As developers pursue the remaining open space of Norfolk, Plymouth, and Bristol Counties, Southeastern Massachusetts is rapidly becoming a region challenged by competing priorities for land.

Adding residential and commercial properties is often seen as evidence that towns are thriving. In reality, development carries significant impacts to communities as conservation opportunities are overlooked, and wildlife returns to more finely dissected habitats. Study after study illustrates that residential developments cause municipalities more in required services, including schools, police, and roads, than they raise in additional tax revenues. Air and water pollution increase as more homes, vehicles, and businesses move into the area. More land is paved, and all the problems associated with sprawl increase. Southeastern Massachusetts’ protected lands, though fragmented, are rich in species diversity, provide valuable open space to local communities, and create a healthier environment.

This poster shows urban development in Southeastern Massachusetts between 1971 and 1999 and highlights two possible scenarios for the future development of this region. These maps provide a general perspective on land cover change — past, present and future — so that citizens and decision-makers can be informed about the impacts of conservation and development.

How We Live

The history of Southeastern Massachusetts encompasses many types of development and industry. From pre-Colonial to present times, the daily lives of the people of this region are closely tied with the ecosystems in which we live: the national epicenter. By 1840, whaling became a dominating influence on their lives. Increased demand for labor, sparking an influx of immigrants from Ireland, Japan and the recent Brazilian immigration.

In the mid-1800s, capital was being raised from whaling, but the profits were not enough to finance new factories. Mills were established in the opening of the west and suburbanization. Now cotton mills of Southeastern Massachusetts; cities and towns, are rich in species diversity, provide valuable open space to local communities, and create a healthier environment.

Also shown on the 1999 map are protected lands. These areas are those sites of land set aside and protected from human development. Protected lands are more than just recreation areas. They are vital changing regions for improving air and water quality, and they are the sanctuaries for our biological heritage giving protection to locally, nationally and globally rare plants and animal species.

Pine Barrens

These globally rare and largely intact tracts of land are currently the most significant conservation opportunity in Massachusetts. The pine barrens of this region (mostly in Plymouth, Carver, and Wareham) protect the 750 billion-gallon Plymouth-Carver drinking water source. There are no alternatives to this aquifer, and it is easily subject to degradation because of pressures that can allow contaminants to move easily and widely.

Watersheds

The five major watersheds of the region should provide the basis for development planning. The largest watersheds are the Taunton River watershed, in 38 cities and towns, and the Rehoboth-Rutland watershed, in 17 towns (including parts of Cape Cod).

Cranberry Bogs

Cranberry growers own about 60,000 acres of land in Massachusetts, almost all of which is in the southeastern region. Cranberry production increased steadily from 1970 to 1999, but this fell due to much lower prices for berries. Since then, prices have rebounded somewhat but continue to have large price swings. Overcropping by growers who continue or selling the adjacent lands for development could significantly impact the future of Cranberry production. Cranberry production is a very large component of local water resources. Growers own over 25 percent of surface water in Southeastern Massachusetts.

Because the conversion of natural lands to developed lands poses significant threats to watersheds and other resources, predicting urban and suburban land use change provides a basis for understanding what incremental changes may mean over time. The two possible scenarios presented here for the year 2030 were created from a modeling approach based on the pattern and the rate and extent of change of developed areas between 1971 and 1999. This model also considers changes in the road network between the two time periods and protected lands.

Smart Growth (Top) This modeling scenario shows an increase of only 20 percent in the area of developed land over the 30-year period for an increment of less than 1 percent per year. Of all land (water) in the region almost 50 percent would be developed whereas currently about 25 percent is now developed. To grow at this rate would require, of course, significant changes in the way we grow and higher density in almost all areas currently developed. To accomplish this we need to keep the area developed at the same size as the growth of population, which has been about 3.4 percent per year since 1990. This can be accomplished by increasing the density of town and city centers while reducing building density in the more rural areas of a municipality.

Unmanaged Growth (Bottom) In this model scenario, we predict an increase in the developed land of 34 percent over the next 30 years or a rate of about 1.1 percent increase in developed area per year. Of all land (and water) in the region, some 63 percent would be developed, whereas currently about 29 percent is developed.
The South Shore

The 495 Corridor

Three Corridors

1999 Protected Lands

1999 Developed Land

Open Space

2030 Developed Land

Water

What Can I Do?

- Choose environmentally friendly products
- Recycle
- Be a responsible consumer by reducing your use of water and automobiles
- Understand the effects of lawn fertilizing and the additional pollution it introduces to water bodies
- Learn more about the role ecosystems play in sustaining communities
- Organize outings to explore protected lands in your area
- With that knowledge and firsthand experience, be an informed advocate for protected lands and conservation opportunities in your area
- Attend local hearings on these issues and participate in the discussion
- Respond to television and newspaper coverage of these issues
- Investigate whether the Community Preservation Act is appropriate for your community as a way to save land
- Support environmental organizations, conservation initiatives and land trusts with your time and financial support

Since 1971, about 40 percent of the agricultural-rural lands in the region have been lost, and the area of residential, industrial, and commercial properties have increased by more than 60 percent. Research indicates that these trends will continue at land is developed typically at three times the rate of population growth. Hot spots of new development and changes in residential land use have occurred over the past 30 years have been focused around popular coastal areas, highway corridors, and major transportation nodes. Many of these regions in Southeastern Massachusetts may, in fact, become completely developed within the next few decades.

The three areas in Southeastern Massachusetts illustrated here do not demonstrate any specific boundaries, but mostly focus on these general areas of interest with similar characteristics.

Population Changes

This graph shows population trends for Norfolk, Plymouth and Bristol counties. A simple measure of how the character of the land is changing is population density, or how many people, on average, live per unit of land. Not only does the character of the land change whose population density increases, it is well documented that water quality and natural ecosystems suffer greatly with increased human presence.

The average population density for Massachusetts is about 250 persons/km². This means that two thirds of the area of residential, industrial, and commercial properties have increased by more than 60 percent. Research indicates that these trends will continue at land is developed typically at three times the rate of population growth. Hot spots of new development and changes in residential land use have occurred over the past 30 years have been focused around popular coastal areas, highway corridors, and major transportation nodes. Many of these regions in Southeastern Massachusetts may, in fact, become completely developed within the next few decades.

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Acknowledgments and References

This page is adapted from the following references: The Beacham Family Foundation, June R. Law Chronicle Trust and the U.R. beige Chronicle Trust. We also wish to thank the many individuals and organizations that helped us with this work. The report contains addresses and telephone numbers for many individuals and organizations who provided assistance, reviewed drafts, or made contributions in any form. The results presented in this report reflect the views of the authors and do not necessarily reflect the views of any funding agency or organization.

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The South Coast

A relatively new term, “South Coast” refers to the region along the I-195 corridor that connects Providence, Fall River, and New Bedford to Cape Cod. Historically, the region has been highly industrial with fishing playing a large part in its economy. From today, the city of New Bedford has over 300 fishing vessels and, its name of Double Van Banks. In the 2000s, the city of New Bedford to Cape Cod. This region has a widespread and important Portuguese heritage, and many recently in returning immigrants from Cape Verde and Brazil. Other smaller towns in the region include Wareham, Marion, Mattapoisett, Fairhaven, Acushnet, Dartmouth, Westport, Stonington, and Seekonk.

The 495 Corridor

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The South Shore

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