

CHAPTER 4

The State of Land Protection in Massachusetts

In previous sections, we examined changes taking place in land use in the state, and how development in particular is impacting wildlife areas such as forest. In this section, we will explore whether we are gaining ground in protecting wildlife habitat in the state, how this protected land is managed, and what risks remain for protected land, particularly land with only temporary protection.

Land Protection and Management

To understand the state of land protection in the Commonwealth, we reviewed the Protected Recreation and Open Space data available through MassGIS, which provides both a statistical view of protected acreage and a spatial view of where protected lands are located.

Data available from MassGIS shows that as of June 2003, over 1.5 million acres had been set aside for recreation and open space in the state. Of this, two-thirds, or just over 1 million acres, was permanently protected through fee ownership by a federal, state, or municipal agency or nonprofit conservation organization, or through a conservation restriction.

Land protection is only one factor in preserving habitat. How the land is managed is also important. As seen in **Figure 11**, 90 percent of permanently protected land in the state is managed for water supply, conservation, or combined conservation and recreation, and thus has substantial habitat value. Fifty-seven percent is managed for water supply or for dual conservation and recreation use, creating the potential for conflict between water drawdowns, timber harvesting and recreation, and habitat conservation. Twenty-three percent was protected

primarily for conservation. Timber harvesting may also occur on state-owned Department of Fish and Game and Department of Conservation and Recreation lands. Some dual-use conservation/recreation lands such as state parks may have specific areas designated for conservation.

Conservation Land Ownership in Massachusetts

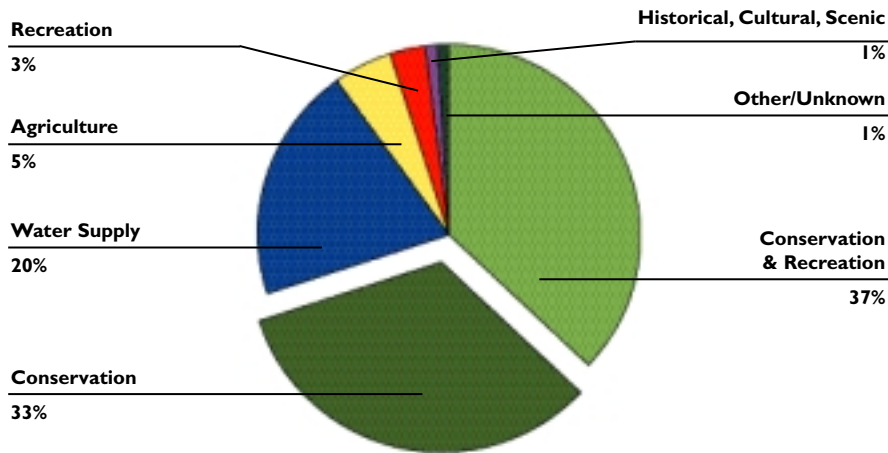
Over half of all permanently protected land is owned directly by the state and managed by agencies within the EOE. Another one-quarter is owned by cities and towns.

The pattern of ownership changes when one considers only permanently protected land managed primarily for conservation. Land protected for conservation may also include lands with managed forestry. Here, nonprofits such as conservation organizations and land trusts, and private owners, play a greater role, directly owning about one-third of this permanently protected land.¹¹ Virtually all of the privately owned land listed here is covered by conservation restrictions. **Figure 12** summarizes ownership patterns by type of land management.



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Figure 11
Primary Purpose of Permanently Protected Land, June 2003



Source: MassGIS protected recreation and open space data, June 2003

Figure 12
Ownership by Level of Protection and Type of Land Management, June 2003

	Owner						Total
	State	Country/Town	Nonprofit Org.	Private Ownership	Federal	Other	
All Protected Recreational and Open Space (acres)	542,154	329,981	129,299	475,909	62,700	22,741	1,562,784
%	34.7%	21.1%	8.3%	30.5%	4.0%	1.5%	100.0%
Permanently Protected Land (acres)	531,943	251,418	97,696	95,974	59,164	12,462	1,048,656
%	50.7%	24.0%	9.3%	9.2%	5.6%	1.2%	100.0%
Permanently Protected Conservation or Conservation & Recreation Land (acres)	425,720	120,664	92,336	47,180	46,179	670	732,750
%	58.1%	16.5%	12.6%	6.4%	6.3%	0.1%	100.0%
Permanently Protected Conservation Land (acres)	119,643	98,571	76,165	42,517	12,761	383	350,040
%	34.2%	28.2%	21.8%	12.1%	3.6%	0.1%	100.0%

Source: MassGIS protected recreation and open space data

Is Wildlife Habitat Being Protected?

