

Task 3  
Technical Memorandum 1 (Activity)  
Control Analysis and Documentation for  
Residential Wood Combustion in MANE-VU Region

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## 1. Introduction

Task 3 of the contract for the *Control Analysis and Documentation for Residential Wood Combustion Emissions in the MANE-VU Region* is the development of activity data. As specified in the contract, summaries of wood burning activity are provided by county and by state. Also as specified, equipment level data (the number of appliances and mass of dry wood used) by county, by state and by the three Heating Degree Day zones, defined previously by MARAMA reports, have been provided along with information about outdoor wood boilers. The contract requires that “All analysis of survey results and activity data must be transparent and well documented in order to be replicable.” To comply with this requirement, the equations used, references for data sources, and tabulations of intermediate data have been provided in Sections 2 and 3. Section 2 supports the development of wood heater and fireplace without insert activities. Section 3 supports the development of centralized heating system and pellet heater activities along with manufactured firelog activity and outdoor boiler information. Summary tables are provided as Section 4. Due to the complexity and detailed nature of Sections 2 and 3, it is recommended that the reader review Section 4 first, as data contained in Section 4 alone may be adequate for most purposes.

## **2. Wood Heaters and Fireplaces without Inserts**

The calculation of the number of wood heaters (wood stoves plus fireplaces with inserts) by county that are used (in contrast to owned) were conducted by eight different methods. The calculation of the number fireplaces without inserts used for heat (in contrast to owned or used for aesthetics) were calculated by six different methods. Fireplaces used for aesthetics were not included in the by county calculations because it has been estimated that the usage of cordwood in fireplaces for aesthetics represents less than 10% of the total cordwood used in fireplaces. The details of each calculation method for wood heaters and fireplaces without inserts used for heating are provided in Section 2.1-2.8. Section 2.9 provides the details of the method used to derive the final number of households with wood heaters by county. Section 2.10 provides the details of the method used to derive the final number of households with fireplaces without inserts used for heat by county. Sources of data used to calculate the numbers of wood heaters and fireplaces without inserts used for heat included the U.S. Census Bureau, American Housing Survey reports, Simmons Marketing Research data, Hearth, Patio, and Barbecue Association surveys, and various state surveys. The key results of the 2002 MARAMA survey are summarized in Section 2.11 because multiple appliance ownership and cordwood use for each appliance type by the three heating categories, defined in MARAMA's reports, were obtained from that database for the MANE-VU region. From the multiple ownership factor and the number of households using wood heaters (Section 2.9) and fireplaces without inserts (Section 2.10) the total number of wood heaters and fireplaces without inserts were calculated and are presented in Section 2.12. The distribution of tree species by state and the typical weight of a cord of wood on a dry basis were calculated state by state. From the amount of wood used by appliance type, from the typical mass of a dry cord of wood by state, and from the number of appliances per county, the dry mass of wood by county, by state and by heating category was calculated for both wood heaters and fireplaces without inserts used for heating (Section 2.13).

## 2.1. Calculation Method 1

For method 1, data were taken for specific counties directly from American Housing Survey's (AHS) metropolitan area surveys. These are listed as subareas in the AHS reports.<sup>1</sup> For some counties the data for two subareas were combined to obtain data for the entire county

Total stove usage is the sum of households using stoves as other heat and households using stoves as main heat. Stove data are for solid fuel burning stoves only. Coal and other solid fuel are insignificant compared to wood.

Total fireplace with insert usage is the sum of households using fireplace inserts as main heat and households using fireplace inserts as other heat. Both gas and solid fuel appliances were included in the AHS; those that use gas fueled were subtracted from the total number.

Units using piped gas, using bottled gas, and area household numbers were taken from AHS.

Total number of households using fireplaces with inserts, excluding gas fueled ( $FP_i$ ), was calculated by the following equation:

### Equation 2.1.1

$$FP_i = 1 - (0.076 \times \frac{(\text{County } G_P + \text{County } G_B) / \text{County } H_A}{0.702}) \text{ where:}$$

$G_P$  = Households using piped gas  
 $G_B$  = Households using bottled gas  
 $H_A$  = Total households

0.702 = The fraction of houses using gas in the United States<sup>2</sup>:

### Equation 2.1.1a

$$\frac{(\text{National } G_P + \text{National } G_B)}{\text{Total national } H_A} = \frac{(65,130,000+9,188,000)}{105,842,000}$$

0.076 = The fraction of total fireplace inserts nationally that are gas-fueled, as given by:

### Equation 2.1.1b

$$0.076 = \frac{I_g}{(I_w+I_g)} = \frac{559,483}{(106,051,500 \times 0.058 \times 1.1) + 559,483} = \frac{553,483}{6,766,086 + 553,483}$$

<sup>1</sup> American Housing Survey for the Baltimore Metropolitan Area: 1998; AHS for the Boston Metropolitan Area: 1998; AHS for the N. New Jersey Metropolitan Area: 2003; AHS for the Buffalo, NY Metropolitan Area: 2002; AHS for the Rochester Metropolitan Area: 1998; AHS for the Pittsburgh, PA Metropolitan Area: 2004; AHS for the Philadelphia Metropolitan Area: 2003; U.S. Department of Housing and Urban Development and U.S. Department of Commerce and U.S. Census Bureau

<sup>2</sup> AHS for United States: 2003, Current Housing Reports, issued 9/04, U.S. Department of Housing and Urban Development and U.S. Department of Commerce and U.S. Census Bureau

$I_g$  = Total number of gas fueled inserts in 2002<sup>3,4</sup> = 559,483  
 $I_w$  = Total number of households in the U.S., 2002<sup>5,6</sup> X Fraction of households that own a wood fireplace insert<sup>7</sup> X multiple ownership factor = Total number of wood fired inserts in 2002 = 6,766,086

Sum of households using wood heaters is found by adding total households using woodstoves to total households using fireplaces with inserts for heat, excluding gas fueled, and multiplying the result by the population adjustment fraction.

Total fireplace without insert usage is the sum of households using fireplaces without inserts as main heat and households using fireplaces without inserts as other heat.

Total number of households using fireplaces without inserts, excluding gas fueled ( $FP_{ni}$ ), is given by the following:

Equation 2.1.2

$$FP_{ni} = 1 - (0.297 \times \frac{(\text{County } G_p + \text{County } G_B) / \text{County } H_A}{0.702}) \times Fa \text{ where:}$$

$Fa$  = Adjustment fraction correcting survey year to 2002  
 = Population in 2002 / Survey year population

Population 2002 is from U.S. Census Bureau  
 Population survey year is from AHS

0.297 = The fraction of gas fueled fireplaces nationally without inserts.<sup>8</sup>

<sup>3</sup> Smith, Bucklin & Associates, Inc., Annual Surveys of Cordwood Burning Appliances Sales and Pelletized Fuel Burning Appliances Sales, 1989-1996 reports to HPBA, Arlington VA, 1990-1997

<sup>4</sup> Personal Communication, Don Johnson, Director of Market Research, HPBA, U.S. Stove, Insert and Pellet Stove Shipments, 1999-2004, email dated October 20, 2005

<sup>5</sup> AHS for United States: 2001, Current Housing Reports, issued 10/02, U.S. Department of Housing and Urban Development and U.S. Department of Commerce and U.S. Census Bureau

<sup>6</sup> AHS for United States: 2003, Current Housing Reports, issued 9/04, U.S. Department of Housing and Urban Development and U.S. Department of Commerce and U.S. Census Bureau

<sup>7</sup> Simmons Market Research Bureau, Inc, Annual Studies of Media and Markets, Spring 2003

<sup>8</sup> HPBA, Fireplace and Freestanding Stove Usage and Attitude Study Follow Up Phase, 2002

**Table 1**  
**Method 1 Intermediate Data and Results**

**Section 1**

State	County	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplace inserts	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat
Maryland	Anne Arundel County	700	8400	9,100	0	11,100	11,100	71,600	13,000	172,200	10,510	0	7,800
	Baltimore County	0	11300	11,300	0	10,800	10,800	196,800	6,500	284,600	9,965	0	5,500
	Prince George's County	900	8700	9,600	0	16,700	16,700	201,400	2,200	274,200	15,358	0	11,400
	Baltimore city	0	700	700	0	700	700	210,200	1,300	229,500	630	0	1,500
Massachusetts	Suffolk County	0	0	0	0	700	700	181,800	1,200	228,300	639	0	1,200
New Jersey	Bergen County	0	12600	12,600	0	2,400	2,400	326,200	0	334,800	2,147	0	7,800
	Middlesex County	0	7600	7,600	0	2,600	2,600	256,900	0	285,500	2,347	0	4,700
New York	Erie County	2,700	15500	18,200	0	13,800	13,800	356,400	10,000	375,600	12,343	0	7,300
	Monroe County	800	9800	10,600	0	7,800	7,800	252,700	4,000	277,700	7,019	100	4,900
	Nassau County	0	2400	2,400	0	0	0	301,200	7,100	445,500	0	0	8,700
	Ontario County	900	4300	5,200	0	2,000	2,000	23,400	6,300	37,000	1,826	0	400
	Suffolk County	0	16900	16,900	0	4,700	4,700	200,700	64,900	461,600	4,407	0	12,200
Pennsylvania	Allegheny County	0	9700	9,700	300	14,300	14,600	473,100	8,500	524,400	13,148	0	15,800
	Delaware County	0	2100	2,100	0	5,700	5,700	152,800	3,400	197,900	5,213	1,000	4,200
	Montgomery County	1,100	17500	18,600	0	9,400	9,400	165,200	3,400	293,500	8,815	0	3,600
	Philadelphia County	0	3600	3,600	0	5,000	5,000	547,900	9,900	589,900	4,488	0	3,500
	Westmoreland County	300	8700	9,000	0	9,500	9,500	105,400	6,700	151,200	8,737	0	3,900
District of Columbia	District of Columbia	0	1800	1,800	0	800	800	197,400	4,300	226,100	723	0	6,600



**Table 1  
Method 1 Intermediate Data and Results**

**Section 2**

State	County	Total households using fireplaces without inserts for heat	Total households using wood fireplaces without inserts for heat, excluding gas fueled	Sum of households using wood heaters	Year of survey	Survey year population	Population 2002	Population adjustment fraction
Maryland	Anne Arundel County	7,800	7,261	23,043	1998	427273	502081	1.1751
	Baltimore County	5,500	4,262	23,614	1998	692161	768623	1.1105
	Prince George's County	11,400	8,874	28,327	1998	729260	827704	1.1350
	Baltimore city	1,500	791	1,150	1998	735926	636141	0.8644
Massachusetts	Suffolk County	1,200	818	660	1998	663905	685183	1.0320
New Jersey	Bergen County	7,800	4,640	14,926	2003	884128	894847	1.0121
	Middlesex County	4,700	2,988	10,211	2003	750155	770069	1.0265
New York	Erie County	7,300	4,287	30,543	2002	941602	941602	1.0000
	Monroe County	5,000	3,135	18,142	1998	713956	735128	1.0297
	Nassau County	8,700	6,176	2,409	2003	1334531	1339506	1.0037
	Ontario County	400	283	7,528	1998	95113	101904	1.0714
	Suffolk County	12,200	9,465	21,850	2003	1419383	1455510	1.0255
Pennsylvania	Allegheny County	15,800	9,544	22,572	2004	1,281,720	1,266,196	0.9879
	Delaware County	5,200	3,480	7,348	2003	550868	553546	1.0049
	Montgomery County	3,600	2,777	27,940	2003	750109	764456	1.0191
	Philadelphia County	3,500	2,057	7,924	2003	1517551	1486712	0.9797
	Westmoreland County	3,900	2,666	17,664	2004	370000	368476	0.9959
District of Columbia	District of Columbia	6,600	3,824	2,348	1998	606792	564643	0.9305

## 2.2. Calculation Method 2

For method 2, data were taken for specific counties from three state surveys (Delaware, Maine, and Vermont). For Delaware, the number of households with wood-burning fireplaces used for heat and wood heaters used for heat were calculated from the number of appliances owned. The fraction of wood heaters used for heating as compared to ownership was estimated from the 2004 HPBA survey (south demographic region which includes Delaware) for woodstoves and a detailed 2002-2003 residential wood combustion Minnesota state survey for fireplace inserts.

### 2.2a. Delaware

The fraction of fireplaces and fraction of woodstoves are contained within the report on the 1995 Delaware Fuelwood Survey<sup>9</sup>. Each of the three Delaware counties was included in a survey that calculated the fraction of households with a wood burning appliance (WBA), as well as the type of WBA (if any).

The number of households using wood heaters for heat was calculated using the fraction of households that own a wood burning appliance, the fraction of those owning a WBA that have a wood heater, the fraction of wood stoves used for heat nationally, and the estimated number of households in 2002 for each county by:

#### Equation 2.2a.1

$$H_{WH} = WH \times WBA \times 0.86 \times H_{02} \quad \text{where:}$$

WH = Wood heaters = fraction of wood burning households using wood heaters (wood stoves + wood burning fireplace inserts)

WBA = Fraction of households with a wood burning appliance

0.86 = Fraction of wood stoves used for heat nationally<sup>10</sup>

H<sub>02</sub> = Estimated number of households in 2002

The number of households using fireplaces without inserts for heat was calculated using the same fraction of households that own a WBA as above, the fraction those owning a WBA that have a fireplace without an insert, the fraction of fireplaces without inserts used for heat nationally, and the estimated number of households in 2002 for each county by:

#### Equation 2.2a.2

$$H_{FPNI} = FPNI \times WBA \times 0.34 \times H_{02} \quad \text{where:}$$

FPNI = Fraction of wood burning households using fireplaces without inserts

0.34 = Fraction of fireplaces used for heat nationally

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<sup>9</sup> Report on the 1995 Delaware Fuelwood Survey. By: Rodolfo V. Tanjukaio and John E. Mackenzie. Department of Food and Resource Economics, University of Delaware. May 1995

<sup>10</sup> HPBA Fireplace and Stove Follow-up Usage and Attitude Study- October 2004

## 2.2b. Maine<sup>11</sup>

The number of wood heaters for Maine was found by using information from Maine's residential fuel use which contains the fraction of households, based on geographical county location, that used a woodstove or fireplace insert as a major heating appliance, as well as use wood as heating fuel. This information was used to calculate the number of wood heaters by:

### Equation 2.2b.1

The number of wood heaters = fraction of households using wood for heat X (number of fireplaces with inserts + number of woodstoves) X H<sub>02</sub>

## 2.2c. Vermont<sup>12</sup>

The number of wood heaters and fireplaces without inserts used for heat in Vermont was found using Vermont's residential fuelwood assessment. The fraction of wood burning households that use wood stoves, fireplaces with inserts and fireplaces without inserts were multiplied by the fraction of households with a wood burning appliance, by county. Calculations for wood heaters and fireplaces without inserts are shown below.

### Equation 2.2c.1

The number of wood heaters = fraction of households using wood for heat X fraction using wood stoves and fireplace inserts X H<sub>02</sub>

### Equation 2.2c.2

The number of fireplaces without inserts = fraction of households using wood for heat X fraction using fireplaces without inserts X H<sub>02</sub>

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<sup>11</sup> Residential Fuelwood Use in Maine, Results of 1998/1999 Fuelwood Survey

<sup>12</sup> Vermont Residential Fuel Wood Assessment 1997-1998

**Table 2  
Calculation Method 2 Intermediate Data and Results**

State	County	Estimated number of households 2002	Fraction of households that use wood	Fraction of wood burning households with wood stoves and fireplace inserts	Households with wood stoves	Fraction of wood burning households having fireplaces with inserts	Households having fireplaces with inserts	Fraction of wood burning households having fireplaces without inserts	Total households using wood heaters	Total households using fireplaces without inserts
Delaware	Kent County	49,063		0.1047				0.1094	5,137	5,367
	New Castle County	192,702		0.06582				0.1426	12,684	27,479
	Sussex County	65,612		0.1266				0.0813	8,306	5,334
	<b>Total Delaware</b>	<b>307,316</b>							<b>26,127</b>	<b>38,181</b>
Maine	Androscoggin County	42,609	0.278	0.815	9654	0.037	438		10,092	N/A
	Aroostook County	30,033	0.284	0.667	5689	0.091	776		6,465	N/A
	Cumberland County	109,722	0.155	0.8	13606	0.1	1701		15,306	N/A
	Franklin County	11,911	0.278	0.815	2699	0.037	123		2,821	N/A
	Hancock County	22,054	0.369	0.917	7463	0	0		7,463	N/A
	Kennebec County	48,309	0.278	0.815	10945	0.037	497		11,442	N/A
	Knox County	16,986	0.369	0.917	5748	0	0		5,748	N/A
	Lincoln County	14,521	0.369	0.917	4914	0	0		4,914	N/A
	Oxford County	22,757	0.278	0.815	5156	0.037	234		5,390	N/A
	Penobscot County	58,890	0.284	0.667	11155	0.091	1522		12,677	N/A
	Piscataquis County	7,289	0.284	0.667	1381	0.091	188		1,569	N/A
	Sagadahoc County	14,429	0.369	0.917	4882	0	0		4,882	N/A
	Somerset County	20,558	0.284	0.667	3894	0.091	531		4,426	N/A
	Waldo County	15,312	0.369	0.917	5181	0	0		5,181	N/A

State	County	Estimated number of households 2002	Fraction of households that use wood	Fraction of wood burning households with wood stoves and fireplace inserts	Households with wood stoves	Fraction of wood burning households having fireplaces with inserts	Households having fireplaces with inserts	Fraction of wood burning households having fireplaces without inserts	Total households using wood heaters	Total households using fireplaces without inserts
	Washington County	13,898	0.284	0.667	2633	0.091	359		2,992	N/A
	York County	78,141	0.155	0.8	9689	0.1	1211		10,901	N/A
	<b>Total Maine</b>	<b>527,478</b>			<b>104689</b>		<b>7581</b>		<b>112,269</b>	
Vermont	Addison County	13,252	0.48	0.817	5197		0	0.181	5,197	1,151
	Bennington County	14,897	0.34	0.817	4138		0	0.181	4,138	917
	Caledonia County	11,771	0.48	0.817	4616		0	0.181	4,616	1,023
	Chittenden County	57,196	0.205	0.817	9579		0	0.181	9,579	2,122
	Essex County	2,640	0.5	0.817	1079		0	0.181	1,079	239
	Franklin County	17,218	0.29	0.817	4079		0	0.181	4,079	904
	Grand Isle County	2,927	0.72	0.817	1722		0	0.181	1,722	381
	Lamoille County	9,526	0.46	0.817	3580		0	0.181	3,580	793
	Orange County	11,179	0.48	0.817	4384		0	0.181	4,384	971
	Orleans County	10,611	0.61	0.817	5288		0	0.181	5,288	1,172
	Rutland County	25,649	0.38	0.817	7963		0	0.181	7,963	1,764
	Washington County	24,025	0.38	0.817	7459		0	0.181	7,459	1,652
	Windham County	18,366	0.51	0.817	7653		0	0.181	7,653	1,695
	Windsor County	24,366	0.42	0.817	8361		0	0.181	8,361	1,852
	<b>Total Vermont</b>	<b>243,667</b>			<b>75097</b>		<b>0</b>		<b>75,097</b>	<b>16,637</b>

### 2.3. Calculation Method 3

For method 3, the average fractions of households that use a wood heater (wood stove and fireplace insert) or fireplace without insert for heat were taken from each applicable AHS Metropolitan Area Survey.<sup>13</sup> These fractions were then multiplied by the number of households that were in each county and a part of a specific MSA. For the three New England MSA's of Hartford, CT, Boston MA-NH, and Providence Pawtucket Warrick, partial counties make up portions of the MSA. Only counties that had the majority of their households in the MSA were used in method 3. This determination was made from U.S. Census Bureau population.<sup>14</sup> The number of households in each county during 2002 was obtained from the U.S. Census Bureau.<sup>15</sup>

Total number of fireplaces using inserts excluding gas fueled (FP<sub>i</sub>) was calculated by the following equation:

#### Equation 2.3.1

$$FP_i = I \times C_s \times \left( 1 - \left( 0.076 \times \frac{(\text{County } G_P + \text{County } G_B) / \text{County } H_A}{0.702} \right) \right) \text{ where:}$$

I = Total fireplaces with insert usage year of survey = Households using fireplace inserts as main heat + households using fireplace inserts as other heat

C<sub>s</sub> = Survey year to 2002 correction =

$$\frac{\text{Estimated number of households 2002 per MSA}}{\text{MSA Households in year of survey}}$$

The other variables and factors are shown in Equation 2.3.1 and defined in Section 2.1

The total number of fireplaces without inserts usage excluding gas fueled (FP<sub>ni</sub>) was calculated by the following equation:

#### Equation 2.3.2

$$FP_{ni} = NI \times C_s \times \left( 1 - \left( 0.297 \times \frac{(\text{County } G_P + \text{County } G_B) / \text{County } H_A}{0.702} \right) \right)$$

NI = Total Fireplaces without insert usage in year of survey = households using fireplaces without inserts as main heat + households using fireplaces without inserts as other heat.

The other variables and factors are shown in Equation 2.1.1 and above

The other variables shown in 2.3.2 are defined as a part of equation 2.3.1 and defined in Section 2.1.

<sup>13</sup> AHS Surveys for New York MSA - 2003, Buffalo MSA - 2002, Rochester MSA - 1998, Maryland (Baltimore MSA - 1998), N. New Jersey MSA - 2003, Pittsburgh, PA MSA - 2004, Philadelphia MSA - 2003, Washington MSA - 1998; U.S. Department of Housing and Urban Development and U.S. Census Bureau

<sup>14</sup> AHS for Hartford, CT, Boston MA-NH, and Providence Pawtucket Warrick: 1998, U.S. Department of Housing and Urban Development and U.S. Census Bureau

<sup>15</sup> U.S. Census Bureau, 2004

Total wood heaters ( $W_T$ ) was calculated by the following equation:

Equation 2.3.3

$$W_T = (S_{tu} \times C_s) + FP_i \quad \text{where}$$

$S_{tu}$  = Households using stoves as main heat + households using stoves as other heat =  
total stoves usage

**Table 3  
Calculation Method 3 Intermediate Data and Results**

**Section 1**

State	County	Estimated number of households 2002, U.S. Census Bureau	Fraction of total MSA households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts
	Bronx County	472,329	0.1033	0	5,991	5991	0	1,291	1,291
	Kings County	887,700	0.1941	0	11,259	11259	0	2,427	2,427
	Nassau County	449,050	0.0982	0	5,696	5696	0	1,228	1,228
	New York County	744,562	0.1628	0	9,444	9444	0	2,035	2,035
	Orange County	119,844	0.0262	0	1,520	1520	0	328	328
	Putnam County	33,711	0.0074	0	428	428	0	92	92
	Queens County	787,089	0.1721	0	9,983	9983	0	2,152	2,152
	Richmond County	160,618	0.0351	0	2,037	2037	0	439	439
	Rockland County	94,168	0.0206	0	1,194	1194	0	257	257
	Suffolk County	481,249	0.1052	0	6,104	6104	0	1,316	1,316
	Westchester County	342,411	0.0749	0	4,343	4343	0	936	936
<b>New York MSA-2003</b>		<b>4,572,732</b>	<b>1.0000</b>	<b>0</b>	<b>58,000</b>	<b>58000</b>	<b>0</b>	<b>12,500</b>	<b>12,500</b>
	Erie County	377,401	0.8122	2,274	18,032	20306	0	14,052	14,052
	Niagara County	87,244	0.1878	526	4,168	4694	0	3,248	3,248
<b>Buffalo MSA-2002</b>		<b>464,645</b>	<b>1.0000</b>	<b>2,800</b>	<b>22,200</b>	<b>25000</b>	<b>0</b>	<b>17,300</b>	<b>17,300</b>
	Genesee County	22,604	0.0538	210	1,312	1521	0	699	699
	Livingston County	22,281	0.0530	207	1,293	1499	0	689	689
	Monroe County	286,428	0.6811	2,656	16,620	19276	0	8,855	8,855
	Ontario County	39,013	0.0928	362	2,264	2626	0	1,206	1,206
	Orleans County	15,264	0.0363	142	886	1027	0	472	472
	Wayne County	34,921	0.0830	324	2,026	2350	0	1,080	1,080
<b>Rochester MSA-1998</b>		<b>420,510</b>	<b>1.0000</b>	<b>3,900</b>	<b>24,400</b>	<b>28300</b>	<b>0</b>	<b>13,000</b>	<b>13,000</b>
	Anne Arundel County	183,204	0.1851	0	7,682	7682	0	7386	7386



State	County	Estimated number of households 2002, U.S. Census Bureau	Fraction of total MSA households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts
	Baltimore County	305,574	0.3087	0	12,813	12813	0	12319	12319
	Carroll County	55,435	0.0560	0	2,324	2324	0	2235	2235
	Harford County	82,864	0.0837	0	3,475	3475	0	3341	3341
	Howard County	94,424	0.0954	0	3,959	3959	0	3807	3807
	Queen Anne's County	16,188	0.0164	0	679	679	0	653	653
	Baltimore city	252,048	0.2547	0	10,568	10568	0	10161	10161
Maryland (Baltimore MSA-1998)		989,737		0	41,500	41500	0	39,900	39900
	Bergen County	334,832	0.1378	0	11,864	11864	0	5,594	5,594
	Essex County	284,738	0.1172	0	10,089	10089	0	4,757	4,757
	Hudson County	230,792	0.0950	0	8,178	8178	0	3,856	3,856
	Hunterdon County	45,390	0.0187	0	1,608	1608	0	758	758
	Mercer County	128,268	0.0528	0	4,545	4545	0	2,143	2,143
	Middlesex County	272,869	0.1123	0	9,668	9668	0	4,559	4,559
	Monmouth County	229,023	0.0942	0	8,115	8115	0	3,827	3,827
	Morris County	172,811	0.0711	0	6,123	6123	0	2,887	2,887
	Ocean County	210,803	0.0868	0	7,469	7469	0	3,522	3,522
	Passaic County	166,543	0.0685	0	5,901	5901	0	2,783	2,783
	Somerset County	112,804	0.0464	0	3,997	3997	0	1,885	1,885
	Sussex County	52,491	0.0216	0	1,860	1860	0	877	877
	Union County	188,616	0.0776	0	6,683	6683	0	3,151	3,151
N. New Jersey MSA-2003		2,429,979	1.0000	0	86,100	86100	0	40,600	40,600
	Allegheny County	530,666	0.5529	995	21,454	22450	166	20,293	20,459
	Beaver County	71,697	0.0747	134	2,899	3033	22	2,742	2,764

State	County	Estimated number of households 2002, U.S. Census Bureau	Fraction of total MSA households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts
	Butler County	67,421	0.0703	126	2,726	2852	21	2,578	2,599
	Fayette County	59,213	0.0617	111	2,394	2505	19	2,264	2,283
	Washington County	81,507	0.0849	153	3,295	3448	25	3,117	3,142
	Westmoreland County	149,199	0.1555	280	6,032	6312	47	5,706	5,752
	Pittsburgh, PA MSA-2004	959,702	1.0000	1,800	38,800	40600	300	36,700	37,000
NJ	Burlington County	159,618	0.0838	293	4,997	5290	0	5,039	5,039
NJ	Camden County	186,884	0.0982	344	5,850	6194	0	5,899	5,899
NJ	Gloucester County	93,535	0.0491	172	2,928	3100	0	2,953	2,953
PA	Bucks County	222,989	0.1171	410	6,980	7390	0	7,039	7,039
PA	Chester County	163,929	0.0861	301	5,132	5433	0	5,175	5,175
PA	Delaware County	207,325	0.1089	381	6,490	6871	0	6,544	6,544
PA	Montgomery County	291,575	0.1531	536	9,127	9663	0	9,204	9,204
PA	Philadelphia County	578,080	0.3036	1,063	18,096	19159	0	18,248	18,248
	Philadelphia MSA-2003	1,903,933	1.0000	3,500	59,600	63100	0	60,100	60,100
MD	Calvert County	27,611	0.0279	179	1,660	1,838	0	2,316	2,316
MD	Charles County	44,319	0.0238	152	1,414	1,566	0	1,972	1,972
MD	Frederick County	75,020	0.0402	257	2,393	2,650	0	3,338	3,338
MD	Montgomery County	336,700	0.1805	1,155	10,740	11,895	0	14,982	14,982
MD	Prince George's County	295,975	0.1587	1,015	9,441	10,456	0	13,170	13,170
VA	District of Columbia	245,119	0.1314	841	7,819	8,660	0	10,907	10,907
VA	Arlington County, Virginia	90,062	0.0483	309	2,873	3,182	0	4,007	4,007
VA	Fairfax County, Virginia	367,792	0.1972	1,262	11,732	12,994	0	16,365	16,365
VA	Fauquier County, Virginia	22,704	0.0122	78	724	802	0	1,010	1,010
VA	Loudoun County, Virginia	74,702	0.0400	256	2,383	2,639	0	3,324	3,324
VA	Prince William County, Virginia	108,532	0.0582	372	3,462	3,834	0	4,829	4,829

State	County	Estimated number of households 2002, U.S. Census Bureau	Fraction of total MSA households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts
VA	Spotsylvania County, Virginia	37,816	0.0203	130	1,206	1,336	0	1,683	1,683
VA	Stafford County, Virginia	35,421	0.0190	122	1,130	1,251	0	1,576	1,576
VA	Alexandria city, Virginia	64,997	0.0348	223	2,073	2,296	0	2,892	2,892
VA	Fairfax city, Virginia	8,311	0.0045	29	265	294	0	370	370
VA	Falls Church city, Virginia	4,838	0.0026	17	154	171	0	215	215
VA	Fredericksburg city, Virginia	9,228	0.0049	32	294	326	0	411	411
VA	Manassas city, Virginia	12,627	0.0068	43	403	446	0	562	562
VA	Manassas Park city, Virginia	3,574	0.0019	12	114	126	0	159	159
Washington MSA-1998		1,865,349		6,400	59,500	65,900	0	83,000	83,000
	Bristol County, MA (in part)	92,808	0.0901	207	2461.05	2,668	0	460	460
	Bristol County, RI	50,648	0.0492	113	1343.06	1,456	0	251	251
	Kent County, RI	167,090	0.1623	373	4430.83	4,804	0	828	828
	Newport County, RI (Jamestown only)	5,622	0.0055	13	149.082	162	0	28	28
	Providence County, RI	621,602	0.6038	1,389	16483.4	17,872	0	3079	3,079
	Washington County, RI (in part)	91,734	0.0891	205	2432.57	2,638	0	454	454
Providence-Pawtucket-Warrick-1998 *		1,029,504	1.0000	2,300	27300	29,600	0	5100	5,100
	Bristol County MA (in part)	108,350	0.0287	60	1864.43	1,925	20.0784	568	588.0114
	Essex County, MA	723,419	0.1915	402	12448.2	12,850	134.057	3792	3925.968
	Middlesex County, MA (in part)	1,164,492	0.3083	647	20037.9	20,685	215.793	6104	6319.655
	Norfolk County, MA (in part)	645,865	0.1710	359	11113.7	11,473	119.686	3385	3505.085
	Plymouth County, MA (in part)	334,196	0.0885	186	5750.66	5,936	61.9302	1752	1813.669
	Suffolk County, MA (Boston City only)	589,141	0.1560	328	10137.6	10,465	109.174	3088	3197.246

State	County	Estimated number of households 2002, U.S. Census Bureau	Fraction of total MSA households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts
	Worcester County, MA (in part)	83,832	0.0222	47	1442.53	1,489	15.535	439	454.9532
	Rockingham County, NH (in part)	128,140	0.0339	71	2204.96	2,276	23.7457	672	695.411
	<b>Boston, MA-NH-1998 *</b>	<b>3,777,435</b>	<b>1.0000</b>	<b>2,100</b>	<b>65000</b>	<b>67,100</b>	<b>700</b>	<b>19800</b>	<b>20,500</b>
	Hartford County (in part)	823,404	0.7152	1,144	25603	26,747	72	9512	9,583
	Litchfield County (in part)	37,163	0.0323	52	1155.55	1,207	3	429	433
	Middlesex County (in part)	104,442	0.0907	145	3247.53	3,393	9	1206	1,216
	New London County (in part)	21,458	0.0186	30	667.218	697	2	248	250
	Tolland County (in part)	135,671	0.1178	189	4218.57	4,407	12	1567	1,579
	Windham County (in part)	29,205	0.0254	41	908.104	949	3	337	340
	<b>Hartford, CT-04 *</b>	<b>1,151,343</b>	<b>1.0000</b>	<b>1,600</b>	<b>35800</b>	<b>37,400</b>	<b>100</b>	<b>13300</b>	<b>13400</b>

\* Based upon populations, not households. Fraction of households is the population of each county from the year of the survey divided by the population of the state from the year of the survey

Hartford, CT, Boston MA-NH, and Providence Pawtucket Warrick sections are based on populations, not households. Fraction of households is found by dividing the population of each county by the population of the state from the year of the survey

**Table 3  
Calculation Method 3 Intermediate Data and Results**

**Section 2**

State	County	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces with inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat	Total households using fireplaces without inserts for heating	Total households using fireplaces without inserts for heating, excluding gas fueled
	Bronx County	380055	19460	455448	1,212	0	3,894	3,894	2,540
	Kings County	714278	36574	855973	2,278	0	7,319	7,319	4,773
	Nassau County	361324	18501	433001	1,152	0	3,702	3,702	2,415
	New York County	599104	30677	717951	1,910	0	6,139	6,139	4,004
	Orange County	96431	4938	115561	307	0	988	988	644
	Putnam County	27125	1389	32506	86	0	278	278	181
	Queens County	633323	32429	758958	2,019	0	6,489	6,489	4,232
	Richmond County	129240	6618	154878	412	0	1,324	1,324	864
	Rockland County	75772	3880	90803	242	0	776	776	506
	Suffolk County	387232	19828	464049	1,235	0	3,968	3,968	2,588
	Westchester County	275518	14108	330173	879	0	2,823	2,823	1,841
<b>New York MSA-2003</b>		<b>3679400</b>	<b>188400</b>	<b>4409300</b>	<b>11,732</b>	<b>0</b>	<b>37,700</b>	<b>37,700</b>	<b>24,588</b>
	Erie County	343,250	14,377	374,684	12,692	0	7,473	7,473	4,488
	Niagara County	79,350	3,323	86,616	2,934	0	1,727	1,727	1,037
<b>Buffalo MSA-2002</b>		<b>422600</b>	<b>17700</b>	<b>461300</b>	<b>15,626</b>	<b>0</b>	<b>9,200</b>	<b>9,200</b>	<b>5,525</b>
	Genesee County	17,814	1,489	22,039	649	5	376	382	246
	Livingston County	17,559	1,468	21,724	639	5	371	376	243
	Monroe County	225,731	18,868	279,269	8,220	68	4,768	4,836	3,122
	Ontario County	30,746	2,570	38,038	1,120	9	649	659	425
	Orleans County	12,029	1,005	14,882	438	4	254	258	166
	Wayne County	27,521	2,300	34,048	1,002	8	581	590	381
<b>Rochester MSA-1998</b>		<b>331400</b>	<b>27700</b>	<b>410000</b>	<b>12,069</b>	<b>100</b>	<b>7,000</b>	<b>7,100</b>	<b>4,583</b>
	Anne Arundel County	102714	7275	170314	7,389	0	4,535	4,535	3,545

State	County	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces with inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat	Total households using fireplaces without inserts for heating	Total households using fireplaces without inserts for heating, excluding gas fueled
	Baltimore County	171322	12134	284075	12,325	0	7,564	7,564	5,914
	Carroll County	31080	2201	51534	2,236	0	1,372	1,372	1,073
	Harford County	46458	3290	77033	3,342	0	2,051	2,051	1,604
	Howard County	52939	3749	87781	3,808	0	2,337	2,337	1,827
	Queen Anne's County	9076	643	15049	653	0	401	401	313
	Baltimore city	141312	10008	234314	10,166	0	6,239	6,239	4,878
	<b>Maryland (Baltimore MSA-1998)</b>	<b>554900</b>	<b>39300</b>	<b>920100</b>	<b>39,919</b>	<b>0</b>	<b>24,500</b>	<b>24,500</b>	<b>19,154</b>
	Bergen County	278,092	8,281	324,087	5,227	0	3,679	3,679	2,380
	Essex County	236,487	7,042	275,600	4,445	0	3,129	3,129	2,024
	Hudson County	191,683	5,708	223,386	3,603	0	2,536	2,536	1,641
	Hunterdon County	37,698	1,123	43,934	709	0	499	499	323
	Mercer County	106,532	3,172	124,152	2,002	0	1,409	1,409	912
	Middlesex County	226,629	6,749	264,112	4,260	0	2,998	2,998	1,940
	Monmouth County	190,213	5,664	221,674	3,575	0	2,516	2,516	1,628
	Morris County	143,526	4,274	167,265	2,698	0	1,899	1,899	1,228
	Ocean County	175,081	5,214	204,038	3,291	0	2,316	2,316	1,498
	Passaic County	138,321	4,119	161,198	2,600	0	1,830	1,830	1,184
	Somerset County	93,689	2,790	109,184	1,761	0	1,239	1,239	802
	Sussex County	43,596	1,298	50,807	819	0	577	577	373
	Union County	156,653	4,665	182,563	2,944	0	2,072	2,072	1,341
	<b>N. New Jersey MSA-2003</b>	<b>2018200</b>	<b>60100</b>	<b>2352000</b>	<b>37,933</b>	<b>0</b>	<b>26,700</b>	<b>26,700</b>	<b>17,273</b>
	Allegheny County	415,541	18,690	527,403	18,751	0	15,096	15,096	9,898
	Beaver County	56,142	2,525	71,256	2,533	0	2,040	2,040	1,337

State	County	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces with inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat	Total households using fireplaces without inserts for heating	Total households using fireplaces without inserts for heating, excluding gas fueled
	Butler County	52,794	2,375	67,006	2,382	0	1,918	1,918	1,258
	Fayette County	46,367	2,085	58,848	2,092	0	1,684	1,684	1,104
	Washington County	63,825	2,871	81,006	2,880	0	2,319	2,319	1,520
	Westmoreland County	116,831	5,255	148,281	5,272	0	4,244	4,244	2,783
	Pittsburgh, PA MSA-2004	751500	33800	953800	33,911	0	27,300	27,300	17,901
NJ	Burlington County	113,799	6,019	159,724	4,626	84	2,574	2,658	1,813
NJ	Camden County	133,238	7,048	187,008	5,417	98	3,013	3,112	2,123
NJ	Gloucester County	66,685	3,527	93,597	2,711	49	1,508	1,557	1,062
PA	Bucks County	158,979	8,409	223,137	6,463	117	3,596	3,713	2,533
PA	Chester County	116,872	6,182	164,038	4,751	86	2,643	2,729	1,862
PA	Delaware County	147,811	7,819	207,462	6,009	109	3,343	3,452	2,355
PA	Montgomery County	207,877	10,996	291,769	8,451	153	4,702	4,855	3,312
PA	Philadelphia County	412,140	21,800	578,465	16,755	304	9,321	9,625	6,566
	Philadelphia MSA-2003	1357400	71800	1905200	55,182	1,000	30,700	31,700	21,625
MD	Calvert County	30,389	1,345	46,665	2,392	0	1,819	1,819	1,445
MD	Charles County	25,881	1,145	39,742	2,037	0	1,549	1,549	1,230
MD	Frederick County	43,809	1,939	67,272	3,448	0	2,622	2,622	2,083
MD	Montgomery County	196,622	8,700	301,927	15,477	0	11,769	11,769	9,348
MD	Prince George's County	172,839	7,648	265,407	13,605	0	10,345	10,345	8,218
VA	District of Columbia	143,141	6,334	219,803	11,267	0	8,568	8,568	6,806
VA	Arlington County, Virginia	52,593	2,327	80,760	4,140	0	3,148	3,148	2,501
VA	Fairfax County, Virginia	214,778	9,504	329,807	16,906	0	12,856	12,856	10,211
VA	Fauquier County, Virginia	13,259	587	20,360	1,044	0	794	794	630
VA	Loudoun County, Virginia	43,623	1,930	66,987	3,434	0	2,611	2,611	2,074
VA	Prince William County, Virginia	63,379	2,804	97,323	4,989	0	3,794	3,794	3,013

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VA	Spotsylvania County, Virginia	22,083	977	33,911	1,738	0	1,322	1,322	1,050
VA	Stafford County, Virginia	20,685	915	31,763	1,628	0	1,238	1,238	983
VA	Alexandria city, Virginia	37,956	1,679	58,284	2,988	0	2,272	2,272	1,805
VA	Fairfax city, Virginia	4,853	215	7,453	382	0	290	290	231
VA	Falls Church city, Virginia	2,825	125	4,339	222	0	169	169	134
VA	Fredericksburg city, Virginia	5,389	238	8,275	424	0	323	323	256
VA	Manassas city, Virginia	7,374	326	11,323	580	0	441	441	351
VA	Manassas Park city, Virginia	2,087	92	3,205	164	0	125	125	99
Washington MSA-1998		1,089,300	48,200	1,672,700	85,745	0	65,200	65,200	51,790
	Bristol County, MA (in part)	20,428	2,272	34211	427	0	550	550	378
	Bristol County, RI	11,148	1,240	18670	233	0	300	300	206
	Kent County, RI	36,778	4,090	61593	768	0	990	990	681
	Newport County, RI (Jamestown only)	1,237	138	2072	26	0	33	33	23
	Providence County, RI	136,818	15,215	229137	2858	0	3,683	3,683	2,534
	Washington County, RI (in part)	20,191	2,245	33815	422	0	544	544	374
Providence-Pawtucket-Warrick-1998 *		226,600	25,200	379500	4733.655	0	6,100	6,100	4,197
	Bristol County MA (in part)	22986.94	1,058	36,262	546	0	694	694	478
	Essex County, MA	153476.6	7,067	242,108	3,644	0	4,635	4,635	3,190
	Middlesex County, MA (in part)	247052.3	11,375	389,722	5,866	0	7,460	7,460	5,135
	Norfolk County, MA (in part)	137023.2	6,309	216,153	3,253	0	4,138	4,138	2,848
	Plymouth County, MA (in part)	70901.2	3,265	111,846	1,683	0	2,141	2,141	1,474



State	County	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces with inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat	Total households using fireplaces without inserts for heating	Total households using fireplaces without inserts for heating, excluding gas fueled
	Suffolk County, MA (Boston City only)	124988.9	5,755	197,169	2,968	0	3,774	3,774	2,598
	Worcester County, MA (in part)	17785.34	819	28,056	422	0	537	537	370
	Rockingham County, NH (in part)	27185.48	1,252	42,885	645	0	821	821	565
Boston, MA-NH-1998 *		801,400	36,900	1264200	19028.32	0	24,200	24,200	16,656
	Hartford County (in part)	134,952	25675	331,123	9,080	0	9,583	9,583	7,398
	Litchfield County (in part)	6,091	1159	14,945	419	0	433	433	342
	Middlesex County (in part)	17,118	3257	42,000	1,185	0	1,216	1,216	966
	New London County (in part)	3,517	669	8,629	240	0	250	250	195
	Tolland County (in part)	22,236	4230	54,559	1,562	0	1,579	1,579	1,273
	Windham County (in part)	4,787	911	11,744	328	0	340	340	267
Hartford, CT-04 *		188,700	35900	463000	12696	0	13,400	13,400	10,344

**Table 3  
Calculation Method 3 Intermediate Data and Results**

**Section 3**

State	County	Total households using wood heaters	Total households using Fireplaces without Inserts	Population adjustment fraction
	Bronx County	7,425	2,540	1.037
	Kings County	13,954	4,773	1.037
	Nassau County	7,059	2,415	1.037
	New York County	11,704	4,004	1.037
	Orange County	1,884	644	1.037
	Putnam County	530	181	1.037
	Queens County	12,373	4,232	1.037
	Richmond County	2,525	864	1.037
	Rockland County	1,480	506	1.037
	Suffolk County	7,565	2,588	1.037
	Westchester County	5,383	1,841	1.037
<b>New York MSA-2003</b>		<b>71,882</b>	<b>24,588</b>	<b>1.037</b>
	Erie County	33,146	4,488	1.007
	Niagara County	7,662	1,037	1.007
<b>Buffalo MSA-2002</b>		<b>40,808</b>	<b>5,525</b>	<b>1.007</b>
	Genesee County	2,209	246	1.026
	Livingston County	2,177	243	1.026
	Monroe County	27,990	3,122	1.026
	Ontario County	3,812	425	1.026
	Orleans County	1,492	166	1.026
	Wayne County	3,413	381	1.026
<b>Rochester MSA-1998</b>		<b>41,093</b>	<b>4,583</b>	<b>1.026</b>
	Anne Arundel County	15,652	3,545	1.076

State	County	Total households using wood heaters	Total households using Fireplaces without Inserts	Population adjustment fraction
	Baltimore County	26,107	5,914	1.076
	Carroll County	4,736	1,073	1.076
	Harford County	7,080	1,604	1.076
	Howard County	8,067	1,827	1.076
	Queen Anne's County	1,383	313	1.076
	Baltimore city	21,534	4,878	1.076
<b>Maryland (Baltimore MSA-1998)</b>		<b>84,560</b>	<b>19,154</b>	<b>1.076</b>
	Bergen County	17,484	2,380	1.033
	Essex County	14,868	2,024	1.033
	Hudson County	12,051	1,641	1.033
	Hunterdon County	2,370	323	1.033
	Mercer County	6,698	912	1.033
	Middlesex County	14,249	1,940	1.033
	Monmouth County	11,959	1,628	1.033
	Morris County	9,024	1,228	1.033
	Ocean County	11,008	1,498	1.033
	Passaic County	8,696	1,184	1.033
	Somerset County	5,890	802	1.033
	Sussex County	2,741	373	1.033
	Union County	9,849	1,341	1.033
<b>N. New Jersey MSA-2003</b>		<b>126,888</b>	<b>17,273</b>	<b>1.033</b>
	Allegheny County	41,339	9,898	1.006
	Beaver County	5,585	1,337	1.006

State	County	Total households using wood heaters	Total households using Fireplaces without Inserts	Population adjustment fraction
	Butler County	5,252	1,258	1.006
	Fayette County	4,613	1,104	1.006
	Washington County	6,349	1,520	1.006
	Westmoreland County	11,623	2,783	1.006
Pittsburgh, PA MSA-2004		74,762	17,901	1.006
NJ	Burlington County	9,913	1,813	0.999
NJ	Camden County	11,606	2,123	0.999
NJ	Gloucester County	5,809	1,062	0.999
PA	Bucks County	13,848	2,533	0.999
PA	Chester County	10,180	1,862	0.999
PA	Delaware County	12,876	2,355	0.999
PA	Montgomery County	18,108	3,312	0.999
PA	Philadelphia County	35,901	6,566	0.999
Philadelphia MSA-2003		118,240	21,625	0.999
MD	Calvert County	4,442	1,445	1.115
MD	Charles County	3,783	1,230	1.115
MD	Frederick County	6,404	2,083	1.115
MD	Montgomery County	28,742	9,348	1.115
MD	Prince George's County	25,266	8,218	1.115
VA	District of Columbia	20,924	6,806	1.115
VA	Arlington County, Virginia	7,688	2,501	1.115
VA	Fairfax County, Virginia	31,396	10,211	1.115
VA	Fauquier County, Virginia	1,938	630	1.115
VA	Loudoun County, Virginia	6,377	2,074	1.115
VA	Prince William County, Virginia	9,265	3,013	1.115

State	County	Total households using wood heaters	Total households using Fireplaces without Inserts	Population adjustment fraction
VA	Spotsylvania County, Virginia	3,228	1,050	1.115
VA	Stafford County, Virginia	3,024	983	1.115
VA	Alexandria city, Virginia	5,548	1,805	1.115
VA	Fairfax city, Virginia	709	231	1.115
VA	Falls Church city, Virginia	413	134	1.115
VA	Fredericksburg city, Virginia	788	256	1.115
VA	Manassas city, Virginia	1,078	351	1.115
VA	Manassas Park city, Virginia	305	99	1.115
Washington MSA-1998		159,235	51,790	1.115
	Bristol County, MA (in part)	3,149	385	1.01731
	Bristol County, RI	1,739	213	1.02960
	Kent County, RI	5,671	693	1.01777
	Newport County, RI (Jamestown only)	188	23	1.00282
	Providence County, RI	21,150	2586	1.02027
	Washington County, RI (in part)	3,140	384	1.02638
Providence-Pawtucket-Warrick-1998 *		35,038	4283	
	Bristol County MA (in part)	2,512	486	1.01695
	Essex County, MA	16,794	3248	1.01813
	Middlesex County, MA (in part)	26,553	5135	1.00005
	Norfolk County, MA (in part)	14,804	2863	1.00526
	Plymouth County, MA (in part)	7,810	1510	1.02492

State	County	Total households using wood heaters	Total households using Fireplaces without Inserts	Population adjustment fraction
	Suffolk County, MA (Boston City only)	13,343	2580	0.99334
	Worcester County, MA (in part)	1,958	379	1.02445
	Rockingham County, NH (in part)	3,033	587	1.03803
<b>Boston, MA-NH-1998 *</b>		<b>86,806</b>	<b>16788</b>	
	Hartford County (in part)	36,241	7483	1.01154
	Litchfield County (in part)	1,664	350	1.02329
	Middlesex County (in part)	4,711	994	1.02910
	New London County (in part)	950	198	1.01375
	Tolland County (in part)	6,233	1329	1.04417
	Windham County (in part)	1,301	272	1.01883
<b>Hartford, CT-04 *</b>		<b>51,100</b>	<b>10626</b>	

Hartford, CT, Boston MA-NH, and Providence Pawtucket Warrick sections are based on populations, not households. Fraction of households is found by dividing the population of each county by the population of the MSA from the year of the survey

## 2.4. Calculation Method 4

For method 4, the average New York City data from subarea 1 of the AHS New York-Nassau-Suffolk-Orange Metropolitan Area Survey<sup>16</sup> was applied to each of the five counties (boroughs) that make up New York City in an analogous fashion as described in method 3.

