

SAMPLING AND ESTIMATION DETAILS FOR THE MASSACHUSETTS PORTION OF
THE NATIONAL INVENTORY OF SOIL AND WATER CONSERVATION NEEDS

BU-185-M

Thomas M. Beetle

July, 1965

Abstract

This paper provides some details on the sampling and estimation procedures for each county in Massachusetts. It is intended as a supplement to BU-180-M.

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Sampling and estimation procedures in Massachusetts followed the procedures described in BU-180-M, with an increased 4% sampling rate in the SuAsCo watershed. Suffolk County was not estimated because of its urban nature.

Vast code revisions were made in this state during 1964. Summary tables compiled subsequent to this writing will be in the new code systems.

The four numbers under the county name in the following tables denote sample design, sample unit size, sampling rate, and estimation procedure according to the following code:

First
Number

Sample Design

1

Stratified within county

2

Stratified within land resource unit within county

3

Combination of Code 1 and Code 2

Second
Number

Sample Size

1

100 acres

2

250 acres

3

400 acres

Third
Number

Approximate sampling rate percentage

Fourth
Number

Estimation Procedure

1

Single expansion ratio for entire county

2

Separate expansion ratio for each land resource unit in the county

Water estimates are excluded from the River Basin estimates in all counties.

BARNSTABLE COUNTY, MASSACHUSETTS

2, 1, 2, 2

Adjusted Census Ac.
255,360

Adjusted Sample Ac.
4,966

Estimated Ac.
255,365

<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	10,862	2,049	174,073	38,406	23,860	6,108

River Basin

01000 - New England Drainage Basin

Estimated Ac.
249,257

BERKSHIRE COUNTY, MASSACHUSETTS

2, 1, 2, 2

Adjusted Census Ac.
602,174

Adjusted Sample Ac.
12,457

Estimated Ac.
602,156

<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	45,184	25,003	467,377	27,708	32,669	4,191

River Basin - New England Drainage Basin

- 01100 - Connecticut River
- 01110 - Housatonic River
- 01120 - Hudson River

Estimated Ac.
143,146
331,038
123,781

Excluded Acreage:

*LRU B4a 706

Notes: *No sample acreage for LRU B4a.

BRISTOL COUNTY, MASSACHUSETTS

2, 1, 2, 2

Adjusted Census Ac.
355,840

Adjusted Sample Ac.
7,335

Estimated Ac.
355,830

<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	47,255	11,746	255,243	24,942	45,357	1,310

River Basin

01000 - New England Drainage Basin

Estimated Ac.
354,520

DUKES COUNTY, MASSACHUSETTS

2, 1, 2, 2

Adjusted Census Ac.
67,840

Adjusted Sample Ac.
1,395

Estimated Ac.
67,840

<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	4,188	3,904	46,748	9,634	2,139	1,226

River Basin

01000 - New England Drainage Basin

Estimated Ac.
66,614

ESSEX COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
320,000	6,816			320,016		
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	28,643	8,056	173,100	41,715	67,652	872
<u>River Basin</u> - New England Drainage Basin						<u>Estimated Ac.</u>
010000 - New England Drainage Basin						221,343
010800 - Merrimack River						97,801

FRANKLIN COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
452,480	9,445			452,493		
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	39,659	24,462	365,265	15,463	6,430	1,242
<u>River Basin</u> - New England Drainage Basin						<u>Estimated Ac.</u>
011000 - Connecticut River						451,251

HAMPDEN COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
397,440	8,228			397,447		
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	24,269	11,139	267,234	17,016	73,729	4,075
<u>River Basin</u> - New England Drainage Basin						<u>Estimated Ac.</u>
010910 - Quinebaug						37,728
011000 - Connecticut River						355,644

HAMPSHIRE COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
337,920	7,154			337,928		
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	62,884	24,379	220,530	15,284	13,208	1,626
<u>River Basin</u> - New England Drainage Basin						<u>Estimated Ac.</u>
011000 - Connecticut River						336,302

MIDDLESEX COUNTY, MASSACHUSETTS

2, 1, 2*, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
530,560	15,731					530,551
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	42,019	29,891	274,454	94,731	85,001	4,450
<u>River Basin</u> - New England Drainage Basin						<u>Estimated Ac.</u>
010000 - New England Drainage Basin						157,132
010800 - Merrimack River						368,969

Notes: B2el was combined with the SuAsCo watershed part of B2el(a).

*SuAsCo watershed portion was sampled at the 4% rate.

NANTUCKET COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
29,440	700					29,442
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	2,817	--	3,996	22,628	--	--
<u>River Basin</u>						<u>Estimated Ac.</u>
010000 - New England Drainage Basin						29,442

NORFOLK COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
254,720	5,130					254,726
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	18,161	10,206	159,560	18,126	44,617	4,055
<u>River Basin</u>						<u>Estimated Ac.</u>
010000 - New England Drainage Basin						250,671

PLYMOUTH COUNTY, MASSACHUSETTS

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
424,960	8,836					424,976
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	39,518	5,742	297,513	28,554	49,415	4,246
<u>River Basin</u>						<u>Estimated Ac.</u>
010000 - New England Drainage Basin						420,730

SUFFOLK COUNTY, MASSACHUSETTS

Not sampled.

WORCESTER COUNTY, MASSACHUSETTS

2, 1, 2*, 2

Adjusted Census Ac.

970,240

Adjusted Sample Ac.

21,134

Estimated Ac.

970,299

<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Estimated Ac.:</u>	93,872	62,138	683,322	56,914	63,246	10,790

River Basin - New England Drainage Basin

Estimated Ac.

010000 - New England Drainage Basin	189,685
010800 - Merrimack River	253,110
010910 - Quinebaug	115,059
011000 - Connecticut River	401,655

Notes: *SuAsCo watershed portion was sampled at the 4% rate.
