22.6 %
9. Watching Wildlife	21.7 %
10. Sunbathing	19.6 %
11. Road Biking	15.8 %
12. Mountain Biking	12.5 %

When these individual activities are grouped into the five general categories, we see that each of the Passive Recreation, Water and Trail-based Activities clusters have high participation rates (broad public use), while Field-based and Wilderness Activities, have lesser breadth of participation, implying a more specialized population interest.

Surprisingly, horseback riding and off-road vehicles reported extremely limited participation rates statewide. Consistent with prior SCORP reports, the implication of the activities participation rates suggest greater use of trail and water-based facilities, and wide distribution of and participation in “passive activities”, which are also non-field-based. Wilderness area use within Massachusetts is moderate (30% range), while the hard court element of field-based activities (such as basketball and tennis, and not including golf and playgrounds), although highly organized and visible, seem to account for little participation by statewide percentages. This latter finding may reflect, in part, that those under 18 were not directly surveyed here.

The next table is also important in showing the relative breakdown of activities within the composite resource group of Golf Courses and Parks, showing that the playground element is the dominant activity at 26%, with golfing close behind at 24.7%. Note however, that where these activities rank second statewide as a resource type or group, individually they rank sixth and seventh in the list of 38 specific activities.

**Figure 11. Participation Rates in Activities at Recreational Areas †**

		Percent of Respondents ††											
	Recreational Area	Rivers & Streams	Lakes & Ponds	Coastal Beaches	Wetlands	Bikeways	Trails & Greenways	Wildlife Conservation	Mountains	Forests	Agricultural Lands	Historic & Cultural Sites	Parks and Golf Courses
Activity													
Field-Based Activities													
Baseball		0.4	0.3	1.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	8.0
Basketball		0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0	8.1
Football		0.2	0.2	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.1
Golfing		0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.8	0.0	0.0	0.0	36.4
Ice skating (rink)		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Playground activity		0.2	0.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	38.1
Soccer		0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.0	0.1	3.5
Tennis		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	3.2
Toddler activity (at tot lots)		0.2	0.1	0.5	0.0	0.3	0.2	0.0	0.0	0.5	0.0	0.0	7.7
Volleyball		0.4	0.7	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Passive Recreational Activities													
Photography / painting		2.3	1.4	1.5	3.1	0.0	2.1	3.9	2.3	3.4	2.2	5.1	0.6
Picnicking		12.7	18.1	8.6	1.3	5.2	6.2	5.8	8.3	9.2	3.9	1.2	7.7
Sightseeing, tours, events		9.9	3.9	7.4	17.0	2.0	5.5	18.1	19.0	9.2	22.3	81.3	3.4
Sunbathing		0.2	4.7	26.6	0.3	0.0	0.0	0.0	0.3	0.0	0.3	0.2	0.2
Watch wildlife, nature study		8.4	4.4	3.6	28.4	1.4	8.4	34.5	9.3	14.7	16.4	3.2	1.7
Trail-Based Activities													
Biking (mountain)		3.5	2.1	0.5	1.2	38.6	8.7	2.4	2.6	5.9	1.7	0.3	0.8
Biking (road)		1.9	0.9	0.9	0.0	55.0	3.2	0.6	1.7	1.2	0.3	0.0	2.3
Horseback riding		0.2	0.1	0.2	0.2	0.1	1.0	0.7	0.8	0.7	2.5	0.0	0.0
Off-road vehicle driving		0.3	0.1	0.3	0.0	0.0	1.6	0.0	0.4	0.5	0.1	0.0	0.0
Roller blading / skating		0.7	0.4	0.1	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Running / jogging		1.0	0.2	1.5	0.0	1.4	2.7	0.4	0.2	1.6	0.3	0.0	2.0
Skiing (cross country)		1.2	1.2	0.0	0.0	0.0	1.2	0.7	5.8	1.4	0.8	0.0	0.7
Skiing (downhill)		0.8	0.4	0.0	0.3	0.0	0.3	0.0	22.7	0.6	0.0	0.1	0.1
Snowmobiling		0.0	0.7	0.0	0.0	0.0	1.5	0.0	0.8	0.3	0.4	0.0	0.0
Walking		30.7	20.0	34.0	44.9	15.4	56.4	46.4	20.6	42.5	22.2	18.5	16.7

### Participation Rates in Activities at Recreational Areas (continued) †

		Percent of Respondents ††											
	Recreational Area	Rivers & Streams	Lakes & Ponds	Coastal Beaches	Wetlands	Bikeways	Trails & Greenways	Wildlife Conservation	Mountains	Forests	Agricultural Lands	Historic & Cultural Sites	Parks and Golf Courses
Activity													
Water-Based Activities													
Boating (motorized)		3.1	9.9	4.4	0.0	0.7	0.0	0.3	0.1	0.0	0.0	0.0	0.0
Boating (non-motorized)		6.0	8.1	3.0	1.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Canoeing, rafting		16.1	8.1	0.2	1.8	0.0	0.0	0.4	0.0	0.3	0.0	0.1	0.0
Fishing		43.7	33.9	9.1	2.2	0.4	0.0	1.9	1.7	1.8	0.2	0.0	0.0
Hockey (natural water bodies)		0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.3
Ice skating (pond, lake or natural water bodies)		1.2	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Sailing		1.0	1.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Surfing		0.0	0.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Swimming		15.7	49.4	65.8	1.5	0.1	0.2	0.9	1.6	0.5	0.0	0.2	1.1
Water skiing / jet skiing		0.3	3.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wilderness Activities													
Camping		3.5	4.1	0.6	0.4	0.1	0.7	0.9	9.4	11.9	0.0	0.0	0.1
Hiking		14.7	7.3	2.2	19.4	1.9	41.1	26.6	51.2	40.5	5.2	1.7	1.6
Hunting		1.0	0.9	0.2	4.7	0.0	0.8	4.5	1.4	4.5	2.1	0.0	0.0

† Based on respondents who indicate that they have visited recreational areas in the last 12 months.

†† Percents may not equal 100 due to multiple responses.

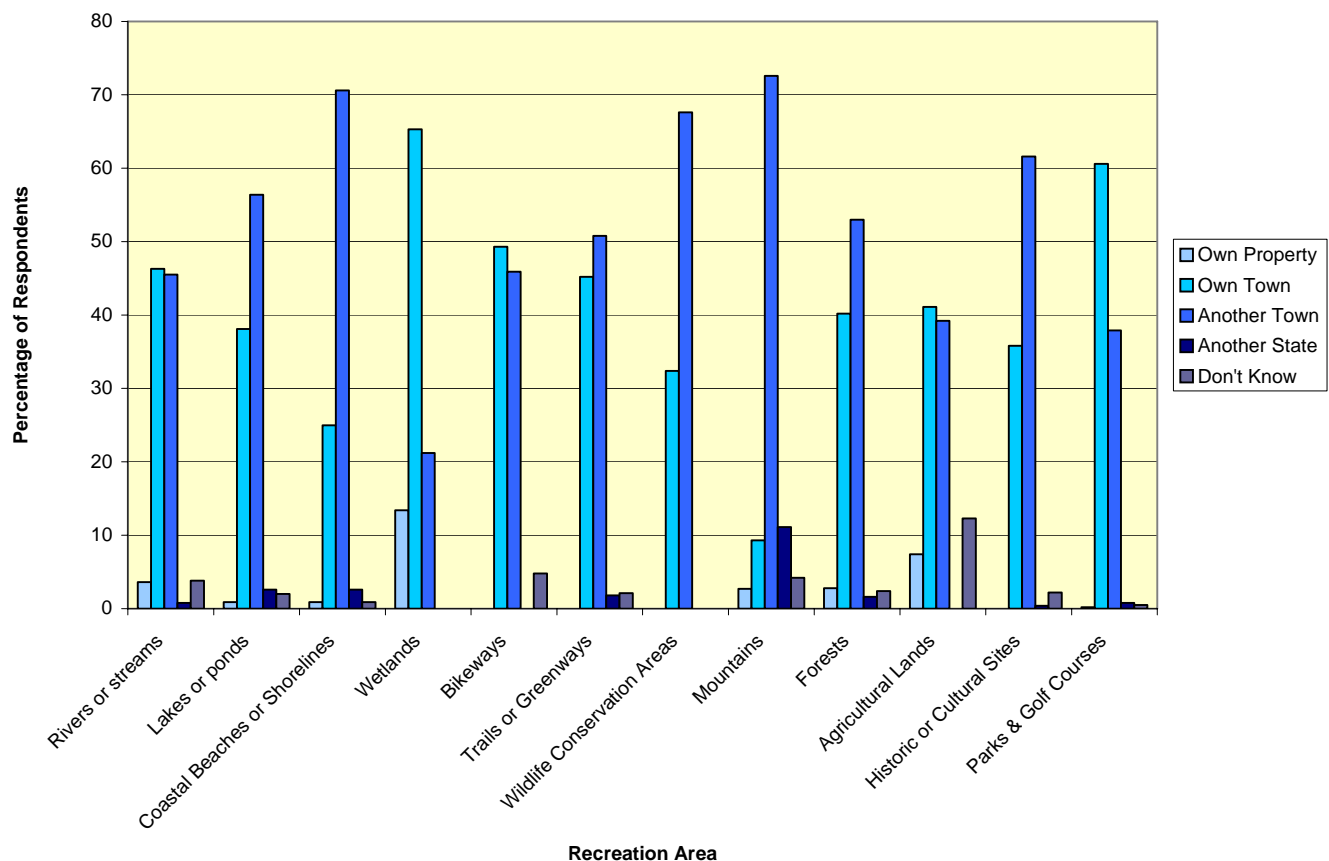
Chadwick, Martin Bailey, Inc. for SCORP

The relationship between activities and the resource at which they occur are, for the most part, logical. For example, camping takes place most often at forests, mountains, and trails, while fishing and swimming most often occur at lakes, rivers, and coastal beaches. Other findings may not be as expected, however. Swimming is most common at coastal beaches, less common at lakes and ponds, and much less common in rivers and streams. Perhaps this is a function of the density of people in the coastal region or a lack of swimming access points at inland resources. Certainly for rivers and streams, the force of the water's current and water quality is a concern, not always conducive to swimming safety.

We also find that fishing is largely an inland resource activity. Perhaps this results from poor access to coastal resources or is simply a reflection of the local nature of fishing. That is, people don't want to travel far to participate in the activity. Motorized activities (including off-road vehicle driving, snowmobiling, water skiing, and jet skiing) were found to have fairly low participation rates, in contrast to the size of the conflict that has arisen in some areas.

### Location Preferences

The location of the recreation area people choose varies depending on the resource type. Overall, people are slightly more likely to recreate in a town other than their own, but the tendency is slight. Wetlands and agricultural lands are the two resources most commonly located on the respondents' own property. Recreation areas most often located within the hometown of the respondent included wetlands and neighborhood parks. People travel out-of-town most often for recreation opportunities when the resources involved have restricted ranges such as mountains and coastal beaches.

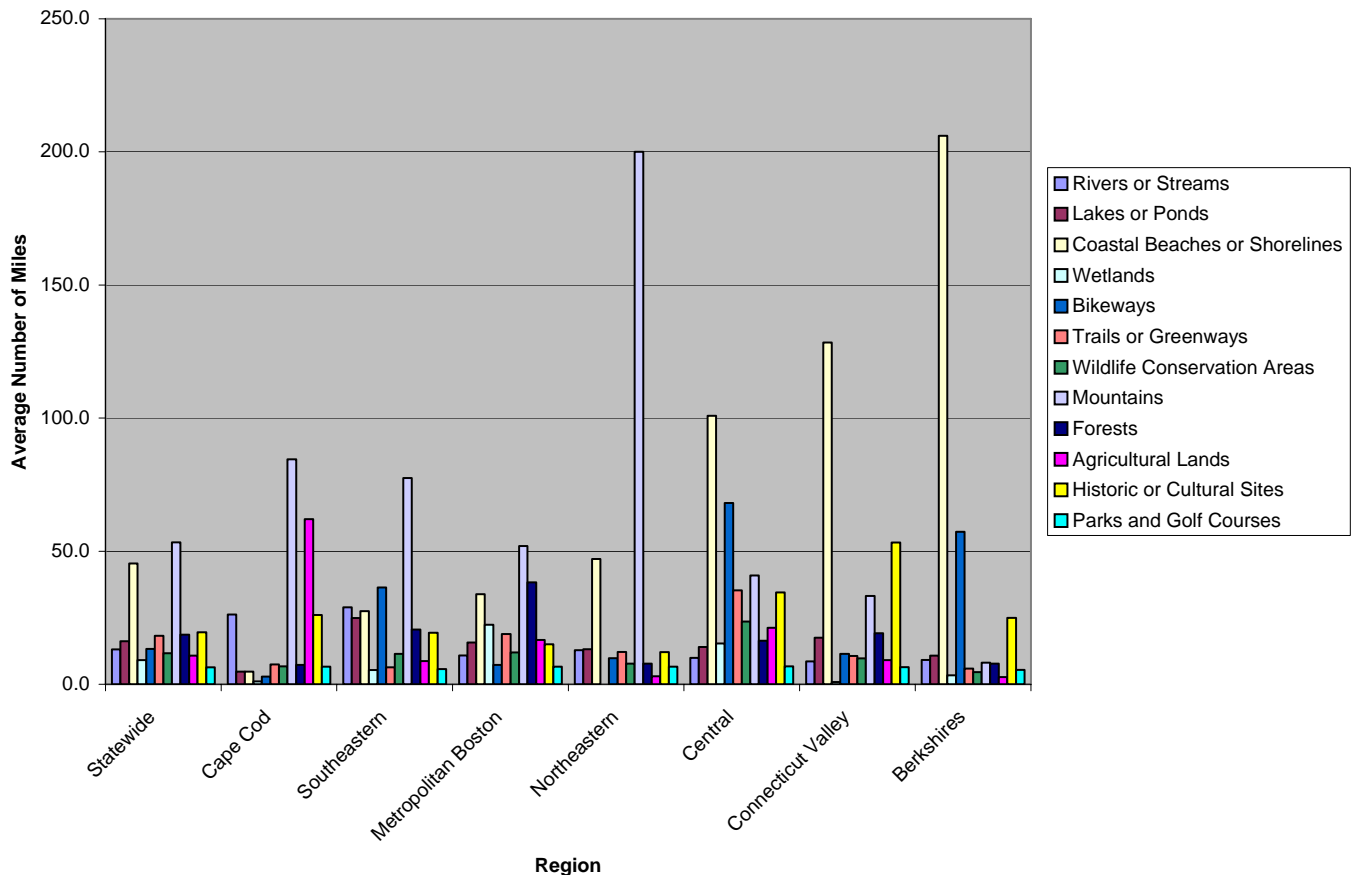


**Figure 12. Location of Recreational Area Most Frequently Visited**

### Travel Patterns and Recreation

Distance traveled is another measure of demand. Substantial numbers of respondents recreate within their own towns. A typical example is that 45% of visits to trails and greenways were made within the respondents' own towns. However, as might be expected, nearly three-quarters (71%) of all trips to coastal

beaches and shorelines were made to other towns. A notable finding is that 13% of visits to wetlands take place on the respondents' own property. Only one in five (21%) of respondents traveled outside their own town to visit wetlands. Also not surprising, trips to golf courses, neighborhood parks, playgrounds and tot lots are primarily (61%) a local affair. This last figure would likely increase if golf courses were not included in this group.



**Figure 13. Average Number of Miles Traveled (One-Way) to Recreational Areas by Region**

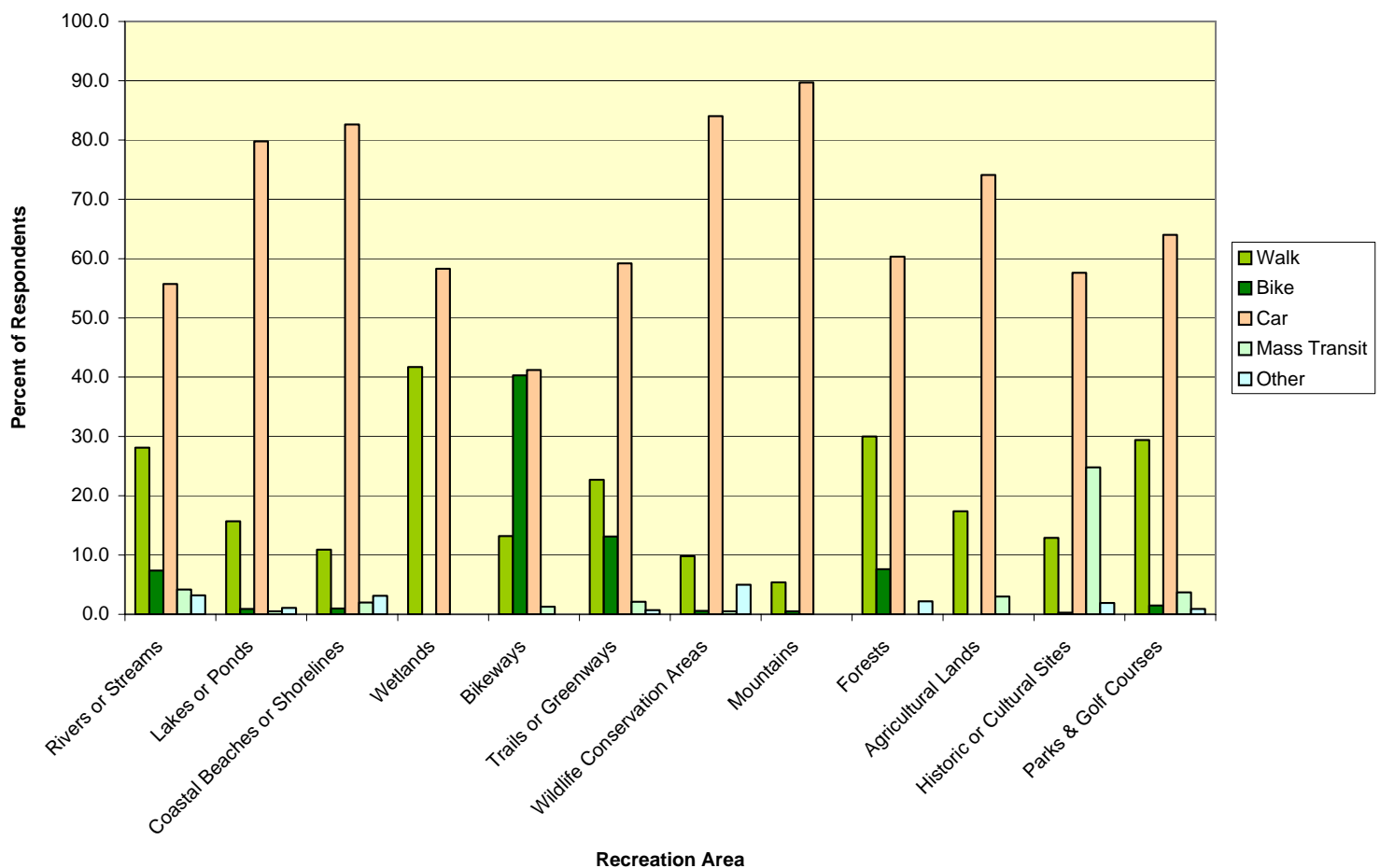
Popular resource destinations that have limited geographic distributions have higher mean travel distances. For example, mountains are concentrated in the western part of the state and beaches in the east, resulting in higher mean travel distances for the majority of visitors. Trails or greenways, forests, and historic and cultural sites are among those with moderately high mean travel distances. This may be explained by the appeal of "major" resources that are well-known areas such as the Appalachian Trail, Savoy State Forest, or historic sites of Boston. People prefer such major resources to more local resources and those resources often require moderate travel distances.

Average number of miles traveled indicates both the availability of a resource within a region (e.g. people from the Berkshires must travel a long distance to visit coastal beaches) as well as satisfaction, but may also indicate dissatisfaction with existing resources or a lack of information about them. An excellent example of this latter point is found in the Metropolitan Boston Region, where the average number of miles traveled to coastal beaches is 33.9, despite a number of beaches that exist within shorter distances. The obvious explanation is the poor reputation of the Boston area beaches and Boston Harbor. However, other factors than cleanliness and maintenance, such as crowding and simply the desire to travel outside of the city, may contribute to a greater or lesser degree. Respondents from Cape Cod and the Islands report traveling fewer miles to enjoy most types of recreation areas.

Respondents who indicated they traveled over twenty miles to a resource were asked whether they were aware of closer sites. Over 40% of respondents indicated they knew of closer sites for neighborhood parks, agricultural lands, wildlife conservation areas, and coastal beaches. For all other resources, less than 30% of respondents indicated any knowledge of closer sites. We can infer little from this statistic, as respondents generally did not respond to the follow-up question: Why did you not use a closer site? The few responses recorded, however, indicated that habit is the greatest driver of recreation choice, as well as the condition of alternative sites. Respondents felt that other sites were less well maintained than the resources they visited.

Mode of transportation was most often automobile (56%), however, a number of exceptions were noted. Mass transit was a factor in transportation to historic and cultural sites, with 24.8% of respondents indicating it as their primary method of transport. This is probably a result of the high concentrations of historic sites in the urban areas of Massachusetts, where public transportation is available. Yet, even Metropolitan Boston respondents use mass transit to a significant degree (39%) only when visiting these types of resources.

Predominantly local resources, such as wetlands and neighborhood parks, and, to a lesser degree, rivers and streams, are often accessed by foot or bike. Resources with restricted ranges, such as mountains and coastal beaches, are the resources most commonly visited by automobile.



**Figure 14. Primary Method of Transportation**

#### Individual versus Group Preferences for Resource Types

Differences were noted between resources in terms of their appeal as an individual or a group pursuit. Lakes and ponds, historic and cultural sites, and golf courses and neighborhood parks were visited by an average group of nearly four people. This is in contrast to bikeways, wetlands, and wildlife conservation areas, which



were visited by groups of two or less. Of all resources categories studied, bikeways and rivers or streams were most often used by individuals alone.

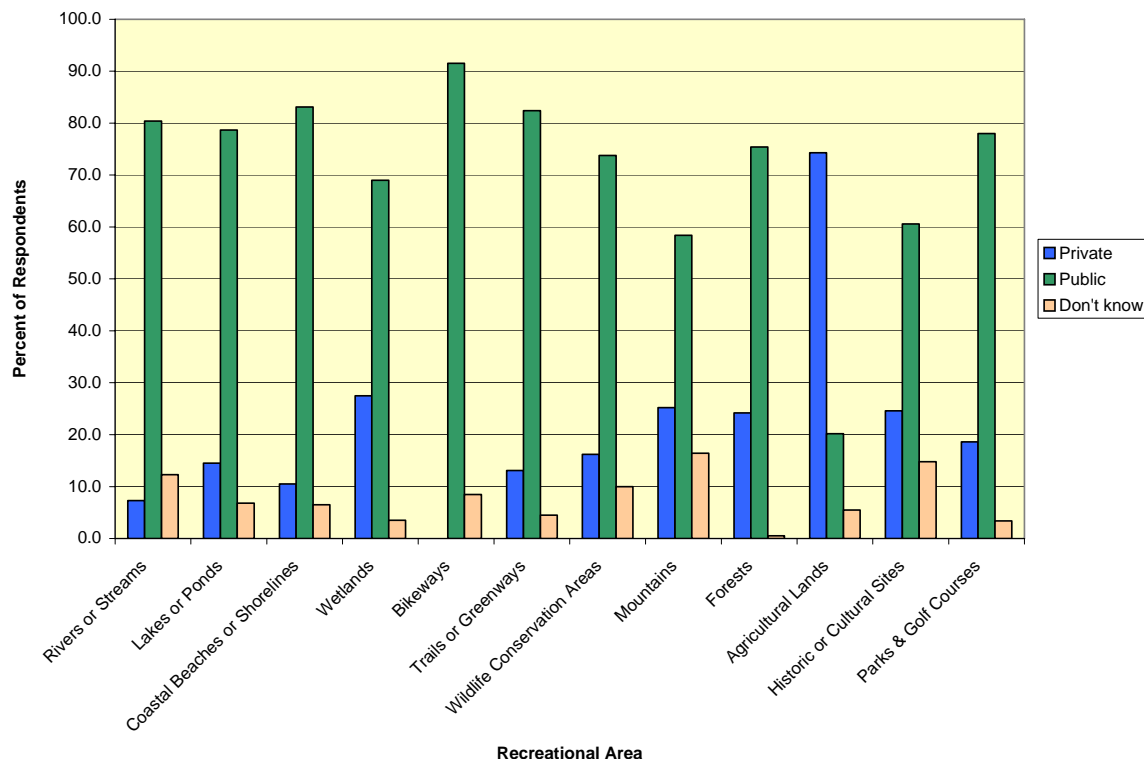
### Ownership

Ownership of recreation resources illustrates which providers are most heavily relied upon for resources and recreation activities. Public agencies are the largest providers of open space and recreation. One exception is agricultural lands, which are not commonly owned by public agencies. (Although the Commonwealth has invested acquired agricultural preservation restrictions on over 60,000 acres of farmland, the fee simple ownership of these lands remains with the private landowner, typically the farmer.)

Among public entities, people rely on the state for more large scale resources such as mountains (66.6 %), forests (57.4%), wildlife management areas (62.4%), trails and greenways (65.8%) and rivers (45.1%), while municipalities most often provide neighborhood parks, historic sites, bikeways, coastal beaches, and lakes and ponds. Private entities also provide significant resource and recreation opportunity. The federal government is most prominent in addressing historic and cultural sites, and to a significantly lesser degree, wetlands and mountains.

In some cases, such as trails and greenways or wildlife conservation areas, it is the private nonprofit areas that people use most often. For-profit private entities are most prominent in lakes and ponds (26%), historic and cultural sites (15%), and golf courses, neighborhood parks, playgrounds and tot lots (31%), the latter figure principally driven, of course, by the golf course component.

For both public and private ownership, a significant number of people did not know who owned the site they visited, pointing out a need for improved education and information.



**Figure 15. Ownership of Recreational Areas Most Frequently Visited**

### How People Learn About Recreation Resources

Finally, respondents were asked how they obtain information on new recreation areas. Family, friends or word-of-mouth were the most important sources, followed closely by information from newspapers.

Television and radio, magazines, and guidebooks and maps were also noted, but were much less significant. This finding is of major significance to recreation providers who wish to reach out to a broader market. Few public agencies, for example, use newspaper outlets to publicize their facilities. Of course, many public facilities are already at or over optimal use levels (see 1988 SCORP, Volume One, pg. 66). However, for those lesser number of facilities, public and private – or for disadvantaged populations, special events or fund raising – where greater use is encouraged, this finding merits note. (It is also important to realize that this study was completed in 1995, well before today's more widespread use of the Internet and World Wide Web.)

## **Demographic Differences**

### **Age**

Among demographic groups, significant differences in resource preferences are apparent. Age plays a major role in resource usage, as seen by consistent declines in usage of all resource types as age increases. Preferences for resources remained remarkably consistent between age groups; the most popular among the youngest are also the most popular among the oldest. Level of use, however, shows decline with increasing age.

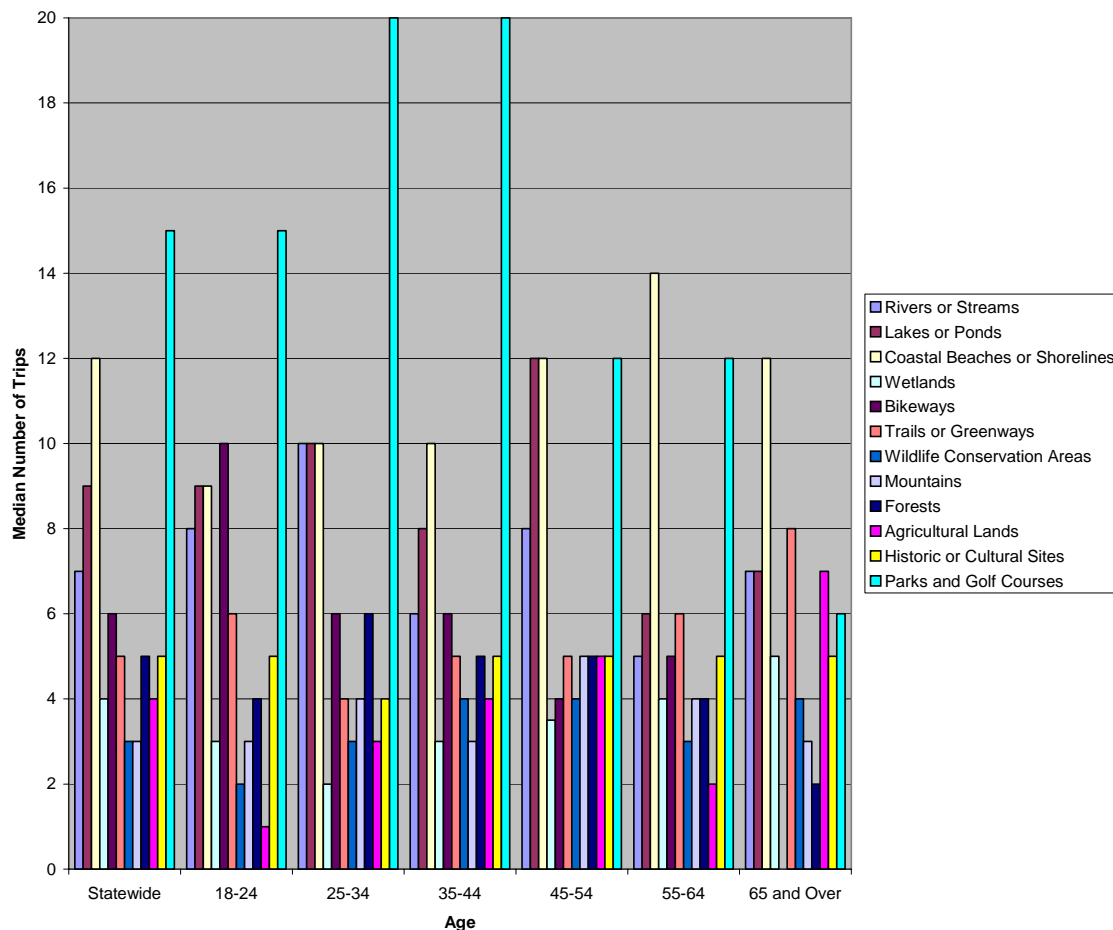
One interesting inversion occurs with the 18-44 age groups where golf courses, playgrounds, neighborhood parks and tot lots surpass coastal beaches as the most favored activity, but in the over 65 group, declines to third in rank below both coastal and historical, sightseeing and event resources. The popularity of lakes and ponds rises to second rank among 35-44 year olds.

People in the 35 to 44 age category represent the peak of the use curve. The highest usage of most areas occurs in these groups. People in this range are still active and may recreate more due to the recreation demands of their families. Implied in these high use numbers may be the presence of young (pre-teen) children in these households. A typical example is the experience level for rivers and streams, where 48% of respondents age 35-44 report having visited them in the last 12 months, compared to 36% of the statewide population.

Close behind this demographic group in high recreation participation rates is the 25-34 age bracket, representing singles and young married couples who have maximum personal mobility but are still relatively low on the income curve. Over the age of 44, usage drops off steadily and we find the lowest usage among those over the age of 65.

There are few clear patterns of frequency based on age, especially when viewing median scores. A few points do merit particular mention. First, respondents from the over 65 group tend not to visit bikeways at all, but tend to use trails and greenways more than the other groups (8 times versus the statewide median of 5). Secondly, both the 25-34 and the 35-44 age groups use golf courses, neighborhood parks, playgrounds and tot lots much more frequently (20 times) than the statewide median.

Other demographic factors revealed generally predictable results. Activity usage among different age groups, as is true for resource use, seems to peak between the ages of 25 and 54. Participation rates among the youngest group (18-24) tend to be lower for more traditional recreation activities such as walking or nature study, and higher for more active and current activities such as mountain biking. The oldest age groups (55-64 and over 65) tend to have lower participation rates for most activities. Traditionally male activities such as hunting, fishing and a number of field sports were found to have higher participation rates among men, and family-oriented activities such as picnicking, playground, and toddler activities were found to be significantly higher for women.



**Figure 16. Median Number of Trips to Recreational Areas by Age**

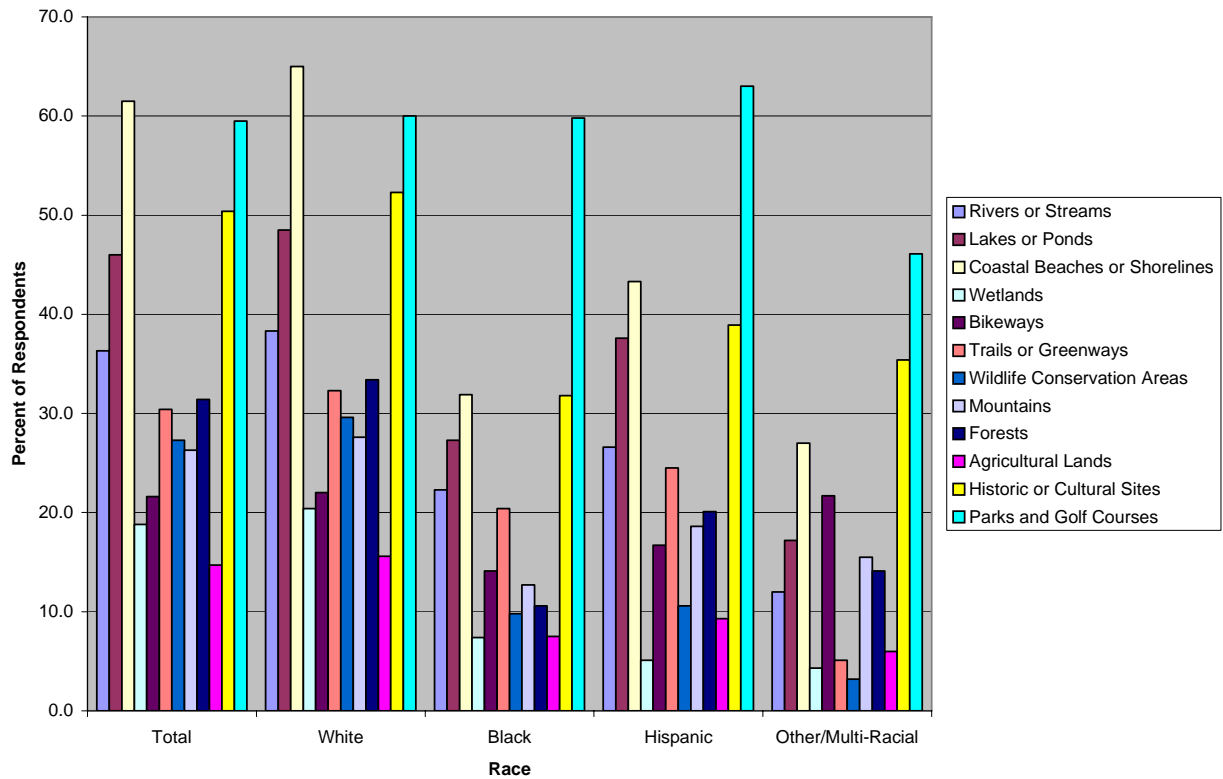
### Race

Race has a very strong impact on recreation use. African-Americans have significantly lower use patterns of all resource types, except neighborhood parks and golf courses. Higher use of neighborhood parks may be explained by the fact that eighty-eight percent of African-American respondents were from the urbanized Metropolitan Boston area, where local parks are abundant. Among Hispanic respondents, resource use was significantly different than statewide averages for six of the twelve resource categories.

For many types of recreation areas, whites report higher visitation levels than do African-Americans, Hispanics or other races. For example, whites who visit lakes and ponds report making 10 visits per year, while the figure for African-Americans is 4. For Hispanics, the frequency of visitation number is comparable to that for whites for rivers and streams, for mountains, and for historic and cultural sites.

The cause of differences in recreation use between racial groups is speculative. Considering that the majority of non-white respondents were from urbanized areas, which tend to have more restricted access to non-urban resources, physical barriers do play some role. So perhaps does the absence of exposure to new geographic areas (owing to access barriers) and new activities outside of individual or cultural experiences. Income is also a likely contributing factor to the amount of available leisure and access.

Differences between racial groups can primarily be attributed to the characteristics of the region in which most non-white respondents reside, the highly urbanized metropolitan Boston area. This observation is not intended to minimize the differences between racial groups, but rather to offer some insight into reasons for the differences. Participation rates among both African-Americans and Hispanics are significantly higher than statewide (or white) rates for field-based sports such as basketball, football, and soccer. Participation rates are significantly lower for many water-based activities and a number of passive activities. Proximity to resources is most likely a key factor here, as these respondents are choosing activities that are readily available in the urban community and are not choosing resources that are in shorter supply or that may be more difficult to access.

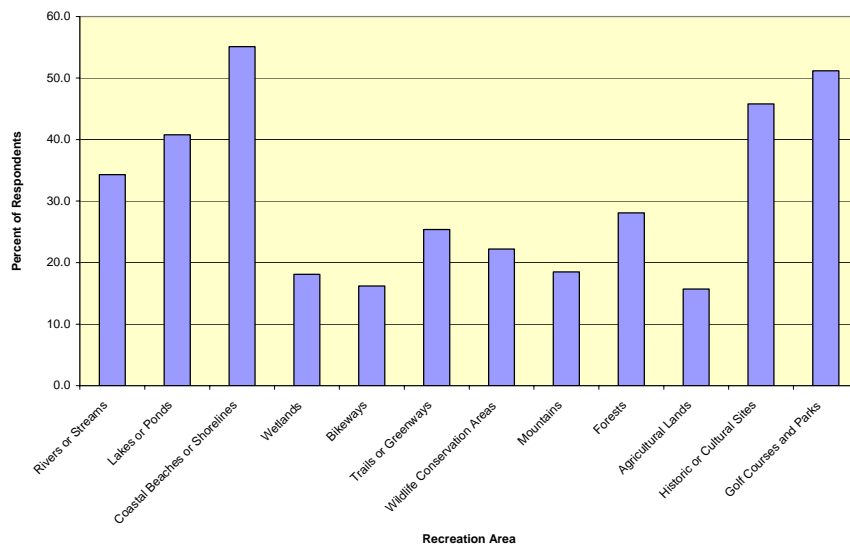


**Figure 17. Recreation Area Use by Race**

## Disability

People with disabilities or households having a disabled person made up approximately 20% of the survey population; results of their resource usage show significant differences (lower use) only for golf courses, neighborhood parks, playgrounds and tot lots, mountains, and bikeway. Lower usage of mountain resources may be expected, as these are among the most difficult resources for the disabled to access as well as for the managing agencies to modify for their use. Significantly lower use of bikeways and neighborhood parks may be a result of inadequate modifications for the disabled, lack of knowledge of existing accessible sites, or inadequate access to the sites. Frequency of visitation rates are similar to the statewide averages also.

Disabled respondents showed significant differences with statewide participation rates for one activity only, golf. This finding is interesting when compared with resource use by the disabled. Resource use is significantly lower among the disabled for several resources, while activity use is lower for only one area. Perhaps this difference reflects the flexible nature of activities; that is, they can be pursued at a variety of resource areas.



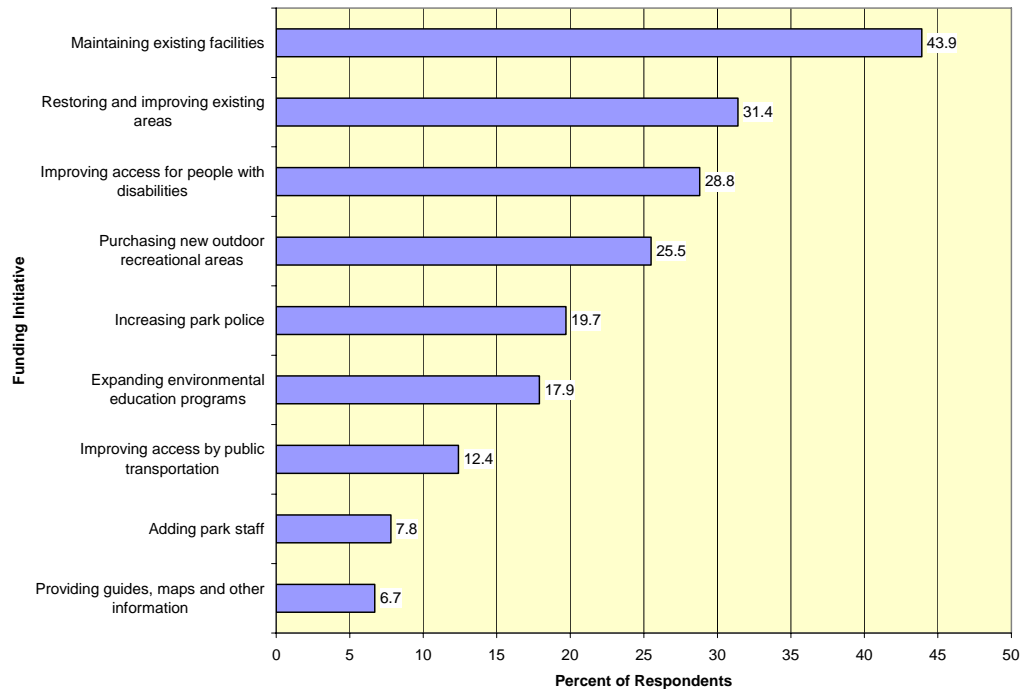
**Figure 18. Recreational Area Use by People with Disabilities**

### Employment Status

Finally, employment status was examined. Students were found to have generally lower rates of participation in most activities. This may reflect the age of the group (as discussed, younger people tend to give lower participation rates) or limited time for recreating due to the demands of student life.

### Support for Future Investments

Finally, there is a high level of support for future recreation investments. At least 70% of Massachusetts' residents surveyed favor further funding for nine different types of programs. Strong support for improvements to and maintenance of existing sites is indicated, as well as the need for further acquisition of new sites.



**Figure 19. Statewide Preference for New Funding Initiatives**

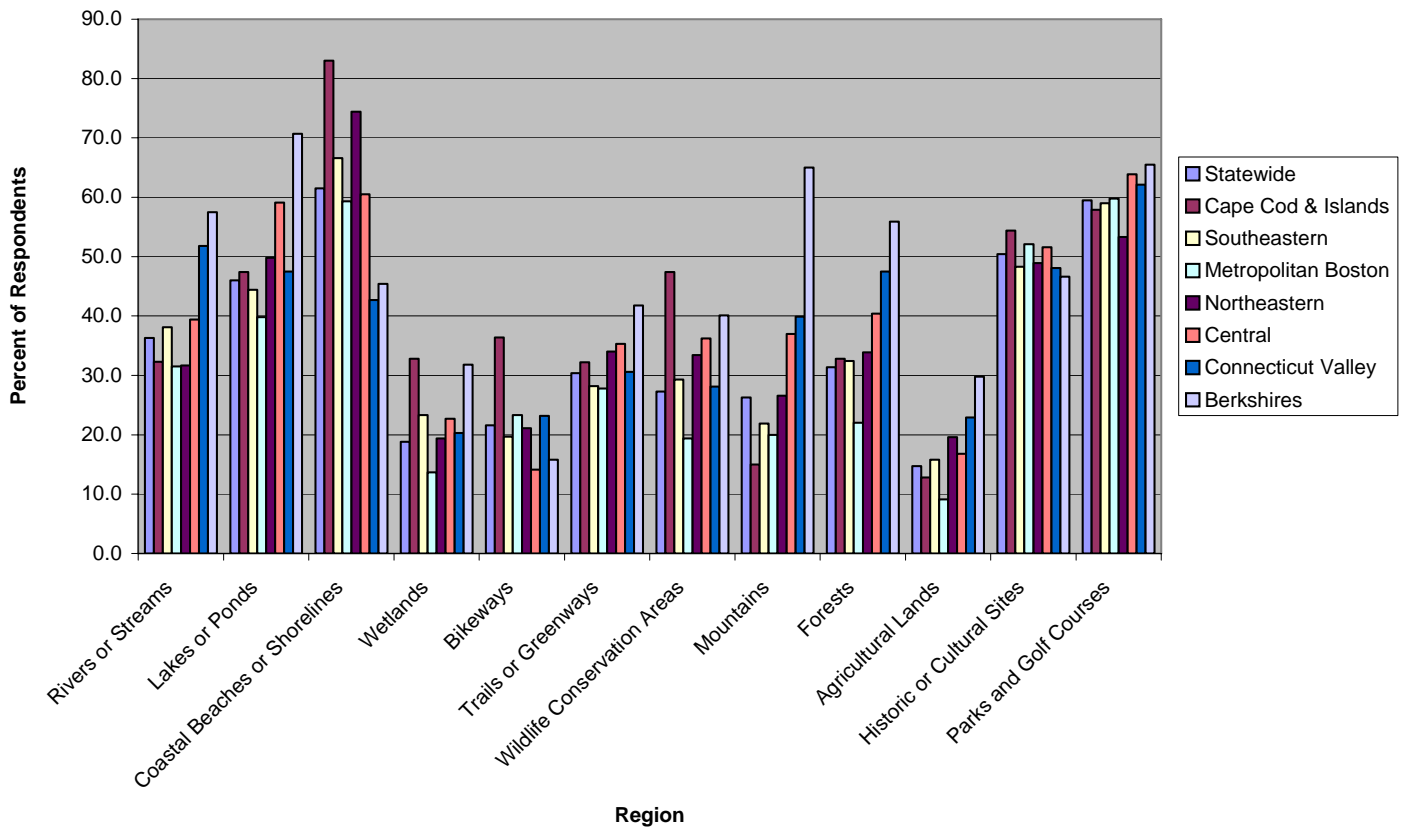
### Regional Demand Patterns

Regionally, we find similarities in the most popular activities, but do notice differences in the relative level of popularity (i.e., the order of popularity is the same, but the level of participation is different). It is interesting to note that skiing participation rates are highest in a region with the lowest availability, the Southeastern. It is also interesting to note that participation rates for tot lots within the Metropolitan Boston Region are second lowest overall, even though tot lot facilities are most abundant in that region.

Baseball is significantly less popular on the Cape and Islands, but quite popular in the Northeastern and Connecticut Valley Regions, compared to the statewide results.

Cross-country skiing is significantly more popular in the Berkshires than in the Commonwealth as a whole. Sunbathing is significantly less popular in the Connecticut Valley Region than elsewhere. Road biking, roller-blading and skating, and running and jogging are all significantly less popular among residents of the Berkshires than statewide. Boating, fishing, and swimming are significantly less popular among residents from Metropolitan Boston.

**Figure 20. Experience with Recreational Areas by Region**



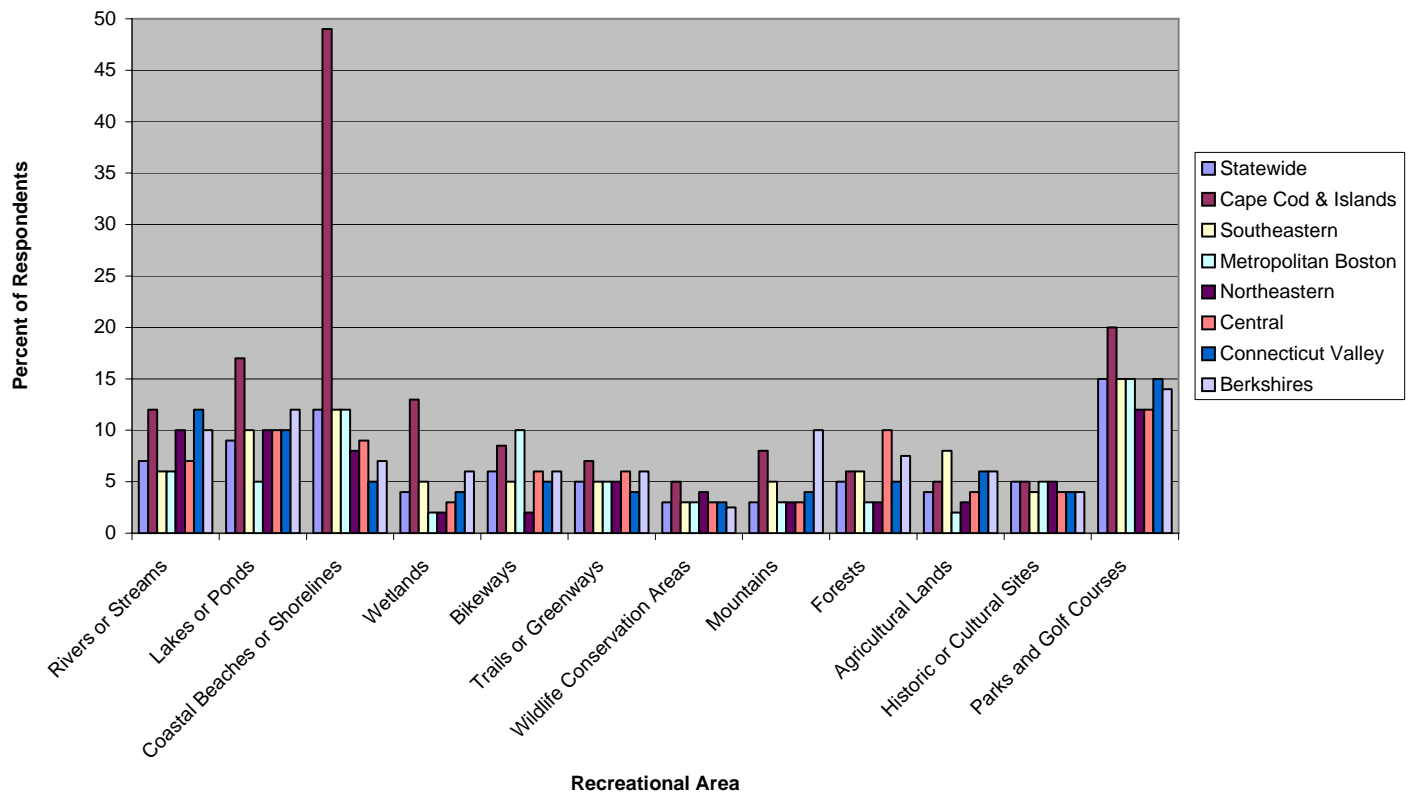
In terms of resource use, the use of coastal beaches is significantly higher on the Cape and Islands at 83% than other regions, followed by high rates in the Northeastern and Southeastern Regions. Reported experience with coastal resources is obviously low in the Berkshire and Connecticut Valley. However, the attraction of lakes and ponds is stronger than in other regions by far in both the Berkshires and the Central planning regions, at almost 71 and 59 % respectively, versus a statewide average of 46%. The use of rivers and streams are most striking in the Connecticut River Valley Region (51.8%) and the Berkshires (57.5%).

In one of the more striking regional patterns, the reported experience levels of both wetlands visitation and wildlife conservation areas was highest on the Cape and Islands and the Berkshires. This observation tracks well with the reported occurrence of the highest quality of these resource areas in “Our Irreplaceable Heritage”. A very different type of resource, i.e. bikeways, was also strongest on the Cape, while the closely related trails and greenways category stood out in the Berkshires. Notably, the lowest experience rates with biking occurred in the Central Region, although trails and greenways were strongly noted there.

Resource use is significantly less in the Metropolitan Boston Region than elsewhere across the state for half of the resource types, including lakes and ponds, wetlands, wildlife conservation areas, forests, mountains and agricultural lands. However, the converse is true with respect to bikeways. Much of this observation can be attributed to the small land area and high level of development of the region, which restricts the amount of open space, scope of the local resources, and access to recreation areas and facilities.

Use of mountainous areas within Massachusetts is highest, for obvious reasons, in the Berkshire Region, but also higher than average in the nearby Connecticut Valley and even the Central Region, while quite low on the Cape, in the Southeastern and Metropolitan Boston. The Northeastern Region was near the average value in this respect, bucking the clear proximity patterns of the rest of the eastern regions. Both

**Figure 21. Median Number of Trips to Recreational areas by Region**



forest and agricultural resources had the same regionally high experiences, but much less variation at the low ends

where only the Metropolitan Boston Region stood out. The Central Region had less agricultural experience than one might expect, and the Northeastern Region somewhat more than expected.

It is also interesting to note that the experience levels by resource types in the Berkshires depart more widely from average values than in other regions, with virtually every resource category being either statistically significant in difference, or notably high or low as an absolute value.

Perhaps one of the most interesting observations proceeding from analysis of the data on Experience Levels is that historic and cultural sites, and golf course, neighborhood parks, playgrounds, and tot lots show a very narrow range of variation from one region to another. This point suggests that the built environment has a more even distribution of resources than the natural environment.

