



Buzzards Bay Project
National Estuary Program

**Build-Out Analysis for Marion, Massachusetts, Using Existing Zoning
Prepared for the Marion 2015 Committee**

by

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Introduction

The Buzzards Bay Project (BBP) provides technical and planning assistance to communities in the Buzzards Bay watershed on issues relating to surface water quality. Dense residential development has an adverse effect upon water quality by increasing the pollutant loads to water bodies via storm water runoff. While storm water best management practices (BMPs) can help reduce the pollutant loads from dense residential development, the BMPs cannot eliminate the increase in pollutant discharges. Large residential lot size results in less impervious surfaces, hence less impact to marine resources from storm water runoff. Larger lot size also brings new options for the preservation of open space through cluster zoning. Cluster zoning can also result in further reductions beyond that required for large lots and decreased pollutant loads.

The Town of Marion Planning Board requested the BBP to perform a build-out analysis of their existing zoning in 1999. In 2004, A request was made by the Marion 2015 Committee to update that build-out based on the existing zoning. The amount of land in each residential zoning district is shown in Table 1: Residential Zoning Districts. For a look at the Marion Zoning map click [here](#).

Table 1: Residential Zoning Districts		
Zoning District	Minimum Lot Size (acres)	Percent of Town
Residence A	0.5	1.5%
Residence B	1.0	3.9%
Residence C	2.0	21%
Residence D	2.0	61%

Methodology

The BBP has compiled a geographical information system (GIS) CD for the Buzzards Bay watershed with information on each town ([Buzzards Bay Project Home Page](#)). The build-out was performed using Marion GIS files and assessor's records.

The data used in the analysis is subject to error. The assessors' maps, which were the base information for the Marion assessors' parcel data, are not survey accurate. To combine the individual 26 assessor's maps into one map of the town, the maps were "stretched to fit" as best as possible by Marion's digitizing consultants.¹ The BBP corrected data files associated with the digital mapping to put it into useable form. To see the parcel map that was used for this analysis click on the map link for [map 1](#).

Starting with the parcel map, the BBP identified types of land that would not be available for future residential development. Separate GIS layers were then constructed for each type of land ownership. All information regarding acreage is based on the 2004 Assessors' data. These layers were:

All Roads - includes all areas designated as roads on Marion assessors' maps. Does not include the old town roads (ancient ways). This coverage does include all subdivision roads even if never constructed. This coverage also includes an area of County Road that is actually in Wareham. (Total = 506 acres)

Permanently Protected Open Space - includes land in the Haskell Swamp Wildlife Management Area (owned by the Commonwealth of Massachusetts Department of Fish and Game), land owned by the Sippican Lands Trust, land owned by The Trustees of Reservations, land owned by the town pursuant to several statutes, (M.G.L. Ch. 40, s. 8C - for conservation land, M.G.L. Ch. 40, s. 3 - for parks and recreation, M.G.L. Ch. 45, s. 14 - for playgrounds, M.G.L. Ch. 40, s. 41 and M.G.L. Ch. 40, s. 3 - for water supplies), and conservation restrictions held by the Town of Marion, Sippican Lands Trust, Wildlands Trust of Southeastern Massachusetts, and The Trustees of Reservations. Also added is the not yet completed purchase of 238 acres by the Open Space Acquisition Commission of a portion of Eastover Farm. (Total = 2,310 acres)

Town Infrastructure Lots - includes those parcels held by the town for water distribution, sewer infrastructure (lagoons and pumping stations), transfer station, cemeteries, DPW barn, Town House, Sippican School, and police and fire stations. (Total = 280 acres)

Utilities - includes electric transmission lines (on lots held by NStar), the telephone switching station, cable TV tower, and cable TV offices. (Total = 23 acres)

Salt Marsh Lots Restricted by M.G.L. Ch. 130, s.105 - Most of the 419 acres of salt marsh in Marion are protected by a deed restriction pursuant to Massachusetts General Law Chapter 130, section 105. The entire portion of some lots is under a restriction order. These restriction orders preceded the Massachusetts Coastal Wetland Regulations (310.CMR 10.24) adopted pursuant to the Massachusetts Wetlands Protection Act (WPA) and are generally less restrictive than the WPA Regulations. A copy of the restriction order and a copy of the maps can be found [here](#). The lot area in this group is considered permanently protected open space by the Massachusetts Division of Conservation Services. Some of the lots in this group have been listed previously as Permanently Protected Open Space. (Total = 78 acres)

¹ Copies of the Assessors' maps are available at <http://www.townofmarion.org/assessors.html>

After creating and stripping away [these layers](#), the [remaining land](#) can be considered as available for new development or could be redeveloped. The BBP examined the land available for future development and redevelopment to determine which lots would not be affected by an increase in the lot size. Factors considered to determine if the residential use of the lot could be intensified were:

1. the [current use](#) of the lot;
2. the size of the lot;
3. the applicable [zoning district](#);
4. the [velocity zone delineation](#) relative to the lot; and
5. the [amount of uplands](#) based on the Department of Environmental Protection [Wetland Conservancy Program mapping](#).