The five counties/boroughs are:

Bronx, Kings, Queens, New York, and Richmond

The American Housing Survey for the New York City Metropolitan Area in 2003 used New York City as one of its selected subareas, with the five aforementioned counties comprising the city. The fraction that each county was of the city was found by dividing the number of households in each county by the number of households in the city.<sup>17</sup>

The resulting fraction was used to determine the fraction of New York City that was representative of each county, and when multiplied by the New York City survey numbers, a corresponding county number was calculated.

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<sup>16</sup> American Housing Survey for the New York City Metropolitan Area in 2003; U.S. Department of Housing and Urban Development and U.S. Census Bureau

<sup>17</sup> US Census Bureau

**Table 4  
Calculation Method 4 Intermediate Data and Results**

City	Counties	Number of households 2002, U.S. Census Bureau	Fraction of New York City households	Households using wood stoves as main heat	Households using wood stoves as other heat	Total households using wood stoves	Households using fireplace inserts as main heat	Households using fireplace inserts as other heat	Total households using fireplaces with inserts	Households using piped gas	Households using bottled gas	Total households	Total households using wood fireplaces with inserts, excluding gas fueled	Households using fireplaces without inserts as main heat	Households using fireplaces without inserts as other heat	Total households using fireplaces without inserts	Total households using wood fireplaces without inserts, excluding gas fueled	Total households using wood heaters	Total households using fireplaces without inserts for heat
	Bronx County	498593	0.0643	0	1016	1,016	0	341	341	179286	2187	188459	305	0	380	380	208	1,322	208
	Kings County	943531	0.1217	0	1923	1,923	0	645	645	339279	4139	356637	578	0	718	718	393	2,501	393
	New York County	817462	0.1055	0	1666	1,666	0	559	559	293946	3586	308985	501	0	622	622	341	2,167	341
	Queens County	827259	0.1067	0	1686	1,686	0	566	566	297469	3629	312689	507	0	630	630	345	2,193	345
	Richmond County	172247	0.0222	0	351	351	0	118	118	61937	756	65106	105	0	131	131	72	457	72
New York City		7751174		0	15800		0	5300		2787200	34000	2929800		0	5900			8,639	1,358



## 2.5. Calculation Method 5

For method 5, the fraction of households that own a wood heater (woodstove plus wood-burning fireplace insert) was obtained from Simmons Marketing Research<sup>18</sup> by county size (population). The fraction of wood stoves owned that were used for heat was obtained from a 2002 HPBA survey (regional values)<sup>19</sup> and the fraction of fireplace inserts used for heat as compared to those that were owned was obtained from the Minnesota state survey<sup>20</sup>. The number of households in each county during 2002 was obtained from the U.S. Census Bureau. No fireplace without insert data was available.

Total adults owning wood stoves ( $S_T$ ) was found by:

### Equation 2.5.1

$$S_T = H_{02} \times WS \times S_o$$

WS = woodstove ownership/usage factor was separated into New England and southern counties. For New England counties, a value of 0.89 was used, and for southern counties, a value of 0.86 was used.

$S_o$  = wood stove ownership fraction which is determined based on county population. For counties with a population over 1,000,000 a factor of 0.0333 was used. For counties with a population between 1,000,000 and 250,000 a factor of 0.0689 was used. For counties with a population between 100,000 and 250,000 a factor of 0.1127 was used. For counties with a population of under 100,000 a factor of 0.1594 was used.

$H_{02}$  = Estimated Number of Households in 2002

Total adults owning fireplace inserts ( $FI_T$ ) was found by:

### Equation 2.5.2

$$FI_T = H_{02} \times FI \times F_o$$

FI = Fireplace insert ownership/usage factor which is 0.96.

$F_o$  = Fireplace ownership fraction which was found in a similar manner to  $S_o$ . For counties with a population over 1,000,000 a factor of 0.0555 was used. For counties with a population of between 1,000,000 and 250,000 a factor of 0.0545 was used. For counties with a population of between 100,000 and 250,000 a factor of 0.0629 was used. For populations of under 100,000 a factor of 0.0673 was used.

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<sup>18</sup> HPBA fireplace and stove follow-up usage and attitude study-October 2004

<sup>19</sup> Simmons Heating Data NCS Spring 2003: Adult Full Year (June 02-May 03)

<sup>20</sup> Emissions Inventory Oriented Residential Wood Combustion Survey, 2005, In Proceedings of: 14<sup>th</sup> International Emission Inventory Conference, "Transforming Emission Inventories – Meeting Future Challenges Today", Las Vegas, NV, April 11 – 14, 2005. Chun Yi Wu, Ronald Piva, David Broderick, James E. Houck and John Crouch

Total households using wood heaters ( $WH_T$ ) was found by adding total wood stoves and total fireplaces with inserts, and correcting the number to households from adult population ownership:

Equation 2.5.3

$$WH_T = (FI_T + S_T) \times 0.5127$$

0.5127 = Correction factor for households compared to the adult population of the U.S. in 2002.

Equation 2.5.3a

$$= \frac{\text{Number of households nationally (AHS)}}{\text{Number of adults nationally}} = \frac{105,842,000}{206,447,000}$$

**Table 5**  
**Calculation Method 5 Intermediate Data and Results**

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
Connecticut	Fairfield County	328,733	0.89	0.0689	20158	10335	0.96	0.0545	17199	8818	19153	894,820
	Hartford County	338,964	0.89	0.0689	20786	10657	0.96	0.0545	17735	9093	19749	867,072
	Litchfield County	73,209	0.89	0.1127	7343	3765	0.96	0.0629	4421	2266	6031	186,414
	Middlesex County	63,127	0.89	0.1127	6332	3246	0.96	0.0629	3812	1954	5201	159,586
	New Haven County	323,240	0.89	0.0689	19821	10162	0.96	0.0545	16912	8671	18833	834,856
	New London County	101,234	0.89	0.0689	6208	3183	0.96	0.0545	5297	2716	5898	262,718
	Tolland County	51,615	0.89	0.1127	5177	2654	0.96	0.0629	3117	1598	4252	142,390
	Windham County	41,919	0.89	0.1127	4205	2156	0.96	0.0629	2531	1298	3453	111,150
	<b>Total Connecticut</b>		<b>1,322,041</b>			<b>90030</b>	<b>46158</b>			<b>71023</b>	<b>36413</b>	<b>82572</b>
Delaware	Kent County	49,063	0.86	0.1127	4755	2438	0.96	0.0629	2963	1519	3957	131,630
	New Castle County	192,702	0.86	0.0689	11418	5854	0.96	0.0545	10082	5169	11023	510,240
	Sussex County	65,612	0.86	0.1127	6359	3260	0.96	0.0629	3962	2031	5292	164,235
<b>Total Delaware</b>		<b>307,377</b>			<b>22533</b>	<b>11553</b>			<b>17007</b>	<b>8719</b>	<b>20272</b>	<b>806,105</b>
Maine	Androscoggin County	42,609	0.89	0.1127	4274	2191	0.96	0.0629	2573	1319	3510	105,228
	Aroostook County	30,033	0.89	0.1594	4261	2184	0.96	0.0673	1940	995	3179	73,151
	Cumberland County	109,722	0.89	0.0689	6728	3450	0.96	0.0545	5741	2943	6393	269,875
	Franklin County	11,911	0.89	0.1594	1690	866	0.96	0.0673	770	395	1261	29,730
	Hancock County	22,054	0.89	0.1594	3129	1604	0.96	0.0673	1425	731	2335	52,242
	Kennebec County	48,309	0.89	0.1127	4846	2484	0.96	0.0629	2917	1496	3980	118,651
	Knox County	16,986	0.89	0.1594	2410	1235	0.96	0.0673	1097	563	1798	40,519
	Lincoln County	14,521	0.89	0.1594	2060	1056	0.96	0.0673	938	481	1537	34,479
	Oxford County	22,757	0.89	0.1594	3228	1655	0.96	0.0673	1470	754	2409	55,843
	Penobscot County	58,890	0.89	0.1127	5907	3028	0.96	0.0629	3556	1823	4852	146,899
	Piscataquis County	7,289	0.89	0.1594	1034	530	0.96	0.0673	471	241	772	17,260
Sagadahoc County	14,429	0.89	0.1594	2047	1050	0.96	0.0673	932	478	1527	35,993	

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	Somerset County	20,558	0.89	0.1594	2916	1495	0.96	0.0673	1328	681	2176	51,042
	Waldo County	15,312	0.89	0.1594	2172	1114	0.96	0.0673	989	507	1621	37,723
	Washington County	13,898	0.89	0.1594	1972	1011	0.96	0.0673	898	460	1471	33,412
	York County	78,141	0.89	0.1127	7838	4018	0.96	0.0629	4718	2419	6438	195,703
	<b>Total Maine</b>	<b>527,420</b>			<b>56511</b>	<b>28973</b>			<b>31764</b>	<b>16286</b>	<b>45259</b>	<b>1,297,750</b>
Maryland	Allegany County	28,958	0.86	0.1594	3970	2035	0.96	0.0673	1871	959	2994	73,999
	Anne Arundel County	183,204	0.86	0.0689	10856	5566	0.96	0.0545	9585	4914	10480	502,081
	Baltimore County	305,574	0.86	0.0689	18107	9283	0.96	0.0545	15988	8197	17480	768,623
	Calvert County	27,611	0.86	0.1594	3785	1941	0.96	0.0673	1784	915	2855	80,905
	Caroline County	11,311	0.86	0.1594	1551	795	0.96	0.0673	731	375	1170	30,347
	Carroll County	55,435	0.86	0.1127	5373	2755	0.96	0.0629	3347	1716	4471	159,323
	Cecil County	32,827	0.86	0.1594	4500	2307	0.96	0.0673	2121	1087	3395	90,366
	Charles County	44,319	0.86	0.1127	4295	2202	0.96	0.0629	2676	1372	3574	128,215
	Dorchester County	12,631	0.86	0.1594	1732	888	0.96	0.0673	816	418	1306	30,494
	Frederick County	75,020	0.86	0.1127	7271	3728	0.96	0.0629	4530	2323	6050	209,103
	Garrett County	11,503	0.86	0.1594	1577	808	0.96	0.0673	743	381	1189	29,915
	Harford County	82,864	0.86	0.1127	8031	4118	0.96	0.0629	5004	2565	6683	227,361
	Howard County	94,424	0.86	0.0689	5595	2869	0.96	0.0545	4940	2533	5401	259,901
	Kent County	7,757	0.86	0.1594	1063	545	0.96	0.0673	501	257	802	19,426
	Montgomery County	336,700	0.86	0.0689	19951	10229	0.96	0.0545	17616	9032	19261	905,995
	Prince George's County	295,975	0.86	0.0689	17538	8992	0.96	0.0545	15485	7939	16931	827,704
	Queen Anne's County	16,188	0.86	0.1594	2219	1138	0.96	0.0673	1046	536	1674	42,876
	St. Mary's County	31,971	0.86	0.1594	4383	2247	0.96	0.0673	2066	1059	3306	89,951
	Somerset County	8,604	0.86	0.1594	1179	605	0.96	0.0673	556	285	890	25,465
	Talbot County	14,542	0.86	0.1594	1993	1022	0.96	0.0673	940	482	1504	34,367
	Washington County	50,806	0.86	0.1127	4924	2525	0.96	0.0629	3068	1573	4098	134,787
	Wicomico County	32,796	0.86	0.1594	4496	2305	0.96	0.0673	2119	1086	3391	86,162

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	Worcester County	20,321	0.86	0.1594	2786	1428	0.96	0.0673	1313	673	2101	48,024
	Baltimore city	252,048	0.86	0.0689	14935	7657	0.96	0.0545	13187	6761	14418	636,141
	<b>Total Maryland</b>	<b>2,033,388</b>			<b>152109</b>	<b>77986</b>			<b>112032</b>	<b>57439</b>	<b>135425</b>	<b>5,441,531</b>
Massachusetts	Barnstable County	97,119	0.89	0.1127	9741	4994	0.96	0.0629	5864	3007	8001	227,613
	Berkshire County	55,326	0.89	0.1127	5549	2845	0.96	0.0629	3341	1713	4558	133,314
	Bristol County	208,940	0.89	0.0689	12812	6569	0.96	0.0545	10932	5605	12174	543,863
	Dukes County	6,605	0.89	0.1594	937	480	0.96	0.0673	427	219	699	15,417
	Essex County	280,413	0.89	0.0689	17195	8816	0.96	0.0545	14671	7522	16338	736,535
	Franklin County	29,636	0.89	0.1594	4204	2156	0.96	0.0673	1915	982	3137	71,947
	Hampden County	176,594	0.89	0.0689	10829	5552	0.96	0.0545	9239	4737	10289	459,627
	Hampshire County	56,126	0.89	0.1127	5630	2886	0.96	0.0629	3389	1738	4624	152,618
	Middlesex County	562,478	0.89	0.0333	16670	8547	0.96	0.0555	29969	15365	23912	1,468,682
	Nantucket County	3,838	0.89	0.1594	545	279	0.96	0.0673	248	127	406	9,879
	Norfolk County	250,129	0.89	0.0689	15338	7864	0.96	0.0545	13087	6710	14573	653,710
	Plymouth County	172,560	0.89	0.0689	10582	5425	0.96	0.0545	9028	4629	10054	484,614
	Suffolk County	276,854	0.89	0.0689	16977	8704	0.96	0.0545	14485	7426	16131	685,183
	Worcester County	290,955	0.89	0.0689	17842	9147	0.96	0.0545	15223	7805	16952	769,552
	<b>Total Massachusetts</b>	<b>2,467,572</b>			<b>144851</b>	<b>74265</b>			<b>131818</b>	<b>67583</b>	<b>141848</b>	<b>6,412,554</b>
New Hampshire	Belknap County	23,598	0.89	0.1594	3348	1716	0.96	0.0673	1525	782	2498	59,181
	Carroll County	19,044	0.89	0.1594	2702	1385	0.96	0.0673	1230	631	2016	45,314
	Cheshire County	28,835	0.89	0.1594	4091	2097	0.96	0.0673	1863	955	3052	75,222
	Coos County	14,085	0.89	0.1594	1998	1024	0.96	0.0673	910	467	1491	33,404
	Grafton County	32,058	0.89	0.1594	4548	2332	0.96	0.0673	2071	1062	3394	82,934
	Hillsborough County	148,800	0.89	0.0689	9125	4678	0.96	0.0545	7785	3991	8670	392,296
	Merrimack County	53,970	0.89	0.1127	5413	2775	0.96	0.0629	3259	1671	4446	141,815
	Rockingham County	108,504	0.89	0.0689	6654	3411	0.96	0.0545	5677	2911	6322	287,906
	Strafford County	44,036	0.89	0.1127	4417	2265	0.96	0.0629	2659	1363	3628	116,068

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	Sullivan County	16,942	0.89	0.1594	2404	1232	0.96	0.0673	1095	561	1793	41,467
	<b>Total New Hampshire</b>	<b>489,871</b>			<b>44698</b>	<b>22917</b>			<b>28074</b>	<b>14393</b>	<b>37310</b>	<b>1,275,607</b>
New Jersey	Atlantic County	97,561	0.89	0.0689	5983	3067	0.96	0.0545	5104	2617	5684	259,296
	Bergen County	334,832	0.89	0.0689	20532	10527	0.96	0.0545	17518	8982	19509	894,847
	Burlington County	159,618	0.89	0.0689	9788	5018	0.96	0.0545	8351	4282	9300	437,784
	Camden County	186,884	0.89	0.0689	11460	5875	0.96	0.0545	9778	5013	10889	512,055
	Cape May County	41,928	0.89	0.1127	4206	2156	0.96	0.0629	2532	1298	3454	101,793
	Cumberland County	49,681	0.89	0.1127	4983	2555	0.96	0.0629	3000	1538	4093	148,040
	Essex County	284,738	0.89	0.0689	17460	8952	0.96	0.0545	14897	7638	16590	796,435
	Gloucester County	93,535	0.89	0.0689	5736	2941	0.96	0.0545	4894	2509	5450	262,583
	Hudson County	230,792	0.89	0.0689	14152	7256	0.96	0.0545	12075	6191	13447	609,626
	Hunterdon County	45,390	0.89	0.1127	4553	2334	0.96	0.0629	2741	1405	3739	126,771
	Mercer County	128,268	0.89	0.0689	7866	4033	0.96	0.0545	6711	3441	7473	357,622
	Middlesex County	272,869	0.89	0.0689	16733	8579	0.96	0.0545	14277	7320	15898	770,069
	Monmouth County	229,023	0.89	0.0689	14044	7200	0.96	0.0545	11982	6143	13344	628,437
	Morris County	172,811	0.89	0.0689	10597	5433	0.96	0.0545	9041	4636	10069	478,800
	Ocean County	210,803	0.89	0.0689	12927	6627	0.96	0.0545	11029	5655	12282	537,433
	Passaic County	166,543	0.89	0.0689	10213	5236	0.96	0.0545	8714	4467	9703	497,068
	Salem County	24,475	0.89	0.1594	3472	1780	0.96	0.0673	1581	811	2591	64,761
	Somerset County	112,804	0.89	0.0689	6917	3546	0.96	0.0545	5902	3026	6572	307,918
	Sussex County	52,491	0.89	0.1127	5265	2699	0.96	0.0629	3170	1625	4324	148,874
	Union County	188,616	0.89	0.0689	11566	5930	0.96	0.0545	9868	5060	10989	529,536
	Warren County	40,572	0.89	0.1127	4069	2086	0.96	0.0629	2450	1256	3342	107,502
	<b>Total New Jersey</b>	<b>3,124,232</b>			<b>202521</b>	<b>103832</b>			<b>165616</b>	<b>84911</b>	<b>188744</b>	<b>8,577,250</b>
New York	Albany County	121,100	0.89	0.0689	7426	3807	0.96	0.0545	6336	3248	7056	296,002
	Allegany County	18,178	0.89	0.1594	2579	1322	0.96	0.0673	1174	602	1924	50,395
	Bronx County	472,329	0.89	0.0333	13998	7177	0.96	0.0555	25166	12902	20079	1,358,880

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	Broome County	80,470	0.89	0.1127	8071	4138	0.96	0.0629	4859	2491	6629	199,843
	Cattaraugus County	31,807	0.89	0.1594	4512	2313	0.96	0.0673	2055	1054	3367	83,389
	Cayuga County	30,538	0.89	0.1594	4332	2221	0.96	0.0673	1973	1012	3233	81,909
	Chautauqua County	53,995	0.89	0.1127	5416	2777	0.96	0.0629	3260	1672	4448	138,418
	Chemung County	34,954	0.89	0.1594	4959	2542	0.96	0.0673	2258	1158	3700	90,824
	Chenango County	19,934	0.89	0.1594	2828	1450	0.96	0.0673	1288	660	2110	51,421
	Clinton County	29,761	0.89	0.1594	4222	2165	0.96	0.0673	1923	986	3151	80,813
	Columbia County	24,839	0.89	0.1594	3524	1807	0.96	0.0673	1605	823	2629	63,204
	Cortland County	18,170	0.89	0.1594	2578	1322	0.96	0.0673	1174	602	1923	48,491
	Delaware County	18,987	0.89	0.1594	2694	1381	0.96	0.0673	1227	629	2010	47,349
	Dutchess County	102,297	0.89	0.0689	6273	3216	0.96	0.0545	5352	2744	5960	287,920
	Erie County	377,401	0.89	0.0689	23143	11865	0.96	0.0545	19746	10124	21989	941,602
	Essex County	15,122	0.89	0.1594	2145	1100	0.96	0.0673	977	501	1601	39,093
	Franklin County	17,832	0.89	0.1594	2530	1297	0.96	0.0673	1152	591	1888	50,851
	Fulton County	21,911	0.89	0.1594	3108	1594	0.96	0.0673	1416	726	2319	55,140
	Genesee County	22,604	0.89	0.1594	3207	1644	0.96	0.0673	1460	749	2393	59,929
	Greene County	18,383	0.89	0.1594	2608	1337	0.96	0.0673	1188	609	1946	48,531
	Hamilton County	2,317	0.89	0.1594	329	169	0.96	0.0673	150	77	245	5,277
	Herkimer County	25,452	0.89	0.1594	3611	1851	0.96	0.0673	1644	843	2694	63,722
	Jefferson County	40,856	0.89	0.1127	4098	2101	0.96	0.0629	2467	1265	3366	113,936
	Kings County	887,700	0.89	0.0333	26309	13488	0.96	0.0555	47297	24249	37737	2,484,844
	Lewis County	9,926	0.89	0.1594	1408	722	0.96	0.0673	641	329	1051	26,638
	Livingston County	22,281	0.89	0.1594	3161	1621	0.96	0.0673	1440	738	2359	64,708
	Madison County	25,503	0.89	0.1594	3618	1855	0.96	0.0673	1648	845	2700	69,811
	Monroe County	286,428	0.89	0.0689	17564	9005	0.96	0.0545	14986	7683	16688	735,128
	Montgomery County	19,857	0.89	0.1594	2817	1444	0.96	0.0673	1283	658	2102	49,259
	Nassau County	449,050	0.89	0.0333	13309	6823	0.96	0.0555	23925	12267	19090	1,339,506

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	New York County	744,562	0.89	0.0333	22067	11314	0.96	0.0555	39670	20339	31652	1,549,511
	Niagara County	87,244	0.89	0.1127	8751	4487	0.96	0.0629	5268	2701	7188	218,340
	Oneida County	89,980	0.89	0.1127	9025	4627	0.96	0.0629	5433	2786	7413	234,127
	Onondaga County	181,296	0.89	0.0689	11117	5700	0.96	0.0545	9485	4863	10563	458,697
	Ontario County	39,013	0.89	0.1127	3913	2006	0.96	0.0629	2356	1208	3214	101,904
	Orange County	119,844	0.89	0.0689	7349	3768	0.96	0.0545	6270	3215	6983	356,404
	Orleans County	15,264	0.89	0.1594	2165	1110	0.96	0.0673	986	506	1616	43,885
	Oswego County	45,674	0.89	0.1127	4581	2349	0.96	0.0629	2758	1414	3763	122,785
	Otsego County	23,409	0.89	0.1594	3321	1703	0.96	0.0673	1512	775	2478	61,988
	Putnam County	33,711	0.89	0.1594	4782	2452	0.96	0.0673	2178	1117	3569	98,696
	Queens County	787,089	0.89	0.0333	23327	11960	0.96	0.0555	41936	21501	33460	2,241,983
	Rensselaer County	59,891	0.89	0.1127	6007	3080	0.96	0.0629	3616	1854	4934	152,531
	Richmond County	160,618	0.89	0.0689	9849	5050	0.96	0.0545	8404	4309	9358	455,868
	Rockland County	94,168	0.89	0.0689	5775	2961	0.96	0.0545	4927	2526	5487	291,374
	St. Lawrence County	40,230	0.89	0.1127	4035	2069	0.96	0.0629	2429	1245	3314	111,169
	Saratoga County	80,670	0.89	0.1127	8091	4148	0.96	0.0629	4871	2497	6646	207,065
	Schenectady County	59,814	0.89	0.1127	6000	3076	0.96	0.0629	3612	1852	4928	146,874
	Schoharie County	12,021	0.89	0.1594	1705	874	0.96	0.0673	777	398	1273	31,661
	Schuyler County	7,451	0.89	0.1594	1057	542	0.96	0.0673	481	247	789	19,424
	Seneca County	13,262	0.89	0.1594	1881	965	0.96	0.0673	857	439	1404	35,011
	Steuben County	39,384	0.89	0.1594	5587	2865	0.96	0.0673	2544	1305	4169	99,516
	Suffolk County	481,249	0.89	0.0333	14263	7313	0.96	0.0555	25641	13146	20459	1,455,510
	Sullivan County	27,786	0.89	0.1594	3942	2021	0.96	0.0673	1795	920	2941	74,301
	Tioga County	19,736	0.89	0.1594	2800	1435	0.96	0.0673	1275	654	2089	51,812
	Tompkins County	37,108	0.89	0.1594	5264	2699	0.96	0.0673	2397	1229	3928	98,324
	Ulster County	68,511	0.89	0.1127	6872	3523	0.96	0.0629	4137	2121	5644	180,415
	Warren County	26,057	0.89	0.1594	3697	1895	0.96	0.0673	1684	863	2758	64,118



State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
	Washington County	22,635	0.89	0.1594	3211	1646	0.96	0.0673	1462	750	2396	61,522
	Wayne County	34,921	0.89	0.1594	4954	2540	0.96	0.0673	2256	1157	3697	93,799
	Westchester County	342,411	0.89	0.0689	20997	10765	0.96	0.0545	17915	9185	19950	937,892
	Wyoming County	14,828	0.89	0.1594	2104	1079	0.96	0.0673	958	491	1570	43,197
	Yates County	8,996	0.89	0.1594	1276	654	0.96	0.0673	581	298	952	24,530
	<b>Total New York</b>	<b>7,118,815</b>			<b>406142</b>	<b>208229</b>			<b>391543</b>	<b>200744</b>	<b>408973</b>	<b>19,151,066</b>
Pennsylvania	Adams County	34,848	0.89	0.1594	4944	2535	0.96	0.0673	2251	1154	3689	94,536
	Allegheny County	530,666	0.89	0.0333	15727	8063	0.96	0.0555	28274	14496	22559	1,266,196
	Armstrong County	28,780	0.89	0.1594	4083	2093	0.96	0.0673	1859	953	3047	71,831
	Beaver County	71,697	0.89	0.1127	7191	3687	0.96	0.0629	4329	2220	5907	179,214
	Bedford County	19,733	0.89	0.1594	2799	1435	0.96	0.0673	1275	654	2089	49,895
	Berks County	144,685	0.89	0.0689	8872	4549	0.96	0.0545	7570	3881	8430	381,858
	Blair County	50,930	0.89	0.1127	5108	2619	0.96	0.0629	3075	1577	4196	127,669
	Bradford County	24,446	0.89	0.1594	3468	1778	0.96	0.0673	1579	810	2588	62,743
	Bucks County	222,989	0.89	0.0689	13674	7011	0.96	0.0545	11667	5982	12992	609,285
	Butler County	67,421	0.89	0.1127	6763	3467	0.96	0.0629	4071	2087	5554	178,203
	Cambria County	59,661	0.89	0.1127	5984	3068	0.96	0.0629	3603	1847	4915	150,405
	Cameron County	2,413	0.89	0.1594	342	176	0.96	0.0673	156	80	255	5,849
	Carbon County	24,085	0.89	0.1594	3417	1752	0.96	0.0673	1556	798	2550	59,754
	Centre County	50,355	0.89	0.1127	5051	2590	0.96	0.0629	3041	1559	4148	138,599
	Chester County	163,929	0.89	0.0689	10052	5154	0.96	0.0545	8577	4397	9551	450,038
	Clarion County	15,847	0.89	0.1594	2248	1153	0.96	0.0673	1024	525	1678	41,232
	Clearfield County	32,781	0.89	0.1594	4651	2384	0.96	0.0673	2118	1086	3470	83,372
	Clinton County	14,633	0.89	0.1594	2076	1064	0.96	0.0673	945	485	1549	37,554
	Columbia County	25,058	0.89	0.1594	3555	1823	0.96	0.0673	1619	830	2653	64,519
	Crawford County	34,587	0.89	0.1594	4907	2516	0.96	0.0673	2235	1146	3661	90,128
	Cumberland County	84,523	0.89	0.1127	8478	4347	0.96	0.0629	5104	2617	6963	217,556

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	Dauphin County	103,039	0.89	0.0689	6318	3239	0.96	0.0545	5391	2764	6003	252,702
	Delaware County	207,325	0.89	0.0689	12713	6518	0.96	0.0545	10847	5561	12080	553,546
	Elk County	13,892	0.89	0.1594	1971	1010	0.96	0.0673	898	460	1471	34,536
	Erie County	107,090	0.89	0.0689	6567	3367	0.96	0.0545	5603	2873	6239	282,379
	Fayette County	59,213	0.89	0.1127	5939	3045	0.96	0.0629	3575	1833	4878	146,769
	Forest County	2,015	0.89	0.1594	286	147	0.96	0.0673	130	67	213	4,982
	Franklin County	51,483	0.89	0.1127	5164	2648	0.96	0.0629	3109	1594	4241	131,485
	Fulton County	5,692	0.89	0.1594	808	414	0.96	0.0673	368	189	603	14,342
	Greene County	14,991	0.89	0.1594	2127	1090	0.96	0.0673	969	497	1587	40,487
	Huntingdon County	16,849	0.89	0.1594	2390	1225	0.96	0.0673	1089	558	1784	45,830
	Indiana County	33,925	0.89	0.1594	4813	2468	0.96	0.0673	2192	1124	3591	89,086
	Jefferson County	18,327	0.89	0.1594	2600	1333	0.96	0.0673	1184	607	1940	45,812
	Juniata County	8,616	0.89	0.1594	1222	627	0.96	0.0673	557	285	912	22,907
	Lackawanna County	85,318	0.89	0.1127	8558	4388	0.96	0.0629	5152	2641	7029	211,069
	Lancaster County	175,464	0.89	0.0689	10760	5516	0.96	0.0545	9180	4707	10223	478,580
	Lawrence County	36,772	0.89	0.1594	5217	2675	0.96	0.0673	2376	1218	3893	93,829
	Lebanon County	47,056	0.89	0.1127	4720	2420	0.96	0.0629	2841	1457	3877	121,633
	Lehigh County	123,943	0.89	0.0689	7600	3897	0.96	0.0545	6485	3325	7221	317,305
	Luzerne County	128,846	0.89	0.0689	7901	4051	0.96	0.0545	6741	3456	7507	314,752
	Lycoming County	46,524	0.89	0.1127	4666	2392	0.96	0.0629	2809	1440	3833	118,820
	McKean County	17,847	0.89	0.1594	2532	1298	0.96	0.0673	1153	591	1889	45,486
	Mercer County	46,531	0.89	0.1127	4667	2393	0.96	0.0629	2810	1441	3833	119,826
	Mifflin County	18,424	0.89	0.1594	2614	1340	0.96	0.0673	1190	610	1950	46,514
	Monroe County	53,205	0.89	0.1127	5337	2736	0.96	0.0629	3213	1647	4383	149,205
	Montgomery County	291,575	0.89	0.0689	17880	9167	0.96	0.0545	15255	7821	16988	764,456
	Montour County	7,066	0.89	0.1594	1002	514	0.96	0.0673	457	234	748	18,188
	Northampton County	104,056	0.89	0.0689	6381	3271	0.96	0.0545	5444	2791	6063	273,682

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	Northumberland County	38,396	0.89	0.1594	5447	2793	0.96	0.0673	2481	1272	4065	93,488
	Perry County	16,824	0.89	0.1594	2387	1224	0.96	0.0673	1087	557	1781	43,938
	Philadelphia County	578,080	0.89	0.0333	17133	8784	0.96	0.0555	30800	15791	24575	1,486,712
	Pike County	18,858	0.89	0.1594	2675	1372	0.96	0.0673	1218	625	1996	50,086
	Potter County	7,039	0.89	0.1594	999	512	0.96	0.0673	455	233	745	18,167
	Schuylkill County	59,923	0.89	0.1127	6010	3082	0.96	0.0629	3618	1855	4937	148,828
	Snyder County	13,794	0.89	0.1594	1957	1003	0.96	0.0673	891	457	1460	37,930
	Somerset County	31,073	0.89	0.1594	4408	2260	0.96	0.0673	2008	1029	3289	79,641
	Sullivan County	2,649	0.89	0.1594	376	193	0.96	0.0673	171	88	280	6,530
	Susquehanna County	16,426	0.89	0.1594	2330	1195	0.96	0.0673	1061	544	1739	41,974
	Tioga County	16,019	0.89	0.1594	2272	1165	0.96	0.0673	1035	531	1696	41,616
	Union County	13,362	0.89	0.1594	1896	972	0.96	0.0673	863	443	1414	42,205
	Venango County	22,485	0.89	0.1594	3190	1635	0.96	0.0673	1453	745	2380	56,901
	Warren County	17,428	0.89	0.1594	2472	1268	0.96	0.0673	1126	577	1845	43,198
	Washington County	81,507	0.89	0.1127	8175	4192	0.96	0.0629	4922	2523	6715	203,840
	Wayne County	18,640	0.89	0.1594	2644	1356	0.96	0.0673	1204	617	1973	48,476
	Westmoreland County	149,199	0.89	0.0689	9149	4691	0.96	0.0545	7806	4002	8693	368,476
	Wyoming County	10,732	0.89	0.1594	1523	781	0.96	0.0673	693	356	1136	28,003
	York County	151,346	0.89	0.0689	9281	4758	0.96	0.0545	7918	4060	8818	389,806
	<b>Total Pennsylvania</b>	<b>4,792,928</b>			<b>350467</b>	<b>179684</b>			<b>267756</b>	<b>137279</b>	<b>316963</b>	<b>12,328,459</b>
Rhode Island	Bristol County	19,596	0.89	0.1594	2780	1425	0.96	0.0673	1266	649	2074	52,147
	Kent County	68,517	0.89	0.1127	6872	3523	0.96	0.0629	4137	2121	5645	170,060
	Newport County	35,331	0.89	0.1594	5012	2570	0.96	0.0673	2283	1170	3740	85,682
	Providence County	244,799	0.89	0.0689	15011	7696	0.96	0.0545	12808	6567	14263	634,201
	Washington County	48,145	0.89	0.1127	4829	2476	0.96	0.0629	2907	1491	3966	126,807
	<b>Total Rhode Island</b>	<b>416,388</b>			<b>34505</b>	<b>17691</b>			<b>23401</b>	<b>11998</b>	<b>29689</b>	<b>1,068,897</b>
District of Columbia	District of Columbia	245,119	0.86	0.0689	14524	7447	0.96	0.0545	12825	6575	14022	564,643

State	County	Estimated number of households 2002	Wood stove ownership/usage factor	Wood stove ownership fraction	Adults owning wood stoves	Households using wood stoves	Fireplace insert ownership/usage factor	Fireplace insert ownership fraction	Adults owning fireplace inserts	Total households using fireplace inserts	Total households using wood heaters	Population 2002
Total D.C.		245,119			14524	7447			12825	6575	14022	564,643
Vermont	Addison County	13,252	0.89	0.1594	1880	964	0.96	0.0673	856	439	1403	36,480
	Bennington County	14,897	0.89	0.1594	2113	1084	0.96	0.0673	962	493	1577	37,121
	Caledonia County	11,771	0.89	0.1594	1670	856	0.96	0.0673	760	390	1246	29,976
	Chittenden County	57,196	0.89	0.1127	5737	2941	0.96	0.0629	3454	1771	4712	148,503
	Essex County	2,640	0.89	0.1594	375	192	0.96	0.0673	171	87	279	6,554
	Franklin County	17,218	0.89	0.1594	2443	1252	0.96	0.0673	1112	570	1823	46,643
	Grand Isle County	2,927	0.89	0.1594	415	213	0.96	0.0673	189	97	310	7,316
	Lamoille County	9,526	0.89	0.1594	1351	693	0.96	0.0673	615	316	1008	24,001
	Orange County	11,179	0.89	0.1594	1586	813	0.96	0.0673	722	370	1183	28,852
	Orleans County	10,611	0.89	0.1594	1505	772	0.96	0.0673	686	351	1123	26,691
	Rutland County	25,649	0.89	0.1594	3639	1866	0.96	0.0673	1657	850	2715	63,329
	Washington County	24,025	0.89	0.1594	3408	1747	0.96	0.0673	1552	796	2543	58,937
	Windham County	18,366	0.89	0.1594	2606	1336	0.96	0.0673	1187	608	1944	44,195
	Windsor County	24,366	0.89	0.1594	3457	1772	0.96	0.0673	1574	807	2579	57,902
Total Vermont		243,622			32184	16501			15498	7946	24447	616,500
Total MANE-VU		23,088,772			1551075	795236			1268357	650287	1445523	60,999,368

## 2.6. Calculation Method 6

For method 6 the fraction of households that own a wood heater (woodstove plus wood-burning fireplace insert) was obtained from Simmons Marketing Research by Nielsen Marketing Region. The fraction of wood stoves owned that were used for heat was obtained from the 2004 HPBA survey (regional values) and the fraction of fireplace inserts used for heat as compared to those that were owned was obtained from the Minnesota state survey. The number of households in each county during 2002 was obtained from the U.S. Census Bureau. No fireplace without insert data was available.

The Stove ownership fraction ( $S_o$ ) and fireplace with insert ownership fraction ( $FI_o$ ) are based on geographic location for method 6 instead of population as in method 5.

	$S_o$	$FI_o$
New England:	0.1285	0.0202
NY Metro:	0.0332	0.0210
Mid-Atlantic:	0.0791	0.0408
East Central:	0.0777	0.0516 <sup>1</sup>

Total adults owning wood stoves ( $S_{TU}$ ) was found by:

### Equation 2.6.1

$$S_{TU} = H_{02} \times WS \times S_o$$

$$H_{02} = \text{Number of households in 2004}^{21}$$

Total adults owning fireplaces with inserts ( $FI_{TU}$ ) was found by:

### Equation 2.6.2

$$FI_{TU} = H_{04} \times FI \times FI_o$$

Total households using wood heaters ( $WH_{TU}$ ), which is the sum of woodstoves and fireplace inserts (corrected to households from adult population), was found by:

### Equation 2.6.3

$$WH_T = (FI_{TU} + S_{TU}) \times 0.5127$$

Other variables are the same as described in method 5

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<sup>21</sup> US Census Bureau 2004

**Table 6  
Calculation Method 6 Intermediate Data and Results**

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
Connecticut	Fairfield County	328,733	0.89	0.96	0.1285	0.0202	37,596	19,275	6,375	3,268	22,544
	Hartford County	338,964	0.89	0.96	0.1285	0.0202	38,766	19,875	6,573	3,370	23,245
	Litchfield County	73,209	0.89	0.96	0.1285	0.0202	8,373	4,293	1,420	728	5,020
	Middlesex County	63,127	0.89	0.96	0.1285	0.0202	7,220	3,701	1,224	628	4,329
	New Haven County	323,240	0.89	0.96	0.1285	0.0202	36,967	18,953	6,268	3,214	22,167
	New London County	101,234	0.89	0.96	0.1285	0.0202	11,578	5,936	1,963	1,006	6,942
	Tolland County	51,615	0.89	0.96	0.1285	0.0202	5,903	3,026	1,001	513	3,540
	Windham County	41,919	0.89	0.96	0.1285	0.0202	4,794	2,458	813	417	2,875
	<b>Total Connecticut</b>		<b>1,322,041</b>					<b>151,195</b>	<b>77,518</b>	<b>25,637</b>	<b>13,144</b>
Delaware	Kent County	49,063	0.86	0.96	0.0791	0.0408	3,338	1,711	1,922	985	2,696
	New Castle County	192,702	0.86	0.96	0.0791	0.0408	13,109	6,721	7,548	3,870	10,591
	Sussex County	65,612	0.86	0.96	0.0791	0.0408	4,463	2,288	2,570	1,318	3,606
<b>Total Delaware</b>		<b>307,377</b>					<b>20,910</b>	<b>10,720</b>	<b>12,039</b>	<b>6,173</b>	<b>16,893</b>
Maine	Androscoggin County	42,609	0.89	0.96	0.1285	0.0202	4,873	2,498	826	424	2,922
	Aroostook County	30,033	0.89	0.96	0.1285	0.0202	3,435	1,761	582	299	2,060
	Cumberland County	109,722	0.89	0.96	0.1285	0.0202	12,548	6,434	2,128	1,091	7,524
	Franklin County	11,911	0.89	0.96	0.1285	0.0202	1,362	698	231	118	817
	Hancock County	22,054	0.89	0.96	0.1285	0.0202	2,522	1,293	428	219	1,512
	Kennebec County	48,309	0.89	0.96	0.1285	0.0202	5,525	2,833	937	480	3,313
	Knox County	16,986	0.89	0.96	0.1285	0.0202	1,943	996	329	169	1,165
	Lincoln County	14,521	0.89	0.96	0.1285	0.0202	1,661	851	282	144	996
	Oxford County	22,757	0.89	0.96	0.1285	0.0202	2,603	1,334	441	226	1,561
	Penobscot County	58,890	0.89	0.96	0.1285	0.0202	6,735	3,453	1,142	585	4,038
	Piscataquis County	7,289	0.89	0.96	0.1285	0.0202	834	427	141	72	500
Sagadahoc County	14,429	0.89	0.96	0.1285	0.0202	1,650	846	280	143	990	

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Somerset County	20,558	0.89	0.96	0.1285	0.0202	2,351	1,205	399	204	1,410
	Waldo County	15,312	0.89	0.96	0.1285	0.0202	1,751	898	297	152	1,050
	Washington County	13,898	0.89	0.96	0.1285	0.0202	1,589	815	270	138	953
	York County	78,141	0.89	0.96	0.1285	0.0202	8,937	4,582	1,515	777	5,359
	<b>Total Maine</b>	<b>527,420</b>					<b>60,318</b>	<b>30,925</b>	<b>10,228</b>	<b>5,244</b>	<b>36,169</b>
Maryland	Allegany County	28,958	0.86	0.96	0.0791	0.0408	1,970	1,010	1,134	582	1,591
	Anne Arundel County	183,204	0.86	0.96	0.0791	0.0408	12,463	6,390	7,176	3,679	10,069
	Baltimore County	305,574	0.86	0.96	0.0791	0.0408	20,787	10,657	11,969	6,136	16,794
	Calvert County	27,611	0.86	0.96	0.0791	0.0408	1,878	963	1,081	554	1,517
	Caroline County	11,311	0.86	0.96	0.0791	0.0408	769	395	443	227	622
	Carroll County	55,435	0.86	0.96	0.0791	0.0408	3,771	1,933	2,171	1,113	3,047
	Cecil County	32,827	0.86	0.96	0.0791	0.0408	2,233	1,145	1,286	659	1,804
	Charles County	44,319	0.86	0.96	0.0791	0.0408	3,015	1,546	1,736	890	2,436
	Dorchester County	12,631	0.86	0.96	0.0791	0.0408	859	441	495	254	694
	Frederick County	75,020	0.86	0.96	0.0791	0.0408	5,103	2,616	2,938	1,507	4,123
	Garrett County	11,503	0.86	0.96	0.0791	0.0408	782	401	451	231	632
	Harford County	82,864	0.86	0.96	0.0791	0.0408	5,637	2,890	3,246	1,664	4,554
	Howard County	94,424	0.86	0.96	0.0791	0.0408	6,423	3,293	3,698	1,896	5,189
	Kent County	7,757	0.86	0.96	0.0791	0.0408	528	271	304	156	426
	Montgomery County	336,700	0.86	0.96	0.0791	0.0408	22,904	11,743	13,188	6,761	18,505
	Prince George's County	295,975	0.86	0.96	0.0791	0.0408	20,134	10,323	11,593	5,944	16,266
	Queen Anne's County	16,188	0.86	0.96	0.0791	0.0408	1,101	565	634	325	890
	St. Mary's County	31,971	0.86	0.96	0.0791	0.0408	2,175	1,115	1,252	642	1,757
	Somerset County	8,604	0.86	0.96	0.0791	0.0408	585	300	337	173	473
	Talbot County	14,542	0.86	0.96	0.0791	0.0408	989	507	570	292	799
	Washington County	50,806	0.86	0.96	0.0791	0.0408	3,456	1,772	1,990	1,020	2,792
	Wicomico County	32,796	0.86	0.96	0.0791	0.0408	2,231	1,144	1,285	659	1,802

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Worcester County	20,321	0.86	0.96	0.0791	0.0408	1,382	709	796	408	1,117
	Baltimore city	252,048	0.86	0.96	0.0791	0.0408	17,146	8,791	9,872	5,061	13,852
	<b>Total Maryland</b>	<b>2,033,388</b>					<b>138,323</b>	<b>70,918</b>	<b>79,644</b>	<b>40,833</b>	<b>111,752</b>
Massachusetts	Barnstable County	97,119	0.89	0.96	0.1285	0.0202	11,107	5,695	1,883	966	6,660
	Berkshire County	55,326	0.89	0.96	0.1285	0.0202	6,327	3,244	1,073	550	3,794
	Bristol County	208,940	0.89	0.96	0.1285	0.0202	23,895	12,251	4,052	2,077	14,329
	Dukes County	6,605	0.89	0.96	0.1285	0.0202	755	387	128	66	453
	Essex County	280,413	0.89	0.96	0.1285	0.0202	32,069	16,442	5,438	2,788	19,230
	Franklin County	29,636	0.89	0.96	0.1285	0.0202	3,389	1,738	575	295	2,032
	Hampden County	176,594	0.89	0.96	0.1285	0.0202	20,196	10,355	3,425	1,756	12,110
	Hampshire County	56,126	0.89	0.96	0.1285	0.0202	6,419	3,291	1,088	558	3,849
	Middlesex County	562,478	0.89	0.96	0.1285	0.0202	64,328	32,981	10,908	5,592	38,573
	Nantucket County	3,838	0.89	0.96	0.1285	0.0202	439	225	74	38	263
	Norfolk County	250,129	0.89	0.96	0.1285	0.0202	28,606	14,666	4,850	2,487	17,153
	Plymouth County	172,560	0.89	0.96	0.1285	0.0202	19,735	10,118	3,346	1,716	11,834
	Suffolk County	276,854	0.89	0.96	0.1285	0.0202	31,662	16,233	5,369	2,753	18,986
	Worcester County	290,955	0.89	0.96	0.1285	0.0202	33,275	17,060	5,642	2,893	19,953
	<b>Total Massachusetts</b>	<b>2,467,572</b>					<b>282,204</b>	<b>144,686</b>	<b>47,851</b>	<b>24,533</b>	<b>169,219</b>
New Hampshire	Belknap County	23,598	0.89	0.96	0.1285	0.0202	2,699	1,384	458	235	1,618
	Carroll County	19,044	0.89	0.96	0.1285	0.0202	2,178	1,117	369	189	1,306
	Cheshire County	28,835	0.89	0.96	0.1285	0.0202	3,298	1,691	559	287	1,977
	Coos County	14,085	0.89	0.96	0.1285	0.0202	1,611	826	273	140	966
	Grafton County	32,058	0.89	0.96	0.1285	0.0202	3,666	1,880	622	319	2,198
	Hillsborough County	148,800	0.89	0.96	0.1285	0.0202	17,018	8,725	2,886	1,479	10,204
	Merrimack County	53,970	0.89	0.96	0.1285	0.0202	6,172	3,165	1,047	537	3,701
	Rockingham County	108,504	0.89	0.96	0.1285	0.0202	12,409	6,362	2,104	1,079	7,441
	Strafford County	44,036	0.89	0.96	0.1285	0.0202	5,036	2,582	854	438	3,020



State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Sullivan County	16,942	0.89	0.96	0.1285	0.0202	1,938	993	329	168	1,162
	<b>Total New Hampshire</b>	<b>489,871</b>					<b>56,024</b>	<b>28,724</b>	<b>9,500</b>	<b>4,870</b>	<b>33,594</b>
New Jersey	Atlantic County	97,561	0.89	0.96	0.0791	0.0408	6,868	3,521	3,821	1,959	5,481
	Bergen County	334,832	0.89	0.96	0.0332	0.021	9,894	5,072	6,750	3,461	8,533
	Burlington County	159,618	0.89	0.96	0.0791	0.0408	11,237	5,761	6,252	3,205	8,967
	Camden County	186,884	0.89	0.96	0.0791	0.0408	13,156	6,745	7,320	3,753	10,498
	Cape May County	41,928	0.89	0.96	0.0791	0.0408	2,952	1,513	1,642	842	2,355
	Cumberland County	49,681	0.89	0.96	0.0791	0.0408	3,497	1,793	1,946	998	2,791
	Essex County	284,738	0.89	0.96	0.0332	0.021	8,413	4,314	5,740	2,943	7,257
	Gloucester County	93,535	0.89	0.96	0.0791	0.0408	6,585	3,376	3,664	1,878	5,254
	Hudson County	230,792	0.89	0.96	0.0332	0.021	6,819	3,496	4,653	2,385	5,882
	Hunterdon County	45,390	0.89	0.96	0.0791	0.0408	3,195	1,638	1,778	912	2,550
	Mercer County	128,268	0.89	0.96	0.0791	0.0408	9,030	4,630	5,024	2,576	7,205
	Middlesex County	272,869	0.89	0.96	0.0332	0.021	8,063	4,134	5,501	2,820	6,954
	Monmouth County	229,023	0.89	0.96	0.0791	0.0408	16,123	8,266	8,970	4,599	12,865
	Morris County	172,811	0.89	0.96	0.0332	0.021	5,106	2,618	3,484	1,786	4,404
	Ocean County	210,803	0.89	0.96	0.0791	0.0408	14,840	7,609	8,257	4,233	11,842
	Passaic County	166,543	0.89	0.96	0.0332	0.021	4,921	2,523	3,358	1,721	4,244
	Salem County	24,475	0.89	0.96	0.0791	0.0408	1,723	883	959	491	1,375
	Somerset County	112,804	0.89	0.96	0.0332	0.021	3,333	1,709	2,274	1,166	2,875
	Sussex County	52,491	0.89	0.96	0.0791	0.0408	3,695	1,895	2,056	1,054	2,949
	Union County	188,616	0.89	0.96	0.0332	0.021	5,573	2,857	3,802	1,950	4,807
	Warren County	40,572	0.89	0.96	0.0791	0.0408	2,856	1,464	1,589	815	2,279
	<b>Total New Jersey</b>	<b>3,124,232</b>					<b>147,881</b>	<b>75,819</b>	<b>88,840</b>	<b>45,548</b>	<b>121,367</b>
New York	Albany County	121,100	0.89	0.96	0.0791	0.0408	8,525	4,371	4,743	2,432	6,803
	Allegany County	18,178	0.89	0.96	0.0791	0.0408	1,280	656	712	365	1,021
	Bronx County	472,329	0.89	0.96	0.0332	0.021	13,956	7,155	9,522	4,882	12,037