The frequency of visitation patterns by region shows very similar peaks and valleys to the experience levels (proportion of all respondents). The variations that crop up include:

- higher frequency of trips to rivers and streams on the Cape and Islands and in the Northeastern Region than the previous experience levels would suggest;
- the same for lakes and ponds, with the addition of the Central Region and Southeastern Region;
- a higher frequency of coastal visitation by Metropolitan Boston and Southeastern residents than in the Northeastern Region;
- a much higher frequency of wetlands visits by Cape residents than any other region;
- a lower frequency of bikeways use in the Northeast;
- a more even distribution of trails and greenways and wildlife conservation areas use;
- a higher median number of trips by Cape and Island residents, and to a lesser extent, Southeastern residents to mountains;



- the highest frequency of use of forests being in the Central Region, and not in the western regions;
  - the highest frequency of agricultural visits being by Southeastern residents; and
- the highest frequency of use of golf courses, neighborhood parks, playgrounds and tot lots being on the Cape, perhaps skewed by the especially long golf season there.

Stemming from proximity, other notable patterns include residents of the Cape and Islands who visit coastal beaches and shorelines do so a median of 49 times per year, compared to the statewide median number, 12; respondents from the Berkshires who visit mountains 10 times per year, compared to the statewide median of 3; and the higher general frequency of use of all types of recreation areas by residents of the Cape and Islands.

The same information expressed more specifically by individual regions follows in Chapter 5: The Regional Perspective.

### **Profiles of Resource Users**

Findings pertaining to the demographic and behavioral aspects of respondents who report using the 12 types of outdoor recreation areas were compiled to develop profiles of users for each type of recreation area.

#### **Rivers and Streams**

The typical visitor to rivers and streams does so with another person a median of seven times a year. They travel by automobile an average of 13 miles one way to the sites. They are more likely to be from the Connecticut Valley or the Berkshires than from other regions. The most common activities pursued at rivers and streams are fishing, walking, canoeing or rafting, hiking, and swimming. Users are much more likely to be white than African-American or Hispanic. Respondents from households with disabilities are somewhat less likely than whites to visit rivers and streams.

#### **Lakes and Ponds**

These natural resources attract users from all regions, although significantly more from the Berkshires. Users typically drive in groups of three around 16 miles to the sites and visit nine times per year (median) and most often swim, fish, and have picnics. Other popular activities are walking and motor boating. Visitors are much more likely to be white than African-American or Hispanic. They are somewhat less likely to come from households with disabilities.

#### **Coastal Beaches and Shorelines**

These are the most popular recreation areas. Respondents travel the miles necessary to reach them, with the average across the state being 45 miles one way. People report visiting them a median 12 times per year, typically in groups of three. Over eight in ten users travel by automobile to reach these sites.

Swimming is mentioned by two-thirds of those who frequent these sites, compared to one-quarter who mentioned sunbathing. Over one-third mentioned walking as an activity enjoyed here. Whites are twice as likely to experience these areas than are African-Americans, and somewhat more likely than Hispanics or those from households with disabilities.

#### **Wetlands**

Those who visit wetlands travel an average of nine miles one way on a state-wide basis, but that figure is skewed by respondents from the Metropolitan Boston Region, who report traveling 22 miles on average to the sites. Over four in ten respondents walk to visit wetlands. Walking is mentioned most as the activity enjoyed at wetlands, followed by watching wildlife and nature study. Three in four visitors go with another person, typically four times (median) per year. Whites are three times as likely as African-Americans to visit wetlands, and seven times more likely than Hispanics. Households with disabilities are slightly less likely to visit wetlands than are whites.

#### **Bikeways**

Those who use bikeways travel to them by either bicycle or automobile a median of six times per year, to sites within their own town or to another town within 13 miles. While bikeways are used by all ages, younger people tend to dominate the bikeways. Road biking is mentioned by over half the users followed by mountain biking at nearly four in ten. Walking is mentioned by 15%. Whites are more likely than African-Americans, and much more likely than Hispanics, to use bikeways.

### **Trails and Greenways**

Visitors to trails and greenways make a median of five trips there per year. Most drive the 18 miles one way to the typical site; four out of five visitors go in groups of four or more. While popular among all age groups, users are more likely to be in the 18-24 age range, and under 45. Visitors walk or hike at the sites. African-Americans are less likely to use trails and greenways than whites, Hispanics, or people from households with disabilities.

### **Wildlife Conservation (or Management) Areas**

The typical visitor travels by car a median of three times a year, with another person to an area located roughly 12 miles away in another town. Visitors, who are more likely to be in the 35-44 age group than not, tend to walk, watch wildlife or study nature. They also hike, or do sightseeing, tours or events at the sites. Visitors are much more likely to be white than any other ethnic group.

### **Mountains**

These natural resources, just as coastal areas, are not geographically dispersed. Respondents report traveling by automobile a median of three times per year to mountains that are located a median of 53 miles away. The typical visitor travels in a group of three or four people. They most often report hiking, downhill skiing, sightseeing, tours, and events, and walking. They are twice as likely to be white as African-American, and 50% more likely to be white as Hispanic. Less than one in five respondents from households with disabilities report visiting mountains in the last year.

### **Forests**

Forty percent of those who visit forests do so in their own town, likely walking or riding a bike to the sites. Most others drive to a nearby town. Visitors report taking a median of five trips per year to forests, mostly in groups of two or three people. Walking and hiking are the dominant activities, although watching wildlife and nature studies are also popular. Whites are three times as likely as African-Americans to visit forests. Households with disabilities experience forests nearly as much as the general population.

### **Agricultural Lands**

The typical visitor to agricultural lands travels by car 11 miles to a site a median of four times per year, in groups of two to three people. Sightseeing, tours, and events, followed by walking then watching wildlife and nature studies are the most often mentioned activities at agricultural sites. Whites are twice as likely as African-Americans to visit agricultural lands. Households with disabilities are just as likely to visit these areas as the statewide sample.

### **Historic and Cultural Sites**

Visitors to these sites tend to travel by car or mass transit to another town 20 miles some five times (median) per year. Visitors tend to go in comparatively large groups of four to five people. Four in five visitors most often attend sightseeing, tours or other events, and another one in five visitors walk on the grounds. Whites are more likely than African-Americans or Hispanics to visit these sites. Households with disabilities are nearly as likely as respondents statewide to visit these areas.

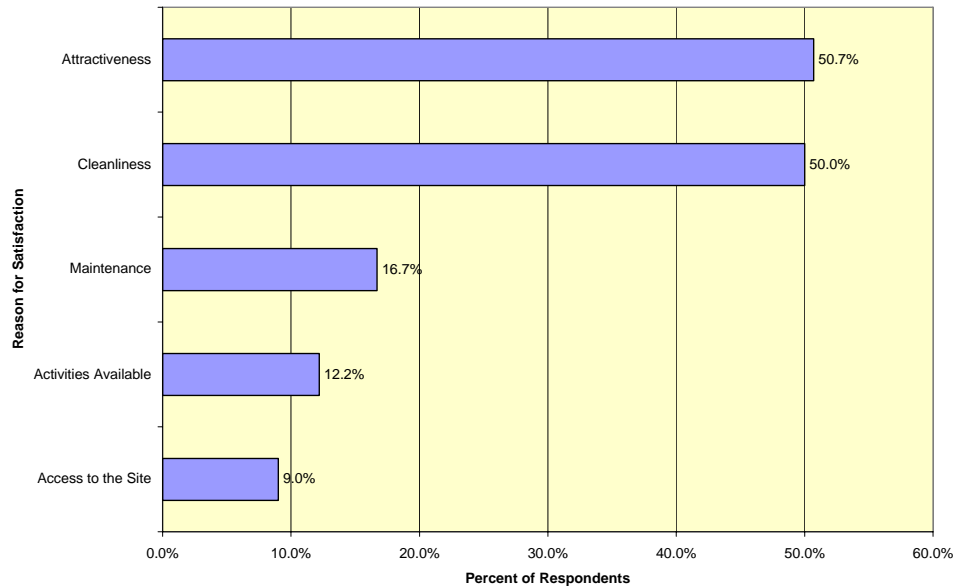
### **Parks and Golf Courses**

These sites are nearly as popular statewide as beaches and shorelines. they are used primarily for playground activities and golfing, and to a lesser extent, walking. Respondents tend to use the facilities within their own towns. However, most travel by car the average distance of six miles. These facilities are used often; respondents report using them 15 times per year (median). Most respondents report going in groups of around four people. Usage is fairly consistent across racial groups at 60%. Households with disabled people trail at 51%.

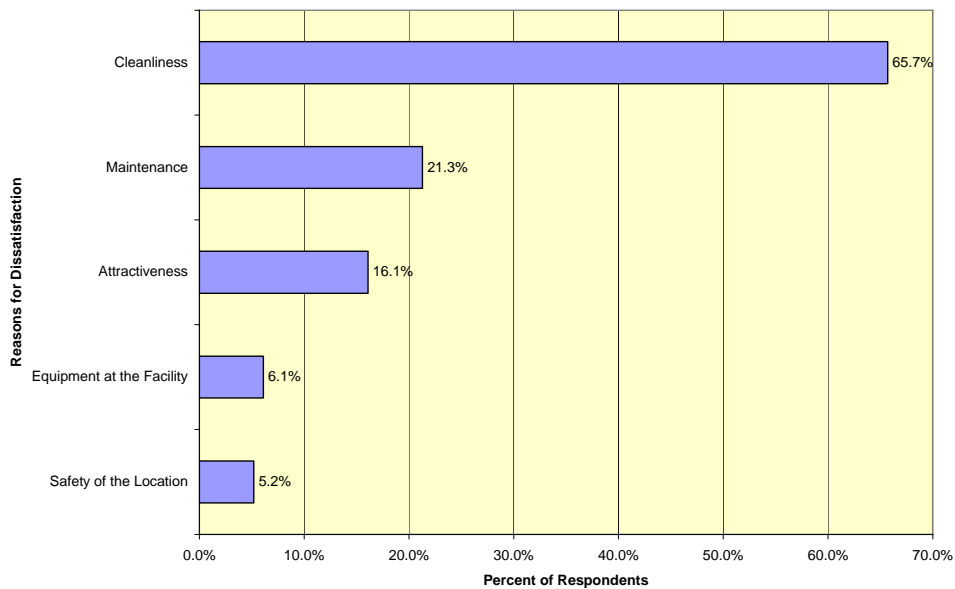
### Satisfaction and Dissatisfaction Levels

Statewide, residents are largely satisfied with the resources they use, particularly with mountains and historic and cultural resources. Despite the results for cultural and historic sites, satisfaction tends to be lower and dissatisfaction higher among the most heavily used resources. This finding most likely reflects frustration with problems that may arise when there is a high concentration of recreation users in an area. Satisfaction and dissatisfaction seem to be driven by the same factors, which in order of importance by users are attractiveness, cleanliness and maintenance of resources.

**Figure 22. Top Reasons for Satisfaction with Recreational Areas**

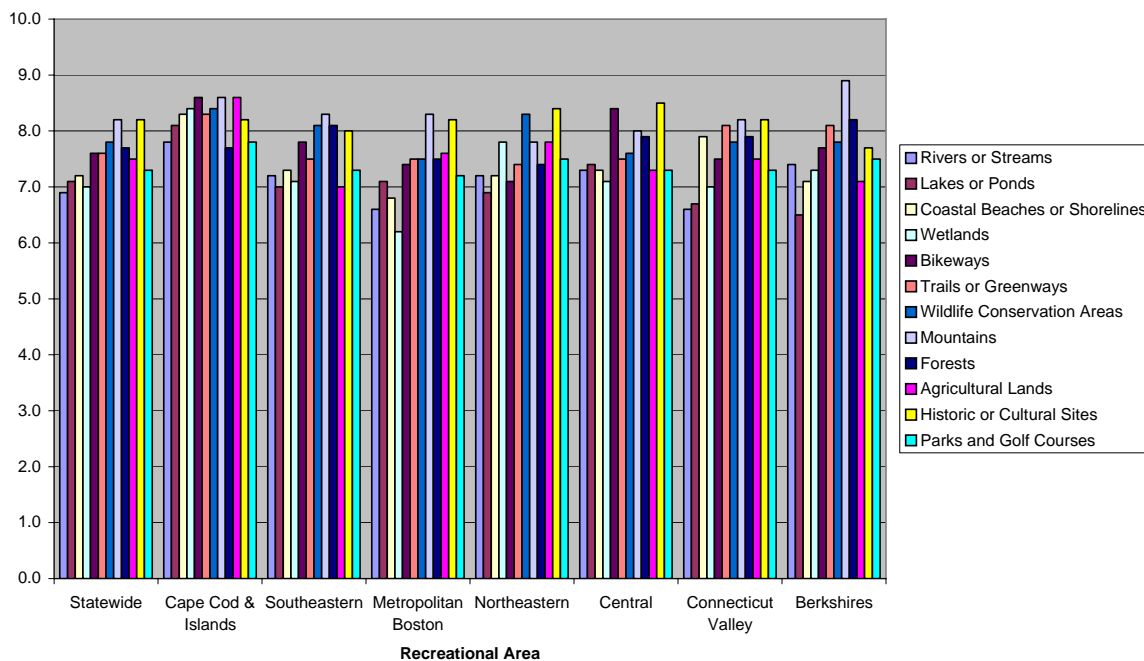


**Figure 23. Top Reasons for Dissatisfaction with Recreational Areas**



Respondents were asked to rate their satisfaction with recreation areas they had visited within the last twelve months using a 0-10 scale, and then to indicate their reasons for satisfaction or dissatisfaction. While at first glance responses appear to be skewed toward the upper end of the scale, (7 and up), experience shows that scales of this kind always yield "high" numbers. To interpret the results it should be understood that numbers in the high (8 to 9 range) indicate high satisfaction, those in the 7 to 8 range indicate moderate satisfaction, and numbers below 7 indicate low satisfaction. Water resources registered low satisfaction, which may partly be a reflection of the negative effects of heavy demand on this resource.

Figure 24. Satisfaction with Recreational Areas by Region



Regionally, there are few significant differences in satisfaction among resources. The Cape shows generally higher satisfaction with coastal beaches and wetlands than other regions, probably reflecting satisfaction with the abundance of these resources in the region. The Metropolitan Boston Region shows significantly lower satisfaction with coastal beaches and wetlands, which may be due to an inadequate supply of these resources, but is more likely due to the condition and reputation of the beaches in and around Boston. Satisfaction levels are likely to improve as efforts to clean up Boston Harbor and improve area beaches proceed.

Very few differences among demographic groups were found, except for indications of dissatisfaction with coastal beaches among African-Americans, and dissatisfaction with golf courses and neighborhood parks among the disabled. Dissatisfaction among African-Americans, again, may be explained by the fact that eighty-eight percent of African-American respondents were from the urbanized Metropolitan Boston area. Their comments could be a result of the poor condition of Boston area beaches, or inadequate access to beaches outside of Boston, or both. Disabled access to neighborhood parks is an issue that has already been raised and which may be addressed through required modifications under the Americans with Disabilities Act.

Reasons for satisfaction and dissatisfaction were fairly consistent across resource types. "Attractiveness of the setting" was the top reason cited for satisfaction, but this category is difficult to interpret as "attractiveness" can mean many things to many people. "Cleanliness" was a key reason for both satisfaction (second most frequent reason) and dissatisfaction (top reason given). It most likely is a combination of several factors and indicates some core value that drives users to recreation resources.

<b>Figure 25. Reasons for Dissatisfaction with Recreational Areas</b>	<b>Rivers or Streams</b>	<b>Lakes or Pond</b>	<b>Coastal Beaches or Shorelines</b>	<b>Wetlands</b>	<b>Bikeways</b>	<b>Trails or Greenways</b>	<b>Wildlife Conservation Areas</b>	<b>Mountains</b>	<b>Forests</b>	<b>Agricultural Lands</b>	<b>Historic or Cultural Sites</b>	<b>Parks and Golf Courses</b>
Access to the site	1.9	4.4	2.4	0.0	3.7	0.0	0.0	0.0	0.0	0.0	3.0	1.7
Activities available	0.0	1.3	0.0	20.7	0.0	0.0	0.0	0.0	0.0	0.0	12.3	8.0
Attractiveness of the setting	10.0	12.6	18.5	28.6	3.7	0.0	0.0	0.0	17.8	0.0	21.5	11.9
Capacity	2.6	3.9	1.8	0.0	8.3	0.0	0.0	41.3	22.8	0.0	0.0	2.1
Cleanliness	76.1	65.3	76.6	80.1	50.8	59.4	13.9	5.5	64.1	0.0	27.6	50.1
Cost / price	0.0	2.2	1.5	0.0	0.0	0.0	0.0	22.1	0.0	19.3	7.8	0.0
Courteousness/helpfulness of staff	0.0	0.0	0.0	0.0	0.0	0.0	8.9	0.0	0.0	0.0	8.6	0.0
Distance to the site	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Education programs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment at the facility	0.0	1.3	0.8	0.0	3.7	0.0	0.0	37.1	0.0	0.0	14.1	19.2
Hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Interpretive materials	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0
Maintenance	8.9	16.0	17.1	22.4	46.8	6.6	43.9	5.5	10.6	0.0	18.1	41.9
Parking	0.0	3.8	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	0.0
Safety of the location	5.8	1.0	2.6	0.0	5.8	0.0	0.0	0.0	0.0	0.0	8.3	12.7
Staff level	2.2	0.0	0.2	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0	1.0
Other	12.5	13.0	12.9	19.9	20.0	29.6	33.2	35.3	26.3	80.7	22.2	12.1

Finally, availability of educational programs, hours of operation, and availability of interpretive materials do not appear to be factors in dissatisfaction.

### **From Assessing Demand to Filling Need**

The *SCORP 2000* demand study offers broad insight into the outdoor recreation resources in Massachusetts and suggests ways these resources might be improved. The findings of this study are still relevant for the SCORP 2006. The study has pointed out the differences that exist between geographic regions and among demographic groups. These findings provide planning agencies with information they can use to meet the demands of the public. Planners should carefully consider the underlying reasons for measured differences when using these findings. In the next chapter, more specific information will be provided to help in the evaluation and fulfillment of recreation needs.

## Chapter 4. NEEDS ASSESSMENT

The needs assessment component of the *SCORP 2000* is a tool for local and regional planners to use in targeting areas of critical need, whether in acquisitions, facility improvements, or programming changes. Needs assessments are created by evaluating available supply along with current and future demand. Analysis at the regional level creates regional profiles of needs, which communities are required to consider when applying for grants under the Land and Water Conservation Fund and state Self-Help and Urban Self-Help programs.

Regional profiles of needs are useful as indicators, not as specific and absolute predictors. Our intent in developing the needs analysis was to provide information on demand, both met and unmet, and supply that will point out areas of need that should be considered in planning and grant applications. Our intent was not to create a set of imperatives or a specific local plan that communities could follow, but rather to supply communities with statewide and regional data that should be considered and perhaps modified by particular local needs. The SCORP data should be used as one of many reference materials as communities prepare their local municipal Open Space and Recreation Plans.

Every SCORP is intended to help direct the optimal investment of funds and effort in the protection and enhancement of recreation resources. This *SCORP* is no exception. This chapter provides information designed to help planners at all levels make wise decisions in selecting areas most in need of available funds. This needs assessment is presented in the simplest terms: what people want most and what efforts they are willing to support. A single plan cannot take into account all of the differences in need among communities across the Commonwealth. Instead, this chapter, like the report as a whole, provides general information and indicators of need that communities can use to assist in their planning efforts, which can then be tailored to meet specific needs.

The supply and demand analyses tell us quite a lot about what open space and recreation is and what it should be. Attempts are often made to mathematically calculate the difference between supply and demand to develop an estimate of need. No attempt was made to develop complicated equations to predict recreation needs for the *SCORP 2000*; rather this report relies on basic information obtained directly from recreation users - the public. This report provides a series of estimates of need based on the findings of the 1995 demand study. These estimates provide an indication of the recreation preferences of the public, both statewide and regionally.

Needs in this chapter are described in three ways: through an estimate of unmet need, through a calculation of inferred need, and through a funding preference rating. Again, all of these assessments are based on the results of the 1995 demand study. Unmet need was established by first asking survey respondents what recreation facilities would best serve them and their families. Responses were recorded, and inferred need was developed by recoding the facility responses into their related resource areas. Finally, funding preferences were developed through a question that asked where the respondent would most like to see additional public dollars spent for recreation and open space.

### Statewide Unmet Need for Recreation Facilities

Overall, the greatest statewide need is greatest for trail-based activities, with walking and road biking indicated as the individual activities in greatest demand. Field-based activities rank second as priority needs for new facilities, with playground activity, tennis, and golfing ranked at the top of the activity need list. Finally, a strong need exists for water-based activities, with swimming indicated as the facility most needed statewide.

In simple rank order, the ten most needed or desired facilities mentioned by respondents are:

<i>Desired Facility</i>	<i>Percent of Respondents Using the Facility</i>
1. Swimming	14.8%
2. Walking	13.8%
3. Road Biking	12.9%
4. Playground Activity	9.9%
5. Tennis	8.0%
6. Golfing	7.9%
7. Hiking	7.1%
8. Mountain Biking	6.7%
9. Basketball	6.2%
10. Baseball	5.3%



### **Need Expressed by Non-White Ethnic Groups**

Significant differences exist in activity-based needs among ethnic groups, according to perceptions of need. The interest expressed in more field-based facilities, particularly for basketball and playgrounds was much higher among people of color than among the statewide sample. Conversely, the trail and wilderness based activities were of significantly less need among these groups than the state sample. As noted in the Demand section of this report, these activity preferences may reflect the more urban locations of these populations and a lack of access or exposure to some activities than a disinterest in the activity per se.

African-Americans expressed significantly more interest than the state sample in facilities for volleyball (6.6% versus 1.1% statewide), football (5.0 versus 1.4%), and basketball (15.8% versus 6.2%), yet not so much as Other/Multi-racial groups did in basketball (23.0%) and tennis (26.2%).

Hispanics expressed significantly higher levels of interest in facilities for basketball and playground activities, along with somewhat greater levels for baseball, soccer, mountain biking and swimming.

### **Need Expressed by People with Disabilities**

Households with people with disabilities report usage rates that are very similar to the statewide average. They report significantly lower participation rates only for golfing. When asked to indicate how a domestic disability affects their household's recreation activities, responses fell into two categories. Many responses emphasized that the disability had little or no affect on the recreation. Some responses suggest that, for disabilities relating to mobility, usage of recreation areas is lower.

### **Regional Needs Patterns**

Regionally, facility needs are similar to statewide needs, with trail-based activities at the top of all regional lists. Field-based and water-based activities follow in need and are too close to accurately rank. However, there are notable differences among regions and between regions and statewide results as indicated in the table below. Most regional results show a clear relationship between the facilities available in an area and the facilities respondents would most like to see more of (that is, those in greatest supply are in least demand and those in least supply are in greatest demand). Land managers must carefully consider these needs, and thoroughly evaluate if existing facilities can support this demand before committing to new facilities. Programmatic changes may fulfill some portion of the expressed need.

<b>Figure 26.</b> <b>Need for New Recreational Facilities by</b> <b>SCORP Region</b>  <b>Facilities for:</b>								
	<i>Statewide</i>	<i>Cape Cod and Islands</i>	<i>Southeastern</i>	<i>Metropolitan Boston</i>	<i>Northeastern</i>	<i>Central</i>	<i>Connecticut Valley</i>	<i>Berkshires</i>
<b>Field Based Activities</b>								
Baseball	5.3	2.2	6.7	5.9	5.3	2.8	4.3	4.6
Basketball	6.2	2.7	1.8	8.7	8.3	4.0	4.1	2.4
Football	1.4	0.0	1.1	2.2	1.1	0.0	0.8	1.4
Golfing	7.9	5.2	10.7	6.3	9.1	8.3	8.2	11.4
Ice skating (rink)	2.4	0.0	2.7	2.5	4.5	1.2	0.5	1.1
Playground activity	9.9	8.7	8.3	9.0	13.8	10.2	11.3	6.1
Soccer	3.0	0.0	4.0	2.7	4.7	2.9	1.1	2.0
Tennis	8.0	7.3	4.3	11.8	7.6	3.3	5.1	6.0
Toddler activity (at tot lots)	1.6	2.1	2.1	1.0	2.7	1.9	1.3	0.9
Volleyball	1.1	0.0	0.6	1.7	0.7	0.4	1.1	1.1
<b>Passive Recreational Activities</b>								
Photography / painting	0.2	0.0	0.0	0.2	0.9	0.0	0.0	0.2
Picnicking	3.1	2.1	1.4	3.2	0.7	5.3	5.5	7.7
Sightseeing, tours, events	2.3	0.8	1.6	3.7	0.7	0.8	2.8	2.3
Sunbathing	1.1	4.5	1.6	1.6	0.0	0.0	0.0	0.0
Watch wildlife, nature study	2.2	4.1	3.4	1.2	1.4	3.5	3.9	1.1
<b>Trail-Based Activities</b>								
Biking (mountain)	6.7	3.8	5.3	6.2	6.1	8.5	10.3	9.2
Biking (road)	12.9	15.5	17.6	10.5	14.1	12.1	14.5	6.8
Horseback riding	1.2	0.0	1.7	1.1	0.9	1.3	1.7	2.8
Off-road vehicle driving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Roller blading/skating	3.0	4.4	2.6	3.5	3.2	1.5	2.8	1.5
Running/jogging	3.0	1.5	4.5	4.2	1.1	0.3	2.4	2.8
Skiing (cross country)	1.3	0.0	0.6	0.7	0.0	3.4	4.1	4.6
Skiing (downhill)	1.3	1.7	0.6	0.8	1.6	2.5	1.8	2.7
Snowmobiling	0.6	0.0	0.0	0.2	1.8	1.4	0.7	1.1
Walking	13.8	9.0	12.6	14.8	11.8	16.5	13.9	11.3
<b>Water-Based Activities</b>								
Boating (motorized)	1.7	4.2	1.4	1.4	1.8	2.7	2.1	0.0
Boating (non-motorized)	1.0	2.4	0.0	1.3	0.0	1.9	1.3	0.0
Canoeing, rafting	1.5	1.0	1.9	1.2	1.6	2.2	0.9	3.2
Fishing	4.3	4.7	5.9	2.3	6.5	3.5	5.5	11.7
Hockey (natural water bodies)	1.6	0.0	0.6	2.6	2.0	0.7	0.0	0.0
Ice skating (pond, lake, or natural water bodies)	1.0	0.0	0.9	1.3	1.4	0.3	0.4	0.0
Sailing	0.6	0.0	0.0	1.2	0.0	0.3	0.4	0.0
Surfing	0.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Swimming	14.8	17.5	14.8	14.9	12.6	17.0	13.8	18.9
Water skiing / jet skiing	0.2	1.2	0.0	0.1	0.0	1.1	0.0	0.0
<b>Wilderness Activities</b>								
Camping	2.9	3.0	3.8	0.9	3.4	4.8	5.3	8.5
Hiking	7.1	4.6	10.2	3.9	4.4	14.4	10.7	12.2
Hunting	0.3	1.0	0.0	0.0	0.0	1.3	0.6	3.8

Among the readily observed regional differences, residents from Metropolitan Boston mention needs for tennis significantly more often than the statewide sample as they do baseball to a slightly lesser degree. Hiking was little mentioned as a need, and yet this region expressed strong dissatisfaction with hiking facilities visited.

On the Cape and Islands, swimming is also the most frequently mentioned need. In the Southeastern Region where swimming (14.8%) is also expressed as a need, it is eclipsed by road biking (17.6%), the high for biking statewide. Golfing, at 10.7%, is the next most frequently mentioned need. Interesting, while biking and swimming facilities have seen modest to little increase respectively, the marketplace has been responding strongly to the perceived interest in golfing. No doubt, golfing is a special case where income potential is quite high, not the case for swimming and biking facilities. While no specific study of the number of golf facilities constructed since the survey was completed in 1995 has been undertaken, both ordinary experience and even a cursory review of MEPA (Massachusetts Environmental Policy Act) filings since 1995 indicate a clear surge in this recreation activity. In the town of Plymouth alone, a high growth area of the state, there are 7 new 18-hole courses completed or in the planning stages.

In the Northeastern Region, road biking (14.1%) and playground activity (13.8%) were the highest ranked needs, and ice skating, while comparatively low at 4.5%, was higher than any other region.

The Central Region identified walking at 16.5%, swimming (17.0%) and hiking (14.4%) as primary desires. Jogging facilities, at .3%, were mentioned significantly less frequently than in other parts of the state.

A distinctive pattern emerges in the Connecticut Valley Region, including the hilltowns of Hampshire, Hampden and Franklin Counties. Hiking (10.7%) and playground activity (11.3%) ranked high with swimming and road biking, but also hiking, mountain biking (10.3%), and cross country skiing (4.1%) are ranked higher than in any other region.

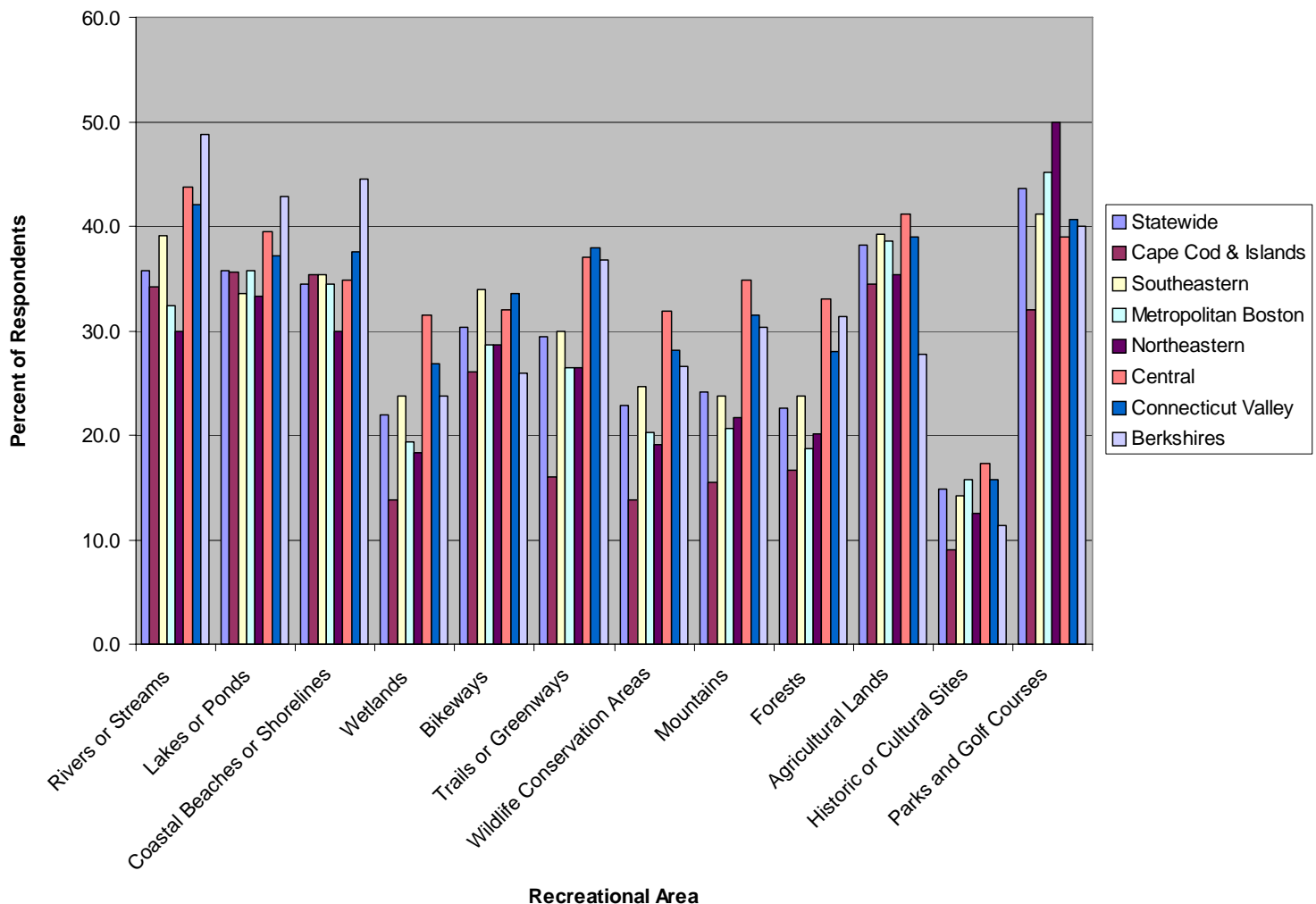
## Inferred Need for Resource Areas

Each type of resource area can support a variety of the activities identified above. Therefore, it is important to consider the resource base needed to support various activities. This format is also consistent with the orientation of the *SCORP 2000* toward resource usage and need and should provide a more convenient format for comparison with other demand findings.

The following chart, Inferred Need for New Resource Areas, was calculated from the facility need identified in the previous table. Needs for types of recreation areas were calculated by recoding the activities into related outdoor recreation areas. The basis for this recoding was the collective responses to a question regarding what the respondent did at the facility they had visited. The assumption in the calculation is that the respondents, by expressing interest in new facilities for various activities, implicitly show interest in additional types of outdoor recreation areas.

Given the method used to obtain these findings, and the fact that opportunities exist for double counting of multiple activities into some types of areas, the results should be interpreted with caution, and should not be the sole basis for making recommendations for new acquisition of resources. However, the results may be useful in showing relative interest, or desire for, outdoor recreation areas.

**Figure 27. Inferred Need for New Recreational Areas**



Statewide, the broad category of golf courses, neighborhood parks, playgrounds and tot lots is identified as the greatest resource need (44%). These resources rank first collectively only in the most heavily populated regions of the state, Metropolitan Boston, Northeastern, and Southeastern Regions, but still near the top in the other regions. Surprisingly, agricultural lands rank second in resource need. This may simply be a testimony to the versatility of agricultural land in addressing two of the most popular recreation activities, walking and

sightseeing. Water resources, as expected, also rank high for recreation need. These include rivers and streams (36%), and lakes and ponds (36%), as well as coastal beaches and shorelines (35%).

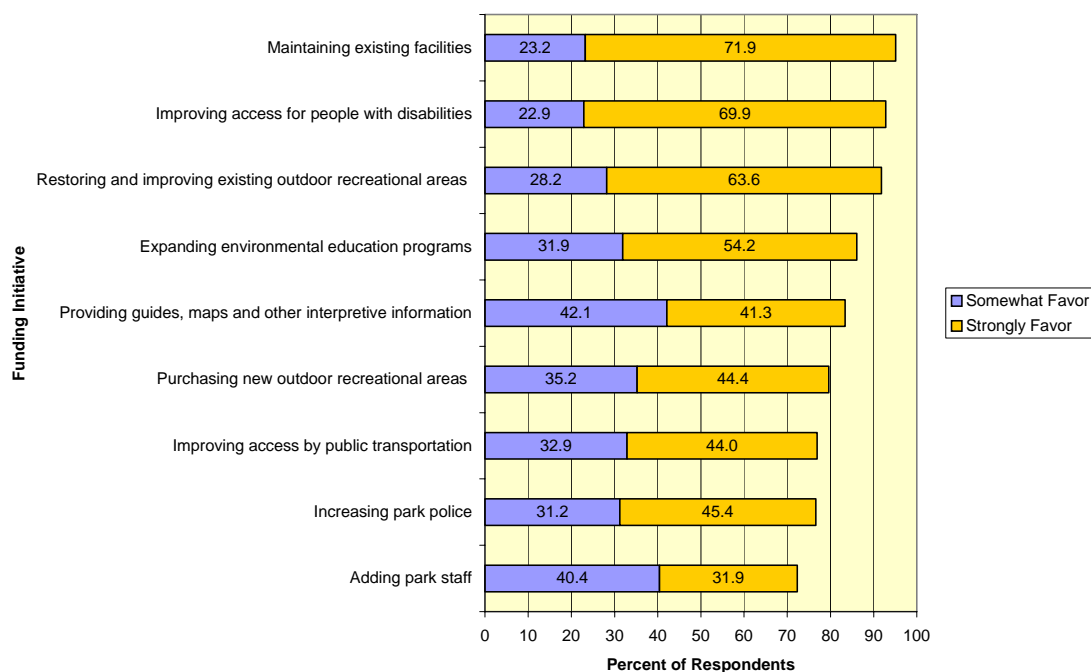
Although they ranked third in experience levels for the last 12 months (participation rates), historic resources show the lowest level of need. This may reflect a belief among survey respondents that historic sites are already plentiful enough for recreation purposes. But it may also relate to the coding of activities into resources. The number of recreation activities specifically associated with historic resource areas, such as sightseeing, some walking and photography and painting, is low compared to activities associated with the other resource types.

Regardless of interpretation of this data, it is important to note the difference between activity preferences versus “need” for new facilities. For example, sight seeing is among the most popular activities (54%), but not seen as needing new “facilities”, presumably because there are many scenic places within the respondents’ reach. However, today’s scenic areas, whether they are historic, agricultural, aquatic, or mountainous, may be unprotected open space and therefore not accessible in the future. Thus, in deliberations over future investment, policy makers must consider the extent to which present “facilities” or “resources” will continue to be available.

### Funding Preferences

Funding preferences should be considered concurrently with facility and resource need rankings. Two measures of preference were used concerning nine specific funding initiatives pertaining to outdoor recreation areas. First, favorability ratings were obtained (degree to which certain actions were favored or opposed). Once respondents had expressed their favor or disfavor, they were given the opportunity to select two initiatives of the nine that they would most like to see funded.

**Figure 28. Statewide Favorability Ratings for New Funding Initiatives**



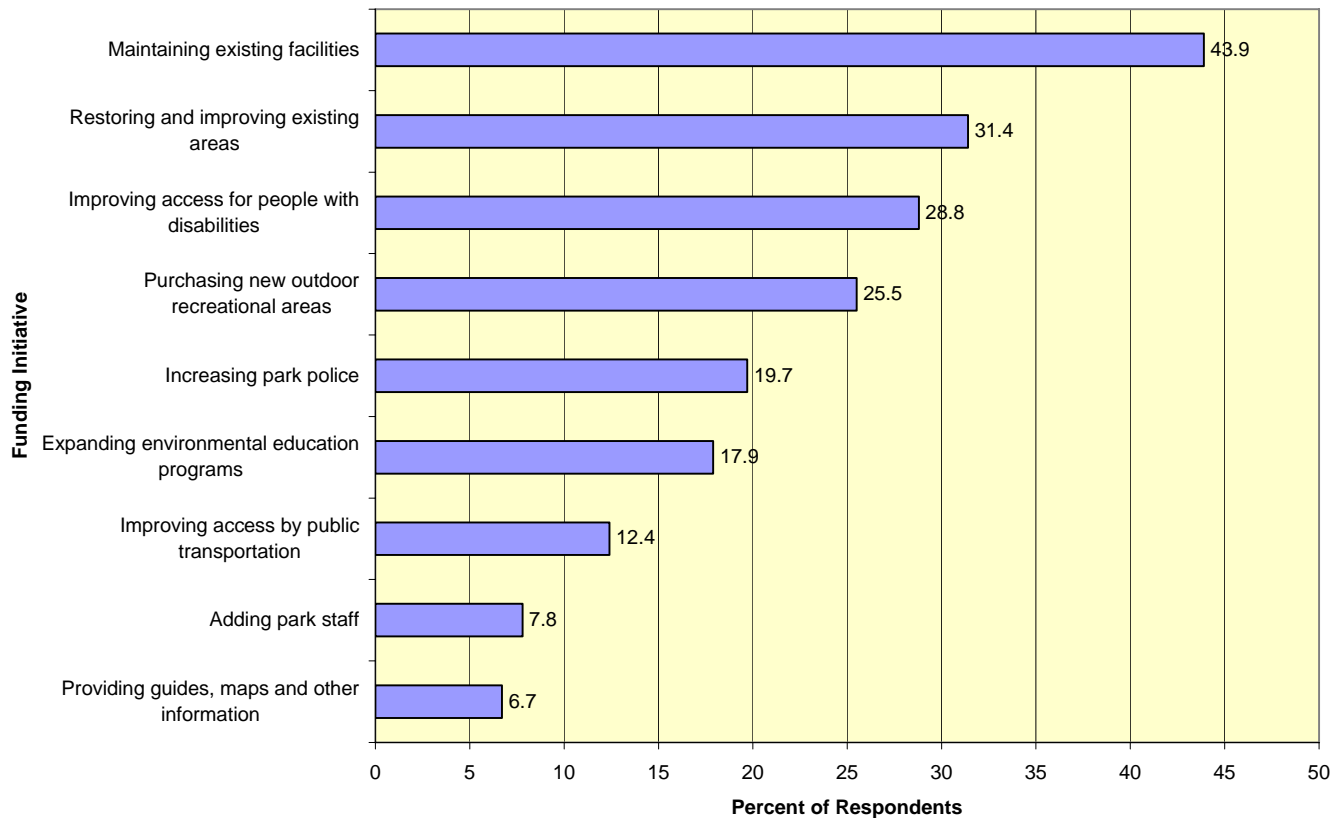
A considerably different picture emerges when the percentage of respondents who strongly favor and those who somewhat favor the nine options are contrasted and combined. In terms of those who strongly favor new funding for recreation, maintenance is the most favored funding preference statewide (72%), showing up as such in the Southeastern, Northeast, Central, and Connecticut Valley Regions. In all other regions, it is the number two preference. Access for people with disabilities ranks second statewide (70%), with restoration and improvement (64%) a close third.

Most strikingly, the fact that all nine options receive well in excess of a super-majority of favorable responses is in itself a powerful finding. The variations among the options also dwindles from a spread of 40 percentage points to just 22 points. Moreover, the order of preferred options changes among those who somewhat favor

increased funding. In this group, providing guides and information ranks highest, followed closely by adding park staff (40.4%) and purchasing new outdoor recreation areas (35.1%).

This analysis is supported by the second funding preference question, which took the form of asking respondents to specify which two of the nine funding initiatives they would prefer to receive additional state funding. This form of question forces respondents to prioritize a subset of initiatives among the many that may appeal to them. Here, maintaining existing facilities remained the highest preference (44%), logically, but restoring and improving existing areas moved to second (31%), with improving access third (29%) and purchasing new areas fourth (26%), versus sixth when ranked singly. These findings are very consistent with the favorability findings. As above, the purchase of new recreation areas is shown to have more support than might be expected from the results of the “strongly favor” favorability ratings alone.

**Figure 29. Statewide Preference for New Funding Initiatives**



These differences may reflect, in part, the fact that the largest part of the population lives within metropolitan areas where maintenance is presumably most sorely needed, while suburban and rural residences have more generally adequate access to facilities, which may be less intensively used. Great care should be taken in considering these findings; however, the Metropolitan Boston, Northeastern and Central Regions received the strongest overall favorability ratings for purchasing new outdoor recreation areas (80 to 81 %). This was even higher than in the highest growth rate regions of the Southeastern and Cape and Islands. Does this response pattern reflect the respondents weighting of recreation versus conservation lands, or of these resources generally versus other growth demands, such as schools, roads, water supply protection? Local surveys performed in connection with master plan and open space plan updates, along with public opinion surveys performed by non-profit organizations such as the Massachusetts Audubon Society and The Nature Conservancy may help in understanding and explaining these preferences more fully.

Regionally, access for the disabled and restoration are ranked closely together. In the Metropolitan Boston Region, improved access for the disabled is the number one funding preference, while restoration and improvement is ranked first in the Berkshires and on Cape Cod and the Islands. Public transportation is significantly favored in the Metropolitan Boston Region compared to other regions, indicating the critical role public transportation plays (or should play) in providing access for urban residents to recreation and open space.

It is interesting to note that the need for additional staff was ranked at the bottom (lowest priority) in nearly every region. However, the respondents also indicated they wanted to see expanded programs and maintenance efforts, citing cleanliness most often as their principal cause of dissatisfaction with existing facilities. Although these efforts would require additional staff, respondents did not make the connection between staffing levels and program expansion.

## **A Detailed Review of Municipal Open Space and Recreation Plans**

### **Synopsis of Common Needs, Goals and Objectives and Action Items**

In an effort to supplement the above information on demand and needs assessment, EOEa completed a detailed review of the 160 municipal Open Space and Recreation Plans approved since 2001. At 100-200 pages per plan, this assessment reviewed literally tens of thousands of pages of information. Because EOEa requires each plan to comply with their standards and outline, there is a great deal of consistency in these plans. Each plan includes chapters on the supply of conservation land and recreation resources, assessment of need, goals and objectives, and an action plan for the next five years. While assessing common issues and themes from these plans is a different approach to the above public survey, these plans have extensive input from individuals on open space planning committees (used by 112 communities with hundreds of participants meeting multiple times), comments at 223 public meetings, and surveys of the local community to which 55,516 people responded. The results of the surveys were very often included in the action plans. So, while finding common issues, themes, goals and actions is more challenging with this data set, the results deserve serious consideration. The following is a summary of these results (see Appendix B for a more detailed write up):

#### Demand for Outdoor Recreational Activities:

- Community demand was highest (66% or 112 plans) for paved trails for a combination of walking, running, jogging, biking, or skating. This was usually a top priority in communities and was consistent in both city plans (60%) and town plans (68%). This finding should lead to a re-doubling of effort in working with the state transportation agency on these types of projects.
- At 41% there was also a high demand for new playgrounds (included in this category are “tot lots,” “children’s play areas,” and “playgrounds”). This need was higher in city plans (60%) versus town plans (37%).
- Almost every action plan wanted to make recreation and open space areas accessible to the disabled or elderly.
- Often when towns mentioned working together with a neighboring community, it was most often in context with linking greenways and recreational trails.
- Cities vs. Towns:
  - In terms of active recreation, cities had a much higher demand for basketball facilities (27%:11%), golfing (10%:6%) and, playgrounds (60%:37%).
  - Towns seem to have a higher demand for trails overall (this includes paved, dirt and ski trails).
  - There was practically no community demand for wilderness related (camping/hunting) recreation among towns and cities. A total of six communities expressed a significant interest in these activities.
  - Community demand was much higher in towns (60%) for preservation of agriculture or rural character compared to cities (17%).
  - Demand for protection of land for drinking water lands was higher in towns (49%) vs. cities (30%).
  - An overall goal highlighting the need to protect open space was more common in cities (63%) vs. towns (43%).
  - Demand for protection of land for wildlife was higher in cities (44%) vs. towns (27%) as was demand for protection of natural resources and biodiversity (40% for cities and 22% for towns).

#### What do towns and cities want from the state?

- Financial assistance i.e. urban self help grants & self-help grants
- Rail trail expansions
- Reopening of state facilities in their city or town.

#### Common Action Items:

- Almost every action plan wanted to make recreation and open space areas accessible to the disabled or elderly.
- Several communities called for a property tax reduction for farmlands
- Rural communities planned to participate in the Agricultural Preservation Restriction Program.
- Coastal communities wanted to protect the coastline.
- Many communities wanted to link regional greenways and recreational trail systems.
- A number of towns (17%) called for either the use of Community Preservation Funds for conservation and recreation projects in communities that have already passed the CPA, or adoption of the Conservation Preservation Act in communities that have not yet passed this fund raising mechanism.
- 79 communities called for more open space acquisition.

### **Drawing Conclusions**

The information presented in this chapter is meant to provide guidance only. The findings are not intended to predict where investments in open space and recreation should be placed in each and every region of the state. The priority needs rankings are based upon the results of the demand study and should be representative of the population at-large. Rankings are based on state and regional samples. However, specific local needs may be different from regional and statewide needs, and may not be accurately measured by this study.

Readers should also consider the supply and demand chapters to gain further insights into state, regional, and local needs. There are a number of considerations that go into planning decisions, and the supply and demand data provide useful information to aid in the decision-making process.

Resource and facility needs are only part of the total priority plan. The following chapter outlines the critical issues in recreation and open space across the Commonwealth and describes steps that can be taken to address these issues. Most of the issues and recommendations support the needs assessment findings in this chapter and provide direction for future recreation planning and programming efforts.



## Chapter 5: THE REGIONAL PERSPECTIVE

### The SCORP Planning Regions

The SCORP planning regions identified in Chapter 1: Introduction, have changed with each new plan produced. These planning regions generally corresponded to regions in use at the time for some other purpose, such as agency planning regions. In the past three SCORPs, three different regions have been used. In 1978 there were thirteen regions, in 1983 there were five, and in 1988 there were seven. The 2000-2005 SCORP has maintained the seven regions used in 1988, to facilitate comparisons between plans and to provide consistency for future planning efforts.

SCORP planning regions are used in the presentation of supply and demand data and needs. The seven planning regions divide the state into broad areas with generally similar resource and population characteristics. These regions generally follow county boundaries as shown in the next figure, and therefore are meaningful to the vast majority of Massachusetts' residents who know in which county they reside. The following descriptions are provided to familiarize readers with the seven regions.

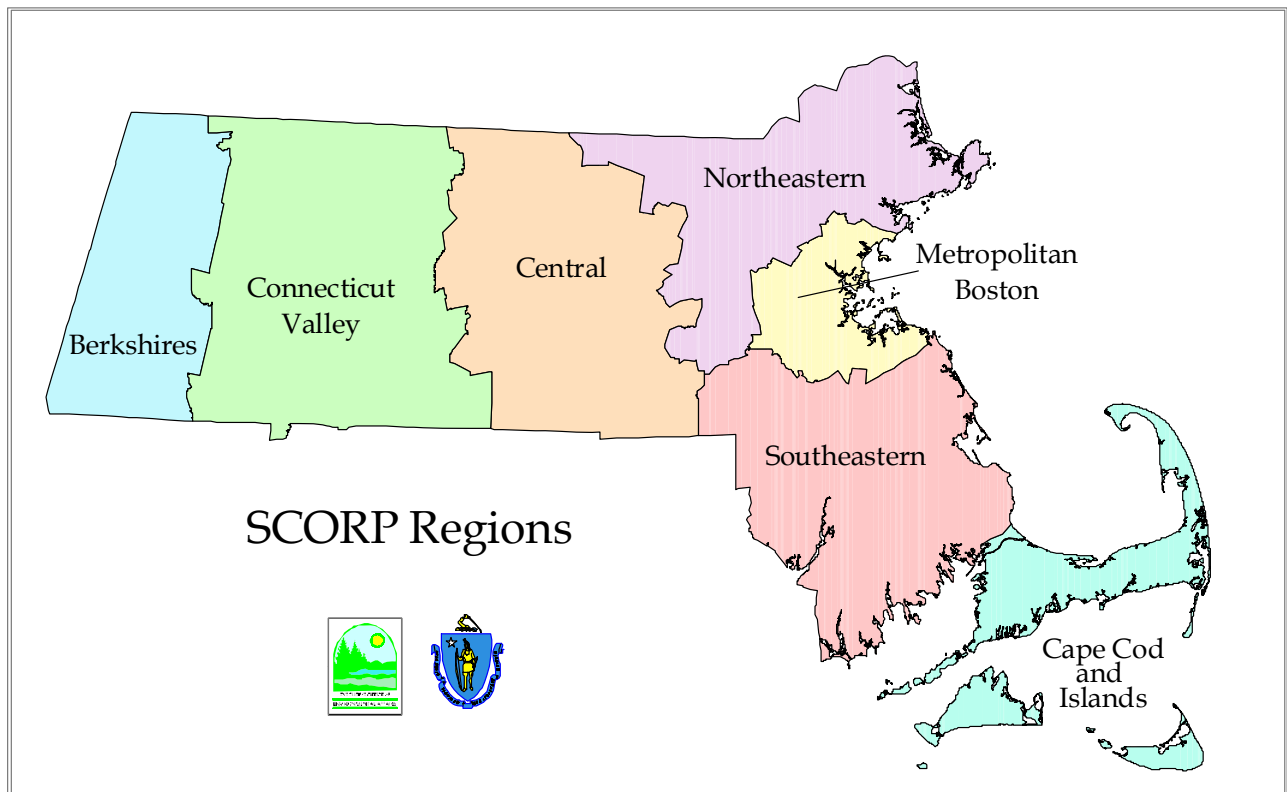
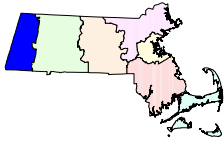


Figure 30. SCORP Planning Regions

## Berkshire Region

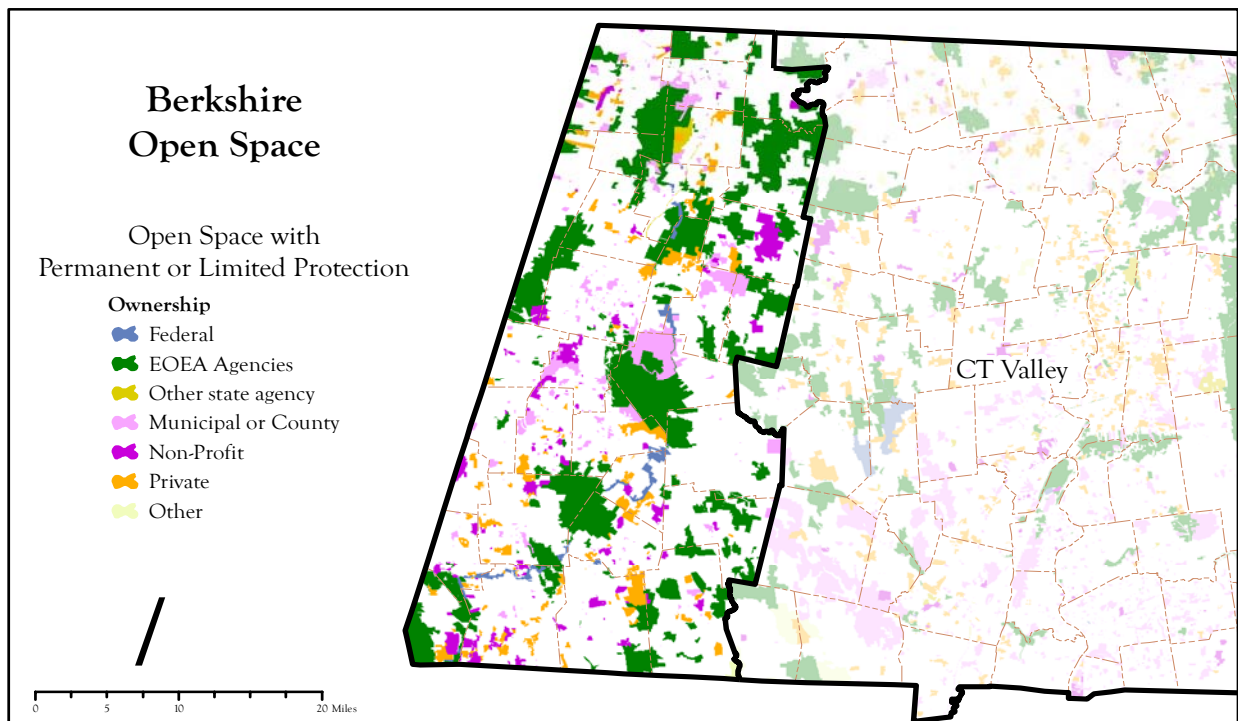


### Population and Resource Profiles

The Berkshires Region is the least populated area of the state, with just over 140,000 residents. The region possesses one major urban center in Pittsfield and several smaller but relatively populated areas, North Adams and the communities of Stockbridge and Lenox. These population centers contain over 61% of the total population, making for a surprisingly high number of urban residents.

