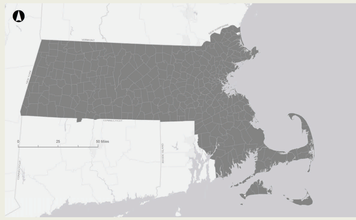
PUBLICLY OWNED OPEN SPACE AND ITS POTENTIAL FOR AGRICULTURAL USE IN MASSACHUSETTS



Land Access: A Policy Barrier

Land access has been identified by many policy institutions as the primary policy and market barrier to expanding local, sustainable food production. There is burgeoning interest in developing farming operations in Massachusetts; however, without land to grow, new farmers are constrained in their ability to contribute to the local food system. Alternative models have emerged in which public land owners have contracted with local growers to lease underutilized public open space for agricultural use. One local example of this model is Brookwood Community Farm, a successful working and educational organic farm, residing on 70-acres of Massachusetts Department of Conservation and Recreation land in Canton, MA. Public conservation organizations aim to promote land stewardship, to which agriculture is of the utmost expression. Understanding the potential of underutilized public land to contribute to agricultural land use is important for local organizations interested in advocating for local, sustainable food system development. This project assessed this potential for the state of Massachusetts, in collaboration with the Conservation Law Foundation.

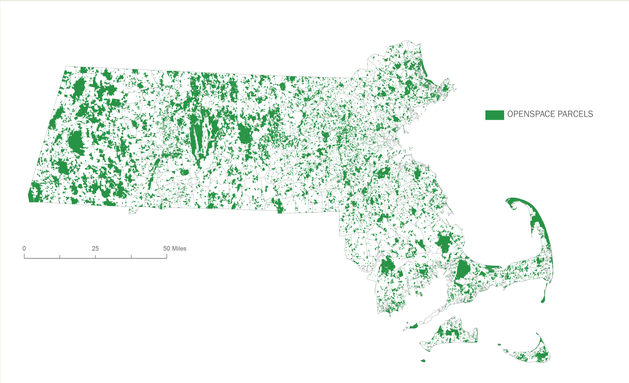


Figure 1: Total open space parcels in Massachusetts

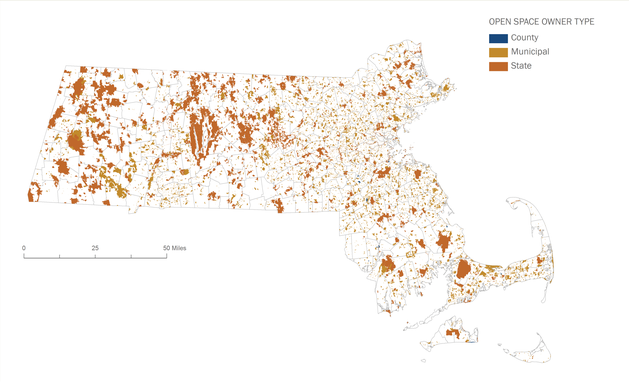


Figure 2: Open space parcels in Massachusetts by Owner Type

Methodology

1. Develop criteria for desirable open space parcels. For this analysis, parcels which fell into the following categories were included: owned by state, county, or municipality; soil classified as suitable for agriculture through national soil classification standards; slope less than 15%; road access within 1/4 mile; and land use categories appropriate for agriculture.

2. Transform data sets in order to conduct table joins with the open space data set. Includes rasterizing soil data and using Zonal Statistics to join tables. Euclidean Distance used to evaluate distance to roads.