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Broome County	80,470	0.89	0.96	0.0791	0.0408	5,665	2,904	3,152	1,616	4,520
	Cattaraugus County	31,807	0.89	0.96	0.0791	0.0408	2,239	1,148	1,246	639	1,787
	Cayuga County	30,538	0.89	0.96	0.0791	0.0408	2,150	1,102	1,196	613	1,715
	Chautauqua County	53,995	0.89	0.96	0.0791	0.0408	3,801	1,949	2,115	1,084	3,033
	Chemung County	34,954	0.89	0.96	0.0791	0.0408	2,461	1,262	1,369	702	1,964
	Chenango County	19,934	0.89	0.96	0.0791	0.0408	1,403	719	781	400	1,120
	Clinton County	29,761	0.89	0.96	0.0791	0.0408	2,095	1,074	1,166	598	1,672
	Columbia County	24,839	0.89	0.96	0.0791	0.0408	1,749	897	973	499	1,395
	Cortland County	18,170	0.89	0.96	0.0791	0.0408	1,279	656	712	365	1,021
	Delaware County	18,987	0.89	0.96	0.0791	0.0408	1,337	685	744	381	1,067
	Dutchess County	102,297	0.89	0.96	0.0791	0.0408	7,202	3,692	4,007	2,054	5,747
	Erie County	377,401	0.89	0.96	0.0791	0.0408	26,569	13,622	14,782	7,579	21,200
	Essex County	15,122	0.89	0.96	0.0791	0.0408	1,065	546	592	304	849
	Franklin County	17,832	0.89	0.96	0.0791	0.0408	1,255	644	698	358	1,002
	Fulton County	21,911	0.89	0.96	0.0791	0.0408	1,542	791	858	440	1,231
	Genesee County	22,604	0.89	0.96	0.0791	0.0408	1,591	816	885	454	1,270
	Greene County	18,383	0.89	0.96	0.0791	0.0408	1,294	664	720	369	1,033
	Hamilton County	2,317	0.89	0.96	0.0791	0.0408	163	84	91	47	130
	Herkimer County	25,452	0.89	0.96	0.0791	0.0408	1,792	919	997	511	1,430
	Jefferson County	40,856	0.89	0.96	0.0791	0.0408	2,876	1,475	1,600	820	2,295
	Kings County	887,700	0.89	0.96	0.0332	0.021	26,230	13,448	17,896	9,175	22,623
	Lewis County	9,926	0.89	0.96	0.0791	0.0408	699	358	389	199	558
	Livingston County	22,281	0.89	0.96	0.0791	0.0408	1,569	804	873	447	1,252
	Madison County	25,503	0.89	0.96	0.0791	0.0408	1,795	921	999	512	1,433
	Monroe County	286,428	0.89	0.96	0.0791	0.0408	20,164	10,338	11,219	5,752	16,090
	Montgomery County	19,857	0.89	0.96	0.0791	0.0408	1,398	717	778	399	1,115
	Nassau County	449,050	0.89	0.96	0.0332	0.021	13,269	6,803	9,053	4,641	11,444

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	New York County	744,562	0.89	0.96	0.0332	0.021	22,000	11,280	15,010	7,696	18,975
	Niagara County	87,244	0.89	0.96	0.0791	0.0408	6,142	3,149	3,417	1,752	4,901
	Oneida County	89,980	0.89	0.96	0.0791	0.0408	6,335	3,248	3,524	1,807	5,055
	Onondaga County	181,296	0.89	0.96	0.0791	0.0408	12,763	6,544	7,101	3,641	10,184
	Ontario County	39,013	0.89	0.96	0.0791	0.0408	2,746	1,408	1,528	783	2,192
	Orange County	119,844	0.89	0.96	0.0791	0.0408	8,437	4,326	4,694	2,407	6,732
	Orleans County	15,264	0.89	0.96	0.0791	0.0408	1,075	551	598	307	857
	Oswego County	45,674	0.89	0.96	0.0791	0.0408	3,215	1,649	1,789	917	2,566
	Otsego County	23,409	0.89	0.96	0.0791	0.0408	1,648	845	917	470	1,315
	Putnam County	33,711	0.89	0.96	0.0791	0.0408	2,373	1,217	1,320	677	1,894
	Queens County	787,089	0.89	0.96	0.0332	0.021	23,257	11,924	15,868	8,135	20,059
	Rensselaer County	59,891	0.89	0.96	0.0791	0.0408	4,216	2,162	2,346	1,203	3,364
	Richmond County	160,618	0.89	0.96	0.0332	0.021	4,746	2,433	3,238	1,660	4,093
	Rockland County	94,168	0.89	0.96	0.0332	0.021	2,782	1,427	1,898	973	2,400
	St. Lawrence County	40,230	0.89	0.96	0.0791	0.0408	2,832	1,452	1,576	808	2,260
	Saratoga County	80,670	0.89	0.96	0.0791	0.0408	5,679	2,912	3,160	1,620	4,532
	Schenectady County	59,814	0.89	0.96	0.0791	0.0408	4,211	2,159	2,343	1,201	3,360
	Schoharie County	12,021	0.89	0.96	0.0791	0.0408	846	434	471	241	675
	Schuyler County	7,451	0.89	0.96	0.0791	0.0408	525	269	292	150	419
	Seneca County	13,262	0.89	0.96	0.0791	0.0408	934	479	519	266	745
	Steuben County	39,384	0.89	0.96	0.0791	0.0408	2,773	1,421	1,543	791	2,212
	Suffolk County	481,249	0.89	0.96	0.0332	0.021	14,220	7,291	9,702	4,974	12,265
	Sullivan County	27,786	0.89	0.96	0.0791	0.0408	1,956	1,003	1,088	558	1,561
	Tioga County	19,736	0.89	0.96	0.0791	0.0408	1,389	712	773	396	1,109
	Tompkins County	37,108	0.89	0.96	0.0791	0.0408	2,612	1,339	1,453	745	2,085
	Ulster County	68,511	0.89	0.96	0.0791	0.0408	4,823	2,473	2,683	1,376	3,849
	Warren County	26,057	0.89	0.96	0.0791	0.0408	1,834	940	1,021	523	1,464

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Washington County	22,635	0.89	0.96	0.0791	0.0408	1,593	817	887	455	1,271
	Wayne County	34,921	0.89	0.96	0.0791	0.0408	2,458	1,260	1,368	701	1,962
	Westchester County	342,411	0.89	0.96	0.0332	0.021	10,118	5,187	6,903	3,539	8,726
	Wyoming County	14,828	0.89	0.96	0.0791	0.0408	1,044	535	581	298	833
	Yates County	8,996	0.89	0.96	0.0791	0.0408	633	325	352	181	505
	<b>Total New York</b>	<b>7,118,815</b>					<b>320,630</b>	<b>164,387</b>	<b>194,830</b>	<b>99,889</b>	<b>264,276</b>
Pennsylvania	Adams County	34,848	0.89	0.96	0.0791	0.0408	2,453	1,258	1,365	700	1,958
	Allegheny County	530,666	0.89	0.96	0.0777	0.0516	36,697	18,815	26,287	13,477	32,292
	Armstrong County	28,780	0.89	0.96	0.0777	0.0516	1,990	1,020	1,426	731	1,751
	Beaver County	71,697	0.89	0.96	0.0777	0.0516	4,958	2,542	3,552	1,821	4,363
	Bedford County	19,733	0.89	0.96	0.0791	0.0408	1,389	712	773	396	1,108
	Berks County	144,685	0.89	0.96	0.0791	0.0408	10,186	5,222	5,667	2,905	8,128
	Blair County	50,930	0.89	0.96	0.0791	0.0408	3,585	1,838	1,995	1,023	2,861
	Bradford County	24,446	0.89	0.96	0.0791	0.0408	1,721	882	958	491	1,373
	Bucks County	222,989	0.89	0.96	0.0791	0.0408	15,698	8,048	8,734	4,478	12,526
	Butler County	67,421	0.89	0.96	0.0777	0.0516	4,662	2,390	3,340	1,712	4,103
	Cambria County	59,661	0.89	0.96	0.0791	0.0408	4,200	2,153	2,337	1,198	3,351
	Cameron County	2,413	0.89	0.96	0.0791	0.0408	170	87	95	48	136
	Carbon County	24,085	0.89	0.96	0.0791	0.0408	1,696	869	943	484	1,353
	Centre County	50,355	0.89	0.96	0.0791	0.0408	3,545	1,817	1,972	1,011	2,829
	Chester County	163,929	0.89	0.96	0.0791	0.0408	11,540	5,917	6,421	3,292	9,209
	Clarion County	15,847	0.89	0.96	0.0777	0.0516	1,096	562	785	402	964
	Clearfield County	32,781	0.89	0.96	0.0791	0.0408	2,308	1,183	1,284	658	1,841
	Clinton County	14,633	0.89	0.96	0.0791	0.0408	1,030	528	573	294	822
	Columbia County	25,058	0.89	0.96	0.0791	0.0408	1,764	904	981	503	1,408
	Crawford County	34,587	0.89	0.96	0.0777	0.0516	2,392	1,226	1,713	878	2,105
	Cumberland County	84,523	0.89	0.96	0.0791	0.0408	5,950	3,051	3,311	1,697	4,748

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Dauphin County	103,039	0.89	0.96	0.0791	0.0408	7,254	3,719	4,036	2,069	5,788
	Delaware County	207,325	0.89	0.96	0.0791	0.0408	14,595	7,483	8,120	4,163	11,646
	Elk County	13,892	0.89	0.96	0.0791	0.0408	978	501	544	279	780
	Erie County	107,090	0.89	0.96	0.0777	0.0516	7,406	3,797	5,305	2,720	6,517
	Fayette County	59,213	0.89	0.96	0.0777	0.0516	4,095	2,099	2,933	1,504	3,603
	Forest County	2,015	0.89	0.96	0.0777	0.0516	139	71	100	51	123
	Franklin County	51,483	0.89	0.96	0.0791	0.0408	3,624	1,858	2,017	1,034	2,892
	Fulton County	5,692	0.89	0.96	0.0791	0.0408	401	205	223	114	320
	Greene County	14,991	0.89	0.96	0.0777	0.0561	1,037	532	807	414	945
	Huntingdon County	16,849	0.89	0.96	0.0791	0.0408	1,186	608	660	338	946
	Indiana County	33,925	0.89	0.96	0.0777	0.0516	2,346	1,203	1,681	862	2,064
	Jefferson County	18,327	0.89	0.96	0.0777	0.0516	1,267	650	908	465	1,115
	Juniata County	8,616	0.89	0.96	0.0791	0.0408	607	311	337	173	484
	Lackawanna County	85,318	0.89	0.96	0.0791	0.0408	6,006	3,079	3,342	1,713	4,793
	Lancaster County	175,464	0.89	0.96	0.0791	0.0408	12,353	6,333	6,873	3,524	9,857
	Lawrence County	36,772	0.89	0.96	0.0777	0.0516	2,543	1,304	1,822	934	2,238
	Lebanon County	47,056	0.89	0.96	0.0791	0.0408	3,313	1,698	1,843	945	2,643
	Lehigh County	123,943	0.89	0.96	0.0791	0.0408	8,725	4,474	4,855	2,489	6,963
	Luzerne County	128,846	0.89	0.96	0.0791	0.0408	9,071	4,651	5,047	2,587	7,238
	Lycoming County	46,524	0.89	0.96	0.0791	0.0408	3,275	1,679	1,822	934	2,613
	McKean County	17,847	0.89	0.96	0.0791	0.0408	1,256	644	699	358	1,003
	Mercer County	46,531	0.89	0.96	0.0777	0.0516	3,218	1,650	2,305	1,182	2,831
	Mifflin County	18,424	0.89	0.96	0.0791	0.0408	1,297	665	722	370	1,035
	Monroe County	53,205	0.89	0.96	0.0791	0.0408	3,746	1,920	2,084	1,068	2,989
	Montgomery County	291,575	0.89	0.96	0.0791	0.0408	20,527	10,524	11,420	5,855	16,379
	Montour County	7,066	0.89	0.96	0.0791	0.0408	497	255	277	142	397
	Northampton County	104,056	0.89	0.96	0.0791	0.0408	7,325	3,756	4,076	2,090	5,845

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
	Northumberland County	38,396	0.89	0.96	0.0791	0.0408	2,703	1,386	1,504	771	2,157
	Perry County	16,824	0.89	0.96	0.0791	0.0408	1,184	607	659	338	945
	Philadelphia County	578,080	0.89	0.96	0.0791	0.0408	40,696	20,865	22,642	11,609	32,474
	Pike County	18,858	0.89	0.96	0.0791	0.0408	1,328	681	739	379	1,059
	Potter County	7,039	0.89	0.96	0.0791	0.0408	496	254	276	141	395
	Schuylkill County	59,923	0.89	0.96	0.0791	0.0408	4,219	2,163	2,347	1,203	3,366
	Snyder County	13,794	0.89	0.96	0.0791	0.0408	971	498	540	277	775
	Somerset County	31,073	0.89	0.96	0.0791	0.0408	2,188	1,122	1,217	624	1,746
	Sullivan County	2,649	0.89	0.96	0.0791	0.0408	187	96	104	53	149
	Susquehanna County	16,426	0.89	0.96	0.0791	0.0408	1,156	593	643	330	923
	Tioga County	16,019	0.89	0.96	0.0791	0.0408	1,128	578	627	322	900
	Union County	13,362	0.89	0.96	0.0791	0.0408	941	482	523	268	751
	Venango County	22,485	0.89	0.96	0.0777	0.0516	1,555	797	1,114	571	1,368
	Warren County	17,428	0.89	0.96	0.0791	0.0408	1,227	629	683	350	979
	Washington County	81,507	0.89	0.96	0.0777	0.0516	5,636	2,890	4,038	2,070	4,960
	Wayne County	18,640	0.89	0.96	0.0791	0.0408	1,312	673	730	374	1,047
	Westmoreland County	149,199	0.89	0.96	0.0777	0.0516	10,318	5,290	7,391	3,789	9,079
	Wyoming County	10,732	0.89	0.96	0.0791	0.0408	756	387	420	216	603
	York County	151,346	0.89	0.96	0.0791	0.0408	10,655	5,463	5,928	3,039	8,502
	<b>Total Pennsylvania</b>	<b>4,792,928</b>					<b>335,771</b>	<b>172,150</b>	<b>201,491</b>	<b>103,304</b>	<b>275,454</b>
Rhode Island	Bristol County	19,596	0.89	0.96	0.1285	0.0202	2,241	1,149	380	195	1,344
	Kent County	68,517	0.89	0.96	0.1285	0.0202	7,836	4,017	1,329	681	4,699
	Newport County	35,331	0.89	0.96	0.1285	0.0202	4,041	2,072	685	351	2,423
	Providence County	244,799	0.89	0.96	0.1285	0.0202	27,996	14,354	4,747	2,434	16,788
	Washington County	48,145	0.89	0.96	0.1285	0.0202	5,506	2,823	934	479	3,302
	<b>Total Rhode Island</b>	<b>416,388</b>					<b>47,620</b>	<b>24,415</b>	<b>8,075</b>	<b>4,140</b>	<b>28,555</b>
District of Columbia	District of Columbia	245,119	0.86	0.96	0.0791	0.0408	16,674	8,549	9,601	4,922	13,471

State	County	Number of households 2002, U.S. Census Bureau	Wood stove ownership/usage factor	Fireplace insert ownership/usage factor	Wood stove ownership fraction	Fireplace insert ownership fraction	Adults using wood stoves	Households using wood stoves	Adults using fireplace inserts	Total households using fireplaces inserts	Total households using wood heaters
Total D.C.		245,119					16,674	8,549	9,601	4,922	13,471
Vermont	Addison County	13,252	0.89	0.96	0.1285	0.0202	1,516	777	257	132	909
	Bennington County	14,897	0.89	0.96	0.1285	0.0202	1,704	873	289	148	1,022
	Caledonia County	11,771	0.89	0.96	0.1285	0.0202	1,346	690	228	117	807
	Chittenden County	57,196	0.89	0.96	0.1285	0.0202	6,541	3,354	1,109	569	3,922
	Essex County	2,640	0.89	0.96	0.1285	0.0202	302	155	51	26	181
	Franklin County	17,218	0.89	0.96	0.1285	0.0202	1,969	1,010	334	171	1,181
	Grand Isle County	2,927	0.89	0.96	0.1285	0.0202	335	172	57	29	201
	Lamoille County	9,526	0.89	0.96	0.1285	0.0202	1,089	559	185	95	653
	Orange County	11,179	0.89	0.96	0.1285	0.0202	1,278	655	217	111	767
	Orleans County	10,611	0.89	0.96	0.1285	0.0202	1,213	622	206	105	728
	Rutland County	25,649	0.89	0.96	0.1285	0.0202	2,933	1,504	497	255	1,759
	Washington County	24,025	0.89	0.96	0.1285	0.0202	2,748	1,409	466	239	1,648
	Windham County	18,366	0.89	0.96	0.1285	0.0202	2,100	1,077	356	183	1,260
	Windsor County	24,366	0.89	0.96	0.1285	0.0202	2,787	1,429	472	242	1,671
Total Vermont		243,622					27,862	14,285	4,724	2,422	16,707
Total MANE-VU		2.31E+07					1,605,413	823,095	692,459	355,024	1,178,119

## 2.7. Calculation Method 7

Calculation method 7 entailed using the fraction of households by county that use wood as the main heating fuel to index the total households using wood heaters and the total number of households using wood-burning fireplace without inserts for heating purposes. The fraction of households by county that use wood as the main heating fuel was obtained from the 2000 Census (long form results based on one-in-six houses). The ratios of the total (sum of main and other heating use) number of households that use wood as a heating source to those that use it as a main source only were determined by proportioning the relative wood-burning activity between the rural and urban portions of each county. (The AHS has developed these data for a number of categories. Ratios for urban and rural areas both inside and outside MSAs were calculated). The fraction of urban and rural populations in each county was determined for all counties from the U.S. Census Bureau data. The number of households that used fireplaces without inserts for heat was determined by calculating the ratio of the number of households using fireplaces without inserts used for heating obtained for AHS categories to the total numbers of households in the urban and rural portion of each county that used wood as a main heating source. Once the fireplace without inserts number was determined it was subtracted from the total number of households using wood as heat to obtain the number of households that used wood heaters (freestanding stoves and fireplace inserts). The fireplace without insert numbers tabulated by the AHS included gas-fueled fireplaces, consequently, the fireplace without insert numbers had to be adjusted so that only wood-fueled fireplace inserts would be included. This was accomplished by using the HPBA 2004 survey data, which showed the national fraction of fireplaces without inserts that are wood-fueled, and adjusting that fraction to be applicable for each county. County adjustments were based on the number of households that reported gas (utility, bottled, tank or LP) as their main fuel by county ratioed to the national average (0.577).

Numerous calculations must be done in order to reach the final number of households using wood heaters and fireplaces without inserts, and the following sub-sections start with the equation that uses the most variables, and traces each variable and factor in the closest order to which this method follows

### 2.7a. Urban Area Inside Metropolitan Statistical Area

The fraction of urban households inside of the metropolitan statistical area that use wood as their main heating fuel ( $FUWMF_{MSA}$ ) was calculated by:

#### Equation 2.7a.1

$$FUWMF_{MSA} = \frac{H_{wmf} \times 0.08121}{((POP_u \times H_{02} \times 0.08121) + (POP_r \times H_{02}))}$$

$H_{wmf}$  = Estimated number of households using wood as main heating fuel

$H_{02}$  = Number of households 2002

$POP_u$  = Urban fraction of total population<sup>22</sup>

$POP_r$  = Rural fraction of total population

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<sup>22</sup> U.S. Census Bureau



0.08121 = Ratio of the fraction of households using wood as main heating fuel in MSA urban areas to the fraction of households using wood as main heating fuel in MSA rural areas,<sup>23</sup> calculated by:

Equation 2.7a.1a

$$FUH_{wmf}/FRH_{wmf}$$

$FUH_{wmf}$  = Fraction of urban households using wood as main heating fuel, calculated by:

Equation 2.7a.1a.1

$$UH_{wMSA}/H_{tu}$$

$UH_{wMSA}$  = Number of urban households in MSA with wood as main heating fuel = Cities + MSA suburb – Rural Suburb

$H_{tu}$  = Total number of urban households inside the MSA

$FRH_{wmf}$  = Fraction of rural households using wood as main heating fuel, calculated by:

Equation 2.7a.1a.2

$$RH_{wMSA}/H_{tr}$$

$RH_{wMSA}$  = Number of rural households in MSA with wood as main heating fuel

$H_{tr}$  = Total number of rural households inside the MSA

$UH_{wmf}$  = Number of urban households using wood as main heating fuel, calculated by:

Equation 2.7a.2

$$UH_{wmf} = FUWMF_{MSA} \times POP_u \times H_{02}$$

$UHT_{wh}$  = Number of urban households using wood for heat, which includes wood as main heat as well as other heat, as calculated by:

Equation 2.7a.3

$$UHT_{wh} = UH_{wmf} \times 20.59$$

20.59 = Factor of households using wood as a heating fuel, calculated by:

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<sup>23</sup> American Housing Survey for the United States: 2003; U.S. Department of Housing and Urban Development and U.S. Census Bureau

Equation 2.7a.3a

$$= \frac{(UH_{wMSA} + UH_{oMSA})}{UH_{wMSA}}$$

$UH_{oMSA}$  = Number of urban households in MSA with wood as an ‘other’ source of heating fuel = cities + MSA suburb – Rural suburb

$FPNI_u$  = Number of urban households using fireplaces without inserts for heating, excluding gas fueled, as calculated by:

Equation 2.7a.4

$$FPNI_u = UH_{wmf} \times 12.54 \times (1 - (0.297 \times (HF_{gmf}/0.577)))$$

$HF_{gmf}$  = Fraction of Households using gas as main heating fuel<sup>24</sup>

0.297 = Fraction of gas fueled fireplaces nationally without inserts: see Equation 2.1.2a

0.577 = Fraction of total units nationally using gas as main heating fuel<sup>20</sup> calculated by:

Equation 2.7a.4a

$$\frac{\text{number of households (using piped gas + bottled gas) nationally}}{\text{total households nationally}}$$

12.54 = Ratio of urban households in the MSA using fireplaces without inserts (as main heating equipment + as ‘other’ heating equipment) to urban households in MSA using wood as main fuel found by using:

Equation 2.7a.4b

$$\frac{(UH_{fpMSA} + UH_{fpoMSA})}{UH_{wMSA}}$$

$UH_{fpMSA}$  = Urban households in the MSA using fireplaces without inserts as main heating equipment

$UH_{fpoMSA}$  = Urban households in the MSA using fireplaces without inserts as ‘other’ heating equipment

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<sup>24</sup> U.S. Census Bureau

## 2.7b. Urban Area Outside Metropolitan Statistical Area

The fraction of urban households outside of the MSA that use wood as their main heating fuel (FUWMF) was calculated by:

### Equation 2.7b.1

$$FUWMF = \frac{H_{wmf} \times 0.1032}{((POP_u \times H_{02} \times .1032) + (POP_r \times H_{02}))}$$

0.1032 = Ratio of the fraction of households using wood as main heating fuel in urban areas outside of MSA to the fraction of households using wood as main heating fuel in rural areas outside of MSA as given by:

### Equation 2.7b.1a

$$FUH_{wmf}/FRH_{wmf}$$

$FUH_{wmf}$  = Fraction of urban households using wood as main heating fuel, calculated by:

#### Equation 2.7b.1a.1

$$UH_w/H_{tu}$$

$UH_w$  = Number of urban households outside of the MSA with wood as main heating fuel<sup>25</sup>

$H_{tu}$  = Total number of urban households outside the MSA

$FRH_{wmf}$  = Fraction of rural households using wood as main heating fuel, calculated by:

#### Equation 2.7b.1a.2

$$RH_w/H_{tr}$$

$RH_w$  = Number of rural households outside of MSA with wood as main heating fuel

$H_{tr}$  = Total number of rural households outside the MSA

$UH_{wmf}$  = Number of urban households using wood as main heating fuel, as calculated by:

### Equation 2.7b.2

$$UH_{wmf} = FUWMF \times POP_r \times H_{02}$$

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<sup>25</sup> American Housing Survey for the United States: 2003 U.S. Department of Housing and Urban Development and U.S. Census Bureau;

$UHT_{wh}$  = Number of urban households using wood for heat, which includes wood as main heat as well as other heat, calculated by:

Equation 2.7b.3

$$UHT_{wh} = UH_{wmf} \times 12.08$$

12.08 = Factor of households using wood for heating, as calculated by:

Equation 2.7b.3a

$$\frac{(UH_w + UH_o)}{UH_w}$$

$UH_o$  = Number of urban households outside of MSA with wood as an ‘other’ source of heating fuel<sup>20</sup>

$FPNI_u$  = Number of urban households using fireplaces without inserts for heating, excluding gas fueled, as calculated by:

Equation 2.7b.4

$$FPNI_u = UH_{wmf} \times 3.396 \times (1 - (0.297 \times (HF_{gmf}/0.577)))$$

$HF_{gmf}$  = Fraction of Households using gas as main heating fuel

0.297 = Fraction of gas fueled fireplaces nationally without inserts

0.577 = Fraction of total units nationally using gas as main heating fuel

3.396 = Ratio of urban households outside the MSA using fireplaces without inserts (as main heating equipment + as ‘other’ heating equipment) to urban households outside the MSA that use wood as main heating fuel as calculated by:

Equation 2.7b.4a

$$\frac{(UH_{fp} + UH_{fpo})}{UH_w}$$

$UH_{fp}$  = Urban households outside the MSA using fireplaces without inserts as the main heating equipment

$UH_{fpo}$  = Urban households outside the MSA using fireplaces without inserts as ‘other’ heating equipment

$UH_w$  = Urban households outside the MSA using wood as main heating fuel

## 2.7c. Rural Area Inside Metropolitan Statistical Area

The fraction of rural households inside of the MSA that use wood as their main heating fuel ( $FRWMF_{MSA}$ ) was calculated by:

### Equation 2.7c.1

$$FRWMF_{MSA} = \frac{H_{wmf}}{((POP_u \times H_{02} \times 0.08121) + (POP_r \times H_{02}))}$$

$H_{wmf}$  = Estimated number of households using wood as main fuel

$H_{02}$  = Number of households 2002

$POP_u$  = Urban fraction of total population

$POP_r$  = Rural fraction of total population

0.08121 = Ratio of the fraction of households using wood as main heating fuel in MSA urban areas to the fraction of households using wood as main heating fuel in MSA rural areas<sup>26</sup> as calculated by:

### Equation 2.7c.1a

$$FUH_{wmf}/FRH_{wmf}$$

$FUH_{wmf}$  = Fraction of urban households using wood as main heating fuel as shown by:

### Equation 2.7c.1a.1

$$UH_{wMSA}/H_{tu}$$

$UH_{wMSA}$  = Number of urban households in MSA with wood as main heating fuel = cities + MSA suburb – Rural Suburb

$H_{tu}$  = Total number of urban households in the MSA

$FRH_{wmf}$  = Fraction of rural households using wood as main heating fuel as given by:

### Equation 2.7c.1a.2

$$RH_{wMSA}/H_{tr}$$

$RH_{wMSA}$  = Number of rural households in MSA with wood as main heating fuel

$H_{tr}$  = Total number of rural households in the MSA

$RH_{wmf}$  = Number of rural households using wood as main heating fuel as calculated by:

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<sup>26</sup> American Housing Survey for the United States: 2003; U.S. Department of Housing and Urban Development and U.S. Census Bureau

Equation 2.7c.2

$$RH_{wmf} = FRWMF_{MSA} \times POP_u \times H_{02}$$

$RHT_{wh}$  = Number of rural households using wood for heat, which includes wood as main heat as well as other heat, calculated by

Equation 2.7c.3

$$RHT_{wh} = RH_{wmf} \times 5.331$$

5.331 = Factor of households using wood for heating, as calculated by:

Equation 2.7c.3a

$$\frac{(RH_{wMSA} + RH_{oMSA})}{RH_{wMSA}}$$

$RH_{oMSA}$  = Number of rural households in MSA with wood as an ‘other’ source of heating fuel

$FPNI_r$  = Number of rural households using fireplaces without inserts for heating, excluding gas fueled, inside the MSA, as calculated by:

Equation 2.7c.4

$$FPNI_r = RH_{wmf} \times 1.364 \times (1 - (0.297 \times (HF_{gmf}/0.577)))$$

$HF_{gmf}$  = Fraction of Households using gas as main heating fuel

0.297 = Fraction of gas fueled fireplaces nationally without inserts

0.577 = Fraction of total units nationally using gas as main heating fuel

1.364 = Ratio of rural households in the MSA using fireplaces without inserts (as main heating equipment + as ‘other’ heating equipment) to rural households outside the MSA using wood as main heating fuel as calculated by:

Equation 2.7c.4a

$$\frac{(UH_{fpMSA} + UH_{fpoMSA})}{UH_{wMSA}}$$

$UH_{fpMSA}$  = Urban households in the MSA using fireplaces without inserts as main heating equipment

$UH_{fpoMSA}$  = Urban households in MSA using fireplaces without inserts as ‘other’ heating equipment

$UH_{wMSA}$  = Urban households in MSA using wood as main heating fuel

## 2.7d. Rural Area Outside Metropolitan Statistical Area

The fraction of rural households outside of the MSA that use wood as their main heating fuel (FRWMF) was calculated by:

Equation 2.7d.1

$$FRWMF = \frac{H_{wmf}}{((POP_u \times H_{02} \times 0.1032) + (POP_r \times H_{02}))}$$

0.1032 = Ratio of the fraction of households using wood as main heating fuel in urban areas outside of MSA to the fraction of households using wood as main heating fuel in rural areas outside of MSA as calculated by:

Equation 2.7d.1a

$$FUH_{wmf}/FRH_{wmf}$$

$FUH_{wmf}$  = Fraction of urban households using wood as main heating fuel, calculated by:

Equation 2.7d.1a.1

$$UH_w/H_{tu}$$

$UH_w$  = Number of urban households outside of MSA with wood as main heating fuel

$H_{tu}$  = Total number of urban households outside of the MSA

$FRH_{wmf}$  = Fraction of rural households using wood as main heating fuel, as calculated by:

Equation 2.7d.1a.2

$$RH_w/H_{tr}$$

$RH_w$  = Number of rural households outside of MSA with wood as main heating fuel

$H_{tr}$  = Total number of rural households outside of the MSA

$RH_{wmf}$  = Number of rural households using wood as main heating fuel as calculated by:

Equation 2.7d.2

$$RH_{wmf} = FRWMF \times POP_u \times H_{02}$$

$RHT_{wh}$  = Total number of rural households using wood for heat, which includes households using wood as main heat as well as other heat, as calculated by:

Equation 2.7d.3

$$RHT_{wh} = RH_{wmf} \times 3.501$$

3.501 = Factor of households using wood for heating fuel which is calculated by:

Equation 2.7d.3a

$$\frac{(RH_w + RH_o)}{RH_w}$$

$RH_o$  = Number of rural households outside MSA with wood as 'other' source of heating fuel

$FPNI_r$  = Number of rural households using fireplaces without inserts for heating, excluding gas fueled, as calculated by:

Equation 2.7d.4

$$FPNI_r = RH_{wmf} \times 0.6610 \times (1 - (0.297 \times (HF_{gmf}/0.577)))$$

$HF_{gmf}$  = Fraction of Households using gas as main heating fuel

0.297 = Fraction of gas fueled fireplaces nationally without inserts

0.577 = Fraction of total units nationally using gas as main heating fuel

0.6610 = Ratio of rural households outside the MSA households using fireplaces without inserts (as main heating equipment + as 'other' heating equipment) to households outside MSA using wood as main fuel, as calculated by:

Equation 2.7d.4a

$$\frac{(UH_{fp} + UH_{fpo})}{UH_w}$$

$UH_{fp}$  = Urban households outside the MSA using fireplaces without inserts as main heating equipment

$UH_{fpo}$  = Urban households outside the MSA using fireplaces without inserts as 'other' heating equipment



Total households with wood as main heating fuel, total households using wood for heat, and total households using wood fireplaces without inserts used heat are all the sums of their respective urban and rural amounts. The total number of wood heaters was found by subtracting the total households using wood for heat by the total number of households using wood burning fireplaces without inserts for heat.

Data for households inside and outside of the Metropolitan Statistical Area were taken and calculated from the American Housing Survey for the United States: 2003. Counties were found to be inside or outside of the MSA based upon a geographical determination of whether a majority of the county, as well as its more heavily populated cities, fell within the boundary of the MSA<sup>27</sup>. Equations that use different data and factors based upon whether a county was inside or outside the MSA are used to generate the intermediate results found within columns marked with an asterisk\*.

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<sup>27</sup> [http://www.census.gov/prod/2002pubs/00ccdb/cc00\\_appC.pdf](http://www.census.gov/prod/2002pubs/00ccdb/cc00_appC.pdf)

**Table 7  
Calculation Method 7 Intermediate Data and Results**

**Section 1**

State	County	Number of households with wood as main fuel, 2000, U.S. Census Bureau	Population, 2000, U.S. Census Bureau	Population, 2002, U.S. Census Bureau	Total number of households 2000	Estimated total number of households 2002	Fraction of total population urban	Fraction of total population rural	Estimated number of households with wood as main fuel, 2002	Inside or outside of MSA	Fraction of urban households that use wood as their main heating fuel*	Fraction of rural households that use wood as their main heating fuel*
Connecticut	Fairfield County	825	882,567	894,820	324,232	328,733	0.9585	0.0415	836	in	0.002	0.021
	Hartford County	1,415	857,183	867,072	335,098	338,964	0.9453	0.0547	1431	in	0.003	0.032
	Litchfield County	2,083	182,193	186,414	71,551	73,209	0.5611	0.4389	2131	out	0.006	0.059
	Middlesex County	1,105	155,071	159,586	61,341	63,127	0.7198	0.2802	1137	in	0.004	0.053
	New Haven County	1,524	824,008	834,856	319,040	323,240	0.9576	0.0424	1544	in	0.003	0.040
	New London County	1,763	259,088	262,718	99,835	101,234	0.7244	0.2756	1788	in	0.004	0.053
	Tolland County	1,368	136,364	142,390	49,431	51,615	0.6183	0.3817	1428	in	0.005	0.064
	Windham County	1,800	109,091	111,150	41,142	41,919	0.5100	0.4900	1834	in	0.007	0.082
	<b>Total Connecticut</b>		<b>11,883</b>	<b>3,405,565</b>	<b>3,459,006</b>	<b>1,301,670</b>	<b>1,322,096</b>	<b>0.8770</b>	<b>0.1230</b>	<b>12069</b>		<b>0.004</b>
Delaware	Kent County	779	126,697	131,630	47,224	49,063	0.6450	0.3550	809	in	0.003	0.040
	New Castle County	329	500,265	510,240	188,935	192,702	0.9444	0.0556	336	in	0.001	0.013
	Sussex County	995	156,638	164,235	62,577	65,612	0.4652	0.5348	1043	out	0.003	0.027
<b>Total Delaware</b>		<b>2,103</b>	<b>783,600</b>	<b>806,105</b>	<b>298,736</b>	<b>307,316</b>	<b>0.8002</b>	<b>0.1998</b>	<b>2163</b>		<b>0.002</b>	<b>0.027</b>
Maine	Androscoggin County	1,660	103,793	105,228	42,028	42,609	0.5735	0.4265	1683	in	0.007	0.083
	Aroostook County	2,788	73,938	73,151	30,356	30,033	0.2268	0.7732	2758	out	0.012	0.115
	Cumberland County	2,524	265,612	269,875	107,989	109,722	0.6569	0.3431	2565	in	0.005	0.059
	Franklin County	1,793	29,467	29,730	11,806	11,911	0.1732	0.8268	1809	out	0.019	0.180
	Hancock County	2,057	51,791	52,242	21,864	22,054	0.0477	0.9523	2075	out	0.010	0.098
	Kennebec County	3,043	117,114	118,651	47,683	48,309	0.3876	0.6124	3083	out	0.010	0.098
	Knox County	1,191	39,618	40,519	16,608	16,986	0.3836	0.6164	1218	out	0.011	0.109
	Lincoln County	1,211	33,616	34,479	14,158	14,521	0.0000	1.0000	1242	out	0.009	0.086
	Oxford County	2,745	54,755	55,843	22,314	22,757	0.1721	0.8279	2800	out	0.015	0.145
	Penobscot County	3,411	144,919	146,899	58,096	58,890	0.4414	0.5586	3458	out	0.010	0.097
	Piscataquis County	1,144	17,235	17,260	7,278	7,289	0.0000	1.0000	1146	out	0.016	0.157
	Sagadahoc County	926	35,214	35,993	14,117	14,429	0.4096	0.5904	946	out	0.011	0.104
	Somerset County	2,542	50,888	51,042	20,496	20,558	0.2552	0.7448	2550	out	0.017	0.161
Waldo County	2,137	36,280	37,723	14,726	15,312	0.0888	0.9112	2222	out	0.016	0.158	

State	County	Number of households with wood as main fuel, 2000, U.S. Census Bureau	Population, 2000, U.S. Census Bureau	Population, 2002, U.S. Census Bureau	Total number of households 2000	Estimated total number of households 2002	Fraction of total population urban	Fraction of total population rural	Estimated number of households with wood as main fuel, 2002	Inside or outside of MSA	Fraction of urban households that use wood as their main heating fuel*	Fraction of rural households that use wood as their main heating fuel*
	Washington County	1,333	33,941	33,412	14,118	13,898	0.0803	0.9197	1312	out	0.011	0.102
	York County	2,884	186,742	195,703	74,563	78,141	0.4654	0.5346	3022	out	0.007	0.066
	<b>Total Maine</b>	<b>33,389</b>	<b>1,274,923</b>	<b>1,297,750</b>	<b>518,200</b>	<b>527,478</b>	<b>0.4021</b>	<b>0.5979</b>	<b>33987</b>		<b>0.012</b>	<b>0.114</b>
Maryland	Allegany County	1,219	74,930	73,999	29,322	28,958	0.7432	0.2568	1204	in	0.011	0.131
	Anne Arundel County	1,062	489,656	502,081	178,670	183,204	0.9438	0.0562	1089	in	0.004	0.045
	Baltimore County	1,075	754,292	768,623	299,877	305,574	0.9379	0.0621	1095	in	0.002	0.026
	Calvert County	677	74,563	80,905	25,447	27,611	0.5409	0.4591	735	in	0.004	0.053
	Caroline County	550	29,772	30,347	11,097	11,311	0.2139	0.7861	561	out	0.006	0.061
	Carroll County	1,960	150,897	159,323	52,503	55,435	0.5688	0.4312	2069	in	0.006	0.078
	Cecil County	717	85,951	90,366	31,223	32,827	0.4787	0.5213	754	in	0.003	0.041
	Charles County	862	120,546	128,215	41,668	44,319	0.6628	0.3372	917	in	0.004	0.053
	Dorchester County	168	30,674	30,494	12,706	12,631	0.4046	0.5954	167	out	0.002	0.021
	Frederick County	1,998	195,277	209,103	70,060	75,020	0.7179	0.2821	2139	in	0.007	0.084
	Garrett County	1,558	29,846	29,915	11,476	11,503	0.1675	0.8325	1562	out	0.016	0.160
	Harford County	1,143	218,590	227,361	79,667	82,864	0.7778	0.2222	1189	in	0.004	0.050
	Howard County	376	247,842	259,901	90,043	94,424	0.8740	0.1260	394	in	0.002	0.021
	Kent County	242	19,197	19,426	7,666	7,757	0.2623	0.7377	245	out	0.004	0.041
	Montgomery County	378	873,341	905,995	324,565	336,700	0.9715	0.0285	392	in	0.001	0.011
	Prince George's County	515	801,515	827,704	286,610	295,975	0.9738	0.0262	532	in	0.001	0.017
	Queen Anne's County	534	40,563	42,876	15,315	16,188	0.3927	0.6073	564	in	0.004	0.055
	St. Mary's County	1,117	86,211	89,951	30,642	31,971	0.3825	0.6175	1165	out	0.006	0.055
	Somerset County	276	24,747	25,465	8,361	8,604	0.4831	0.5169	284	out	0.006	0.058
	Talbot County	349	33,812	34,367	14,307	14,542	0.3673	0.6327	355	out	0.004	0.036
	Washington County	1,772	131,923	134,787	49,726	50,806	0.6778	0.3222	1810	in	0.008	0.094
	Wicomico County	637	84,644	86,162	32,218	32,796	0.6837	0.3163	648	out	0.005	0.051
	Worcester County	411	46,543	48,024	19,694	20,321	0.6358	0.3642	424	out	0.005	0.049
	Baltimore city	125	651,154	636,141	257,996	252,048	1.0000	0.0000	122	in	0.000	0.006
	<b>Total Maryland</b>	<b>19,721</b>	<b>5,296,486</b>	<b>5,441,531</b>	<b>1,980,859</b>	<b>2,035,105</b>	<b>0.8607</b>	<b>0.1393</b>	<b>20261</b>		<b>0.005</b>	<b>0.054</b>
Massachusetts	Barnstable County	904	222,230	227,613	94,822	97,119	0.9124	0.0876	926	in	0.005	0.059

State	County	Number of households with wood as main fuel, 2000, U.S. Census Bureau	Population, 2000, U.S. Census Bureau	Population, 2002, U.S. Census Bureau	Total number of households 2000	Estimated total number of households 2002	Fraction of total population urban	Fraction of total population rural	Estimated number of households with wood as main fuel, 2002	Inside or outside of MSA	Fraction of urban households that use wood as their main heating fuel*	Fraction of rural households that use wood as their main heating fuel*
	Berkshire County	1,852	134,953	133,314	56,006	55,326	0.6983	0.3017	1830	in	0.007	0.092
	Bristol County	1,151	534,678	543,863	205,411	208,940	0.8991	0.1009	1171	out	0.003	0.032
	Dukes County	337	14,987	15,417	6,421	6,605	0.3735	0.6265	347	out	0.008	0.079
	Essex County	1,294	723,419	736,535	275,419	280,413	0.9528	0.0472	1317	in	0.003	0.038
	Franklin County	2,411	71,535	71,947	29,466	29,636	0.4536	0.5464	2425	out	0.014	0.138
	Hampden County	1,827	456,228	459,627	175,288	176,594	0.9028	0.0972	1841	in	0.005	0.061
	Hampshire County	2,182	152,251	152,618	55,991	56,126	0.7252	0.2748	2187	in	0.009	0.117
	Middlesex County	1,276	1,465,396	1,468,682	561,220	562,478	0.9674	0.0326	1279	in	0.002	0.020
	Nantucket County	113	9,520	9,879	3,699	3,838	0.7953	0.2047	117	out	0.011	0.107
	Norfolk County	468	650,308	653,710	248,827	250,129	0.9671	0.0329	470	in	0.001	0.017
	Plymouth County	1,179	472,822	484,614	168,361	172,560	0.8999	0.1001	1208	in	0.003	0.040
	Suffolk County	17	689,807	685,183	278,722	276,854	1.0000	0.0000	17	in	0.000	0.001
	Worcester County	4,502	750,963	769,552	283,927	290,955	0.8081	0.1919	4613	in	0.005	0.062
	<b>Total Massachusetts</b>	<b>19,513</b>	<b>6,349,097</b>	<b>6,412,554</b>	<b>2,443,580</b>	<b>2,468,003</b>	<b>0.9141</b>	<b>0.0859</b>	<b>19708</b>		<b>0.006</b>	<b>0.062</b>
New Hampshire	Belknap County	1,076	56,325	59,181	22,459	23,598	0.3990	0.6010	1131	out	0.008	0.075
	Carroll County	1,761	43,666	45,314	18,351	19,044	0.0000	1.0000	1827	out	0.010	0.096
	Cheshire County	2,568	73,825	75,222	28,299	28,835	0.3381	0.6619	2617	out	0.013	0.130
	Coos County	911	33,111	33,404	13,961	14,085	0.3439	0.6561	919	out	0.010	0.094
	Grafton County	2,950	81,743	82,934	31,598	32,058	0.3517	0.6483	2993	out	0.014	0.136
	Hillsborough County	3,167	380,841	392,296	144,455	148,800	0.7800	0.2200	3262	in	0.006	0.077
	Merrimack County	2,525	136,225	141,815	51,843	53,970	0.4614	0.5386	2629	out	0.009	0.083
	Rockingham County	2,629	277,359	287,906	104,529	108,504	0.7055	0.2945	2729	in	0.006	0.071
	Strafford County	1,166	112,233	116,068	42,581	44,036	0.6528	0.3472	1206	in	0.006	0.068
	Sullivan County	1,473	40,458	41,467	16,530	16,942	0.3694	0.6306	1510	out	0.014	0.133
	<b>Total New Hampshire</b>	<b>20,226</b>	<b>1,235,786</b>	<b>1,275,607</b>	<b>474,606</b>	<b>489,899</b>	<b>0.5918</b>	<b>0.4082</b>	<b>20878</b>		<b>0.009</b>	<b>0.097</b>
New Jersey	Atlantic County	619	252,552	259,296	95,024	97,561	0.8570	0.1430	636	in	0.002	0.031
	Bergen County	99	884,118	894,847	330,817	334,832	0.9983	0.0017	100	in	0.000	0.004
	Burlington County	567	423,394	437,784	154,371	159,618	0.9250	0.0750	586	in	0.002	0.024
	Camden County	178	508,932	512,055	185,744	186,884	0.9929	0.0071	179	in	0.001	0.011

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	Cape May County	453	102,326	101,793	42,148	41,928	0.8315	0.1685	451	in	0.004	0.046
	Cumberland County	334	146,438	148,040	49,143	49,681	0.8009	0.1991	338	in	0.002	0.026
	Essex County	62	793,633	796,435	283,736	284,738	0.9996	0.0004	62	in	0.000	0.003
	Gloucester County	346	254,673	262,583	90,717	93,535	0.8890	0.1110	357	in	0.002	0.021
	Hudson County	9	608,975	609,626	230,546	230,792	1.0000	0.0000	9	in	0.000	0.000
	Hunterdon County	413	121,989	126,771	43,678	45,390	0.4692	0.5308	429	in	0.001	0.017
	Mercer County	131	350,761	357,622	125,807	128,268	0.9583	0.0417	134	in	0.001	0.009
	Middlesex County	193	750,162	770,069	265,815	272,869	0.9903	0.0097	198	in	0.001	0.008
	Monmouth County	290	615,301	628,437	224,236	229,023	0.9540	0.0460	296	in	0.001	0.010
	Morris County	448	470,212	478,800	169,711	172,811	0.9205	0.0795	456	in	0.001	0.017
	Ocean County	595	510,916	537,433	200,402	210,803	0.9709	0.0291	626	in	0.002	0.028
	Passaic County	168	489,049	497,068	163,856	166,543	0.9756	0.0244	171	in	0.001	0.010
	Salem County	259	64,285	64,761	24,295	24,475	0.5891	0.4109	261	in	0.002	0.023
	Somerset County	167	297,490	307,918	108,984	112,804	0.9311	0.0689	173	in	0.001	0.011
	Sussex County	1,006	144,166	148,874	50,831	52,491	0.6006	0.3994	1039	in	0.004	0.044
	Union County	79	522,541	529,536	186,124	188,616	1.0000	0.0000	80	in	0.000	0.005
	Warren County	573	102,437	107,502	38,660	40,572	0.5712	0.4288	601	in	0.003	0.031
	<b>Total New Jersey</b>	<b>6,989</b>	<b>8,414,350</b>	<b>8,577,250</b>	<b>3,064,645</b>	<b>3,123,976</b>	<b>0.9435</b>	<b>0.0565</b>	<b>7124</b>		<b>0.001</b>	<b>0.018</b>
New York	Albany County	879	294,565	296,002	120,512	121,100	0.9023	0.0977	883	in	0.003	0.043
	Allegany County	1,977	49,927	50,395	18,009	18,178	0.2063	0.7937	1996	out	0.014	0.135
	Bronx County	78	1,332,650	1,358,880	463,212	472,329	1.0000	0.0000	80	in	0.000	0.002
	Broome County	1,625	200,536	199,843	80,749	80,470	0.7377	0.2623	1619	in	0.005	0.062
	Cattaraugus County	2,842	83,955	83,389	32,023	31,807	0.4152	0.5848	2823	out	0.015	0.141
	Cayuga County	1,401	81,963	81,909	30,558	30,538	0.4739	0.5261	1400	in	0.007	0.081
	Chautauqua County	2,452	139,750	138,418	54,515	53,995	0.5881	0.4119	2429	in	0.008	0.098
	Chemung County	960	91,070	90,824	35,049	34,954	0.7382	0.2618	957	in	0.007	0.085
	Chenango County	2,012	51,401	51,421	19,926	19,934	0.1700	0.8300	2013	out	0.012	0.119
	Clinton County	1,392	79,894	80,813	29,423	29,761	0.3886	0.6114	1408	out	0.007	0.073
	Columbia County	1,060	63,094	63,204	24,796	24,839	0.2939	0.7061	1062	out	0.006	0.058