Historically a popular tourist region and summer residence for wealthy Bostonians, and more recently New Yorkers, the Berkshires today retain a healthy tourist trade and have moved from an economic system based on manufacturing to a more service-oriented economy, most notably in retail, health, and education. The Berkshires contain the state's major mountain ranges (hence the name), the Berkshire Hills and the Taconic Range along the western border, which includes Mount Greylock, the highest peak in the state. These two ancient mountain chains, though now low and leveled by eons of erosion and glaciation, still define the region and flank the valley floor carved by the Housatonic River. This region is both spectacular in its scenic vistas and rich in its plant and wildlife. The rare communities and abundance of species found here owe much not only to the topography and hydrology, including extensive wetlands, but also to the relatively rare limestone (calcareous) soils and parent bedrock.

In addition to these natural resources, the Berkshires have been blessed with human cultural and recreation resources, such as major portions of the Appalachian and Taconic Crest Trails, arts centers such as Tanglewood (summer home of the Boston Symphony), Jacob's Pillow Dance Theatre, and many prominent agricultural landscapes.



### Supply in the Berkshire Region

**Figure 31. Protected Lands in the Berkshire Region**

#### *Regional Facilities and Protected Land Supply Patterns*

In terms of the acreage of the above resources that are set aside for permanent protection, the Berkshire Region is also most fortunate, both in terms relative to other regions as well as in absolute terms. From the MassGIS inventory, it is estimated that approximately 193,192 acres of the region are in some form of recreation use, representing about 30% of the land area of the region, 3.5% of the land area of the state, and about 12% of the statewide inventory of protected land. In terms of people, this acreage produces a ratio of 1.26 acres per capita (or 1260 acres per thousand people). Of course, these resources are shared with a very large number of both in-state and out-of-state visitors, most particularly in the summer and fall seasons.

#### *Ownership and Management of Open Space Lands*

Of the almost 193,000 acres of recreation land, the state protects approximately 120,000, largely through

its State Forests and Parks. Municipal and private recreation and conservation organizations all report around 20,000 acres. The federal government is a relatively inconspicuous player in this region, while the county ownership of protected lands in the Berkshires is nil.

The Berkshire towns report the fewest number of total sites – perhaps because of the larger size of sites. While the number of trail-based sites is higher than other categories, as expected, it is much lower than other regions, as is the number of wilderness sites. Indeed, even the number of sightseeing locations identified is lower than all other regions. It is possible that sites were undercounted, since Berkshire town governments are heavily volunteer- based, or that the number of sites is simply a function of low population density, or both.

### **Demand in the Berkshire Region**

#### ***Activities***

It is interesting to note that the experience levels by resource types in the Berkshires depart more widely from average values than in other regions, with virtually every resource category being either statistically significant in difference, or notably high or low as an absolute value.

Walking is the most favored activity in the Berkshires by a significant margin at 59.5%, more than five percentage points greater than the next most popular activity, swimming. The distance from the ocean dampens this interest only a little. The proximity of the mountains, however, makes hiking the third most popular activity, followed by fishing. Winter sports, e.g. cross-country and down hill skiing, although more popular in the Berkshires than in the Commonwealth as a whole, are still reportedly enjoyed less even in this region than other seasonal pursuits. The passive activities such as picnicking, photography and painting, and nature study have very strong participation rates here.

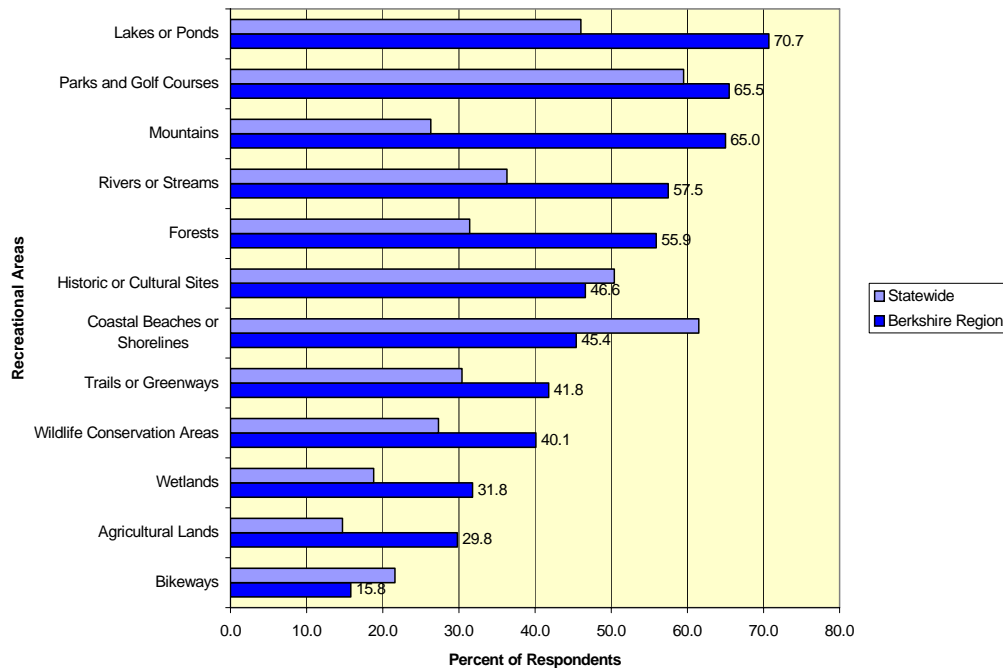
Road biking, roller-blading and skating, and running and jogging are all significantly less popular among residents of the Berkshires than statewide.

Figure 32. Participation Rates in Activities in the Berkshire Region †			
	RECREATIONAL AREA	Statewide (% of Respondents††)	Berkshires (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	3.8
	Basketball	5.6	5.8
	Football	2.1	1
	Golfing	24.7	33.8
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	29.9
	Soccer	2.6	0
	Tennis	2.2	2
	Toddler activity (at tot lots)	5.5	10.8
	Volleyball	2.5	1.2
<i>Passive Recreational Activities</i>			
	Photography / painting	5	4
	Picnicking	22.6	36.3*
	Sightseeing, tours, events	54	49.3
	Sunbathing	19.6	14.6
	Watch wildlife, nature study	21.7	32.6*
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	9.5
	Biking (road)	15.8	8.2*
	Horseback riding	0.8	0
	Off-road vehicle driving	0.7	2.5
	Roller blading / skating	2.7	0.8*
	Running / jogging	3.9	0.8*
	Skiing (cross country)	3.2	8.4*
	Skiing (downhill)	7.6	5.8
	Snowmobiling	0.9	3
	Walking	56.5	59.5
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	11.8
	Boating (non-motorized)	7.8	11.2
	Canoeing, rafting	8.5	11.8
	Fishing	26.5	49.8*
	Hockey (natural water bodies)	0.3	0
	Ice skating (pond, lake, natural water bodies)	1.8	0.8
	Sailing	2.5	2.3
	Surfing	0.9	0
	Swimming	54.6	54.1
	Water skiing / jet skiing	1.9	2.2
<i>Wilderness Activities</i>			
	Camping	7.7	15.7*
	Hiking	30.8	51.4*
	Hunting	2.7	15.6*
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			

### Resource Use

Berkshires residents report favoring lakes and ponds over all other categories of resources, although the categories of mountains and golf courses, neighborhood parks, playgrounds and tot lots are a close tie for second. Rivers and streams and forests are next in numbers of users, with bikeways (of which there are few dedicated ones) and agricultural lands are least widely used recreationally by residents themselves. These patterns appear to correlate well with the preferred activities above. While low relative to other resource use within the region, the use of wetlands and trails and greenways was higher than anywhere else statewide.

Figure 33. Experience with Recreational Areas in the Berkshire Region

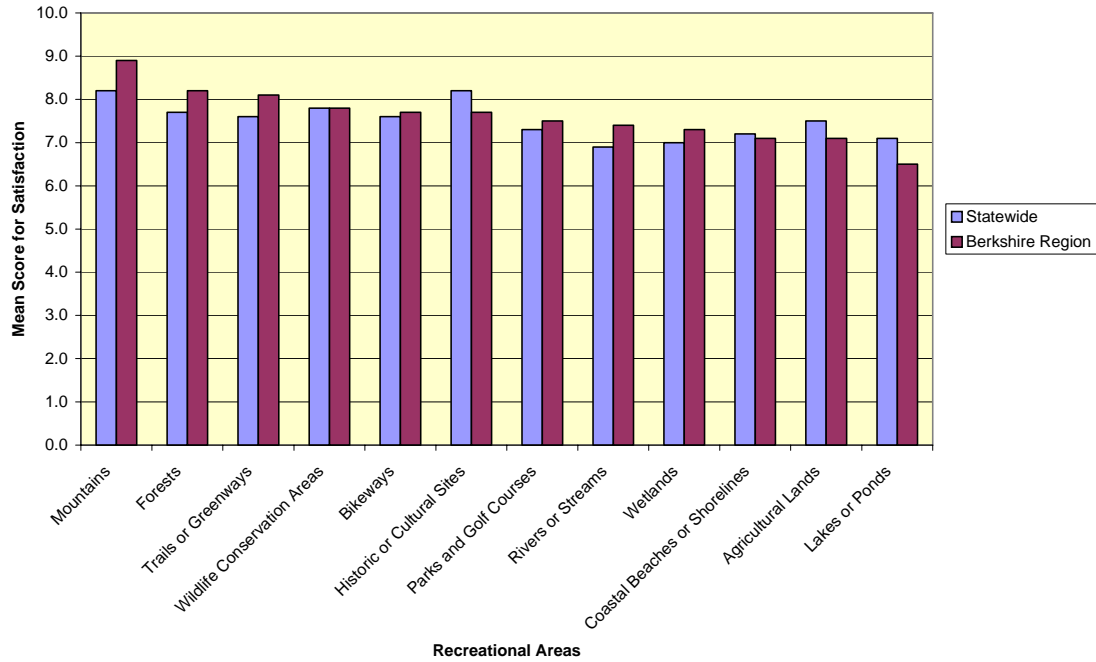


### Needs in the Berkshire Region

#### Satisfaction Levels

Berkshire residents' values for satisfaction closely follow those of the state as a whole, with highest levels of satisfaction reported for mountain, forest and trail and greenway recreation areas. Somewhat lower than statewide levels of satisfaction were reported in this region for Wildlife Conservation areas and Lakes and Ponds. Lakes and Ponds were the resource areas where Berkshire residents who use these facilities were least satisfied overall.

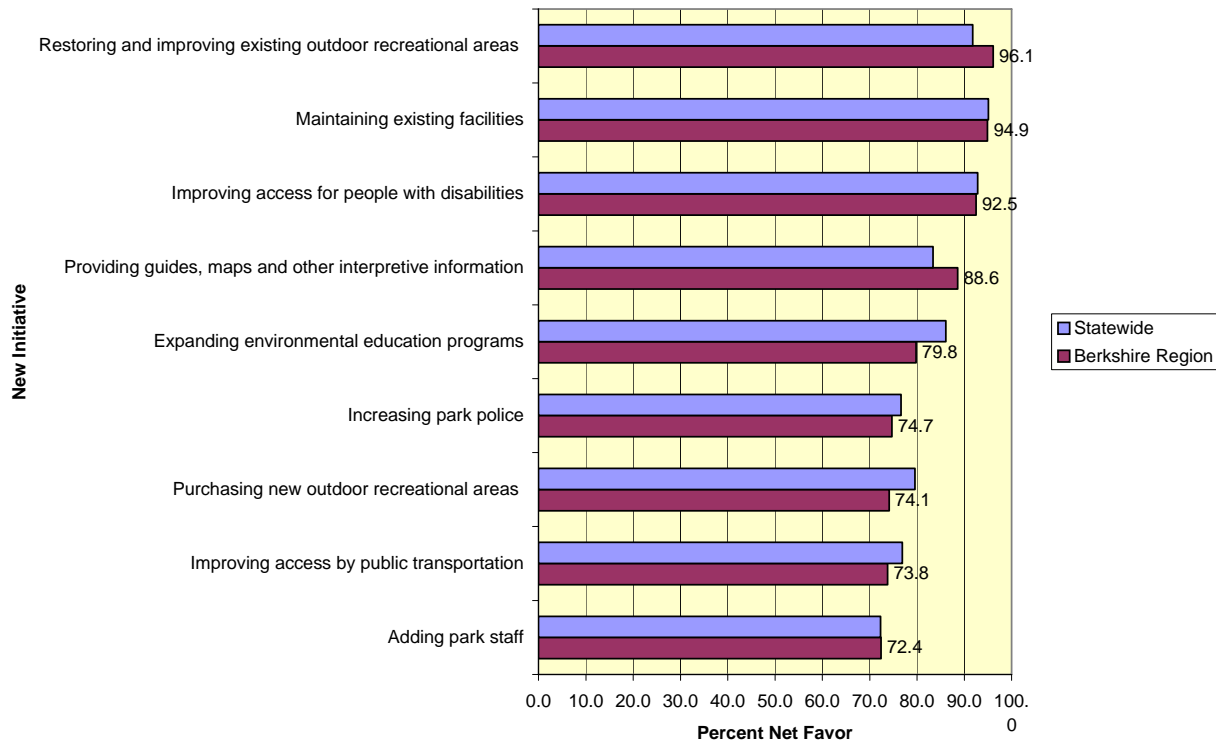
**Figure 34. Satisfaction with Recreational Areas in the Berkshire Region**



### ***Funding Preferences***

Restoration and improvement of existing areas is ranked first in the Berkshires for future investments. Access improvements for persons with disabilities were close to these, while new acquisitions were lower, as well as the lowest in the state. This decreasing emphasis on acquisition for new recreation areas is understandable for the region that has the highest percentage of available recreation lands and one of the higher rates of tourist visitation. Lowest preference here was given to public transportation access and adding park staff.

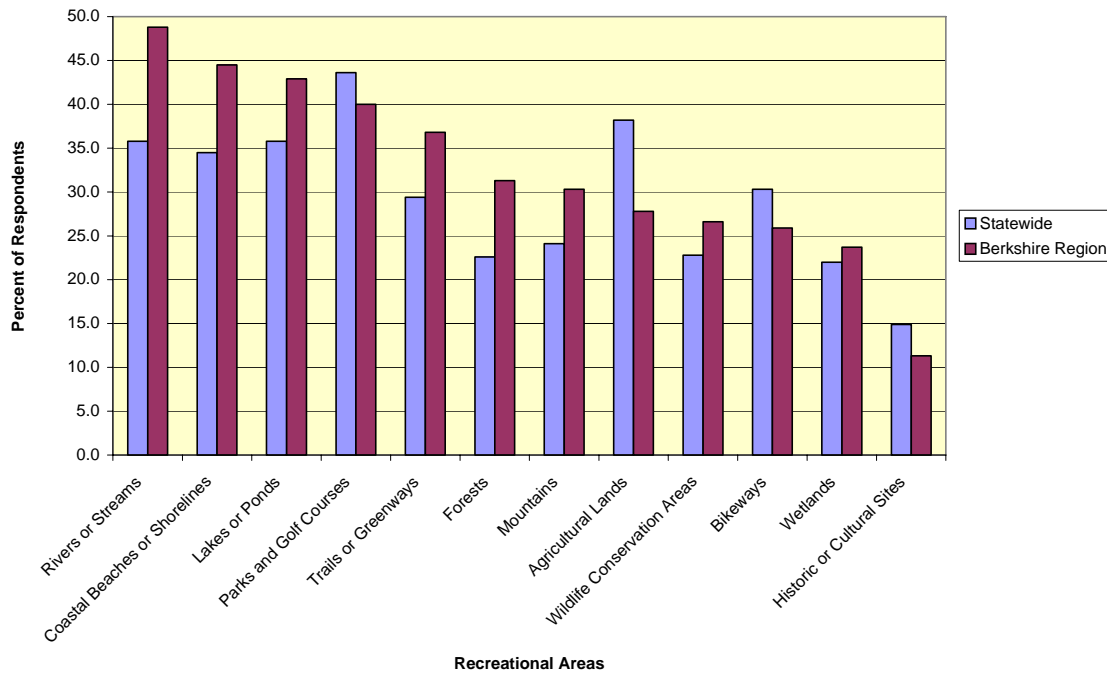
**Figure 35. Funding New Initiatives in the Berkshire Region**



### Facilities Needs

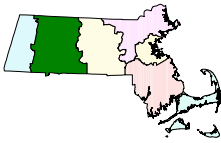
Residents expressed the greatest need (desire) for more water-based activities, both swimming and fishing, implying a greater need for access to lakes and ponds, rivers and streams and coastal beaches and shorelines. Substantial interest is shown in each of the 5 major categories of activity: trail-based, field-

**Figure 36. Inferred Need for New Recreational Areas in the Berkshire Region**



based, water-based, wilderness, and passive, with the latter two types identified as the least lacking in this region. This conclusion makes intuitive sense, given the resource supply picture.

## Connecticut Valley Region



### Population and Resource Profiles

Composed of three counties, Franklin, Hampden and Hampshire, this region changes from a largely urban population in the southern and central counties to a much more rural population in the north. The major urban centers are Springfield, Holyoke and Chicopee, the Northampton and Amherst area, and Greenfield. A strong manufacturing base in these urban centers has been supplemented with a move toward retail, education and finance industries. The region is especially known for the significant number of colleges and universities, most notably in the so-called five-college area of Northampton and Amherst in the central “Pioneer Valley”. The northern region retains much of its agricultural past.

The Connecticut Valley area contains the Holyoke mountain range, the largest river and drainage basin in Massachusetts, the Connecticut River watershed, and a major historic and scenic state Route 2 known as the Mohawk Trail. The three distinct urban concentrations noted above arise from the geomorphology of this region. Lying within and at the edges of the highly fertile and flat floodplain of the valley, these cities follow the three distinct physical subregions of the valley. Sculpted in large measure by the location of the Holyoke Range and the Pocumtuck Range (Sugarloaf and Mt. Toby), these low mountains divide the northern and southern Connecticut River Valley into thirds. Bounding the valley to the east, the Central Highlands rapidly rise almost a thousand feet above the valley floor, while the Berkshire Hills rise more gradually to the west. A substantial part of the region is comprised of the hill towns, giving the region yet another subdivision of hill versus valley ecoregions, and town cultures.

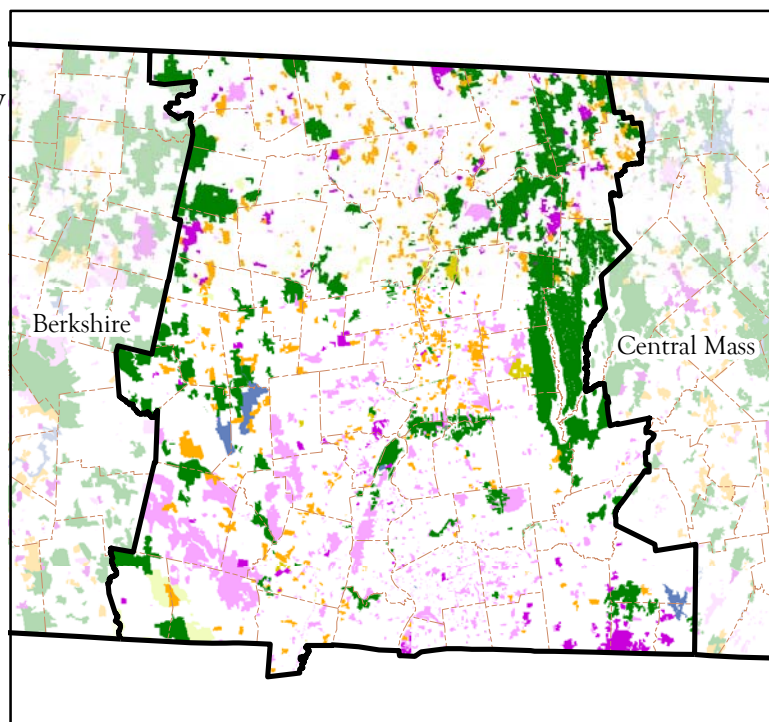
The Connecticut Valley SCORP Planning Region encompasses several sub-ecoregions as identified by the federal Environmental Protection Agency (EPA) and state DEP, including the Berkshire Transition, the Vermont Piedmont, part of the Worcester Plateau and the Lower Worcester Plateau, as well as the Connecticut River Valley itself. In addition to the three counties noted above, the region is also served by two Regional Planning Agencies (RPA), the Franklin County RPA and the Pioneer Valley RPA. Some of the data included in this report obtained from the “Massachusetts Land Policy Plan for the Next Decade” by RKG Associates, and more so in the prior 1978 and 1988 SCORP reports, is based upon these RPA boundaries.

## Connecticut River Valley Open Space

Open Space with  
Permanent or Limited Protection

### Ownership

-  Federal
-  EOEIA Agencies
-  Other state agency
-  Municipal or County
-  Non-Profit
-  Private
-  Other



## Supply in the Connecticut Valley Region

**Figure 37. Protected Lands in the Connecticut Valley Region**



### ***Regional Facilities and Protected Land Supply Patterns***

As noted in the statewide summary, the Connecticut region is the largest of the SCORP Planning Regions in area, and has the largest amount of open space and recreation acreage. However, a regional comparison of this land as a percentage of total land area in the region reveals that the Connecticut ranks only fourth highest among the planning regions. Moreover, most of the protected open space in this region is owned or protected for water supply purposes than in any other part of the state. This fact reflects not only the presence of much of the DCR Quabbin Reservoir watershed land in the towns of New Salem, Pelham, Belchertown and Ware, but also major municipal watersheds lands, including the surface water supplies for Springfield and Holyoke. Unfortunately, it is reported that only 66% of municipally owned watershed lands are permanently protected open space. Further, because of the great caution taken to avoid degradation of drinking water quality, much of this land area is presently managed to exclude all human, or at least all recreational activities. Certainly water quality must remain the primary purpose of protection, but developing methods to manage these extensive lands for limited, low impact recreation activities could be considered.

### ***Ownership and Management of Open Space Lands***

A larger percentage and acreage of municipal and non-profit lands are present in this region than in other parts of the state. The municipal ownership pattern relates in part to the drinking water supply resources just noted, but also to significant municipal holdings for facility-based recreation lands and holdings in the Holyoke Range by the Towns of South Hadley and Hadley, and by the Towns of Amherst, Pelham, and Montague. In addition, Springfield, Wilbraham, Longmeadow and East Longmeadow have extensive smaller parcel holdings, substantially in the golf course, neighborhood park, playground and tot lot resource type. The non-profit holdings reflect both the high level of farm participation in the Agricultural Preservation Restriction (APR) program funded by EOE's Department of Food and Agriculture, and the biodiversity interest of land trusts in this region.

Another profound element of the protected land supply pattern in this region is the extensive state forest and wildlife management area system extending north from Mt. Toby, through the Wendell State Forest, and up through Erving, Northfield and Warwick. Recent major additions to this inventory include the 1460 acre Montague Plains Wildlife Management Area, the Mt. Tully Wildlife Management Area in Orange, and 660 acre French King Gorge acquisitions in Erving, Gill, and Northfield.

## **Demand in the Connecticut Valley Region**

### ***Activities***

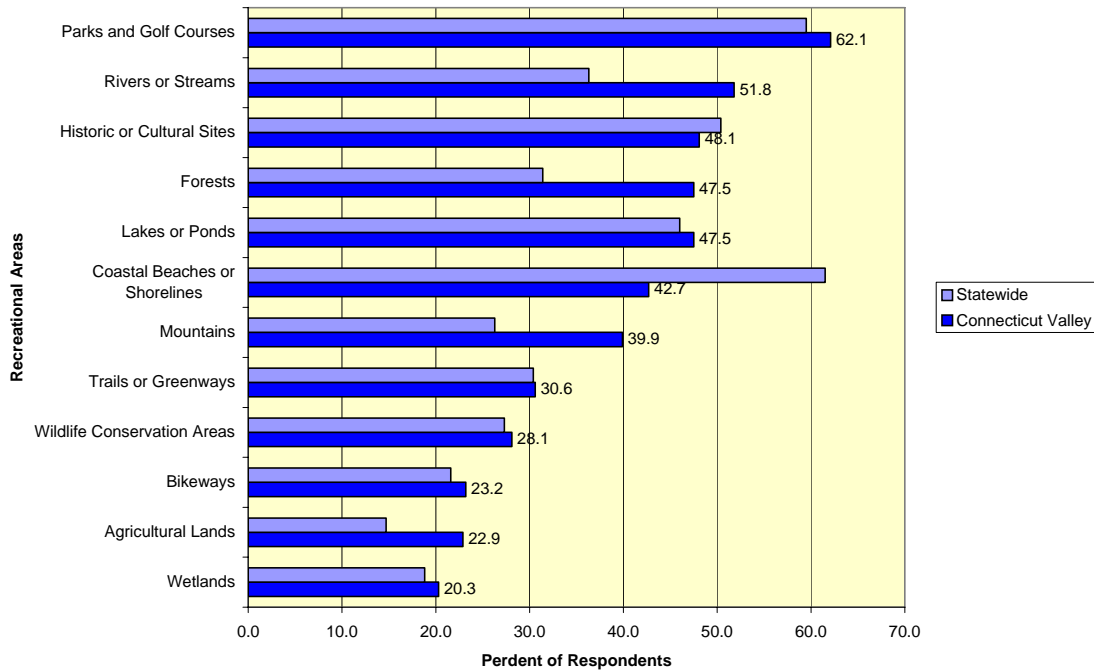
A second tier of activities having moderate participation rates for the Connecticut Valley Region include fishing (39.7%), golfing and picnicking (26.6 and 26.5% respectively), and playground activities. Once again, understanding the neighborhood park and playground activities as distinct from golf in actual activity patterns is important. This observation serves as a segue to the use of the resource base in this region.

Figure 38. Participation Rates in Activities in the Connecticut Valley Region †			
	RECREATIONAL AREA	Statewide (% of Respondents††)	Connecticut Valley (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	8.2
	Basketball	5.6	6.8
	Football	2.1	2.5
	Golfing	24.7	26.6
	Ice Skating (rink)	0.1	0.5
	Playground activity	26.1	25.8
	Soccer	2.6	4.9
	Tennis	2.2	3.6
	Toddler activity (at tot lots)	5.5	7.4
	Volleyball	2.5	0.9
<i>Passive Recreational Activities</i>			
	Photography / painting	5	4.5
	Picnicking	22.6	26.5
	Sightseeing, tours, events	54	54.9
	Sunbathing	19.6	12.8*
	Watch wildlife, nature study	21.7	29
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	18.9
	Biking (road)	15.8	13.7
	Horseback riding	0.8	0.5
	Off-road vehicle driving	0.7	0
	Roller blading / skating	2.7	3.1
	Running / jogging	3.9	2.5
	Skiing (cross country)	3.2	3.8
	Skiing (downhill)	7.6	5.8
	Snowmobiling	0.9	1.7
	Walking	56.5	44.5*
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	10.6
	Boating (non-motorized)	7.8	9.6
	Canoeing, rafting	8.5	9.2
	Fishing	26.5	39.7*
	Hockey (natural water bodies)	0.3	0
	Ice skating (pond, lake or natural water bodies)	1.8	1.7
	Sailing	2.5	1.6
	Surfing	0.9	0
	Swimming	54.6	52.7
	Water skiing / jet skiing	1.9	1.3
<i>Wilderness Activities</i>			
	Camping	7.7	9.3
	Hiking	30.8	41.9*
	Hunting	2.7	2.9
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			

### Resource Use

The collective group of golf courses, neighborhood parks, playground, and tot lots, as just noted, is the most heavily used of the regions resources when aggregated. This pattern is logical, in light of the substantial urban concentrations noted above. Closely following this resource use are rivers and streams, historic and cultural sites, lakes and ponds, forests, coastal beaches and shorelines, and mountains, all with 40% participation rates or greater. These observations track well with the above activity patterns, indicating that rivers and streams partially fulfill the swimming demands of the region, supplemented by trips to the coast and local ponds.

**Figure 39. Experience with Recreational Areas in the Connecticut Valley Region**

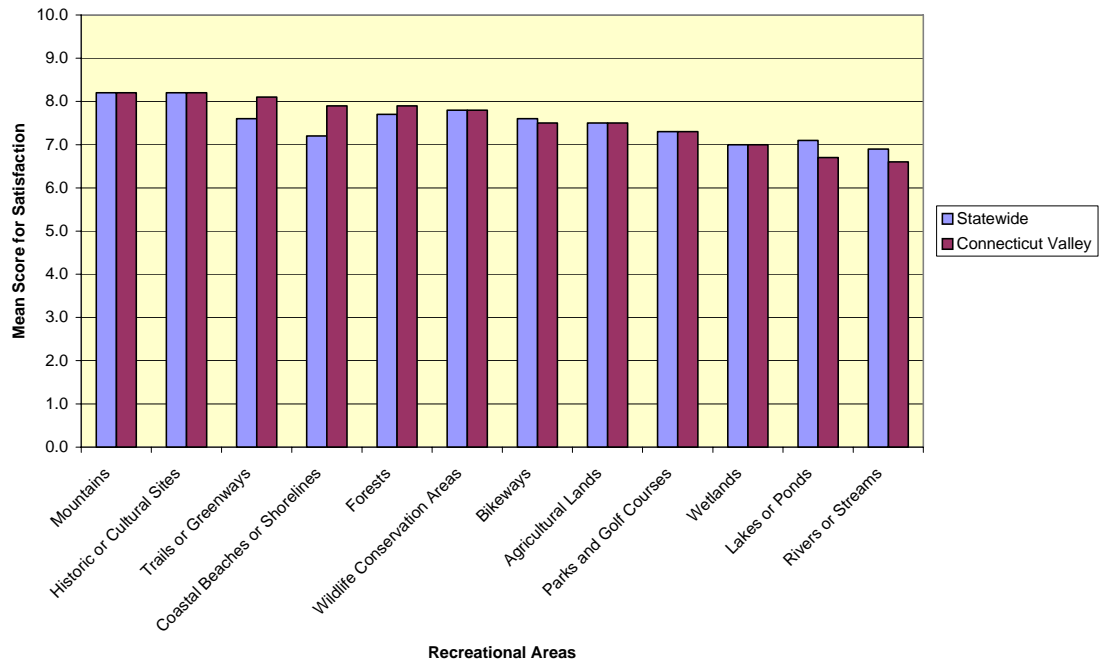


## Needs in the Connecticut Valley Region

### *Satisfaction Levels*

The level of satisfaction reported by Connecticut Valley residents shows more variation from those of the state as a whole than do other regions, with very low levels of dissatisfaction reported for coastal beaches and shorelines, and for historic and cultural sites. The highest levels of dissatisfaction in this region were reported

**Figure 40. Satisfaction with Recreational Areas in the Connecticut Valley Region**



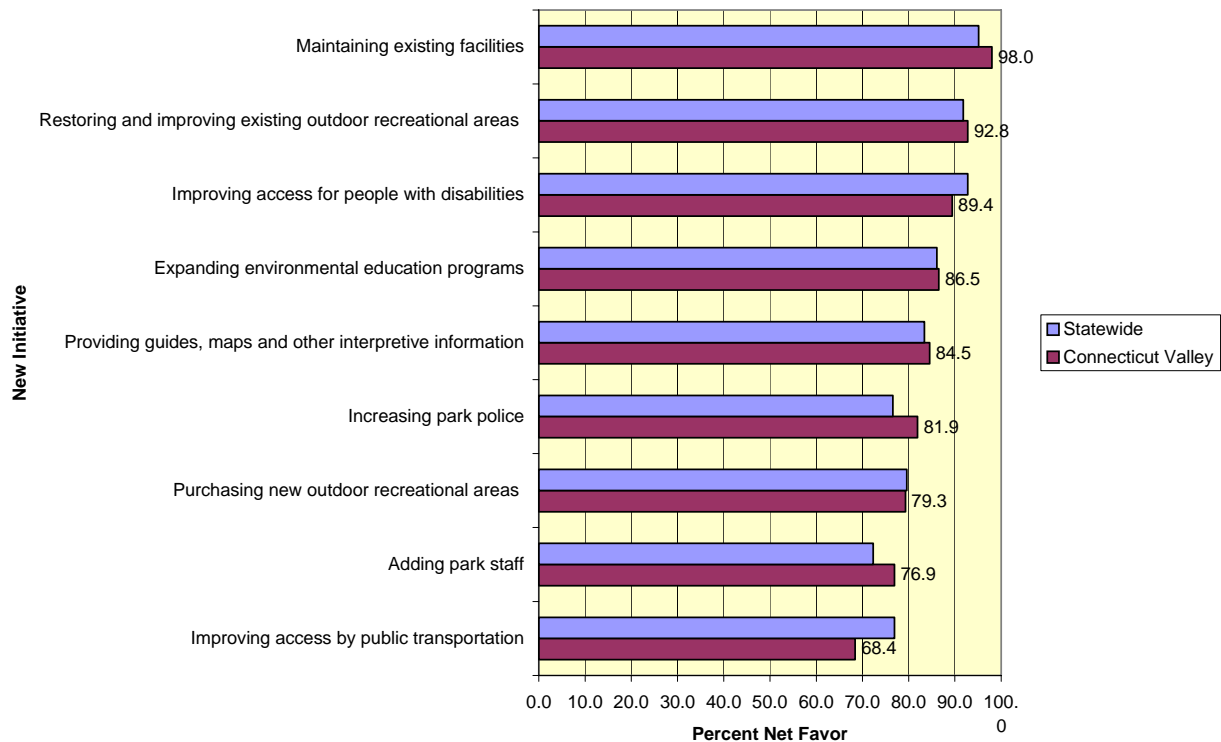
for golf courses and parks, then for lakes and ponds, followed by rivers and streams, and finally for bikeways. Residents report being most satisfied with historic and cultural sites, mountains, and trails and greenways resources. Somewhat lower than statewide levels of satisfaction were reported in this region for rivers and streams, and lakes and ponds. Rivers and streams were the area where Connecticut Valley Region residents who use these facilities were least satisfied overall.

### Funding Preferences

Preferences for new funding initiatives showed both the highest and lowest values in the state, giving this region the clearest articulation of preferences of all regions. Little need was felt for improved access here through public transportation, implying that people either have adequate private access by auto, bike or foot, or are nearby the desired facilities and resource areas, or both. The strongest preference (98%) was declared for maintaining existing facilities, perhaps a reflection of the popularity of neighborhood park facilities, which tend to have high maintenance requirements. Here again, the respondents do not see the connection of maintenance to the need for additional park staff.

One contradiction to note in the Connecticut Valley Region is the relatively low priority given to new land acquisition for recreation purposes (79.3%) versus the very high need for additional land protection in the Valley. This was also noted by The Nature Conservancy and the state's Natural Heritage and Endangered Species Program in "Our Irreplaceable Heritage". The conservation importance here stems both from the relatively high species diversity found in the valley and the relatively low amount of land protection in the valley floor which is of great importance to that diversity. This point illustrates the need to ensure a conservation focus that is complementary to the recreation one. Nonetheless, the percentage of respondents who favor new land acquisition, although lower in priority than other recreation needs, still represents more than a super-majority of those over 18 years old.

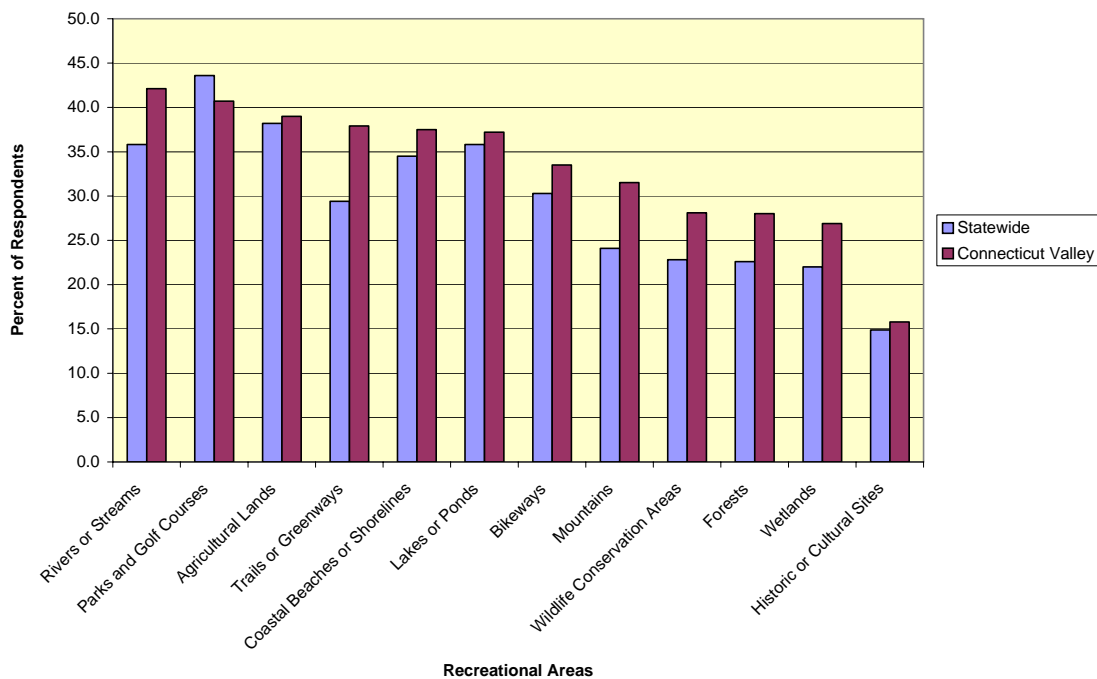
**Figure 41. Funding New Initiatives in the Connecticut Valley Region**



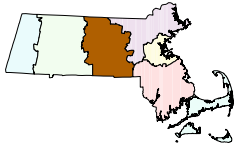
### Facilities Needs

In contrast to demand (or present use patterns), respondents in this region place the highest priority for new facilities on road biking (14.5%), walking (13.9%), swimming (13.8%), playground (11.3%), hiking (10.0%), and mountain biking (10.3%). A middle tier of priorities includes golfing (8.2%), tennis, picnicking and fishing (5.5%), and camping (5.3%). These facilities needs are converted into “Inferred” resource area needs, i.e. those natural or developed areas that can supply, and are conducive to, the desired recreation activities. Highest among these for the Connecticut Valley Region are rivers and streams, then parks and golf courses, then agricultural lands, followed by trails and greenways, and finally lakes and ponds. Note also that the regional needs for hiking, mountain biking (10.3%), and cross-country skiing (4.1%) rank higher than in any other region.

Figure 42: Inferred Need for New Recreational Areas in the Connecticut Valley Region



## Central Region



### Population and Resource Profiles

Central Massachusetts is made up of one county (the largest county in land area in Massachusetts) and contains the state's second most populous city, both of which possess the same name, Worcester. This region also contains several smaller urban centers in Leominster, Fitchburg and Gardner. Manufacturing still provides employment for about 25% of the population, while retail, health, and education services account for a major portion of the non-manufacturing economy. In addition to these more historical patterns, the post-1950 pattern of development has seen the I-495 beltway envelop the previously rural hinterland and even the mill towns in the eastern part of the county. Here, major new population growth has spurred and been spurred by both residential and light industrial growth, as well as office and strip mall retail development. This suburban growth explosion has occurred without a corresponding set-aside of recreation and conservation lands for the new "communities" that have emerged. Consequently, these communities feel both the fiscal effects of their recent growth and the inability to meet recreation needs at the same time. This suburban and highway-driven commuter pattern of dispersed settlement is presently working these same forces upon the towns ringing the City of Worcester, and the Blackstone Valley.

A further important settlement dynamic relating to recreation resources is the closure and reuse of the former Ft. Devens Department of Defense facility. While the core areas of this "new town" lie in the adjoining Northeastern SCORP Region, this land use conversion provides the Central Region with several thousands of acres of conservation lands in the Oxbow National Wildlife Refuge along the Nashua River, in the Towns of Lancaster and Harvard. This federal refuge adjoins the state DFG's Bolton Flats Wildlife Management Area.








The central portions of this region contain the state's major source of surface drinking water: the DCR's Quabbin, Wachusett, and Sudbury reservoirs. This region also possesses several significant uplands, most notably the southern range of the Monadnocks, including Mount Wachusett and Mount Watatic.

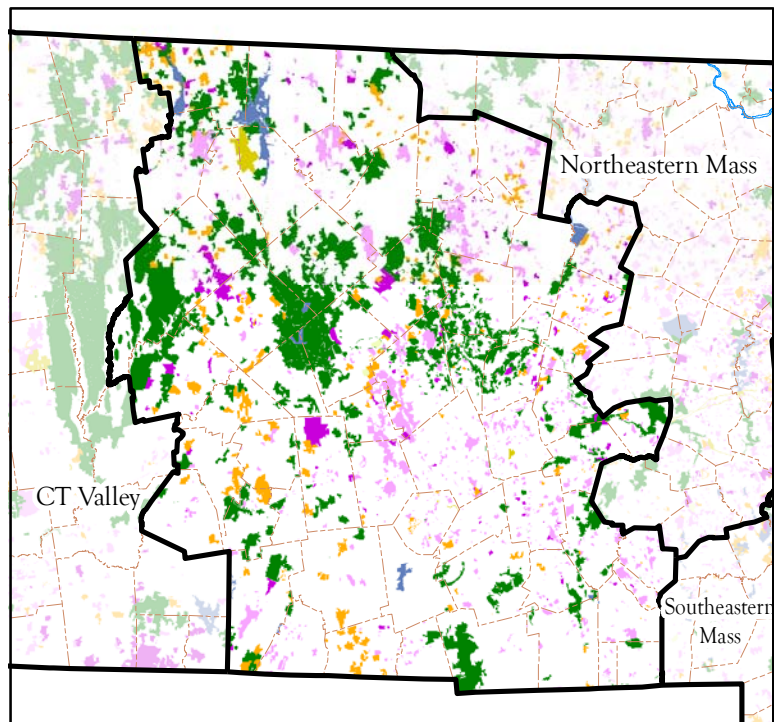
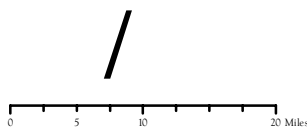
### Supply in the Central Region

#### Central Massachusetts Open Space

Open Space with  
Permanent or Limited Protection

##### Ownership

-  Federal
-  EOE A Agencies
-  Other state agency
-  Municipal or County
-  Non-Profit
-  Private
-  Other



**Figure 43. Protected Lands in the Central Region**

### ***Regional Facilities and Protected Land Supply Patterns***

Several large protected land areas have been assembled in the last century within this region. These areas represent a tremendous resource to the region, and one of the great land protection achievements in Massachusetts. Yet several parts of Worcester County remain without significant protected land holdings. Among the most regionally significant assemblages are: the easterly portion of the DCR Quabbin Reservoir watershed in the towns of Petersham and Hardwick; the DCR Ware River watershed parcels, which seasonally supplement the Quabbin flows, located in the towns of Barre, Hubbardston, Oakham, and Rutland; and the DCR Wachusett Mountain Reservation in Princeton and Leominster. Continuing to the east, the towns of Holden, Sterling, West Boylston and Princeton also have significant holdings of DCR Wachusett Reservoir watershed lands. Numerous other DCR sections of state forest, such as the Leominster and Rutland State Forest, and DFG Wildlife Management Areas, are very much a part of the linking fabric of this protected landscape.

In addition to these towns that share in regionally important preserves, quite a number of individual towns with substantial protected open space resources include Wales, Brookfield, New Braintree, Spencer, Leicester, Paxton, Holden, Douglas, Grafton, Westminster, Gardner, Royalston and Lunenburg.

### ***Ownership and Management of Open Space Lands***

The vast majority of the above supply of protected lands was acquired and is held by the Commonwealth of Massachusetts. However, some notable exceptions occur on a localized basis. For instance, federal ownership is notable in the towns of Royalston, Winchendon and Templeton, as well as in Brimfield and Holland, and Oxford. These facilities are managed primarily for flood control, with associated wildlife benefits. The federal presence in the Blackstone Valley, through the National Heritage Corridor, creates a unique entity within this region. In this case, the vast bulk of land remains in private ownership, with more focused public facilities, such as interpretive centers or exhibits, bike path segments, and signs. This kind of resource management is well suited to historic and cultural resources, especially when spread over a sub-region versus a localized site.

Municipal ownership is very significant in Gardner, and also in Paxton, Holden and Leicester where the City of Worcester has acquired significant surface water and watershed protection holdings.

Private non-profit ownership is second only to the state's in this region, showing substantial clustering of protected lands in a large number of towns, including, Charlton, Wales, Sturbridge, Dudley, Spencer, Petersham, West and North Brookfields, and Princeton.

There is a clear dominance of land protected for watershed purposes in this region, even more so than in the Connecticut Valley Region. The implication of this fact for recreation interests is, perhaps, obvious. Watershed lands are most often managed exclusively for water supply protection interest, which often precludes recreation use. Because public health and safety are of interest, this cautious approach to land management is understandable. However, this region, more than any other, must come to grips with this dilemma, either in the form of increased protection for other types of resources more compatible with recreation, or in carefully revised watershed management strategies.

## **Demand in the Central Region**

### ***Activities***

In the Central Massachusetts Region, swimming (61.4%) is the activity most widely engaged in by residents, even more so than in any other region of the state. Indeed, with the exceptions of swimming and walking on Cape Cod and the Islands, this was the highest single participation value recorded in the survey.

Also highly popular in this county are walking, at 58.6% participation, and sightseeing, tours and events with 55.9% (highest in the state). These three activities dominate the recreation picture for Central Massachusetts.

Also important, in terms of the number of individuals served, are those activities reporting between 25 and 50% participation rates, including hiking, fishing, picnicking, playground activity (the second highest of the regions at 31.8%), wildlife and nature study, and golfing (second highest rate statewide), in that order.

This region also expressed the strongest participation rate statewide in boating, especially non-motorized. The following activities rated highest in Central Massachusetts, among the regions, although the absolute values are low: hockey (1.1%), water skiing and jet skiing (3.1%), photography and painting (7.3%). Participants in Central Massachusetts enjoyed ice-skating (2.2%) and camping (10.7%) at a rate that was the second highest



among all the regions.

This activity pattern shows distinctive interests for the region. Taken in the aggregate as types of activity, this region shows a broad interest in all types of recreation, with at least one significant activity noted in each of the field-based, water-based, trail-based, passive and wilderness activities. The greatest emphasis would appear to be found in Passive Recreation Activities group. The remaining groups have a roughly comparable distribution.

Yet another distinctive pattern in the recreation activities of Central Massachusetts residents is their greater willingness to travel for (or their greater distance from) certain types of recreation. Unlike Berkshire and Cape and Island residents, Central Region residents take only the same number of trips as the average of all state residents to access rivers and streams, lakes and ponds, wetlands, bikeways, wildlife areas, mountains, agricultural lands and historic and cultural site, but twice the number of trips to forests. Residents of this region also visit coastal beaches and golf courses, playgrounds, neighborhood parks and tot lots significantly less frequently than most state residents. However, residents here travel farther than those of any other region (the higher Berkshire value in this category represented too few response to yield meaningful statistical results) to reach coastal beaches and shorelines (101 miles), bikeways (68 mi.), trails and greenways (35 mi.), wildlife conservation areas (24 mi.) and historic and cultural sites (35 mi.). These residents also travel significantly more than the state average to reach wetlands and agricultural lands, but less than average for rivers and streams.

Figure 44. Participation Rates in Activities in the Central Region †			
	RECREATIONAL AREA	Statewide (% of Respondents††)	Central (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	4.1
	Basketball	5.6	3.2
	Football	2.1	0
	Golfing	24.7	29.4
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	31.8
	Soccer	2.6	1.0*
	Tennis	2.2	2
	Toddler activity (at tot lots)	5.5	6.2
	Volleyball	2.5	1.3
<i>Passive Recreational Activities</i>			
	Photography / painting	5	7.3
	Picnicking	22.6	33.4*
	Sightseeing, tours, events	54	55.9
	Sunbathing	19.6	21.1
	Watch wildlife, nature study	21.7	29.8*
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	6.1*
	Biking (road)	15.8	12.9
	Horseback riding	0.8	1.7
	Off-road vehicle driving	0.7	1.4
	Roller blading / skating	2.7	1.5
	Running / jogging	3.9	2.7
	Skiing (cross country)	3.2	5.4
	Skiing (downhill)	7.6	9.7
	Snowmobiling	0.9	0
	Walking	56.5	58.6
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	11.6
	Boating (non-motorized)	7.8	11.6
	Canoeing, rafting	8.5	10.1
	Fishing	26.5	33.7*
	Hockey (natural water bodies)	0.3	1.1
	Ice skating (pond, lake or natural water bodies)	1.8	2.2
	Sailing	2.5	3
	Surfing	0.9	0.5
	Swimming	54.6	61.4*
	Water skiing / jet skiing	1.9	3.1
<i>Wilderness Activities</i>			
	Camping	7.7	10.7
	Hiking	30.8	43.0*
	Hunting	2.7	4.6
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			

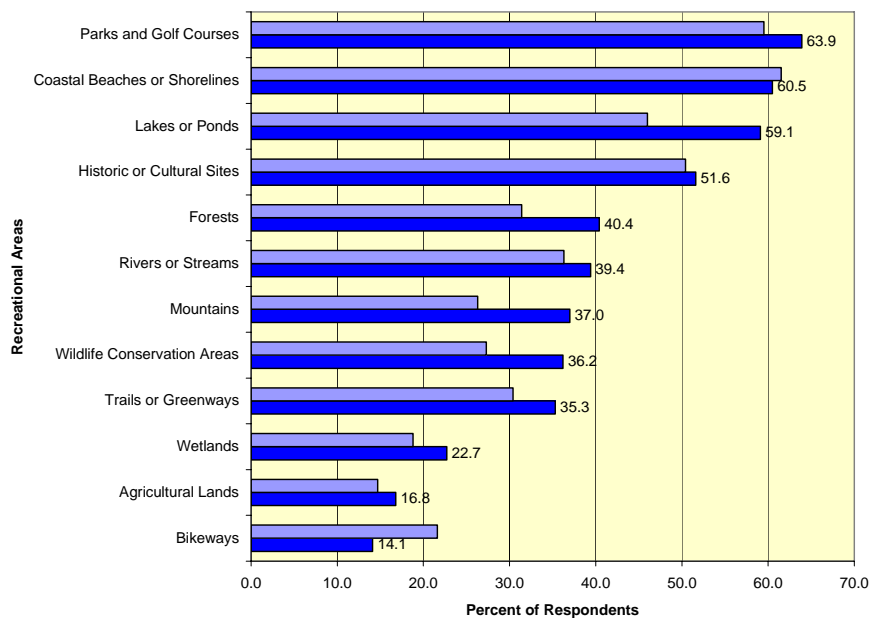
### Resource Use

The above activity preferences clearly signal the presence and interest in water resources, both in winter and summer. The attraction of lakes and ponds is stronger than in most other regions, by far, in the Central Region at almost 59 %, versus a statewide average of 46%.