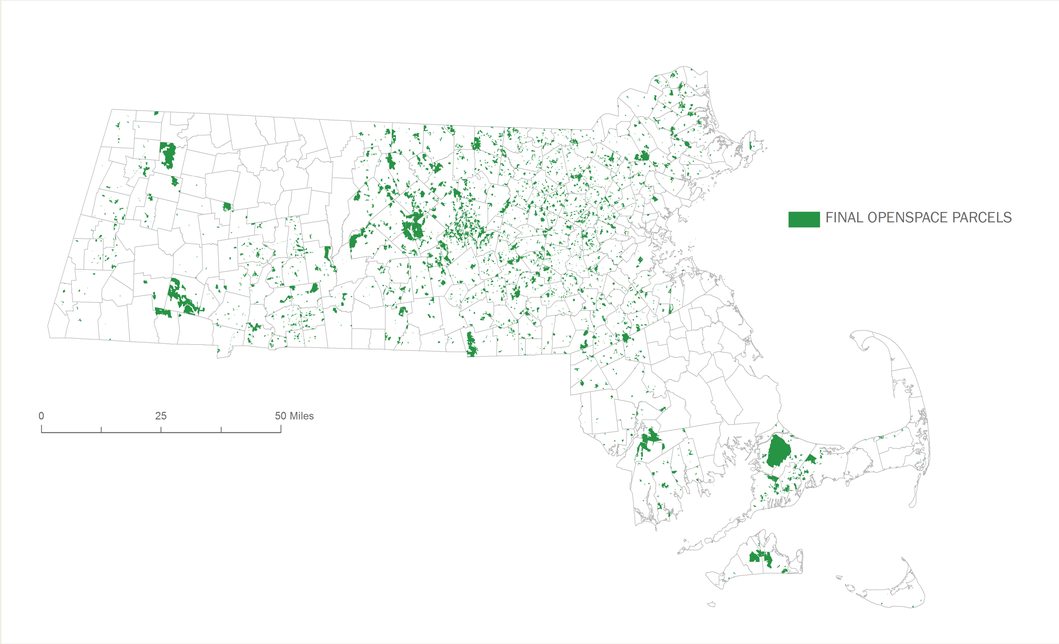
3. Use query tools in order to select for desirable parcels in the open space attribute table, based on criteria listed in (1).

4. Select the desirable land use categories from the full land use data set.

5. Intersect the selected open space data set with the selected land use data set to find parcels which meet all criteria.

6. Generate final parcels in open space data set by selecting out the parcels which intersect with the defined land use codes.

Figure 5: Publicly owned parcels suitable for agriculture in Massachusetts



Results

There are a total of 46,326 open space parcels in the state of Massachusetts, according to open space data from March of 2012. Of these, 4789 parcels totaling 271,944 acres are suitable for agricultural use using the criteria specified in step 1 of Methodology. However, only 210,892 acres fit the designated suitability criteria. This analysis provides a preliminary land base for advocacy organizations interested in working towards increasing land access for agricultural use. Organizations should consider looking at current and past use data sets to better understand the potential for agricultural leasing.

Cartography by Ronak Davé, May 2012
Tufts University Department of Urban + Environmental Policy + Planning

Data Source: MassGIS
Projected Coordinate System: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001

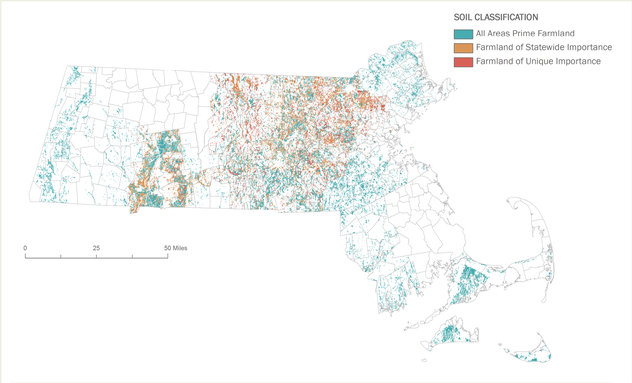


Figure 3: Soil suitable for agriculture in Massachusetts

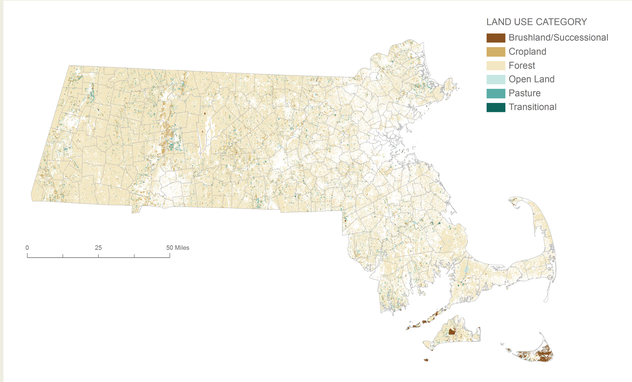


Figure 4: Acceptable land use categories for agriculture in Massachusetts