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	Cortland County	1,090	48,599	48,491	18,210	18,170	0.5490	0.4510	1088	out	0.012	0.118
	Delaware County	2,287	48,055	47,349	19,270	18,987	0.1480	0.8520	2253	out	0.014	0.137
	Dutchess County	1,283	280,150	287,920	99,536	102,297	0.7079	0.2921	1319	in	0.003	0.037
	Erie County	2,237	950,265	941,602	380,873	377,401	0.9102	0.0898	2217	in	0.003	0.036
	Essex County	1,123	38,851	39,093	15,028	15,122	0.2524	0.7476	1130	out	0.010	0.097
	Franklin County	1,608	51,134	50,851	17,931	17,832	0.3921	0.6079	1599	out	0.014	0.138
	Fulton County	1,161	55,073	55,140	21,884	21,911	0.4996	0.5004	1162	out	0.010	0.096
	Genesee County	653	60,370	59,929	22,770	22,604	0.4049	0.5951	648	in	0.004	0.046
	Greene County	1,016	48,195	48,531	18,256	18,383	0.3007	0.6993	1023	out	0.008	0.076
	Hamilton County	359	5,379	5,277	2,362	2,317	0.0000	1.0000	352	out	0.016	0.152
	Herkimer County	1,364	64,427	63,722	25,734	25,452	0.4843	0.5157	1349	in	0.008	0.095
	Jefferson County	2,243	111,738	113,936	40,068	40,856	0.4718	0.5282	2287	out	0.010	0.097
	Kings County	175	2,465,326	2,484,844	880,727	887,700	1.0000	0.0000	176	in	0.000	0.002
	Lewis County	2,415	26,944	26,638	10,040	9,926	0.1259	0.8741	2388	out	0.028	0.271
	Livingston County	1,176	64,328	64,708	22,150	22,281	0.4521	0.5479	1183	in	0.007	0.091
	Madison County	1,299	69,441	69,811	25,368	25,503	0.4177	0.5823	1306	in	0.007	0.083
	Monroe County	1,475	735,343	735,128	286,512	286,428	0.9305	0.0695	1475	in	0.003	0.035
	Montgomery County	713	49,708	49,259	20,038	19,857	0.5906	0.4094	707	in	0.006	0.078
	Nassau County	157	1,334,544	1,339,506	447,387	449,050	0.9984	0.0016	158	in	0.000	0.004
	New York County	128	1,537,195	1,549,511	738,644	744,562	1.0000	0.0000	129	in	0.000	0.002
	Niagara County	793	219,846	218,340	87,846	87,244	0.7501	0.2499	788	in	0.002	0.029
	Oneida County	2,501	235,469	234,127	90,496	89,980	0.6461	0.3539	2487	in	0.006	0.068
	Onondaga County	1,655	458,336	458,697	181,153	181,296	0.8661	0.1339	1656	in	0.004	0.045
	Ontario County	1,412	100,224	101,904	38,370	39,013	0.4918	0.5082	1436	in	0.005	0.067
	Orange County	930	341,367	356,404	114,788	119,844	0.7575	0.2425	971	in	0.002	0.027
	Orleans County	689	44,171	43,885	15,363	15,264	0.4308	0.5692	685	in	0.006	0.074
	Oswego County	2,502	122,377	122,785	45,522	45,674	0.3546	0.6454	2510	in	0.007	0.082
	Otsego County	2,119	61,676	61,988	23,291	23,409	0.2601	0.7399	2130	out	0.012	0.119
	Putnam County	503	95,745	98,696	32,703	33,711	0.7582	0.2418	519	in	0.004	0.051

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	Queens County	63	2,229,379	2,241,983	782,664	787,089	1.0000	0.0000	63	in	0.000	0.001
	Rensselaer County	2,009	152,538	152,531	59,894	59,891	0.6795	0.3205	2009	in	0.007	0.089
	Richmond County	21	443,728	455,868	156,341	160,618	1.0000	0.0000	22	in	0.000	0.002
	Rockland County	109	286,753	291,374	92,675	94,168	0.9901	0.0099	111	in	0.001	0.013
	St. Lawrence County	3,532	111,931	111,169	40,506	40,230	0.3919	0.6081	3508	out	0.014	0.134
	Saratoga County	2,482	200,635	207,065	78,165	80,670	0.6845	0.3155	2562	in	0.007	0.086
	Schenectady County	429	146,555	146,874	59,684	59,814	0.9102	0.0898	430	in	0.004	0.044
	Schoharie County	1,205	31,582	31,661	11,991	12,021	0.1682	0.8318	1208	in	0.010	0.119
	Schuyler County	695	19,224	19,424	7,374	7,451	0.2040	0.7960	702	out	0.012	0.115
	Seneca County	350	33,342	35,011	12,630	13,262	0.4258	0.5742	368	out	0.005	0.045
	Steuben County	2,869	98,726	99,516	39,071	39,384	0.3760	0.6240	2892	out	0.011	0.111
	Suffolk County	826	1,419,369	1,455,510	469,299	481,249	0.9703	0.0297	847	in	0.001	0.016
	Sullivan County	1,349	73,966	74,301	27,661	27,786	0.2826	0.7174	1355	out	0.007	0.065
	Tioga County	1,397	51,784	51,812	19,725	19,736	0.3495	0.6505	1398	in	0.008	0.104
	Tompkins County	1,696	96,501	98,324	36,420	37,108	0.5792	0.4208	1728	out	0.010	0.097
	Ulster County	2,406	177,749	180,415	67,499	68,511	0.5103	0.4897	2442	out	0.007	0.066
	Warren County	1,343	63,303	64,118	25,726	26,057	0.6052	0.3948	1360	in	0.010	0.118
	Washington County	2,099	61,042	61,522	22,458	22,635	0.2956	0.7044	2116	in	0.010	0.128
	Wayne County	1,783	93,765	93,799	34,908	34,921	0.3660	0.6340	1784	in	0.006	0.077
	Westchester County	263	923,459	937,892	337,142	342,411	0.9655	0.0345	267	in	0.001	0.007
	Wyoming County	1,194	43,424	43,197	14,906	14,828	0.3574	0.6426	1188	out	0.012	0.118
	Yates County	749	24,621	24,530	9,029	8,996	0.2674	0.7326	746	out	0.011	0.109
	<b>Total New York</b>	<b>82,613</b>	<b>18,976,457</b>	<b>19,151,066</b>	<b>7,056,860</b>	<b>7,121,793</b>	<b>0.8748</b>	<b>0.1252</b>	<b>83,373</b>		<b>0.007</b>	<b>0.078</b>
Pennsylvania	Adams County	1,829	91,292	94,536	33,652	34,848	0.4019	0.5981	1894	out	0.009	0.085
	Allegheny County	745	1,281,666	1,266,196	537,150	530,666	0.9729	0.0271	736	in	0.001	0.013
	Armstrong County	439	72,392	71,831	29,005	28,780	0.3688	0.6312	436	out	0.002	0.023
	Beaver County	625	181,412	179,214	72,576	71,697	0.7323	0.2677	617	in	0.002	0.026
	Bedford County	2,162	49,984	49,895	19,768	19,733	0.1564	0.8436	2158	out	0.013	0.127
	Berks County	1,886	373,638	381,858	141,570	144,685	0.7283	0.2717	1927	in	0.003	0.040

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	Blair County	891	129,144	127,669	51,518	50,930	0.7404	0.2596	881	in	0.004	0.054
	Bradford County	2,194	62,761	62,743	24,453	24,446	0.2780	0.7220	2193	out	0.012	0.120
	Bucks County	1,319	597,635	609,285	218,725	222,989	0.9012	0.0988	1345	in	0.003	0.035
	Butler County	1,041	174,083	178,203	65,862	67,421	0.5329	0.4671	1066	in	0.003	0.031
	Cambria County	565	152,598	150,405	60,531	59,661	0.6758	0.3242	557	in	0.002	0.025
	Cameron County	152	5,974	5,849	2,465	2,413	0.5643	0.4357	149	out	0.013	0.125
	Carbon County	259	58,802	59,754	23,701	24,085	0.4950	0.5050	263	in	0.002	0.020
	Centre County	1,641	135,758	138,599	49,323	50,355	0.6427	0.3573	1675	in	0.007	0.081
	Chester County	1,444	433,501	450,038	157,905	163,929	0.8098	0.1902	1499	in	0.003	0.036
	Clarion County	541	41,765	41,232	16,052	15,847	0.2144	0.7856	534	out	0.004	0.042
	Clearfield County	520	83,382	83,372	32,785	32,781	0.4595	0.5405	520	out	0.003	0.027
	Clinton County	690	37,914	37,554	14,773	14,633	0.4922	0.5078	683	out	0.009	0.084
	Columbia County	666	64,151	64,519	24,915	25,058	0.5570	0.4430	670	in	0.004	0.055
	Crawford County	2,843	90,366	90,128	34,678	34,587	0.3458	0.6542	2836	out	0.012	0.119
	Cumberland County	1,599	213,674	217,556	83,015	84,523	0.7487	0.2513	1628	in	0.005	0.062
	Dauphin County	809	251,798	252,702	102,670	103,039	0.8527	0.1473	812	in	0.003	0.036
	Delaware County	126	550,864	553,546	206,320	207,325	0.9891	0.0109	127	in	0.001	0.007
	Elk County	453	35,112	34,536	14,124	13,892	0.5221	0.4779	446	out	0.006	0.060
	Erie County	1,712	280,843	282,379	106,507	107,090	0.8041	0.1959	1721	in	0.005	0.062
	Fayette County	965	148,644	146,769	59,969	59,213	0.5319	0.4681	953	in	0.003	0.031
	Forest County	259	4,946	4,982	2,000	2,015	0.0000	1.0000	261	out	0.013	0.130
	Franklin County	2,824	129,313	131,485	50,633	51,483	0.5283	0.4717	2871	out	0.011	0.106
	Fulton County	1,102	14,261	14,342	5,660	5,692	0.0000	1.0000	1108	out	0.020	0.195
	Greene County	496	40,672	40,487	15,060	14,991	0.3125	0.6875	494	out	0.005	0.046
	Huntingdon County	1,747	45,586	45,830	16,759	16,849	0.3074	0.6926	1756	out	0.015	0.144
	Indiana County	896	89,605	89,086	34,123	33,925	0.3790	0.6210	891	out	0.004	0.040
	Jefferson County	552	45,932	45,812	18,375	18,327	0.3392	0.6608	551	out	0.004	0.043
	Juniata County	1,233	22,821	22,907	8,584	8,616	0.1464	0.8536	1238	out	0.017	0.165
	Lackawanna County	469	213,295	211,069	86,218	85,318	0.8251	0.1749	464	in	0.002	0.022



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	Lancaster County	3,446	470,658	478,580	172,560	175,464	0.7533	0.2467	3504	in	0.005	0.065
	Lawrence County	538	94,643	93,829	37,091	36,772	0.5892	0.4108	533	out	0.003	0.031
	Lebanon County	731	120,327	121,633	46,551	47,056	0.6893	0.3107	739	in	0.003	0.043
	Lehigh County	987	312,090	317,305	121,906	123,943	0.9033	0.0967	1003	in	0.004	0.048
	Luzerne County	874	319,250	314,752	130,687	128,846	0.7961	0.2039	862	in	0.002	0.025
	Lycoming County	2,039	120,044	118,820	47,003	46,524	0.6401	0.3599	2018	in	0.009	0.105
	McKean County	799	45,936	45,486	18,024	17,847	0.3656	0.6344	791	out	0.007	0.066
	Mercer County	1,287	120,293	119,826	46,712	46,531	0.5186	0.4814	1282	in	0.004	0.053
	Mifflin County	1,725	46,486	46,514	18,413	18,424	0.4418	0.5582	1726	out	0.016	0.155
	Monroe County	1,826	138,687	149,205	49,454	53,205	0.5040	0.4960	1964	out	0.007	0.067
	Montgomery County	998	750,097	764,456	286,098	291,575	0.9651	0.0349	1017	in	0.003	0.031
	Montour County	229	18,236	18,188	7,085	7,066	0.4565	0.5435	228	out	0.006	0.055
	Northampton County	886	267,066	273,682	101,541	104,056	0.8466	0.1534	908	in	0.003	0.039
	Northumberland County	539	94,556	93,488	38,835	38,396	0.6302	0.3698	533	out	0.003	0.032
	Perry County	1,510	43,602	43,938	16,695	16,824	0.1366	0.8634	1522	in	0.008	0.103
	Philadelphia County	170	1,517,550	1,486,712	590,071	578,080	1.0000	0.0000	167	in	0.000	0.004
	Pike County	1,131	46,302	50,086	17,433	18,858	0.1057	0.8943	1223	in	0.006	0.072
	Potter County	846	18,080	18,167	7,005	7,039	0.0000	1.0000	850	out	0.012	0.121
	Schuylkill County	424	150,336	148,828	60,530	59,923	0.6352	0.3648	420	out	0.002	0.016
	Snyder County	999	37,546	37,930	13,654	13,794	0.2867	0.7133	1009	out	0.010	0.098
	Somerset County	1,004	80,023	79,641	31,222	31,073	0.2551	0.7449	999	in	0.003	0.042
	Sullivan County	353	6,556	6,530	2,660	2,649	0.0000	1.0000	352	out	0.014	0.133
	Susquehanna County	1,869	42,238	41,974	16,529	16,426	0.1851	0.8149	1857	out	0.014	0.136
	Tioga County	1,687	41,373	41,616	15,925	16,019	0.1568	0.8432	1697	out	0.013	0.123
	Union County	634	41,624	42,205	13,178	13,362	0.5500	0.4500	643	out	0.010	0.095
	Venango County	1,254	57,565	56,901	22,747	22,485	0.4598	0.5402	1240	out	0.010	0.094
	Warren County	1,420	43,863	43,198	17,696	17,428	0.4537	0.5463	1398	out	0.014	0.135
	Washington County	1,111	202,897	203,840	81,130	81,507	0.6310	0.3690	1116	in	0.003	0.033
	Wayne County	1,468	47,722	48,476	18,350	18,640	0.1613	0.8387	1491	out	0.010	0.094

State	County	Number of households with wood as main fuel, 2000, U.S. Census Bureau	Population, 2000, U.S. Census Bureau	Population, 2002, U.S. Census Bureau	Total number of households 2000	Estimated total number of households 2002	Fraction of total population urban	Fraction of total population rural	Estimated number of households with wood as main fuel, 2002	Inside or outside of MSA	Fraction of urban households that use wood as their main heating fuel*	Fraction of rural households that use wood as their main heating fuel*
	Westmoreland County	1,522	369,993	368,476	149,813	149,199	0.7428	0.2572	1516	in	0.003	0.032
	Wyoming County	755	28,080	28,003	10,762	10,732	0.1503	0.8497	753	in	0.007	0.081
	York County	3,305	381,751	389,806	148,219	151,346	0.7152	0.2848	3375	in	0.005	0.065
	Total Pennsylvania	76,060	12,281,054	12,328,459	4,777,003	4,795,442	0.7704	0.2296	76354		0.007	0.069
Rhode Island	Bristol County	95	50,648	52,147	19,033	19,596	0.9956	0.0044	98	in	0.005	0.059
	Kent County	584	167,090	170,060	67,320	68,517	0.9323	0.0677	594	in	0.005	0.060
	Newport County	315	85,433	85,682	35,228	35,331	0.8899	0.1101	316	out	0.005	0.044
	Providence County	1,142	621,602	634,201	239,936	244,799	0.9401	0.0599	1165	in	0.003	0.035
	Washington County	1,473	123,546	126,807	46,907	48,145	0.7018	0.2982	1512	in	0.007	0.088
	Total Rhode Island	3,609	1,048,319	1,068,897	408,424	416,441	0.9094	0.0906	3680		0.005	0.057
District of Columbia	District of Columbia	89	572,059	564,643	248,338	245,119	1.0000	0.0000	88	in	0.000	0.004
	Total D.C.	89	572,059	564,643	248,338	245,119	1.0000	0.0000	88		0.000	0.004
Vermont	Addison County	1,600	35,974	36,480	13,068	13,252	0.2059	0.7941	1623	out	0.015	0.150
	Bennington County	960	36,994	37,121	14,846	14,897	0.3821	0.6179	963	out	0.010	0.098
	Caledonia County	1,671	29,702	29,976	11,663	11,771	0.2453	0.7547	1686	out	0.019	0.184
	Chittenden County	1,834	146,571	148,503	56,452	57,196	0.7203	0.2797	1858	in	0.008	0.096
	Essex County	388	6,459	6,554	2,602	2,640	0.0000	1.0000	394	out	0.015	0.149
	Franklin County	1,546	45,417	46,643	16,765	17,218	0.2874	0.7126	1588	out	0.013	0.124
	Grand Isle County	195	6,901	7,316	2,761	2,927	0.0000	1.0000	207	in	0.006	0.071
	Lamoille County	1,166	23,233	24,001	9,221	9,526	0.0000	1.0000	1205	out	0.013	0.126
	Orange County	2,084	28,226	28,852	10,936	11,179	0.0232	0.9768	2130	out	0.020	0.195
	Orleans County	1,905	26,277	26,691	10,446	10,611	0.1816	0.8184	1935	out	0.022	0.218
	Rutland County	1,846	63,400	63,329	25,678	25,649	0.3859	0.6141	1844	out	0.011	0.110
	Washington County	2,275	58,039	58,937	23,659	24,025	0.4872	0.5128	2310	out	0.018	0.171
	Windham County	2,676	44,216	44,195	18,375	18,366	0.2835	0.7165	2675	out	0.020	0.195
	Windsor County	2,470	57,418	57,902	24,162	24,366	0.2505	0.7495	2491	out	0.014	0.132
	Total Vermont	22,616	608,827	616,500	240,634	243,667	0.3820	0.6180	22901		0.015	0.144
	Total MANE-VU	298,811	60,246,523	60,999,368	22,813,555	23,096,334			302586			

**Table 7  
Calculation Method 7 Intermediate Data and Results**

**Section 2**

State	County	Number of urban households with wood as main heating fuel	Number of rural households with wood as main heating fuel	Total households with wood as main heating fuel	Urban total households using wood for heat*	Rural total households using wood for heat*	Total households using wood for heat	Fraction of households 2000 with LPG or NG as main fuel	Urban total households using wood fireplace w/o Insert for heat excluding gas*	Rural total households using wood fireplace w/o Inserts for heat excluding gas*	Total households using wood heaters	Total households using wood fireplaces w/o inserts for heat
Connecticut	Fairfield County	545	291	836	11233	1551	12784	0.340	5645	327	6812	5972
	Hartford County	836	595	1431	17212	3174	20386	0.423	8202	635	11549	8837
	Litchfield County	248	1883	2131	3001	6592	9593	0.147	780	1150	7663	1930
	Middlesex County	196	941	1137	4042	5016	9057	0.127	2301	1199	5557	3500
	New Haven County	1000	544	1544	20583	2902	23485	0.341	10333	612	12540	10945
	New London County	314	1474	1788	6475	7854	14329	0.136	3668	1869	8792	5537
	Tolland County	166	1262	1428	3419	6730	10149	0.103	1972	1631	6546	3603
	Windham County	143	1691	1834	2943	9015	11958	0.130	1672	2152	8133	3825
	<b>Total Connecticut</b>		<b>4945</b>	<b>8213</b>	<b>13158</b>	<b>101811</b>	<b>43784</b>	<b>145595</b>	<b>0.309</b>	<b>34573</b>	<b>9577</b>	<b>101446</b>
Delaware	Kent County	104	705	809	2142	3760	5902	0.440	1010	744	4148	1754
	New Castle County	195	141	336	4006	752	4757	0.520	1787	141	2830	1928
	Sussex County	86	957	1043	1038	3352	4390	0.289	249	539	3603	787
<b>Total Delaware</b>		<b>588</b>	<b>1656</b>	<b>2244</b>	<b>12107</b>	<b>8831</b>	<b>20937</b>	<b>0.458</b>	<b>3045</b>	<b>1424</b>	<b>16468</b>	<b>4469</b>
Maine	Androscoggin County	166	1517	1683	3411	8089	11500	0.111	1959	1951	7589	3910
	Aroostook County	81	2677	2758	979	9373	10352	0.009	274	1762	8317	2036
	Cumberland County	345	2219	2565	7105	11832	18937	0.176	3934	2753	12250	6687
	Franklin County	38	1771	1809	462	6199	6662	0.050	127	1140	5395	1267
	Hancock County	11	2064	2075	129	7227	7356	0.074	35	1312	6009	1347
	Kennebec County	189	2894	3083	2284	10132	12415	0.038	630	1876	9910	2505
	Knox County	73	1145	1218	888	4007	4895	0.079	239	726	3930	965
	Lincoln County	0	1242	1242	0	4349	4349	0.056	0	797	3551	797
	Oxford County	59	2741	2800	710	9595	10306	0.060	193	1755	8357	1949
	Penobscot County	261	3197	3458	3150	11192	14342	0.034	870	2077	11395	2947
	Piscataquis County	0	1146	1146	0	4011	4011	0.028	0	746	3264	746
	Sagadahoc County	63	883	946	764	3092	3856	0.091	205	557	3095	761
	Somerset County	87	2463	2550	1052	8622	9673	0.040	290	1595	7789	1884
Waldo County	22	2200	2222	267	7702	7969	0.039	74	1425	6471	1498	

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	Washington County	12	1301	1312	142	4553	4695	0.034	39	844	3811	884
	York County	249	2773	3022	3010	9709	12719	0.076	813	1761	10144	2575
	<b>Total Maine</b>	<b>2446</b>	<b>35850</b>	<b>38296</b>	<b>50367</b>	<b>191118</b>	<b>241485</b>	<b>0.082</b>	<b>9681</b>	<b>23077</b>	<b>208726</b>	<b>32759</b>
Maryland	Allegany County	229	975	1204	4716	5197	9913	0.587	2004	928	6981	2932
	Anne Arundel County	628	461	1089	12934	2456	15390	0.390	6295	502	8593	6797
	Baltimore County	604	492	1095	12428	2622	15050	0.573	5339	473	9238	5812
	Calvert County	64	670	735	1321	3574	4895	0.076	773	879	3243	1652
	Caroline County	15	545	561	185	1909	2094	0.188	47	325	1722	372
	Carroll County	200	1869	2069	4124	9965	14088	0.175	2285	2320	9483	4605
	Cecil County	52	702	754	1077	3740	4817	0.271	565	823	3429	1388
	Charles County	126	791	917	2599	4215	6814	0.191	1427	972	4414	2399
	Dorchester County	11	156	167	132	546	679	0.230	33	91	555	124
	Frederick County	366	1773	2139	7544	9452	16996	0.233	4043	2128	10824	6172
	Garrett County	32	1530	1562	384	5356	5740	0.193	97	911	4732	1008
	Harford County	263	926	1189	5418	4935	10353	0.349	2708	1036	6609	3744
	Howard County	142	252	394	2926	1345	4270	0.385	1429	276	2566	1705
	Kent County	9	236	245	105	827	932	0.227	26	138	768	164
	Montgomery County	288	104	392	5932	555	6486	0.592	2513	99	3875	2611
	Prince George's County	400	132	532	8228	705	8933	0.590	3490	126	5317	3616
	Queen Anne's County	28	536	564	580	2859	3439	0.132	329	682	2428	1011
	St. Mary's County	70	1095	1165	846	3835	4681	0.129	222	676	3783	898
	Somerset County	25	259	284	302	907	1209	0.284	72	146	990	219
	Talbot County	20	335	355	242	1172	1414	0.224	60	196	1158	256
	Washington County	264	1546	1810	5440	8243	13683	0.239	2905	1849	8929	4755
	Wicomico County	118	530	648	1428	1856	3285	0.315	336	294	2654	630
	Worcester County	65	359	424	782	1258	2040	0.309	185	200	1656	385
	Baltimore city	122	0	122	2514	0	2514	0.692	986	0	1528	986
	<b>Total Maryland</b>	<b>8547</b>	<b>15334</b>	<b>23881</b>	<b>175975</b>	<b>81747</b>	<b>257722</b>	<b>0.478</b>	<b>38169</b>	<b>16070</b>	<b>203483</b>	<b>54239</b>
Massachusetts	Barnstable County	424	502	926	8735	2674	11409	0.501	3947	508	6955	4454

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	Berkshire County	290	1540	1830	5961	8210	14171	0.390	2901	1678	9591	4579
	Bristol County	491	679	1171	10119	3621	13740	0.557	4395	661	8685	5056
	Dukes County	20	327	347	243	1143	1386	0.294	58	183	1145	241
	Essex County	818	499	1317	16845	2662	19507	0.490	7671	509	11327	8180
	Franklin County	191	2234	2425	2312	7820	10131	0.190	586	1332	8213	1918
	Hampden County	791	1049	1841	16293	5594	21887	0.464	7552	1089	13245	8641
	Hampshire County	386	1801	2187	7947	9603	17550	0.310	4067	2065	11418	6132
	Middlesex County	904	375	1279	18604	2001	20605	0.511	8348	377	11879	8726
	Nantucket County	34	84	117	405	293	698	0.258	99	48	552	147
	Norfolk County	331	139	470	6826	741	7566	0.435	3227	147	4192	3374
	Plymouth County	510	699	1208	10497	3724	14221	0.425	4994	744	8483	5738
	Suffolk County	17	0	17	348	0	348	0.509	156	0	191	156
	Worcester County	1175	3438	4613	24203	18328	42531	0.323	12287	3909	26336	16195
	<b>Total Massachusetts</b>	<b>12432</b>	<b>13067</b>	<b>25498</b>	<b>255973</b>	<b>69658</b>	<b>325630</b>	<b>0.461</b>	<b>60288</b>	<b>13251</b>	<b>252092</b>	<b>73539</b>
New Hampshire	Belknap County	72	1058	1131	876	3704	4580	0.178	224	635	3721	859
	Carroll County	0	1827	1827	0	6398	6398	0.183	0	1094	5304	1094
	Cheshire County	131	2486	2617	1583	8702	10285	0.107	420	1552	8312	1973
	Coos County	47	872	919	570	3053	3622	0.037	157	565	2900	723
	Grafton County	159	2834	2993	1917	9923	11840	0.158	495	1721	9624	2216
	Hillsborough County	729	2533	3262	15017	13503	28520	0.438	7085	2676	18759	9761
	Merrimack County	214	2415	2629	2579	8455	11034	0.318	606	1335	9093	1941
	Rockingham County	444	2285	2729	9150	12179	21329	0.237	4892	2736	13701	7628
	Strafford County	160	1046	1206	3289	5577	8865	0.248	1748	1245	5873	2993
	Sullivan County	86	1424	1510	1040	4984	6024	0.165	268	861	4895	1129
	<b>Total New Hampshire</b>	<b>2749</b>	<b>19300</b>	<b>22049</b>	<b>56606</b>	<b>102888</b>	<b>159495</b>	<b>0.282</b>	<b>15894</b>	<b>14422</b>	<b>129179</b>	<b>30316</b>
New Jersey	Atlantic County	208	427	636	4285	2279	6563	0.623	1773	396	4395	2169
	Bergen County	98	2	100	2021	11	2032	0.759	750	2	1280	752
	Burlington County	293	293	586	6041	1561	7602	0.655	2439	265	4898	2704
	Camden County	165	15	179	3387	78	3465	0.730	1288	12	2164	1301

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	Cape May County	129	322	451	2655	1715	4370	0.606	1113	302	2955	1415
	Cumberland County	83	255	338	1712	1357	3069	0.477	786	262	2020	1048
	Essex County	62	0	62	1275	2	1276	0.673	508	0	769	508
	Gloucester County	141	216	357	2894	1152	4047	0.640	1182	198	2667	1379
	Hudson County	9	0	9	186	0	186	0.669	74	0	111	74
	Hunterdon County	29	400	429	592	2135	2727	0.408	285	432	2010	716
	Mercer County	87	47	134	1791	248	2039	0.698	699	41	1300	739
	Middlesex County	177	21	198	3641	114	3754	0.760	1350	18	2386	1368
	Monmouth County	186	110	296	3826	588	4414	0.758	1421	92	2902	1512
	Morris County	221	235	456	4553	1253	5806	0.609	1904	220	3681	2125
	Ocean County	457	169	626	9417	898	10315	0.653	3808	153	6354	3961
	Passaic County	131	40	171	2689	214	2903	0.744	1010	34	1859	1044
	Salem County	27	234	261	560	1246	1806	0.334	282	264	1260	546
	Somerset County	90	82	173	1862	439	2301	0.752	695	69	1537	764
	Sussex County	113	926	1039	2328	4935	7263	0.184	1283	1143	4837	2426
	Union County	80	0	80	1648	0	1648	0.726	629	0	1019	629
	Warren County	59	543	601	1209	2893	4101	0.389	589	592	2920	1181
	<b>Total New Jersey</b>	<b>4305</b>	<b>3175</b>	<b>7480</b>	<b>88643</b>	<b>16927</b>	<b>105570</b>	<b>0.679</b>	<b>23869</b>	<b>4493</b>	<b>77208</b>	<b>28362</b>
New York	Albany County	379	505	883	7793	2691	10484	0.690	3060	444	6981	3504
	Allegany County	52	1943	1996	630	6804	7434	0.666	116	844	6473	960
	Bronx County	80	0	80	1638	0	1638	0.452	765	0	872	765
	Broome County	301	1318	1619	6200	7028	13228	0.715	2387	1137	9704	3524
	Cattaraugus County	193	2630	2823	2328	9208	11536	0.670	429	1139	9968	1568
	Cayuga County	95	1305	1400	1965	6955	8920	0.615	818	1217	6885	2035
	Chautauqua County	252	2176	2429	5196	11602	16797	0.801	1860	1745	13192	3605
	Chemung County	178	779	957	3672	4153	7825	0.790	1327	630	5869	1957
	Chenango County	42	1971	2013	503	6901	7404	0.250	123	1135	6146	1258
	Clinton County	87	1321	1408	1047	4626	5673	0.045	288	853	4532	1141
	Columbia County	44	1018	1062	528	3564	4093	0.158	136	618	3338	755

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	Cortland County	121	966	1088	1466	3383	4849	0.580	289	448	4112	737
	Delaware County	40	2214	2253	479	7750	8230	0.202	121	1311	6798	1432
	Dutchess County	217	1102	1319	4465	5873	10338	0.238	2386	1318	6634	3704
	Erie County	1000	1216	2217	20600	6483	27083	0.925	6572	869	19642	7441
	Essex County	38	1092	1130	460	3823	4282	0.075	124	694	3464	818
	Franklin County	100	1499	1599	1205	5249	6455	0.045	331	968	5155	1299
	Fulton County	109	1054	1162	1312	3689	5001	0.468	280	529	4192	809
	Genesee County	34	614	648	699	3275	3974	0.674	278	547	3149	825
	Greene County	43	980	1023	525	3430	3955	0.115	139	609	3207	748
	Hamilton County	0	352	352	0	1233	1233	0.189	0	210	1023	210
	Herkimer County	96	1253	1349	1968	6682	8650	0.479	903	1288	6459	2191
	Jefferson County	193	2094	2287	2332	7331	9663	0.483	493	1040	8130	1533
	Kings County	176	0	176	3632	0	3632	0.634	1490	0	2142	1490
	Lewis County	35	2353	2388	423	8236	8659	0.105	112	1471	7076	1583
	Livingston County	74	1109	1183	1530	5910	7440	0.595	646	1049	5745	1695
	Madison County	72	1234	1306	1480	6579	8059	0.470	683	1276	6100	1959
	Monroe County	768	707	1475	15810	3767	19578	0.818	5573	558	13446	6131
	Montgomery County	74	632	707	1526	3372	4897	0.507	687	638	3573	1324
	Nassau County	154	3	158	3181	16	3198	0.391	1547	3	1647	1550
	New York County	129	0	129	2657	0	2657	0.394	1290	0	1367	1290
	Niagara County	154	633	788	3178	3376	6554	0.811	1127	503	4924	1630
	Oneida County	321	2166	2487	6611	11545	18156	0.618	2746	2015	13395	4761
	Onondaga County	570	1086	1656	11744	5789	17533	0.782	4274	885	12374	5159
	Ontario County	105	1331	1436	2154	7096	9250	0.670	859	1189	7201	2048
	Orange County	196	775	971	4045	4129	8174	0.470	1868	801	5505	2669
	Orleans County	40	645	685	816	3438	4254	0.551	356	630	3268	986
	Oswego County	107	2403	2510	2207	12811	15018	0.603	927	2261	11831	3188
	Otsego County	75	2055	2130	900	7195	8096	0.255	220	1180	6696	1400
	Putnam County	105	413	519	2167	2203	4370	0.062	1277	546	2547	1823

State	County	Number of urban households with wood as main heating fuel	Number of rural households with wood as main heating fuel	Total households with wood as main heating fuel	Urban total households using wood for heat*	Rural total households using wood for heat*	Total households using wood for heat	Fraction of households 2000 with LPG or NG as main fuel	Urban total households using wood fireplace w/o Insert for heat excluding gas*	Rural total households using wood fireplace w/o Inserts for heat excluding gas*	Total households using wood heaters	Total households using wood fireplaces w/o inserts for heat
	Queens County	63	0	63	1305	0	1305	0.614	543	0	761	543
	Rensselaer County	295	1714	2009	6074	9137	15211	0.469	2807	1773	10631	4580
	Richmond County	22	0	22	444	0	444	0.800	159	0	285	159
	Rockland County	99	12	111	2031	65	2096	0.884	674	9	1413	683
	St. Lawrence County	219	3289	3508	2643	11515	14158	0.375	599	1754	11805	2354
	Saratoga County	384	2178	2562	7900	11610	19510	0.566	3409	2105	13997	5513
	Schenectady County	194	236	430	3996	1257	5253	0.742	1504	199	3550	1703
	Schoharie County	20	1188	1208	402	6336	6738	0.108	231	1531	4975	1762
	Schuyler County	18	684	702	219	2395	2614	0.417	48	355	2210	403
	Seneca County	26	341	368	316	1195	1511	0.598	61	156	1293	218
	Steuben County	169	2723	2892	2045	9532	11577	0.676	375	1173	10029	1548
	Suffolk County	615	232	847	12661	1237	13899	0.288	6566	270	7063	6836
	Sullivan County	53	1302	1355	639	4559	5198	0.129	168	804	4227	971
	Tioga County	58	1339	1398	1203	7140	8343	0.377	590	1472	6280	2063
	Tompkins County	215	1513	1728	2597	5297	7894	0.601	504	691	6699	1195
	Ulster County	237	2205	2442	2865	7719	10584	0.227	711	1287	8586	1998
	Warren County	151	1210	1360	3101	6449	9550	0.459	1442	1260	6848	2702
	Washington County	70	2046	2116	1435	10906	12341	0.255	759	2424	9158	3184
	Wayne County	80	1704	1784	1645	9083	10727	0.621	682	1581	8465	2263
	Westchester County	185	82	267	3818	435	4254	0.429	1812	87	2355	1899
	Wyoming County	64	1123	1188	779	3933	4711	0.608	150	510	4051	660
	Yates County	27	719	746	327	2518	2845	0.483	69	357	2419	426
	<b>Total New York</b>	<b>45223</b>	<b>69216</b>	<b>114440</b>	<b>931148</b>	<b>368992</b>	<b>1300140</b>	<b>0.546</b>	<b>72775</b>	<b>54396</b>	<b>1172969</b>	<b>127171</b>
Pennsylvania	Adams County	123	1771	1894	1484	6201	7685	0.421	327	917	6441	1244
	Allegheny County	548	188	736	11281	1003	12284	0.902	3681	137	8465	3818
	Armstrong County	25	411	436	299	1438	1738	0.801	49	160	1529	209
	Beaver County	112	505	617	2311	2693	5004	0.759	858	420	3726	1277
	Bedford County	41	2118	2158	490	7414	7903	0.052	134	1362	6407	1496
	Berks County	345	1583	1927	7095	8438	15534	0.349	3545	1771	10218	5316



State	County	Number of urban households with wood as main heating fuel	Number of rural households with wood as main heating fuel	Total households with wood as main heating fuel	Urban total households using wood for heat**	Rural total households using wood for heat**	Total households using wood for heat	Fraction of households 2000 with LPG or NG as main fuel	Urban total households using wood fireplace w/o insert for heat excluding gas*	Rural total households using wood fireplace w/o inserts for heat excluding gas*	Total households using wood heaters	Total households using wood fireplaces w/o inserts for heat
	Blair County	166	715	881	3411	3813	7224	0.626	1408	661	5155	2069
	Bradford County	84	2110	2193	1013	7385	8398	0.366	231	1132	7035	1363
	Bucks County	572	773	1345	11779	4119	15898	0.336	5931	871	9095	6803
	Butler County	90	975	1066	1861	5199	7060	0.691	730	857	5473	1587
	Cambria County	81	476	557	1660	2539	4199	0.497	752	483	2963	1236
	Cameron County	18	131	149	212	460	672	0.652	40	58	574	97
	Carbon County	19	244	263	400	1300	1699	0.117	229	313	1158	541
	Centre County	214	1462	1675	4396	7793	12189	0.196	2407	1793	7989	4200
	Chester County	385	1114	1499	7932	5938	13870	0.318	4040	1271	8559	5311
	Clarion County	15	519	534	177	1819	1995	0.815	29	199	1767	228
	Clearfield County	42	478	520	507	1673	2180	0.296	121	268	1792	389
	Clinton County	62	621	683	751	2175	2926	0.118	198	386	2342	584
	Columbia County	62	608	670	1278	3240	4518	0.261	674	718	3126	1392
	Crawford County	147	2689	2836	1772	9414	11185	0.634	335	1197	9653	1532
	Cumberland County	317	1311	1628	6530	6988	13519	0.280	3405	1531	8583	4936
	Dauphin County	260	552	812	5346	2944	8290	0.327	2708	626	4956	3334
	Delaware County	111	15	127	2294	81	2375	0.603	964	14	1397	978
	Elk County	45	400	446	545	1402	1947	0.793	91	157	1700	247
	Erie County	430	1291	1721	8862	6882	15744	0.872	2974	970	11800	3944
	Fayette County	80	872	953	1657	4650	6308	0.490	755	890	4663	1645
	Forest County	0	261	261	0	913	913	0.670	0	113	800	113
	Franklin County	297	2574	2871	3594	9011	12605	0.202	905	1525	10175	2430
	Fulton County	0	1108	1108	0	3880	3880	0.033	0	720	3160	720
	Greene County	22	472	494	267	1651	1918	0.632	51	210	1657	261
	Huntingdon County	77	1679	1756	929	5880	6809	0.100	248	1053	5508	1300
	Indiana County	53	838	891	638	2934	3572	0.567	127	392	3052	519
	Jefferson County	28	523	551	335	1831	2165	0.776	56	208	1901	264
	Juniata County	22	1216	1238	260	4258	4518	0.049	71	784	3663	855
	Lackawanna County	129	336	464	2647	1789	4435	0.658	1066	303	3066	1369

State	County	Number of urban households with wood as main heating fuel	Number of rural households with wood as main heating fuel	Total households with wood as main heating fuel	Urban total households using wood for heat*	Rural total households using wood for heat*	Total households using wood for heat	Fraction of households 2000 with LPG or NG as main fuel	Urban total households using wood fireplace w/o insert for heat excluding gas*	Rural total households using wood fireplace w/o inserts for heat excluding gas*	Total households using wood heaters	Total households using wood fireplaces w/o inserts for heat
	Lancaster County	696	2808	3504	14335	14968	29303	0.274	7501	3291	18511	10792
	Lawrence County	69	465	533	831	1627	2457	0.655	155	204	2099	358
	Lebanon County	113	626	739	2323	3338	5661	0.235	1244	751	3667	1994
	Lehigh County	433	571	1003	8912	3042	11954	0.266	4684	672	6598	5356
	Luzerne County	207	654	862	4272	3488	7759	0.499	1934	663	5162	2597
	Lycoming County	255	1763	2018	5245	9401	14646	0.295	2709	2040	9897	4749
	McKean County	44	747	791	537	2614	3151	0.893	81	267	2803	348
	Mercer County	103	1179	1282	2124	6284	8408	0.710	821	1020	6567	1841
	Mifflin County	130	1596	1726	1574	5587	7161	0.146	409	975	5776	1385
	Monroe County	186	1778	1964	2253	6225	8477	0.142	587	1089	6801	1676
	Montgomery County	704	314	1017	14486	1672	16158	0.489	6601	320	9236	6921
	Montour County	18	210	228	220	736	956	0.275	53	119	783	172
	Northampton County	281	627	908	5786	3342	9128	0.306	2970	721	5438	3690
	Northumberland County	80	453	533	963	1587	2550	0.271	233	258	2059	491
	Perry County	19	1502	1522	397	8009	8406	0.061	234	1985	6187	2220
	Philadelphia County	167	0	167	3429	0	3429	0.828	1198	0	2231	1198
	Pike County	12	1212	1223	240	6460	6700	0.229	129	1458	5113	1587
	Potter County	0	850	850	0	2976	2976	0.763	0	341	2635	341
	Schuylkill County	64	356	420	772	1246	2018	0.060	210	228	1580	438
	Snyder County	40	969	1009	486	3393	3878	0.147	126	592	3160	718
	Somerset County	27	972	999	557	5183	5739	0.204	303	1187	4249	1491
	Sullivan County	0	352	352	0	1231	1231	0.049	0	226	1004	226
	Susquehanna County	43	1815	1857	514	6354	6867	0.161	133	1100	5634	1233
	Tioga County	32	1665	1697	386	5829	6215	0.743	67	680	5468	747
	Union County	72	571	643	870	1999	2868	0.087	234	360	2274	594
	Venango County	100	1139	1240	1209	3989	5198	0.809	198	440	4560	638
	Warren County	110	1288	1398	1333	4510	5843	0.826	216	490	5138	705
	Washington County	136	980	1116	2803	5225	8027	0.690	1101	862	6064	1963
	Wayne County	29	1462	1491	351	5119	5470	0.227	87	854	4529	941

State	County	Number of urban households with wood as main heating fuel	Number of rural households with wood as main heating fuel	Total households with wood as main heating fuel	Urban total households using wood for heat*	Rural total households using wood for heat*	Total households using wood for heat	Fraction of households 2000 with LPG or NG as main fuel	Urban total households using wood fireplace w/o Insert for heat excluding gas*	Rural total households using wood fireplace w/o Inserts for heat excluding gas*	Total households using wood heaters	Total households using wood fireplaces w/o inserts for heat
	Westmoreland County	288	1228	1516	5929	6545	12474	0.676	2354	1092	9029	3446
	Wyoming County	11	742	753	220	3957	4177	0.150	123	934	3119	1058
	York County	572	2803	3375	11769	14944	26713	0.549	5142	2743	18827	7885
	<b>Total Pennsylvania</b>	<b>24419</b>	<b>75696</b>	<b>100114</b>	<b>502779</b>	<b>403534</b>	<b>906313</b>	<b>0.542</b>	<b>80978</b>	<b>52431</b>	<b>772903</b>	<b>133410</b>
Rhode Island	Bristol County	93	5	98	1909	27	1936	0.436	902	5	1029	907
	Kent County	314	281	594	6462	1496	7957	0.469	2986	290	4681	3277
	Newport County	144	172	316	1735	603	2338	0.266	421	98	1819	519
	Providence County	653	512	1165	13443	2731	16174	0.554	5853	500	9821	6352
	Washington County	243	1269	1512	4995	6767	11761	0.286	2595	1477	7690	4071
	<b>Total Rhode Island</b>	<b>1837</b>	<b>2164</b>	<b>4001</b>	<b>37818</b>	<b>11536</b>	<b>49354</b>	<b>0.479</b>	<b>12756</b>	<b>2370</b>	<b>34227</b>	<b>15127</b>
District of Columbia	District of Columbia	88	0	88	1809	0	1809	0.681	716	0	1093	716
	<b>Total D.C.</b>	<b>88</b>	<b>0</b>	<b>88</b>	<b>1809</b>	<b>0</b>	<b>1809</b>	<b>0.681</b>	<b>716</b>	<b>0</b>	<b>1093</b>	<b>716</b>
Vermont	Addison County	42	1580	1623	511	5532	6043	0.182	130	947	4966	1077
	Bennington County	58	906	963	698	3170	3868	0.123	184	561	3124	745
	Caledonia County	55	1632	1686	661	5712	6374	0.151	171	995	5207	1166
	Chittenden County	321	1537	1858	6617	8193	14810	0.542	2905	1511	10394	4416
	Essex County	0	394	394	0	1378	1378	0.098	0	247	1131	247
	Franklin County	63	1524	1588	767	5336	6103	0.340	178	831	5094	1009
	Grand Isle County	0	207	207	0	1102	1102	0.206	0	252	850	252
	Lamoille County	0	1205	1205	0	4217	4217	0.231	0	702	3515	702
	Orange County	5	2125	2130	63	7440	7503	0.174	16	1279	6208	1295
	Orleans County	43	1892	1935	523	6623	7146	0.097	140	1188	5818	1328
	Rutland County	112	1732	1844	1357	6062	7419	0.126	357	1071	5992	1427
	Washington County	206	2104	2310	2492	7366	9858	0.196	630	1250	7978	1880
	Windham County	105	2570	2675	1268	8997	10265	0.141	331	1576	8358	1906
	Windsor County	83	2408	2491	1003	8430	9433	0.185	255	1440	7738	1695
	<b>Total Vermont</b>	<b>1361</b>	<b>21718</b>	<b>23079</b>	<b>28020</b>	<b>115780</b>	<b>143799</b>	<b>0.262</b>	<b>5296</b>	<b>13849</b>	<b>124654</b>	<b>19145</b>
	<b>Total MANE-VU</b>		<b>265390</b>	<b>374329</b>	<b>2243054</b>	<b>1414794</b>	<b>3657849</b>		<b>358041</b>	<b>205359</b>	<b>3094449</b>	<b>563400</b>

## 2.8. Calculation Method 8

Method 8 compensated for the fact that method 7 was found to be less accurate for counties with high population densities and not all counties with high population densities were separately included in AHS's Metropolitan Surveys. Fortunately, after reviewing all counties with population densities of more than 2000 people per square mile, most of them were accurately covered in specific AHS metropolitan surveys. For those counties not covered separately in AHS metropolitan surveys, the method used to more accurately estimate the number of households that used wood heaters and fireplaces without inserts for the counties in question was to interpolate between counties that bracketed them in terms of population density that were in the same MSA. The fraction of households in these counties that used wood heaters and fireplaces without inserts was adjusted based on the interpolation. The following equations were used.

$x$  and  $y$  are fractions of the known counties, that when added = 1

$D_u = D_a(x) + D_b(y)$ , where

$D_u$  = Population density of county unable to be estimated by method 1 or 4,

$D_a$  = Population density of county a (Population density lower than  $D_u$ ),

$D_b$  = Population density of county b (Population density higher than  $D_u$ ), and

$x + y = 1$ , so  $x = y - 1$

$D_u = D_a X (1-y) + D_b X (y) = D_a - D_a X (y) + D_b X (y)$ , then

$(D_u - D_a) / (D_b - D_a) = y$

The fraction of woodstoves or fireplaces without inserts used for heat per number of households ( $F_w$ ) for the county unable to be estimated by method 1 or 4 was found by:

$F_w = (W_a/H_a)x + (W_b/H_b)y$

The number of woodstoves or fireplaces without inserts ( $W_u$ ) used for heat for the county unable to be estimated by method 1 or 4 is found by:

$W_u = F_w X H_u$ , where

$W_a$  = number of woodstoves or fireplaces without inserts used for heat in county a,

$W_b$  = number of woodstoves or fireplaces without inserts used for heat in county b,

$H_a$  = number of households in county a,

$H_b$  = number of households in county b, and

$H_u$  = number of households in county unable to be estimated by method 1 or 4.

The numbers used for county densities, number of households, and number of wood heaters or fireplaces without inserts used for heat are contained in Tables 1, 3, 4, and 7.

**Table 8  
Calculation Method 8 Intermediate Data and Results**

**Section 1**

Wood heaters used for heat							
County: Unable to be estimated by method 1 or 4	Camden, NJ	Essex, NJ	Hudson, NJ	Passaic, NJ	Union, NJ	Westchester, NY	Bristol, RI
Density of county unable to be estimated by method 1 or 4	2307	6321	12971	2687	5141	2166	2086
Number of households in county unable to be estimated by method 1 or 4	186884	284738	230792	166543	188616	342411	19596
County: X small	Montgomery, PA	Bergen, NJ	Richmond, NY	Middlesex, NJ	Richmond, NY	Suffolk, NY	Norfolk
Density X	1583	3824	7860	2476	7860	1598	1634
# Household X	291575	334832	160618	272869	160618	481249	250129
# Wood Heaters X	27940	14926	457	10211	457	21850	?
County: Y large	Delaware, PA	Richmond, NY	Queens, NY	Nassau, NY	Bergen, NJ	Middlesex, NJ	Suffolk, MA
Density Y	3008	7860	20569	4667	3824	2476	11814
# Household Y	207325	160618	787089	449050	334832	272869	276854
# Wood Heaters Y	7348	457	2193	2409	14926	10211	660
Factor: x	0.4919	0.3813	0.4022	0.0963	0.6737	0.6469	0.0444
Factor: y	0.5081	0.6187	0.5978	0.9037	0.3263	0.3531	0.9556
Fraction of households using wood heaters	0.0651	0.0188	0.0028	0.0343	0.0310	0.0402	0.0001
Number of wood heaters in county unable to be estimated by method 1 or 4	12174.7	5341.3	651.2	5718.0	5839.5	13778.3	2.1
Not sufficient data to extrapolate for Bristol County, RI							

**Table 8  
Calculation Method 8 Intermediate Data and Results**

**Section 2**

Fireplaces without inserts used for heat						
County: Unable to be estimated by method 1 or 4	Camden, NJ	Essex, NJ	Hudson, NJ	Passaic, NJ	Union, NJ	Westchester, NY
Density of county unable to be estimated by method 1 or 4	2307	6321	12971	2687	5141	2166
Number of households in county unable to be estimated by method 1 or 4	186884	284738	230792	166543	188616	342411
County: X small	Montgomery, PA	Bergen, NJ	Richmond, NY	Middlesex, NJ	Richmond, NY	Suffolk, NY
Density X	1583	3824	7860	2476	7860	1598
# Household X	291575	334832	160618	272869	160618	481249
# Fireplaces w/o Inserts X	3312	2380	864	1940	864	2588
County: Y large	Delaware, PA	Richmond, NY	Queens, NY	Nassau, NY	Bergen, NJ	Middlesex, NJ
Density Y	3008	7860	20569	4667	3824	2476
# Household Y	207325	160618	787089	449050	334832	272869
# Fireplaces w/o Inserts Y	2355	864	4232	2415	2380	1940
Factor: x	0.4919	0.3813	0.4022	0.0963	0.6737	0.6469
Factor: y	0.5081	0.6187	0.5978	0.9037	0.3263	0.3531
Fraction of households using fireplace without insert	0.0114	0.0060	0.0054	0.0069	0.0065	0.0065
Number of fireplaces without inserts in county unable to be estimated by method 1 or 4	2122.8	1719.4	1241.3	1156.3	1234.3	2225.0

## 2.9. Number of Households Using Wood Heaters for Heating

The number of households using wood heaters for heating was determined one of three ways: (Scenario 1) If the county was included in method 1, 4, or 8 (which are mutually exclusive), then the number from the column for method 1 or 4 was used (Since there were only six counties calculated using method 8, the number of wood heaters was placed with the method 1 results in Table 9. The numbers represent the same units, so there is no discrepancy created by placing the method 8 numbers under method 1 in Table 9). (Scenario 2) If method 1, 4, or 8 was not used, then the average of methods 2, 3, 5 and 7 was used, except if the county was in the New York Metro area and not included in method 1, 4, or 8 then (scenario 3) the average of methods 2, 3, 6 and 7 was used.