However, the most frequently mentioned preference in this region was for golf courses, neighborhood parks, playgrounds and tot lots (63.9%). Given the infrequent but broad use of these facilities noted above, this pattern suggests that facilities are nearby and desired, but may be over capacity, under maintained or both. Coastal beaches and shorelines (60.1%) are next in the order of popular preference for resource types in the Central Region, with lakes and ponds (59.1%) and rivers and streams (39.4%) also rating strongly. Historic and cultural sites (51.6%) and forests (40.4%) are also in considerable demand (actual present use) in this region, with mountains (37%), wildlife areas (36.2%), and trails and greenways (35.3%) having moderate usage. Recall from the statewide comparisons that the highest frequency of use of forests is in the Central Region rather than the western regions.

The least used resources by Central residents are bikeways (relatively few exist nearby) and agricultural lands. In the case of bikeways, the low usage may reflect both the small number of dedicated bike facilities, and perhaps to a lesser degree, the very hilly terrain. Since satisfaction levels reported below are high, crowding or poor maintenance are clearly not factors. The unexpectedly low agriculture number is harder to interpret. It may suggest that there is in fact less agricultural activity remaining in Central Massachusetts than is generally supposed, or perhaps simply that residents may more readily take its presence for granted, not seeking this experience either locally or further afield as a recreation pursuit.

Figure 45. Experience with Recreational Areas in the Central Region



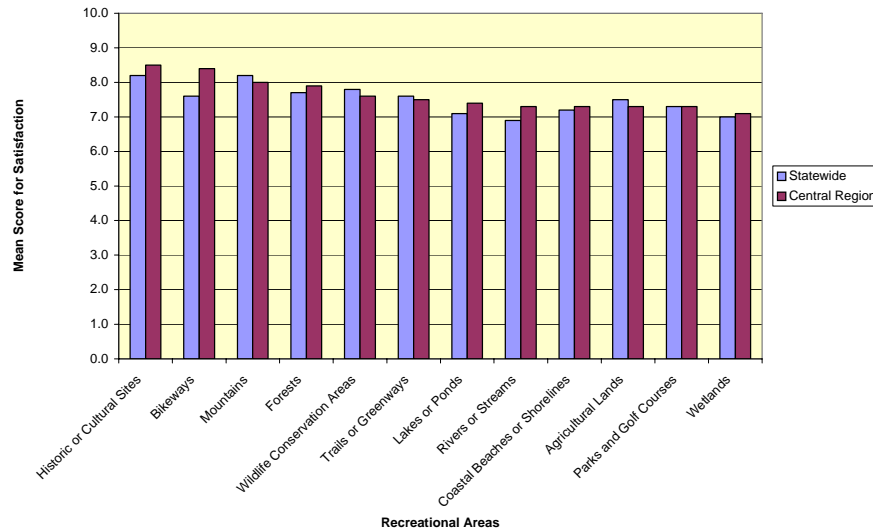
### Needs in the Central Region

#### Satisfaction Levels

Historic and cultural sites receive the highest satisfaction levels for the Central Region and the highest statewide. Bikeways were also high in satisfaction. Lower levels of satisfaction are reported with wetlands, rivers and streams, lakes and ponds, coastal beaches, agricultural lands and golf courses, neighborhood parks, playgrounds and tot lots. The strongest dissatisfaction ratings are given for trails and greenways, agricultural lands, and wildlife conservation areas.

No dissatisfaction at all was reported for historic and cultural sites, albeit residents reported traveling longer distance than most for such experiences. Apparently, the lower frequency of visitation and distance are in line with the expectations of residents in this region. Clearly, this is much less the case with coastal beaches and shorelines, where the same factors of even longer distances but high frequency result in high levels of dissatisfaction.

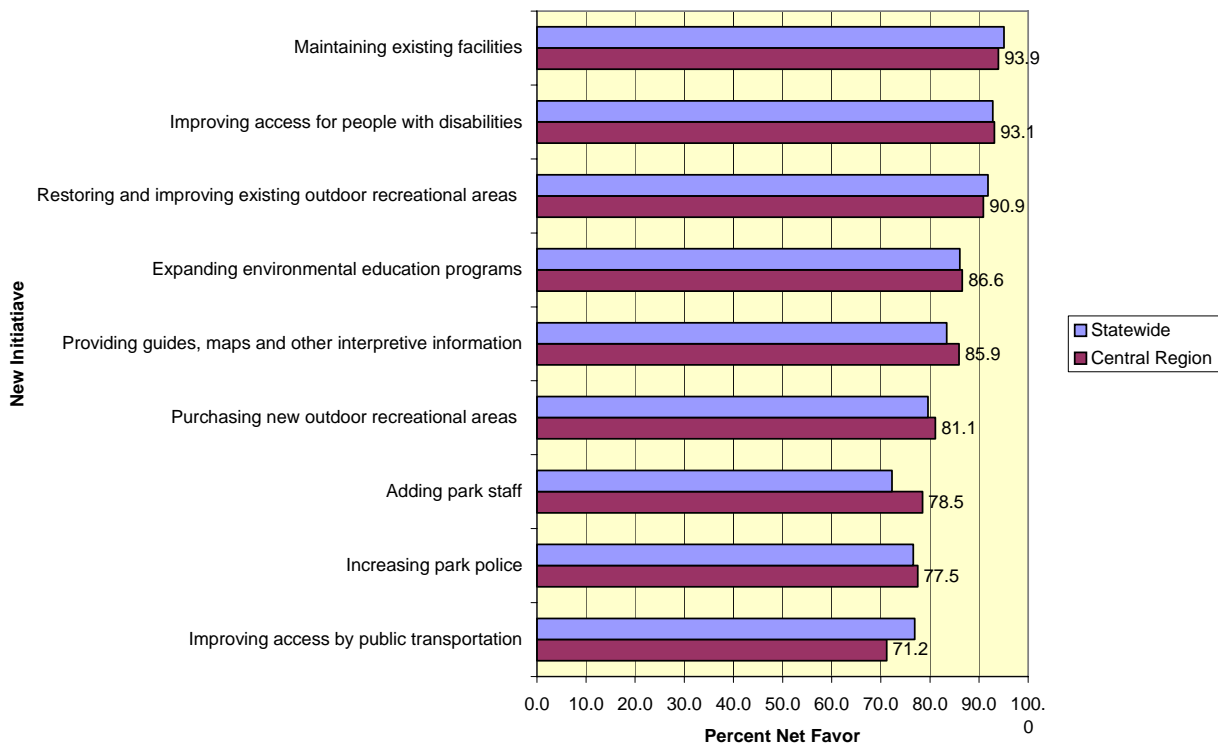
Figure 46. Satisfaction with Recreational Areas in the Central Region



### Funding Preferences

The overall pattern of preferences among Central Region residents regarding new funding initiatives follows that of the statewide patterns. However, feeling was strongest in this region for supporting acquisition of new recreation areas (81.1%), and the gap between this alternative and the highest ranked alternative, maintaining existing facilities (93.9%), was the smallest difference statewide. Feeling is also stronger in the Central Region in support of additional park staff (78.8%), significantly higher than other regions, although this item still ranks relatively low in the priority ranking.

Figure 47. Funding New Initiatives in the Central Valley Region



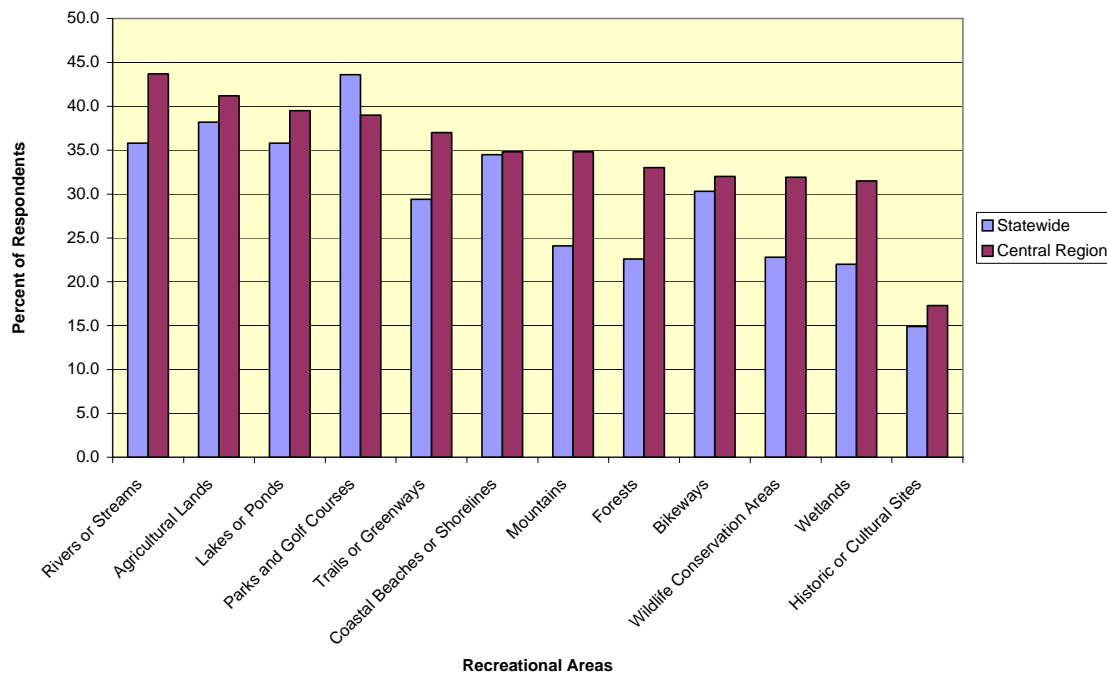
### Facilities Needs

When asked what new facilities would most benefit them, residents of the Central Region showed the highest interest in facilities for walking (16.4%), swimming (17.0%), hiking (14.4%, the strongest interest in the state), road biking (12.1%), and playground activity (10.2%).

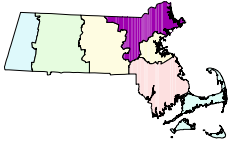
A second tier of facilities interest is noted among relatively moderate percentage of Central Region respondents for mountain biking (8.5%), golfing (8.3%), picnicking (5.3%), camping (4.8%) and basketball (4.0%). Almost all categories, except off-road vehicle driving, football, sunbathing, photography and painting (all 0.0%), and sailing and pond ice-skating (both 0.3%), volleyball (0.4%), and pond hockey (0.7%) reported at least some respondent interest (more than 1%) in new facilities. The low responses here should not be confused with the demand figures, which show that there is public interest in all these activities, rather that residents of this region do not feel that additional facilities (or any public facilities) are needed to support the activity. Perhaps the exception here is surfing.

These facility interests have been translated into Inferred Demand for resource types. The method used results in the highest needs – i.e. the ones which satisfy most activity desires of this region’s residents - being those for rivers and streams, agricultural lands, lakes and ponds, golf courses and parks, and trails and greenways. While these are presented in order of their rank scores, the relative differences among the need for each recreational area are small.

Figure 48. Inferred Need for New Recreational Areas in the Central Region



## Northeastern Region



### Population and Resource Profiles

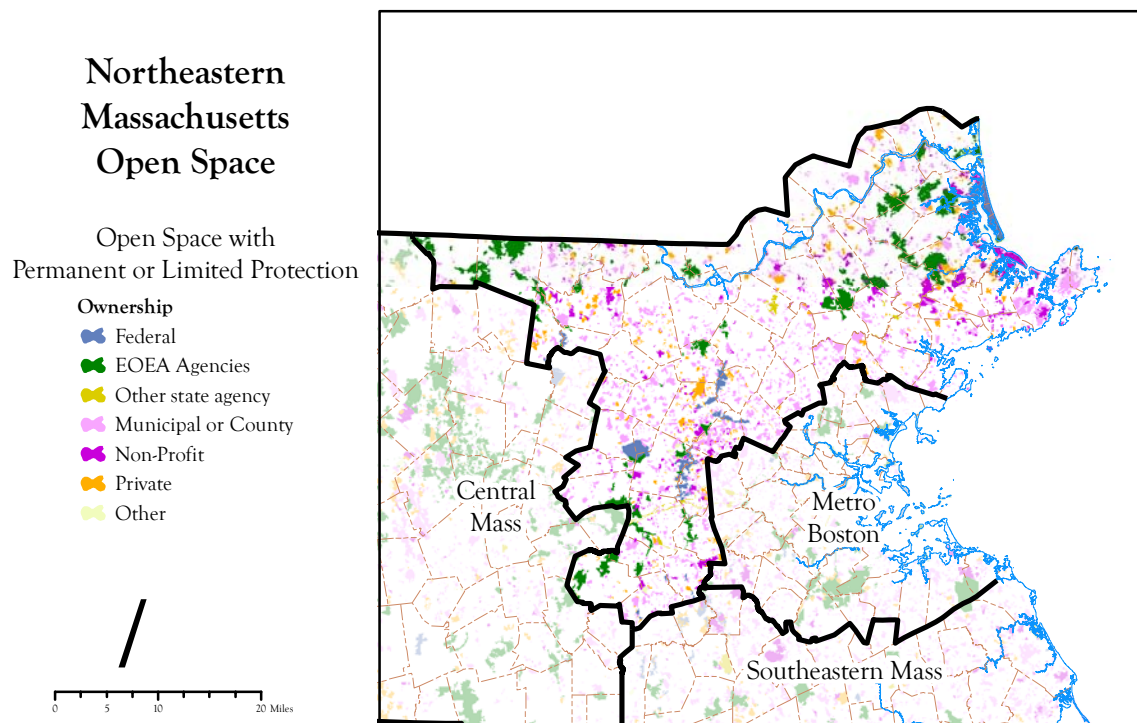
The Northeastern Region is made up of major portions of two counties, Middlesex and Essex. These two counties are predominantly urban, with over 90% of the population classified as such, and contain many of the most prosperous residential communities in the state. Major urban centers include Lawrence, Lowell, and Salem. Industries mimic those of many other regions, with manufacturing accounting for approximately 20% of employment opportunities, followed by retail and various professional services. Notable physical features include the coastal region of the north shore, as well as several river systems - the Nashua, SuAsCo (Sudbury, Assabet, and Concord), and the Merrimack and Shawsheen. A number of coastal rivers, including the Parker, Ipswich, Rowley and Essex Rivers, are important to the character, resources and land uses in the coastal section of Essex County. In addition, this region, particularly the Essex County portion, contains numerous historic sites. Many of these sites are set within handsome town centers, such as Essex, Salem, Groton, Newburyport, and of course, Concord and Lexington. In this region, these town centers and others are a significant attraction themselves.

A special word is warranted on the Merrimack River, one of the largest yet least protected riverine systems in New England. This river serves as water supply to major cities, such as Lowell and Lawrence, and is the subject of an interstate compact with New Hampshire, but has precious little protected land along its Massachusetts course. This fact relates, in part, to its early industrialization, because of its tremendous water power resource. However, as most protection of conservation and recreation lands have occurred in the last one hundred years, many opportunities have been passed by, allowing further urbanization and suburbanization to creep down to the river banks. This spectacular regional resource merits very special efforts among the many parties of interest (local, state, non-profit and federal) to save and restore it as a primary asset to its bordering communities.

This region is absent any major mountainous areas, being part of the Southern New England Coastal Plains and Hills Region. However, the long historical presence of agriculture and woodlands and the abundance of surface water resources lend this region its distinctive and attractive landscape. These same qualities, of course, have drawn both residential settlement and business and industrial uses out into this former hinterland, resulting in the substantial suburbanization of much of the region. This settlement follows and is served by the excellent limited-access state and federal highway system, leaving the resource areas furthest from Rtes. 2, I-495, 3, I-93 and I-95 most intact.

In addition to the long-standing urban centers noted above, a number of newly emerging growth centers at the former Ft. Devens Army base should be noted for planning purposes. This former DOD facility has excellent highway access to Rt. 2, I-495 and I-290.

Water withdrawal and seasonal drought conditions are increasingly becoming a concern in this region for all human uses, including recreation, as well as for wildlife and plant ecology. Historical loss of wetlands for recharge and storage during seasonally wet cycles has further exacerbated the withdrawal problem in river basins such as the Shawsheen and Ipswich Rivers.



**Figure 49. Protected Lands in the Northeastern Region**

***Regional Facilities and Protected Land Supply Patterns***

The Northeastern Region ranks fifth among the regions in both open space acreage and percent of regional land area in open space, while having the second highest population. The Northeastern Region, ties the Central Region for the largest number of sites overall, and reports significantly more individual sites of all kinds than all other regions. While surprising, this conclusion is born out to some degree by the survey of where state residents have reported recreation experience (see Chapter IV Demand). The 1995 survey ranks the Northeastern Region first or second in 7 out of 12 categories of reported usage of facilities in the region. Yet, the region contains only a modest number of the state's total recreation acreage, ranking fifth out of the 7 regions in open space acreage (See Table S-3). This implies both a higher density of activity per site, and higher utilization and visitation rates than other regions. Most notable is the much larger number for passive and trail-based activities in the Northeast than other regions.

The Northeastern SCORP Region also shows a strong concentration of protected open space and recreation lands, giving Essex County where much of this protected land is situated, a wider resource base than the Middlesex, or western, portion of the region. In the easterly sector, a number of sizable recreation and conservation areas have been protected by federal, state, nonprofit and municipal efforts in Ipswich, North Andover, Boxford, Topsfield and Gloucester. The southwestern and northwestern corners of the region also have significant regional conservation and recreation holdings in Townsend, Pepperell, Shirley, and Lunenburg and municipal and non-profit holdings in the towns of Lincoln, Concord, Bedford and Carlisle.

When the open space resources of this region are viewed according to resource type, which is the purpose for which these lands are protected, and their current land use, the portfolio is weighted more heavily to conservation than any other region, rivaled only by the Cape and Islands. From an ecosystem protection perspective, this pattern supports the identification of these two regions as being the most critical ecoregions in the state, along with the southern Berkshires.

As a consequence of the bedrock geology, glaciation, and the resulting terrain of the coastal hills ecoregion, the Northeastern Region is blessed with a great many surface water bodies. Almost all of these ponds are small in size, and often result from natural or manmade impoundment along river courses, but clearly offer a recreation and scenic benefit to the region today.

### ***Ownership and Management of Open Space Lands***

The federal presence in this region is significant, in both the Parker River and Great Meadows Wildlife Refuges. These holdings, especially the coastal barrier beach and salt marsh system of the Parker River, are not only of statewide significance, but even national and global consequence owing to its rare hydrology, plant community and strategic coastal position in the Atlantic seaboard flyway. Large numbers of visitors to these sites further attest to their recognition as unique conservation assets that also provide recreation benefits.

The state role in providing recreation and conservation supply is, as elsewhere, the leading one, albeit much more strongly supplemented by other partners than in some regions. These holdings are concentrated in the towns of central Essex County (N. Andover, Boxford, Rowley, Ipswich, Groveland and Newbury). A subsidiary group was also noted in the extreme northwest corner of Middlesex County, in Townsend, Pepperell, Lunenburg, Shirley, and Dunstable. In the southerly end of the region, the town of Stow has considerable state holdings, including numerous agricultural preservation restrictions (APR's). This town and the abutting Maynard, Sudbury and Hudson have also benefited since the last SCORP from the conversion of the former federal DOD facility (Natick Laboratories) to a DCR state forest. The towns of Hopkinton and Ashland are hosts and beneficiaries of significant state park and water supply holdings. To a lesser extent, Framingham and Marlborough benefit from the Sudbury Reservoir watershed lands, principally in Southborough, which is in the adjoining Central Region.

At the local level, a number of towns have been very active over the long term in setting aside land for open space purposes. In the southern part of the region, these towns include Ashland, Sudbury, Holliston, Lincoln, Lexington, Acton and Boxford. In the center of the region, the towns of Reading, Lynnfield and Lynn, with its wonderful Lynn Woods preserve, have achieved much, while on Cape Ann, Gloucester and Rockport have actively pursued land protection, especially for water supply. To the west, Lunenburg has been aggressive in supplementing the state and private non-profit holdings.

The private non-profit presence in this region is large. The work of the statewide organizations, such as the Massachusetts Audubon Society and The Trustees of Reservations is strongly reinforced in this region through the work of the Essex County Greenbelt Association, and through many CR's (Conservation Restrictions) and APR's funded, at least in part, by the state. As with other non-municipal entities, there is once again a notable lack of facilities in the central part of the Northeastern Region, from Chelmsford down to Peabody, and from Lexington up through North Reading, perhaps correlating again to the location of major regional highways.

### **Demand in the Northeastern Region**

#### ***Activities***

In terms of the most popular activities, the Northeastern Region is unremarkable, closely following the statewide patterns. Swimming, walking, sightseeing and tours, hiking and fishing top the list. However, interesting and distinctive preference patterns emerge at a more subtle level when activity levels are compared in detail with other regions.

Among the more notable exceptions, baseball, sunbathing, horseback riding, off-road vehicle driving, snowmobiling, boating (motorized), and surfing are more often reported here than anywhere else in the Commonwealth. Also more popular than average are soccer, tot lot activity, and hockey (pond).

While motor boating is most popular, sail boating and sailing are reported at their least popular level statewide, notwithstanding the great harbors of Marblehead, Salem, Manchester and Lynn. The same is true of football, sightseeing and tours and events, road biking, cross country skiing, fishing, and hunting. Also less frequently reported than other regions are roller blading and skating, running and jogging, and camping.

When aggregated according to field, water, trail, passive and wilderness activities or pursuits, the strongest area seems to be that of water-based activities, followed by passive recreation activities. Wilderness activities are the least reported. These patterns imply the abundance of water (both coastal and fresh) and conservation resources, and hint at the relative scarcity of trail and wilderness types of resources.



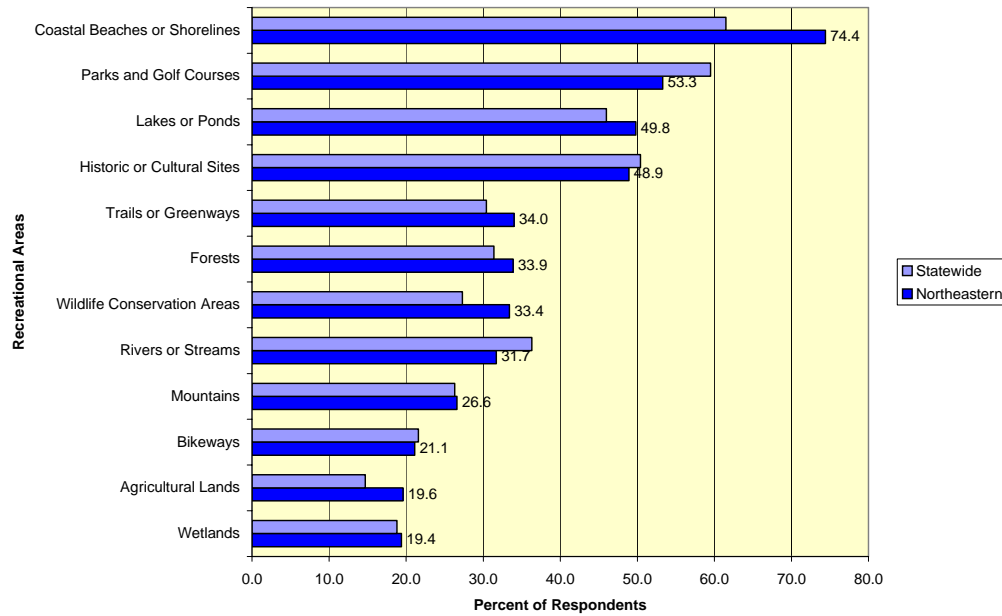
<b>Figure 50. Participation Rates in Activities in the Northeastern Region †</b>			
	RECREATIONAL AREA	Statewide (% of Respondents††)	Northeastern (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	10.2
	Basketball	5.6	3.4
	Football	2.1	0
	Golfing	24.7	27.7
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	26.1
	Soccer	2.6	4.6
	Tennis	2.2	1.2
	Toddler activity (at tot lots)	5.5	7.7
	Volleyball	2.5	2.4
<i>Passive Recreational Activities</i>			
	Photography / painting	5	6.3
	Picnicking	22.6	20.3
	Sightseeing, tours, events	54	47.4
	Sunbathing	19.6	24.2
	Watch wildlife, nature study	21.7	21.8
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	13.7
	Biking (road)	15.8	12.5
	Horseback riding	0.8	1.8
	Off-road vehicle driving	0.7	2
	Roller blading / skating	2.7	1.6
	Running / jogging	3.9	2.5
	Skiing (cross country)	3.2	2.2
	Skiing (downhill)	7.6	7.6
	Snowmobiling	0.9	3
	Walking	56.5	56.7
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	12.2
	Boating (non-motorized)	7.8	4.7
	Canoeing, rafting	8.5	6.4
	Fishing	26.5	25.2
	Hockey (natural water bodies)	0.3	1
	Ice skating (pond, lake or natural water bodies)	1.8	1
	Sailing	2.5	0.8
	Surfing	0.9	1.8
	Swimming	54.6	58.9
	Water skiing / jet skiing	1.9	1.8
<i>Wilderness Activities</i>			
	Camping	7.7	6.1
	Hiking	30.8	30.4
	Hunting	2.7	1.2
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			

### Resource Use

Once again, the statewide patterns are in evidence in the Northeast, with coastal beaches and shorelines topping the list of resource areas used, followed distantly by golf courses, neighborhood parks, playgrounds and tot lots, lakes and ponds, and historic and cultural sites. The least used recreation resources in the northeast are reported to be wetlands and agricultural lands, although these had high satisfaction ratings for those using them.

Regarding the frequency of visits, versus number reporting use, residents here indicate much lower frequency of return trips per year to wetlands, trails and greenways, wildlife conservation areas, and agricultural lands. Not consistent with the preferences noted above, this data would suggest that in the Northeast, a large percentage of the population is engaged in these activities, but on an infrequent basis.

**Figure 51. Experience with Recreational Areas in the Northeastern Region**



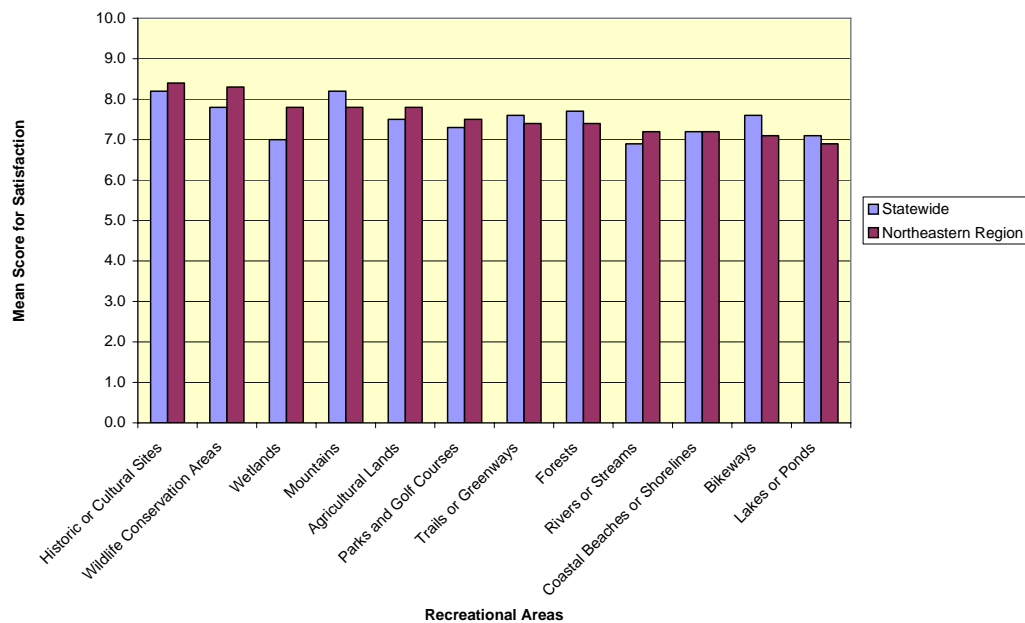
## Needs in the Northeastern Region

### *Satisfaction Levels*

Residents of this region are least satisfied with lakes and ponds, bikeways, rivers and streams, and coastal beaches, in that order. The dissatisfaction level for bikeways is far and away the highest in the state. Cleanliness, maintenance, and other are cited as issues. The same is true, though to a lesser degree, with forests, where capacity and attractiveness are cited as complaints, causing forests to be ranked lowest in this region in terms of median number of trips. The Northeastern Region reports the lowest dissatisfaction level of all regions for golf course, neighborhood parks, playgrounds and tot lots.

The highest satisfaction level is that for historic and cultural sites, followed by wildlife conservation areas, and then mountains, agricultural lands and wetlands. The high satisfaction level with mountains must result from the closer proximity of Northeast residents to northern New England ranges in New Hampshire, Vermont and Maine. This conclusion is supported by the average distance traveled by residents of this region to mountain recreation areas, 200 miles. However, this sample was too small to reach the 90% confidence level. Satisfaction levels with wetlands, agricultural lands, and historic sites reflect the much shorter distances that residents of this region travel to reach these destinations.

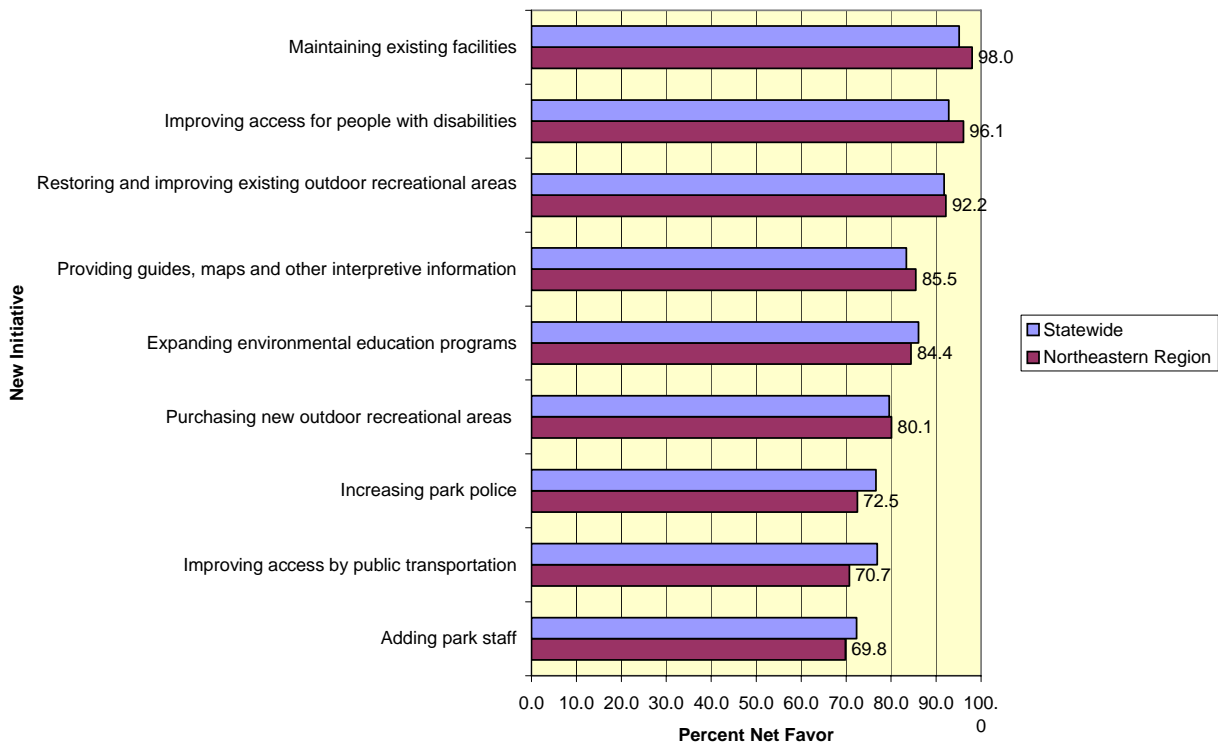
**Figure 52. Satisfaction with Recreational Areas in the Northeastern Region**



### ***Funding Preferences***

In the Northeast, residents support improving access for people with disabilities more strongly (96.1%) than in any other region, although support statewide is already at 92.8%. Support for maintaining existing facilities ranks at the top of this region's priority list, as is also the case statewide, with the Northeast (98.0%) tying the Connecticut Valley for the highest reported value in any funding priority. Adding park staff received the lowest priority ranking, but still exceeds a two-thirds majority at 69.9%. Support for new acquisitions was also among the highest regionally, at 80.1%, just below that in the Metropolitan Boston (80.4%) and Central (81.1) regions.

**Figure 53. Funding New Initiatives in the Northeastern Region**

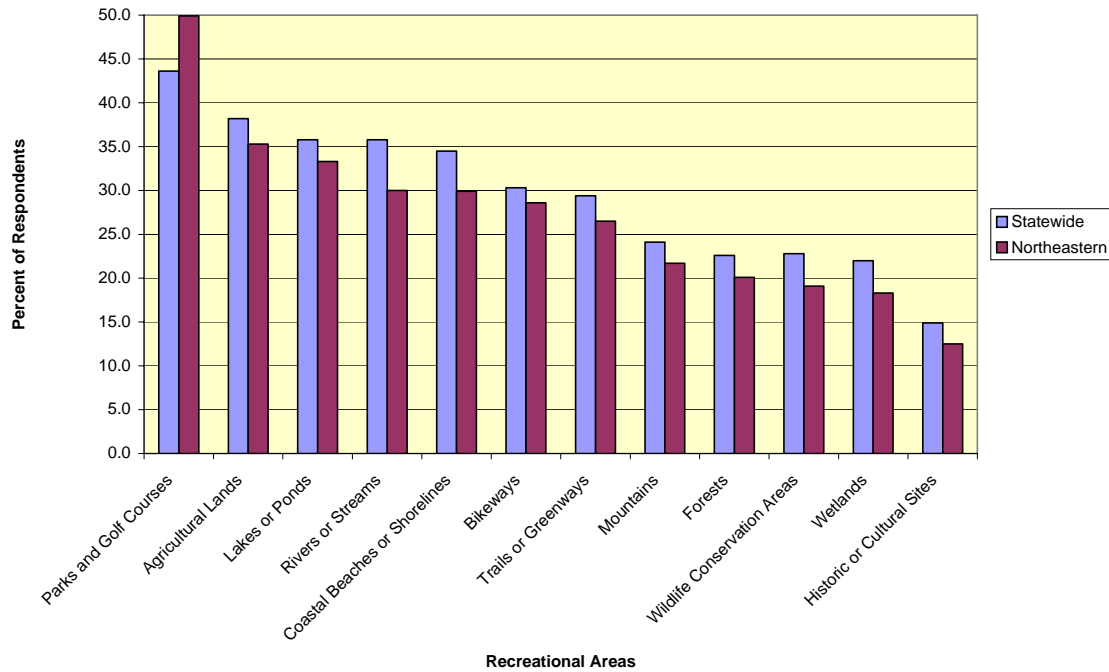


### Facilities Needs

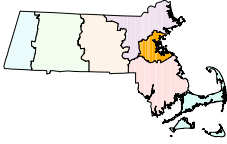
The survey asked residents what new facilities would most benefit them, and it is a good thing the question was asked, because the answers in the Northeast are largely not a direct reflection of the supply and demand patterns. The respondents in this region place the highest priority for new facilities on road biking (14.1%), then playground activity (13.8%), swimming (12.6%), walking (11.8%), golfing (9.1%) and basketball (8.3%). A middle tier of priorities includes tennis (7.6%), fishing (6.5%) and mountain biking (6.1%).

When expressed as inferred need for new recreational areas, these activities translate to the need for more playgrounds, neighborhood parks, and golf courses, and better access to agricultural lands, lakes and ponds, rivers and streams, and coastal beaches. Need was nearly as strongly expressed for bikeways and trails or greenways. The least need was identified for historic and cultural sites and then wetlands.

Figure 54. Inferred Need for New Recreational Areas in the Northeastern Region



## Metropolitan Boston Region



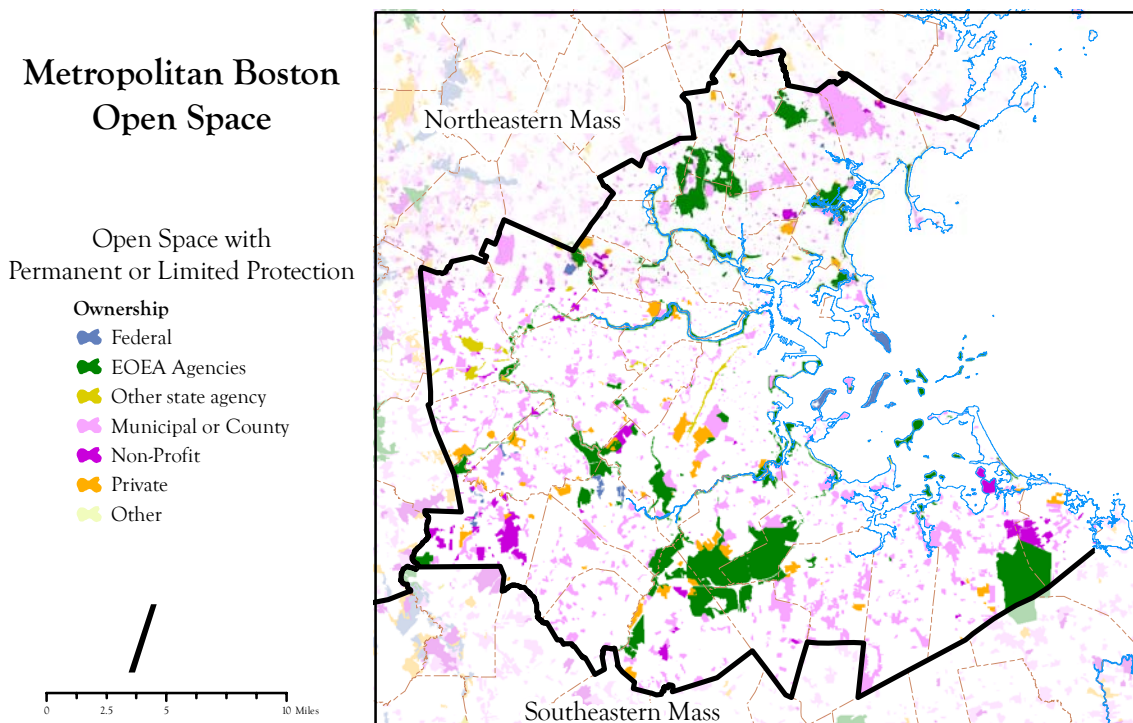
### Population and Resource Profiles

The most urbanized of the seven SCORP regions, the Metropolitan Boston Region is composed of Suffolk county and portions of Middlesex, Essex, and Norfolk counties. Metropolitan Boston is, of course, the major urban center in the state, as well as the center of government, finance, transportation and commerce. The economy is largely characterized by professional services and is supported by the many colleges and universities located in the area. The Metropolitan Boston Region is entirely within, but is only a portion of, the Metropolitan Area Planning Council regional planning agency.

This region comprises the Boston Basin, formed by the ring of highlands surrounding Boston Harbor and the urban core of the city. To the south are the prominent and historic Blue Hills, a rugged and ledge filled upland chain of ancient geologic age. To the west lie the Arlington Heights, and to the north, the Middlesex Fells Reservation incorporates another rim of the basin. While the Boston Basin extends outward of these highlands, to the north and west, based on bedrock geology and ecoregion definition, these features nonetheless help to define the region, so much so that Charles Elliot recognized them in his visionary plan. This plan, perhaps the first ecoregion plan, has become the cornerstone of the DCR urban park system; its simple but insightful formula is to connect the hills, through the river corridors, to the sea.

The other correspondingly significant landscape features of this system are the several major rivers: the Charles, Neponset and Mystic. The force of these rivers, over geologic time, along with glaciation and weathering processes, have acted to produce the landscape that New England's "hub" now occupies. Because of the low gradient of the rivers, and the scraping action of the glaciers, the region is rich in wetlands, both salt and fresh, yet nearly devoid of lakes and ponds.

In contrast, the coastline itself is a profoundly important physical feature of this region, including such unique areas as the islands of Boston Harbor, the great peninsulas of Hull, Hough's Neck, Squantum, Winthrop's Deer Island, and Nahant. This deeply embayed and varied coastline encloses Massachusetts Bay, and through its outstanding scenic and recreation resources, along with its economic ones, acts as a powerful magnet to human population. This region is home to 1.9 million people, almost one-third (31%) of the state's total population. With this density of population, forest and agricultural resources are obviously more limited in area than in other parts of the state.



**Figure 55. Protected Lands in the Metropolitan Boston Region**

### ***Regional Facilities and Protected Land Supply Patterns***

The smallest of the SCORP regions in area, the Metropolitan Boston Region also has the smallest amount of open space acreage. However, as a percentage of total land area dedicated to recreation and open space, this urbanized region ranks third among the seven SCORP regions, at 26.0% of the land area of the region. This statistic becomes even more striking when you consider that the Metropolitan Boston Region contains approximately 32% of the state population but only 4.8% of the land area. While the per capita acreage of recreation and conservation land available within the Metropolitan Boston Region is predictably low, at .03 acres per person (or 30 acres per thousand), because of the higher population densities here, the total recreation acreage is quite significant.

### ***Ownership and Management of Open Space Lands***

The above description of new and emerging resources says much about the importance of the state and federal governments in provision of regional facilities. However, at a more localized level, several municipalities and non-profits are also playing key roles. The City of Boston is home to historic gems: Franklin Park, Arnold Arboretum and the Jamaica Way. The 1996 state acquisition of the Hancock Woods in the West Roxbury neighborhood, along with the City's conversion of the Gardner Street landfill with the help of state Urban Self-Help grant funds, add to the City's impressive 6,352 acres. The emerging parks on the north bank of the Charles under the new Charles River Bridge, and the surface parks over the soon to be depressed Central Artery, will be perhaps the most significant addition to the Olmsted legacy this century.

The towns of Weymouth and Braintree continue to benefit from the foresighted creation of an inter-town Pond Meadow Park, created with U.S. Army Corps flood control dollars and providing significant recreation and wildlife benefits as well. Braintree also shares extensive protected watershed lands with Randolph around the Great Pond, Upper Reservoir, Richardi and Cochato Reservoirs. However, these holdings have the same recreation limitations as mentioned with Quabbin and Worcester surface water supply holdings. Hingham and Weymouth share significant holdings around the Back River, along with The Trustees of Reservation's spectacular Worlds End property, and the municipal Great Pond reservoir in Weymouth. Weymouth has also set aside a fair number of smaller local parks throughout this large and still growing town. Cohasset has made an important linkage and extension of the DCR Wompatuck Reservation, with the acquisition of the Whitney Woods Reservation.

On the North Shore, the City of Lynn's Lynn Woods Reservation is perhaps the largest municipal facility in the region, while the towns of Lexington, Weston, and Dover have opted for protection of a larger number of smaller, neighborhood level parcels. A great many of the towns of this region also benefit from the large number of golf courses, which appear to make up a very significant percentage of current local open space, albeit not always permanently protected.

The private land trusts are playing important roles in a number of these towns as well, including Mass Audubon's work in Belmont, Canton and Natick, The Trustees of Reservation's properties in Hingham and Cohasset, and local land trusts in Dover and Cohasset.

### ***Demand in the Metropolitan Boston Region***

#### ***Activities***

Walking is the most reported recreation activity in this region, as in the state, followed closely by sightseeing, which is engaged more frequently here than in any region but the Southeastern and Central Regions. These are followed, in rank order, by swimming (48.3%, its lowest in the state), and then a large drop to golfing (21.5%), picnicking (21.0%), playground activity (20.5%), and sunbathing (20.3%). Significant numbers also report engaging in fishing (17.3%), and both types of biking, road (17.2%) and mountain (13.2%). It is also interesting to note that participation rates for tot lots within this region are second lowest over all regions, even though tot lot facilities are most abundant in this region. While relatively low in absolute terms, this region also reports the highest activity rates among the regions in basketball (7.9%), and the second highest for baseball (7.4%) after the Connecticut Valley. Boating, fishing, and swimming are significantly less popular among residents from Metropolitan Boston than in other regions of the state.

Taken by facility groups, the region shows a balanced interest in all recreation forms, with wilderness activities being the weakest area of participation. While one is tempted to attribute this pattern to lack of access to wilderness facilities, this belies the greater urge urban residents presumably have for release from congestion, while the next weakest recreation type is field-based activities, in abundant supply here.

Figure 56. Participation Rates in Activities in the Metropolitan Boston Region †			
	RECREATIONAL AREA	Statewide (% of Respondents††)	Metropolitan Boston (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	7.4
	Basketball	5.6	7.9
	Football	2.1	3.8
	Golfing	24.7	21.5
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	20.5*
	Soccer	2.6	3
	Tennis	2.2	2.8
	Toddler activity (at tot lots)	5.5	4
	Volleyball	2.5	3.7
<i>Passive Recreational Activities</i>			
	Photography / painting	5	5.6
	Picnicking	22.6	21
	Sightseeing, tours, events	54	55.2
	Sunbathing	19.6	20.3
	Watch wildlife, nature study	21.7	15.3*
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	13.2
	Biking (road)	15.8	17.2
	Horseback riding	0.8	0.2
	Off-road vehicle driving	0.7	0.2
	Roller blading / skating	2.7	2.9
	Running / jogging	3.9	5.4
	Skiing (cross country)	3.2	2.9
	Skiing (downhill)	7.6	6.5
	Snowmobiling	0.9	0.5
	Walking	56.5	57.9
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	4.6*
	Boating (non-motorized)	7.8	5.1*
	Canoeing, rafting	8.5	7
	Fishing	26.5	17.3*
	Hockey (natural water bodies)	0.3	0.2
	Ice skating (pond, lake or natural water bodies)	1.8	1.5
	Sailing	2.5	2
	Surfing	0.9	0.9
	Swimming	54.6	48.3*
	Water skiing / jet skiing	1.9	2.1
<i>Wilderness Activities</i>			
	Camping	7.7	6.3
	Hiking	30.8	24.0*
	Hunting	2.7	1.5
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			

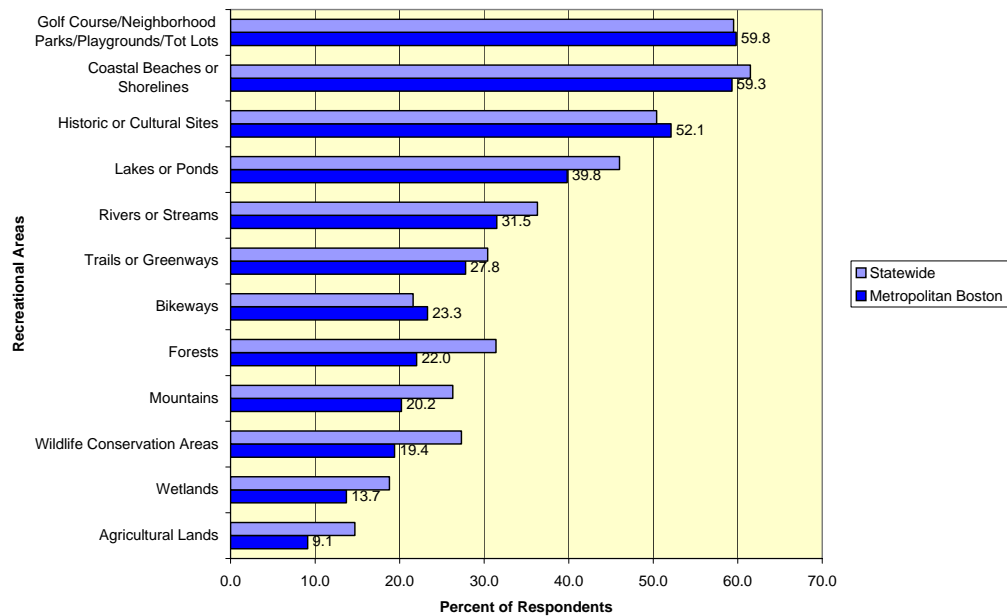


### Resource Use

Recreation trends, by activity, for the Metropolitan Boston Region are quite similar to the statewide sample, in part because this region makes up such a large part of the statewide sample. However, some interesting distinctions include the fact that this region, along with the Central and Connecticut Valley Regions, places the highest participation rates within the general activity category of field-based recreation. This includes neighborhood parks, golf courses, tot lots and playgrounds. This pattern would suggest that the presence of the state's three largest cities, Boston, Worcester and Springfield, might account for the heavy reliance on these intensive recreation facilities. Bikeways also receive heavy use, as they do on the Cape and in the Connecticut Valley. These reports are reinforced by the frequency of return visits reported, where bikeways, coastal beaches or shorelines, and golf courses, neighborhood parks, playgrounds and tot lots receive the largest number of return trips per year (10, 12 and 15 respectively). This pattern of use is quite different, even from the relatively urban Northeastern Region, which relies more heavily on rivers, streams, lakes and ponds.

Resource use is significantly less in the Metropolitan Boston Region than elsewhere across the state for half of the resource types, including lakes and ponds, wetlands, wildlife conservation areas, forests, mountains and agricultural lands. Much of this observation can be attributed to the small land area and high level of development of the region, which restricts the amount of open space, scope of the local resources, and access to recreation areas and facilities. Unlike the rest of the state, agricultural lands are not a widely used resource, given the local scarcity of this resource type, although forests receive a respectable level of utilization even in this urbanized region. Similarly, a fairly heavy use of lakes and ponds is reported, although the lowest in the state, reflecting the fact noted that these resources are not in abundant supply in this region. The same patterns hold true for wetlands, forests, and rivers or streams.

**Figure 57. Experience with Recreational Areas in the Metropolitan Boston Region**



One notable finding is that residents of this region travel the longest reported distance, on average, of all the regions, 22.4 miles, to reach wetlands, although this resource is abundant within the region. Residents of the region also travel further than those of any other region, and further than for any other resource type within the region, to reach forests (38.3 miles). This is further, even, than the distance traveled to coastal beaches. Yet, residents report median levels of satisfaction with this resource. The much lesser frequency of these trips to forests (3, versus 12 to coastal beaches) helps to explain this disparity.

## Needs in the Metropolitan Boston Region

### *Satisfaction Levels*

Unlike the general activity patterns, satisfaction among area residents is in stark contrast to the rest of the state. There is a very notable dissatisfaction with coastal beaches, despite the high level of use. Somewhat surprising, wetlands, which are both abundant and attractive in this region, received the highest dissatisfaction rating (18.3%) both in the state and within the region among other resources. This rating is, in fact, the highest dissatisfaction rating for any resource type in all regions.