The data provided previously gives us an overall snapshot of the level of land protection in the Commonwealth in terms of raw acreage and management objectives. We also need to consider how successful these efforts have been in protecting wildlife habitat specifically, and how much habitat remains at risk.

To measure the amount of wildlife habitat permanently protected, we used a taxonomy similar to that in the second edition of *Losing Ground*, and compared 1999 land use and May 2003 protected recreational and open space data from MassGIS. MassGIS data was adjusted to reflect missing CR acreage and an estimate of missing nonprofit land ownership. Open water is generally not included in the MassGIS open space data. We do not attempt in this study to determine which open water bodies should be considered permanently protected based on the status of surrounding land. To be considered permanently protected, land needed to be owned directly by a conservation-oriented agency or nonprofit, or be covered by a perpetual conservation restriction. Because 1999 is the most recent year for which land use data is available, it will by definition underestimate the amount of land developed today and overestimate the amount of remaining habitat.

The results of this analysis show that while strides have been made in land protection, a large amount of wildlife habitat remains at risk.

- ▲ Of the undeveloped land in Massachusetts, 3.4 million acres represented extended wildlife habitat in 1999, including forest, wetlands, ponds, and streams, as well as open land and urban open land protected for water supply, conservation, or dual conservation and recreation use. Of this, 985,000 acres, or 29 percent, is permanently protected.
- ▲ In Massachusetts, 564,000 acres of land is agricultural or other open land. Of this, 55,000 acres, or just under 10 percent, is permanently protected by our definition. (In some cases an APR may be protecting forested acres we would otherwise consider as wildlife habitat.)
- ▲ Permanently protected wildlife habitat covered almost 19 percent of the state's land area; 46 percent of the state represents extended wildlife habitat—forests, wetlands, lakes, ponds, streams, sandplains, and heathlands—that lacks permanent protection and is at risk of development.

Are We Gaining or Losing Ground?

Because historical data on land protection is incomplete, it is difficult to track statewide changes in land protection by federal, state, municipal, and nonprofit organizations. Our snapshot of land protection in the second edition of *Losing Ground* showed that 17.3 percent of the land area in the state was permanently protected wildlife habitat in 1997, versus our estimate of 18.8 percent in 2003, a change of 78,000 acres over five years.

The EOEA has reported on its own direct land acquisitions, and areas where it has assisted in funding land purchases and conservation restrictions in partnership with other organizations. The agency's reporting indicates the following.

- ▲ One hundred thousand acres were protected statewide between 1991 and 1998 for all purposes, including recreation and water supply.
- ▲ An additional 100,000 acres were protected from October 1998 through July 2001 for all purposes. Eighty five percent of this land would end up in the *BioMap* Core Habitat and Supporting Natural Landscape areas later delineated by NHESP. This faster pace of protection reflects the increased use of conservation restrictions, public/private partnerships, as well as increased state funding for land acquisition. This includes 15,000 acres protected within the Massachusetts Military Reservation (MMR) in Bourne and Sandwich by state law and agreement with the federal government
- ▲ Over 50,000 acres were protected from August 2001 to January 2003 for all purposes.

This progress is encouraging. However, an additional one million acres have been identified for protection over the next 20 years through the Statewide Land Conservation Plan, a collaborative effort between EOEA and a number of conservation, recreation, and watershed groups in the state. Successful implementation of this plan will require a sustained level of protection averaging 50,000 acres per year to protect the best remaining priority lands from development. As we will see in the next chapter, there is a closing window of opportunity to protect these lands, particularly those supporting the rare species and natural communities critical to preserving biodiversity in our state.

CHAPTER 5

Land Use Threats to Biodiversity in Massachusetts

The previous chapter demonstrated that progress is being made in protecting potential wildlife habitat based on overall acreage. But are we being successful at protecting the lands most critical to preserving the broadest diversity of animal and plant communities in the state? Are we protecting our most vulnerable natural communities? In other words, are we investing limited land conservation resources wisely from a biodiversity perspective?

Level of Protection by EPA Ecoregion

One indication of our success or failure in protecting a variety of ecosystems and, by definition, biodiversity is to look at the level of protection within ecoregions. Ecoregions, defined by the US Environmental Protection Agency, identify areas with a similar type,

Loss of land in Massachusetts to development, particularly loss of wildlife habitat, is driven primarily by residential development.