

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

BU-191-M

Thomas M. Beetle

July, 1965

Abstract

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

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Sampling and estimation procedures for Vermont follow those described in BU-180-M, except for a reduced sampling rate of 1% or 1/2% in land resource unit B3a. The data for Grand Isle County is from complete measurement of the county.

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

3

Completely measured data---  
automatically expanded by a ratio of 1.00

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

ADDISON COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.

424,034

Adjusted Sample Ac.

9,100

Estimated Ac.

424,008

<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>	128,476	113,930	167,557	11,662	496	1,874

River Basin - New England Drainage Basin and  
Great Lakes and St. Lawrence Drainage Basin

Estimated Ac.

011000 - Connecticut River

27,113

040113 - Otter Creek

395,021

Excluded Acreage:

Federal land 78,366

Notes: The following land resource units were combined for estimation purposes: B9a1 and B9a2.

BENNINGTON COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.

368,069

Adjusted Sample Ac.

7,400

Estimated Ac.

368,059

<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>	36,262	23,781	287,332	13,741	5,784	1,154

River Basins - New England Drainage Basin and  
Great Lakes and St. Lawrence Drainage Basin

Estimated Ac.

011000--Connecticut River

72,318

011200--Hudson River

270,983

040110--Lake Champlain

23,604

Excluded Acreage:

Federal land 62,011

CALEDONIA COUNTY, VERMONT

2, 1, 2\*, 2

Adjusted Census Ac.

392,960

Adjusted Sample Ac.

8,547

Estimated Ac.

392,998

<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>	46,786	42,917	289,175	10,191	2,269	1,663

River Basins - New England Drainage Basin and  
Great Lakes and St. Lawrence Drainage Basin

Estimated Ac.

011000 - Connecticut River

333,811

040110 - Lake Champlain

47,321

040112 - Winnooski River

10,203

Notes: \*LRU B3a was sampled at the 1/2% rate.

CHITTENDEN COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.  
327,980

Adjusted Sample Ac.  
7,170

Estimated Ac.  
327,969

<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>	70,025	45,137	194,714	4,647	11,120	2,314

<u>River Basin</u> - Great Lakes and St. Lawrence Drainage Basin	<u>Estimated Ac.</u>
040110 - Lake Champlain	209,683
040112 - Winnooski River	115,972

Excluded Acreage:  
Federal land 12,500

ESSEX COUNTY, VERMONT

2, 1, 2\*, 2

Adjusted Census Ac.  
424,960

Adjusted Sample Ac.  
3,300

Estimated Ac.  
424,969

<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>	18,135	10,260	376,542	20,039	--	--

<u>River Basins</u> - New England Drainage Basin and Great Lakes and St. Lawrence Drainage Basin	<u>Estimated Ac.</u>
011000 - Connecticut River	355,258
040100 - St. Lawrence River	69,711

Notes: \*LRU B3a was sampled at the 1/2% rate.

FRANKLIN COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.  
417,960

Adjusted Sample Ac.  
8,800

Estimated Ac.  
417,960

<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>	108,553	96,379	188,183	17,494	4,374	3,003

<u>River Basin</u> - Great Lakes and St. Lawrence Drainage Basin	<u>Estimated Ac.</u>
040110 - Lake Champlain	174,705
040111 - Missisquoi River	240,252

Excluded Acreage:  
Federal land 3,800

GRAND ISLE COUNTY, VERMONT

1, 1, 2, 3

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Measured Ac.</u>
49,280	- - -					49,280
<u>Land Use:</u>	<u>Cropland</u>	<u>Pasture</u>	<u>Forest</u>	<u>Other</u>	<u>Urban</u>	<u>Water</u>
<u>Measured Ac.:</u>	21,132	15,115	9,258	3,741	- -	34
<u>River Basin</u> - Great Lakes and St. Lawrence Drainage Basin						<u>Measured Ac.</u>
040110 - Lake Champlain						49,246

LAMOILLE COUNTY, VERMONT

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
304,000	6,500					304,022
<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>	32,232	28,994	229,596	6,917	5,030	1,233
<u>River Basin</u> - Great Lakes and St. Lawrence Drainage Basin						<u>Estimated Ac.</u>
040110 - Lake Champlain						227,956
040111 - Missisquoi River						8,397
040112 - Winnooski River						66,436

Notes: The following land resource units were combined for estimation purposes: B2d and B4a.

ORANGE COUNTY, VERMONT

2, 1, 2, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
441,600	9,400					441,598
<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>	56,418	74,124	302,258	7,457	583	782
<u>River Basins</u> - New England Drainage Basin and Great Lakes and St. Lawrence Drainage Basin						<u>Estimated Ac.</u>
011000 - Connecticut River						394,648
040110 - Lake Champlain						46,168

ORLEANS COUNTY, VERMONT

2, 1, 2\*, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>					<u>Estimated Ac.</u>
457,600	9,400					457,601
<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>	90,348	44,068	300,766	21,194	90	1,167
<u>River Basin</u> - Great Lakes and St. Lawrence Drainage Basin						<u>Estimated Ac.</u>
040100 - St. Lawrence River						308,132
040110 - Lake Champlain						27,551
040111 - Missisquoi River						120,751

Notes: \*LRU B3a was sampled at the 1% rate.

RUTLAND COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.  
542,412

Adjusted Sample Ac.  
12,300

Estimated Ac.  
542,418

<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>	73,277	94,984	352,246	12,419	6,752	2,724

<u>River Basins</u> - New England Drainage Basin and Great Lakes and St. Lawrence Drainage Basin	<u>Estimated Ac.</u>
011000 - Connecticut River	64,291
040110 - Lake Champlain	225,161
040113 - Otter Creek	250,242

Excluded Acreage:  
Federal land 52,148

WASHINGTON COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.  
449,851

Adjusted Sample Ac.  
9,236

Estimated Ac.  
449,831

<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>	43,526	50,609	333,643	21,740	- -	289

<u>River Basins</u> - New England Drainage Basin and Great Lakes and St. Lawrence Drainage Basin	<u>Estimated Ac.</u>
011000 - Connecticut River	23,236
040110 - Lake Champlain	14,646
040112 - Winnooski River	411,660

Excluded Acreage:  
Federal land 3,269

WINDHAM COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.  
492,672

Adjusted Sample Ac.  
10,582

Estimated Ac.  
492,654

<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>	25,273	14,495	432,127	11,399	7,438	1,916

<u>River Basin</u> - New England Drainage Basin	<u>Estimated Ac.</u>
011000 - Connecticut River	490,738

Excluded Acreage:  
Federal land 14,848

WINDSOR COUNTY, VERMONT

2, 1, 2, 2

Adjusted Census Ac.

597,876

Adjusted Sample Ac.

12,890

Estimated Ac.

597,876

<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>	72,473	53,767	447,071	12,476	7,649	4,445

River Basin - New England Drainage Basin

011000 - Connecticut River

Estimated Ac.

593,431

Excluded Acreage:

Federal land 19,724