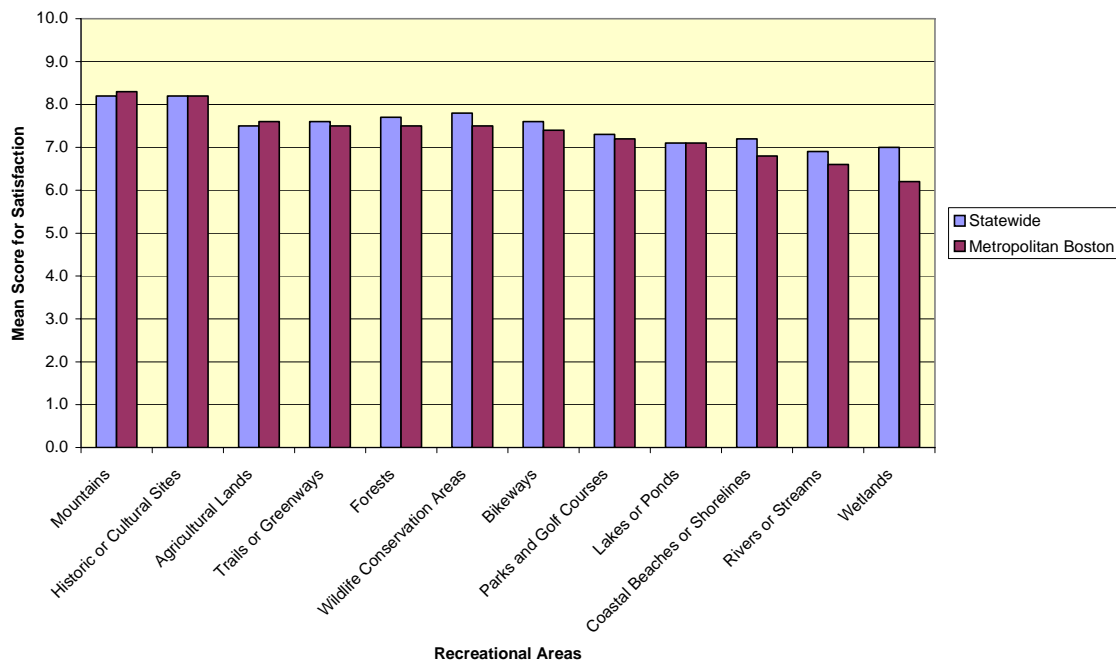
Following wetlands and coastal beaches or shorelines, Metropolitan Boston Region residents next report a three way tie for dissatisfaction levels with rivers or streams, bikeways, and golf courses, neighborhood parks, playgrounds and tot lots. These resource types seem to be abundant, relative to other regions, but may suffer nonetheless due to heavy usage, resulting in maintenance quality issues.

Although lower in percentage than the above types, mountains (6.5%) receive their highest dissatisfaction ranking statewide within the Metropolitan Boston Region. Mere distance from the resource does not suffice as an explanation, since the Cape and Islands and the Southeastern report lower levels than this. Perhaps lack of public transportation or expectations of facilities may be factors. The same basic pattern holds true for trails or greenways (8.8%), and wildlife conservation areas (9.5%).

Interestingly enough, the low use of lakes and ponds and relative scarcity of them in this region do not result in an especially notable dissatisfaction rating for this resource type. The same holds true for agricultural resources.

Overall satisfaction levels are much lower than in the other SCORP regions. The only resource receiving high satisfaction levels are historic resources, which this region's residents, along with those of the Northeast, travel the least distance (15.1 miles) to visit.

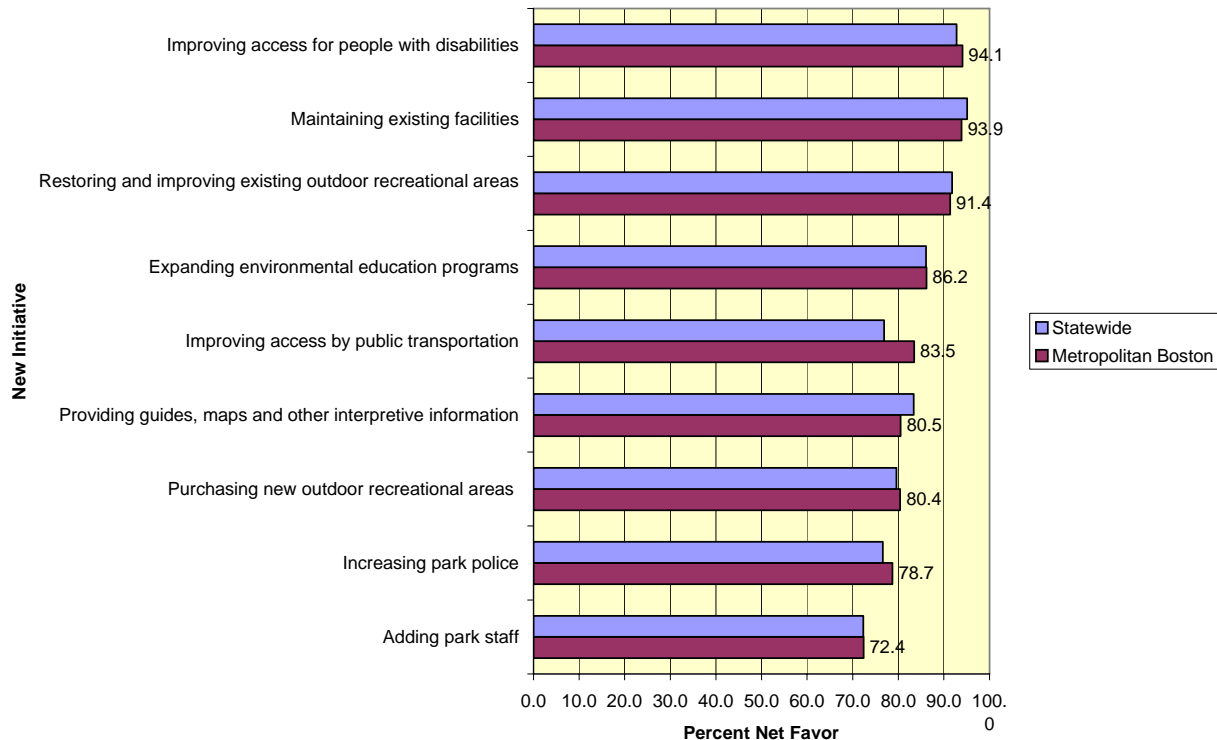
**Figure 58. Satisfaction with Recreational Areas in the Metropolitan Boston Region**



### ***Funding Preferences***

The most pressing need among Metropolitan Boston residents is improved access for people with disabilities. This might be a surprising finding until one considers that those who consider themselves “disabled” includes a very broad range of groups, from the people with mental disabilities to the elderly. Among other needs, area residents mirror other regions of the state by strongly favoring maintenance and restoration of existing facilities. Public transportation access to recreation areas is a much higher priority among Metropolitan Boston residents than among residents of other regions (83.5%). Finally, the purchase of new facilities is highly favored, with 80% favoring this priority. Providing interpretive maps and information receives its lowest priority ranking among the regions here but still rates an 80.5% favorability rating. Contrary to general perceptions, the need to increase park police ranks next to lowest in regional priorities (78.7%), higher only than adding park staff (72.4%). The security issue may be masked, however, by possible differences between inner and outer suburbs.

**Figure 59. Funding New Initiatives in the Metropolitan Boston Region**

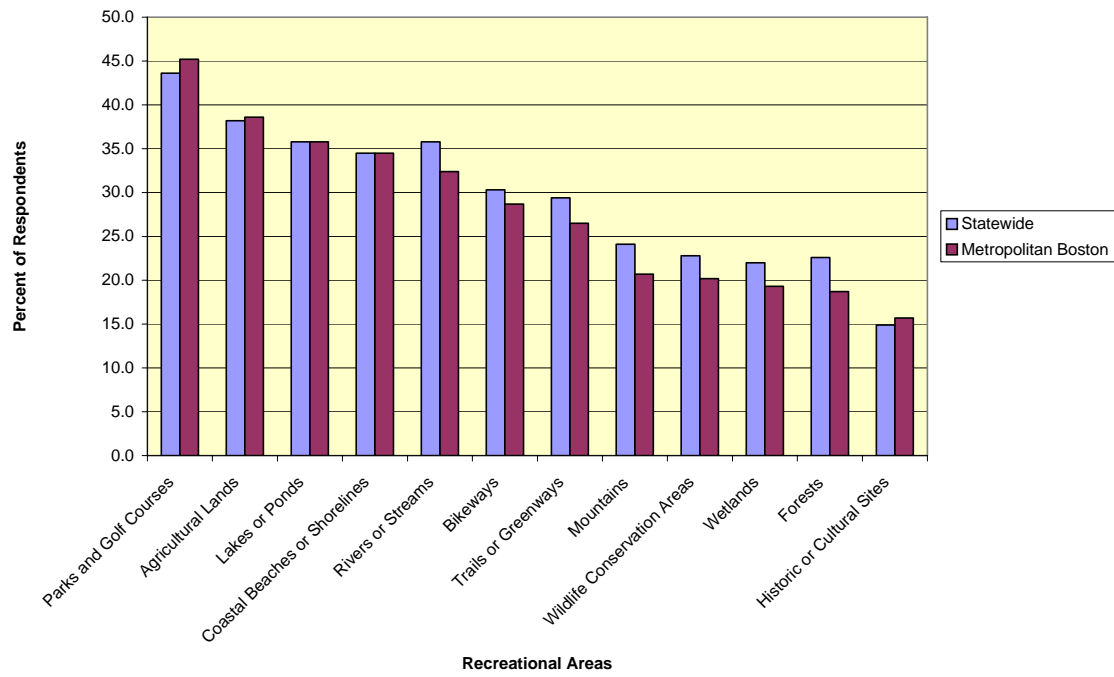


### ***Facilities Needs***

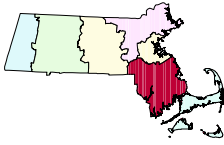
Residents from Metropolitan Boston mention needs for tennis (11.8%) and basketball (8.7%) significantly more than the statewide sample. They mention needs for fishing and hiking significantly less often than the statewide sample, although recall the high regional dissatisfaction reported with mountains. Walking (14.8%), road biking (10.5%), and swimming (14.9%) rank highest in the preferences of this region’s residents for new facilities, with playgrounds trailing closely at 9.0%.

These activities are translated into an inferred need for golf courses, neighborhood parks, playgrounds and tot lots, agricultural lands (walking), lakes and ponds, coastal beaches, rivers and streams, bikeways and trails and greenways.

**Figure 60. Inferred Need for New Recreational Areas in the Metropolitan Boston Region**



## Southeastern Region



### Population and Resource Profiles

All of Bristol and Plymouth counties and a major portion of Norfolk County make up this region. Relatively dense and rapidly growing residential communities dot the recently rural landscape of the southeast. The urban centers of Brockton, Fall River, and New Bedford service this area, and Boston serves as a major employment center for the many residents willing to make the daily commute.

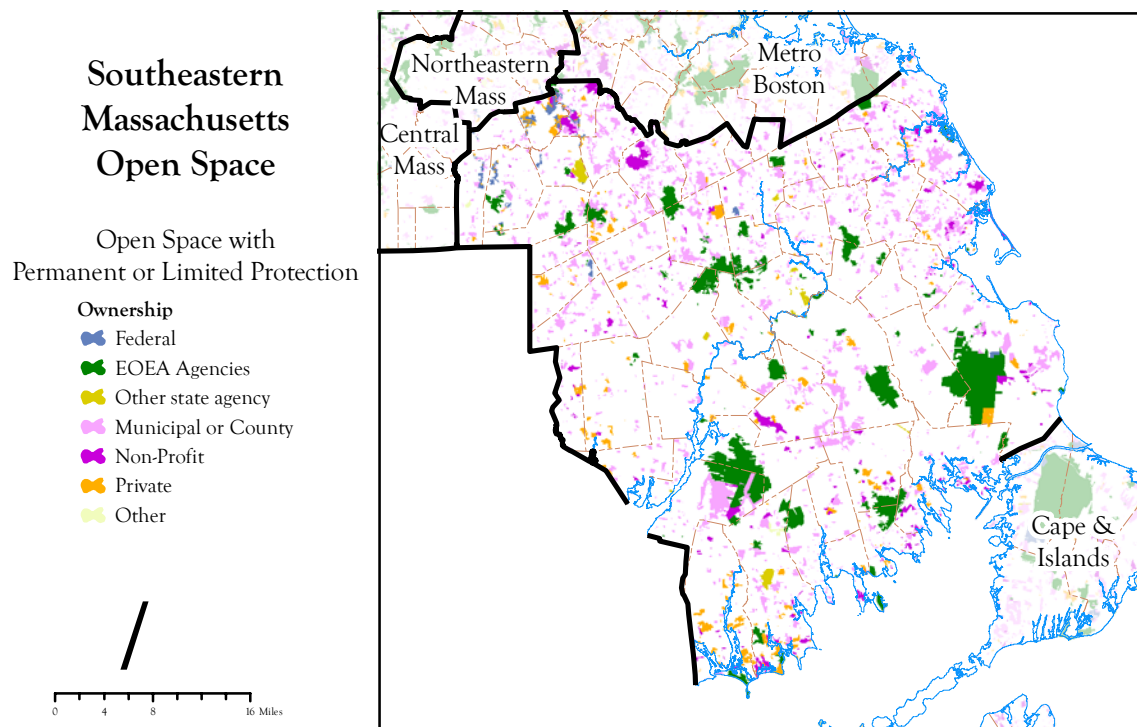
Taunton, Attleboro and Milford are also smaller but relatively dense urban centers within their subregions. Traditional industries, such as commercial fishing and agriculture (cranberry growing in particular) are still important sectors of the economy of the southeast, as well as manufacturing in the urban centers, and various professional and service industries scattered throughout the region.

This region's population and settlement are equally defined, however, by the large number of small villages and rural hamlets that, until the last two decades, dominated the landscape of the Southeastern. Villages such as Rochester, Freetown, the Carvers, Plympton, Halifax and even Norfolk were far enough removed from major transportation routes to retain their small town character. However, with the completion of I-495 to the Cape in the late 1970's, and more recent completion of commuter rail restoration and MBTA Red Line expansions, even these once remote towns are now experiencing growth and its attendant issues of facilities demands and loss of character. Absent powerful interventions, the future of these towns is foreshadowed by the experience of the highway suburbs of the 1960's and 1970's, such as Mansfield, Plymouth, Marshfield, and Hanover, and of the 1980's growth towns, such as Foxboro, Norton, Easton, Kingston, and Plymouth (again).

Another tier of still small but more densely built up villages also characterizes the region. These places would include such town centers as Marion, Duxbury, Cohasset, Fairhaven, and Bridgewater where earlier, colonial town settlement patterns are still evident. These towns, which have had the luxury of slow, steady growth, have been able to retain much of both their historic resources and their natural and recreation ones.

This region is a part of three ecoregions. The Bristol Lowland accounts for the largest area, including all of Bristol County. Here, fertile soils have produced an agricultural landscape. Significant portions of the Plymouth County or eastern half of the region, however, belong to Coastal Plains and Hills and the Cape and Islands ecoregions. The sandy coastal plain and its myriad beaches, marshes, rivers, and ponds, and glacial hills are the dominant natural features here. This SCORP region includes two major ocean bay systems, Cape Cod Bay and Buzzards Bay. In addition, many historic sites are scattered along both coastal and inland stretches, highlighted by the colonial settlement of Plymouth. This coast, especially the Buzzards Bay portion, offers many excellent harbors of recreational significance.

## Supply in the Southeastern Region



**Figure 61. Supply of Protected Lands in the Southeastern Region**

### ***Regional Facilities and Protected Land Supply Patterns***

As recently recognized, the Southeastern Region trails the state in percentage of land area protected or in recreation use, at 14.0%, yet has the third largest population at 1.1 million and growing rapidly. For this reason, EOEA embarked in July of 1997 on the Scenic and Natural Diversity (SAND) Program to dedicate a minimum of \$30 million in open space funds to this region from July 1997 through June 2001. Over 7,000 acres were permanently protected from adverse development through this program. Among the many exciting additions in the Southeastern Region are:

- conservation and hunting areas in Mattapoissett and Rochester at the Haskell Swamp;
- the protection of the 800 acre Camp Catchalot adjacent to the Myles Standish State Forest; and
- the new 206 acre Nasketucket Bay State Park in Mattapoissett, providing over 3000 linear feet of new coastal access.

### ***Ownership and Management of Open Space Lands***

The federal presence is at its weakest in Southeastern Massachusetts, with no single holding of regional significance. About two-thirds, or a little over 2,000 acres, of the federally controlled land in this region is to be found in the upper reaches of the Charles River, under the control of the Army Corps of Engineers for floodplain and wetland protection. The towns of Millis, Franklin, Bellingham, Medfield and North Attleboro all benefit directly, as do the downstream towns. The recreation opportunities presented by these water management and habitat lands can be best understood at a subregional scale, but will likely include appropriate locations for walking and bike path or trails, canoe launch areas, picnic, photography and painting, sightseeing, and wildlife watching and nature study.

State ownership patterns are very clear in this region, amounting to nearly 50,000 acres of protected lands. One very prominent band of protected land stretches from the DCR Myles Standish State Forest in a southwesterly arc, through the DFG's Rocky Gutter Wildlife Management Area, to Acushnet and Freetown State Forests, then joining the City of Fall River's Copicut and Wamsutta Reservoir complex. Fingers of other state lands dangle from this broad band through the DFG's Haskell Swamp, to the new Nasketucket State Park, and through the extensive Agricultural Preservation Restriction Program holdings in Dartmouth and Westport, to the DCR Demarest Lloyd and Horseneck Beach State Parks. In this latter area, DCR is also engaged with Mass. Audubon's leadership in protecting the extraordinary Allen's Pond Preserve. This mix of state protected lands offers the full panoply of public recreation opportunities, including

coastal beaches and shorelines, with the obvious exception of mountainous resources.

### **Demand in the Southeastern Region**

#### ***Activities***

By a wide margin, the three most popular individual activities in the Southeastern Region are close in percentages: swimming at 60.1%, sightseeing, tours and events at 57.3% and walking at 57.1%. In fact, the sightseeing, tours, and events category received its highest level of interest statewide in this region. Well below that level of participation, substantial numbers also enjoy playground activities (37.9%), fishing (34.2%), and hiking (32.6%). Nearly one quarter of the population of this region has experience during the year with golfing (24%), and watching wildlife and nature study (23.7%). Lesser, but still significant, numbers (10-20%) also experience picnicking, sunbathing, biking (both types), skiing (downhill), non-motorized boating (motor boating is just under 10%), and canoeing.

When grouped by type of activity, the water-based activities predominate, but as in other regions, there is strong participation in some dimension of each type. A rough rank order would be water-based, passive, trail-based, field-based, and wilderness activities.

**Figure 62. Participation Rates in Activities in the Southeastern Region †**

	RECREATIONAL AREA	Statewide (% of Respondents††)	Southeastern(% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	1.9*
	Basketball	5.6	2.5*
	Football	2.1	1.3
	Golfing	24.7	24
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	37.9*
	Soccer	2.6	0
	Tennis	2.2	0.7*
	Toddler activity (at tot lots)	5.5	5.2
	Volleyball	2.5	1.7
<i>Passive Recreational Activities</i>			
	Photography / painting	5	1.5
	Picnicking	22.6	17.5
	Sightseeing, tours, events	54	57.3
	Sunbathing	19.6	17.3
	Watch wildlife, nature study	21.7	23.7
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	9.6
	Biking (road)	15.8	18.3
	Horseback riding	0.8	1.1
	Off-road vehicle driving	0.7	0.9
	Roller blading / skating	2.7	4.2
	Running / jogging	3.9	4.3
	Skiing (cross country)	3.2	2.5
	Skiing (downhill)	7.6	10.9
	Snowmobiling	0.9	0
	Walking	56.5	57.1
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	9
	Boating (non-motorized)	7.8	14.1*
	Canoeing, rafting	8.5	13.6
	Fishing	26.5	34.2*
	Hockey (natural water bodies)	0.3	0
	Ice skating (pond, lake or natural water bodies)	1.8	3.3
	Sailing	2.5	5.1
	Surfing	0.9	0.9
	Swimming	54.6	60.1
	Water skiing / jet skiing	1.9	0.7
<i>Wilderness Activities</i>			
	Camping	7.7	9.1
	Hiking	30.8	32.6
	Hunting	2.7	3.5
† Based on respondents who indicate that they have visited recreational areas in the last 12 months.			
†† Percents may not equal 100 due to multiple responses.			
* Difference with Statewide result is significant at the 90% confidence level.			



### Resource Use

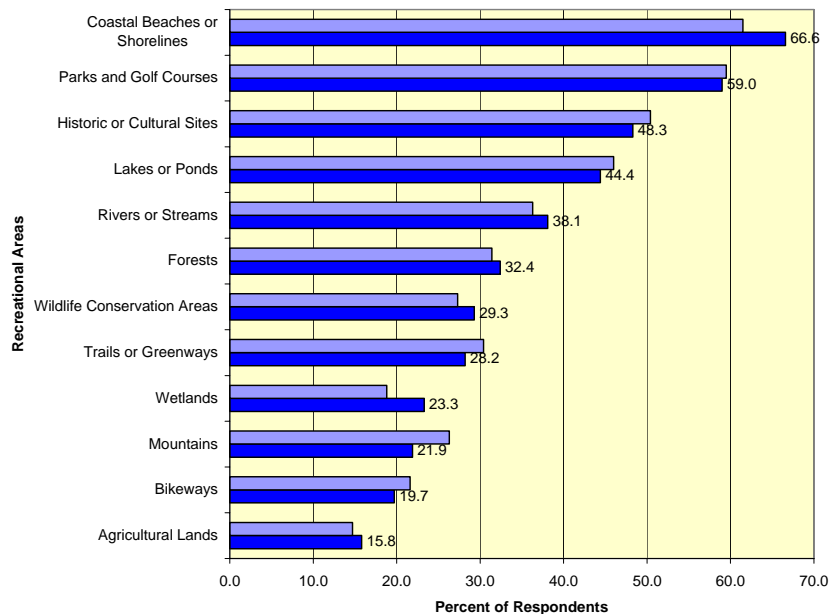
Coastal beaches and shorelines top the list (66.6%) of most widely visited sites by residents of this region. This is most impressive, when viewed from the perspective that two out of every three residents here visit coastal sites each year. Yet, while this percentage is third highest among the regions statewide, it is surprising to find the percentage significantly lower than that of the Northeast, which has far less coast line. Perhaps this fact reflects, in part, the greater abundance of fresh water resources in the Southeast in addition to its extensive salt water shoreline, or the fact that the percentage of the coast open to the public is greater along the North Shore than in the southeast, or both. The only large regional facilities here are Duxbury Beach, Plymouth Beach, Lloyd Demarest, and Horseneck Beaches. Several smaller municipal beaches that both address and limit this demand are found at the Cohasset Town Beach, Hummarock (Scituate), Rexhame (Marshfield), White Horse Beach, and West Island and Fort Phoenix Beaches.

Golf courses, neighborhood parks, playgrounds and tot lots are widely used by residents in this region, second only to the coastal resources. The role of terrain was noted earlier. A somewhat milder seashore climate, may also play a role in golf, as do the five cities of the region where neighborhood park recreation is vital (in Brockton, Taunton, Fall River, New Bedford and Attleboro).

The next group of resources that reach more than one in four residents would include historic and cultural sites, lakes and ponds, rivers and streams, and forests. More than one in four residents visited wildlife conservation areas, trails and greenways. The least widely visited resources in the Southeast were wetlands, mountains, bikeways, and agricultural lands. Though low relative to other activities and activities within the region, agricultural lands represent the highest frequency of agricultural visits among all regions.

While the low mountain visitation figure is clearly affected by distance, it is quite the contrary with the three other resource types in this group. As is shown subsequently by the Need responses, biking is clearly a desired activity, so the low current participation may reflect the general lack of such facilities in reasonable proximity to home. This explanation is born out by the fact that residents report the third longest travel distance - 36.4 miles each way – to reach bikeways. Agricultural lands and wetlands are among the least visited resource types statewide, so this is not especially surprising in the Southeast, even with the extensive farm and wetlands areas. It may also be, in this case, that residents enjoying a walk or ride along these resources simply think more in terms of the associated river, pond or ocean water bodies, or of the specific recreation facilities, than the marshes themselves.

Figure 63. Experience with Recreational Areas in the Southeastern Region

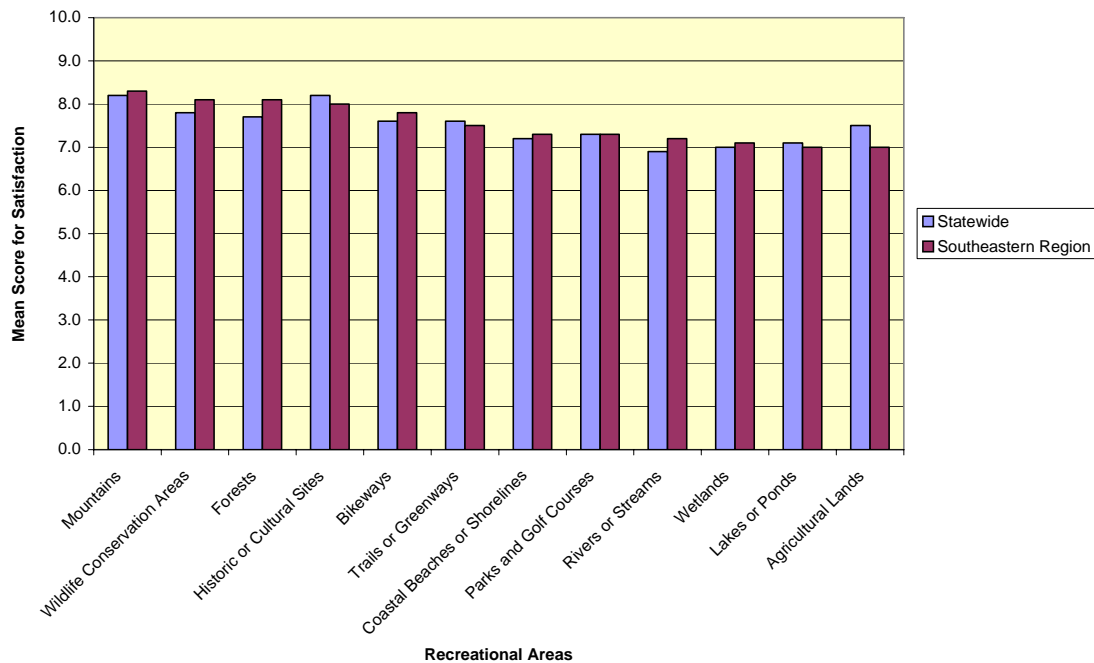


## Needs in the Southeastern Region

### *Satisfaction Levels*

In most resource categories, residents of this region had lower levels of dissatisfaction than residents in other regions. This observation is particularly the case for forests and wetlands, where, among the small percentage of population visiting these types of sites, no dissatisfaction at all (0%) was reported. However, the average trip distance to forests for residents of this region was second highest in the state, at 20 miles each way. The highest levels of dissatisfaction in the Southeast, slightly higher than statewide averages, were noted for bikeways and coastal beaches. While rivers and streams were not noted in the dissatisfaction index, residents in this region travel least often (except for the Northeast) to these resources, and travel the furthest average distance. The same is roughly the case for lakes and ponds.

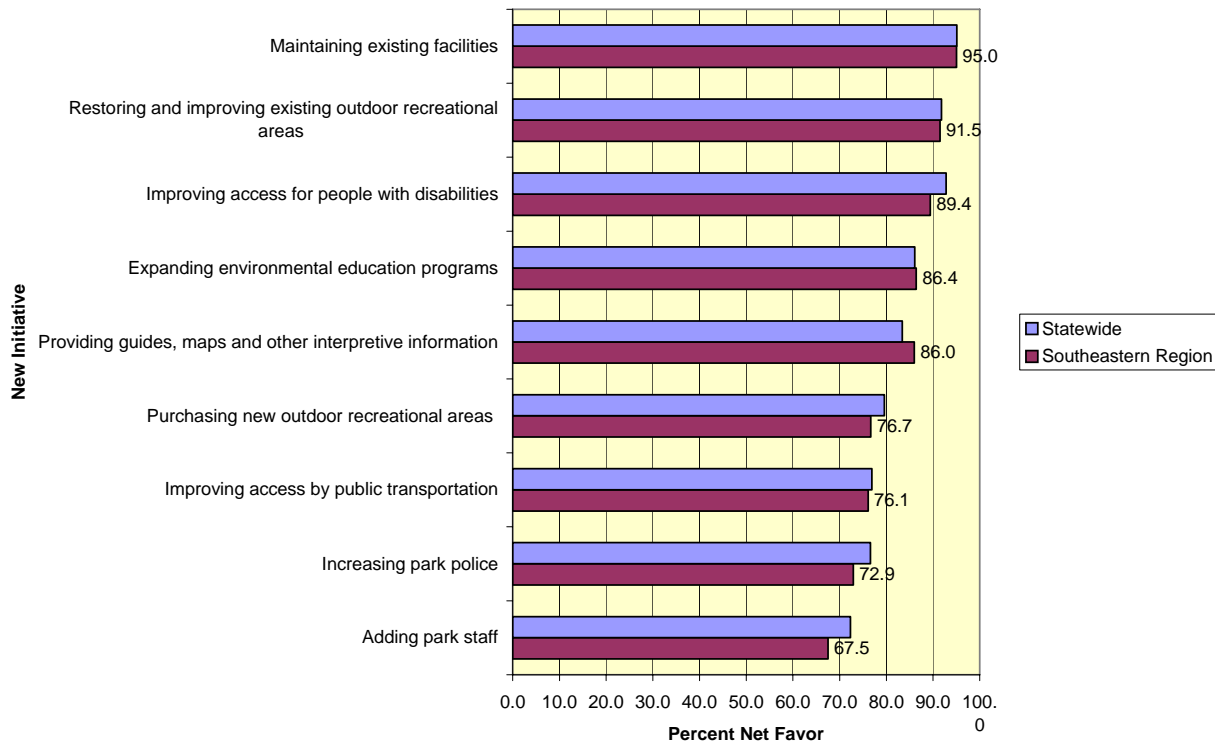
**Figure 64. Satisfaction with Recreational Areas in the Southeastern Region**



### ***Funding Preferences***

Residents of this region strongly favor maintaining existing facilities, and also favor restoring existing facilities by a strong margin, as both these responses earned over 90%. This region's responses closely track that of the statewide sample.

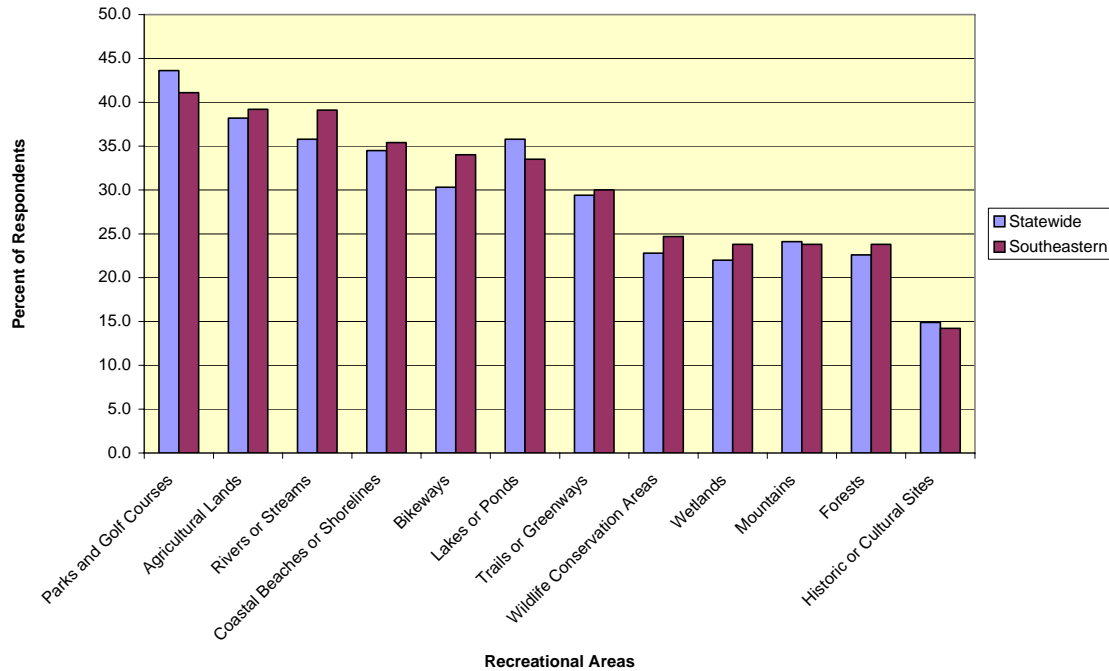
**Figure 65. Funding New Initiatives in the Southeastern Region**



### Facilities Needs

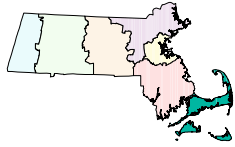
The above supply, demand, funding and satisfaction levels combine to result in the perceived Needs of the region's residents. The resources most sorely needed, say residents, are golf courses, neighborhood parks, playgrounds and tot lots (41.1%), agricultural lands (39.2%), and rivers and streams (39.1%). This is an interesting report in that all of these activities represent ones of middle to low levels of current participation, while the resources themselves are relatively abundant. Access to the resources may be a part of the concern, along with maintenance (for parks).

Figure 66. Inferred Need for New Recreational Areas in the Southeastern Region



Not far below this cluster of responses are also coastal beaches or shorelines (35.4%), bikeways (34%), lakes and ponds (33.5%), and trails and greenways (30%). Notable here is that these resources represent areas of the highest usage and highest satisfaction, yet only elicit moderate levels of need. This would imply reasonably abundant supply and maintenance. The least need is felt for additional historic and cultural sites.

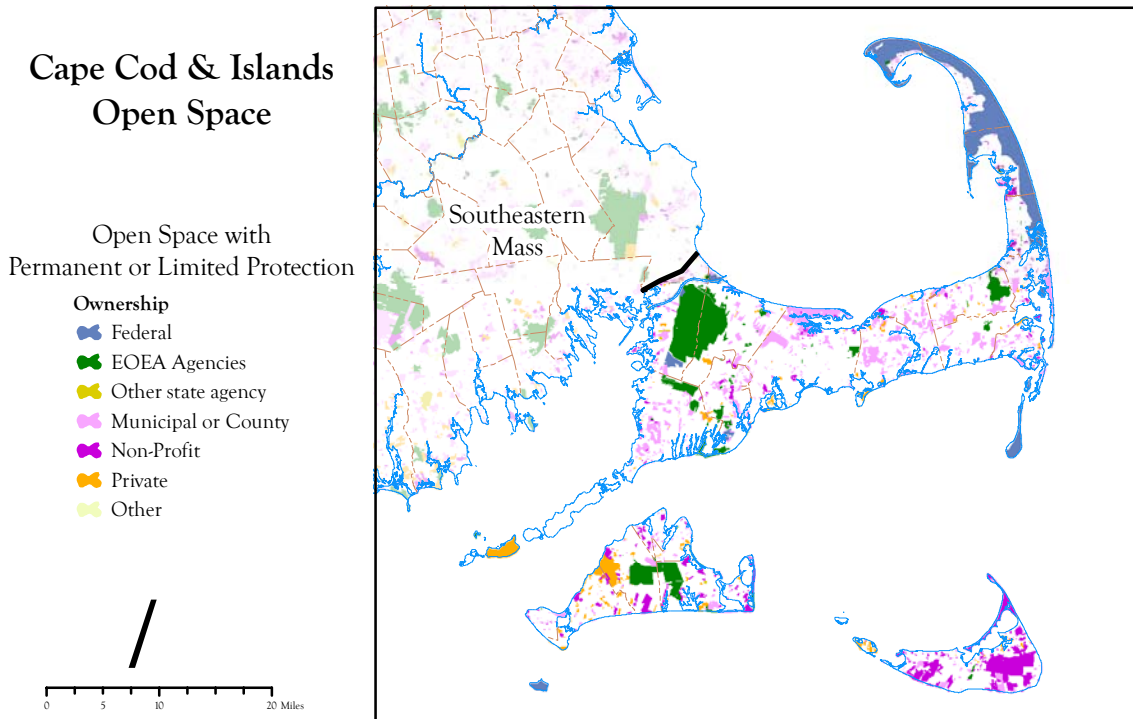
## Cape Cod and Islands Region



### Population and Resource Profiles

One of the most popular coastal destinations in the country, this region is made up of the Cape Cod peninsula and the islands of Martha's Vineyard, Nantucket, and the Elizabeth Islands. Tourism stands out as the dominant industry here, supporting a retail and service economy. In addition, retirement and second homes help sustain a large construction trade, while commercial fishing and other aquaculture also contribute to the economy. The shore is the obvious physical attraction here, including many beaches, salt marshes, coastal ponds, and the magnificent dunes of Provincetown. A major man-made feature at the entrance to the Cape, the Cape Cod Canal, connects Buzzards Bay in the west to Cape Cod in the east.

### Supply in the Cape Cod and Islands Region



**Figure 67. Protected Lands in the Cape Cod and Islands Region**

### *Regional Facilities and Protected Land Supply Patterns*

In the statewide review of open space supply, the Cape and Islands were noted as blessed with recreation opportunity, at .73 acres per capita. This region was also noted for its relatively high percentage of recreation and protected lands (42.1%). The visitation levels, however, of both in-state and out-of-state visitors that this region receives likely exceeds all other regions as well, with the possible exception of Boston itself.

On the Islands, Nantucket Harbor is second to none in size, beauty, and wildlife resource. Martha's Vineyard is astounding in the number of coastal water bodies, possessing almost as many as the entire Cape mainland. The major inlets include Katama Bay, Vineyard Haven Harbor, the Menemsha Pond, Chilmark Pond, Tisbury and Edgartown Great Pond complexes, the latter two having as many as eight or nine distinct coves of their own. This suggests the fundamental importance of surface waters, both coastal and fresh, to the resource base of the Cape. Add to these their associated great salt marsh complexes, and the groundwater reserves of these sandy lenses, and one can appreciate the powerful attraction of this region to both people and wildlife.

With this wealth of resources, it is apparent why the Cape and Islands are reported as having, along with the Metropolitan Boston region, the highest percentage of "protected" lands that are strictly dedicated to conservation purposes. This protection category overshadows all others such as parkland, water supply protection, agricultural use, and historic preservation.

### ***Ownership and Management of Open Space Lands***

More than any other region of Massachusetts, the Cape has been the beneficiary of federal land protection efforts. The dramatic entryway to the Cape over the canal and bridges has both symbolic and practical importance, but these impressive feats of human engineering cannot compare to the extraordinary National Seashore at the far end of the Outer and Lower Cape. Arguably more than any other effort to date in Massachusetts, the protection of this area spanning the four towns of Provincetown, Truro, Wellfleet and Eastham, has preserved the inherent character of a region intact, and with it, its ecosystems and natural communities. Yet, the Seashore also hosts huge numbers of visitors, and intermingles with its permanent human communities, so that human presence, both recreation and economic is still very much a part of the landscape. While a continuing challenge to land management and good stewardship, this region and this facility exemplify and offer much in the way of instruction to all interested in recreation and conservation.

In contrast to the other six regions of the state, the state role is at its most modest on the Cape and Islands. Whether this is a chicken or an egg effect of the federal and non-profit roles is difficult to say. However, a number of important state facilities and focus areas are still found here, including:

DCR's Nickerson State Park – the only major camping facility on the Cape, and nearby Hawks Nest State Park, Waquoit Bay and South Cape Beach; Scusset Beach Reservation and Shawme Crowell State Park (Sandwich); DFG's Indian Neck (Wellfleet) Wildlife Management Area, the Santuit River and Crane Wildlife Management Areas; and on the Vineyard, the Correllis State Forest.

Major state financial contributions toward town-owned and managed conservation and recreation facilities continue to be funneled through the DFG for projects such as the Hyannis Ponds, and through the Self-Help and Urban Self-Help programs to facilities such as public boat access areas, conservation lands, golf courses and even farmland protection. DCR is actively working with the towns of Harwich, Orleans and Brewster on connections between existing state ownership and the shore, the Six Ponds area, and public ground water protection areas.

A new chapter in state involvement has been emerging over the last five years through joint state, federal and local pursuit of clean-up efforts at the Massachusetts Military Reservation (MMR) in Bourne, Falmouth and Mashpee. Ironically, it seems that the ground water contamination resulting from the federal and state National Guard military presence has become the catalyst for seeing this major state owned land mass as a vital ecologic resource, where it was formerly viewed as just wasteland scrub pine and oak. Its importance as both pine barren and aquifer are now being recognized in the emerging 15,000-acre wildlife refuge at MMR.

Also more than in any other region, the towns of this Cape and Island region have been spurred to very active land protection efforts by five decades of intense development pressure and a growing understanding of the fragility of the natural systems that support life. The earliest effort dates back to the Sandy Neck project, accomplished with major assistance from the Commonwealth. Since the end of the 1970's, especially, the island towns and towns of Falmouth, Mashpee, Yarmouth, Barnstable and Dennis have invested great effort in land protection, including major bond issues. Nantucket and the Vineyard towns were fortunate and foresighted in their early adoption of a countywide land bank, based on a real estate transfer tax. With the land bank, burgeoning development has helped to preserve the very qualities that attract it. This past year, all 15 Cape (Barnstable County) towns also accepted local land banks, these based on property tax dedications. The lower Cape towns of Brewster, Orleans and Harwich have been very active in more recent years, especially in ground water protection efforts. Of course, the town-owned beaches are also vital recreation assets.

The presence of the Martha's Vineyard and Nantucket Land Banks deserve particular mention as unique, countywide public agencies. Nantucket's situation is a bit unusual in that the town and the county are the same geographic entity. However, on the Vineyard, the six separate municipalities work together on this regional land use body to identify and protect important conservation and recreation lands. It can be safely said that since their adoption in the early 1980's, these bodies have gradually become the mainstays of land protection within their towns. However, traditional recreation areas, such as field-based facilities, continue to be the province of the individual towns.

The non-profit conservation and recreation entities also have a very prominent role on the Cape and Islands. On the recreation side, private camps such as the YMCA camps, Lyndon and Burgess Camps, at Lawrence and Spectacle Ponds in Sandwich, and private campgrounds, such as at Peters and John's Ponds in Falmouth and Mashpee, make important contributions. On the conservation side, all the major land

trusts, and quite a number of local land trusts have been very active throughout the region. The Mass. Audubon's Wellfleet Sanctuary, The Trustees of Reservations' Lowell Holly Reservation in Mashpee, and The Nature Conservancy's work on the Islands' sand plain communities are all marvelous resources. The local land trusts, such as the Falmouth 300 Committee and Orenda Wildlife Trust, have collaborated through a regional entity called the Cape Cod Compact to amplify the technical and financial capacity of the local trusts. An interesting collaboration of all public and many private entities is presently underway in the Waquoit Bay National Wildlife Refuge, where a mix of funding and ownership is being used to achieve protection goals within the watershed of the Bay.

Towns where the action of non-profits has permanently protected the largest acreage include Nantucket, Edgartown, and West Tisbury, all island towns. On the mainland, the largest protection efforts to date are found in Wellfleet and Mashpee. On the for-profit side of the ledger, these towns are joined by Barnstable, Falmouth, Brewster and Yarmouth. Among lands that are owned by for-profit entities, it is important to note that many are not permanently protected.

The local non-profit organizations, while obviously of more modest means and holdings than the government agencies and national trusts, are nonetheless vital players in land protection efforts. Their special niches include personal knowledge of the local land owners and parcels, early recognition of protection opportunities and needs, short-term holding and quick acquisition response, informing local opinion and decision makers, and on-going land management efforts.

### **Demand in the Cape Cod and Islands Region**

#### ***Activities***

Understandably, the Cape and Islands top the state in the popularity of swimming (69.9%). This level of participation is also the highest reported for any activity in any region. A fairly close second, again a statewide high for this activity and all others as well, is walking, at 64.4%.

A substantial drop in percent participants occurs to the next most widely experienced activity, sightseeing (50.1%), although one-half the population is nonetheless very significant. A further gap is then encountered to 32.9% who report engaging in wildlife watching and nature study. This activity leads a cluster of similarly popular activities, including fishing (27.7%), golfing (25.5%), road biking (24.7%), sunbathing (21.3%), hiking (18.5%) and picnicking (17.2%).

Surprisingly low levels of participation were reported for baseball, ice-skating (rink), soccer, photography and painting, off road vehicles, and running and jogging. A partial explanation may be found in the large number of retirees on the Cape, and for the islands where certain facilities or league participation may be circumscribed, but these factors are insufficient in themselves to understand these patterns.

**Figure 68. Participation Rates in Activities in the Cape Cod & Islands Region †**

	RECREATIONAL AREA	Statewide (% of Respondents††)	Cape Cod & Islands (% of Respondents††)
<i>Field-Based Activities</i>			
	Baseball	6.4	1.0*
	Basketball	5.6	5
	Football	2.1	2
	Golfing	24.7	25.5
	Ice Skating (rink)	0.1	0
	Playground activity	26.1	21.1
	Soccer	2.6	0
	Tennis	2.2	2.4
	Toddler activity (at tot lots)	5.5	2.5
	Volleyball	2.5	2.5
<i>Passive Recreational Activities</i>			
	Photography / painting	5	2.2*
	Picnicking	22.6	17.2
	Sightseeing, tours, events	54	50.1
	Sunbathing	19.6	21.3
	Watch wildlife, nature study	21.7	32.9*
<i>Trail-Based Activities</i>			
	Biking (mountain)	12.5	13.3
	Biking (road)	15.8	24.7*
	Horseback riding	0.8	0.9
	Off-road vehicle driving	0.7	0
	Roller blading / skating	2.7	4.2
	Running / jogging	3.9	1.8
	Skiing (cross country)	3.2	2.4
	Skiing (downhill)	7.6	6.2
	Snowmobiling	0.9	0
	Walking	56.5	64.4*
<i>Water-Based Activities</i>			
	Boating (motorized)	8.2	8.5
	Boating (non-motorized)	7.8	5.4
	Canoeing, rafting	8.5	4.6
	Fishing	26.5	27.7
	Hockey (natural water bodies)	0.3	0
	Ice skating (pond, lake or natural water bodies)	1.8	0.8
	Sailing	2.5	4.6
	Surfing	0.9	1.2
	Swimming	54.6	69.9*
	Water skiing / jet skiing	1.9	2
<i>Wilderness Activities</i>			
	Camping	7.7	4
	Hiking	30.8	18.5*
	Hunting	2.7	4.7

† Based on respondents who indicate that they have visited recreational areas in the last 12 months.

†† Percents may not equal 100 due to multiple responses.

\* Difference with Statewide result is significant at the 90% confidence level.



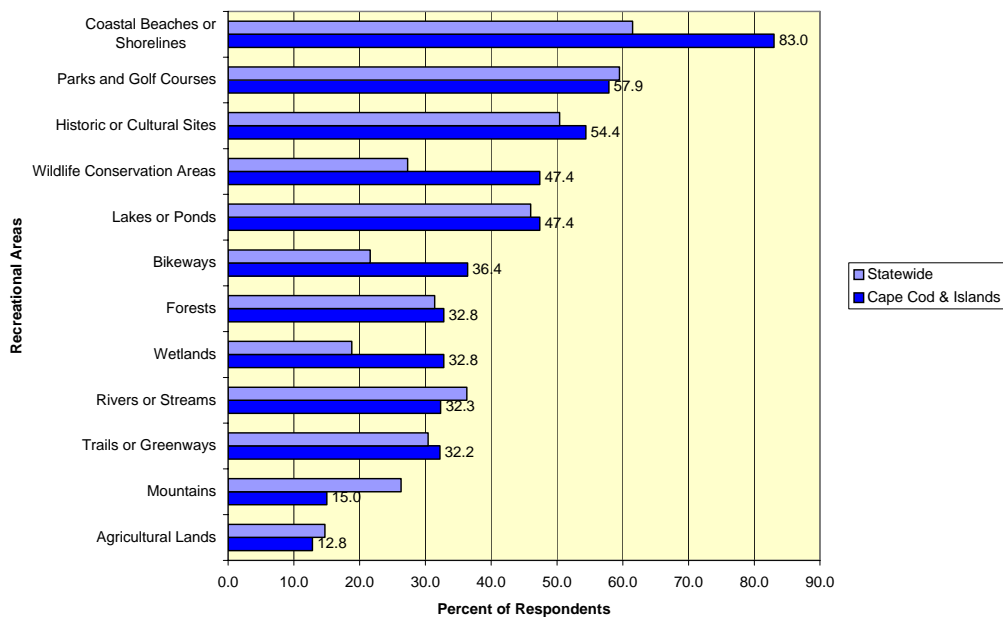
### Resource Use

These activity patterns translate into a strong demand upon Coastal beaches and shorelines, golf courses, neighborhood parks, playgrounds, and tot lots, and historic and cultural sites. Curiously, these resource priorities sound much like those of other regions, even though the specific activity patterns are unique. One distinction noticed is that of wetlands, where this resource type ranks seventh compared with eleventh or twelfth in most other regions. Similarly, wildlife conservation areas and historic and cultural sites rank higher in use on the Cape than any other region, as do bikeways, in response to both the excellent facilities and the relatively flat terrain.

Conversely, agricultural lands are near their statewide nadir here, higher only than the Boston region, and the same pattern is in evidence for mountains, for obvious reasons, and rivers and streams.

In the aggregate, water-based and trail-based activities are strongly favored resource groups, while wilderness and field-base activities lag significantly in current use patterns.

**Figure 69. Experience with Recreational Areas in the Cape Cod and Islands Region**



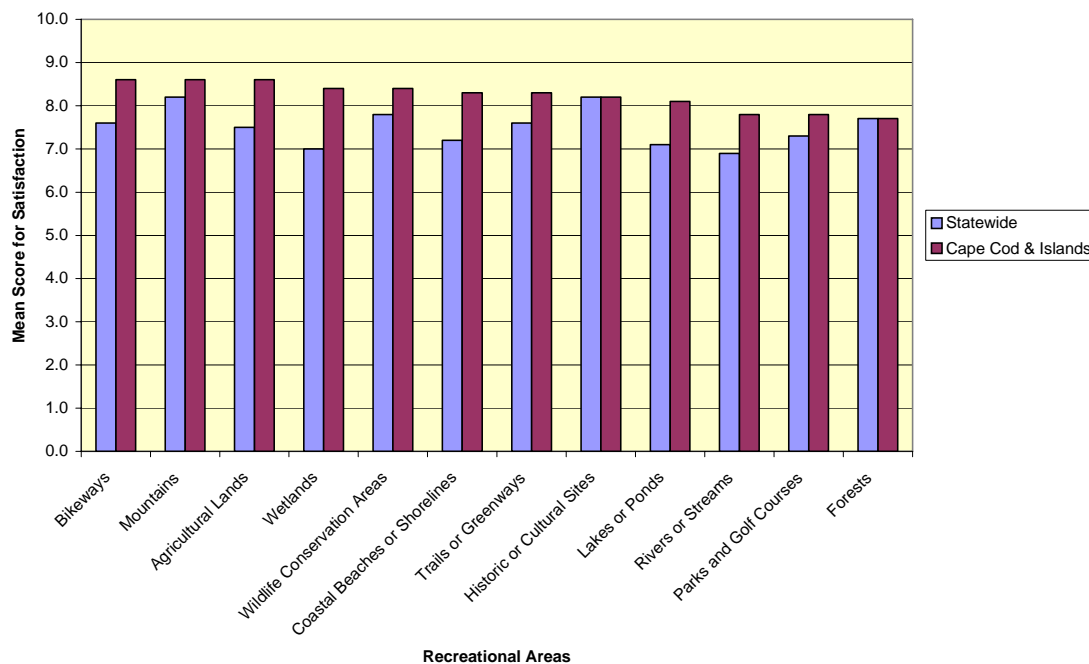
## Needs in the Cape Cod and Islands Region

### *Satisfaction Levels*

Residents of this region also report among the lowest dissatisfaction levels, ranking at or second from the bottom of the “dissatisfied” lists in 6 of the 12 resource types. For probably very different reasons, no respondents whatsoever expressed dissatisfaction with as to bikeways, forests and mountain resources. Only in terms of agricultural lands do Cape residents express dissatisfaction more than most regions. Except for agricultural lands, these dissatisfaction levels are not mirrored by distance traveled to resource areas, or by the median number of trips of users to these facilities. As to distance, Cape and Island residents travel farther than all but Southeast residents to rivers or streams (26.2 miles one way), and 84.5 miles to mountains, but report no special dissatisfaction with these resources. In fact, among that percentage of residents who visit mountain areas, a higher median number of trips is by Cape and Island residents, and to a lesser extent, Southeast residents to mountains, than any region except the Berkshires. While the distances are large and participation rates low, the frequency of trips to rivers and streams on the Cape and Islands is among the highest in the state.

Residents of the Cape and Islands travel among the very shortest distances to reach many of the other resource types, including wetlands, bikeways, lakes or ponds, coastal beaches, wildlife areas, trails or greenways, and forests.