The selection scenario column in Table 9 was used to delineate which of the three ways was used to find a final number of households using wood heaters. See Table 8 for counties included in Method 8.

The categories for Heating Degree Day were taken originally from the MANE-VU Residential Wood Combustion Emission Inventory.<sup>28</sup> Since the categories left a discrepancy of 500 between low and medium, and high and medium, we adjusted our categories to account for the missing numbers. We calculated low to be 5,499 or less; medium to be 5,500 – 6,499; and high to be 6,500 and above (the previous categories had low at 5,000 or less, medium at 5,500-6,500, and high at 7,000 and above). Heating Degree Day categories for each county are found in NOAA Divisional Normals and Standard Deviations of Temperature, Precipitation, and Heating and Cooling Degree Days 1971 - 2000,<sup>29</sup> and IECC compliance Guide to Window Selection<sup>30</sup> for each state.

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<sup>28</sup> E.H Pechan and Associates, Inc. Final Report: MANE-VU Residential Wood Combustion Emission Inventory. Prepared for MARAMA, June 22, 2004

<sup>29</sup> Divisional Normals and Standard Deviations of Temperature, Precipitation, and Heating and Cooling Degree Days 1971 – 2000, Section 3: Heating Degree Days. NOAA

<sup>30</sup> IECC Compliance Guide to Window Selection, 2000 International Energy Conservation Code

**Table 9  
Number of Households Using Wood Heaters for Heating**

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
Connecticut	Fairfield County	1,429	2					19153	22544	6,812	12,983	5750	Medium
	Hartford County	1,178	2			36241		19749	23245	11,549	22,513	6250	Medium
	Litchfield County	203	2					6031	5020	7,663	6,847	6750	High
	Middlesex County	432	2			4711		5201	4329	5,557	5,156	5750	Medium
	New Haven County	1,378	2					18833	22167	12,540	15,687	5750	Medium
	New London County	394	2					5898	6942	8,792	7,345	5750	Medium
	Tolland County	347	2			6233		4252	3540	6,546	5,677	6750	High
	Windham County	217	2					3453	2875	8,133	5,793	6750	High
	<b>Total Connecticut</b>		<b>714</b>				<b>47185</b>		<b>82,572</b>	<b>90,662</b>	<b>67,592</b>	<b>82,001</b>	
Delaware	Kent County	223	2		5,137			3957	2696	4,148	4,414	4490	Low
	New Castle County	1,198	2		12,684			11023	10591	2,830	8,846	4900	Low
	Sussex County	175	2		8,306			5292	3606	3,603	5,734	4490	Low
<b>Total Delaware</b>		<b>532</b>			<b>26,127</b>			<b>20,272</b>	<b>16,893</b>	<b>10,581</b>	<b>18,993</b>		
Maine	Androscoggin County	224	2		10,092			3510	2922	7,589	7,064	8200	High
	Aroostook County	11	2		6,465			3179	2060	8,317	5,987	9670	High
	Cumberland County	323	2		15,306			6393	7524	12,250	11,316	8200	High
	Franklin County	18	2		2,821			1261	817	5,395	3,159	9670	High
	Hancock County	33	2		7,463			2335	1512	6,009	5,269	7800	High
	Kennebec County	137	2		11,442			3980	3313	9,910	8,444	8200	High
	Knox County	111	2		5,748			1798	1165	3,930	3,825	7600	High
	Lincoln County	76	2		4,914			1537	996	3,551	3,334	7600	High
	Oxford County	27	2		5,390			2409	1561	8,357	5,385	8200	High
	Penobscot County	43	2		12,677			4852	4038	11,395	9,641	8900	High
	Piscataquis County	4	2		1,569			772	500	3,264	1,868	9670	High
	Sagadahoc County	142	2		4,882			1527	990	3,095	3,168	7600	High
	Somerset County	13	2		4,426			2176	1410	7,789	4,797	9670	High
	Waldo County	52	2		5,181			1621	1050	6,471	4,424	8200	High
Washington County	13	2		2,992			1471	953	3,811	2,758	7800	High	



State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	York County	197	2		10,901			6438	5359	10,144	9,161	7600	High
	<b>Total Maine</b>	<b>42</b>			<b>112,269</b>			<b>45,259</b>	<b>36,169</b>	<b>111,277</b>	<b>89,602</b>		
Maryland	Allegany County	174	2					2994	1591	6,981	4,988	5600	Medium
	Anne Arundel County	1,207	1	23,043		15652		10480	10069	8,593	23,043	4603	Low
	Baltimore County	1,283	1	23,614		26107		17480	16794	9,238	23,614	5031	Low
	Calvert County	376	2			4442		2855	1517	3,243	3,513	4500	Low
	Caroline County	95	2					1170	622	1,722	1,446	4300	Low
	Carroll County	355	2			4736		4471	3047	9,483	6,230	5031	Low
	Cecil County	260	2					3395	1804	3,429	3,412	5031	Low
	Charles County	278	2			3783		3574	2436	4,414	3,924	4470	Low
	Dorchester County	55	2					1306	694	555	931	4300	Low
	Frederick County	315	2			6404		6050	4123	10,824	7,760	5031	Low
	Garrett County	46	2					1189	632	4,732	2,961	6570	High
	Harford County	517	2			7080		6683	4554	6,609	6,791	5031	Low
	Howard County	1,031	2			8067		5401	5189	2,566	5,345	5031	Low
	Kent County	70	2					802	426	768	785	4712	Low
	Montgomery County	1,830	2			28742		19261	18505	3,875	17,293	5031	Low
	Prince George's County	1,703	1	28,327		25266		16931	16266	5,317	28,327	4603	Low
	Queen Anne's County	115	2			1383		1674	890	2,428	1,828	4712	Low
	St. Mary's County	249	2			21534		3306	1757	3,783	9,541	4473	Low
	Somerset County	78	2					890	473	990	940	4239	Low
	Talbot County	128	2					1504	799	1,158	1,331	4325	Low
	Washington County	294	2					4098	2792	8,929	6,513	5588	Medium
	Wicomico County	229	2					3391	1802	2,654	3,023	4239	Low
	Worcester County	102	2					2101	1117	1,656	1,878	4239	Low
	Baltimore city	7,854	1	1,150				14418	13852	1,528	1,150	5031	Low
	<b>Total Maryland</b>	<b>557</b>		<b>76,133</b>		<b>153196</b>		<b>135,425</b>	<b>111,752</b>	<b>105,475</b>	<b>166,564</b>		
Massachusetts	Barnstable County	575	2					8001	6660	6,955	7,478	5980	Medium
	Berkshire County	143	2					4558	3794	9,591	7,075	7500	High
	Bristol County	978	2					12174	14329	8,685	10,429	5980	Medium

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Dukes County	148	2					699	453	1,145	922	5980	Medium
	Essex County	1,479	2			16794		16338	19230	11,327	14,820	5980	Medium
	Franklin County	102	2					3137	2032	8,213	5,675	6690	High
	Hampden County	744	2					10289	12110	13,245	11,767	6690	High
	Hampshire County	289	2					4624	3849	11,418	8,021	6690	High
	Middlesex County	1,782	2			26553		23912	38573	11,879	20,781	6690	High
	Nantucket County	206	2					406	263	552	479	5980	Medium
	Norfolk County	1,634	2			14804		14573	17153	4,192	11,190	5980	Medium
	Plymouth County	733	2			7810		10054	11834	8,483	8,782	5980	Medium
	Suffolk County	11,814	1	660		13343		16131	18986	191	660	5980	Medium
	Worcester County	509	2					16952	19953	26,336	21,644	6690	High
	<b>Total Massachusetts</b>	<b>818</b>		<b>660</b>		<b>79304</b>		<b>141,848</b>	<b>169,219</b>	<b>122,211</b>	<b>129,723</b>		
New Hampshire	Belknap County	148	2					2498	1618	3,721	3,110	7520	High
	Carroll County	49	2					2016	1306	5,304	3,660	7520	High
	Cheshire County	106	2					3052	1977	8,312	5,682	7520	High
	Coos County	19	2					1491	966	2,900	2,195	8930	High
	Grafton County	48	2					3394	2198	9,624	6,509	8930	High
	Hillsborough County	448	2					8670	10204	18,759	13,714	7520	High
	Merrimack County	152	2					4446	3701	9,093	6,770	7520	High
	Rockingham County	414	2					6322	7441	13,701	10,012	7520	High
	Strafford County	315	2					3628	3020	5,873	4,750	7520	High
	Sullivan County	77	2					1793	1162	4,895	3,344	7520	High
	<b>Total New Hampshire</b>	<b>142</b>						<b>37,310</b>	<b>33,594</b>	<b>82,181</b>	<b>59,746</b>		
New Jersey	Atlantic County	462	2					5684	5481	4,395	5,039	5020	Low
	Bergen County	3,824	1	14,926		17484		19509	8533	1,280	14,926	5780	Medium
	Burlington County	544	2			7399		9300	8967	4,898	7,199	5020	Low
	Camden County	2,307	1	12,175		8663		10889	10498	2,164	12,175	5020	Low
	Cape May County	399	2					3454	2355	2,955	3,205	5020	Low
	Cumberland County	303	2					4093	2791	2,020	3,057	5020	Low
	Essex County	6,321	1	5,341		14868		16590	7257	769	5,341	5780	Medium

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Gloucester County	808	2			4336		5450	5254	2,667	4,151	5020	Low
	Hudson County	12,971	1	651		12051		13447	5882	111	651	5780	Medium
	Hunterdon County	295	2			2370		3739	2550	2,010	2,707	5780	Medium
	Mercer County	1,582	2			6698		7473	7205	1,300	5,157	5020	Low
	Middlesex County	2,476	1	10,211		14249		15898	6954	2,386	10,211	5020	Low
	Monmouth County	1,331	2			11959		13344	12865	2,902	9,402	5020	Low
	Morris County	1,021	3			9024		10069	4404	3,681	5,703	5780	Medium
	Ocean County	845	2			11008		12282	11842	6,354	9,881	5020	Low
	Passaic County	2,687	1	5,718		8696		9703	4244	1,859	5,718	5780	Medium
	Salem County	192	2					2591	1375	1,260	1,925	5020	Low
	Somerset County	1,010	3			5890		6572	2875	1,537	3,434	5780	Medium
	Sussex County	286	2			2741		4324	2949	4,837	3,967	5780	Medium
	Union County	5,141	1	5,840		9849		10989	4807	1,019	5,840	5780	Medium
	Warren County	300	2					3342	2279	2,920	3,131	5780	Medium
	<b>Total New Jersey</b>	<b>1,156</b>		<b>54,861</b>		<b>147,285</b>		<b>188,744</b>	<b>121,367</b>	<b>53,327</b>	<b>122,820</b>		
New York	Albany County	565	2					7056	6803	6,981	7,018	6700	High
	Allegany County	49	2					1924	1021	6,473	4,199	7520	High
	Bronx County	32,354	4			7425	1321	20079	12037	872	1,321	5220	Low
	Broome County	283	2					6629	4520	9,704	8,167	7450	High
	Cattaraugus County	64	2					3367	1787	9,968	6,668	7520	High
	Cayuga County	118	2					3233	1715	6,885	5,059	7150	High
	Chautauqua County	130	2					4448	3033	13,192	8,820	7020	High
	Chemung County	223	2					3700	1964	5,869	4,784	7520	High
	Chenango County	58	2					2110	1120	6,146	4,128	7450	High
	Clinton County	78	2					3151	1672	4,532	3,841	7870	High
	Columbia County	99	2					2629	1395	3,338	2,984	6700	High
	Cortland County	97	2					1923	1021	4,112	3,018	7150	High
	Delaware County	33	2					2010	1067	6,798	4,404	7450	High
	Dutchess County	359	2					5960	5747	6,634	6,297	6700	High
	Erie County	901	1	30,543		33146		21989	21200	19,642	30,543	7020	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Essex County	22	2					1601	849	3,464	2,533	7870	High
	Franklin County	31	2					1888	1002	5,155	3,521	8200	High
	Fulton County	111	2					2319	1231	4,192	3,256	8960	High
	Genesee County	121	2			2209		2393	1270	3,149	2,583	7020	High
	Greene County	75	2					1946	1033	3,207	2,576	6700	High
	Hamilton County	3	2					245	130	1,023	634	8960	High
	Herkimer County	45	2					2694	1430	6,459	4,577	7560	High
	Jefferson County	90	2					3366	2295	8,130	5,748	7020	High
	Kings County	34,998	4			13954	2501	37737	22623	2,142	2,501	5220	Low
	Lewis County	21	2					1051	558	7,076	4,063	8960	High
	Livingston County	102	2			2177		2359	1252	5,745	3,427	7150	High
	Madison County	106	2					2700	1433	6,100	4,400	7450	High
	Monroe County	1,116	1	18,142		27992		16688	16090	13,446	18,142	7020	High
	Montgomery County	122	2					2102	1115	3,573	2,837	7560	High
	Nassau County	4,667	1	2,409		7059		19090	11444	1,647	2,409	5220	Low
	New York County	67,370	4			11704	2167	31652	18975	1,367	2,167	5220	Low
	Niagara County	417	2			7662		7188	4901	4,924	6,591	7020	High
	Oneida County	193	2					7413	5055	13,395	10,404	7560	High
	Onondaga County	588	2					10563	10184	12,374	11,468	7150	High
	Ontario County	158	1	7,528		3813		3214	2192	7,201	7,528	7150	High
	Orange County	437	2			1884		6983	6732	5,505	4,791	6700	High
	Orleans County	112	2			1492		1616	857	3,268	2,125	7020	High
	Oswego County	129	2					3763	2566	11,831	7,797	7020	High
	Otsego County	62	2					2478	1315	6,696	4,587	7450	High
	Putnam County	425	2			530		3569	1894	2,547	2,215	6700	High
	Queens County	20,569	4			12373	2193	33460	20059	761	2,193	5220	Low
	Rensselaer County	233	2					4934	3364	10,631	7,783	6700	High
	Richmond County	7,860	4			2525	457	9358	4093	285	457	5220	Low
	Rockland County	1,675	3			1480		5487	2400	1,413	1,764	6700	High
	St. Lawrence County	41	2					3314	2260	11,805	7,560	8200	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Saratoga County	255	2					6646	4532	13,997	10,321	6700	High
	Schenectady County	713	2					4928	3360	3,550	4,239	6700	High
	Schoharie County	51	2					1273	675	4,975	3,124	7450	High
	Schuyler County	59	2					789	419	2,210	1,500	7150	High
	Seneca County	108	2					1404	745	1,293	1,349	7150	High
	Steuben County	71	2					4169	2212	10,029	7,099	7520	High
	Suffolk County	1,598	1	21,850		7565		20459	12265	7,063	21,850	5220	Low
	Sullivan County	77	2					2941	1561	4,227	3,584	7450	High
	Tioga County	100	2					2089	1109	6,280	4,185	7520	High
	Tompkins County	207	2					3928	2085	6,699	5,314	7150	High
	Ulster County	160	2					5644	3849	8,586	7,115	6700	High
	Warren County	74	2					2758	1464	6,848	4,803	7870	High
	Washington County	74	2					2396	1271	9,158	5,777	6700	High
	Wayne County	155	2			3413		3697	1962	8,465	5,191	7020	High
	Westchester County	2,166	1	13,778		5383		19950	8726	2,355	13,778	6700	High
	Wyoming County	73	2					1570	833	4,051	2,810	7020	High
	Yates County	73	2					952	505	2,419	1,685	7150	High
	<b>Total New York</b>	<b>406</b>		<b>94248.8</b>		<b>153786</b>		<b>408,973</b>	<b>264,276</b>	<b>381,863</b>	<b>347,612</b>		
Pennsylvania	Adams County	182	2					3689	1958	6,441	5,065	5550	Medium
	Allegheny County	1,735	1	22,572		41339		22559	32292	8,465	22,572	6160	Medium
	Armstrong County	110	2					3047	1751	1,529	2,288	6160	Medium
	Beaver County	412	2			5585		5907	4363	3,726	5,073	6160	Medium
	Bedford County	49	2					2089	1108	6,407	4,248	6260	Medium
	Berks County	445	2					8430	8128	10,218	9,324	5360	Low
	Blair County	243	2					4196	2861	5,155	4,675	6260	Medium
	Bradford County	55	2					2588	1373	7,035	4,811	7260	High
	Bucks County	1,002	2			10337		12992	12526	9,095	10,808	5360	Low
	Butler County	226	2			5252		5554	4103	5,473	5,426	6160	Medium
	Cambria County	219	2					4915	3351	2,963	3,939	6260	Medium
	Cameron County	15	2					255	136	574	415	6720	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Carbon County	156	2					2550	1353	1,158	1,854	5990	Medium
	Centre County	125	2					4148	2829	7,989	6,069	6720	High
	Chester County	595	2			7599		9551	9209	8,559	8,570	5360	Low
	Clarion County	68	2					1678	964	1,767	1,722	7020	High
	Clearfield County	73	2					3470	1841	1,792	2,631	6720	High
	Clinton County	42	2					1549	822	2,342	1,945	6720	High
	Columbia County	133	2					2653	1408	3,126	2,889	6090	Medium
	Crawford County	89	2					3661	2105	9,653	6,657	7020	High
	Cumberland County	396	2					6963	4748	8,583	7,773	5550	Medium
	Dauphin County	481	2					6003	5788	4,956	5,480	5360	Low
	Delaware County	3,008	1	7,348		9611		12080	11646	1,397	7,348	5360	Low
	Elk County	42	2					1471	780	1,700	1,585	6720	High
	Erie County	352	2					6239	6517	11,800	9,020	7020	High
	Fayette County	186	2			4613		4878	3603	4,663	4,718	6160	Medium
	Forest County	12	2					213	123	800	507	7020	High
	Franklin County	170	2					4241	2892	10,175	7,208	5550	Medium
	Fulton County	33	2					603	320	3,160	1,881	6260	Medium
	Greene County	70	2					1587	945	1,657	1,622	6160	Medium
	Huntingdon County	52	2					1784	946	5,508	3,646	6090	Medium
	Indiana County	107	2					3591	2064	3,052	3,322	6260	Medium
	Jefferson County	70	2					1940	1115	1,901	1,921	6160	Medium
	Juniata County	58	2					912	484	3,663	2,287	6090	Medium
	Lackawanna County	460	2					7029	4793	3,066	5,048	6950	High
	Lancaster County	504	2					10223	9857	18,511	14,367	5360	Low
	Lawrence County	261	2					3893	2238	2,099	2,996	6160	Medium
	Lebanon County	336	2					3877	2643	3,667	3,772	5360	Low
	Lehigh County	914	2					7221	6963	6,598	6,910	5990	Medium
	Luzerne County	353	2					7507	7238	5,162	6,335	6950	High
	Lycoming County	96	2					3833	2613	9,897	6,865	6090	Medium
	McKean County	46	2					1889	1003	2,803	2,346	7020	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Mercer County	178	2					3833	2831	6,567	5,200	7020	High
	Mifflin County	113	2					1950	1035	5,776	3,863	6090	Medium
	Monroe County	246	2					4383	2989	6,801	5,592	6950	High
	Montgomery County	1,583	1	27,940		13516		16988	16379	9,236	27,940	5360	Low
	Montour County	139	2					748	397	783	766	6090	Medium
	Northampton County	732	2					6063	5845	5,438	5,750	5990	Medium
	Northumberland County	203	2					4065	2157	2,059	3,062	6090	Medium
	Perry County	79	2					1781	945	6,187	3,984	6090	Medium
	Philadelphia County	11,013	1	7,924		26798		24575	32474	2,231	7,924	5360	Low
	Pike County	92	2					1996	1059	5,113	3,555	6950	High
	Potter County	17	2					745	395	2,635	1,690	7020	High
	Schuylkill County	191	2					4937	3366	1,580	3,258	5990	Medium
	Snyder County	115	2					1460	775	3,160	2,310	6090	Medium
	Somerset County	74	2					3289	1746	4,249	3,769	6260	Medium
	Sullivan County	15	2					280	149	1,004	642	7260	High
	Susquehanna County	51	2					1739	923	5,634	3,687	7260	High
	Tioga County	37	2					1696	900	5,468	3,582	7260	High
	Union County	133	2					1414	751	2,274	1,844	6090	Medium
	Venango County	84	2					2380	1368	4,560	3,470	7020	High
	Warren County	49	2					1845	979	5,138	3,491	7020	High
	Washington County	238	2			6349		6715	4960	6,064	6,376	6160	Medium
	Wayne County	66	2					1973	1047	4,529	3,251	6950	High
	Westmoreland County	360	1	17,664		11623		8693	9079	9,029	17,664	6160	Medium
	Wyoming County	71	2					1136	603	3,119	2,127	7260	High
	York County	431	2					8818	8502	18,827	13,823	5550	Medium
	<b>Total Pennsylvania</b>	<b>275</b>		<b>83448.1</b>		<b>142622</b>		<b>316,963</b>	<b>275,454</b>	<b>345,749</b>	<b>356,559</b>		
Rhode Island	Bristol County	2,086	2			1739		2074	1344	1,029	1,614	5890	Medium
	Kent County	1,000	2			5671		5645	4699	4,681	5,332	5890	Medium
	Newport County	824	2					3740	2423	1,819	2,779	5890	Medium
	Providence County	1,536	2					14263	16788	9,821	12,042	5890	Medium

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using wood heaters for heat	HDD	Heating category
	Washington County	381	2			3140		3966	3302	7,690	4,932	5890	Medium
Total Rhode Island		1,023				10550		29,689	28,555	25,040	26,700		
District of Columbia	District of Columbia	9,256	1	2,348				14022	13471	1,093	2,348	4250	Low
Total D.C.		9,256						14,022	13,471	1,093	2,348		
Vermont	Addison County	47	2		5,197			1403	909	4,966	3,855	7840	High
	Bennington County	55	2		4,138			1577	1022	3,124	2,946	7840	High
	Caledonia County	46	2		4,616			1246	807	5,207	3,690	8720	High
	Chittenden County	276	2		9,579			4712	3922	10,394	8,228	7840	High
	Essex County	10	2		1,079			279	181	1,131	830	8720	High
	Franklin County	73	2		4,079			1823	1181	5,094	3,665	8720	High
	Grand Isle County	88	2		1,722			310	201	850	961	7840	High
	Lamoille County	52	2		3,580			1008	653	3,515	2,701	8720	High
	Orange County	42	2		4,384			1183	767	6,208	3,925	8720	High
	Orleans County	38	2		5,288			1123	728	5,818	4,077	8720	High
	Rutland County	68	2		7,963			2715	1759	5,992	5,557	7840	High
	Washington County	85	2		7,459			2543	1648	7,978	5,993	8720	High
	Windham County	56	2		7,653			1944	1260	8,358	5,985	7780	High
	Windsor County	60	2		8,361			2579	1671	7,738	6,226	7780	High
Total Vermont		67			75,097			24,447	16,707	76,374	58,639		
Total MANE-VU		14,988		309,351	213,493	733,928		1,445,523	1,178,119	1,382,763	1,461,307		
											Total	Definition	Category
											373,275	< 5499	Low
											383,711	5500-6499	Medium
											704,322	> 6500	High



## **2.10. Number of Households Using Fireplaces without Inserts for Heating**

Total households using fireplaces without inserts for heating was determined one of two ways: (Scenario 1) If the county was included in method 1, 4, or 8 (which are mutually exclusive), then the number from the column for method 1 or 4 was used (Since there were only six counties calculated using method 8, the number of wood heaters was placed with the method 1 results in Table 10. The numbers represent the same units, so there is no discrepancy created by placing the method 8 numbers under method 1 in Table 10). (Scenario 2) If method 1, 4, or 8 was not used, then the average of methods 2, 3 and 7 was used. The selection scenario column in Table 10 determines which of the two ways to determine the total number of households using fireplaces without inserts for heat.

See Table 8 for counties from method 8.

HDD and Heating Category information taken from section 2.9.

**Table 10  
Number of Households Using Fireplaces without Inserts for Heating**

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
Connecticut	Fairfield County	1,429	2							5972	5,972	5750	Medium
	Hartford County	1,178	2			7483				8837	8,160	6250	Medium
	Litchfield County	203	2							1930	1,930	6750	High
	Middlesex County	432	2			994				3500	2,247	5750	Medium
	New Haven County	1,378	2							10945	10,945	5750	Medium
	New London County	394	2							5537	5,537	5750	Medium
	Tolland County	347	2			1329				3603	2,466	6750	High
	Windham County	217	2							3825	3,825	6750	High
	<b>Total Connecticut</b>		<b>714</b>				<b>9,806</b>				<b>44,149</b>	<b>41,082</b>	
Delaware	Kent County	223	2		5,367					1754	3,561	4490	Low
	New Castle County	1,198	2		27,479					1928	14,704	4900	Low
	Sussex County	175	2		5,334					787	3,061	4490	Low
<b>Total Delaware</b>		<b>532</b>			<b>38,181</b>					<b>4,469</b>	<b>21,325</b>		
Maine	Androscoggin County	224	2							3910	3,910	8200	High
	Aroostook County	11	2							2036	2,036	9670	High
	Cumberland County	323	2							6687	6,687	8200	High
	Franklin County	18	2							1267	1,267	9670	High
	Hancock County	33	2							1347	1,347	7800	High
	Kennebec County	137	2							2505	2,505	8200	High
	Knox County	111	2							965	965	7600	High
	Lincoln County	76	2							797	797	7600	High
	Oxford County	27	2							1949	1,949	8200	High
	Penobscot County	43	2							2947	2,947	8900	High
	Piscataquis County	4	2							746	746	9670	High
Sagadahoc County	142	2							761	761	7600	High	
Somerset County	13	2							1884	1,884	9670	High	

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Waldo County	52	2							1498	1,498	8200	High
	Washington County	13	2							884	884	7800	High
	York County	197	2							2575	2,575	7600	High
	<b>Total Maine</b>	<b>42</b>								<b>32,759</b>	<b>32,759</b>		
Maryland	Allegany County	174	2							2932	2,932	5600	Medium
	Anne Arundel County	1,207	1	7,261		3545				6797	7,261	4603	Low
	Baltimore County	1,283	1	4,262		5914				5812	4,262	5031	Low
	Calvert County	376	2			1445				1652	1,548	4500	Low
	Caroline County	95	2							372	372	4300	Low
	Carroll County	355	2			1073				4605	2,839	5031	Low
	Cecil County	260	2							1388	1,388	5031	Low
	Charles County	278	2			1230				2399	1,815	4470	Low
	Dorchester County	55	2							124	124	4300	Low
	Frederick County	315	2			2083				6172	4,127	5031	Low
	Garrett County	46	2							1008	1,008	6570	High
	Harford County	517	2			1604				3744	2,674	5031	Low
	Howard County	1,031	2			1827				1705	1,766	5031	Low
	Kent County	70	2							164	164	4712	Low
	Montgomery County	1,830	2			9348				2611	5,980	5031	Low
	Prince George's County	1,703	1	8,874		8218				3616	8,874	4603	Low
	Queen Anne's County	115	2			313				1011	662	4712	Low
	St. Mary's County	249	2			4674				898	2,786	4473	Low
	Somerset County	78	2							219	219	4239	Low
	Talbot County	128	2							256	256	4325	Low
	Washington County	294	2							4755	4,755	5588	Medium
	Wicomico County	229	2							630	630	4239	Low
	Worcester County	102	2							385	385	4239	Low
	Baltimore city	7,854	1	791		4878				986	791	5031	Low

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
Total Maryland		557		21,188		46,152				54,239	57,616		
Massachusetts	Barnstable County	575	2							4454	4,454	5980	Medium
	Berkshire County	143	2							4579	4,579	7500	High
	Bristol County	978	2							5056	5,056	5980	Medium
	Dukes County	148	2							241	241	5980	Medium
	Essex County	1,479	2			3248				8180	5,714	5980	Medium
	Franklin County	102	2							1918	1,918	6690	High
	Hampden County	744	2							8641	8,641	6690	High
	Hampshire County	289	2							6132	6,132	6690	High
	Middlesex County	1,782	2			5135				8726	6,930	6690	High
	Nantucket County	206	2							147	147	5980	Medium
	Norfolk County	1,634	2			2863				3374	3,119	5980	Medium
	Plymouth County	733	2			1510				5738	3,624	5980	Medium
	Suffolk County	11,814	1	818		2580				156	818	5980	Medium
	Worcester County	509	2							16195	16,195	6690	High
Total Massachusetts		818		818		15,336				73,539	67,570		
New Hampshire	Belknap County	148	2							859	859	7520	High
	Carroll County	49	2							1094	1,094	7520	High
	Cheshire County	106	2							1973	1,973	7520	High
	Coos County	19	2							723	723	8930	High
	Grafton County	48	2							2216	2,216	8930	High
	Hillsborough County	448	2							9761	9,761	7520	High
	Merrimack County	152	2							1941	1,941	7520	High
	Rockingham County	414	2			587				7628	4,107	7520	High
	Strafford County	315	2							2993	2,993	7520	High
	Sullivan County	77	2							1129	1,129	7520	High
Total New Hampshire		142				587				30,316	26,796		
New Jersey	Atlantic County	462	2							2169	2,169	5020	Low

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Bergen County	3,824	1	4,640		2380				752	4,640	5780	Medium
	Burlington County	544	2			1813				2704	2,259	5020	Low
	Camden County	2,307	1	2,123		2123				1301	2,123	5020	Low
	Cape May County	399	2							1415	1,415	5020	Low
	Cumberland County	303	2							1048	1,048	5020	Low
	Essex County	6,321	1	1,719		2024				508	1,719	5780	Medium
	Gloucester County	808	2			1062				1379	1,221	5020	Low
	Hudson County	12,971	1	1,241		1641				74	1,241	5780	Medium
	Hunterdon County	295	2			323				716	520	5780	Medium
	Mercer County	1,582	2			912				739	826	5020	Low
	Middlesex County	2,476	1	2,988		1940				1368	2,988	5020	Low
	Monmouth County	1,331	2			1628				1512	1,570	5020	Low
	Morris County	1,021	3			1228				2125	1,676	5780	Medium
	Ocean County	845	2			1498				3961	2,730	5020	Low
	Passaic County	2,687	1	1,156		1184				1044	1,156	5780	Medium
	Salem County	192	2							546	546	5020	Low
	Somerset County	1,010	3			802				764	783	5780	Medium
	Sussex County	286	2			373				2426	1,400	5780	Medium
	Union County	5,141	1	1,234		1341				629	1,234	5780	Medium
	Warren County	300	2							1181	1,181	5780	Medium
	Total New Jersey	1,156		15,102		22,272				28,362	34,445		
New York	Albany County	565	2							3504	3,504	6700	High
	Allegany County	49	2							960	960	7520	High
	Bronx County	32,354	1			2373	208			765	208	5220	Low
	Broome County	283	2							3524	3,524	7450	High
	Cattaraugus County	64	2							1568	1,568	7520	High
	Cayuga County	118	2							2035	2,035	7150	High
	Chautauqua County	130	2							3605	3,605	7020	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Chemung County	223	2							1957	1,957	7520	High
	Chenango County	58	2							1258	1,258	7450	High
	Clinton County	78	2							1141	1,141	7870	High
	Columbia County	99	2							755	755	6700	High
	Cortland County	97	2							737	737	7150	High
	Delaware County	33	2							1432	1,432	7450	High
	Dutchess County	359	2							3704	3,704	6700	High
	Erie County	901	1	4,287		4488				7441	4,287	7020	High
	Essex County	22	2							818	818	7870	High
	Franklin County	31	2							1299	1,299	8200	High
	Fulton County	111	2							809	809	8960	High
	Genesee County	121	2			246				825	536	7020	High
	Greene County	75	2							748	748	6700	High
	Hamilton County	3	2							210	210	8960	High
	Herkimer County	45	2							2191	2,191	7560	High
	Jefferson County	90	2							1533	1,533	7020	High
	Kings County	34,998	1			4773	393			1490	393	5220	Low
	Lewis County	21	2							1583	1,583	8960	High
	Livingston County	102	2			243				1695	969	7150	High
	Madison County	106	2							1959	1,959	7450	High
	Monroe County	1,116	1	3,135		3122				6131	3,135	7020	High
	Montgomery County	122	2							1324	1,324	7560	High
	Nassau County	4,667	1	6,176		2415				1550	6,176	5220	Low
	New York County	67,370	1			4004	341			1290	341	5220	Low
	Niagara County	417	2			1037				1630	1,334	7020	High
	Oneida County	193	2							4761	4,761	7560	High
	Onondaga County	588	2							5159	5,159	7150	High
	Ontario County	158	1	283		425				2048	283	7150	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Orange County	437	2			644				2669	1,656	6700	High
	Orleans County	112	2			166				986	576	7020	High
	Oswego County	129	2							3188	3,188	7020	High
	Otsego County	62	2							1400	1,400	7450	High
	Putnam County	425	2			169				1823	996	6700	High
	Queens County	20,569	1			4232	345			543	345	5220	Low
	Rensselaer County	233	2							4580	4,580	6700	High
	Richmond County	7,860	1			864	72			159	72	5220	Low
	Rockland County	1,675	2			506				683	595	6700	High
	St. Lawrence County	41	2							2354	2,354	8200	High
	Saratoga County	255	2							5513	5,513	6700	High
	Schenectady County	713	2							1703	1,703	6700	High
	Schoharie County	51	2							1762	1,762	7450	High
	Schuyler County	59	2							403	403	7150	High
	Seneca County	108	2							218	218	7150	High
	Steuben County	71	2							1548	1,548	7520	High
	Suffolk County	1,598	1	9,465		2588				6836	9,465	5220	Low
	Sullivan County	77	2							971	971	7450	High
	Tioga County	100	2							2063	2,063	7520	High
	Tompkins County	207	2							1195	1,195	7150	High
	Ulster County	160	2							1998	1,998	6700	High
	Warren County	74	2							2702	2,702	7870	High
	Washington County	74	2							3184	3,184	6700	High
	Wayne County	155	2			381				2263	1,322	7020	High
	Westchester County	2,166	1	2,225		1841				1899	2,225	6700	High
	Wyoming County	73	2							660	660	7020	High
	Yates County	73	2							426	426	7150	High
Total New York		406		25,571		34,517	1,359			127,171	119,356		

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
Pennsylvania	Adams County	182	2							1244	1,244	5550	Medium
	Allegheny County	1,735	1	9,544		9898				3818	9,544	6160	Medium
	Armstrong County	110	2							209	209	6160	Medium
	Beaver County	412	2			1337				1277	1,307	6160	Medium
	Bedford County	49	2							1496	1,496	6260	Medium
	Berks County	445	2							5316	5,316	5360	Low
	Blair County	243	2							2069	2,069	6260	Medium
	Bradford County	55	2							1363	1,363	7260	High
	Bucks County	1,002	2			2533				6803	4,668	5360	Low
	Butler County	226	2			1258				1587	1,423	6160	Medium
	Cambria County	219	2							1236	1,236	6260	Medium
	Cameron County	15	2							97	97	6720	High
	Carbon County	156	2							541	541	5990	Medium
	Centre County	125	2							4200	4,200	6720	High
	Chester County	595	2			1862				5311	3,586	5360	Low
	Clarion County	68	2							228	228	7020	High
	Clearfield County	73	2							389	389	6720	High
	Clinton County	42	2							584	584	6720	High
	Columbia County	133	2							1392	1,392	6090	Medium
	Crawford County	89	2							1532	1,532	7020	High
	Cumberland County	396	2							4936	4,936	5550	Medium
	Dauphin County	481	2							3334	3,334	5360	Low
	Delaware County	3,008	1	3,480		2355				978	3,480	5360	Low
	Elk County	42	2							247	247	6720	High
	Erie County	352	2							3944	3,944	7020	High
	Fayette County	186	2			1104				1645	1,374	6160	Medium
	Forest County	12	2							113	113	7020	High
	Franklin County	170	2							2430	2,430	5550	Medium



State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Fulton County	33	2							720	720	6260	Medium
	Greene County	70	2							261	261	6160	Medium
	Huntingdon County	52	2							1300	1,300	6090	Medium
	Indiana County	107	2							519	519	6260	Medium
	Jefferson County	70	2							264	264	6160	Medium
	Juniata County	58	2							855	855	6090	Medium
	Lackawanna County	460	2							1369	1,369	6950	High
	Lancaster County	504	2							10792	10,792	5360	Low
	Lawrence County	261	2							358	358	6160	Medium
	Lebanon County	336	2							1994	1,994	5360	Low
	Lehigh County	914	2							5356	5,356	5990	Medium
	Luzerne County	353	2							2597	2,597	6950	High
	Lycoming County	96	2							4749	4,749	6090	Medium
	McKean County	46	2							348	348	7020	High
	Mercer County	178	2							1841	1,841	7020	High
	Mifflin County	113	2							1385	1,385	6090	Medium
	Monroe County	246	2							1676	1,676	6950	High
	Montgomery County	1,583	1	2,777		3312				6921	2,777	5360	Low
	Montour County	139	2							172	172	6090	Medium
	Northampton County	732	2							3690	3,690	5990	Medium
	Northumberland County	203	2							491	491	6090	Medium
	Perry County	79	2							2220	2,220	6090	Medium
	Philadelphia County	11,013	1	2,057		6566				1198	2,057	5360	Low
	Pike County	92	2							1587	1,587	6950	High
	Potter County	17	2							341	341	7020	High
	Schuylkill County	191	2							438	438	5990	Medium
	Snyder County	115	2							718	718	6090	Medium
	Somerset County	74	2							1491	1,491	6260	Medium

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Sullivan County	15	2							226	226	7260	High
	Susquehanna County	51	2							1233	1,233	7260	High
	Tioga County	37	2							747	747	7260	High
	Union County	133	2							594	594	6090	Medium
	Venango County	84	2							638	638	7020	High
	Warren County	49	2							705	705	7020	High
	Washington County	238	2			1520				1963	1,742	6160	Medium
	Wayne County	66	2							941	941	6950	High
	Westmoreland County	360	1	2,666		2783				3446	2,666	6160	Medium
	Wyoming County	71	2							1058	1,058	7260	High
	York County	431	2							7885	7,885	5550	Medium
	<b>Total Pennsylvania</b>	<b>275</b>		<b>20,524</b>		<b>34,528</b>				<b>133,410</b>	<b>133,086</b>		
Rhode Island	Bristol County	2,086	2			213				907	560	5890	Medium
	Kent County	1,000	2			693				3277	1,985	5890	Medium
	Newport County	824	2							519	519	5890	Medium
	Providence County	1,536	2			2586				6352	4,469	5890	Medium
	Washington County	381	2			384				4071	2,228	5890	Medium
	<b>Total Rhode Island</b>	<b>1,023</b>				<b>3,876</b>				<b>15,127</b>	<b>9,761</b>		
District of Columbia	District of Columbia	9,256	1	3,824		6806				716	3,824	4250	Low
	<b>Total D.C.</b>	<b>9,256</b>		<b>3,824</b>		<b>6,806</b>				<b>716</b>	<b>3,824</b>		
Vermont	Addison County	47	2		1,151					1077	1,114	7840	High
	Bennington County	55	2		917					745	831	7840	High
	Caledonia County	46	2		1,023					1166	1,094	8720	High
	Chittenden County	276	2		2,122					4416	3,269	7840	High
	Essex County	10	2		239					247	243	8720	High
	Franklin County	73	2		904					1009	957	8720	High
	Grand Isle County	88	2		381					252	317	7840	High
	Lamoille County	52	2		793					702	747	8720	High

State	County	Population density	Selection scenario	Method 1	Method 2	Method 3	Method 4	Method 5	Method 6	Method 7	Total households using fireplaces w/o inserts for heating	HDD	Heating category
	Orange County	42	2		971					1295	1,133	8720	High
	Orleans County	38	2		1,172					1328	1,250	8720	High
	Rutland County	68	2		1,764					1427	1,596	7840	High
	Washington County	85	2		1,652					1880	1,766	8720	High
	Windham County	56	2		1,695					1906	1,801	7780	High
	Windsor County	60	2		1,852					1695	1,774	7780	High
	Total Vermont	67			16,637					19,145	17,891		

Total MANE-VU		14,988		87,027	54,818	173,880	1,359			563,400	565,509		
											Definition		
											147,968	< 5499	Low
											156,108	5500-6499	Medium
											261,433	> 6500	High

### **2.11. Summary of 2002 MARAMA Survey Results**

Table 11 is a summary of data collected from the MARAMA survey in 2002.

**Table 11**  
**Summary of 2002 MARAMA Survey Results**

**Section 1**

State	County	Estimated number of households 2002, U.S. Census Bureau	Households surveyed	Fraction of total households that were surveyed	Households that burn wood for heat	Households that have woodburning fireplace or masonry heater	Fraction of households surveyed that have woodburning fireplace or masonry heater	Total woodburning fireplaces or masonry heaters	Ratio of appliances to households that have woodburning fireplaces or masonry heaters	Households that have woodstove or insert	Fraction of households surveyed that have woodstove or insert	Total woodstoves or inserts	Ratio of appliances to households that have woodstoves or inserts
Connecticut	Fairfield County	343,486	11	0.0000320	2	2	0.182	3	1.50	0	0	0	
	Hartford County	356,233	17	0.0000477	4	4	0.235	6	1.50	2	0.118	2	1
	Litchfield County	80,602	11	0.0001365	4	2	0.182	2	1.00	2	0.182	3	1.5
	Middlesex County	68,935	6	0.0000870	3	3	0.5	9	3.00	1	0.167	1	1
	New Haven County	343,587	11	0.0000320	2	2	0.182	5	2.50	1	0.091	1	1
	New London County	112,094	9	0.0000803	4	4	0.444	6	1.50	0	0	0	
	Tolland County	52,993	2	0.0000377	0	0	0	0		0	0	0	
	Windham County	44,713	7	0.0001566	3	2	0.286	3	1.50	3	0.429	3	1
<b>Total Connecticut</b>		<b>1,402,643</b>	<b>74</b>	<b>0.0000528</b>	<b>22</b>	<b>19</b>	<b>0.257</b>	<b>34</b>	<b>1.79</b>	<b>9</b>	<b>0.122</b>	<b>10</b>	<b>1.111</b>
Delaware	Kent County	52,563	7	0.0001332	2	1	0.143	1	1.00	1	0.143	1	1
	New Castle County	203,226	11	0.0000541	0	0	0	0		0	0	0	
	Sussex County	96,242	16	0.0001662	2	1	0.063	1	1.00	1	0.063	1	1
<b>Total Delaware</b>		<b>352,031</b>	<b>34</b>	<b>0.0000966</b>	<b>4</b>	<b>2</b>	<b>0.059</b>	<b>2</b>	<b>1.00</b>	<b>2</b>	<b>0.059</b>	<b>2</b>	<b>1</b>
Maine	Androscoggin County	46,636	15	0.0003216	1	0	0	0		1	0.067	1	1
	Aroostook County	38,980	26	0.0006670	6	2	0.077	2	1.00	5	0.192	5	1
	Cumberland County	125,880	34	0.0002701	8	7	0.206	8	1.14	3	0.088	4	1.333
	Franklin County	19,347	0	0.0000000	0	0		0		0		0	
	Hancock County	34,711	13	0.0003745	3	0	0	0		3	0.231	3	1
	Kennebec County	57,273	11	0.0001921	3	1	0.091	1	1.00	2	0.182	2	1
	Knox County	22,098	14	0.0006335	7	4	0.286	6	1.50	6	0.429	6	1
	Lincoln County	21,227	12	0.0005653	5	1	0.083	1	1.00	4	0.333	4	1
	Oxford County	32,831	4	0.0001218	1	1	0.25	1	1.00	1	0.25	1	1
	Penobscot County	67,966	14	0.0002060	7	3	0.214	10	3.33	7	0.5	7	1
	Piscataquis County	13,828	2	0.0001446	0	0	0	0		0	0	0	
Sagadahoc County	16,827	14	0.0008320	6	2	0.143	6	3.00	6	0.429	9	1.5	
Somerset County	28,437	1	0.0000352	0	0	0	0		0	0	0		

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	Waldo County	19,460	1	0.0000514	0	0	0	0		0	0	0	
	Washington County	22,100	7	0.0003167	4	0	0	0		3	0.429	5	1.667
	York County	97,012	17	0.0001752	4	3	0.176	6	2.00	2	0.118	3	1.5
<b>Total Maine</b>		<b>664,613</b>	<b>185</b>	<b>0.0002784</b>	<b>55</b>	<b>24</b>	<b>0.130</b>	<b>41</b>	<b>1.71</b>	<b>43</b>	<b>0.232</b>	<b>50</b>	<b>1.163</b>
Maryland	Allegany County	32,660	1	0.0000306	0	0	0.000	0		0	0.000	0	
	Anne Arundel County	192,435	15	0.0000779	7	6	0.400	5	0.83	2	0.133	2	1
	Baltimore County	318,844	23	0.0000721	8	5	0.217	6	1.20	5	0.217	5	1
	Calvert County	29,430	7	0.0002379	3	3	0.429	5	1.67	1	0.143	1	1
	Caroline County	12,266	2	0.0001631	0	0	0.000	0		0	0.000	0	
	Carroll County	56,853	19	0.0003342	7	3	0.158	3	1.00	5	0.263	5	1
	Cecil County	36,074	17	0.0004713	7	6	0.353	9	1.50	2	0.118	2	1
	Charles County	46,612	6	0.0001287	1	1	0.167	0	0.00	1	0.167	1	1
	Dorchester County	14,740	2	0.0001357	0	0	0.000	0		0	0.000	0	
	Frederick County	77,911	16	0.0002054	6	3	0.188	6	2.00	4	0.250	4	1
	Garrett County	17,121	4	0.0002336	1	1	0.250	2	2.00	0	0.000	0	
	Harford County	86,697	14	0.0001615	4	4	0.286	11	2.75	2	0.143	3	1.5
	Howard County	96,635	8	0.0000828	4	3	0.375	3	1.00	2	0.250	2	1
	Kent County	10,014	2	0.0001997	1	0	0.000	0		1	0.500	1	1
	Montgomery County	345,102	8	0.0000232	7	7	0.875	9	1.29	3	0.375	4	1.33
	Prince George's County	308,929	5	0.0000162	2	2	0.400	3	1.50	0	0.000	0	
	Queen Anne's County	17,543	3	0.0001710	0	0	0.000	0		0	0.000	0	
	St. Mary's County	10,055	4	0.0003978	2	2	0.500	2	1.00	0	0.000	0	
	Somerset County	35,840	13	0.0003627	3	3	0.231	3	1.00	2	0.154	2	1
	Talbot County	17,076	3	0.0001757	1	1	0.333	1	1.00	0	0.000	0	
	Washington County	54,264	12	0.0002211	1	1	0.083	1	1.00	1	0.083	1	1
	Wicomico County	35,612	5	0.0001404	1	1	0.200	1	1.00	0	0.000	0	
	Worcester County	48,147	9	0.0001869	4	3	0.333	3	1.00	3	0.333	3	1
	Baltimore city	296,266	4	0.0000135	1	1	0.250	1	1.00	1	0.250	1	1

