

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

BU-187-M

Thomas M. Beetle

July, 1965

Abstract

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

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The sampling procedure for New Jersey consisted of stratifying within land resource units within the state without regard for county boundaries. The sampling rate for each land resource unit was determined by its relative size. These rates varied from .6% in LRU 04 to 34% in LRU N7. For a complete list of the sampling rates see attached page 1a.

The initial estimates for the Atlantic Coastal Plain, consisting of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Monmouth, Ocean, and Salem Counties, were computed by estimating the complete land resource units in the area and distributing these estimates proportionately to the counties. However, this procedure projects soil-phase separations from one county where they exist to other counties where they do not exist. Hence, new expansion ratios were computed for each land resource unit within each of the above counties in accordance with the standard procedure described in BU-180-M, and future summary tables will be compiled on the basis of this adjusted estimation procedure.

Tidal marsh and urban acreages have been excluded in the estimates for New Jersey.

Bergen, Essex, Hudson, Passaic, and Union Counties were not sampled.

The two numbers under the county name in the following tables denote sample unit size and estimation procedure according to the following code:

<u>First</u> <u>Number</u>	<u>Sample Size</u>
1	100 acres

  

<u>Second</u> <u>Number</u>	<u>Estimation Procedure</u>
1	Single expansion ratio for entire county
2	Separate expansion ratio for each land resource unit in the county

Watershed tables were not printed for the State of New Jersey, therefore the River Basin estimates were not available at this writing.

Sampling rate for each LRU in the State of New Jersey:

N1 - - - - -	8%	S10dhj and S10j - - - - -	5.5%
N2 - - - - -	20%	S10j1 - (combined with SH)	
N3 - - - - -	6%	S10j2 and S10j3 - - - - -	5%
N4 - - - - -	2.75%	S10e - - - - -	16%
N5 - - - - -	6.5%	S10f - - - - -	24%
N6 - - - - -	7.25%	SH - - - - -	5%
N7 - - - - -	34%	H1a - - - - -	4.2%
N8 - - - - -	1.125%	H1b - - - - -	7.75%
N9 - not sampled		H1d - - - - -	20%
N10 - - - - -	1.75%	H1e - - - - -	12%
NS1 - - - - -	2%	H2 - - - - -	9%
NS2 - (combined with N6)		H3 - - - - -	17%
S6 - - - - -	5%	H4 - - - - -	5.5%
S8 - - - - -	10%	H5 - - - - -	19%
S9 - - - - -	5.25%	O1 - - - - -	1.5%
S9a - - - - -	2.75%	O4 - - - - -	.6%
S9a1 - - - - -	4%	O1-5 and O2-4 - - - - -	.75%
S10a - - - - -	32%	CT - - - - -	4%
S10b1 - - - - -	21%	CT1 - - - - -	12%
S10b2 - - - - -	30%	TM - not sampled	
S10b - - - - -	10%	CTU - (urban) - not sampled	
S10cg - - - - -	4%		

ATLANTIC COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
289,373

Adjusted Sample Ac.  
2,436

Estimated Ac.  
289,403

<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>	33,449	180	238,990	10,783	5,675	325
<u>Excluded Acreage:</u>						
Tidal Marsh and Urban		78,600				

BERGEN COUNTY, NEW JERSEY

Not sampled.

BURLINGTON COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
497,851

Adjusted Sample Ac.  
5,956

Estimated Ac.  
497,860

<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>	108,412	25,965	318,986	16,037	27,732	727
<u>Excluded Acreage:</u>						
Federal land		17,149				
Tidal Marsh and Urban		9,200				

CAMDEN COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
98,659

Adjusted Sample Ac.  
1,700

Estimated Ac.  
98,600

<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>	47,832	821	37,248	4,518	8,182	380
<u>Excluded Acreage:</u>						
Urban		42,800				

CAPE MAY COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
114,732

Adjusted Sample Ac.  
2,200

Estimated Ac.  
114,708

<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>	25,809	- -	66,114	6,882	15,746	156
<u>Excluded Acreage:</u>						
Tidal Marsh		56,200				

CUMBERLAND COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
277,145

Adjusted Sample Ac.  
6,600

Estimated Ac.  
277,120

<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>	97,941	20,080	115,540	36,699	2,326	883

Excluded Acreage:  
Tidal Marsh

44,800

Notes: The following land resource units were combined for estimation purposes: CT and CT1.