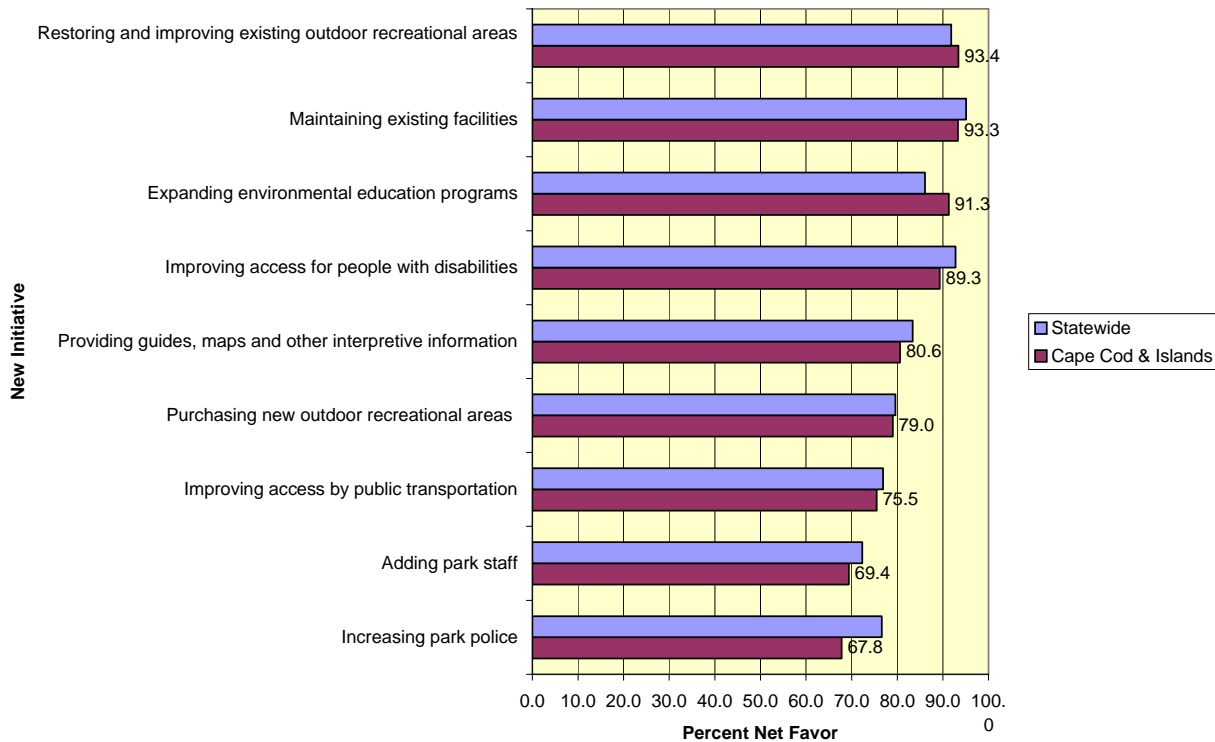
**Figure 70. Satisfaction with Recreational Areas in the Cape Cod & Islands Region**



### ***Funding Preferences***

A different preference pattern emerges in this region when compared to other regions. Here, restoring and improving existing areas tops the list (versus maintaining existing facilities), although by a slight margin. Also, expanding environmental education ranks a close third here, where statewide it falls to a distinct fourth. Overall the Cape shows a wider spread of favorability rankings, from the second lowest and lowest statewide score for “Adding park staff”, and “increasing park police” (69.4% and 67.8%, respectively), to 93.4% in favor of restoration and improvements.

**Figure 71. Funding New Initiatives in the Cape Cod & Islands Region**



### Facilities Needs

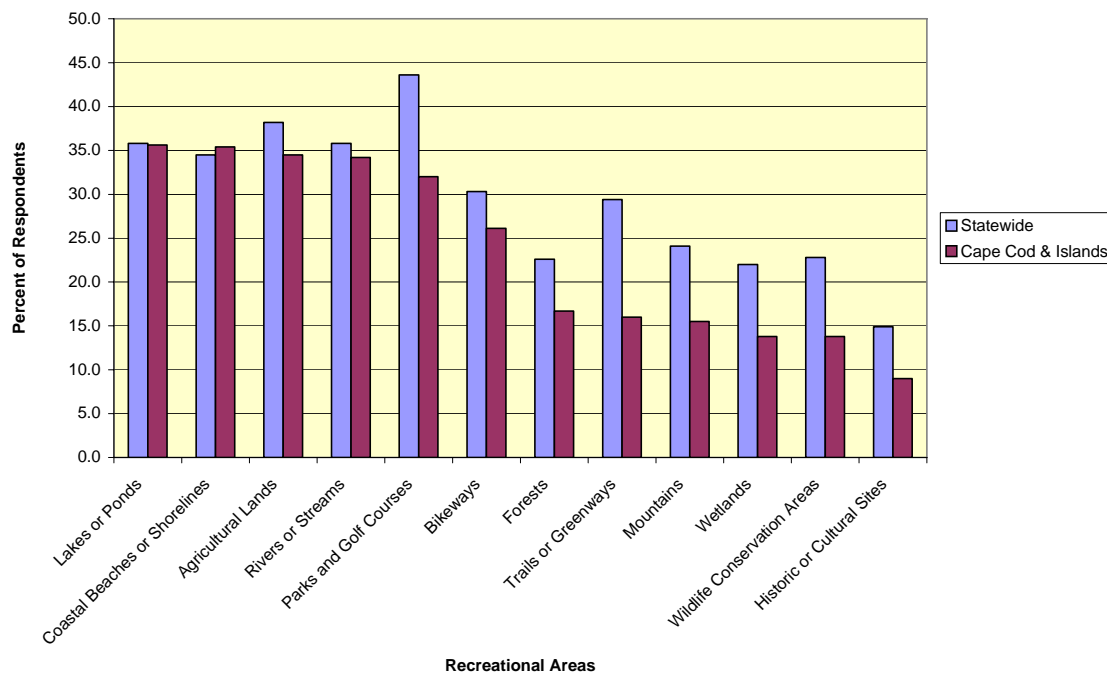
The survey shows higher general frequency of use of all types of recreation areas by residents of the Cape and Islands. The five most often cited facilities desired by Cape and Island residents, in rank order, are more swimming (17.5%) (perhaps implying the need for better access to the beaches and parking, or for less crowded beaches), road biking (15.5%), walking, (9.0%), playground (8.7%), and tennis (7.3%) facilities.

Multiple responses, but below 5%, were also reported for golfing, tot lots, picnicking, sunbathing, wildlife areas, mountain biking, roller-blading and skating, skiing (downhill), motor and non-motor boating, fishing, camping and hiking. The remaining activities have less than about one percent response rates.

These patterns are translated into a demand for improved or expanded access to facilities for neighborhood parks and playgrounds, historic and cultural sites, trails and greenways, and agricultural lands. Among the most interesting observation of all, Cape and Island residents expressed needs, when grouped by resource areas, rank lowest in the state for 10 of the 12 types. Only lakes and ponds and coastal beaches rank near median levels of need.

In one of the more striking regional patterns, the reported experience levels of both wetlands visitation and wildlife conservation areas was highest on the Cape and Islands. This observation tracks well with the reported occurrence of the highest quality of these resource areas in “Our Irreplaceable Heritage”. A very different type of resource, i.e. bikeways, was also strongest on the Cape.

Figure 72. Inferred Need for New Recreational Areas in the Cape Cod & Islands Region



## Chapter 6. SUBCOMMITTEE POLICY REPORTS

The following section summarizes the findings of the six subcommittees of the 2000 SCORP Technical Advisory Committee. These subcommittees - Public Recreation in Natural and Sensitive Areas, Greenways and Trails, Water Resources, Urban Conservation and Public Recreation, Cultural and Historic Resources, and Wetlands - prepared detailed reports on natural resource and recreation issues and developed the policies and recommendations presented in this report. Summaries of the subcommittee reports, followed by policies and recommendations, are provided below.

### **Subcommittee on Public Recreation in Natural and Sensitive Areas**

“Natural and sensitive areas” is a broad category of resources that encompasses many of the treasures that make Massachusetts a unique place to live and visit. For the purposes of the report, natural and sensitive areas contain a unique biological, geological or scenic feature, can be in public or private ownership, and are defined as:

- ◆ Resource areas that are predominantly in their natural state, including areas that are particularly sensitive to human impacts, such as rare species habitat; and
- ◆ Areas that have been altered by human activity but have come to be considered part of the natural landscape, such as agricultural lands.

#### **1. Resource Protection on Public and Private Lands**

The Natural and Sensitive Areas Subcommittee Report emphasized the need for a healthy resource base to maintain and improve outdoor recreation opportunities in Massachusetts. Because so many recreation activities occur within or depend upon natural areas, some of which are quite sensitive to human activity, the report stressed the importance of striking a balance between resource protection and recreation use.

A three-point plan is recommended to develop inventories and publication of inventory data, evaluate current and potential recreation uses, and redirect uses found to be incompatible with resources. These goals can be achieved through development of resource-based management plans, use of field observation, surveys and historical records, development of guidelines for recreation use, reallocation of uses over broader areas, and seasonal limitations on the acquisition of new sites.

#### **2. Multiple Use of Land and Resources**

Multiple use of land and resources is a worthy goal and a common characteristic of many recreation areas. When multiple use places heavy demand on a resource, however, an action plan must be in place to mitigate adverse impacts to the resource and avoid user conflicts. The compatibility between recreation uses and the recreation carrying capacity of multiple use resources should be evaluated. This evaluation can be accomplished by determining the range of recreation uses for a site, the extent of demand for each use and compatibility between these uses. It is important to remember that although certain uses may be compatible with one another, their cumulative impacts may be unacceptable.

#### **3. Education**

Managers and users of natural and sensitive areas can be grouped into three distinct categories: public land managers, private landowners, and recreation users. Education is the primary connection between the manager/landowner and the user and is a major tool for providing information about significant resources, management techniques and appropriate uses. An educated manager or landowner can more effectively manage resources and users and maintain recreation opportunities while still protecting natural resources. Private landowners can benefit from the expertise of professional land managers, and an educated recreation user will better understand the value of the resources and minimize their impact. Consequently, managers and landowners will spend less time supervising recreation users and resources will suffer fewer abuses.

It is recommended that a network of professional land managers and landowners be created to share expertise on management techniques and funding options, organize workshops among landowners and managers to share information, and use newsletters and electronic bulletin boards to disseminate information.

To further educate recreation users about the value and sensitivity of resources, materials should be developed such as guides to recreation opportunities, and outreach should be improved to friends groups, recreation users and other support groups.

#### **4. Public Access**

The subcommittee focused on three components of access: ensuring public safety, improving access to recreation resources, and encouraging expansion of the public use of private land. Public safety can be addressed by posting regulations, providing adequate on-site staff, and developing emergency response strategies. Recreation access can be addressed by designing resource-sensitive parking facilities, increasing promotional efforts, improving public transportation, and diversifying programming to meet the needs of a broader range of users.

Private landowners may be encouraged to open their land (e.g., Chapter 61 properties) to public access through education about liability issues and the tax incentives currently available to landowners who encourage public access. This educational process should involve organizations, such as land trusts, which have established relationships with private landowners.

#### **5. Funding**

Additional funding is critical to acquiring, maintaining and improving recreation opportunities in natural and sensitive areas. Public agencies depend on funds and annual appropriations to acquire new sites and maintain existing ones, and private organizations and landowners need to know what funding mechanisms are available to them, who is eligible, and how to apply.

Public agencies have different funding needs and would benefit most from consistent levels of yearly funding. Reliable funding would make it easier for agencies to develop long-range plans and might help eliminate inefficient year-end spending. Finally, public/private partnerships should be encouraged in acquisition strategies and site management.

### **Subcommittee on Greenways and Trails**

Greenways are corridors of protected open space managed for conservation and recreation purposes. Greenways often follow natural features such as ridges or rivers or they may be abandoned infrastructure corridors such as railroad right-of-ways, town roads, logging roads, or historic barge canals. They link natural reserves, parks and cultural and historic sites with each other and with towns and cities. Trails are often components of greenways and therefore share many of the same characteristics. Trails can also be independent resources built for specific functions, such as transportation.

Greenways protect sensitive lands and wildlife, and provide access to recreation opportunities. Rural greenways preserve natural habitats and wildlife migration routes. They encourage the restoration of valuable landscapes, and provide recreation and education opportunities. Urban greenways encompass natural and built features and provide opportunities for conservation, recreation and transportation.

Massachusetts contains some of the best known greenways and trails in the country, each with its own distinct character. Frederick Law Olmsted's Emerald Necklace in Boston, the Minuteman Bike Trail, the Bay Circuit Trail, and the Charles River corridor in eastern Massachusetts, the Massachusetts portion of the Appalachian Trail, and the Connecticut River Greenway State Park in western Massachusetts, are just a few of the many greenways and trails across the Massachusetts landscape.

#### **1. Planning, Design and Development**

Today more people are using greenways and trails in Massachusetts in more ways than ever before. Popular new uses such as mountain biking, inline skating, fitness walking, snow shoeing, and trail running, as well as more traditional pursuits such as hiking and horseback riding, are attracting a large and diverse following onto the trails. To accommodate this increased demand, additional greenways and trails will be needed. To provide safe, high-quality recreation experiences, and to protect valuable resources, greenways and trails need to be carefully planned, thoughtfully designed, and strategically located.

The Greenways and Trails Subcommittee recommends that design and management policies should emphasize resource protection while accommodating multiple uses. This can be accomplished by identifying important resources within or near greenways and trail corridors, identifying the demand for different uses, and developing design and management guidelines based on these findings.

#### **2. Funding and Protection Strategies**

More than half of the state's documented greenways and trails are located on private property. They often link publicly owned open space, and without legal protection, these private lands will be lost to

development, thus isolating public properties. Greenways and trails are often thought of as components of open spaces rather than unique resources, and receive less attention in acquisition priority planning. The varied nature of resources that greenways and trails encompass makes numerous creative development and protection strategies possible.

Less-than-fee acquisition strategies should be publicized and pursued whenever possible. These strategies include continued use of conservation restrictions and easements, and the Chapter 61, 61A and 61B tax relief programs provide for protection of forestry, agriculture and recreation resources through tax incentives. Less-than-fee strategies may also include working with state and local historic commissions to retain ancient ways, encouraging utilities to provide access to their right-of-ways, and reviewing road abandonment procedures to assess suitability for trail use.

Finally, dedicated funding sources must be provided through the passage of state initiatives, such as the Community Preservation Act and Open Space Bond Bills, federal assistance from the Land and Water Conservation Fund and Transportation Equity Act for the 21<sup>st</sup> Century (TEA 21, formerly known ISTEA), or through a combination of dedicated user fees and tax revenues.

### **3. Maintenance and Management**

One of the most pressing issues facing trail providers, particularly in the public sector, is the need for improved maintenance of existing and proposed greenways and trails. Even the best trail and greenway designs need ongoing, regular maintenance. This need has become especially urgent in the face of increasing numbers of users.

A higher priority must be placed on the ongoing maintenance of trails and greenways by encouraging expanded partnerships with volunteer organizations and support groups. In addition, training workshops should be held for volunteer groups, and a handbook of standards developed.

### **4. Education**

As a result of the broad definition and uses of greenways and trails there is a need to improve the availability and exchange of information. Organizations working on developing greenways and trails, especially at the grassroots level, need to be educated on funding sources and planning strategies. The public needs information on the locations of greenways and trails, as well as interpretive material on the value of these resources and responsible use.

Consistent contact between local, regional and state agencies and boards should be promoted and information distributed through coordinating organizations such as the Massachusetts Federation of Planning Boards. Local and regional greenway and trail guides, newsletters, workdays, conferences and other events should be developed by organizations such as the Massachusetts Recreation Trails Advisory Board, Massachusetts Greenways and Trails Council and the Massachusetts Office of Travel and Tourism.

### **Subcommittee on Water Resources**

Water resources in this report include all coastal or upland surface or ground water. Rivers, lakes, stream, ponds, aquifers, and wetlands are among the resources under discussion. Additional wetlands information can be found in the wetlands report.

Management of water resources in Massachusetts has changed dramatically in the last 50 years, as knowledge of hydrology, pollution sources, water chemistry, and hydrogeology has increased. We now understand more completely the damage caused by using our lakes, streams and rivers as dumping grounds for municipal and industrial wastes, and have begun to implement preventative measures to address this problem. Massachusetts' residents place a high value on clean water for recreation, environmental and health purposes, as evidenced by strong enforcement of Federal and state laws, and passage of significant state protective measures such as the Wetlands Protection Act and Scenic Rivers Protection Act.

### **1. Planning and Protection**

Thoughtful long-range planning is needed to identify the major issues and obstacles that must be addressed, protect the quality and quantity of water and maintain the integrity of the surrounding landscape. Massachusetts has a diverse planning and protection framework made up of a number of federal, state, regional, local, and volunteer agencies and organizations. Conservation of Massachusetts' water resources requires integrated efforts by these agencies and organizations. Steady progress has been made but more work remains to be done.

State river protection laws should be strengthened by providing for assessments through MEPA, ensuring minimal impacts by state agency actions, improving land use policies on land abutting river corridors, and changing state grant programs for combined sewer overflows (CSO) to target areas with high recreation value most often impacted by CSO's. Local river protection measures and recreation use of these resources should be studied to determine if a correlation exists between the level of protection and the level of use.

It is also recommended that the effectiveness of GIS as a planning tool be studied, GIS training provided, and GIS projects promoted. Furthermore, data should be consistently updated and incorporated into open space and recreation planning. Finally, the effectiveness of a watershed level approach to recreation planning and education should be examined.

## **2. Education and Outreach**

Water resources with potential recreation use are sometimes inaccessible due to the long-held opinion among some landowners and managers that recreation use has an adverse impact on the resource. Owners and managers of the Commonwealth's water resources need to be educated about the actual, rather than perceived, impacts of recreation on resources. Of equal importance is the education of recreation users. Inappropriate conduct on the part of user groups can result in damage to resources and limitations or exclusions on use for all users. Education programs for users must focus on proper stewardship, understanding and cooperation among user groups, and cooperation with resource managers. Water resource policies, such as limitations around public drinking water supplies and streamflow guidelines, should be examined.

The impact of recreation use on public drinking water supplies should be evaluated by determining current allowable recreation use, evaluating demand for recreation opportunities, promoting trial studies on expanded recreation access, issuing new guidelines for use of public water supply areas, and encouraging expanded access on private supply areas. In examining streamflow guidelines, existing guidelines should be identified, recreation demand evaluated, and streamflow guidelines adjusted, to enhance recreation use while protecting other resource functions.

## **3. Stewardship**

The goal of good stewardship is the protection of the resources. For water resources, this means protection of both the water body itself and the watershed lands, particularly those lands abutting a water body or tributary. Stewardship ensures conservation of plant and wildlife habitat, clean drinking water and aesthetic values while ensuring recreation access.

Good stewardship is particularly important in protecting plant and wildlife habitat. The impacts of water-based recreation on significant wildlife habitat should be evaluated and new regulations promoted to balance use with habitat protection. This goal can be achieved by identifying existing wildlife habitats and recreation use and the impacts of these uses on the plant and animal communities, and by adjusting regulations to permit only those recreation uses with minimal impact on sensitive habitats. The popularity of recreation fishing in Massachusetts is also recognized, and it is recommended that opportunities be expanded through promotion of catch and release programs and education of the angler community. Finally, the subcommittee recommends protecting shellfish resources by promoting pollution reduction programs.

## **4. Access**

Access to water resources is typically controlled by towns through "Residents Only" policies, particularly in coastal areas. At the state level, the Public Access Board (PAB) is the authority primarily responsible for inventory and promotion of public access sites, presently managing 160 access sites statewide. While these sites have recently been mapped at MassGIS, little advertising is done to inform the public where these sites are located and what type of access is allowed. A booklet entitled *Public Access to the Waters of Massachusetts* was recently updated, identifying 200 access points across the Commonwealth. This publication should continue to be updated and widely distributed. The majority of the current Public Access Board sites are designed for relatively high-impact recreation users (e.g. powerboats on trailers). The number and distribution of sites designed for low-impact users (e.g. car-top, hand-carried boats) should be expanded, especially on smaller rivers. The PAB should take into account access to a resource as well as access along a resource during the designation process. For example, access along a stretch of beach is significant only if there is also access on to that stretch of beach.



Education programs should be developed to demonstrate how different water-based recreation uses impact each other, promote outreach by regulatory agencies to educate users on water policies, and involve constituency groups in writing regulations and conducting research. The public should also be educated on their legal right to access at public sites, as well as the need to improve access to funding assistance for acquisition and enhancement of public access sites.

## **5. Funding**

Funding is, of course, the cornerstone of most protection, planning, and programming efforts. Gradual tightening of budgetary belts has resulted in the need for innovative approaches to acquisition and enhancement. Water resource agencies and programs have learned to do more with less, and often minor funding opportunities can have significant impacts. Existing funding assistance must be maintained or increased, and new opportunities - regardless of the availability of public funds - created whenever possible, especially through partnerships.

Existing programs such as the DFG Riverways Small Grants, DCR Greenways Small Grants Program, DCR Clean Lakes Grants, and EOE A Wetland Restoration Program should be continued or expanded. In addition, citizen access to grant programs should be improved, through bulletins and training sessions and through assistance provided by the federal Transportation Equity Act for the 21<sup>st</sup> Century (TEA 21).

## **Subcommittee on Urban Conservation and Public Recreation**

Urban recreation plays a critical role in Massachusetts due to the large concentrations of state residents in urban areas. Providing adequate recreation opportunity to a large number of people in a limited geographic area is the central challenge the urban planning community faces. Urban centers can meet many, but not all, of the recreation needs of its residents. Therefore, recreation planners need to consider ways to improve access to resources outside of the urban environment.

### **1. Fiscal Stability**

The capital and operating budgets of government agencies are subject to sharp fluctuations. If budgets are tight, officials look at what they consider to be the most expendable items for budget reductions. Unfortunately, parks, open space and recreation areas are too often seen as expendable items. In reality, parks, open spaces and recreation areas are the cornerstones of healthy, sustainable economies. Numerous studies such as those conducted by the National Park Service and American Farmland Trust have demonstrated the benefits and relatively low cost of open space to local communities. Surveys, such as the 1995 demand survey conducted for SCORP, have consistently shown a high level of public support for continued investment in open space and recreation land, particularly in urban areas.

State funding for programs such as the Self-Help and Urban Self-Help programs should continue. Federal funding through the Land and Water Conservation Fund and Urban Preservation and Recreation Recovery program should be reinstated and expanded beyond recent funding levels. Public advocacy for these programs should be promoted through the creation of a statewide coalition of local greenspace groups.

### **2. Maintenance of Existing Facilities**

While cities in particular need more open space, deterioration in the maintenance of some existing parks and open space diminishes public confidence that new parks will be maintained. In fact, some people might oppose a new park because they foresee its deterioration and a blighting effect on their neighborhood. The Demand Survey makes this point tellingly, in that maintenance and restoration of existing facilities is ranked statewide and in every single region above new acquisition. Maintenance needs to be a primary consideration when parks are designed or rehabilitated, and innovative ways to support adequate maintenance, build community involvement, and support and reduce vandalism and misuse of facilities must be explored and implemented.

The subcommittee recognizes the need for capital funding cycles and supports maintenance of facilities through consistent capital budgeting. Infrastructure condition should be monitored through infrastructure condition surveys, and survey results should be used to establish maintenance priorities. The subcommittee also recognizes the need to upgrade sub-standard playground equipment and improve schoolyard landscapes, and recommends educating recreation agencies on equipment standards and design innovations through conferences and workshops. Recreation agencies should also seek partnerships with professional and community groups to support park maintenance. Finally, the subcommittee recommends that models for volunteer-based street tree inventories be developed and aggressive tree maintenance programs supported.

### **3. Acquisition**

While infill development in the cities and suburbs is encouraged as a “smart growth” policy, this infill development continues to encroach on the remaining open space. The purchase of property and development rights in urban areas becomes increasingly important to urban residents. Limited urban open space can result in high prices for existing properties and discourage financially limited municipalities from acquiring these sites for recreation purposes. Therefore, alternative ways of providing urban open space must be explored, including conversion of vacant lots to park and recreation spaces. Alternative ways of purchasing and managing open space in urban areas, particularly through coordination with private development entities, must be found.

Open space concerns must be carefully considered in local land use decision-making. For example, cities should prevent conversion of parkland to other uses; or when conversion is unavoidable, require one-to-one or greater replacement of lost acreage. The subcommittee recognizes the need for alternative methods of land protection and recommends improving the understanding of acquisition opportunities through federal TEA 21 funds, use of public benefit packages and mitigation measures in urban development projects, promoting partnerships with private development interests, maintenance groups and programming partners, and formation of urban land trusts.

### **4. Responsive Programming**

Shifting demographics and recreation demand require flexibility in designing and programming facilities and activities. In this era of downsizing and user fee-driven programming, communities that lack sufficient funds are less able to offer free or affordable programs, thereby excluding interested individuals and groups. The diversity of urban populations and the complexity of their demands further complicate delivery of recreation services. The importance of urban park and recreation programs must be demonstrated to support funding for critical programs.

The needs of demographic groups should be identified through surveys and outreach to community groups and service agencies. Programming should be available year-round, including winter sports, passive recreation opportunities for the elderly, skill development programs, and recreation opportunities for individuals unable to participate, or uninterested, in group activities.

### **5. Equal Access**

Access is a critical issue for the residents of urban areas. Parks, open spaces and recreation areas serve numerous valuable functions and possess intrinsic value, but at the same time public support is built through experiences with the resources, i.e., through adequate access. Lack of access can occur because of physical, economic or cultural barriers. Physical barriers include lack of adaptations for people with physical limitations, unsafe equipment, and lack of security and remote locations. Economic barriers include ever-increasing user fees or a lack of mobility due to the cost of car ownership, the cost or limited availability of public transportation, or both. Cultural barriers include language issues and racial and ethnic discrimination. Low and moderate income urban residents are often confronted by more than one of these barriers.

Interpretive programs should be developed to identify the cultural, historic and natural resource significance of urban park systems. To increase access, alternatives to user-fee policies should be considered, particularly for transportation access, and programming and education efforts should be multi-lingual and take advantage of universal symbolization. It is also important to avoid conflicts among users, particularly racial conflicts, and it is recommended that educational outreach be provided to park neighborhoods and user groups.

### **6. Environmental Protection and Naturalizing the Urban Community**

In the past, environmental concerns and the protection of natural areas in urban communities have been treated as low priority, too difficult or in conflict with the need for economic development. This attitude is changing, however, as people recognize that suburban and urban populations share the same basic needs. In addition, a broader analysis of the costs and benefits of economic development indicates that environmental protection should be a cornerstone of urban development to ensure long-term benefits such as energy conservation, soil conservation, drainage, and community service cost savings, and to minimize future mitigation costs.

Parks, open space, and the opportunities for recreation are social goods and should be provided for all residents, particularly those in regions that are heavily populated. As Frederick Law Olmsted commented

over one hundred years ago, “urban dwellers need the quiet respite of natural areas to balance the noisy, hectic pace of every day urban life.”

A new model of urban development should be created to coordinate progress in architecture and urban design with efforts to provide cleaner water, greener streets and parks, and maintenance or restoration of natural communities. This model can be achieved in part by adopting strict resource protection and restoration guidelines for urban park systems, promoting use of native plants in landscaping, developing recycling and composting programs in municipal park systems, and supporting street tree management programs.

## **7. Career Development for Urban Youth**

Young people in urban areas should be made aware of career opportunities in open space and recreation. It is essential that a new generation of professionals be developed who are intimately acquainted with the recreation and open space needs of urban populations. We need to find ways to encourage youth from all racial and ethnic backgrounds to visit open spaces and parks, to realize the value of resource protection and the value of an education in natural resources. In addition, we need to identify barriers to employment and encourage young people to choose natural resource and recreation management as a career. Inclusion of urban youth in career development programs for open space and recreation management will result in greater input on policy and program decisions and will lead to a higher level of respect for these programs within the urban community. As the demographic mix of Massachusetts changes, open space programming must be similarly adapted, or else it will be under-utilized and ultimately threatened by public disinterest. The 205 Urban Land Conservation Forum with 50 urban land conservationists and advocates from cities across the state reinforced this need as “enhancing environmental education for urban youth and creating more work/volunteer opportunities in urban open space areas” was one of the forums top four action steps.

Outreach programs should be created that illustrate career opportunities in natural resources and recreation management. These programs should be targeted to youth through the urban school system. Summer job and internship opportunities with strong skill building and natural resource appreciation elements should also be made available to urban youth. These positions should be filled with students demonstrating a sincere interest in resource management careers.

## **8. Transportation**

Many of the Commonwealth's open space resources are located outside of urban areas and beyond the reach of public transportation. Thus, the act of enjoying the natural environment is dependent on using air-polluting automobiles and results in the destruction of open space acreage for parking lots and highway widening. Those populations most dependent on public transportation, low income residents who can not afford private transportation, often do not have access to recreation areas.

The subcommittee recommends that transportation agencies extend train and bus service from urban communities to outlying open space and recreation facilities, and that transportation to sites within the urban core be improved. Transportation agencies should work in partnership with environmental agencies and advocacy groups to increase the availability of information on recreation and open space locations. When public transportation agencies cannot improve access for urban residents, Federal, state, and local recreation and conservation agencies should provide subsidized transportation to major park and open space sites outside urban areas.

## **Subcommittee on Cultural and Historic Resources**

Article 97 of the Articles of Amendment to the Massachusetts Constitution guarantees the right of the people of the Commonwealth to the historic qualities of their environment. Cultural and historic resources include buildings, structures, objects, areas, burial grounds, landscapes and archaeological sites and represent a valuable material record of the history of Massachusetts. These resources enhance and enrich the quality of life in the state. The experience of the historic landscapes of the state's cities, towns and countryside contributes to the enjoyment, appreciation and understanding of Massachusetts by both residents and visitors. Historic buildings and sites rank high among the destinations of choice for tourists and recreation users.

People have shaped and modified the Massachusetts landscape for over 10,000 years, and the evidence of this long history of human activity is apparent everywhere. Cultural resources define the scene as one drives along ancient roadways viewing historic farms, or walks the streets of old city and town neighborhoods. The historic built environment, with all its characteristic shapes, textures and

arrangements of buildings, yards and villages, helps to define what is unique about Massachusetts. Historic properties enhance the scenic qualities of the landscape and help to define community character. They give a sense of time and of connection to the past and to the present experience of a place. The historic landscape itself is a cultural resource, as represented in the designed grounds of a country estate, the manicured green of a town common, a hilltop orchard, or a lowland cranberry bog. From the high-rise studded skyline of our urban centers, to the industrial triple-decker milltown, to the rolling fields, farms, and forests of our rural communities, Massachusetts is made up of collections of interrelated historic places and spaces where people live, work and play.

As cultural resources, the historic properties and sites in Massachusetts are both finite and non-renewable. Once destroyed, they are lost forever. Their continued value and use as amenities is therefore inextricably linked to the need to preserve and protect them. Because of this, Massachusetts has a well-established programmatic framework that incorporates historic preservation planning into the state's overall planning process at all levels - federal, state and local.

### **1. Heritage Tourism and Outdoor Recreation**

The heritage tourism concept recognizes the potential of historic resources not only as public recreation amenities, but also as economic assets around which local and regional economies can be sustained and revitalized. Heritage tourism links the preservation of historic properties and sites to both recreation and economic benefits. Massachusetts has a well-established array of major historic attractions in both public and private ownership. Cooperative efforts among public and private groups need both to sustain successful visitation areas and promote broader programs of regional heritage tourism and recreation activity.

Key components of the heritage tourism concept are the need for: funds to help maintain and restore historic buildings and sites; interpretation of historic properties for visitors; physical access to sites in compliance with the Americans with Disabilities Act; and integrated efforts to promote knowledge of the location and availability of historic properties and sites for visitation.

These efforts can only be successful with continued protection of the historic landscape through comprehensive statewide, regional and local planning policies that recognize the preservation of historic resources, and enhancement of the overall environment, is vital to the economic health and the quality of life in Massachusetts.

The subcommittee recommends that the Executive Office of Energy and Environmental Affairs (EOEA), Massachusetts Historic Commission, and the Massachusetts Office of Travel and Tourism (MOTT) hold regional workshops for historic site operators to help create regional heritage tourism networks. EOEA should also work with MOTT and the Massachusetts Highway Department (MHD) to improve access to heritage recreation sites through a program that integrates signage, maps and literature, guide books and online databases. EOEA, MOTT, and MHD should also use the State Heritage Park system as tourism and recreation information centers, and assure that all state open space and recreation facilities are listed on highway maps and tourism literature.

### **2. Partnerships**

The protection of historic properties and sites is by necessity a collaborative effort. Historic resources fall under a variety of public and private jurisdictions and ownership. Forming partnerships makes sense, both for planning efforts and for developing preservation funding mechanisms. Given continued constraints on staffing and funding at all levels of the public sector, partnerships need to be pursued to achieve shared objectives in the preservation of historic properties and sites. The opportunities for cooperation have steadily multiplied in recent years, particularly at the regional level, where special regional planning organizations have facilitated the creation of partnerships. For example, both the National Park Service's Blackstone River Valley National Heritage Corridor Commission and the Cape Cod Commission have worked to promote regional historic preservation through a variety of planning and funding partnerships.

Matching public grant programs should be used to boost private restoration of significant properties - at the state level through the revival of the Massachusetts Preservation Projects Fund and at the Federal level through TEA 21. Initiatives with the National Park Service should continue to be pursued. Where public funds are lacking, long-term lease programs that ensure restoration and maintenance, such as the DCR Heritage Stewardship Program, can be used to provide incentives for private sector involvement.

Nonprofit historic preservation, conservation, land trust and friends groups are all potential allies and should be part of efforts to maintain, interpret and acquire significant historic resources. The business community is also a potential partner, particularly through regional chambers of commerce and travel and tourism associations. Finally, the preservation of historic properties and sites by private owners has a significant public benefit. Private owner stewardship must be encouraged through education, incentives and assistance.

### **3. Public Stewardship**

The promotion of heritage tourism and the establishment of a broad array of partnerships help to fulfill the principal responsibility of public owners as stewards of significant historic and archaeological resources in Massachusetts. Historic resources are non-renewable. To fulfill their stewardship mandate for historic properties and sites, state and local governments must integrate historic preservation planning practices into overall recreation planning strategies. While providing adequate funding for staff time and project development should be a priority, where public funds are not available, seeking innovative partnerships in stewardship may prove helpful. Building an active local constituent base for specific historic properties and sites is also critical to preservation efforts. Stewardship means informed decision-making, and must be based on sound historic preservation planning practices.

All historic and archeological resources under public ownership should be identified through phased surveys, and official recognition for significant historic and archeological resources should be obtained through nomination to the National Register of Historic Places. Management strategies for the maintenance, rehabilitation and restoration of these historic properties and sites are established through policy directives and standard procedures that follow the Secretary of Interior's standards for the treatment of historic resources. The subcommittee recommends requiring historic and archeological analysis of candidate parcels and enhancing the weighting of cultural and historic values in land acquisition programs. In addition, we recommend that DEM's Historic Curatorship program be expanded and parallel programs in other agencies developed.

### **4. Public Education and Interpretation**

People want to be educated about historic resources. Moreover, they like to do it in a recreation setting. Interpretation, both in schools and out in the field, is an important goal for outdoor recreation planning. The significance of any historic resource - the story it has to tell - must be understood and appreciated by people in order for its value as a resource to have any meaning. This is in contrast to many natural resources that benefit us even if we are unaware of them. For example, we do not need to know that a woodland is absorbing carbon dioxide and transpiring oxygen in order for us to benefit. But suppose that the woods have historic significance too; they were planted by Johnny Appleseed. Unless we are made aware of this, the historic significance might as well not exist. When people understand, appreciate and enjoy cultural sites and artifacts, they are able to care about them and support their preservation.

Interpretive materials should be developed for all historic properties and sites through capital funding. Interpretive signs should be installed in every state park, with information on the historic aspects of each site. Partnerships should be developed with the Commonwealth Museum to prepare interpretive exhibits. Partnerships should also be developed with nonprofits, schools and advocacy groups to deliver educational programs that use historic resources and sites. Partnerships with research centers and institutions of higher education to further understanding, preservation, and interpretation of historic and archaeological resources are also needed.

### **Subcommittee on Wetlands**

Massachusetts enjoys a natural abundance of wetlands and has a long history of concern for and protection of these resources. Ranging from the salt marsh and estuarine systems of the coastal plain of eastern Massachusetts, to wetland systems associated with the rivers, streams, lakes and ponds of the inland regions, the state possesses approximately 1% of the nation's total wetland land-area (US NRC 1991). Unfortunately, disregard for wetlands has resulted in the loss of at least 28% (approximately 200,000 acres) of the state's wetland resources since colonial settlement (USFWS 1990).

Loss of wetlands in Massachusetts, as is true nationwide, often resulted from a poor understanding of the contributions of wetlands to wildlife protection, flood storage and damage mitigation, water quality protection, and recreation opportunity. Conversion of land for agricultural use was among the earliest causes of wetlands loss, but was eventually overtaken by conversion for residential and commercial development. The greatest losses occurred in the early part of our nation's history. While rates of loss

have slowed, Massachusetts, like many states, has a long way to go to achieve a goal of "no net loss of wetlands in the short-term and a net gain in the long-term" as established by the Massachusetts Water Resources Commission in 1990. Regulatory programs have the capability of slowing wetlands losses greatly, but cannot completely stop them or restore degraded or destroyed wetlands. Non-regulatory programs, such as EOE's Wetlands Restoration Program, must supplement regulatory actions. Wetlands acquisition, especially if coupled with wetlands restoration, is a critical component of a comprehensive non-regulatory approach. The collective and coordinated efforts of the many Federal, state and local agencies and organizations interested in protecting our nation's wetland resources is needed to achieve these goals. Most importantly, the "no net loss" goal cannot be achieved without strong citizen support.

### **1. Acquisition Priorities**

In order to assure continued progress in wetlands protection, the subcommittee recommends that the following wetlands be identified as priority sites for acquisition. These acquisition priorities have been adopted from the priority acquisition plans of the DFG and the Natural Heritage and Endangered Species Program. In addition, the subcommittee recommends adopting the WBRP list of priority candidates for restoration.

### **2. Priority Acquisition Sites**

#### Coastal Plain Ponds (sometimes called Kettle Ponds)

Located in southeastern Massachusetts and one of the rarest wetland community types, these ponds are dependent upon groundwater recharge, experiencing no inflow or outflow of water.

#### Limestone Wetlands (Calcareous Fens)

Found in western Massachusetts, limestone wetlands are characterized by a marble bedrock substrate and highly alkaline waters. These wetlands are home to a number of state-restricted species, such as the shrub birch (*Betula pumila*).

#### Atlantic White Cedar Swamps

Found in the eastern half of the state, Atlantic white cedar swamps are part of a general category of wetlands that includes bogs and acidic fens. Shielding Atlantic white cedar swamps from groundwater withdrawal and pollution can also protect them.

#### Vernal Pools

These pools, also called ephemeral pools, can be significant secondary features of acquisition projects. They are critical breeding habitat for a number of species, including state listed rare and endangered species. Although not the focus of acquisition projects, they are critical links in the wetland system and thus important to the health of the whole community under consideration for protection.

#### Emergent Wetlands

Characterized by vegetation that is rooted in water but emerging above the water surface, such as the cattail marsh.

#### River and Stream Corridors

Rivers, with their aquatic communities and their riverside communities such as sand bars, marshes and floodplain forests, support a huge component of the state's biodiversity. Natural flooding and flow must be restored wherever possible by removing dams or adjusting water management to accommodate the ecological requirements of rare species and natural communities. Further habitat degradation by dams, intensive bank stabilization, and invasion by non-native species must also be prevented.

### **3. Priority Restoration Sites**

- ◆ Wetlands and former wetlands identified in a Watershed Wetlands Restoration Plan adopted by WRBP.
- ◆ Tidally restricted former salt marshes now dominated by Common Reed or other non-salt marsh plants.
- ◆ Filled former salt marshes.
- ◆ Riparian wetlands and former wetlands within 100 meters of rivers and streams.
- ◆ Wetlands with exceptional potential value for flood storage, shoreline stabilization, wildlife habitat, or other wetlands functions.

- ◆ Wetlands and former wetlands identified as special, such as: Areas of Critical Environmental Concern, EPA Priority Wetlands, North American Waterfowl Management Plan wetlands, wetlands targeted in local open space plans, Outstanding Resource Waters.
- ◆ Restoration of rare species habitat or rare wetland communities, such as Atlantic white cedar swamps, vernal pools.
- ◆ In addition to the priorities set out above, consideration should be given to wetlands protection and restoration projects on private lands. Over 75% of the nation's remaining wetlands are on private lands, and therefore projects that protect wetlands while providing public recreation opportunities should be given consideration.
- ◆ It should be pointed out that identifying certain wetland communities as priorities does not imply that other wetland communities are insignificant or not in need of protection. To the contrary, all Massachusetts wetlands are considered priority resources for protection, but within that framework certain communities do require special attention.

## Chapter 7. POLICIES AND RECOMMENDATIONS

As a result of the policy research completed by the Technical Advisory Committee and articulated in the preceding chapter, the following policies and recommendations were adopted for the *SCORP 2000*.

Six major themes that emerged from the 2000 policy research were developed into six policy areas, and were retained for the SCORP 2006 update. Using the same policy format allowed us to clearly show the progress made on the original policies and recommendations.

Key:   ➤ Original Recommendation  
          ○ Update Information

The final section of this chapter details three new policies and recommendations based on work done since 2000. The three new policies are:

- Urban Focus on Resource Protection, Stewardship, Restoration and Enhancement;
- Innovative Tools for Land Protection; and
- Long Distance Trail Protection, Development and Issue Resolution.

<b>RESOURCE PROTECTION, STEWARDSHIP, RESTORATION AND ENHANCEMENT</b>
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<p><b>POLICY:</b> Protect Massachusetts' natural resources and their ecosystem context by maintaining connectedness of open spaces in each watershed. Achieve protection through fee simple and less-than fee measures to maximize public-private partnerships in the protection of open space lands. Strive to prevent damage from development activities and promote principles of good stewardship among all users.</p>
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- Emphasize biological diversity, watershed and ecosystem protection in natural resource planning and open space protection.
  - The new BioMap and Living Waters documents guide land conservation – to date the following acreage has been protected in priority areas:
    - 50,000 acres of BioMap “Core” habitat
    - 33,000 acres of BioMap “Supporting Landscape” habitat
    - 41,000 acres of Living Waters “Critical Supporting Watershed”
    - 43,000 acres of Priority Habitat for Endangered Species
    - 37,000 acres of Estimated Habitat for Endangered Species.
  - the Statewide Land Conservation Plan includes these two documents as well as priority areas from Watershed Teams
  - Under the new Forest Stewardship Council “Forest Certification”, forest management plans for the state’s 500,000 acres of forest land are based on “Eco Regional Assessments” that are being developed for all 14 eco regions of the state (6 are completed and posted on [www.mass.gov/envir](http://www.mass.gov/envir));
- Implement a watershed approach to open space and natural resource planning that emphasizes biological conservation and ecosystem protection and maximizes public and private partnerships to achieve protection goals.
  - Funded 5 “watershed-wide open space plans that sets open space priorities on a watershed basis;
  - Launched the new Conservation Partnership Grants which help fund Land Trust acquisitions – over two grant rounds EOEA has funded 15 grants totaling \$500,000 and helping to protect 510 acres.
  - EOEA land staff and Land Trust staff meet for a two day planning retreat each year where new initiatives are planned;
  - Launched an “Office of Public and Private Partnerships” that administers a grant program to “Friends” groups and other non-profits to help maintain parks. Through an innovative matching grant program, the state invested \$1.9 million in parks restoration projects that was matched by \$2.4 million in private and other non-state investments by more than 41 partners in 67 capital projects in 36 facilities managed by the Department of Conservation and Recreation (DCR).
- Complete ecological assessments for each of the state’s 27 watersheds to identify sensitive natural resources and the lands that buffer and connect these resources; set protection priorities based on build-out analyses, degree of threat and conservation value.



- EOEa has contracted out watershed assessment and plans over the past 4 years and has completed these documents for 24 of the 27 watersheds. In addition, water quality assessments have been completed for all watersheds.
  - The Living Waters Report is an analysis of the remaining viable rare aquatic habitat and natural communities and is based on analysis of the 27 watersheds. Priority areas include 99,000 acres of riparian areas within 330 feet of rivers and streams that support these habitats. Priorities for protection and restoration include “Core” habitat areas as well as “Critical Supporting Watersheds” which are the watershed areas that directly contribute to the “Core” habitat areas.
  - Land conservation goals increasingly focused on “degree of threat” and acquisitions focused on protecting remaining viable habitats, new outdoor recreation areas, working lands and water resources in “high growth” areas – the percentage of “connectedness” of new acquisitions to existing protected land increased by nearly 50% in the past 4 years and the number of residents within one mile of the average parcel acquired doubled during this period;
  - The Statewide Land Conservation Plan mapped 1.5 million acres as priority for future conservation. The build-out analyses completed for all 351 communities was used to determine that about 500,000 acres of this area has significant constraints to future development and is therefore a lower priority for acquisition.
- Continue to find effective and innovative methods to protect an additional 200,000 acres of open space and restore 2,000 acres of wetlands by 2008
    - To date, approximately 170,000 acres toward this goal have been protected and it is anticipated the goal will be reached by the fall of 2008.
    - To date, 49 wetland restoration projects totaling 570 acres have been completed.
  - Develop, publicize and maintain a statewide natural resource inventory and open space management plan for all EOEa open space lands
    - EOEa was awarded “Forest Certification” by the third party, independent Forest Stewardship Council for all 500,000 acres of its forests in 2004. Massachusetts is the first state to receive this designation for all its environmental forest land. As part of this designation, EOEa is required to complete natural resource inventories and management plans for all its forests. To date, inventories and natural community mapping has been completed for all its forests; Eco Regional Assessments (which guide property management plans) have been completed for 6 of the 14 regions and forest management plans have been completed for about 60,000 acres with draft plans going through public review on approximately 75,000 additional acres.
  - Encourage and provide funding for municipal Open Space and Recreation Plans that are cooperative planning efforts from multiple communities and set protection priorities on a watershed basis.
    - EOEa funded 5 watershed-wide Open Space Plans that incorporate conservation priorities across the town boundaries within the watershed.
  - Develop and publish site-specific guidelines on recreation use that permit only those recreation activities that can be accommodated without diminishing the quality of the resource.
    - DCR has undertaken a comprehensive review of off-highway vehicle use on its properties that has included an inter-state work group. The project has developed criteria to evaluate whether individual properties should allow this activity. DCR allows off-highway use on 8??? Properties and recently closed on property (Savoy State Forest) to this use due to excessive impacts caused by the activity.
    - EOEa and its agencies recently designated 50,000 acres in large Forest Reserves in 9???? Areas. These areas are set aside from timber harvesting and motorized activities except for snowmobiling on exiting designated trails.
  - Promote planning efforts and projects that incorporate the use of GIS and provide GIS training to encourage more sophisticated understanding and use GIS capabilities.
    - MassGIS has one of the strongest GIS programs in the U.S. MassGIS has a land analyst who supports the work of DCS. A great deal of progress has been made at mapping newly protected land and in utilizing new conservation tools (BioMap, Living Waters, Statewide Land Conservation Plan) in analyzing new land for protection.
    - All staff have received training in the new web-based GIS application that allows staff to view datalayers and produce maps for their use.
  - Encourage responsible use among recreation users by including information on principles of good stewardship and user policies in all educational and promotional literature.
    - Convened a working group at DCR on Off-Highway Vehicle use including user groups, environmental groups and program managers from surrounding states. Developed criteria

used to rate the appropriateness of this use on existing and potential sites. The next step is to propose changes in existing Off-Highway Vehicle use on DCR lands.

- Encourage development that protects and enhances open space systems through public benefit measures such as permanently protecting a portion of the site and open space.
  - The Coastal Zone Management Agency's Green Neighborhoods Program (website: <http://www.greenneighborhoods.org/site/Index.htm>) and the Smart Growth and Urban Environments Program of the Massachusetts Executive Office of Energy and Environmental Affairs jointly offer technical assistance to communities to develop open space residential design ordinances or bylaws that map important natural resources and site houses in an efficient and clustered manner on less sensitive areas. To date more than 20 communities, listed and mapped on the website, have adopted OSRD zoning.
  - OSRD subdivisions and transfer of development rights are further encouraged via the Office for Commonwealth Development's Commonwealth Capital Policy which provides a financial incentive to implement these zoning techniques. Under this policy, communities that have these and other smart growth techniques in place are more likely to receive grants or loans from 20 programs that distributed more than \$500 million in funding annually. Information on Commonwealth Capital can be found at <http://www.mass.gov/?pageID=ocdtopic&L=2&L0=Home&L1=Commonwealth+Capital&sid=Eocd>.
  - EOEa has produced a "Smart Growth Toolkit" that provides a model bylaw for both TDR and OSRD. In addition, PowerPoint slide shows, brochures, and other promotional materials are included to aid in passage of the zoning. The Toolkit can be found at <http://www.mass.gov/envir/sgtk.htm>.
- Publish stewardship principles and policies in all recreation literature, including maps and brochures.
- Require the assessment of impacts to designated state or local Scenic Rivers as part of the MEPA review process.
  - MEPA will be updating its regulations in the near future and this idea will be considered.
- Evaluate the impacts of non-shellfishing recreation users on shellfish resources and encourage facilities and programs aimed at reducing pollution from recreation activities, thereby reducing impacts on shellfish beds.
  - In the summers of 2000 and 2001 CZM funded a pilot bilge sock program through its Coastal Pollution Remediation Grant Program. Approximately \$50,000 was awarded to the Buzzards Bay Action Committee to purchase and distribute several thousand bilge socks. Bilge socks are designed to be put in the bilge of a boat and they are made of a material that repels water, but absorbs any petroleum products (oils and gasoline) in the bilge, thereby keeping these pollutants from being discharged to the marine environment.
  - Every September CZM sponsors and helps organize COASTSWEEP. This event encourages and facilitates beach cleanups at dozens of beaches throughout the Commonwealth. Volunteers come to the beaches and pick up debris and trash. Every year hundreds of volunteers pick up many tons of trash and debris from the beaches. Information on the types and quantities of debris is also collected and forwarded to a national database.
  - CZM assists municipalities in developing applications to EPA for designation of all or parts of their coastal waters as "No Discharge Areas". In these designated areas it becomes illegal to discharge sanitary wastes from boats to marine waters, even if the wastewater is treated by a marine sanitation device. Since 2000, two additional areas were designated as "No Discharge Areas", all of the Plymouth shoreline and the parts of Plymouth Harbor that are in the towns of Kingston and Duxbury, and the Three Bays area of Barnstable.
  - CZM compiles and publishes a list of all the boat pumpout facilities in the state on an annual basis. Thousands of copies of this list are printed on waterproof and plastic paper and are distributed to all the marinas and coastal towns in the state, who in turn pass them out to all the recreational boaters. This is done to help educate, encourage, and facilitate recreational boaters to pump out their boat holding tanks at appropriate pumpout facilities, and not dump their waste in the water.
- Assess the effectiveness of current streamflow guidelines for protection of current and potential habitat and recreation water uses.
  - The Department of Conservation and Recreation has been coordinating an effort to come up with a set of "index" streamflows for Massachusetts' rivers and streams. The primary intent of this effort is to come up with estimates of the flow patterns and volumes that would be expected in flowing waterways under natural conditions. The major use for the index streamflow numbers will be as a benchmark for evaluating the impact of existing and proposed actions that may cause a stream to deviate from its index flow levels (e.g., a shallow

streamside well that may significantly deplete flow in the adjacent stream, or a flow control structure at the outlet of a reservoir operated in a manner that may significantly reduce the flow in the downstream reach below the reservoir). These index streamflows should be ready for public review in the near future and, when finalized, will be used as guidance in the review of projects.