State	County	Estimated number of households 2002, U.S. Census Bureau	Households surveyed	Fraction of total households that were surveyed	Households that burn wood for heat	Households that have woodburning fireplace or masonry heater	Fraction of households surveyed that have woodburning fireplace or masonry heater	Total woodburning fireplaces or masonry heaters	Ratio of appliances to households that have woodburning fireplaces or masonry heaters	Households that have woodstove or insert	Fraction of households surveyed that have woodstove or insert	Total woodstoves or inserts	Ratio of appliances to households that have woodstoves or inserts
Total Maryland		2,197,126	202	0.0000919	70	56	0.277	74	1.32	35	0.173	37	1.057
Massachusetts	Barnstable County	150,163	5	0.0000333	3	3	0.6	4	1.33	0	0	0	
	Berkshire County	66,631	15	0.0002251	5	5	0.333	4	0.80	2	0.133	2	1
	Bristol County	219,484	6	0.0000273	1	0	0	0		0	0	0	
	Dukes County	15,198	3	0.0001974	1	0	0	0		1	0.333	1	1
	Essex County	290,086	12	0.0000414	5	3	0.25	3	1.00	2	0.167	2	1
	Franklin County	32,236	8	0.0002482	4	3	0.375	5	1.67	2	0.25	2	1
	Hampden County	186,897	4	0.0000214	2	2	0.5	4	2.00	0	0	0	
	Hampshire County	59,274	8	0.0001350	1	1	0.125	3	3.00	1	0.125	2	2
	Middlesex County	581,090	17	0.0000293	6	6	0.353	9	1.50	1	0.059	1	1
	Nantucket County	9,636	2	0.0002076	0	0	0	0		0	0	0	
	Norfolk County	257,917	4	0.0000155	2	1	0.25	1	1.00	1	0.25	1	1
	Plymouth County	184,764	8	0.0000433	3	2	0.25	3	1.50	1	0.125	1	1
	Suffolk County	292,465	8	0.0000274	0	0	0	0		0	0	0	
	Worcester County	303,188	27	0.0000891	9	8	0.296	10	1.25	3	0.111	3	1
Total Massachusetts		2,649,029	127	0.0000479	42	34	0.268	46	1.35	14	0.110	15	1.071
New Hampshire	Belknap County	33,024	12	0.0003634	3	1	0.083	3	3.00	3	0.25	3	1
	Carroll County	35,620	2	0.0000561	2	2	1	2	1.00	1	0.5	1	1
	Cheshire County	32,419	9	0.0002776	2	1	0.111	1	1.00	2	0.222	3	1.5
	Coos County	19,750	1	0.0000506	0	0	0	0		0	0	0	
	Grafton County	44,551	4	0.0000898	0	0	0	0		0	0	0	
	Hillsborough County	153,798	18	0.0001170	3	2	0.111	3	1.50	2	0.111	2	1
	Merrimack County	57,883	13	0.0002246	0	0	0	0		0	0	0	
	Rockingham County	116,640	15	0.0001286	6	4	0.267	7	1.75	2	0.133	2	1
	Strafford County	46,930	9	0.0001918	3	2	0.222	2	1.00	1	0.111	1	1
	Sullivan County	20,563	0	0.0000000	0	0		0		0		0	
Total New Hampshire		561,178	83	0.0001479	19	12	0.145	18	1.50	11	0.133	12	1.091
New Jersey	Atlantic County	117,445	14	0.0001192	5	2	0.143	2	1.00	3	0.214	4	1.333

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	Bergen County	344,102	3	0.0000087	0	0	0	0		0	0	0	
	Burlington County	166,648	12	0.0000720	5	2	0.167	3	1.50	3	0.25	3	1
	Camden County	200,934	3	0.0000149	2	1	0.333	1	1.00	1	0.333	1	1
	Cape May County	93,451	10	0.0001070	7	4	0.4	5	1.25	3	0.3	5	1.667
	Cumberland County	53,398	8	0.0001498	2	2	0.25	2	1.00	0	0	0	
	Essex County	303,119	4	0.0000132	1	1	0.25	2	2.00	0	0	0	
	Gloucester County	98,198	4	0.0000407	0	0	0	0		0	0	0	
	Hudson County	242,058	0	0.0000000	0	0		0		0		0	
	Hunterdon County	46,333	2	0.0000432	1	1	0.5	1	1.00	0	0	0	
	Mercer County	135,770	6	0.0000442	1	1	0.167	1	1.00	0	0	0	
	Middlesex County	278,121	5	0.0000180	1	1	0.2	1	1.00	1	0.2	1	1
	Monmouth County	247,294	3	0.0000121	2	2	0.667	2	1.00	1	0.333	2	2
	Morris County	178,869	5	0.0000280	2	2	0.4	2	1.00	0	0	0	
	Ocean County	258,946	10	0.0000386	0	0	0	0		0	0	0	
	Passaic County	170,648	2	0.0000117	0	0	0	0		0	0	0	
	Salem County	26,493	13	0.0004907	2	1	0.077	1	1.00	2	0.154	2	1
	Somerset County	116,012	3	0.0000259	2	2	0.667	2	1.00	0	0	0	
	Sussex County	58,070	3	0.0000517	1	0	0	0		1	0.333	1	1
	Union County	193,797	2	0.0000103	0	0	0	0		0	0	0	
	Warren County	42,866	3	0.0000700	0	0	0	0		0	0	0	
	<b>Total New Jersey</b>	<b>3,372,572</b>	<b>115</b>	<b>0.0000341</b>	<b>34</b>	<b>22</b>	<b>0.191</b>	<b>25</b>	<b>1.14</b>	<b>15</b>	<b>0.130</b>	<b>19</b>	<b>1.267</b>
New York	Albany County	131,344	30	0.0002284	9	8	0.267	9	1.13	3	0.1	3	1
	Allegany County	24,783	5	0.0002018	2	1	0.2	1	1.00	1	0.2	1	1
	Bronx County	493,139	9	0.0000183	1	0	0	0		1	0.111	1	1
	Broome County	89,033	15	0.0001685	0	0	0	0		0	0	0	
	Cattaraugus County	40,157	6	0.0001494	0	0	0	0		0	0	0	
	Cayuga County	35,754	7	0.0001958	1	0	0	0		1	0.143	1	1
	Chautauqua County	65,221	7	0.0001073	1	0	0	0		0	0	0	



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	Chemung County	38,050	5	0.0001314	2	1	0.2	1	1.00	1	0.2	1	1
	Chenango County	24,135	3	0.0001243	1	0	0	0		1	0.333	1	1
	Clinton County	33,714	6	0.0001780	2	2	0.333	2	1.00	2	0.333	2	1
	Columbia County	30,605	2	0.0000653	0	0	0	0		0	0	0	
	Cortland County	20,198	4	0.0001980	2	1	0.25	1	1.00	1	0.25	1	1
	Delaware County	29,209	4	0.0001369	1	1	0.25	1	1.00	0	0	0	
	Dutchess County	108,326	5	0.0000462	1	0	0	0		1	0.2	1	1
	Erie County	419,213	27	0.0000644	4	2	0.074	2	1.00	3	0.111	3	1
	Essex County	23,431	4	0.0001707	1	1	0.25	1	1.00	0	0	0	
	Franklin County	24,102	2	0.0000830	0	0	0	0		0	0	0	
	Fulton County	27,941	3	0.0001074	3	1	0.333	3	3.00	1	0.333	2	2
	Genesee County	24,347	12	0.0004929	2	2	0.167	3	1.50	0	0	0	
	Greene County	26,865	2	0.0000744	1	1	0.5	1	1.00	1	0.5	1	1
	Hamilton County	8,031	0	0.0000000									
	Herkimer County	32,217	2	0.0000621	1	0	0	0		1	0.5	2	2
	Jefferson County	54,398	25	0.0004596	5	3	0.12	3	1.00	2	0.08	2	1
	Kings County	932,467	22	0.0000236	2	1	0.045	1	1.00	1	0.045	2	2
	Lewis County	15,450	0	0.0000000	0	0		0		0		0	
	Livingston County	24,529	17	0.0006931	2	1	0.059	1	1.00	1	0.059	1	1
	Madison County	28,917	6	0.0002075	3	1	0.167	1	1.00	3	0.5	3	1
	Monroe County	308,063	9	0.0000292	3	1	0.111	1	1.00	2	0.222	3	1.5
	Montgomery County	22,562	1	0.0000443	0	0	0	0		0	0	0	
	Nassau County	459,862	5	0.0000109	1	0	0	0		0	0	0	
	New York County	806,150	24	0.0000298	5	5	0.208	8	1.60	0	0	0	
	Niagara County	96,601	26	0.0002691	7	7	0.269	9	1.29	4	0.154	4	1
	Oneida County	103,156	22	0.0002133	7	1	0.045	2	2.00	4	0.182	5	1.25
	Onondaga County	198,687	4	0.0000201	0	0	0	0		0	0	0	
	Ontario County	43,611	6	0.0001376	1	1	0.167	1	1.00	0	0	0	

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	Orange County	126,863	7	0.0000552	3	3	0.429	3	1.00	1	0.143	1	1
	Orleans County	17,445	6	0.0003439	2	0	0	0		1	0.167	1	1
	Oswego County	53,462	7	0.0001309	0	0	0	0		0	0	0	
	Otsego County	29,755	6	0.0002016	2	0	0	0		1	0.167	1	1
	Putnam County	35,734	1	0.0000280	1	1	1	2	2.00	0	0	0	
	Queens County	822,213	12	0.0000146	0	0	0	0		0	0	0	
	Rensselaer County	66,725	9	0.0001349	3	1	0.111	1	1.00	0	0	0	
	Richmond County	169,035	3	0.0000177	1	1	0.333	1	1.00	0	0	0	
	Rockland County	96,040	3	0.0000312	0	0	0	0		0	0	0	
	St. Lawrence County	89,334	9	0.0001007	1	1	0.111	1	1.00	0	0	0	
	Saratoga County	65,264	8	0.0001226	2	2	0.25	2	1.00	1	0.125	1	1
	Schenectady County	16,099	1	0.0000621	0	0	0	0		0	0	0	
	Schoharie County	9,284	4	0.0004308	2	2	0.5	6	3.00	0	0	0	
	Schuyler County	14,891	6	0.0004029	2	1	0.167	1	1.00	0	0	0	
	Seneca County	50,203	14	0.0002789	2	0	0	0		1	0.071	1	1
	Steuben County	46,744	9	0.0001925	2	1	0.111	1	1.00	0	0	0	
	Suffolk County	531,979	21	0.0000395	9	8	0.381	8	1.00	2	0.095	2	1
	Sullivan County	45,376	8	0.0001763	1	1	0.125	1	1.00	0	0	0	
	Tioga County	21,666	3	0.0001385	2	2	0.667	2	1.00	0	0	0	
	Tompkins County	39,564	41	0.0010363	10	5	0.122	5	1.00	5	0.122	5	1
	Ulster County	78,732	11	0.0001397	1	1	0.091	1	1.00	0	0	0	
	Warren County	35,468	6	0.0001692	3	3	0.5	4	1.33	0	0	0	
	Washington County	27,082	5	0.0001846	1	1	0.2	1	1.00	0	0	0	
	Wayne County	39,372	8	0.0002032	2	1	0.125	1	1.00	1	0.125	1	1
	Westchester County	352,657	8	0.0000227	4	2	0.25	3	1.50	1	0.125	1	1
	Wyoming County	17,074	4	0.0002343	0	0	0	0		0	0	0	
	Yates County	12,179	3	0.0002463	1	0	0	0		0	0	0	
Total New York		7,754,508	550	0.0000709	128	79	0.144	96	1.22	49	0.089	54	1.102

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Pennsylvania	Adams County	37,158	17	0.0004575	3	3	0.176	4	1.33	2	0.118	3	1.5
	Allegheny County	587,704	15	0.0000255	4	4	0.267	4	1.00	0	0	0	
	Armstrong County	32,729	2	0.0000611	0	0	0	0		0	0	0	
	Beaver County	78,643	12	0.0001526	6	4	0.333	5	1.25	2	0.167	2	1
	Bedford County	23,932	2	0.0000836	1	1	0.5	1	1.00	0	0	0	
	Berks County	153,984	12	0.0000779	3	3	0.25	3	1.00	1	0.083	1	1
	Blair County	55,460	13	0.0002344	3	3	0.231	4	1.33	0	0	0	
	Bradford County	29,055	2	0.0000688	1	1	0.5	1	1.00	0	0	0	
	Bucks County	230,876	6	0.0000260	3	2	0.333	3	1.50	1	0.167	1	1
	Butler County	72,445	0	0.0000000									
	Cambria County	66,077	6	0.0000908	0	0	0	0		0	0	0	
	Cameron County	4,612	0	0.0000000									
	Carbon County	30,878	0	0.0000000									
	Centre County	54,718	3	0.0000548	0	0	0	0		0	0	0	
	Chester County	170,150	39	0.0002292	24	23	0.590	27	1.17	3	0.077	3	1
	Clarion County	19,712	2	0.0001015	0	0	0	0		0	0	0	
	Clearfield County	38,305	1	0.0000261	0	0	0	0		0	0	0	
	Clinton County	18,491	2	0.0001082	0	0	0	0		0	0	0	
	Columbia County	28,220	1	0.0000354	0	0	0	0		0	0	0	
	Crawford County	42,969	3	0.0000698	1	0	0	0		1	0.333	1	1
Cumberland County	89,241	61	0.0006835	20	13	0.213	16	1.23	11	0.180	13	1.182	
Dauphin County	112,706	9	0.0000799	6	5	0.556	8	1.60	3	0.333	5	1.667	
Delaware County	219,262	6	0.0000274	1	1	0.167	1	1.00	0	0	0		
Elk County	18,273	3	0.0001642	1	0	0	0		0	0	0		
Erie County	115,747	7	0.0000605	0	0	0	0		0	0	0		
Fayette County	67,170	6	0.0000893	1	1	0.167	1	1.00	0	0	0		
Forest County	8,828	0	0.0000000										
Franklin County	55,370	20	0.0003612	5	3	0.15	3	1.00	2	0.1	2	1	

State	County	Estimated number of households 2002, U.S. Census Bureau	Households surveyed	Fraction of total households that were surveyed	Households that burn wood for heat	Households that have woodburning fireplace or masonry heater	Fraction of households surveyed that have woodburning fireplace or masonry heater	Total woodburning fireplaces or masonry heaters	Ratio of appliances to households that have woodburning fireplaces or masonry heaters	Households that have woodstove or insert	Fraction of households surveyed that have woodstove or insert	Total woodstoves or inserts	Ratio of appliances to households that have woodstoves or inserts
	Fulton County	6,944	1	0.0001440	0	0	0	0		0	0	0	
	Greene County	16,950	6	0.0003540	1	1	0.167	1	1.00	0	0	0	
	Huntingdon County	21,451	1	0.0000466	1	0	0	0		1	1	1	1
	Indiana County	37,926	0	0.0000000									
	Jefferson County	22,390	4	0.0001787	1	0	0	0		1	0.25	1	1
	Juniata County	10,173	0	0.0000000									
	Lackawanna County	95,942	3	0.0000313	0	0	0	0		0	0	0	
	Lancaster County	184,383	29	0.0001573	3	3	0.103	3	1.00	0	0	0	
	Lawrence County	40,142	4	0.0000996	1	1	0.25	1	1.00	0	0	0	
	Lebanon County	50,435	5	0.0000991	3	3	0.6	4	1.33	0	0	0	
	Lehigh County	131,759	3	0.0000228	1	0	0	0		1	0.333	1	1
	Luzerne County	145,452	4	0.0000275	0	0	0	0		0	0	0	
	Lycoming County	53,109	4	0.0000753	2	2	0.5	4	2.00	1	0.25	1	1
	McKean County	21,775	3	0.0001378	0	0	0	0		0	0	0	
	Mercer County	50,653	7	0.0001382	1	1		1	1.00	0	0	0	
	Mifflin County	20,995	1	0.0000476	0	0	0	0		0	0	0	
	Monroe County	70,844	3	0.0000423	0	0	0	0		0	0	0	
	Montgomery County	303,322	20	0.0000659	13	11	0.55	13	1.18	4	0.2	10	2.5
	Montour County	7,755	0	0.0000000									
	Northampton County	109,527	3	0.0000274	0	0	0	0		0	0	0	
	Northumberland County	43,374	1	0.0000231	0	0	0	0		0	0	0	
	Perry County	19,306	1	0.0000518	0	0	0	0		0	0	0	
	Philadelphia County	660,450	5	0.0000076	0	0	0	0		0	0	0	
	Pike County	35,737	0	0.0000000									
	Potter County	12,362	3	0.0002427	1	1	0.333	1	1.00	1	0.333	1	1
	Schuylkill County	68,231	2	0.0000293	1	0	0	0		0	0	0	
	Snyder County	15,169	1	0.0000659	0	0	0	0		0	0	0	
	Somerset County	37,689	8	0.0002123	0	0	0	0		0	0	0	

State	County	Estimated number of households 2002, U.S. Census Bureau	Households surveyed	Fraction of total households that were surveyed	Households that burn wood for heat	Households that have woodburning fireplace or masonry heater	Fraction of households surveyed that have woodburning fireplace or masonry heater	Total woodburning fireplaces or masonry heaters	Ratio of appliances to households that have woodburning fireplaces or masonry heaters	Households that have woodstove or insert	Fraction of households surveyed that have woodstove or insert	Total woodstoves or inserts	Ratio of appliances to households that have woodstoves or inserts
	Sullivan County	6,043	0	0.0000000									
	Susquehanna County	22,114	0	0.0000000									
	Tioga County	20,327	3	0.0001476	1	0	0	0		0	0	0	
	Union County	14,914	1	0.0000671	0	0	0	0		0	0	0	
	Venango County	27,155	0	0.0000000									
	Warren County	23,243	5	0.0002151	1	0	0	0		1	0.2	1	1
	Washington County	89,074	16	0.0001796	4	1	0.0625	1	1.00	3	0.188	4	1.333
	Wayne County	31,080	0	0.0000000									
	Westmoreland County	163,190	4	0.0000245	2	2	0.5	2	1.00	0	0	0	
	Wyoming County	12,951	0	0.0000000									
	York County	161,200	49	0.0003040	10	5	0.102	8	1.60	5	0.102	5	1
	<b>Total Pennsylvania</b>	<b>5,328,251</b>	<b>450</b>	<b>0.0000845</b>	<b>130</b>	<b>98</b>	<b>0.218</b>	<b>120</b>	<b>1.22</b>	<b>44</b>	<b>0.098</b>	<b>56</b>	<b>1.273</b>
Rhode Island	Bristol County	19,995	1	0.0000500		0	0	0		0	0	0	
	Kent County	71,254	3	0.0000421	1	1	0.333	1	1.00	1	0.333	1	1
	Newport County	40,058	3	0.0000749	2	2	0.667	3	1.50	1	0.333	1	1
	Providence County	254,238	10	0.0000393	1	0	0	0		1	0.1	1	1
	Washington County	58,216	7	0.0001202	4	3	0.429	4	1.33	1	0.143	1	1
	<b>Total Rhode Island</b>	<b>443,761</b>	<b>24</b>	<b>0.0000541</b>	<b>8</b>	<b>6</b>	<b>0.25</b>	<b>8</b>	<b>1.33</b>	<b>4</b>	<b>0.167</b>	<b>4</b>	<b>1</b>
District of Columbia	District of Columbia	272,636	4	0.0000147	2	2	0.5	3	1.50	0	0	0	
	<b>Total D.C.</b>	<b>272,636</b>	<b>4</b>	<b>0.0000147</b>	<b>2</b>	<b>2</b>	<b>0.5</b>	<b>3</b>	<b>1.50</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Vermont	Addison County	15,688	1	0.0000637	0	0	0	0		0	0	0	
	Bennington County	19,783	4	0.0002022	0	0	0	0		0	0	0	
	Caledonia County	14,755	1	0.0000678	0	0	0	0		0	0	0	
	Chittenden County	60,369	10	0.0001656	2	0	0	0		2	0.2	2	1
	Essex County	4,787	0	0.0000000									
	Franklin County	19,659	3	0.0001526	2	2	0.667	5	2.50	0	0	0	
	Grand Isle County	4,745	7	0.0014752	1	1	0.143	2	2.00	1	0.143	2	2
	Lamoille County	11,337	2	0.0001764	0	0	0	0		0	0	0	

State	County	Estimated number of households 2002, U.S. Census Bureau	Households surveyed	Fraction of total households that were surveyed	Households that burn wood for heat	Households that have woodburning fireplace or masonry heater	Fraction of households surveyed that have woodburning fireplace or masonry heater	Total woodburning fireplaces or masonry heaters	Ratio of appliances to households that have woodburning fireplaces or masonry heaters	Households that have woodstove or insert	Fraction of households surveyed that have woodstove or insert	Total woodstoves or inserts	Ratio of appliances to households that have woodstoves or inserts
	Orange County	13,510	3	0.0002221	2	0	0	0		2	0.667	2	1
	Orleans County	14,825	3	0.0002024	3	1	0.333	1	1.00	3	1	3	1
	Rutland County	32,482	6	0.0001847	0	0	0	0		0	0	0	
	Washington County	28,070	7	0.0002494	2	0	0	0		2	0.286	3	1.5
	Windham County	27,433	3	0.0001094	0	0	0	0		0	0	0	
	Windsor County	32,127	7	0.0002179	1	0	0	0		1	0.143	1	1
	Total Vermont	299,570	57	0.0001903	13	4	0.070	8	2.00	11	0.193	13	1.182
	MANE-VU Total	25,297,918	1905	0.0000753	527	358	0.188	475	1.33	237	0.124	272	1.148

**Table 11**  
**Summary of 2002 MARAMA Survey Results**

**Section 2**

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
Connecticut	Fairfield County	0	0	0		0	0	0		0	0	0	
	Hartford County	0	0	0	0	0	0	0		0	0	0	
	Litchfield County	0	0	0	0	1	0.091	1	1	0	0	0	
	Middlesex County	0	0	0	0	1	0.167	1	1	0	0	0	
	New Haven County	0	0	0	0	0	0	0		0	0	0	
	New London County	0	0	0		0	0	0		0	0	0	
	Tolland County	0	0	0		0	0	0		0	0	0	
	Windham County	0	0	0	0	0	0	0		0	0	0	
	<b>Total Connecticut</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0.027</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Delaware	Kent County	0	0	0		0	0	0		0	0	0	
	New Castle County	0	0	0		0	0	0		0	0	0	
	Sussex County	1	0.063	1		0	0	0		0	0	0	
<b>Total Delaware</b>	<b>1</b>	<b>0.029</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
Maine	Androscoggin County	0	0	0		1	0.067	1	1	0	0	0	
	Aroostook County	0	0	0		0	0	0		0	0	0	
	Cumberland County	0	0	0		0	0	0		0	0	0	
	Franklin County	0		0		0		0		0		0	
	Hancock County	0	0	0		0	0	0		0	0	0	
	Kennebec County	0	0	0		0	0	0		0	0	0	
	Knox County	0	0	0		0	0	0		0	0	0	
	Lincoln County	1	0.083	1	1	0	0	0		0	0	0	
	Oxford County	0	0	0		0	0	0		0	0	0	
	Penobscot County	0	0	0		0	0	0		0	0	0	
	Piscataquis County	0	0	0		0	0	0		0	0	0	
Sagadahoc County	0	0	0		0	0	0		0	0	0		
Somerset County	0	0	0		0	0	0		0	0	0		

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Waldo County	0	0	0		0	0	0		0	0	0	
	Washington County	0	0	0		1	0.143	2	2	0	0	0	
	York County	0	0	0		1	0.059	1	1	0	0	0	
	<b>Total Maine</b>	<b>1</b>	<b>0.005</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0.016</b>	<b>4</b>	<b>1.333</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Maryland	Allegany County	0	0	0		0	0	0		0	0	0	
	Anne Arundel County	1	0.067	1	1	0	0	0		0	0	0	
	Baltimore County	1	0.043	1	1	0	0	0		0	0	0	
	Calvert County	0	0	0		0	0	0		0	0	0	
	Caroline County	0	0	0		0	0	0		0	0	0	
	Carroll County	0	0	0		0	0	0		0	0	0	
	Cecil County	0	0	0		0	0	0		0	0	0	
	Charles County	0	0	0		0	0	0		0	0	0	
	Dorchester County	0	0	0		0	0	0		0	0	0	
	Frederick County	0	0	0		1	0.0625	1	1	0	0	0	
	Garrett County	0	0	0		0	0	0		0	0	0	
	Harford County	0	0	0		0	0	0		0	0	0	
	Howard County	0	0	0		0	0	0		0	0	0	
	Kent County	0	0	0		0	0	0		0	0	0	
	Montgomery County	0	0	0		0	0	0		0	0	0	
	Prince George's County	0	0	0		0	0	0		0	0	0	
	Queen Anne's County	0	0	0		0	0	0		0	0	0	
	St. Mary's County	0	0	0		0	0	0		0	0	0	
	Somerset County	0	0	0		0	0	0		0	0	0	
	Talbot County	0	0	0		0	0	0		0	0	0	
	Washington County	0	0	0		0	0	0		0	0	0	
	Wicomico County	0	0	0		0	0	0		0	0	0	
	Worcester County	0	0	0		0	0	0		0	0	0	
	Baltimore city	0	0	0		0	0	0		0	0	0	



State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
Total Maryland		2	0.010	2	1	1	0.00495	1	1	0	0	0	
Massachusetts	Barnstable County	0	0	0		0	0	0		0	0	0	
	Berkshire County	0	0	0		1	0.067	1	1	0	0	0	
	Bristol County	0	0	0		1	0.167	1	1	0	0	0	
	Dukes County	0	0	0		0	0	0		0	0	0	
	Essex County	0	0	0		0	0	0		0	0	0	
	Franklin County	0	0	0		1	0.125	1	1	0	0	0	
	Hampden County	0	0	0		0	0	0		1	0.25	1	1
	Hampshire County	0	0	0		0	0	0		0	0	0	
	Middlesex County	0	0	0		0	0	0		0	0	0	
	Nantucket County	0	0	0		0	0	0		0	0	0	
	Norfolk County	0	0	0		0	0	0		0	0	0	
	Plymouth County	0	0	0		0	0	0		0	0	0	
	Suffolk County	0	0	0		0	0	0		0	0	0	
		Worcester County	1	0.037	1	1	1	0.037	1	1	0	0	0
Total Massachusetts		1	0.008	1	1	4	0.031	4	1	1	0.008	1	1
New Hampshire	Belknap County	0	0	0		0	0	0		1	0.083	1	1
	Carroll County	0	0	0		0	0	0		0	0	0	
	Cheshire County	0	0	0		0	0	0		0	0	0	
	Coos County	0	0	0		0	0	0		0	0	0	
	Grafton County	0	0	0		0	0	0		0	0	0	
	Hillsborough County	0	0	0		0	0	0		0	0	0	
	Merrimack County	0	0	0		0	0	0		0	0	0	
	Rockingham County	0	0	0		0	0	0		0	0	0	
	Strafford County	0	0	0		0	0	0		0	0	0	
		Sullivan County	0	0	0		0	0	0		0	0	0
Total New Hampshire		0	0	0		0	0	0		1	0.012	1	1
New Jersey	Atlantic County	0	0	0		0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Bergen County	0	0	0		0	0	0		0	0	0	
	Burlington County	0	0	0		0	0	0		0	0	0	
	Camden County	0	0	0		0	0	0		0	0	0	
	Cape May County	1	0.1	1	1	0	0	0		0	0	0	
	Cumberland County	0	0	0		0	0	0		0	0	0	
	Essex County	0	0	0		0	0	0		0	0	0	
	Gloucester County	0	0	0		0	0	0		0	0	0	
	Hudson County	0		0		0		0		0		0	
	Hunterdon County	0	0	0		0	0	0		0	0	0	
	Mercer County	0	0	0		0	0	0		0	0	0	
	Middlesex County	0	0	0		0	0	0		0	0	0	
	Monmouth County	0	0	0		0	0	0		0	0	0	
	Morris County	0	0	0		0	0	0		0	0	0	
	Ocean County	0	0	0		0	0	0		0	0	0	
	Passaic County	0	0	0		0	0	0		0	0	0	
	Salem County	0	0	0		0	0	0		0	0	0	
	Somerset County	0	0	0		0	0	0		0	0	0	
	Sussex County	0	0	0		0	0	0		0	0	0	
	Union County	0	0	0		0	0	0		0	0	0	
	Warren County	0	0	0		0	0	0		0	0	0	
	Total New Jersey	1	0.009	1	1	0	0	0		0	0	0	
New York	Albany County	0	0	0		0	0	0		0	0	0	
	Allegany County	1	0.2	1	1	0	0	0		0	0	0	
	Bronx County	0	0	0		1	0.111	1	1	0	0	0	
	Broome County	0	0	0		0	0	0		0	0	0	
	Cattaraugus County	0	0	0		0	0	0		0	0	0	
	Cayuga County	0	0	0		0	0	0		0	0	0	
	Chautauqua County	1	0.143	1	1	0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Chemung County	0	0	0		0	0	0		0	0	0	
	Chenango County	0	0	0		1	0.333	1	1	0	0	0	
	Clinton County	0	0	0		0	0	0		0	0	0	
	Columbia County	0	0	0		0	0	0		0	0	0	
	Cortland County	0	0	0		0	0	0		0	0	0	
	Delaware County	0	0	0		0	0	0		0	0	0	
	Dutchess County	0	0	0		0	0	0		0	0	0	
	Erie County	0	0	0		0	0	0		0	0	0	
	Essex County	0	0	0		0	0	0		0	0	0	
	Franklin County	0	0	0		0	0	0		0	0	0	
	Fulton County	0	0	0		2	0.667	2	1	0	0	0	
	Genesee County	0	0	0		0	0	0		0	0	0	
	Greene County	0	0	0		0	0	0		0	0	0	
	Hamilton County												
	Herkimer County	0	0	0		1	0.5	1	1	0	0	0	
	Jefferson County	0	0	0		1	0.04	1	1	0	0	0	
	Kings County	0	0	0		0	0	0		0	0	0	
	Lewis County	0	0	0		0	0	0		0	0	0	
	Livingston County	0	0	0		1	0.059	1	1	0	0	0	
	Madison County	0	0	0		0	0	0		0	0	0	
	Monroe County	0	0	0		0	0	0		0	0	0	
	Montgomery County	0	0	0		0	0	0		0	0	0	
	Nassau County	1	0.2	1	1	0	0	0		0	0	0	
	New York County	0	0	0		0	0	0		0	0	0	
	Niagara County	1	0.038	1	1	0	0	0		0	0	0	
	Oneida County	2	0.091	2	1	2	0.091	2	1	0	0	0	
	Onondaga County	0	0	0		0	0	0		0	0	0	
	Ontario County	0	0	0		0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Orange County	0	0	0		0	0	0		0	0	0	
	Orleans County	1	0.167	1	1	0	0	0		0	0	0	
	Oswego County	0	0	0		0	0	0		0	0	0	
	Otsego County	0	0	0		0	0	0		1	0.167	1	1
	Putnam County	0	0	0		0	0	0		0	0	0	
	Queens County	0	0	0		0	0	0		0	0	0	
	Rensselaer County	1	0.111	2	2	1	0.111	1	1	0	0	0	
	Richmond County	0	0	0		0	0	0		0	0	0	
	Rockland County	0	0	0		0	0	0		0	0	0	
	St. Lawrence County	0	0	0		0	0	0		0	0	0	
	Saratoga County	0	0	0		0	0	0		0	0	0	
	Schenectady County	0	0	0		0	0	0		0	0	0	
	Schoharie County	0	0	0		0	0	0		0	0	0	
	Schuyler County	1	0.167	1	1	0	0	0		0	0	0	
	Seneca County	0	0	0		1	0.071	1	1	0	0	0	
	Steuben County	0	0	0		1	0.111	1	1	0	0	0	
	Suffolk County	0	0	0		0	0	0		0	0	0	
	Sullivan County	0	0	0		0	0	0		0	0	0	
	Tioga County	0	0	0		0	0	0		0	0	0	
	Tompkins County	0	0	0		2	0.049	2	1	1	0.024	1	1
	Ulster County	0	0	0		0	0	0		0	0	0	
	Warren County	0	0	0		1	0.167	1	1	0	0	0	
	Washington County	0	0	0		0	0	0		0	0	0	
	Wayne County	0	0	0		0	0	0		0	0	0	
	Westchester County	1	0.125	4	4	0	0	0		0	0	0	
	Wyoming County	0	0	0		0	0	0		0	0	0	
	Yates County	0	0	0		1	0.333	1	1	0	0	0	
Total New York		10	0.018	14	1.4	16	0.029	16	1	2	0.004	2	1

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
Pennsylvania	Adams County	0	0	0		0	0	0		0	0	0	
	Allegheny County	0	0	0		0	0	0		0	0	0	
	Armstrong County	0	0	0		0	0	0		0	0	0	
	Beaver County	0	0	0		0	0	0		0	0	0	
	Bedford County	0	0	0		0	0	0		0	0	0	
	Berks County	0	0	0		0	0	0		0	0	0	
	Blair County	0	0	0		0	0	0		0	0	0	
	Bradford County	0	0	0		0	0	0		0	0	0	
	Bucks County	1	0.167	1	1	0	0	0		0	0	0	
	Butler County												
	Cambria County	0	0	0		0	0	0		0	0	0	
	Cameron County												
	Carbon County												
	Centre County	0	0	0		0	0	0		0	0	0	
	Chester County	0	0	0		0	0	0		0	0	0	
	Clarion County	0	0	0		0	0	0		0	0	0	
	Clearfield County	0	0	0		0	0	0		0	0	0	
	Clinton County	0	0	0		0	0	0		0	0	0	
	Columbia County	0	0	0		0	0	0		0	0	0	
	Crawford County	0	0	0		0	0	0		0	0	0	
	Cumberland County	0	0	0		2	0.033	2	1	1	0.016	1	1
	Dauphin County	0	0	0		1	0.111	1	1	0	0	0	
	Delaware County	0	0	0		0	0	0		0	0	0	
	Elk County	0	0	0		1	0.333	1	1	0	0	0	
	Erie County	0	0	0		0	0	0		0	0	0	
	Fayette County	0	0	0		1	0.167	1	1	0	0	0	
	Forest County												
	Franklin County	0	0	0		0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Fulton County	0	0	0		0	0	0		0	0	0	
	Greene County	0	0	0		0	0	0		0	0	0	
	Huntingdon County	0	0	0		0	0	0		0	0	0	
	Indiana County												
	Jefferson County	0	0	0		0	0	0		0	0	0	
	Juniata County												
	Lackawanna County	0	0	0		0	0	0		0	0	0	
	Lancaster County	0	0	0		0	0	0		0	0	0	
	Lawrence County	0	0	0		0	0	0		0	0	0	
	Lebanon County	0	0	0		1	0.2	1	1	0	0	0	
	Lehigh County	0	0	0		0	0	0		0	0	0	
	Luzerne County	0	0	0		0	0	0		0	0	0	
	Lycoming County	0	0	0		0	0	0		0	0	0	
	McKean County	0	0	0		0	0	0		0	0	0	
	Mercer County	0	0	0		0	0	0		0	0	0	
	Mifflin County	0	0	0		0	0	0		0	0	0	
	Monroe County	0	0	0		0	0	0		0	0	0	
	Montgomery County	1	0.05	1	1	1	0.05	1	1	0	0	0	
	Montour County												
	Northampton County	0	0	0		0	0	0		0	0	0	
	Northumberland County	0	0	0		0	0	0		0	0	0	
	Perry County	0	0	0		0	0	0		0	0	0	
	Philadelphia County	0	0	0		0	0	0		0	0	0	
	Pike County												
	Potter County	0	0	0		0	0	0		0	0	0	
	Schuylkill County	0	0	0		1	0.5	1	1	0	0	0	
	Snyder County	0	0	0		0	0	0		0	0	0	
	Somerset County	0	0	0		0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Sullivan County												
	Susquehanna County												
	Tioga County	0	0	0		1	0.333	1	1	0	0	0	
	Union County	0	0	0		0	0	0		0	0	0	
	Venango County												
	Warren County	1	0.2	1	1	0	0	0		0	0	0	
	Washington County	0	0	0		0	0	0		0	0	0	
	Wayne County												
	Westmoreland County	0	0	0		0	0	0		0	0	0	
	Wyoming County												
	York County	0	0	0		2	0.041	2	1	2	0.041	2	1
	<b>Total Pennsylvania</b>	<b>3</b>	<b>0.007</b>	<b>3</b>	<b>1</b>	<b>11</b>	<b>0.024</b>	<b>11</b>	<b>1</b>	<b>3</b>	<b>0.007</b>	<b>3</b>	<b>1</b>
Rhode Island	Bristol County	0	0	0		0	0	0		0	0	0	
	Kent County	0	0	0		0	0	0		0	0	0	
	Newport County	0	0	0		1	0.333	1	1	0	0	0	
	Providence County	0	0	0		0	0	0		0	0	0	
	Washington County	0	0	0		0	0	0		0	0	0	
	<b>Total Rhode Island</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>1</b>	<b>0.042</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	
District of Columbia	District of Columbia	0	0	0		0	0	0		0	0	0	
	<b>Total D.C.</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	
Vermont	Addison County	0	0	0		0	0	0		0	0	0	
	Bennington County	0	0	0		0	0	0		0	0	0	
	Caledonia County	0	0	0		0	0	0		0	0	0	
	Chittenden County	0	0	0		0	0	0		0	0	0	
	Essex County												
	Franklin County	0	0	0		1	0.333	1	1	0	0	0	
	Grand Isle County	0	0	0		0	0	0		0	0	0	
	Lamoille County	0	0	0		0	0	0		0	0	0	

State	County	Households that have a pellet stove	Fraction of households surveyed that have a pellet stove	Total pellet units	Ratio of appliances to households that have pellet units	Households that have wood-fired furnace or boiler	Fraction of households surveyed that have wood-fired furnace or boiler	Total wood-fired furnace or boiler	Ratio of appliances to households that have wood-fired furnace or boiler	Households that have other indoor wood burning appliance	Fraction households surveyed that have other indoor wood burning appliance	Total other indoor wood burning appliance	Ratio of appliances to households that have other indoor wood burning appliance
	Orange County	0	0	0		0	0	0		0	0	0	
	Orleans County	0	0	0		1	0.333	1	1	0	0	0	
	Rutland County	0	0	0		0	0	0		0	0	0	
	Washington County	0	0	0		0	0	0		0	0	0	
	Windham County	0	0	0		0	0	0		0	0	0	
	Windsor County	0	0	0		0	0	0		0	0	0	
	Total Vermont	0	0	0		2	0.035	2	1	0	0	0	
MANE-VU Total		19	0.010	23	1.211	40	0.021	41	1.025	7	0.004	7	1



## 2.12. Total Number of Wood Heaters and Fireplaces without Inserts Used for Heat

Table 12 shows the data used to calculate the total wood heaters and fireplaces without inserts used for heat.

The number of fireplaces without inserts is found by:

Total households using fireplaces without inserts for heating X FPw/oI multiple ownership factor (1.33)<sup>31</sup>

The total number of wood heaters (wood stoves + fireplaces with inserts) is found by:

Total households using wood heaters for heating X WH multiple ownership factor (1.14768)<sup>31</sup>

The number of wood heaters was then split into three categories: Non-EPA Certified Conventional, EPA-Certified Catalytic, and EPA-Certified Non-Catalytic by:

Conv. = number of WH X 0.7411<sup>32</sup>

Cat. = number of WH X 0.0762<sup>32</sup>

Non-Cat. = number of WH X 0.1826<sup>32</sup>

HDD and Heating Category information taken from section 2.9 .

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<sup>31</sup> MARAMA Survey results, 2002

<sup>32</sup> Emissions Inventory Oriented Residential Wood Combustion Survey, 2005, In Proceedings of: 14<sup>th</sup> International Emission Inventory Conference, “Transforming Emission Inventories – Meeting Future Challenges Today”, Las Vegas, NV, April 11 – 14, 2005, Chun Yi Wu, Ronald Piva, David Broderick, James E. Houck, and John Crouch

**Table 12  
Total Wood Heaters and Fireplaces without Inserts Used for Heating**

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
Connecticut	Fairfield County	12,983	14,900	11,042	1,135	2,721	5,972	7,943	5750	Medium
	Hartford County	22,513	25,838	19,148	1,969	4,718	8,160	10,853	6250	Medium
	Litchfield County	6,847	7,858	5,824	599	1,435	1,930	2,567	6750	High
	Middlesex County	5,156	5,918	4,386	451	1,081	2,247	2,989	5750	Medium
	New Haven County	15,687	18,003	13,342	1,372	3,287	10,945	14,557	5750	Medium
	New London County	7,345	8,430	6,247	642	1,539	5,537	7,364	5750	Medium
	Tolland County	5,677	6,515	4,829	496	1,190	2,466	3,280	6750	High
	Windham County	5,793	6,649	4,927	507	1,214	3,825	5,087	6750	High
<b>Total Connecticut</b>		<b>82,001</b>	<b>94,111</b>	<b>69,746</b>	<b>7,171</b>	<b>17,185</b>	<b>41,082</b>	<b>54,639</b>		
Delaware	Kent County	4,414	5,066	3,754	386	925	3,561	4,736	4490	Low
	New Castle County	8,846	10,152	7,524	774	1,854	14,704	19,556	4900	Low
	Sussex County	5,734	6,580	4,877	501	1,202	3,061	4,071	4490	Low
<b>Total Delaware</b>		<b>18,993</b>	<b>21,798</b>	<b>16,155</b>	<b>1,661</b>	<b>3,980</b>	<b>21,325</b>	<b>28,362</b>		
Maine	Androscoggin County	7,064	8,107	6,008	618	1,480	3,910	5,201	8200	High
	Aroostook County	5,987	6,871	5,092	524	1,255	2,036	2,707	9670	High
	Cumberland County	11,316	12,988	9,625	990	2,372	6,687	8,893	8200	High
	Franklin County	3,159	3,626	2,687	276	662	1,267	1,685	9670	High
	Hancock County	5,269	6,047	4,481	461	1,104	1,347	1,792	7800	High
	Kennebec County	8,444	9,691	7,182	738	1,770	2,505	3,332	8200	High
	Knox County	3,825	4,390	3,253	335	802	965	1,284	7600	High
	Lincoln County	3,334	3,826	2,836	292	699	797	1,061	7600	High
	Oxford County	5,385	6,181	4,580	471	1,129	1,949	2,592	8200	High
	Penobscot County	9,641	11,065	8,200	843	2,021	2,947	3,919	8900	High
	Piscataquis County	1,868	2,144	1,589	163	392	746	993	9670	High
	Sagadahoc County	3,168	3,636	2,695	277	664	761	1,013	7600	High
	Somerset County	4,797	5,505	4,080	420	1,005	1,884	2,506	9670	High
	Waldo County	4,424	5,078	3,763	387	927	1,498	1,993	8200	High

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Washington County	2,758	3,165	2,346	241	578	884	1,175	7800	High
	York County	9,161	10,514	7,792	801	1,920	2,575	3,424	7600	High
	<b>Total Maine</b>	<b>89,602</b>	<b>102,834</b>	<b>76,210</b>	<b>7,836</b>	<b>18,777</b>	<b>32,759</b>	<b>43,569</b>		
Maryland	Allegany County	4,988	5,724	4,242	436	1,045	2,932	3,899	5600	Medium
	Anne Arundel County	23,043	26,446	19,599	2,015	4,829	7,261	9,657	4603	Low
	Baltimore County	23,614	27,101	20,085	2,065	4,949	4,262	5,668	5031	Low
	Calvert County	3,513	4,032	2,988	307	736	1,548	2,059	4500	Low
	Caroline County	1,446	1,659	1,230	126	303	372	495	4300	Low
	Carroll County	6,230	7,150	5,299	545	1,306	2,839	3,776	5031	Low
	Cecil County	3,412	3,916	2,902	298	715	1,388	1,846	5031	Low
	Charles County	3,924	4,503	3,337	343	822	1,815	2,414	4470	Low
	Dorchester County	931	1,068	791	81	195	124	165	4300	Low
	Frederick County	7,760	8,906	6,600	679	1,626	4,127	5,489	5031	Low
	Garrett County	2,961	3,398	2,518	259	620	1,008	1,340	6570	High
	Harford County	6,791	7,794	5,776	594	1,423	2,674	3,556	5031	Low
	Howard County	5,345	6,134	4,546	467	1,120	1,766	2,349	5031	Low
	Kent County	785	901	668	69	165	164	218	4712	Low
	Montgomery County	17,293	19,846	14,708	1,512	3,624	5,980	7,953	5031	Low
	Prince George's County	28,327	32,510	24,093	2,477	5,936	8,874	11,803	4603	Low
	Queen Anne's County	1,828	2,098	1,555	160	383	662	880	4712	Low
	St. Mary's County	9,541	10,950	8,115	834	1,999	2,786	3,705	4473	Low
	Somerset County	940	1,079	799	82	197	219	291	4239	Low
	Talbot County	1,331	1,527	1,132	116	279	256	340	4325	Low
	Washington County	6,513	7,475	5,540	570	1,365	4,755	6,324	5588	Medium
	Wicomico County	3,023	3,469	2,571	264	633	630	838	4239	Low
	Worcester County	1,878	2,156	1,598	164	394	385	511	4239	Low
	Baltimore city	1,150	1,320	978	101	241	791	1,052	5031	Low
	<b>Total Maryland</b>	<b>166,564</b>	<b>191,162</b>	<b>141,670</b>	<b>14,567</b>	<b>34,906</b>	<b>57,616</b>	<b>76,629</b>		
Massachusetts	Barnstable County	7,478	8,582	6,360	654	1,567	4,454	5,924	5980	Medium

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Berkshire County	7,075	8,119	6,017	619	1,483	4,579	6,091	7500	High
	Bristol County	10,429	11,969	8,871	912	2,186	5,056	6,724	5980	Medium
	Dukes County	922	1,058	784	81	193	241	321	5980	Medium
	Essex County	14,820	17,008	12,605	1,296	3,106	5,714	7,600	5980	Medium
	Franklin County	5,675	6,513	4,827	496	1,189	1,918	2,551	6690	High
	Hampden County	11,767	13,505	10,009	1,029	2,466	8,641	11,493	6690	High
	Hampshire County	8,021	9,205	6,822	701	1,681	6,132	8,156	6690	High
	Middlesex County	20,781	23,850	17,675	1,817	4,355	6,930	9,217	6690	High
	Nantucket County	479	550	407	42	100	147	195	5980	Medium
	Norfolk County	11,190	12,842	9,517	979	2,345	3,119	4,148	5980	Medium
	Plymouth County	8,782	10,079	7,470	768	1,840	3,624	4,820	5980	Medium
	Suffolk County	660	757	561	58	138	818	1,089	5980	Medium
	Worcester County	21,644	24,840	18,409	1,893	4,536	16,195	21,540	6690	High
	<b>Total Massachusetts</b>	<b>129,723</b>	<b>148,880</b>	<b>110,335</b>	<b>11,345</b>	<b>27,185</b>	<b>67,570</b>	<b>89,868</b>		
New Hampshire	Belknap County	3,110	3,569	2,645	272	652	859	1,142	7520	High
	Carroll County	3,660	4,200	3,113	320	767	1,094	1,455	7520	High
	Cheshire County	5,682	6,521	4,833	497	1,191	1,973	2,624	7520	High
	Coos County	2,195	2,520	1,867	192	460	723	961	8930	High
	Grafton County	6,509	7,470	5,536	569	1,364	2,216	2,947	8930	High
	Hillsborough County	13,714	15,740	11,665	1,199	2,874	9,761	12,982	7520	High
	Merrimack County	6,770	7,769	5,758	592	1,419	1,941	2,582	7520	High
	Rockingham County	10,012	11,490	8,515	876	2,098	4,107	5,463	7520	High
	Strafford County	4,750	5,452	4,040	415	996	2,993	3,980	7520	High
	Sullivan County	3,344	3,838	2,845	292	701	1,129	1,501	7520	High
	<b>Total New Hampshire</b>	<b>59,746</b>	<b>68,569</b>	<b>50,817</b>	<b>5,225</b>	<b>12,521</b>	<b>26,796</b>	<b>35,638</b>		
New Jersey	Atlantic County	5,039	5,784	4,286	441	1,056	2,169	2,884	5020	Low
	Bergen County	14,926	17,130	12,695	1,305	3,128	4,640	6,172	5780	Medium
	Burlington County	7,199	8,262	6,123	630	1,509	2,259	3,004	5020	Low
	Camden County	12,175	13,973	10,355	1,065	2,551	2,123	2,823	5020	Low

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Cape May County	3,205	3,678	2,726	280	672	1,415	1,882	5020	Low
	Cumberland County	3,057	3,508	2,600	267	641	1,048	1,394	5020	Low
	Essex County	5,341	6,130	4,543	467	1,119	1,719	2,287	5780	Medium
	Gloucester County	4,151	4,764	3,531	363	870	1,221	1,623	5020	Low
	Hudson County	651	747	554	57	136	1,241	1,651	5780	Medium
	Hunterdon County	2,707	3,106	2,302	237	567	520	691	5780	Medium
	Mercer County	5,157	5,919	4,386	451	1,081	826	1,098	5020	Low
	Middlesex County	10,211	11,719	8,685	893	2,140	2,988	3,974	5020	Low
	Monmouth County	9,402	10,790	7,996	822	1,970	1,570	2,088	5020	Low
	Morris County	5,703	6,545	4,851	499	1,195	1,676	2,229	5780	Medium
	Ocean County	9,881	11,341	8,405	864	2,071	2,730	3,630	5020	Low
	Passaic County	5,718	6,562	4,863	500	1,198	1,156	1,538	5780	Medium
	Salem County	1,925	2,210	1,638	168	403	546	727	5020	Low
	Somerset County	3,434	3,941	2,921	300	720	783	1,041	5780	Medium
	Sussex County	3,967	4,553	3,375	347	831	1,400	1,862	5780	Medium
	Union County	5,840	6,702	4,967	511	1,224	1,234	1,642	5780	Medium
	Warren County	3,131	3,594	2,663	274	656	1,181	1,571	5780	Medium
	<b>Total New Jersey</b>	<b>122,820</b>	<b>140,959</b>	<b>104,464</b>	<b>10,741</b>	<b>25,739</b>	<b>34,445</b>	<b>45,811</b>		
New York	Albany County	7,018	8,055	5,969	614	1,471	3,504	4,660	6700	High
	Allegany County	4,199	4,819	3,571	367	880	960	1,277	7520	High
	Bronx County	1,321	1,516	1,124	116	277	208	277	5220	Low
	Broome County	8,167	9,373	6,946	714	1,712	3,524	4,687	7450	High
	Cattaraugus County	6,668	7,652	5,671	583	1,397	1,568	2,086	7520	High
	Cayuga County	5,059	5,806	4,303	442	1,060	2,035	2,706	7150	High
	Chautauqua County	8,820	10,123	7,502	771	1,848	3,605	4,795	7020	High
	Chemung County	4,784	5,491	4,069	418	1,003	1,957	2,603	7520	High
	Chenango County	4,128	4,738	3,511	361	865	1,258	1,673	7450	High
	Clinton County	3,841	4,409	3,267	336	805	1,141	1,517	7870	High
	Columbia County	2,984	3,424	2,538	261	625	755	1,004	6700	High