ESSEX COUNTY, NEW JERSEY

Not sampled.

GLOUCESTER COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
204,764

Adjusted Sample Ac.  
5,781

Estimated Ac.  
204,815

<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>	93,542	3,901	70,136	12,899	22,600	700

Excluded Acreage:  
Urban

5,800

Notes: The following land resource units were combined for estimation purposes: H4 and O4.

HUDSON COUNTY, NEW JERSEY

Not sampled.

HUNTERDON COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
278,400

Adjusted Sample Ac.  
12,500

Estimated Ac.  
278,403

<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>	106,531	40,213	76,135	44,649	10,169	705

MERCER COUNTY, NEW JERSEY

1, 2

Adjusted Census Ac.  
128,457

Adjusted Sample Ac.  
4,600

Estimated Ac.  
128,449

<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>	54,912	10,958	38,109	7,299	17,070	100

Excluded Acreage:  
Urban

17,443

Notes: The following land resource units were combined for estimation purposes: H1b and H1a.

MIDDLESEX COUNTY, NEW JERSEY  
1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
154,298	6,011			154,302		
<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>	36,699	1,185	48,281	29,647	38,239	250
<u>Excluded Acreage:</u>						
Federal land	5,400					
Urban	40,002					

Notes: The following land resource units were combined for estimation purposes: S10j2 and S10j3.

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MONMOUTH COUNTY, NEW JERSEY  
1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
257,101	6,200			257,061		
<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>	103,897	17,320	88,320	30,484	16,411	630
<u>Excluded Acreage:</u>						
Federal land	10,849					
Urban	37,400					

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MORRIS COUNTY, NEW JERSEY  
1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
293,071	4,518			293,067		
<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>	30,580	8,838	173,966	34,463	40,786	4,434
<u>Excluded Acreage:</u>						
Federal land	6,429					

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OCEAN COUNTY, NEW JERSEY  
1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
352,271	1,600			352,300		
<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>	17,357	6,974	285,638	20,213	22,119	- -
<u>Excluded Acreage:</u>						
Tidal Marsh and Urban	56,700					

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PASSAIC COUNTY, NEW JERSEY

Not sampled.

SALEM COUNTY, NEW JERSEY

1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
213,223	7,100			213,187		
<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>	98,475	16,417	60,379	28,938	5,229	3,749
<u>Excluded Acreage:</u>						
Tidal Marsh	10,800					

SOMERSET COUNTY, NEW JERSEY

1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
181,068	5,347			181,055		
<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>	61,889	20,318	45,811	41,390	10,883	765
<u>Excluded Acreage:</u>						
Federal land	812					
Urban	14,620					

SUSSEX COUNTY, NEW JERSEY

1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
336,140	9,192			336,134		
<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>	47,059	48,809	184,334	42,860	8,055	5,017
<u>Excluded Acreage:</u>						
Urban	1,760					

Notes: One sample plot from Warren County was included in estimating land resource unit N-8 in this county.

UNION COUNTY, NEW JERSEY

Not sampled.

WARREN COUNTY, NEW JERSEY

1, 2

<u>Adjusted Census Ac.</u>	<u>Adjusted Sample Ac.</u>			<u>Estimated Ac.</u>		
226,418	8,666			226,418		
<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>	57,525	25,925	90,147	40,338	11,177	1,307
<u>Excluded Acreage:</u>						
Federal land	42					
Urban	4,540					

Notes: Six sample plots from Sussex County were included in estimating land resource unit N-8 in this county.