- Water Resources Commission staff is currently working with a Technical Advisory Committee who is advising methodology to be adopted in the development of index streamflows for the Commonwealth. Once the index streamflow have been adopted, a similar group will be convened to update the methodology and designation of the Commonwealth's flow stressed basins. To assess the effectiveness of current streamflow guidelines, EOEa, in partnership with USGS, has increased the state's stream gage network to include rivers and streams that historically have not been monitored. This will allow USGS and the state agencies to assess background flows as well as changes in flow over time.
- Establish new guidelines to protect in-stream uses.
  - In 2004, EOEa released the Massachusetts Water Policy, intended, in part, to protect and restore streamflow, habitat and recreation. EOEa and its agencies have been working to implement specific recommendations of the MA Water Policy, including the streamlining of the dam removal permitting process. While many of the Commonwealth's 3,000 dams provide important societal benefits in the form of water supply, flood control, and hydropower, many other dams are no longer serving the purposes for which they were built, but remain as decaying relics of our industrial past. Over time, these deteriorating structures can become significant safety hazards and maintenance liabilities. In addition, dams block fish passage, raise water temperatures, impair water quality and block the natural movement of sediment and debris. Dam removal can relieve owners of liability, eliminate public safety hazards, and remove barriers to fish passage. Earlier this year, EOEa convened a working group of agencies, consultants and river advocates to outline the existing process and identify opportunities for permit streamlining. EOEa is currently working with agencies to revise related policies to encourage the removal of dams. In addition, the Riverways Program has prepared The Stream Crossing Handbook and Poster, designed to inform and educate local decision makers and conservationists about the importance of properly designed stream crossings. The Stream Crossing Standards, as described in the Handbook are required as part of the Army Corps of Engineers Programmatic General Permit, and are to be used when designing new crossings on perennial streams. Every town Conservation Commission and Department of Public Works received a copy of The Stream Crossing Handbook and Poster for use in permitting, designing, and maintaining stream crossings.
  - There are a number of EOEa agency initiatives that indirectly protect in-stream uses by promoting efficient uses of water resources. The Massachusetts Water Resources Commission recently updated and approved the revised MA Water Conservation Standards, fulfilling another recommendation of the water policy. This will help to prevent wasteful use of water which, in turn, will allow more water to remain available as streamflow. EOEa and CZM are actively promoting Low Impact Development (LID). DEP is finalizing updates to its Stormwater Management Policy, which will add guidance on stormwater recharge and LID. DEP is also developing regulations for the reuse of water.
- Minimize impacts of state and municipal facilities or actions on scenic rivers and maximize protection efforts.
  - The state scenic rivers program is limited to the state designation on the North River in Southeast MA. This protective order continues to protect this river and minimize the adverse impact of state and municipal facilities or actions on it.
  - Right now there are two federally-designated scenic river segments in Massachusetts (covering a portion of the Westfield and the Sudbury/Assabet/Concord river systems) and a third currently being considered for designation (the Taunton). The adverse impact of state and municipal facilities or actions on these scenic rivers is being minimized, and protection efforts are being maximized.
  - Other activities, such as the issuance of state and local permits include provisions to protect rivers. For example, DEP has recently included aggressive water conservation measures in its Water Management Act permits and has begun to require the remove of infiltration and inflow from sanitary sewers through its NPDES program with EPA. Also, DEP is collaborating with the USGS in the development of a Sustainable Yield Estimator, which will be used to determine the amount of water naturally available as water supply as it is allocated through the permitting process.

- Increase understanding of the importance of wetland systems through education programs and discourage projects that fail to consider the wetlands system comprehensively.
  - In 2006 Mass Department of Environmental Protection issued the *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands*, which will help to identify, and then minimize, potential threats to important wildlife habitats posed by development projects.
  - The Wetland Restoration Program under the Coastal Zone Management Agency has completed 49 projects restoring 570 acres of degraded wetlands.
- Support the Watershed Initiative by encouraging projects that demonstrate consideration of natural resources and wetlands protection.
  - Unfortunately, the 20 Watershed Team Leaders for the Watershed Initiative were re-assigned in 2003 due to the state budget crisis. Although this was a serious set-back for the Initiative, EOEa did continue to fund Watershed Assessments and Action Plans via contracts with consultants over the past 4 years and now has nearly completed all the Assessments and Plans for the state's 27 watersheds. In addition, EOEa continues to fund the Watershed Improvement Grants. In the past 4 years approximately \$200,000 has been awarded to local groups to implement recommendations of the Watershed Action Plans. Further, DEP administers the Sec 319 grants, which places priority on those remediation projects which address issues raised in the Watershed Action Plans. In the past 4 years approximately \$6 million in 319 funding has been awarded across the state. EOEa participates in the selection process.
- Complete and continue to enhance wetlands mapping from orthophotography under the DEP Wetlands Conservancy Project.
  - After a ten year effort, all the wetlands in the state have been mapped by this project – a collaboration of DEP Wetlands and MassGIS.
- Enact legislation that encourages or requires inclusion of open space protection in local land use decision-making.
  - EOEa requires municipalities to complete an Open Space and Recreation Plans in order to be eligible for state grants for conservation and recreation projects. Municipalities must complete the plan to EOEa Open Space and Recreation Workbook standards. Approximately one half of the 351 communities in Massachusetts have a valid plan (plans need to be updated each 5 years).
  - EOEa provided funding for several towns to complete Open Space and Recreation Plans over the past 5 years.
  - EOEa worked in partnership with the Trust for Public Land and the Urban Ecology Institute to complete Urban Open Space and Park Assessments for 5 cities – this analysis priorities the best future park and open space projects with the most community support in the most under-served neighborhoods.
  - Since 2000, the Community Preservation Act passed into law and 110 communities have passed the act. To date, communities have spent \$55 million on conservation and recreation projects that were matched with \$53 million in state funds (raised via a deed transfer fee). This funding is in addition to funds municipalities have spent from regular operating or capital sources beyond the CPA fund.
- Strengthen the role of the 13 regional planning agencies in local land use, open space, transportation and other planning efforts.
  - EOEa worked with RPA's under Executive Order 418 to complete comprehensive open space, transportation and housing plans for 250 communities since 2000.
  - EOEa has provided over 100 "Smart Growth Grants" totaling \$3.1 million over the past three years with many of these grants awarded to RPA's to help local communities implement Smart Growth bylaws, regulations, plans and planning initiatives.
- Promote DEM's Creating Greenways: A Citizen's Guide as well as local greenway and trail guides which include an inventory of those greenways and trails already in existence and a vision for future greenways.
  - In 2001, **Commonwealth Connections a Greenway Vision for Massachusetts** was completed through a grassroots planning effort involving over 200 stakeholders statewide. This plan was distributed to constituents and is available for download at <http://www.mass.gov/dcr/stewardship/greenway/connections.htm>. This plan mapped a network of existing and planned greenways and trails statewide. The plan also calls for both Statewide and Regional priorities for greenway and trail development in Massachusetts. Statewide priorities include:
    - Protect and Promote the Long Distance Trail Corridors as the Primary Spine of the Massachusetts Greenway and Trails System

- Protect Critical River Corridors and Tributaries
  - Strategically Link Important Natural and Human Communities
  - Create a multi-use, cross state trail from Boston to the Berkshires
  - "Trail Bank" and gain access to rail and utility corridors
  - Assist the Greenway and Trails Community with Technical Assistance and Funding
  - Increase Funding for Greenways and Trails
- In 2006, ***Connections*** an e-newsletter for Massachusetts greenways and trails was launched. This monthly newsletter provide greenways and trails constituents in Massachusetts with updated information about DCR's grants and programs, but also to describe innovative tools, share success stories and serve as a forum for issues relating to greenways and trails development and management in our state.
- Encourage protection and/or retention of "ancient ways" through an emphasis on their cultural and historic values.
  - DCR has offered local officials seminars and a guide *Terra Firma: Putting Historic Landscape Preservation on Solid Ground* that helps citizens and planners research and identify "ancient ways" so that the access they provide can be protected.
- Incorporate greenways and trail systems into land use and transportation plans at the state, regional and local level.
  - The "Executive Order 418" plans completed in over 200 communities were required to connect open space and transportation priorities and many included greenways and trail planning within the transportation sections.
- Develop statewide guidance information on road abandonment and encourage cities and towns to review road abandonment procedures and work with transportation agencies to review rail line abandonment, including assessment of trail suitability and retention of public access.
- Develop programs that integrate the protection of historic resources into all management decisions by public agencies.
  - Review of cultural resources occurs on several levels. At the Department of Conservation and Recreation a staff Archaeologist reviews property management plans and certain management activities such as forest management projects involving harvesting. For example, the Western Connecticut Valley District Forest Resource Management Plan contains a nine page section on prehistoric and historic archaeological site preservation, and an inventory of resources that are listed on the State and National Registers of Historic Places. Similar sections have been incorporated into the Central and South Eastern Massachusetts BioReserves. The staff Archaeologist also reviews yearly proposed silviculture cutting plans and makes recommendations to minimize impacts to existing and potential cultural resources.
  - Cultural resource management strategies are increasingly being incorporated into DCR's Resource Management Plans (Wachusett, Chestnut Hill Reservoir, Waquoit Bay National Estuarine Research Reserve, Maudslay SP, Bristol Blake, Callahan and Cochituate SPs to name a few). In several instances the presence of known Native American burials (Mizzenmast, Mashpee), or an exceptionally significant archaeological site (Hassanamesitt Woods, Grafton) has been the criteria for purchasing land thereby insuring their protection.
  - DCR's Office of Cultural Resources serve the agency as internal consultants by reviewing the potential impacts of proposed projects within its Forest & Parks system throughout the Commonwealth, and serves as a direct liaison to the Massachusetts Historical Commission (MHC); in this manner CRM has become a daily part of Parks management. Also, staff of DCR's Office of Historic Resources offer several CRM workshops yearly to its rangers, operations and forestry personnel.
- Complete identification of historic and archaeological resources under public agency ownership and develop the necessary documentation and research to list these resources on the State and National Registers of Historic Places.
  - DCR hired UMASS Amherst to prepare and secure listing on Moore State Park (Paxton), and has recently secured a Thematic listing for its Metropolitan Highways and Parkways, and it is in the process of preparing a listing for its entire Metropolitan Parks System. Lastly DCR's archaeological and historic structure and building inventories are constantly being updated and expanded through research at the Mass. Historical Commission.

## EDUCATION AND INFORMATION

**POLICY:** Promote environmental literacy among Massachusetts' citizens, especially about the importance of protecting open space for biological diversity, ecosystem health, and human health and well-being, and support programs in environmental education.

- Incorporate into education programs the concepts of a.) biodiversity, b.) watershed protection and c.) ecosystem integrity, and the importance of open space protection to each of these three ecological goals.
  - ***Executive Office of Environmental Affairs- Biodiversity Days***  
In 2000, Massachusetts became the first state to sponsor a broad scale, citizen directed species inventory to build a database that tracks species and their habitats. This information is channeled directly to land use decision makers and conservationists, as well as to the general public. Annual events enable thousands of Massachusetts residents: young people, families, elders, amateur naturalists, and those who just want to satisfy their curiosity to become better acquainted with the world of nature – the biodiversity – to be found right outside the nearest doorway.
  - ***Massachusetts Coastal Zone Management Program's Education and Public Information Efforts***  
<http://www.mass.gov/czm/eandpi2.htm>  
Education raises awareness, and awareness affects change. To help people understand coastal issues, as well as the impact their individual actions have on the health of our coast, CZM maintains a public education and information program. Through this program, CZM produces a variety of [brochures](#), [guidebooks](#), [maps](#), and other materials to help inform and educate the public on issues that affect the coast. For example, CZM produces [Coastlines](#), an annual magazine, and [CZ-Mail](#), a monthly email newsletter. Another major CZM public outreach effort is [COASTSWEEP](#), the statewide beach cleanup that thousands of people participate in each September. CZM also sponsors [workshops](#) on a variety of coastal management topics and maintains a list of [educational resources](#). CZM's public outreach efforts are supported by the entire staff and are led by specialists in communications, public information, and graphic arts.
  - ***CZM Wetlands Restoration Program***  
[http://www.mass.gov/czm/wrp/education/education\\_overview.htm](http://www.mass.gov/czm/wrp/education/education_overview.htm)  
Education and outreach are cornerstones of successful restoration work. Whether preparing plans, developing projects, or enhancing public knowledge, WRP and restoration partners go to great lengths to inform, educate, and listen carefully to questions and concerns. Below is a summary of education efforts that are focused within two primary areas: activity-based and general public.
  - ***Massachusetts Ocean Education Guide***  
<http://www.mass.gov/czm/oceanmanagement/education/guide/>  
CZM has developed a dynamic directory of ocean education resources. The directory includes field trips, speakers, curricula, publications, parent/child interactive programs, after school programs, workshops, film/video, newsletter/periodicals, library/resource centers, volunteer opportunities, and other programs designed to assist K-12 educators in teaching about the Commonwealth's ocean resources.
  - ***Department of Conservation and Recreation - Rainfall Program***  
The Office of Water Resources maintains a network of approximately 150 precipitation observation stations operated by volunteers throughout Massachusetts. Volunteers measure precipitation daily and file reports monthly. We also maintain a precipitation database including data reported by our observers, the National Weather Service, and the Army Corps of Engineers.
- Develop a comprehensive study of the economic contributions, both direct and indirect, of open space protection and recreation opportunity and make the results available to public and private agencies to support environmental protection efforts.
  - EOEa developed an economic model that assesses the value of open space including value to the natural resource industries (tourism, forestry and farming), value to nearby housing values and indirect tax benefits to municipalities and avoided stormwater and flood infrastructure.
  - EOEa assisted the Massachusetts Audubon Society in the publication of *Losing Ground III* which assesses the "Ecosystem Value" of various types of open space.
- Engage in cooperative efforts with school groups, user groups, nonprofit organizations and other educational interests to provide opportunities for all children to experience and learn about Massachusetts' public open space and resources by designing and conducting educational programs in stewardship and resource protection at public recreation and open space sites.



- **Executive Office of Energy and Environmental Affairs - Envirothon -**  
<http://www.maenvirothon.org/>  
 The Envirothon is America's leading natural resource education program for high school students. Teams comprised of five students represent their school or organization in a statewide competition testing their knowledge of: aquatics, forestry, soils, wildlife, and current environmental issues. The Massachusetts Envirothon stresses the interdependence of various natural resources within the environment, emphasizes hands-on, team-oriented problem solving and community involvement. There are opportunities throughout the year to receive resource materials for use in the classroom, to attend workshops geared to both teachers and students, and to catch environmental professionals in action.
- **Executive Office of Energy and Environmental Affairs- Secretary's Award for Excellence in Environmental Education -**  
<http://www.mass.gov/envir/ee/>  
 For over a decade, the Executive Office of Energy and Environmental Affairs has recognized the efforts of the Commonwealth's school systems, teachers, students and community partners with cash awards to help foster and support environmental education programs in Massachusetts schools.
- **Department of Fish and Game - MassWildlife** supports a wide array of educational programs ranging from teacher training and classroom presentations to special programs on wildlife, recreation and the outdoors. Programs are designed for students, youth groups, scouts and adults.  
<http://www.mass.gov/DFG/dfw/dfweduc.htm>
- Promote enhanced and expanded interpretive and information programs at all public recreation areas and support similar programs at private recreation areas.
  - **Department of Conservation and Recreation**  
<http://www.mass.gov/dcr/educational.htm>  
**Education, Interpretation and Visitor Services**  
 The goal of Education, Interpretation and Visitor Services is to increase the public's awareness and appreciation of the Commonwealth's natural, cultural and historical resources; to present the DCR as a steward of those resources; and to foster a stewardship ethic among visitors to our forests and parks. From the Berkshires to the Atlantic Ocean, DCR hires and trains a group of professional interpreters to seasonally staff more than 50 forests and parks statewide.  
<http://www.mass.gov/dcr/stewardship/interp/interp.htm>
- Develop long-term partnerships with research centers and institutions of higher education to promote research related to the understanding, preservation and interpretation of Massachusetts' natural, historic, archaeological and cultural resources.
  - The Department of Conservation and Recreation's Historic Landscape Preservation Initiative sponsors special initiatives and offers technical assistance and training to support the preservation of historically significant landscapes throughout the Commonwealth.  
<http://www.mass.gov/dcr/stewardship/histland/histland.htm>
- Develop outreach programs targeted to youth through urban school systems to illustrate career opportunities in natural resource and recreation management.
- Provide summer job and internship opportunities for urban youth with real opportunities for building skills and developing an appreciation of natural resources.
- Fully integrate heritage tourism into statewide efforts to promote and enhance outdoor recreation and tourism activities. Consider using the State Heritage Park system as heritage tourism and recreation information centers.
  - **Department of Agricultural Resources - Agri-Tourism Farms**  
 There are currently over 250 farm attractions listed on the Massachusetts Agriculture Tourism map, along with state park or other state recreational facility information. Agri-tourism encompasses a variety of activities, including farm tours, farm vacations, farm bed & breakfast accommodations, hiking, nature study, cross country skiing, picnics, hayrides, workshops, fee hunting and fishing.  
[http://www.mass.gov/agr/massgrown/agritourism\\_farms.htm](http://www.mass.gov/agr/massgrown/agritourism_farms.htm)
- Convene professional conferences and workshops to provide technical training to agency personnel, on topics including historic preservation and park and trail maintenance, and to improve public understanding of natural, cultural and historic resource significance and availability.

- The following 90-minute workshops were offered in 2006 as part of the annual “Managing Land & Visitors” conference sponsored by The Trustees of Reservations’ Putnam Conservation Institute
  - Developing an Eye For Dirt: The Fundamentals of Trail Design
  - Hosting Visitors & Volunteers with Disabilities
  - Using Volunteers & Community Partners to Inventory Heritage & Street Trees
  - Your Time at the Helm: Leading Volunteer Boards and Committees
  - Managing Volunteers in All-Volunteer (or very small) Organizations
  - Leveraging Volunteer Efforts to Address Management, Education & Outreach Goals
  - Successful Strategies to Attract Volunteers, Gain Support, and Enhance Visibility
- Develop educational materials, including informational brochures and interpretive signs, on the natural, cultural and historic significance of all state parks, historic sites and other recreation facilities.
  - **MassGIS Educational Opportunities**  
<http://www.mass.gov/mgis/gisedu.htm>  
 Since 1998, over 350 teachers have received the MassGIS DataViewer and almost 200 have attended training sessions provided by MassGIS staff. MassGIS has distributed 20 ArcView Software packages to public schools, which allows them to create their own data. For several years, MassGIS has participated in the Massachusetts Envirothon (an environmental studies competition) by creating a thematic map for each high school team and providing staff for event planning and execution. In an effort to educate the public about the uses of GIS, during Geography Awareness Week in November, on GIS Day, MassGIS solicits map submissions from various agencies and organizes a GIS Map Gallery at the State House. As part of MassGIS’ charge, as mandated by the Legislature, the office has begun to foster and coordinate GIS activities among municipalities by providing training and data at various statewide locations to assessors, conservation commissioners, planning boards and other municipal employees.

<b>PARTNERSHIPS</b>
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POLICY: Develop productive partnerships between state agencies, the Federal government, municipalities and the private sector for acquisition, maintenance, and programming of open space and recreation resources.
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- Maximize state, municipal and nonprofit agency cooperation in the protection of ecologically important lands that are connected to maintain ecosystem integrity.
  - EOEa “Inter-agency Land Committee” and the Massachusetts Land Trust Coalition have held 4 “retreats” (1-2 days long) to strengthen this key partnership, develop mutual goals and discuss successes and challenges.
  - Increased the number of Urban Self Help grants to record levels in 2005 and 2006 and launched a new Conservation Partnership Grant program (grants to Land Trusts to purchase conservation land) and a new municipal Drinking Water Protection Grant Program (grants to water suppliers to purchase conservation land).
  - Added or expanded 4 Forest Legacy Areas and successfully partnered with Land Trusts in two “landscape level” multi-parcel projects
  - Developed the Statewide Land Conservation Plan in partnership with Land Trusts, municipalities and federal agency staff. This plan included 5 public meetings focused on recreational user groups and municipal officials as well as the general public to gain input into the regional open space priorities mapped via this process.
- Improve state and local outreach to constituencies, including user groups and friends groups and encourage direct involvement in resource research, maintenance and advocacy.
  - The Division of Conservation Services and other land conservation programs have worked closely with land trusts, municipalities, landowners and federal and foundations grants to match the \$145+ million invested in conservation and recreation projects over the past 4 years with \$150+ million in non-state funds (this does not include funds from the Community Preservation Act or its matching state deed-transfer fund which adds \$108 million more over this period).
  - The new Office of Public and Private Partnerships at EOEa has awarded grants to repair and restore parks within the Department of Conservation and Recreation’s system over the past three years. These grants, together with matching funds provided by Friends groups, other



- non-profits and private firms, have totaled more than \$6.6 million in investment in the park system.
- EOEА worked with the Trust for Public Lands, the Urban Ecology Institute and many local non-profits to complete the “Five Cities Project”. This project evaluated locations in the cities for new parks, greenways and urban gardens in the most under-served neighborhoods and included local focus groups and surveys as well as GIS analysis and field “rapid surveys” of habitat values. Once priorities were evaluated, EOEА contracted for park designs at two sites. This project matched \$70,000 in EOEА funds with \$153,000 from six private foundations received via the Trust for Public Land from private foundations and project partners.
  - Promote partnerships with private development interests, land trusts and others as alternative means of protecting open space.
    - Launched the new Conservation Partnership Grant Program which, for the first time, offers grants to Land Trusts to acquire conservation land. Over two grant rounds EOEА has funded 17 grants totaling \$500,000 and helping to protect 510 acres.
    - The Division of Fisheries and Wildlife (DFW) promulgated new Endangered Species Act (ESA) Regulations which received the support of the conservation and development communities. DFW has reorganized staff and filled eight additional positions (made possible with new ESA fees) specifically to enhance endangered species review and hold to new deadlines set in the regulations. Newly updated Priority Habitat Maps make the information more accurate and allow more efficient and thorough reviews of ESA projects. Beyond these administrative improvements the regulations were enhanced to add provisions for off site mitigation and conservation planning. This innovation allows DFW to be pro-active as the rare species of the Commonwealth cannot be preserved if we are only responding to development projects.
  - Utilize Watershed Teams to coordinate partnerships in open space protection, maintenance and programming.
    - Although the EOEА Watershed Team Leaders were re-assigned to other work areas in 2003, many Watershed Teams continue to meet and EOEА has funded Watershed Action Plans for almost all of the watersheds. These plans do incorporate open space priorities.
    - EOEА and agency land protection staff constantly work on partnerships to complete land conservation projects.
  - Create councils of sports leagues and sporting groups to promote cooperation among different sports enthusiasts, prevent user conflicts and protect the resource.
  - Promote partnerships between public and private water suppliers and recreation user groups to study the effects of increased recreation use on public drinking water supply lands and open and expand access at sites that can support it.
    - In 2000, EOEА launched an effort to add a layer of protection to municipal water supply lands and to open these lands, where appropriate, to passive recreation. EOEА completed Management Plans that studied where appropriate recreation could be offered at water supply lands administered by Springfield (Ludlow Reservoir), New Bedford, Taunton and Fall River. EOEА recorded Conservation Restrictions (CR’s) over water supply lands administered by Hatfield, South Hadley and Dalton. Legislation has passed allowing EOEА to record CR’s over water supply lands in Plymouth, Leominster, Worcester, New Bedford, Taunton and Clinton. EOEА and its agencies are working on final negotiations with these communities to record the CR’s that will include reasonable amounts of public access.
    - EOEА has completed 4 grant rounds of its new Drinking Water Protection Program which assists municipal water suppliers to purchase priority land. These grants include the requirement that the newly purchased land be open to passive recreation, consistent with drinking water supply regulations.

<b>FUNDING</b>
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<p><b>POLICY:</b> Support increased funding for open space and recreation planning, land acquisition and facility maintenance and develop and promote alternative funding measures when public funds are unavailable. Prioritize funding land acquisition that emphasized biological conservation and ecosystem protection.</p>
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- Promote local adoption of the Community Preservation Act

- Grassroots efforts have been supported by the Community Preservation Coalition and, to date, 110 communities have adopted the Act and over \$100 million has been spent on open space projects via local and state match funds (50:50 mix).
- Complete comprehensive planning that includes ecological assessment, watershed protection, open space protection and quality outdoor recreation opportunities.
  - Each of these areas have been the focus of documents completed by EOEa and its agencies since 2000 (e.g. BioMap, Living Waters, Commonwealth Connections, Watershed Action Plans, Eco-Regional Forest Assessments, etc.).
- Continue to support and bring to passage the next Open Space Bond Bill and enabling legislation for local open space revenue generation.
  - The Environmental Bond of 2002 authorized capital spending on over \$700 million in environmental priorities, including over \$200 million in open space acquisitions. This Bond was supplemented by an additional Bond in 2006 which added \$33 million to depleted authorizations for Self Help, Urban Self Help, Fisheries and Wildlife and Agriculture land acquisition and recreation projects.
  - Community Preservation Act passed in 2000 and since then has been adopted by 110 communities. Thus far, \$108 million (\$55 million in local and \$53 in state matching funds) has been spent on open space and recreation projects. The state match funding comes from a deed transfer tax.
- Support less-than-fee acquisition strategies such as conservation restrictions.
  - The use of conservation restrictions as a land protection tool have increased since 2000 to a point in Fiscal Year 2006 when more funding was allocated to CR's than traditional fee acquisition. This compares to the 1991-98 time period when CR's made up about 25% of the acquisitions. A new EOEa "CR Stewardship" effort has funded 300 "baseline documentation reports" for CR's over the past two years at a cost of \$550,000.
  - EOEa has launched several initiatives that fund natural resource management and business plans and their implementation in exchange for 5-20 year "no development" covenants and agreements on this land. Offering incentives to the private owners of the best natural resources in the state is a cost-effective method to conserve critical open space and support local economies. By supporting sustainable management of farms and working forests, we gain the commitment of private landowners to keep their land open and productive.

Program	Action	Protection Offered	Acres	# Landowners
Farm Viability	\$ to support business Plans	10-year covenants	25,498	263 farms
Forest Viability	\$ to support business Plans	20-year covenants	626	10
Forest Stewardship	\$ for forest mgt plans	10-year agreement	51,000	760
Forest Tax Law "Green Certification"	\$ for improved program monitoring	Strengthens 10-yr Commitment with Improved economics	360,000	6,000
Landowner Incentive Program	\$ for wildlife mgt Practices	10-year to permanent restrictions	4,600 - benefiting 122 species at risk	65

- Consider alternative funding sources such as dedicated user and licenses fees, tax credits, recreation sales taxes, excise taxes or tax check-offs to fund open space and outdoor recreation initiatives.
  - EOEa supported legislation drafted by the land trust community to offer tax credits for the donation of conservation land. This legislation has not passed yet.
  - EOEa is working with the Board of Directors of the Massachusetts Environmental Trust to add a new environmental license plate that would support land conservation that protects water resources. The Board has given preliminary support to this concept.
- Increase appropriation of funds for state grant programs such as the Self-Help and Urban Self-Help, advocate for increased federal funding for the LWCF and UPARR (Urban Park and Recreation Recovery) programs, and provide current information about foundation and corporate funding sources.
  - 2002 Environmental Bond included \$23 million for Self Help and \$22 million for Urban Self Help and \$8.25 million was added to Self Help and \$10 million to Urban Self Help in 2006. Spending on Urban Self Help recreation projects increased from \$11 million (1998-02) to \$21 million (03-06).

- MA was part of a national effort to increase funding for LWCF including holding a public meeting to garner support.
- EOEa and agency land projects have included increased partnerships with land trusts. Land trusts have increasingly applied for foundation and corporate funding sources which is becoming a more significant part of the \$150+ million of non-state funding that matched the \$145+ million that EOEa and its agencies spent on conservation and recreation projects over the past 4 years. EOEa's new Office of Public and Private Partnerships has issued \$2.8 million in parks restoration grants that was matched by \$3.8 million in private funds, much of this from corporate and foundation sources.
- Continue to provide state funding for projects that promote partnerships among agencies, between agencies and private organizations, and between state agencies and municipalities in land acquisition, maintenance and programming.
  - Partnership land conservation projects have increased since 2000 as more and more projects are a combination of state agency, CPA, EOEa grants and federal grants.
  - The three EOEa divisions that manage forest land have worked together since 2002 to achieve Forest Stewardship Council "Green Certification" status as of 2004. This independent certification shows that the DCR watershed and forests and parks divisions and the Division of Fisheries and Wildlife all meet the highest forestry standards in the world. This certification is the first state certification that includes all forest land under state ownership. This certification also includes the designation of 50,000 acres of the large "Forest Reserves" that represent the highest-rated large forest blocks in each of the state's major forest ecosystems. This effort was assisted by the GIS and forest ecology staff of The Nature Conservancy.
- Expand EOEa's Self Help and Urban Self Help Programs to make private nonprofit organizations eligible grant recipients.
  - The new Conservation Partnership Grant Program was passed in the 2002 Environmental Bond and EOEa has issued three rounds of grants to non-profits.
- Improve availability, accessibility, and awareness of funding assistance for land acquisition, protection, and restoration of natural, historic and cultural resources.
  - EOEa produced a comprehensive booklet describing each of its grant programs for land conservation and restoration. EOEa also produced the *Guide to Land Conservation Acquisition Programs of the Executive Office of Environmental Affairs, 2002* after it was requested by the land trust community.
- Improve citizen access to the application and decision-making for federal SAFETEA-LU funds in Massachusetts and provide training sessions on procedures and requirements for obtaining federal SAFETEA-LU funding.
  - The Recreational Trails Program provides funding support for a variety of trail protection, construction and stewardship projects throughout Massachusetts. 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. The Program is authorized and funded through the federal "Transportation Equity Act for the 21st Century" known as TEA-21. It is administered on a reimbursement basis by the Massachusetts Department of Conservation and Recreation (formerly DEM), in partnership with the Massachusetts Recreational Trails Advisory Board and the Massachusetts Highway Department. Eligible applicants include non-profit organizations, government agencies, and municipalities. Workshops have been conducted on applying funding and the application materials and outreach strategy have been revised. In 2006, 117 applications were submitted requesting \$3.7 million.
- Provide state agencies with consistent yearly funding to allow agencies to plan long-term acquisition, maintenance and programming strategies and eliminate wasteful year-end spending practices. Consider allowing state agencies to retain a portion of revenues such as fees collected at public properties.
  - EOEa has not been successful at changing fiscal year allocation timing as it is timed with the annual budget process.
- Support and expand the DFG River ways Grants program, the DCR Clean Lakes Grants, the DCR Greenways Grants program, DEP Wetlands Conservancy mapping and EOEa Wetlands Restoration Program.
- Assess and improve state policy on wastewater treatment grants and loans to favor watershed protection and protection of lands with high recreation value.
  - The new Office of Commonwealth Development has added a "Smart Growth" scorecard for each municipality applying for state grants. Grants which support wastewater facilities which

encourage growth in areas that already have infrastructure have been favored. A new comprehensive state Water Policy was developed in 2004 that included as one of its 10 key recommendations to "increase treated wastewater recharge and reuse".

- Provide funding and develop programs to support GIS development at the local and regional levels, and encourage data development and efficient data exchanges between state, regional and local entities.
  - EOEa has funded local and regional data development directly through parcel grant program (tax maps), water resources programs such as Water Assets and Water Budgets (infrastructure), Planning/Smart Growth programs (updated zoning) and most recently through MACMAPP grant program for conservation commissions (ArcGIS software and training). On request, MassGIS provides a package of free data, including imagery and free viewer software, to all municipalities who want to get started with GIS but don't have any other funding. MassGIS also has published standards, developed through consensus process, for digital plan submissions, parcels and open space mapping.

<b>ACCESS</b>
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<b>POLICY:</b> Promote improved access for the general public to open space and recreation resources throughout the Commonwealth.
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- Publicize existing incentives available to private landowners to allow public access on private lands including the Chapter 61, 61A and 61B properties, Forest Stewardship Program properties; encourage the donation or sale of conservation restrictions or access easements; and educate local assessors' offices about taxation policies of these programs to ensure assessors honor the intent of the programs.
  - EOEa co-chaired a working group with Senator Resor's staff to make the three Chapter 61 programs more landowner friendly to increase enrollment (currently at only 15% of the potential forestland that qualifies). These amendments were supported by forest and farm owners groups, the Mass. Municipal Association, the Organization of Tax Assessors and several environmental groups and land trusts. The bill has passed the Senate and is near passage in the House.
  - DCR launched an initiative to increase enrollment in the Forest Stewardship Program by mailing offers of state-funded forest management plans to over 15,000 persons owning over 700,000 acres of private forest land. As part of this effort, DCR mailed information on this initiative to the tax assessors in over 100 communities and received no complaints about this effort to increase Chapter 61 enrollment. Over the past 4 years, this initiative added 51,000 acres in 750 ownerships to the program. Approximately 2/3 of these owners later also joined a Chapter 61 program.
  - EOEa worked with The Nature Conservancy and other land trusts in an effort to pass a state tax credit for the donation of conservation restrictions. This bill will be re-filed in the winter of 2007.
- Provide access to open space, recreation, and historic properties and sites in accordance with the Americans with Disabilities Act (ADA).
- Enhance conservation and recreation grant rating systems to reward communities that have enhanced universal access provisions.
- Produce and distribute comprehensive guides to existing open space and recreation resources that include information on the policies in effect at the site, and appropriate stewardship for visitors.
  - DCR produced a comprehensive map of its parks and state forests with information on facilities and use regulations. The Department of Agriculture produced an "eco-tourism" state map that lists farms and forests offering activities and direct-sales to the public. DFW produced a guide new revised guide to *Public Access to the Waters of Massachusetts* which outlines its "public access sites" around the state. The Office of Coastal Zone Management produced a *Massachusetts Coast Guide to Boston Harbor and the North Shore*.
- Strengthen the role of the DFG Public Access Board (PAB), update and distribute their publication, *Public Access to the Waters of Massachusetts*, and along with other agencies, develop similar publications for land resources.
  - See previous recommendation.
- Complete a comprehensive River Access Guide to the state's 27 major watersheds.
  - The Riverways Program assisted the Appalachian Mountain Club in their writing of the 3<sup>rd</sup> and 4<sup>th</sup> editions of the *AMC River Guide: Massachusetts, Connecticut and Rhode Island* – the latest published in 2006.

- Build cooperative programs to improve public identification of, and access to, open space and recreation sites through a program that integrates signage, maps and literature, guide books and online computer database systems.
  - The Department of Conservation and Recreation (merged in 2003 via legislation from the former Metropolitan District Commission and the Department of Environmental Management) has adopted one set of signage, logo, etc. and is implementing this throughout the combined DCR system.
- Require public agencies, and encourage the private sector, to ensure public safety on public and private lands by hiring sufficient staff, conducting regular patrols, and posting any rules, regulations and warnings.
- Develop and sponsor workshops and distribute written material to educate private landowners about issues involving public recreation use of private lands.
  - Nonprofit organizations such as the Highlands Community Initiative (in Western Massachusetts) and the Putnam Conservation Institute, sponsored by The Trustees of Reservations have conducted workshops and seminars in addition to programs provided by EOEA and its agencies.
- Work with transportation agencies to improve public transportation to open space and recreation sites, paying particular attention to linking urban centers with suburban and rural resource areas.
- Implement design, programming and education initiatives to encourage universal access, including bilingual signage policy.
  - The Department of Conservation and Recreation's Universal Access Program, has continued to improve and expand accessible outdoor recreation facilities and programs. There is a real commitment within the Department to making sure that visitors of all abilities in the Commonwealth have the opportunity to recreate in Massachusetts State and Urban Parks. Sparked by a sincere commitment to move beyond the minimum requirements of the Americans with Disabilities Act, the DCR has made great strides in finding innovative ways to open the experience of outdoor recreation to everyone.
  - Since the year 2000, numerous construction projects have been undertaken to improve accessibility to open space. In addition to improving basic access to parking, restrooms and accessible routes, the Department has created accessible trails, accessible fishing sites, camping sites, picnicking areas as well as access to cabins and yurts, ramps, boardwalks and other paths to access the water, accessibility improvements to 1930s era CCC constructed park buildings, as well as other site-specific access.
  - Thanks to grant funding from the U.S. Department of Education and Project Inspire, The Universal Access Program has been able to expand its wide range of accessible recreation equipment and its ability to hire trained adaptive recreation leaders so that today, the DCR offers more than 130 programs each year across the state. People with disabilities can experience outdoor recreation opportunities, such as cross-country skiing, snow shoeing, accessible sled skating, cycling, canoeing, kayaking, rowing, fishing, camping, accessible birding and horseback riding. As the UAP continues to move forward, 2007 will see the beginning of an accessible sailing program in the metropolitan Boston area on DCR property, better access to the beach at Nantasket Beach, new accessible fishing sites at D.A.R. State Forest, and more accessible campsites, to name a few.
- Develop partnerships with private transportation companies to provide access to open space and recreation sites outside of urban areas when public transportation agencies are unable to improve access.
- Improve public access to Massachusetts' coastal areas through support of the CZM access programs, DCR Sea path program, DEP waterways regulations affecting access, and continued land acquisition efforts.
  - **Seapaths:** In 1991 the Massachusetts legislature enacted a law authorizing the Department of Conservation and Recreation (DCR) to acquire for the public, using the power of eminent domain, the right to walk from dawn to dusk within the intertidal portion of privately-owned shorefront properties. Realizing the full potential of this "Seapath" legislation depends to a large extent on the cost of obtaining the necessary easements, and several years ago DCR recognized the limitations of conventional appraisal techniques and sponsored preliminary research to develop a special methodology for the valuation of intertidal strolling rights. Although instructive as a "first cut" at the problem, the results were inconclusive and the acquisition program has been suspended indefinitely as a result.

CZM has previously contracted with a resource economist to help review prior work products and other relevant documents, including appraisal data from recent Seapath and other trail-

related projects. This review succeeded in identifying an innovative strategy for valuation together with the additional field data that needs to be collected to support the development of a more appropriate appraisal methodology. Having successfully completed the pilot phase of this project, CZM hopes to secure the services of a resource economist and a real estate appraisal firm to work in partnership on the development of a new technique for determining the value of beach strolling rights. Currently, the lack of a credible methodology for establishing the fair market value for public strolling rights has severely discouraged seapath acquisition initiatives.

- **DEP Waterways Regulations Access:** Pursuant to regulations promulgated in 1990, virtually every license DEP issues for shorefront property development includes conditions that establish a lateral accessway at the water's edge for public pedestrian use (and, frequently, connecting "radial" accessways as well). Since 1866, the Massachusetts Wetlands and Waterways Program has issued well over 20,000 licenses and permits, many of which include conditions related to coastal access under Chapter 91. All this information is currently available exclusively on paper, and therefore is buried in mountains of agency paperwork and license language.
- **Land Acquisition Efforts:** In the last ten years (1995-2005), information provided in the MassGIS Protected and Recreational Open Space Datalayer reveals no significant increase in the pace of acquisition, with a combined total of approximately 12 miles of new frontage (and nearly 1000 acres in aggregate area) having been purchased by state, federal, and municipal governments, together with a variety of local and regional land conservation organizations. Accordingly, roughly three-quarters of the Massachusetts coast -- more that 1100 miles in total -- remains in private hands and is generally "off-limits" to the public-at-large. Along beach shoreline the degree of privatization is even higher, as four of every five miles (80%) is privately-owned -- all the way down to the low water mark. In March of 2006 CZM completed a Coastal and Estuarine Land Conservation Plan that identified the state's general land conservation priorities within the coastal communities. This plan is currently under review by NOAA, and will serve an important role in allowing the state to pursue future NOAA land acquisition funding opportunities.
- **Other Access Related Efforts:** In Fall, 2004 CZM published the second, expanded edition of *The Massachusetts Coast Guide: Access to Public Open Spaces Along the Shoreline of Greater Boston Harbor and the North Shore*. The document includes 22 full-color maps showing the location of nearly 400 individual properties, together with brief descriptions of each site and appendix material listing both public transit and water transportation services.

Another major access undertaking at CZM during the 90s was to establish an electronic "State Register of Protected Coastal Accessways", to keep track of all shoreline access entitlements that have been secured for the public not only through outright public and quasi-public ownership of land, but also in the form of easements, rights-of-way, c. 91 license conditions, or other encumbrances on private shorefront property. The process of building the Register database began in 1995 with the completion of an inventory of all publicly accessible coastal properties owned by federal, state, and local governments and by non-profit conservation organizations from Newburyport to Hull. During 2005, fieldwork to collect information on such public access sites along the remainder of the coast has accelerated with the hiring of a full-time contract employee. With the assistance of MassGIS staff, the Register is being reconstituted as a subset of the Protected and Recreational Open Space datalayer, and is being posted on the internet through the On-Line Mapping Service of MassGIS. Our goal is to become a clearinghouse for one-stop shopping for information on coastal trails anywhere in the state.

- Encourage utilities (water, sewer, electrical, pipeline, communication and railroads) to support or provide public access to their right-of-way corridors.

<b>MAINTENANCE</b>
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<b>POLICY:</b> Ensure proper maintenance of all open space and recreation resources and encourage innovative ways of funding maintenance budgets.
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- Encourage productive partnerships with volunteer organizations, such as adopt-a-trail, friends groups, youth groups, corrections workers, etc.; sponsor maintenance training workshops for volunteer organizations and agency staff and develop a handbook of construction and maintenance standards to assist state agencies with maintenance programs.
  - DCR has funded trail maintenance projects and construction training through its Greenways and Trails Demonstration Grants program. DCR is also drafting a Cape Cod Rail Trail maintenance manual to serve as a model for rail trail maintenance.

- Consider alternative methods of financing maintenance budgets such as creating maintenance endowments for each new acquisition.
  - With the state budget crisis of 2003-4, it was difficult to create or maintain “dedicated funds” for parks maintenance as many existing funds were needed to help the budget crisis. DCR did one pilot project where instead of the agency acquiring the park parcel in fee, DCR acquired a conservation restriction and via an agreement with the landowner set aside a portion of the acquisition cost for a maintenance endowment. The landowner later donated the fee portion of the land to the Trustees of Reservations who are now able to maintain the parkland via this endowment. While extremely complicated, this method should be utilized in future acquisitions, where possible.
- Support and expand DEM’s Historic Landscape Preservation Program and develop parallel partnership programs in other agencies as well as partnerships in historic property maintenance and interpretation, where appropriate.

While continuing to make progress toward the above recommendations will be an important part of the 2006 SCORP, the following recommendations are being added as new priorities based on work done since 2000:

<b>URBAN FOCUS ON RESOURCE PROTECTION, STEWARDSHIP, RESTORATION AND ENHANCEMENT</b>
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<b>POLICY:</b> Improve the quality of life of our 51 cities by providing new parks and renovating parks in poor repair, especially in neighborhoods under-served for parks and with high percentage of young residents.
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- Adjust the project rating system in appropriate grant programs (i.e. Urban Self Help and the Land and Water Conservation Fund) to reward applications for the creation of new parks and the rehabilitation of unusable parks, especially including new playgrounds, in under-served neighborhoods.
- Coordinate with Brownfield programs to increase the number of brownfield to parks projects and increase the amount of parks in other brownfield development projects in neighborhoods under-served with parks.
- Develop a model to quantify the economic and quality of life benefits for specific land parcels proposed for parks or greenways in urban areas.
- Develop grants that assist in the creation and builds capacity of urban land trusts.
- Evaluate whether a new category of the current Areas of Critical Environmental Concern (ACEC) designation could be developed specifically for the best remaining urban “wilds”.
- Incorporate the key techniques used in the “Five Cities Urban Open Space Assessment” project into the Open Space and Recreation Plan Handbook.
- Incorporate more detailed plans for conservation of urban open space in the Statewide Land Conservation Plan.

<b>INNOVATIVE TOOLS FOR LAND PROTECTION</b>
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<b>POLICY:</b> Create innovative tools to meet long-range land conservation goals included in the Statewide Land Conservation Plan.
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- Continue to implement a new “land/water” license plate via the Massachusetts Environmental Trust to assist in the conservation of “water-rich” land.
- Pursue state tax credits for the donation of conservation land and landowner investment in Forest Management Plans.
- Work to pass the amendments to the Chapter 61 programs supported by a coalition of landowners, tax assessors, forestry and farm organizations and environmental organizations.
- Pursue a state tax credits that support investment in renewable forestry and farm businesses (via the Farm and Forest Viability Programs) and also support conservation restrictions over working farms and forests that support these sustainable businesses.
- Pursue a 2-year capital budget for more efficient use of state capital funds for land conservation.
- Implement a “simplified method” for assessing damages at state-listed contaminated sites so that compensation can efficiently move to protecting important water supply recharge areas.
- Work to designate important open space on state-owned institutions for permanent conservation via legislation.
- Amend the Statewide Land Conservation Plan to include updates to BioMap, Living Waters, urban priorities and other new priorities.



- Utilize federal grants and programs and private foundation funding to protect “landscape-scale” conservation projects.
- Pass a new Environmental Bond to fund future land conservation and parks restoration that includes authorizations for all line programs and adds:
  - A new “Working Forest” easement program
  - A new program which funds brownfield assessment, clean up and park development in one grant
  - A new “renewable energy” CR authorization that would purchase land for natural resource and park purposes while allowing wind energy development that does not impact sensitive resources and dedicates energy revenue to land conservation and parks restoration
- A new Executive Order to require state funded projects or those requiring state permits would have a “no net loss” of drinking water supply priority land and prime forest areas (similar to E.O. 193 that covers active farmland)
- Dedicate state timber revenues for working forest programs and land conservation
- Expand the use of the Farm and Forest Viability Program and the Forest Stewardship Program to foster innovative local sustainable agriculture and forestry and to move land towards permanent conservation.

<b>LONG DISTANCE TRAIL PROTECTION, DEVELOPMENT AND ISSUE RESOLUTION</b>
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POLICY: Work to complete the protection and development of key long distance trails and resolve trail use impacts.
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- Convene two conferences with a wide range of interests to draft an action plans to complete the Bay Circuit Trail and the Mass. Central Rail Trail and begin implementing these plans
- Implement a policy for the use of Off Highway Vehicles on state lands that is based on sound natural resource principles and realistic education and enforcement capabilities.
- Update the Commonwealth Connections Vision Map and Priorities.
- Enhance the efficiency and effectiveness of the Recreational Trails Grants program to better serve the public.
- Increase the number of paved recreational trail miles developed over the next five year, especially those accommodating multiple modes (walking, biking, in-line skating) and universal access.
- Make the *Creating Greenways: A Citizen’s Guide* available on the web.

## Chapter 8. CONCLUSION

The Statewide Comprehensive Outdoor Recreation Plan (SCORP), *Massachusetts Outdoors 2006* presents the available supply of open space and recreation in Massachusetts, engages in an examination of demand for resources and recreation opportunity, provides a discussion of pertinent resource issues, assesses recreation needs throughout the state on a region by region basis, and issues policy recommendations. The combined strength of these components supports SCORP's planning mandate to serve as Massachusetts' comprehensive open space and outdoor recreation plan for the next five years.

From a review of the survey and inventory data and the policy discussions, a set of issues emerged which were common to all of the resource categories. These issues have been used as the framework for the recommendations of this report. The six major issues are: Resource Protection; Planning and Enhancement; Education and Information; Partnerships; Funding; Access and Maintenance. In addition to these original six issues, the following three were added for the 2006 update: Urban Focus on Resource Protection, Stewardship, Restoration and Enhancement; Innovative Tools for Land Protection; and Long Distance Trail Protection, Development and Issue Resolution.

This plan provides important insights into Massachusetts' open space and recreation needs and will help focus attention on critical issues through the planning efforts of open space and recreation providers and the distribution of funds through grant decisions.

The most critical step in the SCORP process is the implementation of recommendations and strategies. The key element of any successful planning effort is focused, aggressive implementation. The *SCORP 2006* plan sets forth a series of innovative policies and recommendations and strategic needs assessments. The Executive Office of Energy and Environmental Affairs is committed to ensuring these policies and recommendations are promoted and achieved.

Ultimately, this plan serves the people of Massachusetts and therefore cannot be truly effective without the support and encouragement of the public - of anyone who treasures open space and recreation opportunity. The Executive Office of Energy and Environmental Affairs invites the residents of Massachusetts to join in its efforts to promote the ideas presented in the *SCORP 2006* and help to ensure the protection of our environmental legacy.

## Resources and References: State and Federal Contact List

### COMMONWEALTH OF MASSACHUSETTS

- **Department of Housing and Community Development**

Provides planning and community development consulting services, and information on the Community Preservation Act.

[www.state.ma.us/dhcd](http://www.state.ma.us/dhcd)

One Congress Street, 10th Floor

Boston, MA 02114

Phone: (617) 727-7001

- **Executive Office of Administration and Finance**

Division of Capital Asset Management provides information about all state-owned land located within a municipality.

[www.state.ma.us/cam](http://www.state.ma.us/cam)

One Ashburton Place

Boston, MA 02108

Phone: (617) 727-4050

Fax: (617) 727-5363

- **Executive Office of Energy and Environmental Affairs (EOEA)**

EOEA includes the following environmental offices and agencies. Information on EOEA initiatives available online include Community Preservation, Open Space Protection, Biodiversity, Environmental Education, Pollution Prevention and the Watershed Initiative.

[www.state.ma.us/envir](http://www.state.ma.us/envir)

100 Cambridge St, Suite 900

Boston, MA 02114

Phone: (617) 626-1000

Fax: (617) 626-1181

- **Office of Technical Assistance for Toxics Use Reduction**

A non-regulatory branch of EOEA helping manufacturers and industrial facilities, municipalities, schools, and hospitals, households and others reduce or eliminate their use of toxics and generation of hazardous byproducts.

<http://www.mass.gov/envir/ota/>

Phone: (617) 626-1060

- **Division of Conservation Services**

Awards grants to municipalities for conservation and parkland acquisition, and for the development or renovation of public outdoor recreation facilities. Also provides technical assistance to groups for the preparation of Open Space and Recreation Plans, and to municipalities, land trusts, and private landowners on the Secretary's approval of conservation restrictions.

<http://www.mass.gov/envir/dcs/default.htm>

Phone: (617) 626-1010

- Land and Water Conservation Fund – grants to municipalities and EOEA agencies for the acquisition of conservation land or parkland, and for the renovation or development of public outdoor recreation facilities.
- Self-Help Grant Program – grants to municipal conservation commissions for the acquisition of conservation land.
- Urban Self-Help Program – grants to municipal park departments for the acquisition of parkland and/or the renovation or development of public outdoor recreation facilities.
- Conservation District Offices provide technical and financial assistance to landowners and offer environmental education programs. Their services are coordinated with DCS and the USDA Natural Resource Conservation Services (see below under Federal Agencies) to help landowners manage their natural resources, practice state of the art agricultural methods, and remedy soil and water erosion problems. Contact the Executive Secretary to the State Commission for Soil, Water and Related Resources at (617) 626-1013 for your district office.

- **Coastal Zone Management**

Provides technical assistance to municipalities, and programs such as the Harbor Planning

Program promoting sustainable development in these vital economic areas.

[www.state.ma.us/czm](http://www.state.ma.us/czm)

251 Causeway St., Suite 900

Boston, MA 02114-2119

Phone: (617) 626-1200

FAX: (617) 626-1240

- **MassGIS**

<http://www.state.ma.us/mgis/massgis.htm>

251 Causeway St., Suite 900

Boston, MA 02114-2119

Phone: (617) 626-1000

Fax: (617) 626-1249

- **EOEA: Department of Conservation & Recreation**

[www.mass.gov/dcr/](http://www.mass.gov/dcr/)

251 Causeway St., Suite 900

Boston, MA 02114-2104

Phone: (617) 626-1250

- **Area of Critical Environmental Concern Program**

<http://www.mass.gov/dcr/stewardship/acec/index.htm>

Identifies and analyzes critical resource areas for designation as Areas of Critical Environmental Concern (ACEC).

- **Greenways and Trails Programs**

<http://www.mass.gov/dcr/stewardship/greenway/>

Plans for and coordinates protection of Massachusetts greenways, trails and rivers; includes grants program.

- **Lakes and Ponds**

<http://www.mass.gov/dcr/waterSupply/lakepond/lakepond.htm>

Ongoing lake quality monitoring for DCR and other public lakes; public education, workshops, technical assistance, small grants; contract supervision of the Clean Lakes projects.

- **Historic Landscape Preservation Grant Program**

<http://www.mass.gov/dcr/stewardship/histland/instruct.htm>

Provides grants and technical assistance for the preservation of municipally owned historic landscapes listed or eligible for listing on the State or National Register of Historic Places.