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Cortland County	3,018	3,463	2,567	264	632	737	980	7150	High
	Delaware County	4,404	5,054	3,746	385	923	1,432	1,904	7450	High
	Dutchess County	6,297	7,227	5,356	551	1,320	3,704	4,926	6700	High
	Erie County	30,543	35,053	25,978	2,671	6,401	4,287	5,702	7020	High
	Essex County	2,533	2,907	2,154	221	531	818	1,088	7870	High
	Franklin County	3,521	4,041	2,995	308	738	1,299	1,728	8200	High
	Fulton County	3,256	3,737	2,769	285	682	809	1,076	8960	High
	Genesee County	2,583	2,965	2,197	226	541	536	712	7020	High
	Greene County	2,576	2,957	2,191	225	540	748	995	6700	High
	Hamilton County	634	728	539	55	133	210	279	8960	High
	Herkimer County	4,577	5,253	3,893	400	959	2,191	2,914	7560	High
	Jefferson County	5,748	6,597	4,889	503	1,205	1,533	2,039	7020	High
	Kings County	2,501	2,870	2,127	219	524	393	523	5220	Low
	Lewis County	4,063	4,663	3,456	355	852	1,583	2,105	8960	High
	Livingston County	3,427	3,933	2,915	300	718	969	1,289	7150	High
	Madison County	4,400	5,050	3,742	385	922	1,959	2,605	7450	High
	Monroe County	18,142	20,821	15,431	1,587	3,802	3,135	4,169	7020	High
	Montgomery County	2,837	3,256	2,413	248	595	1,324	1,762	7560	High
	Nassau County	2,409	2,765	2,049	211	505	6,176	8,214	5220	Low
	New York County	2,167	2,487	1,843	190	454	341	454	5220	Low
	Niagara County	6,591	7,565	5,606	576	1,381	1,334	1,774	7020	High
	Oneida County	10,404	11,940	8,849	910	2,180	4,761	6,332	7560	High
	Onondaga County	11,468	13,162	9,754	1,003	2,403	5,159	6,862	7150	High
	Ontario County	7,528	8,640	6,403	658	1,578	283	376	7150	High
	Orange County	4,791	5,498	4,075	419	1,004	1,656	2,203	6700	High
	Orleans County	2,125	2,439	1,808	186	445	576	766	7020	High
	Oswego County	7,797	8,948	6,631	682	1,634	3,188	4,240	7020	High
	Otsego County	4,587	5,264	3,901	401	961	1,400	1,862	7450	High
	Putnam County	2,215	2,542	1,884	194	464	996	1,325	6700	High

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Queens County	2,193	2,517	1,865	192	460	345	459	5220	Low
	Rensselaer County	7,783	8,932	6,620	681	1,631	4,580	6,091	6700	High
	Richmond County	457	524	389	40	96	72	96	5220	Low
	Rockland County	1,764	2,025	1,501	154	370	595	791	6700	High
	St. Lawrence County	7,560	8,676	6,430	661	1,584	2,354	3,130	8200	High
	Saratoga County	10,321	11,846	8,779	903	2,163	5,513	7,333	6700	High
	Schenectady County	4,239	4,865	3,605	371	888	1,703	2,265	6700	High
	Schoharie County	3,124	3,585	2,657	273	655	1,762	2,344	7450	High
	Schuyler County	1,500	1,721	1,275	131	314	403	536	7150	High
	Seneca County	1,349	1,548	1,147	118	283	218	290	7150	High
	Steuben County	7,099	8,148	6,038	621	1,488	1,548	2,059	7520	High
	Suffolk County	21,850	25,076	18,584	1,911	4,579	9,465	12,588	5220	Low
	Sullivan County	3,584	4,114	3,049	313	751	971	1,292	7450	High
	Tioga County	4,185	4,803	3,559	366	877	2,063	2,743	7520	High
	Tompkins County	5,314	6,099	4,520	465	1,114	1,195	1,589	7150	High
	Ulster County	7,115	8,166	6,052	622	1,491	1,998	2,657	6700	High
	Warren County	4,803	5,513	4,085	420	1,007	2,702	3,593	7870	High
	Washington County	5,777	6,630	4,913	505	1,211	3,184	4,235	6700	High
	Wayne County	5,191	5,958	4,416	454	1,088	1,322	1,758	7020	High
	Westchester County	13,778	15,813	11,719	1,205	2,887	2,225	2,959	6700	High
	Wyoming County	2,810	3,225	2,390	246	589	660	878	7020	High
	Yates County	1,685	1,934	1,434	147	353	426	567	7150	High
	<b>Total New York</b>	<b>347,612</b>	<b>398,948</b>	<b>295,660</b>	<b>30,400</b>	<b>72,848</b>	<b>119,356</b>	<b>158,743</b>		
Pennsylvania	Adams County	5,065	5,813	4,308	443	1,061	1,244	1,654	5550	Medium
	Allegheny County	22,572	25,905	19,198	1,974	4,730	9,544	12,693	6160	Medium
	Armstrong County	2,288	2,625	1,946	200	479	209	278	6160	Medium
	Beaver County	5,073	5,822	4,315	444	1,063	1,307	1,739	6160	Medium
	Bedford County	4,248	4,875	3,613	372	890	1,496	1,990	6260	Medium
	Berks County	9,324	10,701	7,930	815	1,954	5,316	7,070	5360	Low

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Blair County	4,675	5,366	3,977	409	980	2,069	2,752	6260	Medium
	Bradford County	4,811	5,522	4,092	421	1,008	1,363	1,813	7260	High
	Bucks County	10,808	12,404	9,193	945	2,265	4,668	6,208	5360	Low
	Butler County	5,426	6,228	4,615	475	1,137	1,423	1,892	6160	Medium
	Cambria County	3,939	4,521	3,350	344	826	1,236	1,644	6260	Medium
	Cameron County	415	476	353	36	87	97	129	6720	High
	Carbon County	1,854	2,128	1,577	162	388	541	720	5990	Medium
	Centre County	6,069	6,965	5,162	531	1,272	4,200	5,586	6720	High
	Chester County	8,570	9,835	7,289	749	1,796	3,586	4,770	5360	Low
	Clarion County	1,722	1,977	1,465	151	361	228	303	7020	High
	Clearfield County	2,631	3,019	2,238	230	551	389	517	6720	High
	Clinton County	1,945	2,233	1,655	170	408	584	777	6720	High
	Columbia County	2,889	3,316	2,458	253	606	1,392	1,851	6090	Medium
	Crawford County	6,657	7,640	5,662	582	1,395	1,532	2,038	7020	High
	Cumberland County	7,773	8,921	6,611	680	1,629	4,936	6,564	5550	Medium
	Dauphin County	5,480	6,289	4,661	479	1,148	3,334	4,434	5360	Low
	Delaware County	7,348	8,434	6,250	643	1,540	3,480	4,629	5360	Low
	Elk County	1,585	1,819	1,348	139	332	247	329	6720	High
	Erie County	9,020	10,352	7,672	789	1,890	3,944	5,246	7020	High
	Fayette County	4,718	5,415	4,013	413	989	1,374	1,828	6160	Medium
	Forest County	507	582	431	44	106	113	150	7020	High
	Franklin County	7,208	8,273	6,131	630	1,511	2,430	3,232	5550	Medium
	Fulton County	1,881	2,159	1,600	165	394	720	958	6260	Medium
	Greene County	1,622	1,862	1,380	142	340	261	347	6160	Medium
	Huntingdon County	3,646	4,184	3,101	319	764	1,300	1,730	6090	Medium
	Indiana County	3,322	3,812	2,825	291	696	519	690	6260	Medium
	Jefferson County	1,921	2,204	1,634	168	402	264	351	6160	Medium
	Juniata County	2,287	2,625	1,945	200	479	855	1,137	6090	Medium
	Lackawanna County	5,048	5,793	4,293	441	1,058	1,369	1,821	6950	High



State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Lancaster County	14,367	16,489	12,220	1,256	3,011	10,792	14,353	5360	Low
	Lawrence County	2,996	3,438	2,548	262	628	358	477	6160	Medium
	Lebanon County	3,772	4,329	3,208	330	790	1,994	2,652	5360	Low
	Lehigh County	6,910	7,930	5,877	604	1,448	5,356	7,123	5990	Medium
	Luzerne County	6,335	7,270	5,388	554	1,328	2,597	3,454	6950	High
	Lycoming County	6,865	7,879	5,839	600	1,439	4,749	6,316	6090	Medium
	McKean County	2,346	2,693	1,995	205	492	348	463	7020	High
	Mercer County	5,200	5,968	4,423	455	1,090	1,841	2,449	7020	High
	Mifflin County	3,863	4,434	3,286	338	810	1,385	1,842	6090	Medium
	Monroe County	5,592	6,418	4,757	489	1,172	1,676	2,229	6950	High
	Montgomery County	27,940	32,066	23,764	2,443	5,855	2,777	3,694	5360	Low
	Montour County	766	879	651	67	160	172	229	6090	Medium
	Northampton County	5,750	6,600	4,891	503	1,205	3,690	4,908	5990	Medium
	Northumberland County	3,062	3,514	2,604	268	642	491	653	6090	Medium
	Perry County	3,984	4,572	3,388	348	835	2,220	2,952	6090	Medium
	Philadelphia County	7,924	9,094	6,740	693	1,661	2,057	2,736	5360	Low
	Pike County	3,555	4,080	3,023	311	745	1,587	2,110	6950	High
	Potter County	1,690	1,940	1,437	148	354	341	454	7020	High
	Schuylkill County	3,258	3,739	2,771	285	683	438	583	5990	Medium
	Snyder County	2,310	2,651	1,965	202	484	718	955	6090	Medium
	Somerset County	3,769	4,326	3,206	330	790	1,491	1,982	6260	Medium
	Sullivan County	642	737	546	56	135	226	301	7260	High
	Susquehanna County	3,687	4,231	3,136	322	773	1,233	1,640	7260	High
	Tioga County	3,582	4,111	3,047	313	751	747	993	7260	High
	Union County	1,844	2,117	1,569	161	387	594	790	6090	Medium
	Venango County	3,470	3,983	2,952	303	727	638	848	7020	High
	Warren County	3,491	4,007	2,970	305	732	705	938	7020	High
	Washington County	6,376	7,318	5,423	558	1,336	1,742	2,316	6160	Medium
	Wayne County	3,251	3,731	2,765	284	681	941	1,251	6950	High

State	County	Total households using wood heaters for heat	Number of wood heaters	Total conventional wood heaters	Total certified catalytic wood heaters	Total certified non-catalytic wood heaters	Total households using fireplace w/o inserts for heat	Number of fireplaces w/o inserts used for heat	HDD	Heating category
	Westmoreland County	17,664	20,273	15,024	1,545	3,702	2,666	3,545	6160	Medium
	Wyoming County	2,127	2,442	1,810	186	446	1,058	1,407	7260	High
	York County	13,823	15,864	11,757	1,209	2,897	7,885	10,487	5550	Medium
	<b>Total Pennsylvania</b>	<b>356,559</b>	<b>409,216</b>	<b>303,270</b>	<b>31,182</b>	<b>74,723</b>	<b>133,086</b>	<b>177,004</b>		
Rhode Island	Bristol County	1,614	1,853	1,373	141	338	560	745	5890	Medium
	Kent County	5,332	6,120	4,535	466	1,117	1,985	2,640	5890	Medium
	Newport County	2,779	3,190	2,364	243	582	519	691	5890	Medium
	Providence County	12,042	13,821	10,242	1,053	2,524	4,469	5,944	5890	Medium
	Washington County	4,932	5,660	4,195	431	1,034	2,228	2,963	5890	Medium
	<b>Total Rhode Island</b>	<b>26,700</b>	<b>30,643</b>	<b>22,710</b>	<b>2,335</b>	<b>5,595</b>	<b>9,761</b>	<b>12,982</b>		
District of Columbia	District of Columbia	2,348	2,694	1,997	205	492	3,824	5,085	4250	Low
	<b>Total D.C.</b>	<b>2,348</b>	<b>2,694</b>	<b>1,997</b>	<b>205</b>	<b>492</b>	<b>3,824</b>	<b>5,085</b>		
Vermont	Addison County	3,855	4,425	3,279	337	808	1,114	1,482	7840	High
	Bennington County	2,946	3,381	2,506	258	617	831	1,105	7840	High
	Caledonia County	3,690	4,235	3,138	323	773	1,094	1,456	8720	High
	Chittenden County	8,228	9,444	6,999	720	1,724	3,269	4,348	7840	High
	Essex County	830	952	706	73	174	243	323	8720	High
	Franklin County	3,665	4,207	3,117	321	768	957	1,272	8720	High
	Grand Isle County	961	1,102	817	84	201	317	421	7840	High
	Lamoille County	2,701	3,100	2,298	236	566	747	994	8720	High
	Orange County	3,925	4,505	3,338	343	823	1,133	1,507	8720	High
	Orleans County	4,077	4,679	3,467	357	854	1,250	1,662	8720	High
	Rutland County	5,557	6,377	4,726	486	1,164	1,596	2,122	7840	High
	Washington County	5,993	6,878	5,098	524	1,256	1,766	2,349	8720	High
	Windham County	5,985	6,869	5,091	523	1,254	1,801	2,395	7780	High
	Windsor County	6,226	7,146	5,296	544	1,305	1,774	2,359	7780	High
	<b>Total Vermont</b>	<b>58,639</b>	<b>67,299</b>	<b>49,875</b>	<b>5,128</b>	<b>12,289</b>	<b>17,891</b>	<b>23,795</b>		
<b>Total MANE-VU</b>		<b>1,461,307</b>	<b>1,677,113</b>	<b>1,242,908</b>	<b>127,796</b>	<b>306,241</b>	<b>565,509</b>	<b>752,127</b>		

### 2.13. Cordwood Usage

The number of cords burned per wood heater, and per fireplace without insert, was derived from the 2002 MARAMA Survey, and based upon the heating categories. The average number of cords burned per wood heater (WH) for households in the low heating category is 0.89, and the number of cords burned per fireplace without insert (FPNI) for the households in the low heating category is 0.51. For households in the medium heating category, WH burn 1.90 cords and FPNI burn 0.50 cords. For households in the high heating category, WH burn 2.40 cords and FPNI burn 1.68 cords.

The dry weight of cords burned per appliance was calculated from the number of cords burned per appliance and the average weight per cord of wood characteristic of each state. This average weight of cords was determined by taking the percent of each species of tree that found in each state, multiplying that percent by the cord weight (in lbs) of each species, and taking the sum of those results. All cord weights at 20% moisture are corrected to be on a dry basis. A record of the percent of tree species by state,<sup>33</sup> cord weight by species<sup>34</sup> (or cord weight based on a ratio of densities and cord weight)<sup>35</sup> and average cord weight by state are shown in Table 13. Final cord weights are presented in dry pounds and tons.

Dry weight of cords burned per appliance is found by multiplying the number of cords burned per appliance in each county by the average dry cord weight of each county's state. Dry weight of cords burned per appliance by state is the sum of the county numbers.

Multiplying the dry weight of cords burned per appliance by the number of appliances in each county gives the total weight of wood burned for each appliance type by county. The total weight burned by state is the sum of the county numbers.

Table 14 summarizes the mass of dry cords burned by wood heater and fireplaces without inserts used for heating by county, by state, and by heating category.

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<sup>33</sup> Northeastern Research Station, USDA Forest Service: percentage distribution of tree species by state

<sup>34</sup> 1. Fuelwood Facts, Oregon State Extension Service, September 1980

2. Heating with Wood I. Species Characteristics and Volumes, University of Nebraska-Lincoln Extension Service.  
<http://ianrpubs.unl.edu/forestry/g881.htm>

3. Firewood Ratings and Info, U.S. Forest Products Laboratory. <http://mb-soft.com/juca/print/firewood.html>

4. Woof Fuel For Heating, University of Missouri Extension.  
<http://muextension.missouri.edu/explore/agguides/forestry/g05450.htm>

<sup>35</sup> Stewardship Notes, Indiana Division of Forestry. <http://www.state.in.us/dnr/forestry>

**Table 13  
Tree Species and Average Cord Weight by State**

**Section 1**

Species	Weight (lb)	Dry Weight (lb)	CT Species Percentage	CT: Portion of Dry Cord Weight per Species (lb)	DE Species Percentage	DE: Portion of Dry Cord Weight per Species (lb)	ME Species Percentage	ME: Portion of Dry Cord Weight per Species (lb)	MD Species Percentage	MD: Portion of Dry Cord Weight per Species (lb)
Fir spp.	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Balsam fir	2565	2138	0.00%	0.00	0.00%	0.00	35.29%	754.34	0.00%	0.00
Fraser fir	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Douglas fir	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Atlantic white cedar	2060	1717	0.00%	0.00	0.54%	9.30	0.00%	0.00	0.02%	0.31
Eastern red cedar	2060	1717	1.78%	30.49	0.31%	5.33	0.00%	0.00	0.62%	10.56
Northern white cedar	2060	1717	0.00%	0.00	0.00%	0.00	3.53%	60.67	0.00%	0.00
Larch (introduced)	3330	2775	0.00%	0.00	0.00%	0.00	0.01%	0.38	0.00%	0.00
Tamarack (native)	3247	2706	0.01%	0.40	0.00%	0.00	0.25%	6.88	0.00%	0.00
Spruce spp.	2217	1847	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Norway spruce	2217	1847	0.03%	0.65	0.00%	0.00	0.05%	0.92	0.28%	5.12
White spruce	2217	1847	0.00%	0.00	0.00%	0.00	1.10%	20.33	0.00%	0.00
Black spruce	2482	2068	0.00%	0.00	0.00%	0.00	1.78%	36.83	0.00%	0.00
Blue spruce	2217	1847	0.01%	0.09	0.00%	0.00	0.00%	0.00	0.00%	0.00
Red spruce	2217	1847	0.45%	8.23	0.00%	0.00	8.52%	157.45	0.00%	0.00
Jack pine	2428	2023	0.00%	0.00	0.00%	0.00	0.01%	0.19	0.00%	0.00
Shortleaf pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.04
Table Mountain pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.04	0.00%	0.00
Red pine	2428	2023	0.06%	1.31	0.00%	0.00	0.13%	2.66	0.39%	7.89
Pitch pine	2428	2023	0.03%	0.52	0.00%	0.00	0.01%	0.18	0.00%	0.05
Pond pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.02%	0.44
Eastern white pine	2428	2023	4.53%	91.63	0.00%	0.00	2.03%	41.10	0.28%	5.72
Scotch pine	2428	2023	0.03%	0.52	0.00%	0.00	0.00%	0.00	0.02%	0.41
Loblolly pine	2428	2023	0.00%	0.00	10.33%	209.00	0.00%	0.00	9.44%	191.06
Virginia pine	2428	2023	0.00%	0.00	1.51%	30.50	0.00%	0.00	2.15%	43.52
Austrian pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bald cypress	2609	2175	0.00%	0.00	0.00%	0.00	0.00%	0.05	0.01%	0.19
Eastern hemlock	2250	1875	6.25%	117.27	0.00%	0.00	2.64%	49.47	0.14%	2.60
Maple spp	3920	3267	0.00%	0.00	0.00%	0.00	0.00%	0.01	0.00%	0.00
Black maple	3920	3267	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Striped maple	3920	3267	0.33%	10.67	0.09%	3.08	3.05%	99.75	0.50%	16.41
Red maple	3920	3267	26.55%	867.21	21.42%	699.73	11.79%	385.11	17.17%	560.74
Silver maple	3920	3267	0.03%	0.82	0.00%	0.00	0.00%	0.09	0.00%	0.08
Sugar maple	3920	3267	5.07%	165.56	0.00%	0.00	3.21%	104.89	1.47%	47.91
Mountain maple	3920	3267	0.01%	0.16	0.00%	0.00	1.39%	45.36	0.00%	0.00
Norway maple	3920	3267	0.00%	0.00	0.00%	0.00	0.01%	0.17	0.03%	0.97
Boxelder	2797	2331	0.07%	1.59	0.01%	0.19	0.00%	0.09	0.30%	7.05
Buckeye, horsechestnut	1653	1378	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Ohio buckeye	1984	1653	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Yellow buckeye	1984	1653	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
European alder	2300	1917	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Birch spp.	3360	2800	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00

Species	Weight (lb)	Dry Weight (lb)	CT Species Percentage	CT: Portion of Dry Cord Weight per Species (lb)	DE Species Percentage	DE: Portion of Dry Cord Weight per Species (lb)	ME Species Percentage	ME: Portion of Dry Cord Weight per Species (lb)	MD Species Percentage	MD: Portion of Dry Cord Weight per Species (lb)
Yellow birch	3360	2800	2.94%	82.46	0.00%	0.00	4.07%	114.09	0.15%	4.23
Sweet birch	3360	2800	10.74%	300.66	0.02%	0.42	0.04%	1.13	2.06%	57.80
River birch	3360	2800	0.00%	0.00	0.87%	24.29	0.00%	0.00	0.13%	3.61
Paper birch	3360	2800	0.78%	21.90	0.00%	0.00	6.09%	170.39	0.00%	0.00
Gray birch	3360	2800	1.33%	37.19	0.00%	0.00	1.47%	41.06	0.00%	0.00
Hickory spp.	4240	3533	0.07%	2.60	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bitternut hickory	4240	3533	0.54%	19.21	0.00%	0.00	0.00%	0.00	0.10%	3.62
Pignut hickory	4240	3533	3.04%	107.34	0.16%	5.51	0.00%	0.00	0.94%	33.30
Shellbark hickory	4240	3533	0.01%	0.18	0.00%	0.00	0.00%	0.00	0.00%	0.00
Shagbark hickory	4240	3533	0.91%	32.05	0.00%	0.00	0.00%	0.09	0.07%	2.58
Mockernut hickory	4240	3533	0.04%	1.29	0.73%	25.73	0.00%	0.00	1.20%	42.26
American chestnut	2439	2033	0.18%	3.73	0.00%	0.00	0.00%	0.00	0.32%	6.52
Catalpa	1901	1584	0.00%	0.00	1.10%	17.50	0.00%	0.00	0.01%	0.13
Hackberry spp.	3247	2706	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Hackberry	3247	2706	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.10%	2.66
Flowering dogwood	4230	3525	0.39%	13.92	1.48%	52.05	0.00%	0.00	2.30%	81.21
American beech	3757	3131	5.03%	157.39	0.77%	24.16	4.10%	128.50	2.57%	80.54
Ash spp.	3440	2867	0.02%	0.57	0.00%	0.00	0.00%	0.06	0.00%	0.00
White ash	3440	2867	2.53%	72.55	0.09%	2.50	1.07%	30.65	1.34%	38.47
Black ash	3440	2867	0.15%	4.37	0.00%	0.00	0.68%	19.59	0.03%	0.85
Green ash	3440	2867	0.03%	0.88	0.16%	4.48	0.08%	2.16	0.17%	5.00
Pumpkin ash	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.04
American Mountain ash	3440	2867	0.01%	0.14	0.00%	0.00	0.22%	6.25	0.00%	0.00
Blue ash	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Honeylocust	2992	2493	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.22%	5.58
Kentucky coffeetree	3112	2593	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Walnut	3120	2600	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Butternut	2156	1797	0.01%	0.09	0.00%	0.00	0.00%	0.01	0.00%	0.03
Black walnut	3120	2600	0.00%	0.00	0.12%	3.05	0.00%	0.00	0.31%	7.97
Sweetgum	2464	2053	0.00%	0.00	11.75%	241.31	0.00%	0.00	10.05%	206.37
Yellow poplar	2080	1733	0.21%	3.64	2.07%	35.92	0.00%	0.00	4.24%	73.49
Osage orange	3872	3227	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.02%	0.50
Magnolia spp.	2790	2325	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Mountain magnolia	2790	2325	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Apple spp.	4400	3667	0.23%	8.58	0.97%	35.72	0.06%	2.28	0.22%	7.90
Mulberry spp.	3093	2578	0.00%	0.00	0.01%	0.33	0.00%	0.00	0.11%	2.94
White mulberry	3093	2578	0.00%	0.00	0.04%	1.15	0.00%	0.00	0.01%	0.19
Red mulberry	3093	2578	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.10
Water tupelo	2836	2363	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.09
Blackgum	2916	2430	0.96%	23.22	9.32%	226.45	0.00%	0.00	5.64%	137.10
American musclewood	4228	3523	2.19%	77.00	1.00%	35.18	0.06%	1.97	1.51%	53.14
Eastern hop hornbeam	4267	3556	2.63%	93.62	0.00%	0.00	0.66%	23.41	0.22%	7.81
Sourwood	2464	2053	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Empress-tree	1215	1013	0.07%	0.67	0.00%	0.00	0.00%	0.00	0.01%	0.09
Sycamore	2956	2463	0.01%	0.13	0.01%	0.24	0.00%	0.00	0.35%	8.70

Species	Weight (lb)	Dry Weight (lb)	CT Species Percentage	CT: Portion of Dry Cord Weight per Species (lb)	DE Species Percentage	DE: Portion of Dry Cord Weight per Species (lb)	ME Species Percentage	ME: Portion of Dry Cord Weight per Species (lb)	MD Species Percentage	MD: Portion of Dry Cord Weight per Species (lb)
Balsam poplar	2168	1807	0.00%	0.00	0.00%	0.00	0.35%	6.26	0.00%	0.00
Quaking aspen	2216	1847	0.22%	4.07	0.00%	0.00	2.43%	44.86	0.01%	0.12
Bigtooth aspen	2216	1847	0.17%	3.05	0.33%	6.05	0.99%	18.30	0.20%	3.70
Eastern cottonwood	2247	1873	0.04%	0.74	0.00%	0.00	0.03%	0.54	0.00%	0.08
Swamp cottonwood	2247	1873	0.00%	0.00	0.07%	1.40	0.00%	0.00	0.00%	0.00
Cherry and plum spp.	3120	2600	0.00%	0.00	0.01%	0.21	0.00%	0.00	0.01%	0.30
Pin cherry	3000	2500	0.09%	2.35	0.17%	4.27	0.97%	24.21	0.05%	1.17
Black cherry	2880	2400	3.48%	83.44	2.37%	56.77	0.40%	9.52	5.40%	129.56
Chokecherry	3000	2500	0.00%	0.00	0.00%	0.00	0.11%	2.75	0.20%	4.94
Oak -- deciduous	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.01%	0.20
White oak	3940	3283	2.45%	80.40	2.82%	92.70	0.03%	1.06	2.73%	89.68
Swamp white oak	3940	3283	0.02%	0.50	0.03%	0.83	0.00%	0.01	0.04%	1.34
Scarlet oak	3940	3283	1.09%	35.84	1.66%	54.50	0.00%	0.01	1.08%	35.52
Northern pin oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.09
Southern red oak	3940	3283	0.00%	0.00	1.44%	47.37	0.00%	0.00	0.64%	21.18
Cherrybark oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.06%	1.86
Bear oak, scrub oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.08	0.01%	0.22
Shingle oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.08
Overcup oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.08
Bur oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Blackjack oak	3940	3283	0.00%	0.00	0.01%	0.49	0.00%	0.00	0.01%	0.17
Swamp chestnut oak	3940	3283	0.00%	0.00	0.05%	1.73	0.00%	0.00	0.09%	3.09
Chinkapin oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Water oak	3940	3283	0.00%	0.00	1.47%	48.34	0.00%	0.00	0.65%	21.42
Pin oak	3940	3283	0.00%	0.16	0.10%	3.14	0.00%	0.00	0.10%	3.23
Willow oak	3940	3283	0.00%	0.00	0.45%	14.72	0.00%	0.00	0.46%	15.25
Chestnut oak	3940	3283	1.05%	34.45	0.43%	14.20	0.00%	0.00	1.66%	54.60
Northern red oak	3940	3283	5.48%	179.82	0.09%	2.92	0.82%	27.03	1.51%	49.53
Post oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.04%	1.18
Black oak	3940	3283	2.68%	87.95	2.68%	87.98	0.04%	1.18	1.10%	36.25
Black locust	3840	3200	0.12%	3.95	0.70%	22.45	0.00%	0.00	1.35%	43.32
Willow	2540	2117	0.01%	0.21	0.04%	0.95	0.13%	2.65	0.03%	0.72
Black willow	2540	2117	0.00%	0.00	0.00%	0.00	0.01%	0.28	0.02%	0.39
Sassafras	2624	2187	1.23%	26.97	3.55%	77.73	0.00%	0.00	2.68%	58.60
Basswood spp.	3360	2800	0.00%	0.00	0.00%	0.00	0.00%	0.01	0.00%	0.00
American basswood	3360	2800	0.04%	1.14	0.00%	0.00	0.03%	0.93	0.13%	3.67
White basswood	3360	2800	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Elm spp.	2260	1883	0.07%	1.28	0.00%	0.00	0.00%	0.09	0.00%	0.05
Winged elm	2260	1883	0.00%	0.09	0.00%	0.00	0.00%	0.00	0.00%	0.00
American elm	2260	1883	0.57%	10.70	0.02%	0.30	0.13%	2.37	0.27%	5.14
Slippery elm	2260	1883	0.02%	0.30	0.02%	0.30	0.00%	0.00	0.26%	4.85
Rock elm	2260	1883	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cucumbertree *	3105	2588	0.00%	0.00	0.16%	4.08	0.00%	0.00	0.14%	3.64
Sweetbay *	3105	2588	0.00%	0.00	3.10%	80.15	0.00%	0.00	0.84%	21.76
American holly *	3105	2588	0.00%	0.00	12.83%	332.09	0.00%	0.00	7.52%	194.56

Species	Weight (lb)	Dry Weight (lb)	CT Species Percentage	CT: Portion of Dry Cord Weight per Species (lb)	DE Species Percentage	DE: Portion of Dry Cord Weight per Species (lb)	ME Species Percentage	ME: Portion of Dry Cord Weight per Species (lb)	MD Species Percentage	MD: Portion of Dry Cord Weight per Species (lb)
Ailanthus *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.06	0.24%	6.26
Common persimmon *	3105	2588	0.00%	0.00	0.32%	8.31	0.00%	0.00	0.37%	9.57
Sugarberry *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern redbud *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.16%	4.23
Hawthorn *	3105	2588	0.12%	2.99	0.00%	0.00	0.01%	0.22	0.64%	16.65
Serviceberry *	3105	2588	0.80%	20.76	0.00%	0.00	0.08%	2.10	0.29%	7.55
Pawpaw *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00	1.53%	39.58
Unknown Species *	3105	2588	0.01%	0.13	0.20%	5.08	0.02%	0.44	0.18%	4.57
Total %			100.00%		100.00%		100.00%		100.00%	
Average Dry Weight				2943.78		2662.15		2453.52		2675.81

\* Based on average of all known cord weights = 3105

State	Average Dry Weight per Cord (lb)	Average Dry Weight per Cord (ton)
Connecticut (CT)	2943.78	1.47
Delaware (DE)	2662.15	1.33
Maine (ME)	2453.52	1.23
Maryland (MD)	2675.81	1.34

**Table 13**  
**Tree Species and Average Cord Weight by State**

**Section 2**

Species	Weight (lb)	Dry Weight (lb)	MA Species Percentage	MA: Portion of Dry Cord Weight per Species (lb)	NH Species Percentage	NH: Portion of Dry Cord Weight per Species (lb)	NJ Species Percentage	NJ: Portion of Dry Cord Weight per Species (lb)	NY Species Percentage	NY: Portion of Dry Cord Weight per Species (lb)
Fir spp.	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Balsam fir	2565	2138	0.55%	11.66	15.25%	326.03	0.00%	0.00	3.43%	73.22
Fraser fir	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Douglas fir	2565	2138	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.02%	0.41
Atlantic white cedar	2060	1717	0.13%	2.26	0.00%	0.00	3.97%	68.19	0.04%	0.63
Eastern red cedar	2060	1717	0.32%	5.45	0.01%	0.25	5.59%	96.03	0.39%	6.76
Northern white cedar	2060	1717	0.03%	0.54	0.08%	1.38	0.00%	0.00	1.39%	23.93
Larch (introduced)	3330	2775	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.10%	2.89
Tamarack (native)	3247	2706	0.00%	0.07	0.06%	1.71	0.00%	0.00	0.12%	3.35
Spruce spp.	2217	1847	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Norway spruce	2217	1847	0.00%	0.00	0.01%	0.24	0.01%	0.20	0.38%	7.06
White spruce	2217	1847	0.00%	0.04	0.20%	3.64	0.00%	0.00	0.35%	6.37
Black spruce	2482	2068	0.00%	0.00	0.00%	0.02	0.00%	0.00	0.29%	5.90
Blue spruce	2217	1847	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.03%	0.53
Red spruce	2217	1847	1.19%	21.93	5.71%	105.56	0.01%	0.13	1.63%	30.20
Jack pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.01%	0.27
Shortleaf pine	2428	2023	0.00%	0.00	0.00%	0.00	1.05%	21.31	0.00%	0.00
Table Mountain pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Red pine	2428	2023	0.06%	1.16	0.12%	2.45	0.00%	0.00	0.49%	9.82
Pitch pine	2428	2023	0.96%	19.38	0.19%	3.88	15.60%	315.63	0.11%	2.19
Pond pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern white pine	2428	2023	10.44%	211.11	6.73%	136.15	0.16%	3.20	3.32%	67.16
Scotch pine	2428	2023	0.04%	0.81	0.00%	0.00	0.05%	1.02	0.37%	7.50
Loblolly pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Virginia pine	2428	2023	0.00%	0.00	0.00%	0.00	1.61%	32.65	0.00%	0.00
Austrian pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bald cypress	2609	2175	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern hemlock	2250	1875	10.82%	202.91	7.29%	136.77	0.14%	2.72	5.07%	95.01
Maple spp	3920	3267	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Black maple	3920	3267	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.01%	0.26
Striped maple	3920	3267	1.90%	62.11	3.61%	117.93	0.05%	1.56	2.35%	76.63
Red maple	3920	3267	22.14%	723.11	16.38%	535.09	15.91%	519.77	14.77%	482.42
Silver maple	3920	3267	0.20%	6.40	0.08%	2.52	0.04%	1.32	0.24%	7.86
Sugar maple	3920	3267	5.22%	170.59	6.82%	222.67	2.23%	72.80	12.17%	397.47
Mountain maple	3920	3267	0.19%	6.27	1.03%	33.69	0.00%	0.12	0.15%	4.81
Norway maple	3920	3267	0.00%	0.08	0.00%	0.00	0.04%	1.19	0.00%	0.00
Boxelder	2797	2331	0.00%	0.00	0.00%	0.00	0.08%	1.77	0.26%	6.06
Buckeye, horsechestnut	1653	1378	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.01
Ohio buckeye	1984	1653	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Yellow buckeye	1984	1653	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
European alder	2300	1917	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Birch spp.	3360	2800	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00



Species	Weight (lb)	Dry Weight (lb)	MA Species Percentage	MA: Portion of Dry Cord Weight per Species (lb)	NH Species Percentage	NH: Portion of Dry Cord Weight per Species (lb)	NJ Species Percentage	NJ: Portion of Dry Cord Weight per Species (lb)	NY Species Percentage	NY: Portion of Dry Cord Weight per Species (lb)
Yellow birch	3360	2800	3.55%	99.50	6.39%	178.86	0.35%	9.88	2.73%	76.32
Sweet birch	3360	2800	4.63%	129.54	1.41%	39.39	2.81%	78.74	1.14%	31.99
River birch	3360	2800	0.03%	0.89	0.00%	0.00	0.02%	0.62	0.00%	0.08
Paper birch	3360	2800	2.00%	55.92	5.00%	139.90	0.05%	1.35	0.90%	25.23
Gray birch	3360	2800	0.95%	26.59	0.98%	27.32	0.16%	4.35	1.44%	40.30
Hickory spp.	4240	3533	0.00%	0.09	0.02%	0.81	0.00%	0.14	1.09%	38.49
Bitternut hickory	4240	3533	0.02%	0.67	0.02%	0.72	0.10%	3.68	0.05%	1.91
Pignut hickory	4240	3533	0.76%	26.83	0.10%	3.47	0.85%	29.86	0.00%	0.02
Shellbark hickory	4240	3533	0.01%	0.27	0.00%	0.08	0.00%	0.00	0.00%	0.10
Shagbark hickory	4240	3533	0.21%	7.51	0.12%	4.27	0.14%	4.81	0.10%	3.45
Mockernut hickory	4240	3533	0.00%	0.00	0.00%	0.00	0.18%	6.51	0.00%	0.00
American chestnut	2439	2033	0.36%	7.24	0.08%	1.67	0.19%	3.86	0.05%	0.96
Catalpa	1901	1584	0.00%	0.00	0.00%	0.00	0.01%	0.12	0.00%	0.00
Hackberry spp.	3247	2706	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Hackberry	3247	2706	0.00%	0.00	0.00%	0.00	0.01%	0.30	0.01%	0.31
Flowering dogwood	4230	3525	0.09%	3.35	0.00%	0.00	0.77%	27.09	0.30%	10.57
American beech	3757	3131	8.20%	256.67	8.04%	251.86	1.05%	32.92	8.69%	272.14
Ash spp.	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
White ash	3440	2867	3.21%	92.14	2.00%	57.34	2.57%	73.60	6.94%	199.08
Black ash	3440	2867	0.14%	4.00	0.13%	3.81	0.05%	1.39	0.50%	14.30
Green ash	3440	2867	0.04%	1.19	0.09%	2.64	0.01%	0.30	0.44%	12.69
Pumpkin ash	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
American Mountain ash	3440	2867	0.00%	0.08	0.51%	14.75	0.00%	0.00	0.03%	0.93
Blue ash	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Honeylocust	2992	2493	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.01%	0.18
Kentucky coffeetree	3112	2593	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Walnut	3120	2600	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Butternut	2156	1797	0.00%	0.04	0.02%	0.33	0.00%	0.00	0.04%	0.73
Black walnut	3120	2600	0.00%	0.00	0.00%	0.00	0.44%	11.47	0.06%	1.63
Sweetgum	2464	2053	0.00%	0.00	0.00%	0.00	3.62%	74.37	0.00%	0.01
Yellow poplar	2080	1733	0.01%	0.13	0.00%	0.00	1.21%	21.01	0.06%	1.07
Osage orange	3872	3227	0.00%	0.00	0.00%	0.00	0.00%	0.12	0.00%	0.05
Magnolia spp.	2790	2325	0.00%	0.00	0.00%	0.00	0.23%	5.44	0.00%	0.00
Mountain magnolia	2790	2325	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Apple spp.	4400	3667	0.16%	5.77	0.07%	2.58	0.17%	6.09	2.21%	81.08
Mulberry spp.	3093	2578	0.00%	0.00	0.00%	0.00	0.31%	8.11	0.00%	0.00
White mulberry	3093	2578	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Red mulberry	3093	2578	0.00%	0.06	0.00%	0.00	0.00%	0.00	0.00%	0.03
Water tupelo	2836	2363	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Blackgum	2916	2430	0.42%	10.26	0.00%	0.02	6.15%	149.44	0.10%	2.46
American musclewood	4228	3523	0.97%	34.31	0.12%	4.25	0.97%	34.10	2.66%	93.88
Eastern hop hornbeam	4267	3556	1.18%	41.78	0.80%	28.29	0.47%	16.73	3.59%	127.68
Sourwood	2464	2053	0.00%	0.00	0.00%	0.00	0.00%	0.07	0.00%	0.00
Empress-tree	1215	1013	0.00%	0.00	0.00%	0.00	0.00%	0.03	0.00%	0.00
Sycamore	2956	2463	0.00%	0.00	0.00%	0.00	0.02%	0.53	0.03%	0.72

Species	Weight (lb)	Dry Weight (lb)	MA Species Percentage	MA: Portion of Dry Cord Weight per Species (lb)	NH Species Percentage	NH: Portion of Dry Cord Weight per Species (lb)	NJ Species Percentage	NJ: Portion of Dry Cord Weight per Species (lb)	NY Species Percentage	NY: Portion of Dry Cord Weight per Species (lb)
Balsam poplar	2168	1807	0.00%	0.00	0.06%	1.16	0.00%	0.00	0.03%	0.55
Quaking aspen	2216	1847	0.45%	8.27	1.52%	28.05	0.02%	0.40	2.32%	42.90
Bigtooth aspen	2216	1847	0.57%	10.48	0.74%	13.70	0.10%	1.89	0.55%	10.07
Eastern cottonwood	2247	1873	0.05%	0.89	0.00%	0.00	0.00%	0.07	0.05%	1.01
Swamp cottonwood	2247	1873	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cherry and plum spp.	3120	2600	0.00%	0.00	0.00%	0.03	0.01%	0.19	0.14%	3.64
Pin cherry	3000	2500	0.32%	8.10	1.25%	31.32	0.07%	1.74	0.40%	9.95
Black cherry	2880	2400	2.74%	65.67	1.28%	30.67	2.36%	56.70	3.41%	81.89
Chokecherry	3000	2500	0.13%	3.28	0.14%	3.55	0.01%	0.19	0.22%	5.45
Oak -- deciduous	3940	3283	0.00%	0.00	0.00%	0.00	0.05%	1.51	0.00%	0.00
White oak	3940	3283	2.08%	68.17	0.37%	12.20	6.24%	204.97	0.45%	14.90
Swamp white oak	3940	3283	0.01%	0.17	0.03%	0.96	0.02%	0.71	0.03%	0.98
Scarlet oak	3940	3283	2.06%	67.49	0.04%	1.34	2.96%	97.27	0.19%	6.33
Northern pin oak	3940	3283	0.00%	0.08	0.01%	0.48	0.00%	0.00	0.00%	0.11
Southern red oak	3940	3283	0.00%	0.00	0.00%	0.00	0.24%	7.99	0.00%	0.00
Cherrybark oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bear oak, scrub oak	3940	3283	0.00%	0.00	0.09%	2.97	1.94%	63.63	0.03%	1.11
Shingle oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Overcup oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bur oak	3940	3283	0.01%	0.25	0.00%	0.00	0.19%	6.19	0.01%	0.43
Blackjack oak	3940	3283	0.00%	0.00	0.00%	0.00	0.88%	28.86	0.00%	0.00
Swamp chestnut oak	3940	3283	0.00%	0.06	0.00%	0.00	0.00%	0.00	0.00%	0.00
Chinkapin oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.12
Water oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Pin oak	3940	3283	0.00%	0.00	0.00%	0.00	0.11%	3.54	0.05%	1.53
Willow oak	3940	3283	0.00%	0.00	0.00%	0.00	0.06%	1.84	0.00%	0.00
Chestnut oak	3940	3283	0.09%	2.95	0.03%	1.10	2.11%	69.41	0.42%	13.74
Northern red oak	3940	3283	5.58%	183.07	3.89%	127.83	1.27%	41.68	1.74%	57.14
Post oak	3940	3283	0.00%	0.00	0.00%	0.07	1.00%	32.71	0.00%	0.02
Black oak	3940	3283	2.98%	97.81	0.31%	10.08	2.55%	83.77	0.16%	5.25
Black locust	3840	3200	0.07%	2.24	0.00%	0.03	0.50%	15.91	0.27%	8.58
Willow	2540	2117	0.00%	0.07	0.13%	2.85	0.42%	8.86	0.27%	5.73
Black willow	2540	2117	0.00%	0.05	0.00%	0.00	0.14%	2.93	0.38%	8.09
Sassafras	2624	2187	0.35%	7.62	0.00%	0.00	2.55%	55.83	0.05%	1.04
Basswood spp.	3360	2800	0.00%	0.00	0.00%	0.03	0.00%	0.00	0.00%	0.00
American basswood	3360	2800	0.27%	7.46	0.13%	3.77	0.14%	4.03	0.81%	22.59
White basswood	3360	2800	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Elm spp.	2260	1883	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.04%	0.77
Winged elm	2260	1883	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
American elm	2260	1883	0.28%	5.33	0.30%	5.63	0.58%	10.91	2.22%	41.78
Slippery elm	2260	1883	0.09%	1.74	0.00%	0.07	0.04%	0.68	0.09%	1.65
Rock elm	2260	1883	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.01%	0.13
Cucumbertree *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.09	0.02%	0.54
Sweetbay *	3105	2588	0.00%	0.00	0.00%	0.00	1.37%	35.39	0.00%	0.00
American holly *	3105	2588	0.00%	0.13	0.00%	0.00	1.92%	49.73	0.00%	0.00

Species	Weight (lb)	Dry Weight (lb)	MA Species Percentage	MA: Portion of Dry Cord Weight per Species (lb)	NH Species Percentage	NH: Portion of Dry Cord Weight per Species (lb)	NJ Species Percentage	NJ: Portion of Dry Cord Weight per Species (lb)	NY Species Percentage	NY: Portion of Dry Cord Weight per Species (lb)
Ailanthus *	3105	2588	0.00%	0.00	0.00%	0.03	0.01%	0.36	0.05%	1.17
Common persimmon *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.10	0.00%	0.00
Sugarberry *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern redbud *	3105	2588	0.00%	0.06	0.00%	0.00	0.00%	0.00	0.00%	0.00
Hawthorn *	3105	2588	0.07%	1.70	0.03%	0.70	0.00%	0.00	3.45%	89.16
Serviceberry *	3105	2588	0.68%	17.68	0.12%	3.17	0.46%	11.98	1.42%	36.71
Pawpaw *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
Unknown Species *	3105	2588	0.00%	0.04	0.00%	0.00	0.19%	4.80	0.05%	1.26
Total %			100.00%		100.00%		100.00%		100.00%	
Average Dry Weight				2811.57		2674.14		2653.53		2833.45

\* Based on average of all known cord weights = 3105

State	Average Dry Weight per Cord (lb)	Average Dry Weight per Cord (ton)
Massachusetts (MA)	2811.57	1.41
New Hampshire (NH)	2674.14	1.34
New Jersey (NJ)	2653.53	1.33
New York (NY)	2833.45	1.42

**Table 13**  
**Tree Species and Average Cord Weight by State**

**Section 3**

Species	Weight (lb)	Dry Weight (lb)	PA Species Percentage	PA: Portion of Dry Cord Weight per Species (lb)	RI Species Percentage	RI: Portion of Dry Cord Weight per Species (lb)	VT Species Percentage	VT: Portion of Dry Cord Weight per Species (lb)
Fir spp.	2565	2138	0.00%	0.00	0.09%	1.87	0.00%	0.00
Balsam fir	2565	2138	0.00%	0.00	0.00%	0.00	12.16%	260.01
Fraser fir	2565	2138	0.01%	0.11	0.00%	0.00	0.00%	0.00
Douglas fir	2565	2138	0.03%	0.69	0.00%	0.00	0.00%	0.00
Atlantic white cedar	2060	1717	0.01%	0.11	0.16%	2.78	0.00%	0.00
Eastern red cedar	2060	1717	0.12%	2.10	0.16%	2.71	0.03%	0.45
Northern white cedar	2060	1717	0.00%	0.03	0.00%	0.00	1.37%	23.59
Larch (introduced)	3330	2775	0.09%	2.41	0.00%	0.00	0.00%	0.07
Tamarack (native)	3247	2706	0.04%	1.11	0.29%	7.77	0.08%	2.11
Spruce spp.	2217	1847	0.00%	0.00	0.04%	0.69	0.00%	0.00
Norway spruce	2217	1847	0.18%	3.31	0.00%	0.00	0.02%	0.35
White spruce	2217	1847	0.06%	1.13	0.00%	0.00	0.72%	13.29
Black spruce	2482	2068	0.00%	0.00	0.00%	0.00	0.02%	0.47
Blue spruce	2217	1847	0.04%	0.68	0.00%	0.00	0.00%	0.00
Red spruce	2217	1847	0.08%	1.45	0.00%	0.00	6.45%	119.10
Jack pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00
Shortleaf pine	2428	2023	0.05%	1.02	0.00%	0.00	0.00%	0.00
Table Mountain pine	2428	2023	0.01%	0.28	0.00%	0.00	0.00%	0.00
Red pine	2428	2023	0.29%	5.82	0.07%	1.33	0.03%	0.69
Pitch pine	2428	2023	0.19%	3.93	0.85%	17.26	0.00%	0.00
Pond pine	2428	2023	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern white pine	2428	2023	2.20%	44.54	13.21%	267.13	2.38%	48.06
Scotch pine	2428	2023	0.23%	4.63	0.01%	0.25	0.01%	0.19
Loblolly pine	2428	2023	0.00%	0.01	0.00%	0.00	0.00%	0.00
Virginia pine	2428	2023	0.34%	6.82	0.00%	0.00	0.00%	0.00
Austrian pine	2428	2023	0.01%	0.18	0.00%	0.00	0.00%	0.00
Bald cypress	2609	2175	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern hemlock	2250	1875	3.62%	67.79	1.06%	19.94	5.08%	95.20
Maple spp	3920	3267	0.02%	0.76	0.01%	0.46	0.00%	0.00
Black maple	3920	3267	0.06%	1.99	0.00%	0.00	0.00%	0.00
Striped maple	3920	3267	2.29%	74.72	0.00%	0.00	6.53%	213.38
Red maple	3920	3267	19.90%	650.07	34.01%	1110.89	9.26%	302.59
Silver maple	3920	3267	0.06%	2.07	0.00%	0.00	0.13%	4.17
Sugar maple	3920	3267	6.01%	196.30	1.47%	48.03	16.05%	524.18
Mountain maple	3920	3267	0.03%	0.83	0.00%	0.00	1.06%	34.52
Norway maple	3920	3267	0.05%	1.72	0.00%	0.00	0.00%	0.00
Boxelder	2797	2331	0.29%	6.70	0.00%	0.00	0.00%	0.00
Buckeye, horsechestnut	1653	1378	0.00%	0.00	0.00%	0.00	0.00%	0.00
Ohio buckeye	1984	1653	0.00%	0.00	0.00%	0.00	0.00%	0.00
Yellow buckeye	1984	1653	0.00%	0.02	0.00%	0.00	0.00%	0.00
European alder	2300	1917	0.00%	0.02	0.00%	0.00	0.00%	0.00
Birch spp.	3360	2800	0.01%	0.14	0.00%	0.00	0.00%	0.00