To determine how much land was required for further subdivision of a parcel, each lot was considered to have no frontage. Therefore, to create an additional lot, the area containing the requisite number of square feet as required by the zoning district, as well as the area to construct a road to establish frontage was required. Since road construction can provide frontage for lots on both sides of the street, the area required for roads for each lot were:

Lot Frontage Required By Zoning (feet) X 50 feet (layout width) X 0.5

Storm water controls are required in all subdivisions. To determine the amount of land dedicated to storm water control, the BBP assumed soils in hydrologic class C, a pre-development condition of “good woods” and no storage available for rate or volume controls below a depth of three feet due to water table restrictions. Calculations regarding existing area requirements for frontage and storm water controls were performed for the minimum lot size in each zoning district. The total land area for each lot was determined to be the following:

General Business (GB)	18,120 square feet
Marine Business (MB)	18,120 square feet
Limited Industrial (LI)	18,120 square feet
Limited Business (LB)	17,508 square feet
Residence A (RA)	25,675 square feet
Residence B (RB)	48,558 square feet
Residence C (RC)	94,039 square feet
Residence D (RD)	95,315 square feet

Since the Marion Zoning Bylaw allows an accessory apartment without a special permit in the LB district, each lot in the LB district was assumed to have a primary dwelling and an apartment at build-out.

Preliminary division of land into the eleven categories in the [Information Compiled Regarding Residential Land Use in Marion, Massachusetts](#) was done to make a draft listing of the land that could not be further subdivided based on lot size, existing land use, and the applicable zoning district. There was debate in 1999 as to whether to include the town owned open space parcels that have no formal open space protection. To reflect the uncertainty of the status of these lots, a separate analysis was done in 2005 as well as in 1999. Many lots are too small to be developed (less than 5,000 square feet) or are unlikely to be developed. These are referred to as the “Church Lots” and no further analysis beyond

an accurate inventory of those lots was needed. The preliminary information created regarding these three groups of lots is given below

Parcels not further Subdividable - comprising 2,626 acres, build-out at 3142 units.

Unprotected Town-owned Open Space does not include salt marsh lots restricted by M.G.L. Chapter 130, section 105; comprises 205 acres, build-out at 92 units.

Church Lots and Misc. Undevelopable Land includes lots in Category 11; comprises 45 acres.

When the layers above were created and removed from the land available for future development or redevelopment, there were 3,296 acres remaining or [36% of the town](#).

These remaining 3,296 remaining acres, which includes both empty land and partially developed parcels can be divided into two groups: core wetlands and land available for future development. [Core wetlands](#) are mapped by the Department of Environmental Protection Wetland Conservancy Program. While wetlands may be included as a contribution for part of the minimum lot size requirements, the combination of the wetland exclusion requirements for residential properties and the mapping procedures of the Wetland Conservancy Program make it possible to exclude the DEP-WCP wetland area for the computation of lot size. The core wetlands in the residential district of the 3,296 acres account for 831 acres, leaving 2,465 acres, or 27% of the town, for further development. A table showing the distribution of the 2,465 acres by zoning district is provided below. In commercial areas (Zoning Districts MB, GB, LI and LB) there is no wetland exclusion and the wetland coverage was used to determine only if there was a minimum area (1,000 square feet).

<u>Zoning District</u>	<u>Acres</u>
Residence A	19
Residence A	27
Residence A	290
Residence A	1857
General Business	137
Limited Business	4
Marine Business	30
Limited Industrial	101

Results

Based on an analysis of wetlands and the velocity zone and specific subdivision decisions that limit further land division, the land areas investigated were placed into final categories as outlined in the [Information Compiled Regarding Residential Land Use in Marion, Massachusetts](#). The BBP then conducted calculations of the number of existing dwelling units in [each land use category](#) and the corresponding build-out potential. The final number of units at build out is given below for each zoning district.

<u>Build-out Results by Zoning District</u>	Total # Potential Units	Projected Growth
RA	362	115
RB	674	124
RC	1282	354
RD	1454	890
RE	34	8
GB	274	180
MB	87	55
LB	114	56
LI	237	222
Tabor*	47*	47*
Town Owned, Unprotected Open Space*	92*	92*
TOTALS	4657*	2143*

* During the presentations of the 1999 build-out information, public comments were made regarding the assumptions of future use for the town owned, unprotected open space parcels, and the land owned by Tabor Academy. Build-out calculations are based on the existing zoning and what that zoning would allow in growth over time. For the purposes of this build-out report, no assumptions were made regarding the future intentions of landowners. However, based on questions and comments made regarding the 1999 report, the BBP has separated these two land owners from the rest of the town for informational purposes.

More detailed information is available in several spreadsheets prepared for this report. In each spreadsheet, information is given by the land use category (1 through 11) and by zoning district.

Spreadsheet 1: [Existing Conditions](#) indicates what the existing conditions are for residential land use in each land use category and zoning district. Based on the information available to the BBP the existing number of dwellings units is 2,514.

Spreadsheet 2: [Final Build-out](#) provides information by land use category and zoning district for the build-out using the existing zoning provisions. Since the provisions for special permits regarding accessory apartments are fairly non-restrictive, a separate line has been added to show the effect of second units at each location.

Spreadsheet 3: [Growth by District](#) again provides information by land use category and zoning district to show where growth may occur.

For further questions regarding these figures, please contact [JohnRockwell](#) at the Buzzards Bay Project office, #508-291-3625, x14.

Notes on Sources and Accuracy:

The analysis was performed using a Geographical Information System (GIS). Known errors have been noted below. Overall, errors in data of $\pm 5\%$ should not be unexpected. Errors in the data can occur in three ways:

1. The Marion GIS data was based on a manipulation of the Marion assessors' maps to fit adjoining maps and the actual geographic boundaries of the town. While the BBP has improved this data since it was created by the town's GIS consultant, it does not represent the actual lot boundaries.
2. No Marion Assessors' Map is survey accurate, but merely a drawing of the best fit of adjoining parcels described by the deeds. (see note on assessors' maps)
3. The deeds for property used to draw the assessors' maps may not accurately describe the actual property bounds.
4. Land use characterizations were based on assessors' data from Vision. Occupancy information and use codes sometimes conflicted.