- **EOEA: Department of Environmental Protection**

[www.state.ma.us/dep](http://www.state.ma.us/dep)

1 Winter Street, 2<sup>nd</sup> Floor

Boston, MA 02108

Phone: (617) 292-5500

- **Wetlands Protection Program**

<http://www.mass.gov/dep/water/resources/wetlands.htm>

- **Network of Home Composters**

<http://www.mass.gov/dep/recycle/reduce/composti.htm>

- **Drinking Water Program**

[www.mass.gov/dep/water/drinking.htm](http://www.mass.gov/dep/water/drinking.htm)

- **EOEA: Department of Fisheries, Wildlife and Environmental Law Enforcement**

[www.state.ma.us/DFG](http://www.state.ma.us/DFG)

251 Causeway Street, Suite 400

Boston, MA 02114-2104

(617) 626-1500

- **Massachusetts Riverways Programs**

Staff provides technical assistance and outreach to communities, citizen groups and others on various aspects of river, stream and watershed protection, restoration and stewardship. Visit online for information on the Adopt-A-Stream Program and the River Restore Program.

[www.state.ma.us/DFG/river](http://www.state.ma.us/DFG/river)

- **Massachusetts Natural Heritage and Endangered Species Program:**

<http://www.mass.gov/DFG/dfw/nhosp/nhosp.htm>

- **EOEA: Department of Agricultural Resources (DAR)**

Contact the Bureau of Land Use for information on the Agricultural Preservation Restriction Program which protects prime farmland, and the Farmland Stewardship Program which leases state owned farmland to local farmers statewide.

[www.mass.gov/agr/](http://www.mass.gov/agr/)

251 Causeway Street, Suite 500

Boston, MA 02114

Phone: (617) 626-1700

Fax:(617) 626-1850

- **Massachusetts Historical Commission**

This is the state historic preservation office that identifies, evaluates and protects the Commonwealth's important historic and archaeological resources.

[www.state.ma.us/sec/mhc](http://www.state.ma.us/sec/mhc)

220 Morrissey Boulevard

Boston, MA 02125

Phone: (617) 727-8470

Fax:(617) 727-5128

TCC: 1-800-392-6090

- **University of Massachusetts at Amherst**

- UMass Extension State Offices and programs including Natural Resources and Environmental Conservation are online at [www.umassextension.org](http://www.umassextension.org).

- The Center for Rural Massachusetts is online at

[www.umass.edu/ruralmass](http://www.umass.edu/ruralmass)

## **FEDERAL AGENCIES**

- United States Department of Agriculture, Natural Resources Conservation Service

Provides technical information pertaining to the conservation of soil, water and related natural resources.

[www.ma.nrcs.usda.gov](http://www.ma.nrcs.usda.gov)

451 West Street

Amherst, MA 01002

Phone: (413) 253-4351

- United States Department of the Interior

- ◆ National Park Service online at [www.nps.gov](http://www.nps.gov).

- ◆ River and Trail Conservation Assistance Program online at [www.nps.gov/rtca](http://www.nps.gov/rtca)

- ◆ Urban Park and Recreation Recovery Program UPARR: [www.ncrc.nps.gov/uparr](http://www.ncrc.nps.gov/uparr)

National Park Service

Northeast Region

US Customs House

Stewardship and Partnership

200 Chestnut Street

Philadelphia, PA 19106

Phone: (215) 597-9195

## **Acknowledgements**

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Dominique Pahlavan, MassGIS Open Space Data Layer Coordinator

Kathleen Baskin, EOEA Water Policy

Paul Jahnige, DCR Greenways and Trails Program

THE TECHNICAL ADVISORY COMMITTEE MEMBERS for *Massachusetts Outdoors 2000*

Tom Anderson Division of Conservation Services	Karl Honkonen Executive Office of Environmental Affairs	Markus Pinney Lexington, MA
Joan Blaustein Metropolitan Area Planning Council	Barbara Hopson Department of Food and Agriculture	Andre Pomerantzeff Massachusetts Department of Revenue
Peter Brandenburg Department of Environmental Management	Jennifer Howard Department of Environmental Management	Brian Shanahan Department of Environmental Management
Gary Briere Department of Environmental Management	Ellen Lipsey Boston Landmarks Commission	Michael Steinitz Massachusetts Historical Commission
Russ Cohen Department of Fisheries, Wildlife, and Environmental Law Enforcement	Pat Loring Massachusetts Association of Conservation Commissions	Gail Swett Yeo Department of Environmental Management
Kate Crosby Newton, MA	Russ Lopez Environmental Diversity Forum	Bob Walker American Canoe Association
Dan Driscoll Metropolitan District Commission	Andrea Lukens Department of Environmental Management	Wesley Ward The Trustees of Reservations
Dennis Ducsik Coastal Zone Management	Tom Mahlstedt Metropolitan District Commission	Robert Wilber Department of Environmental Management
Marcia Ferro	Carrie Marsh The Conservation Fund	John Woodward Brookline Planning Department
Michael Freshour Executive Office of Environmental Affairs	Myra Berloff Massachusetts Office on Disabilities	Chris Curtis Pioneer Valley Planning Commission
Larry Gall National Park Service	Victor Mastone Executive Office of Environmental Affairs	Dennis Finn Cape Cod Commission
Aldo Ghirin Boston Department Parks and Recreation	Gary McCabe Massachusetts Department of Revenue	Christy Foote-Smith Executive Office of Environmental Affairs
Andy Goode The Nature Conservancy	Daniel Monahan, Concord Department of Natural Resources	Bob Heald U.S. Army Corps of Engineers
Chris Greene Department of Environmental Management	Kevin O'Brien, Arlington Department of Planning and Community Development	Bob Hicks Mountain Bike Association
Mary Hayes MA Office of Travel and Tourism	Jim O'Connell Cape Cod Commission	Sarah Korjeff Cape Cod Commission
Steve Henry Massachusetts Division of Fisheries and Wildlife	A. David Palmer, Jr. Barnstable Planning Department	John Potter Martha's Vineyard Landbank
Marilyn Hilliard Executive Office of Environmental Affairs	Bill Perry Massachusetts Trail Riders Association	William Scanlan Central Massachusetts Regional Planning Commission



## **Appendix A: Summary of Natural Resource Policy Documents Completed Since 2000**

Since publishing *Massachusetts Outdoors 2000*, the Executive Office of Energy and Environmental Affairs and its agencies have produced several policy documents that are relevant to this update. The following is a brief summary of those documents including the key recommendations that have been incorporated into the 2006 SCORP.

<b>1.</b>	<b>The Statewide Land Conservation Plan.....</b>	<b>146</b>
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## **1. The Statewide Land Conservation Plan**

By: EOEA et.al.

Draft Report: 2003

### **Background**

The idea for a shared land conservation strategy for Massachusetts was a recommendation of policy documents from the late 1990's such as *A View from Borderland* and the Tower Hill Land Conference Proceedings. With development occurring on 16,000 acres per year and permanently fragmenting thousands of acres more, many conservation practitioners felt the time for drafting and implementing such a vision had arrived.

### **Developing the Plan**

In the spring of 2001, EOEA land staff teamed up with nonprofit and government partners to develop a statewide land conservation plan that would *set clear land protection goals and guide the land conservation efforts of all partners*. It was clear that only by working together could we hope to leave a legacy of conservation that preserves the valuable natural resources, community character and quality of life we enjoy in Massachusetts. Over a period of eighteen months, a volunteer Task Force of 33 persons from Massachusetts land trusts, conservation commissions, watershed associations, state and federal natural resource agencies, and regional planning agencies collaborated to identify the highest priority open space areas needed to protect a connected network of the most important water resources, biodiversity habitats, working farms and forests, urban parks, and outdoor recreation areas.

The Task Force was supported by extensive work from MassGIS staff. More than 30 science-based and peer reviewed plans and resource-related maps were digitized and overlaid. The Task Force agreed on a method that required three or more maps to coincide on a specific area in order for that resource to be considered of statewide or regional significance (and therefore, to be included in the Plan). The process of creating the map was further guided by a review of 30 municipal open space plans representing the most innovative land conservation plans for urban, suburban and rural communities. Finally, the Plan received in-depth input from municipal officials and recreational user groups at five public meetings held across the state.

### **Results**

The Massachusetts Statewide Land Conservation Plan (the "Plan") maps 1.5 million acres of the most significant open space land, representing about one-half of the unprotected, undeveloped land in the state. Of these 1.5 million acres, approximately 1 million acres have been classified as "developable" by the Build-out Analyses done by EOEA for Massachusetts' 351 cities and towns, and are therefore at the greatest risk of being lost. *The goal of EOEA and its partners is to protect these 1 million acres containing the natural resources of highest statewide significance using a variety of land conservation tools over the next 20 years.* A key part of this goal is also to foster the protection of natural resources of *local* significance on the remaining two million acres.

Over the next 20 years (the timeframe agreed upon by the Task Force) we will use the Plan to guide our protection of the half of Massachusetts' available land that will best protect our water supplies, biodiversity, urban parks, working farms and forests, and best outdoor recreation sites. Where possible, these 1 million acres should preserve connections to the one-half million acres mapped in the Plan that are undevelopable due to environmental constraints (ledge, steep slope, wetland, etc.).

Many states have a "one million" acre goals (e.g., New York, Florida, New Hampshire and New Jersey among others). The Massachusetts Statewide Land Conservation Plan is unique in that it is a collaborative effort of all the land conservation partners and was developed using all the available science-based maps and studies. Massachusetts' Plan is also unique in that it sets strategies for using all the tools in the conservation toolbox and links state grant programs to communities' progress toward "smart conservation" and sustainable development.

**Recommendations:**  
**Goals for Permanent Land Protection Tools**

<i>Tool or Partner</i>	<i>Acres/Year Goal</i>	<i>Activity</i>	<i>Funds Needed/Year</i>
State Bond Funds	23,000	Spend Env. Bond over 3 years	\$65 million
Gifts (all partners)	6,000	General campaign and focused regional and local efforts with all partners – educate towns, solicit gifts on land abutting conservation land, trade lands	\$500,000 for focused regional/ local efforts to increase gifts.
Land Stamp	1,300	Average for past several years	Dedicated land stamp – also investigate expanding license plate for land conservation
Land Trusts	11,750		
Federal Land Acquisition (federal ownerships and grants to assist partners)	2,000	Set up federal funding committee – expand applications, encourage National Forest, etc. First five years, then 6,000 acres per year for last 15 years.	
Mitigation (ESA, MEPA projects, highway projects, etc.)	2,000	New state Endangered Species Act and MEPA review require mitigation on a regular basis	
Protection of “Surplus” State Institutional and Highway lands	800	Goal of 8,000 acres over 10 years by working with agencies directly via legislation and inter-agency committee via DCAMM.	
General Municipal to Conservation land	1,500	Technical assistance for tax title, possibly leverage PILOT and Local Aid payments	\$150,000
Transfer Development Rights	No goal set	Work with 15 towns that have bylaws (two currently active)	State staff technical assistance to towns
Cluster Development	1,500	Tech assistance to towns with bylaws; get Art. 97 protection	\$150,000
CPA	1,000	Commun. Pres. Comm. education	State staff technical assistance to towns
<b>TOTAL</b>	<b>50,850</b>		<b>\$65,800,000</b>

**Goals for Temporary “Land Holding” Tools**

<i>Tool or Partner</i>	<i>Acres/Year Goal</i>	<i>Activity</i>	<i>Funds Needed/Year</i>
ACECs	10,000	Technical assistance with new potential areas.	\$100,000
Forest Stewardship	20,000	Direct outreach for funding forest plans with 10 year “no development” commitments	\$200,000
Farm Viability	1,000	Farm business plans with 10 year “no development” covenants	\$1,00,000
Forest Viability	10,000	Forest business plans with 10 year “no development” covenants	\$1,000,000
<b>TOTAL</b>	<b>41,000</b>		<b>\$2,300,000</b>



## **2. BioMap: Guiding Land Conservation for Biodiversity in Massachusetts**

By: Natural Heritage and Endangered Species Program, Mass. Div. of Fisheries and Wildlife

Published: 2001

### Executive Summary (excerpts from the Report):

The biodiversity of Massachusetts is under great threat, primarily from habitat degradation caused by the rapid rate of development occurring within much of the state. This threat signals the need for a statewide, science-based, strategic land conservation map. The BioMap project was conducted by the Natural Heritage and Endangered Species Program to identify and map the areas most crucial to protecting the state's biodiversity.

The BioMap was created through a systematic evaluation of over 7,000 site-specific records of rare plants, rare animals and natural communities, collected over the past 22 years in the Natural Heritage database. Natural Heritage scientists transformed these data into the BioMap by identifying and mapping the most viable rare species habitats and natural communities, collectively termed "Core Habitat" areas. The BioMap also includes large, minimally fragmented "Supporting Natural Landscape" areas that safeguard the Core Habitat while also including habitat for the common species of Massachusetts.

The BioMap identifies those areas of Massachusetts most in need of protection to conserve biodiversity for generations to come. This geographic data layer has been made widely available to cities and towns and conservation organizations for conservation planning. When used to guide protection planning and conservation actions, this vision for Massachusetts' natural landscape will help protect the key land base that supports the breadth of the state's biological diversity.

### Recommendations:

The key findings of this project are that "Core Habitat" comprises 1,160,000 acres, of which 710,000 (61%) are unprotected and "Supporting Natural Landscape" comprises an additional 970,000 acres, 760,000 (78%) of which are unprotected. Since the mapping was completed, 54,000 acres of "Core Habitat" and 33,000 acres of "Supporting Natural Landscape" have been protected by EOEA and its agencies. The report recommends that state agencies, conservation organizations and cities and towns should focus their efforts at protecting Core and Supporting Natural Landscape areas.

### **3. Massachusetts Natural Heritage Atlas: 12th Edition**

This Atlas contains maps displaying: Priority Habitats for Rare Species, Estimated Habitats of Rare Wildlife and Certified Vernal Pools

By: Natural Heritage and Endangered Species Program, Division of Fisheries and Wildlife

Published: October, 2006

#### Summary

DFW's Natural Heritage & Endangered Species Program (NHESP) maintains a database of over 5,000 specific observations on over 440 state-listed rare plant and animal species. The vast majority of these records are a series of single point observations, which do not facilitate land protection planning as they lack critical information on the extent of needed habitat. The NHESP has just completed delineation of "species habitat polygons" using species-specific guidelines to convert each point observation for rare species observed within the last 25 years into a much better geographical representation of the likely extent of habitat occupied by that rare species at a given site. This mapping project included an extensive team of experts who researched the habitat needs of each species before beginning the habitat mapping process. In this way, the maps are by far the best representation of the habitat needs of each rare species at each reported location.

#### Recommendations:

This powerful tool will help further focus the land protection efforts of EOEA and its agencies. The atlas will also guide habitat restoration and landowner technical assistance efforts. These new habitat maps will also be used for administering the MA Endangered Species Act, the MA Environmental Policy Act, the MA Forest Cutting Practices Act and the MA Wetlands Protection Act. Maintaining, updating, refining, and utilizing these component species habitats will greatly enhance the state's ability to conserve Massachusetts' endangered species.

#### **4. Living Waters: Guiding the Protection of Freshwater Biodiversity in Massachusetts**

By: The Natural Heritage and Endangered Species Program at the Division of Fisheries and Wildlife

Published: 2003

##### Executive Summary (excerpts from the Report)

The inland waters of Massachusetts are home to an impressive variety of freshwater species. Our waters are teeming with underwater life, from fishes and aquatic plants, to freshwater mussels, crayfish, snails, aquatic insects, and more. Unfortunately, our activities on land and our use of water resources have led to the loss and degradation of many freshwater habitats, making freshwater ecosystems among our most threatened. For this reason, the Natural Heritage and Endangered Species Program developed the *Living Waters* project to identify and map the lakes, ponds, rivers and streams that should be the highest priority for freshwater biodiversity in Massachusetts.

The *Living Waters* conservation map is based on more than 600 records of rare freshwater species compiled by Natural Heritage over the last 25 years and updated through field work. *Living Waters* also maps some of our best freshwater habitats identified from other data sets on fish, aquatic insect and aquatic plant communities in Massachusetts. The “Core Habitats” in *Living Waters* identify exemplary habitats. For each Core Habitat, *Living Waters* also outlines a “Critical Supporting Watershed” to highlight the upland and upstream areas that have the greatest potential to influence, positively or negatively, the species living in Core Habitats.

Protecting freshwater biodiversity is complex because the health of each freshwater habitat depends on the health of its upstream watershed. By protecting and restoring natural vegetation adjacent to Core Habitats, and by improving our land and water resource management within Critical Supporting Watersheds, we can ensure that our freshwater species will thrive for many years to come.

##### Recommendations:

*Living Waters* Core Habitats include multiple sites for: 23 rare aquatic plant species, 24 rare invertebrate species, 11 rare fish species and exemplary habitats in rivers, streams, lakes and ponds. Statewide, *Living Waters* Core Habitats highlight over 1000 of the 12,000 miles of rivers and streams in the Commonwealth and 247 of the 3,000+ lakes and ponds in the Commonwealth. These focused areas are recommended as priorities for freshwater biodiversity conservation. Critical Supporting Watersheds cover 1,380,000 acres of undeveloped and developed lands (27% of the state) that need protection or careful management to ensure the ecological integrity of our freshwater Core Habitats. Since the mapping was completed, 41,000 acres of Supporting Critical Watersheds have been protected by EOEA and its agencies. Together the *BioMap* and *Living Waters* projects identify 35% of the lakes and ponds and 34% of the river and stream miles in the state as important for the protection of biodiversity. Priority management activities in Core and Supporting Watershed areas may include land conservation (especially vegetated riparian buffers – there are 99,000 acres within 330 feet of mapped priority areas of which 77,000 acres are unprotected), removal of dams or other flow impediments, removal of invasive species, installation of water quality best management practices, restoration of adequate flows in rivers and streams during critical periods and other actions.

## **5. Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands**

By: Department of Environmental Protection

Published: March 2006

### Executive Summary (excerpts from the report):

In 1986 the Massachusetts legislature recognized that wetlands can provide wildlife habitat and added “wildlife habitat” to the list of interests protected under the Wetlands Protections Act. The following year, the MA DEP revised the Wetlands Regulations to incorporate protection of wildlife habitat as a wetlands interest and adopted standards and procedures to protect important wildlife habitat functions in wetland resource areas. In 1996, the Rivers Protection Act was adopted, providing additional requirements for habitat protection under the Wetlands Regulations. As a result, MA DEP, in collaboration with the MA Division of Fisheries and Wildlife’s Natural Heritage and Endangered Species Advisory Committee and the University of Massachusetts developed this guidance document to provide greater consistency and enhance the protection of the Commonwealth’s inland wetland and riparian wildlife habitats.

The purpose of this document is to provide guidance to identify important wildlife habitat and illustrate the full extent of protection that can be afforded to protect important wildlife habitat in wetlands. The guidance also serves to help Conservation Commissions and applicants know what level of evaluation should be required for projects that trigger the thresholds for the review of wildlife habitat alterations. This guidance will also help Conservation Commissions know what to do with the wildlife habitat information to be sure that projects are designed to meet performance standards for wildlife habitat. While there is much that a Conservation Commission can do to protect wildlife via the Wetland Protection Act, sound judgment is needed to determine when an alteration to wildlife habitat will substantially reduce its capacity to provide important wildlife habitat functions listed in the Act’s Regulations. The challenge is to determine what habitat is important, assess the nature and scope of the alteration contemplated to that habitat, ensure that there is no adverse effect on those important habitat features, and condition the project accordingly.

The Guidance provides practical explanations for how to: identify important wildlife habitat; better understand the projects that require wildlife habitat evaluations; conduct wildlife habitat evaluations; identify and understand adverse effects; and condition projects to avoid, minimize and/or mitigate adverse effects to important wildlife habitat. In addition, the guidance maps habitat of potential regional or statewide importance utilizing a sophisticated biodiversity model developed by UMass, Amherst after extensive field work (57 towns completed so far). The Guidance provides the most practical and effective means to assure protection for the vital interest of wildlife habitat while at the same time, providing much needed certainty for applicants.



## **6. Comprehensive Conservation Wildlife Strategy**

By: Division of Fisheries and Wildlife

Published: July, 2006

### Executive Summary (excerpts from the report):

The goal of the Comprehensive Wildlife Conservation Strategy (CWCS) is to conserve the wildlife biodiversity of Massachusetts. The CWCS must address eight required elements described by the U.S. Congress and must be approved by the Director of the U.S. Fish and Wildlife Service for this agency to receive funds through the State Wildlife Grant Program. This is a very comprehensive report totaling 750 pages.

The CWCS offers a brief history of the MDFW and its past successful efforts to conserve the biodiversity of Massachusetts. A review of the landscape changes which have affected wildlife populations sets the stage for problems facing these species today. The report includes the process used to identify the habitats and species in the greatest need of conservation; the primary strategies to conserve these species and their habitats; an explanation of the processes used to gain input to the CWCS from outside the MDFW; and finally, how the CWCS will be reviewed periodically.

The CWCS is organized into 22 habitat types ranging from large-scale habitats such as Large Unfragmented Landscape Mosaics; to medium-scale habitats like the state's Large- and Mid-sized Rivers; to small-scale habitats such as Vernal Pools. Information for each habitat type includes a description of the habitat; the suite of species in greatest need of conservation which is associated with that habitat; a map showing the distribution of the habitat type across the state, where available; a description of the problems and threats facing the habitat; and the monitoring requirements that will ensure the success of the conservation strategies.

Two-hundred Fifty-six animal Species in Greatest Need of Conservation are identified in the CWCS. These 256 species are assigned to one or more of the 22 habitats, if the habitat was essential to the survival of the species. The list of Species in Greatest Need of Conservation includes all of the federally listed animal species in the state; all of our state Special Concern, Threatened, and Endangered listed animal species; globally rare species; animal species which are listed as being of regional concern by the Northeastern Association of Fish and Wildlife Agencies; and other species which are of concern within the Commonwealth. A species summary is provided for each of the Species in Greatest Need of Conservation. This summary includes the most recent distribution information in map form, where this information is available, along with a life history narrative and a listing of key threats facing the species.

The strategies identified in the CWCS to ensure the conservation of populations of Species in Greatest Need of Conservation fall into six broad categories: habitat protection, surveys and inventories of the CWCS species and habitats, conservation planning, environmental regulation, habitat restoration and management, and partnerships and education. We expect to accomplish these through coordination and partnerships with many governmental and non-governmental agencies and organizations.

### Recommendations:

The following is a summary of the Strategy for each of the six above areas:

- 1) Proactive Habitat Protection: MDFW has mapped key habitat areas in several documents (BioMap, *Living Waters*, Priority and Estimated Habitat Maps, etc.). Given limited resources, the CWCS outlines a process to set priorities and to communicate these priorities to conservation partners.
- 2) Biological Information: Surveys, Monitoring, and Databases: MDFW has ongoing programs to monitor fish communities, state-listed and other rare species, and other species which are summarized.
- 3) Conservation Planning: The completion of species habitat mapping which identify the spatial habitat "footprint" of each of the 185 Massachusetts' state-listed wildlife species was completed in October, 2006. This information is based on review of the habitat requirements of each species and evaluation of the habitat quality associated with each rare species observation. These maps will be an extremely useful tool to habitat protection efforts. MDFW is also completing Species Conservation Plans for many of the key species are being

drafted including: Spotted, Eastern Box, Wood and Blanding's Turtles; Pitch Pine/Scrub Oak invertebrates; and Undersurveyed Aquatic Macro invertebrates.

- 4) **Environmental Regulation:** The Natural Heritage and Endangered Species Program of MDFW reviews about 1,850 projects per year under the auspices of the Mass. Endangered Species Act, the Mass. Wetlands Protection Act, the Mass. Forest Cutting Practices Act Regulations, and the Mass. Environmental Policy Act. MDFW also oversees the "certification" of vernal pools which adds a layer of protection to these important habitat areas.
- 5) **Habitat Restoration and Management:** MDFW is actively working on the restoration of migratory fish in the Connecticut and Merrimack Rivers to benefit several migratory fish species in coordination with the U.S. Fish and Wildlife Service. MDFW is also implementing a River Continuity Program which seeks to identify barriers to fish passage, such as culverts, which result in fragmented rivers throughout the Commonwealth. Obstructions in priority habitat are removed in partnership with NRCS and local communities. MDFW also has programs to improve habitat via hydropower dam relicensing and its Ecological Restoration Project which implements management actions such as controlled burns, invasive species removal, reduction of off-road vehicle damage, management of upland habitat for early successional species, forest management for targeted wildlife habitat goals and stabilization of water regimes around sensitive aquatic habitats.
- 6) **Education and Partnerships:** MDFW works with a wide range non-profit conservation organizations, academic institutions and governmental agencies to implement the CWCS.

## **7. Commonwealth Connections: A Greenway Vision for Massachusetts**

By: The Department of Environmental Management, the Appalachian Mountain Club and the National Park Service

Published: July, 2002

### Executive Summary (excerpts from the report):

Imagine the Massachusetts countryside laced with ribbons of green threading together parks, scenic landscapes, natural areas, and important community landmarks, or cities sprinkled with green space and trails, providing opportunities to enjoy the outdoors close to home. Now imagine that all of these “green corridors” were somehow linked together, creating a network of greenways, trails and protected open spaces throughout Massachusetts.

This idea or “vision” is one that many Massachusetts citizens are working toward – protecting a key parcel of land along a river, planning a bikeway that links one town with the next, or clearing and blazing another mile of trail. But often people are working without knowing about similar efforts a neighboring town or region, and especially without knowing about what is happening across the state.

Commonwealth Connections attempts to pull the pieces together, and creates a vision for the future of greenways and creativity of hundreds of grassroots activists, and representatives from state and federal agencies, municipalities, various user groups, non-profit organizations, and the private sector. It is hoped that this vision will serve as a framework for the many greenway and trail efforts underway in Massachusetts, help focus efforts on critical areas, and energize support for implementing greenway and trail projects throughout the state.

The stakes are high. Population and communities are growing rapidly and critical landscapes throughout Massachusetts are becoming increasingly fragmented. Opportunities for creating continuous corridors are being lost. If we do not soon take the decisive steps outlined in this plan, we may lose forever the chance to realize the bold – but still attainable – vision. Fortunately, a strong base of devoted citizen leaders and professionals have laid the groundwork for this endeavor. The support for greenways and trails by a broad cross-section of the public is formidable. We must harness this collective energy and work together to connect our Commonwealth.

### Recommendations:

The following recommendations reflect the themes and priorities repeated most often by greenway and trail leaders involved in this planning process. DEM [now the Department of Conservation and Recreation] and its partners in this effort feel that these recommendations, when acted upon, will strengthen existing efforts, protect and enhance priority greenways and trails, and ultimately create a unified greenway network throughout Massachusetts for generations to come.

1. Protect and promote long-distance trail corridors as primary spines of the Massachusetts Greenway and Trail System. While the Appalachian National Scenic Trail is protected, 600 miles of other long distance trails are in real danger of fragmentation.
2. Protect critical river corridors and their tributaries statewide – including 1,600 miles of priority river corridors identified in the plan.
3. Strategically link important natural and human communities – incorporate critical greenway corridors identified in this plan a priority for land acquisition, landowner outreach and funding.
4. Create a cross-state multi-use trail reaching from Boston to the Berkshires, utilizing the Central Massachusetts rail line. Currently, sections of the MCRT are open in Somerville (2 miles), Sterling to Rutland (12 miles), and Amherst to Northampton (11 miles). Sections have recently been protected in Belchertown and Hardwick. The DCR has recognized this as a priority initiative, and a coalition of active groups has been formed to move this effort forward ([www.masscentralrailtrail.org/](http://www.masscentralrailtrail.org/)).
5. “Trail bank” unused rail corridors and work to gain public access to utility corridors. Begin by completing an inventory of all rail and utility corridors to identify and prioritize their potential value as trails and greenways.
6. Assist the greenways and trails community with technical support and funding needed to establish a coordinated statewide greenway system. Establish and support the Massachusetts Greenway and Trail Partnership as a central clearinghouse and advocacy organization for the state’s greenway vision.

7. Increase funding for greenways and trails including a separate account in a new Environmental Bond for greenways and increasing federal transportation enhancements spending to authorized levels.

## **8. Urban Open Space Assessment Project**

2005-2006 for Holyoke, Lawrence, Worcester, Fall River and Somerville

By: The Trust for Public Land and the Urban Ecology Institute

Published: July, 2006

### Executive Summary (excerpts from the report):

Historically, state and private agencies have prioritized rural and suburban areas for purchase and protection. However, there is a growing recognition of the value of natural spaces in urban areas. Research and our own experience has shown that well-designed open spaces in urban areas strengthen neighboring communities and bring mental and physical health benefits to those who live or work there. In an effort to protect open space in the places where most people live, the Massachusetts Executive Office of Energy and Environmental Affairs (EOEA) has committed to investigating urban open spaces throughout the Commonwealth.

The Trust for Public Land (TPL) and the Urban Ecology Institute (UEI) received funding from EOEA and the Jessie B.Cox Charitable Trust to design a collaborative, rapid process for identifying and prioritizing urban open space sites that are socially, recreationally, and ecologically important. This pilot project is being implemented with community partners in five cities: Worcester, Lawrence, Holyoke, Fall River, and Somerville. We will provide the State with a list of priority sites for possible acquisition, as well as an evaluation of our methods for identifying these sites. If this process works well, the state may apply this selection process to municipalities throughout the state.

This project is designed to assist community groups in identifying ecologically valuable, socially important sites in urban areas and determining a transformation or preservation strategy for those sites. This project included 24 meetings with stakeholders and interested citizens in Worcester, Lawrence and Holyoke. The meetings also included five focus group meetings. The project also included surveys. The project also included initial literature reviews to make sure that information that had already been collected was used. The project continues to be completed for Fall River and Somerville with private foundation funding and additional meetings are being held there.

The project is unique in that it combines TPL's "Greenprinting" process with UEI's "Ecological and Social Evaluations". TPL's "Greenprinting" has been completed for many cities in the U.S. and is an openspace and demographic analysis that locates the best sites for parks and open spaces in the most under-served neighborhoods. UEI's "Ecological and Social Evaluations" includes evaluation of a myriad of ecological map overlays to focus in on the sites with the most ecological potential. Based on priority sites in this initial process, "rapid assessments" (on average one day per site) were conducted using a proven site assessment protocol to locate key ecological parameters. This process uses UEI ecologists working with local experts from colleges, non-profits and the city neighborhoods. The "rapid assessment" is followed by focus groups and surveys in the local neighborhoods to determine the sites that have the most interest and support to be protected or developed as parks. A Geographic Information System model is used to weight potential sites based on demographics (densest neighborhoods with the highest percentage of low income, young and minority neighborhood), availability of parks (using a buffer analysis around existing useable parks and open space), community support for sites, and ecological value. Local stakeholders are involved in weighting these criteria to fit the goals of the city. "Legal assessments" are also completed for priority sites to determine the level of existing protection and special hurdles that may be anticipated to protecting these sites. Public involvement meetings occur throughout this process. Following the listing of priority sites, EOEA funded a park design contract in Lawrence (Spiket River Greenway) and in Worcester (Winslow Street site). These park designs served to further energize the neighborhood groups and city officials and were instrumental in fostering grant applications for acquisition and park development on these sites via EOEA's Urban Self Help Program. This fall, EOEA announced the funding of grants for acquisition and park development on both sites, totaling nearly \$900,000 and matched by more than \$400,000 in locally raised funds.

### Recommendations:

This report includes specific recommendations of sites that are priorities for protection and/or development for new parks, greenways or community gardens within the Holyoke, Worcester, and Lawrence. Supported by this information, two future parks have already received funding from EOEA and local sources. The report also includes recommendations on how future assessment projects in other cities could be improved. EOEA is also

utilizing this unique analysis process to update its Open Space Planner's Workbook – the guide cities and towns use in developing Open Space and Recreation Plans. These plans are an eligibility requirement for communities wishing to apply for Urban Self Help, Self Help, and federal Land and Water Conservation Fund grants. Staff is working on incorporating requirements for city open space plans that will improve these plans without requiring significant additional expenses that may make the plans too burdensome to complete.

## 9. A Summary of the 2005 Urban Land Protection Forum

### Creating a Land Conservation Agenda for Urban Areas

By: EOEa, Boston University, Greater Worcester Land Trust, Lowell Parks and Conservation Trust, The Trustees of Reservations, The Trust for Public Land and the Urban Ecology Institute

Published: November, 2006

#### Executive Summary:

Massachusetts is the third most densely populated state in the U.S. and has one of the highest numbers of land trusts of any state in the country. While Massachusetts has abundant scenic and cultural landscapes in rural and suburban regions, the majority of the state's population lives in urban areas. People living in these urban areas need and deserve easy access to special, relaxing, natural and inspiring outdoor places in their own neighborhoods.

To address urban land conservation in Massachusetts, a small group of urban land trusts and urban conservation and land-use professionals have been meeting semi-regularly since 2004<sup>1</sup> to network, share project successes and stumbling blocks, and address common misperceptions about urban land protection.

The first gathering, *Improving Life in your City or Town: Land Conservation on a Neighborhood Scale*<sup>2</sup>, was a day-long conference that took place in Lowell, MA, in September 2004 with former MA Governor and Presidential Candidate Michael Dukakis as the keynote speaker. With, more than 100 participants, this conference highlighted the uniqueness of urban land conservation work, the importance of sharing information within the state, and the sheer diversity of entities concerned about urban land conservation. The entities represented at this conference weren't just land trusts—participants came from state and federal agencies, municipalities, community development corporations, garden clubs, trail groups, neighborhood associations, watershed associations, environmental justice organizations, and more.

A few months later, participants from the Massachusetts Executive Office of Energy and Environmental Affairs saw the need to follow-up on ideas and concerns expressed at the 2004 Lowell conference. EOEa gathered the conference sponsors plus several more likely partners and began planning the *Urban Land Protection Forum: Creating a Land Conservation Agenda in Urban Areas*, described within this document.

Held in Boston, MA, on November 14, 2005, the day-long Urban Land Protection Forum focused on three goals that stemmed from the 2004 *Land Conservation on a Neighborhood Scale* conference:

- To create an agenda to guide land conservation in Massachusetts' urban areas;
- To recognize the roadblocks to conservation of additional natural areas and development of urban parks in Massachusetts; and
- To identify and connect leaders, advocates, and key stakeholders throughout Massachusetts who are involved in land conservation in urban areas.

### **Building on the State's Smart Growth Agenda**

In addition to the ideas spurred by the 2004 conference in Lowell, the 2005 Urban Land Protection Forum builds on the "smart growth" agenda that the Massachusetts Office of Commonwealth Development (OCD) began advocating in 2003. Since smart growth encourages "in-fill" development in urban areas with existing infrastructure, it is critical to also conserve urban green space, parks, gardens, and trails so that Massachusetts' cities are inviting places to live and work.

OCD's smart growth agenda has advanced urban park development and recreation through the Commonwealth's Urban Self-Help Grant Program, which provided a record \$9 million in grants in FY06 to municipalities to develop urban parks and playgrounds and \$21 million over the past 4 years (double the previous 4 year period).

Finally, the Urban Land Conservation Forum was timely because it built on the collaborative work of the Urban

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<sup>1</sup> Note TPL's convening group in 1990's

<sup>2</sup> Sponsored by The Trustees of Reservations' Putnam conservation Institute, Lowell Parks & Conservation Trust, The Trust for Public Land, and hosted at the Lowell National Historic Park's Tsongas Industrial History Center

Ecology Institute, Greater Worcester Land Trust, The Trust for Public Land, and the Executive Office of Energy and Environmental Affairs in implementing a new model for identifying priority land for urban green space, parks, and gardens based on neighborhood need, public support and natural resource attributes. Prior to convening the Forum, invitees were surveyed as to their thoughts on the key challenges to urban land conservation. The following four challenges were the top vote-getters.

## **FOUR KEY CHALLENGES**

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*Protecting land from development means overcoming many challenges. Land trusts, municipalities, and agencies have become quite adept at conserving land of all types and sizes in rural and suburban areas, however, conserving land in urban areas presents new and different challenges. Below is a summary of the commentary from many people involved in conserving land in Massachusetts' urban areas.*

### **1. High Cost of Land/Lack of Funding**

In 2005, Boston, MA, was ranked as having the highest cost of living in the country, outpacing New York City, Washington, D.C., and Seattle, WA. The high cost of living is propelled by high housing costs, which follow high land costs. In urban areas, where in-fill development competes against the need for green space and recreation areas, land conservation advocates find themselves competing with developers, aggressive real estate agents, and local governing boards anxious to increase tax revenue. With tremendously high profit margins, it is difficult to negotiate “bargain sales” in urban areas. Few nonprofits have the resources, capacity, and/or experience to think like real estate agents. Decreased state, federal, and local government funding sources add to the obstacles of land acquisition and few foundations are willing to make the large-scale investments to help finance such projects. All of these challenges are compounded by the reality, fear, or perception of potential contamination, increasing the costs associated with assessing property acquisition decisions.

### **2. Misperception**

One of the greatest challenges in urban land protection is that “it’s not worth the effort, because what are you really protecting anyways?” While urban areas may not have the ecological significance of a 1,000-acre woodland, a one-acre site in the middle of an urban area has conservation assets, though at a much smaller scale. Providing access for gardening, passive recreation, and the enjoyment scenic vistas in areas measured by square footage rather than acres offer different perspectives. Furthermore, the assemblage of smaller parcels and narrow corridors can create important access among properties. Creating opportunities for neighborhood residents to explore nature, walk along a river, chase a damselfly, or bike to work on a greenway creates a positive sense of place and improves quality of life for urban residents. By improving the quality of life in urban areas, cities become more “livable” thereby reducing the desire for people to leave the city and deterring sprawl. Finally, an additional misperception is that often much of the green space in urban areas is assumed to be protected when it’s not. This leads to encroachment issues, further reducing the quality of these smaller scale parcels.

### **3. Lack of Local Capacity**

Urban land conservation groups are few and far between. Where urban land conservation succeeds is in communities that have strong partnerships between municipal agencies and local non-profits. Local planning boards and conservation commissions also need to be attuned to local land conservation efforts. Even tax assessors that monitor tax delinquent properties should be connected with such efforts. Unlike “traditional” land conservation, urban land conservation often requires varied expertise and complex strategies to address a range of issues when acquiring urban parcels including assessing tax title properties, railroad corridors, powerline easements, contamination and remediation, liability, and property ownership and management, among others. Municipal personnel as diverse as environmental officers, planners, and legal staff may be connected at different levels to a specific property or have different institutional memories. A local nonprofit that has strong partnerships across agencies will enhance its opportunities to acquire properties that might otherwise seem unavailable. This need to reach across multi-layered municipal departments and political boundaries can make projects time consuming, which increases acquisition costs. Within Massachusetts, such agencies as Conservation Commissions, Massachusetts Municipal Association, and regional planning groups should receive training in addressing urban green space issues. Youth are also the next stewards of properties that need to be engaged.



#### **4. Conservation Tools and Strategies**

Land protection strategies in urban areas require different approaches. Just as in any conservation transaction constant vigilance, luck, and timing play a significant role in achieving a successful project. Of the variety of conservation tools available, land transactions in urban areas tend to lean more toward fee acquisitions, rather than conservation restrictions. Furthermore, actual ownership is complicated by such issues as potential contamination, park design and maintenance, and the cost of managing encroachment issues.

There is a strong need for a cohesive statewide plan for urban land protection. A comprehensive statewide plan would provide leverage for local planning efforts and encourage partnerships. Often local governments need to be shown the financial value of open space as compared to the financial value of development. There is also a role for state acquisition of smaller parcels, especially those that abut existing state owned properties in dense urban areas. At this time, however, it seems that state agencies shy away from such acquisitions because of potential abutter issues, even when the property is a donation. Furthermore, within the state park system, urban parks and heritage state parks historically have received fewer resources (e.g. No staffing in Lowell State Heritage Park).

Many municipalities hold significant acreage in tax-title “limbo,” waiting for development opportunities to provide tax revenues. State agencies should create incentives for municipalities to provide, where appropriate, local land trusts or other agencies an interest in the property (ownership or conservation restriction) to increase protection of the land. Local land protection organizations can also partner with affordable housing agencies to combine efforts to promote both goals.

In the Commonwealth’s urban areas, some land trusts are working with developers that have strong reputations for limited development to tackle head-on the cost of land. Networking within the land protection community should allow for the sharing of contacts/developers interested in “limited development.” Additionally, conservation groups should identify and consider opportunities to partner with affordable housing groups that are interested in redevelopment and green space.

Land trusts and conservation groups should encourage and work with local government to secure grant funds dedicated to land conservation and urban parks development. Many cities and towns throughout the Commonwealth have not taken advantage of available funding sources. State grant programs offered through the Commonwealth’s Division of Conservation Services such as Massachusetts Self-Help and Urban Self-Help have for several decades been instrumental in helping local municipalities with land protection and parks creation. The Self-Help program is available for open space acquisition and passive recreation development such as trails and the Urban Self-Help program is available for land acquisition and active recreation projects such as park and playground development.

Overall, the 2005 Urban Land Protection Forum was a unique opportunity for fellow urban land conservationists and planning practitioners to network, share challenges, goals and ideas, and help give urban land protection a higher profile. The “next steps” outlined below will provide opportunities to focus efforts collectively. Locally, regionally, and nationally urban land conservation is gaining attention at conferences, within philanthropic organizations, and city planning agencies. The approach of this Forum was not directed at sharing stories, as many conferences are, but in discussing roadblocks and challenges to protecting urban land. By understanding our common challenges and the distinct set of professional skills that urban land protection requires, we can focus on creating real and positive change in urban land conservation in Massachusetts.

#### **Recommendations:**

The Forum concluded with participants voting on the most important issues/ideas raised at the group break-out sessions, and consensus was achieved on four critical elements.

##### **1. Develop a Model to Quantify the “Value” of Urban Land Parcels for Conservation**

The highest ranked idea (17 votes) was to hold a juried competition among local colleges (economic, public health, environment, etc. graduate programs) to develop a model to quantify the “value” of urban land parcels for conservation. These values would include direct economic value (adjacent land and housing prices) to less tangible social values (improved health, water quality, etc.). A foundation would provide prize money for the best

submittals. The forum attendees suggested that the model would have natural resource inputs that quantify economic and public health values of a given open space parcel.

## 2. Expand the Statewide Land Conservation Plan to Include Urban Open Space

The second ranked idea (15 votes) was to expand the inclusion of urban open space in the Statewide Land Conservation Plan. Although this plan has a goal of adding 50,000 acres of new city parks and open spaces, it does not include specifics on how this land would be identified or protected. This recommendation is to add details to the handling of urban open space in the plan. Expanding upon EOE's 2005-2006 pilot "Urban Open Space Assessment" project conducted by TPL's Parks for People Program and the Urban Ecology Institute would further the inventory, assessment, and acquisition strategy for urban open space in the Commonwealth. The initial assessment included the cities of Fall River, Holyoke, Lawrence, Somerville, and Worcester.

## 3. Enhance Environmental Education for Urban Youth

The third ranked idea (14 votes) was to enhance environmental education for urban youth utilizing local open space resources and to create more work/volunteer opportunities in these open space areas. Two ideas were tied for fourth ranking (7 votes each). The group felt that guidelines for the "Areas of Critical Environmental Concern" (ACEC's) should be interpreted to allow more on public health. Currently, very few of the 27 existing ACEC's are in urban areas.

## 4. Increase Technical Assistance and/or Funding

The other fourth-ranked idea was to increase technical assistance or funding to help urban land conservation entities move good land conservation ideas to implementation through additional project planning and design work.

## **Appendix B:**

### **Analysis of 160 Municipal Open Space and Recreation Plans (2001 – 2006)**

#### **Introduction to Municipal Open Space and Recreation Plans**

States must maintain a current Statewide Comprehensive Outdoor Recreation Plan to qualify for federal Land and Water Conservation Funds. Similarly, communities in Massachusetts are required to prepare a municipal Open Space and Recreation Plan, also approved for a five-year period, to maintain eligibility for state Self-Help, Urban Self-Help, or federal Land and Water Conservation Fund assistance. Currently there are 160 approved plans, making 46% of the state's communities eligible for these discretionary funds administered by the Division of Conservation Services (DCS).

#### *Why Write an Open Space Plan?*

While DCS approved plans are an eligibility requirement for participation in the grant programs, communities often prepare these plans regardless of the availability of grant assistance. The factors that affect open space are identified and examined during the planning process, and strategies the community may use to protect and enjoy natural resources and open spaces are developed. Protecting open space can provide profound economic benefits by helping to avoid the costly mistakes of misusing or overwhelming available resources.

Open space plans allow a municipality to maintain and enhance the benefits of open space and protect the “green infrastructure” of the community. Planning for this “green infrastructure” of water supply land, working farms and forests, viable wildlife habitats, parks, recreation areas, trails, and greenways is as important to the economic future of a community as planning for schools, roads, water, and wastewater infrastructure.

#### *Planning Requirements*

All projects funded through DCS are partnerships between state and local agencies, and are based on recommendations the applicant community makes independently in its Open Space and Recreation Plan. DCS maintains planning requirements and a companion workbook that guides communities through the planning process, both are available online at <http://www.mass.gov/envir/dcs/openspace/default.htm>.

#### *How Plans are Prepared*

Communities write plans using volunteer groups, municipal staff, consultants, or some combination of these approaches. The project is often undertaken by an Open Space Committee comprised of volunteers and municipal staff (if staff exists). The data suggests that the number of communities with approved plans is linked to the number of communities with committees. DCS provides technical assistance in guiding communities through the planning requirements and the actual process of preparing a plan and obtaining final approval.

#### **Analyzing the Current Plans**

Each plan is useful to each community but collectively, the currently approved plans provided valuable information on regional and statewide trends for the SCORP 2007 update. Even though communities follow the DCS Workbook, each plan takes an approach that is suited to the uniqueness of the community. After analyzing several plans, a methodology was devised for assembling and comparing like data from several sections of the municipal plans.

Each plan was analyzed to create a spreadsheet and summarize the results in a short report. The data collected in the spreadsheet tabulated Public Participation, Parks & Recreation Demand, Common Goals and Objectives, and Action Recommendations. The information was also broken down by region so that more specific inferences could be drawn. The summary focuses on Public Input, Regional Demand and Action Recommendations.

#### **Getting Public Input – What Works Best?**

Meaningful public participation is required for municipal plans, although each community may decide exactly how they obtain this input. Public participation lies at the heart of any planning effort. If a plan is to truly represent the range of views and hopes of the community, the public must be actively involved in developing it. Some of the techniques used in these plans include public meetings and forums, surveys, visioning sessions, working group meetings, and effective use of the media for education and outreach. Excellent plans use a variety of these techniques, and some are combined within a single event (e.g., working-groups as a component of a public forum, covered by the local newspaper). Of the 160 plans currently approved by DCS, the public input statistics are

impressive:

- 70%, or 112 plans, were compiled using some form of Open Space Planning Committee;
- 223 public meetings were held; and
- 55,516 individuals responded to surveys.

Due to the poor attendance that is usually associated with public meetings, they should not be relied upon solely for the determination of public demand in a municipality. Towns and cities held a total of 223 public meetings in which the preparation of the Open Space and Recreation Plan was discussed. Although this was often a good way for towns and cities to showcase the plans' goals, objectives and plans of action, other forms of public input need to be sought.

An overwhelming majority of plans, 106 in total, conducted public surveys to help establish community demand. The average response rate was 23% of the number of total surveys sent out. This was a significant number of citizens making their voices heard. A combination of public surveys developed and analyzed by volunteer committees and/or consultant groups seemed to be the ideal combination as a way to gauge community demand. It is difficult to determine whether outside consultation or community volunteer committees are more effective in determining public demand. However, the assistance of a professional group to gather input from citizens and assemble it in an easy to understand format is useful to help the community determine its goals, objectives and necessary actions.

### **Regional Demand**

Regionally, rural areas voiced a strong demand for preservation of agricultural and rural character, whereas the Metropolitan and Cape and Islands regions had almost no similar demand statement. The smallest region in population, the Berkshire Region, had 100% rate of demand for agricultural preservation. Similarly, regions with a higher demand for agricultural protection also had an increased demand for forest protection.

The Metropolitan Boston Region had the overall highest demands for ice skating, skateboard parks (by a very close margin), basketball and playgrounds. Dense populations and limited space could help to explain the demands for recreational facilities that don't take up as much space as larger playing fields, but there was still significant demand for those facilities, too. Paved trails for biking, skating and walking were the most popular demands in all regions. The demand for dirt trails was much lower in the western Berkshire Region than in the other six regions.

The Metropolitan Region reflected the lowest concern for the protection of its drinking water. As Metropolitan Boston is supplied by reservoirs far outside the region, this makes sense. Managing development was also not a high priority community demand, nor was it very high in the Berkshire region. Suburban communities did have a higher demand for managing development. The desire to avoid urban sprawl and unmanaged growth in transitioning communities could be an explanation for this trend.

### **Action Plan Recommendations**

#### *Municipal Policy and Plan Implementation*

When plans recommended state actions, or joint ventures between communities, they often called for forming some kind of financial partnership with a state agency, typically for a conservation or recreation project for the town or city. In the Action Plans of rural towns, a number of them sought a way to become involved in the state's Agricultural Preservation Restriction (APR) Program. At least 35% of towns and cities planned to preserve agriculture and farming. Some Action Plans and public demand reports also called for a property tax reduction for farmlands as a preservation method. Preserving water supplies was a very popular action in both cities and towns, as well as environmental education. The highest priority goal common to all of the plans was also water based, to protect rivers, streams, ponds and wetlands. Action plans also often sought funding from the state through Urban Self Help grants and other types of funding from the federal government. A number of towns (17%) called for either the use Community Preservation Act (CPA) funds or to consider adopting a CPA. Often when joint municipality projects were mentioned in the plans, they recommended working with surrounding towns and cities to form a regional network of trails or link existing trails and open spaces regionally.

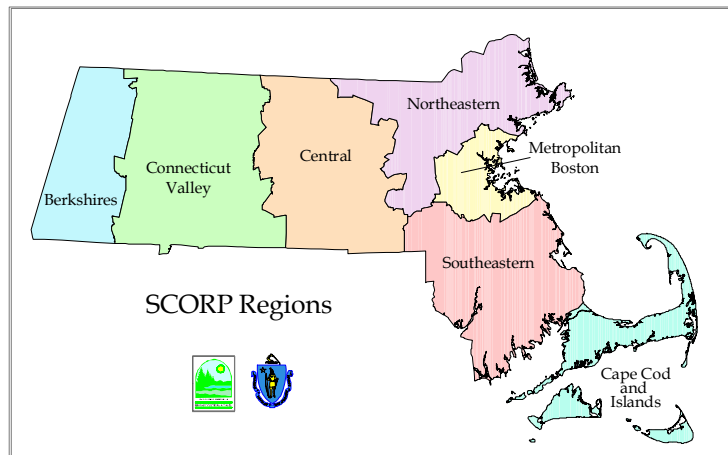
#### *Recreation Facilities*

Towns and cities which updated plans every 5 years did not have as high of a demand for new field based recreation

facilities. They were more concerned with maintaining recreation facilities. Almost 20% of the action plans called for additional recreation site signage. This action was usually linked with increasing environmental education and public awareness. Many towns and cities wanted to make sure that citizens knew as much as they could about their parks and open space opportunities either through street signs, brochures or some kind of public information sessions. The reason for this action may be because in many public surveys conducted to establish demands, citizens stated that they were unaware of many recreational opportunities within the towns and cities and some facilities were highly underutilized.

### **Notes on the Spreadsheets**

Detailed spreadsheets showing data on all 160 Open Space and Recreation Plans are available upon request from the Division of Conservation Services.



Worksheet 1: Open Space and Recreation Plans – Summary of Statistics - Public Participation, Common Goals and Objectives, Demand for Recreational Facilities, and How the Plan was Prepared.

Worksheet 2: Public Participation by Region - How Public Participation was attained organized by SCORP Region.

Worksheet 3: Common Goals and Objectives - statewide, with columns for Cities, Towns and Total.

Worksheet 4: Demand for Recreation Facilities from Public Participation Responses - statewide with columns for Cities, Towns and Total. Includes the 5 major subcategories: Park and Recreation, Passive Recreation, Wilderness Activities, Trail Based, and Water Based activities.

Worksheet 5: Action Plan Recommendations for Recreation Facilities - for Recreation Facilities statewide with columns for Cities, Towns and Total. Includes the 5 major subcategories: Park and Recreation, Passive Recreation, Wilderness Activities, Trail Based, and Water Based activities.

Worksheet 6: Action Plan Recommendations for Municipal Policy and Plan Implementation - statewide with columns for Cities, Towns and Total.

### **Compiled by:**

*Nicole Matesich, Political Science Student, Northeastern University, December 2006, for the MA Executive Office of Energy and Environmental Affairs.*