Species	Weight (lb)	Dry Weight (lb)	PA Species Percentage	PA: Portion of Dry Cord Weight per Species (lb)	RI Species Percentage	RI: Portion of Dry Cord Weight per Species (lb)	VT Species Percentage	VT: Portion of Dry Cord Weight per Species (lb)
Yellow birch	3360	2800	0.87%	24.49	5.59%	156.42	5.87%	164.36
Sweet birch	3360	2800	9.52%	266.51	4.89%	136.86	0.87%	24.36
River birch	3360	2800	0.00%	0.11	0.00%	0.00	0.00%	0.00
Paper birch	3360	2800	0.17%	4.68	0.00%	0.00	3.56%	99.64
Gray birch	3360	2800	1.01%	28.30	1.05%	29.38	0.67%	18.67
Hickory spp.	4240	3533	0.01%	0.34	0.01%	0.42	0.03%	0.90
Bitternut hickory	4240	3533	0.27%	9.47	0.18%	6.21	0.13%	4.47
Pignut hickory	4240	3533	0.61%	21.52	0.95%	33.47	0.00%	0.09
Shellbark hickory	4240	3533	0.01%	0.24	0.00%	0.00	0.00%	0.00
Shagbark hickory	4240	3533	0.54%	19.14	0.07%	2.31	0.15%	5.17
Mockernut hickory	4240	3533	0.24%	8.42	0.00%	0.00	0.00%	0.08
American chestnut	2439	2033	0.13%	2.58	0.77%	15.63	0.00%	0.00
Catalpa	1901	1584	0.00%	0.00	0.00%	0.00	0.00%	0.00
Hackberry spp.	3247	2706	0.01%	0.28	0.00%	0.00	0.00%	0.00
Hackberry	3247	2706	0.13%	3.64	0.00%	0.00	0.00%	0.00
Flowering dogwood	4230	3525	0.90%	31.58	1.31%	46.00	0.00%	0.00
American beech	3757	3131	6.08%	190.26	1.29%	40.30	10.49%	328.36
Ash spp.	3440	2867	0.00%	0.02	0.00%	0.00	0.00%	0.00
White ash	3440	2867	3.36%	96.31	0.89%	25.56	3.11%	89.13
Black ash	3440	2867	0.09%	2.67	0.05%	1.46	0.27%	7.85
Green ash	3440	2867	0.20%	5.64	0.03%	0.73	0.09%	2.68
Pumpkin ash	3440	2867	0.00%	0.00	0.00%	0.00	0.00%	0.00
American Mountain ash	3440	2867	0.00%	0.02	0.00%	0.00	0.21%	6.07
Blue ash	3440	2867	0.00%	0.13	0.00%	0.00	0.00%	0.00
Honeylocust	2992	2493	0.00%	0.11	0.00%	0.00	0.00%	0.00
Kentucky coffeetree	3112	2593	0.00%	0.00	0.00%	0.00	0.00%	0.00
Walnut	3120	2600	0.01%	0.19	0.00%	0.00	0.00%	0.00
Butternut	2156	1797	0.02%	0.36	0.00%	0.00	0.04%	0.70
Black walnut	3120	2600	0.34%	8.82	0.00%	0.00	0.00%	0.00
Sweetgum	2464	2053	0.00%	0.01	0.00%	0.00	0.00%	0.00
Yellow poplar	2080	1733	1.13%	19.55	0.08%	1.31	0.00%	0.00
Osage orange	3872	3227	0.02%	0.68	0.00%	0.00	0.00%	0.00
Magnolia spp.	2790	2325	0.01%	0.27	0.00%	0.00	0.00%	0.00
Mountain magnolia	2790	2325	0.00%	0.00	0.00%	0.00	0.00%	0.00
Apple spp.	4400	3667	0.69%	25.42	0.03%	0.92	0.54%	19.68
Mulberry spp.	3093	2578	0.01%	0.21	0.00%	0.00	0.00%	0.00
White mulberry	3093	2578	0.00%	0.00	0.00%	0.00	0.00%	0.00
Red mulberry	3093	2578	0.00%	0.06	0.00%	0.00	0.00%	0.00
Water tupelo	2836	2363	0.00%	0.00	0.00%	0.00	0.00%	0.00
Blackgum	2916	2430	3.09%	75.19	2.10%	51.11	0.00%	0.00
American musclewood	4228	3523	1.24%	43.84	0.01%	0.45	0.43%	15.20
Eastern hop hornbeam	4267	3556	1.67%	59.43	0.65%	22.96	3.31%	117.84
Sourwood	2464	2053	0.00%	0.01	0.00%	0.00	0.00%	0.00
Empress-tree	1215	1013	0.00%	0.00	0.00%	0.00	0.00%	0.00
Sycamore	2956	2463	0.07%	1.77	0.00%	0.00	0.00%	0.00

Species	Weight (lb)	Dry Weight (lb)	PA Species Percentage	PA: Portion of Dry Cord Weight per Species (lb)	RI Species Percentage	RI: Portion of Dry Cord Weight per Species (lb)	VT Species Percentage	VT: Portion of Dry Cord Weight per Species (lb)
Balsam poplar	2168	1807	0.00%	0.06	0.00%	0.00	0.14%	2.50
Quaking aspen	2216	1847	0.85%	15.79	0.00%	0.00	1.84%	33.90
Bigtooth aspen	2216	1847	0.81%	14.89	0.36%	6.74	0.27%	4.92
Eastern cottonwood	2247	1873	0.06%	1.17	0.03%	0.49	0.00%	0.08
Swamp cottonwood	2247	1873	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cherry and plum spp.	3120	2600	0.07%	1.93	0.00%	0.00	0.00%	0.00
Pin cherry	3000	2500	1.16%	29.10	0.00%	0.00	2.21%	55.23
Black cherry	2880	2400	9.06%	217.35	2.02%	48.51	1.39%	33.33
Chokecherry	3000	2500	0.06%	1.40	0.16%	3.91	0.02%	0.55
Oak -- deciduous	3940	3283	0.01%	0.25	0.00%	0.00	0.00%	0.00
White oak	3940	3283	1.85%	60.67	6.01%	197.24	0.07%	2.46
Swamp white oak	3940	3283	0.01%	0.41	0.04%	1.25	0.00%	0.06
Scarlet oak	3940	3283	0.67%	21.97	6.62%	217.42	0.00%	0.00
Northern pin oak	3940	3283	0.00%	0.04	0.00%	0.00	0.00%	0.00
Southern red oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00
Cherrybark oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00
Bear oak, scrub oak	3940	3283	0.27%	8.84	0.18%	5.75	0.00%	0.00
Shingle oak	3940	3283	0.06%	2.00	0.00%	0.00	0.00%	0.00
Overcup oak	3940	3283	0.00%	0.03	0.00%	0.00	0.00%	0.00
Bur oak	3940	3283	0.00%	0.04	0.00%	0.00	0.02%	0.63
Blackjack oak	3940	3283	0.00%	0.00	0.00%	0.00	0.00%	0.00
Swamp chestnut oak	3940	3283	0.00%	0.01	0.00%	0.00	0.00%	0.00
Chinkapin oak	3940	3283	0.00%	0.11	0.00%	0.00	0.00%	0.00
Water oak	3940	3283	0.00%	0.01	0.00%	0.00	0.00%	0.00
Pin oak	3940	3283	0.02%	0.82	0.00%	0.00	0.00%	0.00
Willow oak	3940	3283	0.01%	0.20	0.00%	0.00	0.00%	0.00
Chestnut oak	3940	3283	3.22%	105.56	1.11%	36.47	0.04%	1.33
Northern red oak	3940	3283	3.31%	108.56	5.01%	164.52	0.76%	24.97
Post oak	3940	3283	0.00%	0.01	0.00%	0.00	0.00%	0.00
Black oak	3940	3283	0.78%	25.66	5.07%	166.51	0.01%	0.38
Black locust	3840	3200	1.00%	32.06	0.02%	0.80	0.01%	0.40
Willow	2540	2117	0.01%	0.18	0.00%	0.00	0.51%	10.73
Black willow	2540	2117	0.08%	1.65	0.00%	0.00	0.01%	0.31
Sassafras	2624	2187	1.95%	42.75	1.45%	31.76	0.00%	0.00
Basswood spp.	3360	2800	0.01%	0.39	0.00%	0.00	0.00%	0.11
American basswood	3360	2800	0.41%	11.42	0.00%	0.00	0.16%	4.56
White basswood	3360	2800	0.01%	0.24	0.00%	0.00	0.00%	0.00
Elm spp.	2260	1883	0.00%	0.00	0.00%	0.00	0.00%	0.00
Winged elm	2260	1883	0.01%	0.24	0.00%	0.00	0.00%	0.00
American elm	2260	1883	0.86%	16.13	0.33%	6.23	0.65%	12.16
Slippery elm	2260	1883	0.32%	6.11	0.01%	0.24	0.00%	0.00
Rock elm	2260	1883	0.00%	0.02	0.00%	0.00	0.00%	0.00
Cucumbertree *	3105	2588	0.28%	7.16	0.00%	0.00	0.00%	0.00
Sweetbay *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00
American holly *	3105	2588	0.00%	0.00	0.16%	4.09	0.00%	0.00

Species	Weight (lb)	Dry Weight (lb)	PA Species Percentage	PA: Portion of Dry Cord Weight per Species (lb)	RI Species Percentage	RI: Portion of Dry Cord Weight per Species (lb)	VT Species Percentage	VT: Portion of Dry Cord Weight per Species (lb)
Ailanthus *	3105	2588	0.20%	5.28	0.00%	0.00	0.03%	0.83
Common persimmon *	3105	2588	0.00%	0.01	0.00%	0.00	0.00%	0.00
Sugarberry *	3105	2588	0.00%	0.00	0.00%	0.00	0.00%	0.00
Eastern redbud *	3105	2588	0.17%	4.40	0.00%	0.00	0.00%	0.00
Hawthorn *	3105	2588	2.16%	55.82	0.00%	0.00	0.23%	6.00
Serviceberry *	3105	2588	1.36%	35.32	0.05%	1.37	0.46%	11.88
Pawpaw *	3105	2588	0.02%	0.39	0.00%	0.00	0.00%	0.00
Unknown Species *	3105	2588	0.08%	2.15	0.03%	0.66	0.02%	0.41
Total %			100.00%		100.00%		100.00%	
Average Dry Weight				2874.37		2946.57		2755.39

\* Based on average of all known cord weights = 3105

State	Average Dry Weight per Cord (lb)	Average Dry Weight per Cord (ton)
Pennsylvania (PA)	2874.37	1.44
Rhode Island (RI)	2946.57	1.47
Vermont (VT)	2755.39	1.38

**Table 14  
Wood Heater and Fireplace without Insert Activities**

**Section 1**

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
Connecticut	Fairfield County	5750	Medium	12,983	14,900	1.9	2.8	4.17E+04	3.78E+07	
	Hartford County	6250	Medium	22,513	25,838	1.9	2.8	7.23E+04	6.56E+07	
	Litchfield County	6750	High	6,847	7,858	2.4	3.5	2.78E+04	2.52E+07	
	Middlesex County	5750	Medium	5,156	5,918	1.9	2.8	1.65E+04	1.50E+07	
	New Haven County	5750	Medium	15,687	18,003	1.9	2.8	5.03E+04	4.57E+07	
	New London County	5750	Medium	7,345	8,430	1.9	2.8	2.36E+04	2.14E+07	
	Tolland County	6750	High	5,677	6,515	2.4	3.5	2.30E+04	2.09E+07	
	Windham County	6750	High	5,793	6,649	2.4	3.5	2.35E+04	2.13E+07	
	<b>Total Connecticut</b>				<b>82,001</b>	<b>94,111</b>			<b>2.79E+05</b>	<b>2.53E+08</b>
Delaware	Kent County	4490	Low	4,414	5,066	0.89	1.2	6.00E+03	5.44E+06	
	New Castle County	4900	Low	8,846	10,152	0.89	1.2	1.20E+04	1.09E+07	
	Sussex County	4490	Low	5,734	6,580	0.89	1.2	7.80E+03	7.07E+06	
<b>Total Delaware</b>			<b>18,993</b>	<b>21,798</b>			<b>2.58E+04</b>	<b>2.34E+07</b>	<b>1.3</b>	
Maine	Androscoggin County	8200	High	7,064	8,107	2.4	2.9	2.39E+04	2.17E+07	
	Aroostook County	9670	High	5,987	6,871	2.4	2.9	2.02E+04	1.84E+07	
	Cumberland County	8200	High	11,316	12,988	2.4	2.9	3.82E+04	3.47E+07	
	Franklin County	9670	High	3,159	3,626	2.4	2.9	1.07E+04	9.68E+06	
	Hancock County	7800	High	5,269	6,047	2.4	2.9	1.78E+04	1.62E+07	
	Kennebec County	8200	High	8,444	9,691	2.4	2.9	2.85E+04	2.59E+07	
	Knox County	7600	High	3,825	4,390	2.4	2.9	1.29E+04	1.17E+07	
	Lincoln County	7600	High	3,334	3,826	2.4	2.9	1.13E+04	1.02E+07	
	Oxford County	8200	High	5,385	6,181	2.4	2.9	1.82E+04	1.65E+07	
	Penobscot County	8900	High	9,641	11,065	2.4	2.9	3.26E+04	2.96E+07	
	Piscataquis County	9670	High	1,868	2,144	2.4	2.9	6.31E+03	5.73E+06	
Sagadahoc County	7600	High	3,168	3,636	2.4	2.9	1.07E+04	9.71E+06		



State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Somerset County	9670	High	4,797	5,505	2.4	2.9	1.62E+04	1.47E+07	
	Waldo County	8200	High	4,424	5,078	2.4	2.9	1.49E+04	1.36E+07	
	Washington County	7800	High	2,758	3,165	2.4	2.9	9.32E+03	8.45E+06	
	York County	7600	High	9,161	10,514	2.4	2.9	3.10E+04	2.81E+07	
	<b>Total Maine</b>			<b>89,602</b>	<b>102,834</b>			<b>3.03E+05</b>	<b>2.75E+08</b>	<b>1.2</b>
Maryland	Allegany County	5600	Medium	4,988	5,724	1.9	2.5	1.46E+04	1.32E+07	
	Anne Arundel County	4603	Low	23,043	26,446	0.89	1.2	3.15E+04	2.86E+07	
	Baltimore County	5031	Low	23,614	27,101	0.89	1.2	3.23E+04	2.93E+07	
	Calvert County	4500	Low	3,513	4,032	0.89	1.2	4.80E+03	4.36E+06	
	Caroline County	4300	Low	1,446	1,659	0.89	1.2	1.98E+03	1.79E+06	
	Carroll County	5031	Low	6,230	7,150	0.89	1.2	8.51E+03	7.72E+06	
	Cecil County	5031	Low	3,412	3,916	0.89	1.2	4.66E+03	4.23E+06	
	Charles County	4470	Low	3,924	4,503	0.89	1.2	5.36E+03	4.86E+06	
	Dorchester County	4300	Low	931	1,068	0.89	1.2	1.27E+03	1.15E+06	
	Frederick County	5031	Low	7,760	8,906	0.89	1.2	1.06E+04	9.62E+06	
	Garrett County	6570	High	2,961	3,398	2.4	3.2	1.09E+04	9.90E+06	
	Harford County	5031	Low	6,791	7,794	0.89	1.2	9.28E+03	8.42E+06	
	Howard County	5031	Low	5,345	6,134	0.89	1.2	7.30E+03	6.63E+06	
	Kent County	4712	Low	785	901	0.89	1.2	1.07E+03	9.73E+05	
	Montgomery County	5031	Low	17,293	19,846	0.89	1.2	2.36E+04	2.14E+07	
	Prince George's County	4603	Low	28,327	32,510	0.89	1.2	3.87E+04	3.51E+07	
	Queen Anne's County	4712	Low	1,828	2,098	0.89	1.2	2.50E+03	2.27E+06	
	St. Mary's County	4473	Low	9,541	10,950	0.89	1.2	1.30E+04	1.18E+07	
	Somerset County	4239	Low	940	1,079	0.89	1.2	1.28E+03	1.17E+06	
	Talbot County	4325	Low	1,331	1,527	0.89	1.2	1.82E+03	1.65E+06	
	Washington County	5588	Medium	6,513	7,475	1.9	2.5	1.90E+04	1.72E+07	
	Wicomico County	4239	Low	3,023	3,469	0.89	1.2	4.13E+03	3.75E+06	
	Worcester County	4239	Low	1,878	2,156	0.89	1.2	2.57E+03	2.33E+06	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Baltimore city	5031	Low	1,150	1,320	0.89	1.2	1.57E+03	1.43E+06	
Total Maryland				166,564	191,162			2.52E+05	2.29E+08	1.3
Massachusetts	Barnstable County	5980	Medium	7,478	8,582	1.9	2.7	2.29E+04	2.08E+07	
	Berkshire County	7500	High	7,075	8,119	2.4	3.4	2.74E+04	2.49E+07	
	Bristol County	5980	Medium	10,429	11,969	1.9	2.7	3.20E+04	2.90E+07	
	Dukes County	5980	Medium	922	1,058	1.9	2.7	2.83E+03	2.56E+06	
	Essex County	5980	Medium	14,820	17,008	1.9	2.7	4.54E+04	4.12E+07	
	Franklin County	6690	High	5,675	6,513	2.4	3.4	2.20E+04	1.99E+07	
	Hampden County	6690	High	11,767	13,505	2.4	3.4	4.56E+04	4.13E+07	
	Hampshire County	6690	High	8,021	9,205	2.4	3.4	3.11E+04	2.82E+07	
	Middlesex County	6690	High	20,781	23,850	2.4	3.4	8.05E+04	7.30E+07	
	Nantucket County	5980	Medium	479	550	1.9	2.7	1.47E+03	1.33E+06	
	Norfolk County	5980	Medium	11,190	12,842	1.9	2.7	3.43E+04	3.11E+07	
	Plymouth County	5980	Medium	8,782	10,079	1.9	2.7	2.69E+04	2.44E+07	
	Suffolk County	5980	Medium	660	757	1.9	2.7	2.02E+03	1.83E+06	
	Worcester County	6690	High	21,644	24,840	2.4	3.4	8.38E+04	7.60E+07	
Total Massachusetts				129,723	148,880			4.58E+05	4.16E+08	1.4
New Hampshire	Belknap County	7520	High	3,110	3,569	2.4	3.2	1.15E+04	1.04E+07	
	Carroll County	7520	High	3,660	4,200	2.4	3.2	1.35E+04	1.22E+07	
	Cheshire County	7520	High	5,682	6,521	2.4	3.2	2.09E+04	1.90E+07	
	Coos County	8930	High	2,195	2,520	2.4	3.2	8.09E+03	7.33E+06	
	Grafton County	8930	High	6,509	7,470	2.4	3.2	2.40E+04	2.17E+07	
	Hillsborough County	7520	High	13,714	15,740	2.4	3.2	5.05E+04	4.58E+07	
	Merrimack County	7520	High	6,770	7,769	2.4	3.2	2.49E+04	2.26E+07	
	Rockingham County	7520	High	10,012	11,490	2.4	3.2	3.69E+04	3.34E+07	
	Strafford County	7520	High	4,750	5,452	2.4	3.2	1.75E+04	1.59E+07	
	Sullivan County	7520	High	3,344	3,838	2.4	3.2	1.23E+04	1.12E+07	
Total New Hampshire				59,746	68,569			2.20E+05	2.00E+08	1.3

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
New Jersey	Atlantic County	5020	Low	5,039	5,784	0.89	1.2	6.83E+03	6.20E+06	
	Bergen County	5780	Medium	14,926	17,130	1.9	2.5	4.32E+04	3.92E+07	
	Burlington County	5020	Low	7,199	8,262	0.89	1.2	9.76E+03	8.85E+06	
	Camden County	5020	Low	12,175	13,973	0.89	1.2	1.65E+04	1.50E+07	
	Cape May County	5020	Low	3,205	3,678	0.89	1.2	4.34E+03	3.94E+06	
	Cumberland County	5020	Low	3,057	3,508	0.89	1.2	4.14E+03	3.76E+06	
	Essex County	5780	Medium	5,341	6,130	1.9	2.5	1.55E+04	1.40E+07	
	Gloucester County	5020	Low	4,151	4,764	0.89	1.2	5.63E+03	5.10E+06	
	Hudson County	5780	Medium	651	747	1.9	2.5	1.88E+03	1.71E+06	
	Hunterdon County	5780	Medium	2,707	3,106	1.9	2.5	7.83E+03	7.10E+06	
	Mercer County	5020	Low	5,157	5,919	0.89	1.2	6.99E+03	6.34E+06	
	Middlesex County	5020	Low	10,211	11,719	0.89	1.2	1.38E+04	1.26E+07	
	Monmouth County	5020	Low	9,402	10,790	0.89	1.2	1.27E+04	1.16E+07	
	Morris County	5780	Medium	5,703	6,545	1.9	2.5	1.65E+04	1.50E+07	
	Ocean County	5020	Low	9,881	11,341	0.89	1.2	1.34E+04	1.21E+07	
	Passaic County	5780	Medium	5,718	6,562	1.9	2.5	1.65E+04	1.50E+07	
	Salem County	5020	Low	1,925	2,210	0.89	1.2	2.61E+03	2.37E+06	
	Somerset County	5780	Medium	3,434	3,941	1.9	2.5	9.94E+03	9.01E+06	
	Sussex County	5780	Medium	3,967	4,553	1.9	2.5	1.15E+04	1.04E+07	
Union County	5780	Medium	5,840	6,702	1.9	2.5	1.69E+04	1.53E+07		
Warren County	5780	Medium	3,131	3,594	1.9	2.5	9.06E+03	8.22E+06		
<b>Total New Jersey</b>				<b>122,820</b>	<b>140,959</b>			<b>2.46E+05</b>	<b>2.23E+08</b>	<b>1.3</b>
New York	Albany County	6700	High	7,018	8,055	2.4	3.4	2.74E+04	2.48E+07	
	Allegany County	7520	High	4,199	4,819	2.4	3.4	1.64E+04	1.49E+07	
	Bronx County	5220	Low	1,321	1,516	0.89	1.3	1.91E+03	1.73E+06	
	Broome County	7450	High	8,167	9,373	2.4	3.4	3.19E+04	2.89E+07	
	Cattaraugus County	7520	High	6,668	7,652	2.4	3.4	2.60E+04	2.36E+07	
	Cayuga County	7150	High	5,059	5,806	2.4	3.4	1.97E+04	1.79E+07	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Chautauqua County	7020	High	8,820	10,123	2.4	3.4	3.44E+04	3.12E+07	
	Chemung County	7520	High	4,784	5,491	2.4	3.4	1.87E+04	1.69E+07	
	Chenango County	7450	High	4,128	4,738	2.4	3.4	1.61E+04	1.46E+07	
	Clinton County	7870	High	3,841	4,409	2.4	3.4	1.50E+04	1.36E+07	
	Columbia County	6700	High	2,984	3,424	2.4	3.4	1.16E+04	1.06E+07	
	Cortland County	7150	High	3,018	3,463	2.4	3.4	1.18E+04	1.07E+07	
	Delaware County	7450	High	4,404	5,054	2.4	3.4	1.72E+04	1.56E+07	
	Dutchess County	6700	High	6,297	7,227	2.4	3.4	2.46E+04	2.23E+07	
	Erie County	7020	High	30,543	35,053	2.4	3.4	1.19E+05	1.08E+08	
	Essex County	7870	High	2,533	2,907	2.4	3.4	9.88E+03	8.97E+06	
	Franklin County	8200	High	3,521	4,041	2.4	3.4	1.37E+04	1.25E+07	
	Fulton County	8960	High	3,256	3,737	2.4	3.4	1.27E+04	1.15E+07	
	Genesee County	7020	High	2,583	2,965	2.4	3.4	1.01E+04	9.15E+06	
	Greene County	6700	High	2,576	2,957	2.4	3.4	1.01E+04	9.12E+06	
	Hamilton County	8960	High	634	728	2.4	3.4	2.47E+03	2.24E+06	
	Herkimer County	7560	High	4,577	5,253	2.4	3.4	1.79E+04	1.62E+07	
	Jefferson County	7020	High	5,748	6,597	2.4	3.4	2.24E+04	2.03E+07	
	Kings County	5220	Low	2,501	2,870	0.89	1.3	3.62E+03	3.28E+06	
	Lewis County	8960	High	4,063	4,663	2.4	3.4	1.59E+04	1.44E+07	
	Livingston County	7150	High	3,427	3,933	2.4	3.4	1.34E+04	1.21E+07	
	Madison County	7450	High	4,400	5,050	2.4	3.4	1.72E+04	1.56E+07	
	Monroe County	7020	High	18,142	20,821	2.4	3.4	7.08E+04	6.42E+07	
	Montgomery County	7560	High	2,837	3,256	2.4	3.4	1.11E+04	1.00E+07	
	Nassau County	5220	Low	2,409	2,765	0.89	1.3	3.49E+03	3.16E+06	
	New York County	5220	Low	2,167	2,487	0.89	1.3	3.14E+03	2.84E+06	
	Niagara County	7020	High	6,591	7,565	2.4	3.4	2.57E+04	2.33E+07	
	Oneida County	7560	High	10,404	11,940	2.4	3.4	4.06E+04	3.68E+07	
	Onondaga County	7150	High	11,468	13,162	2.4	3.4	4.48E+04	4.06E+07	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Ontario County	7150	High	7,528	8,640	2.4	3.4	2.94E+04	2.66E+07	
	Orange County	6700	High	4,791	5,498	2.4	3.4	1.87E+04	1.70E+07	
	Orleans County	7020	High	2,125	2,439	2.4	3.4	8.29E+03	7.52E+06	
	Oswego County	7020	High	7,797	8,948	2.4	3.4	3.04E+04	2.76E+07	
	Otsego County	7450	High	4,587	5,264	2.4	3.4	1.79E+04	1.62E+07	
	Putnam County	6700	High	2,215	2,542	2.4	3.4	8.64E+03	7.84E+06	
	Queens County	5220	Low	2,193	2,517	0.89	1.3	3.17E+03	2.88E+06	
	Rensselaer County	6700	High	7,783	8,932	2.4	3.4	3.04E+04	2.76E+07	
	Richmond County	5220	Low	457	524	0.89	1.3	6.61E+02	6.00E+05	
	Rockland County	6700	High	1,764	2,025	2.4	3.4	6.88E+03	6.25E+06	
	St. Lawrence County	8200	High	7,560	8,676	2.4	3.4	2.95E+04	2.68E+07	
	Saratoga County	6700	High	10,321	11,846	2.4	3.4	4.03E+04	3.65E+07	
	Schenectady County	6700	High	4,239	4,865	2.4	3.4	1.65E+04	1.50E+07	
	Schoharie County	7450	High	3,124	3,585	2.4	3.4	1.22E+04	1.11E+07	
	Schuyler County	7150	High	1,500	1,721	2.4	3.4	5.85E+03	5.31E+06	
	Seneca County	7150	High	1,349	1,548	2.4	3.4	5.26E+03	4.77E+06	
	Steuben County	7520	High	7,099	8,148	2.4	3.4	2.77E+04	2.51E+07	
	Suffolk County	5220	Low	21,850	25,076	0.89	1.3	3.16E+04	2.87E+07	
	Sullivan County	7450	High	3,584	4,114	2.4	3.4	1.40E+04	1.27E+07	
	Tioga County	7520	High	4,185	4,803	2.4	3.4	1.63E+04	1.48E+07	
	Tompkins County	7150	High	5,314	6,099	2.4	3.4	2.07E+04	1.88E+07	
	Ulster County	6700	High	7,115	8,166	2.4	3.4	2.78E+04	2.52E+07	
	Warren County	7870	High	4,803	5,513	2.4	3.4	1.87E+04	1.70E+07	
	Washington County	6700	High	5,777	6,630	2.4	3.4	2.25E+04	2.05E+07	
	Wayne County	7020	High	5,191	5,958	2.4	3.4	2.03E+04	1.84E+07	
	Westchester County	6700	High	13,778	15,813	2.4	3.4	5.38E+04	4.88E+07	
	Wyoming County	7020	High	2,810	3,225	2.4	3.4	1.10E+04	9.95E+06	
	Yates County	7150	High	1,685	1,934	2.4	3.4	6.58E+03	5.97E+06	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
Total New York				347,612	398,948			1.28E+06	1.16E+09	1.4
Pennsylvania	Adams County	5550	Medium	5,065	5,813	1.9	2.7	1.59E+04	1.44E+07	
	Allegheny County	6160	Medium	22,572	25,905	1.9	2.7	7.07E+04	6.42E+07	
	Armstrong County	6160	Medium	2,288	2,625	1.9	2.7	7.17E+03	6.50E+06	
	Beaver County	6160	Medium	5,073	5,822	1.9	2.7	1.59E+04	1.44E+07	
	Bedford County	6260	Medium	4,248	4,875	1.9	2.7	1.33E+04	1.21E+07	
	Berks County	5360	Low	9,324	10,701	0.89	1.3	1.37E+04	1.24E+07	
	Blair County	6260	Medium	4,675	5,366	1.9	2.7	1.47E+04	1.33E+07	
	Bradford County	7260	High	4,811	5,522	2.4	3.4	1.90E+04	1.73E+07	
	Bucks County	5360	Low	10,808	12,404	0.89	1.3	1.59E+04	1.44E+07	
	Butler County	6160	Medium	5,426	6,228	1.9	2.7	1.70E+04	1.54E+07	
	Cambria County	6260	Medium	3,939	4,521	1.9	2.7	1.23E+04	1.12E+07	
	Cameron County	6720	High	415	476	2.4	3.4	1.64E+03	1.49E+06	
	Carbon County	5990	Medium	1,854	2,128	1.9	2.7	5.81E+03	5.27E+06	
	Centre County	6720	High	6,069	6,965	2.4	3.4	2.40E+04	2.18E+07	
	Chester County	5360	Low	8,570	9,835	0.89	1.3	1.26E+04	1.14E+07	
	Clarion County	7020	High	1,722	1,977	2.4	3.4	6.82E+03	6.19E+06	
	Clearfield County	6720	High	2,631	3,019	2.4	3.4	1.04E+04	9.45E+06	
	Clinton County	6720	High	1,945	2,233	2.4	3.4	7.70E+03	6.99E+06	
	Columbia County	6090	Medium	2,889	3,316	1.9	2.7	9.05E+03	8.21E+06	
	Crawford County	7020	High	6,657	7,640	2.4	3.4	2.64E+04	2.39E+07	
	Cumberland County	5550	Medium	7,773	8,921	1.9	2.7	2.44E+04	2.21E+07	
	Dauphin County	5360	Low	5,480	6,289	0.89	1.3	8.04E+03	7.30E+06	
	Delaware County	5360	Low	7,348	8,434	0.89	1.3	1.08E+04	9.79E+06	
	Elk County	6720	High	1,585	1,819	2.4	3.4	6.28E+03	5.69E+06	
	Erie County	7020	High	9,020	10,352	2.4	3.4	3.57E+04	3.24E+07	
	Fayette County	6160	Medium	4,718	5,415	1.9	2.7	1.48E+04	1.34E+07	
	Forest County	7020	High	507	582	2.4	3.4	2.01E+03	1.82E+06	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Franklin County	5550	Medium	7,208	8,273	1.9	2.7	2.26E+04	2.05E+07	
	Fulton County	6260	Medium	1,881	2,159	1.9	2.7	5.90E+03	5.35E+06	
	Greene County	6160	Medium	1,622	1,862	1.9	2.7	5.08E+03	4.61E+06	
	Huntingdon County	6090	Medium	3,646	4,184	1.9	2.7	1.14E+04	1.04E+07	
	Indiana County	6260	Medium	3,322	3,812	1.9	2.7	1.04E+04	9.44E+06	
	Jefferson County	6160	Medium	1,921	2,204	1.9	2.7	6.02E+03	5.46E+06	
	Juniata County	6090	Medium	2,287	2,625	1.9	2.7	7.17E+03	6.50E+06	
	Lackawanna County	6950	High	5,048	5,793	2.4	3.4	2.00E+04	1.81E+07	
	Lancaster County	5360	Low	14,367	16,489	0.89	1.3	2.11E+04	1.91E+07	
	Lawrence County	6160	Medium	2,996	3,438	1.9	2.7	9.39E+03	8.52E+06	
	Lebanon County	5360	Low	3,772	4,329	0.89	1.3	5.54E+03	5.02E+06	
	Lehigh County	5990	Medium	6,910	7,930	1.9	2.7	2.17E+04	1.96E+07	
	Luzerne County	6950	High	6,335	7,270	2.4	3.4	2.51E+04	2.27E+07	
	Lycoming County	6090	Medium	6,865	7,879	1.9	2.7	2.15E+04	1.95E+07	
	McKean County	7020	High	2,346	2,693	2.4	3.4	9.29E+03	8.43E+06	
	Mercer County	7020	High	5,200	5,968	2.4	3.4	2.06E+04	1.87E+07	
	Mifflin County	6090	Medium	3,863	4,434	1.9	2.7	1.21E+04	1.10E+07	
	Monroe County	6950	High	5,592	6,418	2.4	3.4	2.21E+04	2.01E+07	
	Montgomery County	5360	Low	27,940	32,066	0.89	1.3	4.10E+04	3.72E+07	
	Montour County	6090	Medium	766	879	1.9	2.7	2.40E+03	2.18E+06	
	Northampton County	5990	Medium	5,750	6,600	1.9	2.7	1.80E+04	1.63E+07	
	Northumberland County	6090	Medium	3,062	3,514	1.9	2.7	9.60E+03	8.70E+06	
	Perry County	6090	Medium	3,984	4,572	1.9	2.7	1.25E+04	1.13E+07	
	Philadelphia County	5360	Low	7,924	9,094	0.89	1.3	1.16E+04	1.06E+07	
	Pike County	6950	High	3,555	4,080	2.4	3.4	1.41E+04	1.28E+07	
	Potter County	7020	High	1,690	1,940	2.4	3.4	6.69E+03	6.07E+06	
	Schuylkill County	5990	Medium	3,258	3,739	1.9	2.7	1.02E+04	9.26E+06	
	Snyder County	6090	Medium	2,310	2,651	1.9	2.7	7.24E+03	6.57E+06	

State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Somerset County	6260	Medium	3,769	4,326	1.9	2.7	1.18E+04	1.07E+07	
	Sullivan County	7260	High	642	737	2.4	3.4	2.54E+03	2.31E+06	
	Susquehanna County	7260	High	3,687	4,231	2.4	3.4	1.46E+04	1.32E+07	
	Tioga County	7260	High	3,582	4,111	2.4	3.4	1.42E+04	1.29E+07	
	Union County	6090	Medium	1,844	2,117	1.9	2.7	5.78E+03	5.24E+06	
	Venango County	7020	High	3,470	3,983	2.4	3.4	1.37E+04	1.25E+07	
	Warren County	7020	High	3,491	4,007	2.4	3.4	1.38E+04	1.25E+07	
	Washington County	6160	Medium	6,376	7,318	1.9	2.7	2.00E+04	1.81E+07	
	Wayne County	6950	High	3,251	3,731	2.4	3.4	1.29E+04	1.17E+07	
	Westmoreland County	6160	Medium	17,664	20,273	1.9	2.7	5.54E+04	5.02E+07	
	Wyoming County	7260	High	2,127	2,442	2.4	3.4	8.42E+03	7.64E+06	
	York County	5550	Medium	13,823	15,864	1.9	2.7	4.33E+04	3.93E+07	
	<b>Total Pennsylvania</b>			<b>356,559</b>	<b>409,216</b>			<b>1.03E+06</b>	<b>9.33E+08</b>	<b>1.4</b>
Rhode Island	Bristol County	5890	Medium	1,614	1,853	1.9	2.8	5.19E+03	4.70E+06	
	Kent County	5890	Medium	5,332	6,120	1.9	2.8	1.71E+04	1.55E+07	
	Newport County	5890	Medium	2,779	3,190	1.9	2.8	8.93E+03	8.10E+06	
	Providence County	5890	Medium	12,042	13,821	1.9	2.8	3.87E+04	3.51E+07	
	Washington County	5890	Medium	4,932	5,660	1.9	2.8	1.58E+04	1.44E+07	
	<b>Total Rhode Island</b>			<b>26,700</b>	<b>30,643</b>			<b>8.58E+04</b>	<b>7.78E+07</b>	<b>1.5</b>
District of Columbia	District of Columbia	4250	Low	2,348	2,694	0.89	1.2	3.21E+03	2.91E+06	
	<b>Total D.C.</b>			<b>2,348</b>	<b>2,694</b>			<b>3.21E+03</b>	<b>2.91E+06</b>	<b>1.3</b>
Vermont	Addison County	7840	High	3,855	4,425	2.4	3.3	1.46E+04	1.33E+07	
	Bennington County	7840	High	2,946	3,381	2.4	3.3	1.12E+04	1.01E+07	
	Caledonia County	8720	High	3,690	4,235	2.4	3.3	1.40E+04	1.27E+07	
	Chittenden County	7840	High	8,228	9,444	2.4	3.3	3.12E+04	2.83E+07	
	Essex County	8720	High	830	952	2.4	3.3	3.15E+03	2.86E+06	
	Franklin County	8720	High	3,665	4,207	2.4	3.3	1.39E+04	1.26E+07	
	Grand Isle County	7840	High	961	1,102	2.4	3.3	3.65E+03	3.31E+06	



State	County	HDD	Heating category	Total households using wood heaters for heating	Number of wood heaters	Number of cords burned per wood heater	Dry weight of cords burned per wood heater (tons)	Total dry weight of cordwood burned by wood heaters (tons)	Total dry mass of cordwood burned by wood heaters (Kg)	Average dry weight of cordwood by state (tons)
	Lamoille County	8720	High	2,701	3,100	2.4	3.3	1.03E+04	9.30E+06	
	Orange County	8720	High	3,925	4,505	2.4	3.3	1.49E+04	1.35E+07	
	Orleans County	8720	High	4,077	4,679	2.4	3.3	1.55E+04	1.40E+07	
	Rutland County	7840	High	5,557	6,377	2.4	3.3	2.11E+04	1.91E+07	
	Washington County	8720	High	5,993	6,878	2.4	3.3	2.27E+04	2.06E+07	
	Windham County	7780	High	5,985	6,869	2.4	3.3	2.27E+04	2.06E+07	
	Windsor County	7780	High	6,226	7,146	2.4	3.3	2.36E+04	2.14E+07	
Total Vermont				58,639	67,299			2.23E+05	2.02E+08	1.4

Total MANE-VU				1,461,307	1,677,113			4,399,172	3.99E+09	
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Def.	Cat.	Ton Sum	Kg Sum
> 6500	High	2.69E+06	2.44E+09
5500-6499	Med.	1.19E+06	1.08E+09
< 5499	Low	5.22E+05	4.73E+08

**Table 14  
Wood Heater and Fireplace without Insert Activities**

**Section 2**

State	County	HDD	Heating category	Total households using fireplaces w/o inserts for heating	Number of fireplaces w/o inserts used for heating	Number of cords burned per fireplace w/o insert used for heating	Dry weight of cords burned per fireplaces w/o inserts used for heating (tons)	Total dry weight of cordwood burned by fireplaces w/o inserts used for heating (tons)	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Average dry weight of cordwood by state (tons)
Connecticut	Fairfield County	5750	Medium	5,972	7,943	0.5	0.7	5.85E+03	5.30E+06	
	Hartford County	6250	Medium	8,160	10,853	0.5	0.7	7.99E+03	7.25E+06	
	Litchfield County	6750	High	1,930	2,567	1.68	2.5	6.35E+03	5.76E+06	
	Middlesex County	5750	Medium	2,247	2,989	0.5	0.7	2.20E+03	2.00E+06	
	New Haven County	5750	Medium	10,945	14,557	0.5	0.7	1.07E+04	9.72E+06	
	New London County	5750	Medium	5,537	7,364	0.5	0.7	5.42E+03	4.92E+06	
	Tolland County	6750	High	2,466	3,280	1.68	2.5	8.11E+03	7.36E+06	
	Windham County	6750	High	3,825	5,087	1.68	2.5	1.26E+04	1.14E+07	
	<b>Total Connecticut</b>				<b>41,082</b>	<b>54,639</b>			<b>5.92E+04</b>	<b>5.37E+07</b>
Delaware	Kent County	4490	Low	3,561	4,736	0.51	0.7	3.21E+03	2.92E+06	
	New Castle County	4900	Low	14,704	19,556	0.51	0.7	1.33E+04	1.20E+07	
	Sussex County	4490	Low	3,061	4,071	0.51	0.7	2.76E+03	2.51E+06	
<b>Total Delaware</b>				<b>21,325</b>	<b>28,362</b>			<b>1.93E+04</b>	<b>1.75E+07</b>	<b>1.3</b>
Maine	Androscoggin County	8200	High	3,910	5,201	1.68	2.1	1.07E+04	9.72E+06	
	Aroostook County	9670	High	2,036	2,707	1.68	2.1	5.58E+03	5.06E+06	
	Cumberland County	8200	High	6,687	8,893	1.68	2.1	1.83E+04	1.66E+07	
	Franklin County	9670	High	1,267	1,685	1.68	2.1	3.47E+03	3.15E+06	
	Hancock County	7800	High	1,347	1,792	1.68	2.1	3.69E+03	3.35E+06	
	Kennebec County	8200	High	2,505	3,332	1.68	2.1	6.87E+03	6.23E+06	
	Knox County	7600	High	965	1,284	1.68	2.1	2.65E+03	2.40E+06	
	Lincoln County	7600	High	797	1,061	1.68	2.1	2.19E+03	1.98E+06	
	Oxford County	8200	High	1,949	2,592	1.68	2.1	5.34E+03	4.85E+06	
	Penobscot County	8900	High	2,947	3,919	1.68	2.1	8.08E+03	7.33E+06	
	Piscataquis County	9670	High	746	993	1.68	2.1	2.05E+03	1.86E+06	
Sagadahoc County	7600	High	761	1,013	1.68	2.1	2.09E+03	1.89E+06		

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	Somerset County	9670	High	1,884	2,506	1.68	2.1	5.16E+03	4.69E+06	
	Waldo County	8200	High	1,498	1,993	1.68	2.1	4.11E+03	3.73E+06	
	Washington County	7800	High	884	1,175	1.68	2.1	2.42E+03	2.20E+06	
	York County	7600	High	2,575	3,424	1.68	2.1	7.06E+03	6.40E+06	
	<b>Total Maine</b>			<b>32,759</b>	<b>43,569</b>			<b>8.98E+04</b>	<b>8.15E+07</b>	<b>1.2</b>
Maryland	Allegany County	5600	Medium	2,932	3,899	0.5	0.7	2.61E+03	2.37E+06	
	Anne Arundel County	4603	Low	7,261	9,657	0.51	0.7	6.59E+03	5.98E+06	
	Baltimore County	5031	Low	4,262	5,668	0.51	0.7	3.87E+03	3.51E+06	
	Calvert County	4500	Low	1,548	2,059	0.51	0.7	1.41E+03	1.27E+06	
	Caroline County	4300	Low	372	495	0.51	0.7	3.38E+02	3.07E+05	
	Carroll County	5031	Low	2,839	3,776	0.51	0.7	2.58E+03	2.34E+06	
	Cecil County	5031	Low	1,388	1,846	0.51	0.7	1.26E+03	1.14E+06	
	Charles County	4470	Low	1,815	2,414	0.51	0.7	1.65E+03	1.49E+06	
	Dorchester County	4300	Low	124	165	0.51	0.7	1.12E+02	1.02E+05	
	Frederick County	5031	Low	4,127	5,489	0.51	0.7	3.75E+03	3.40E+06	
	Garrett County	6570	High	1,008	1,340	1.68	2.2	3.01E+03	2.73E+06	
	Harford County	5031	Low	2,674	3,556	0.51	0.7	2.43E+03	2.20E+06	
	Howard County	5031	Low	1,766	2,349	0.51	0.7	1.60E+03	1.45E+06	
	Kent County	4712	Low	164	218	0.51	0.7	1.49E+02	1.35E+05	
	Montgomery County	5031	Low	5,980	7,953	0.51	0.7	5.43E+03	4.92E+06	
	Prince George's County	4603	Low	8,874	11,803	0.51	0.7	8.05E+03	7.31E+06	
	Queen Anne's County	4712	Low	662	880	0.51	0.7	6.01E+02	5.45E+05	
	St. Mary's County	4473	Low	2,786	3,705	0.51	0.7	2.53E+03	2.29E+06	
	Somerset County	4239	Low	219	291	0.51	0.7	1.98E+02	1.80E+05	
	Talbot County	4325	Low	256	340	0.51	0.7	2.32E+02	2.11E+05	
	Washington County	5588	Medium	4,755	6,324	0.5	0.7	4.23E+03	3.84E+06	
	Wicomico County	4239	Low	630	838	0.51	0.7	5.72E+02	5.19E+05	
	Worcester County	4239	Low	385	511	0.51	0.7	3.49E+02	3.17E+05	

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	Baltimore city	5031	Low	791	1,052	0.51	0.7	7.18E+02	6.51E+05	
Total Maryland				57,616	76,629			5.42E+04	4.92E+07	1.3
Massachusetts	Barnstable County	5980	Medium	4,454	5,924	0.5	0.7	4.16E+03	3.78E+06	
	Berkshire County	7500	High	4,579	6,091	1.68	2.4	1.44E+04	1.30E+07	
	Bristol County	5980	Medium	5,056	6,724	0.5	0.7	4.73E+03	4.29E+06	
	Dukes County	5980	Medium	241	321	0.5	0.7	2.25E+02	2.04E+05	
	Essex County	5980	Medium	5,714	7,600	0.5	0.7	5.34E+03	4.85E+06	
	Franklin County	6690	High	1,918	2,551	1.68	2.4	6.03E+03	5.47E+06	
	Hampden County	6690	High	8,641	11,493	1.68	2.4	2.71E+04	2.46E+07	
	Hampshire County	6690	High	6,132	8,156	1.68	2.4	1.93E+04	1.75E+07	
	Middlesex County	6690	High	6,930	9,217	1.68	2.4	2.18E+04	1.97E+07	
	Nantucket County	5980	Medium	147	195	0.5	0.7	1.37E+02	1.25E+05	
	Norfolk County	5980	Medium	3,119	4,148	0.5	0.7	2.92E+03	2.64E+06	
	Plymouth County	5980	Medium	3,624	4,820	0.5	0.7	3.39E+03	3.07E+06	
	Suffolk County	5980	Medium	818	1,089	0.5	0.7	7.65E+02	6.94E+05	
	Worcester County	6690	High	16,195	21,540	1.68	2.4	5.09E+04	4.61E+07	
Total Massachusetts				67,570	89,868			1.61E+05	1.46E+08	1.4
New Hampshire	Belknap County	7520	High	859	1,142	1.68	2.2	2.57E+03	2.33E+06	
	Carroll County	7520	High	1,094	1,455	1.68	2.2	3.27E+03	2.97E+06	
	Cheshire County	7520	High	1,973	2,624	1.68	2.2	5.89E+03	5.35E+06	
	Coos County	8930	High	723	961	1.68	2.2	2.16E+03	1.96E+06	
	Grafton County	8930	High	2,216	2,947	1.68	2.2	6.62E+03	6.01E+06	
	Hillsborough County	7520	High	9,761	12,982	1.68	2.2	2.92E+04	2.65E+07	
	Merrimack County	7520	High	1,941	2,582	1.68	2.2	5.80E+03	5.26E+06	
	Rockingham County	7520	High	4,107	5,463	1.68	2.2	1.23E+04	1.11E+07	
	Strafford County	7520	High	2,993	3,980	1.68	2.2	8.94E+03	8.11E+06	
	Sullivan County	7520	High	1,129	1,501	1.68	2.2	3.37E+03	3.06E+06	
Total New Hampshire				26,796	35,638			8.01E+04	7.26E+07	1.3

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New Jersey	Atlantic County	5020	Low	2,169	2,884	0.51	0.7	1.95E+03	1.77E+06	
	Bergen County	5780	Medium	4,640	6,172	0.5	0.7	4.09E+03	3.71E+06	
	Burlington County	5020	Low	2,259	3,004	0.51	0.7	2.03E+03	1.84E+06	
	Camden County	5020	Low	2,123	2,823	0.51	0.7	1.91E+03	1.73E+06	
	Cape May County	5020	Low	1,415	1,882	0.51	0.7	1.27E+03	1.16E+06	
	Cumberland County	5020	Low	1,048	1,394	0.51	0.7	9.43E+02	8.56E+05	
	Essex County	5780	Medium	1,719	2,287	0.5	0.7	1.52E+03	1.38E+06	
	Gloucester County	5020	Low	1,221	1,623	0.51	0.7	1.10E+03	9.97E+05	
	Hudson County	5780	Medium	1,241	1,651	0.5	0.7	1.10E+03	9.94E+05	
	Hunterdon County	5780	Medium	520	691	0.5	0.7	4.59E+02	4.16E+05	
	Mercer County	5020	Low	826	1,098	0.51	0.7	7.43E+02	6.74E+05	
	Middlesex County	5020	Low	2,988	3,974	0.51	0.7	2.69E+03	2.44E+06	
	Monmouth County	5020	Low	1,570	2,088	0.51	0.7	1.41E+03	1.28E+06	
	Morris County	5780	Medium	1,676	2,229	0.5	0.7	1.48E+03	1.34E+06	
	Ocean County	5020	Low	2,730	3,630	0.51	0.7	2.46E+03	2.23E+06	
	Passaic County	5780	Medium	1,156	1,538	0.5	0.7	1.02E+03	9.26E+05	
	Salem County	5020	Low	546	727	0.51	0.7	4.92E+02	4.46E+05	
	Somerset County	5780	Medium	783	1,041	0.5	0.7	6.91E+02	6.27E+05	
	Sussex County	5780	Medium	1,400	1,862	0.5	0.7	1.23E+03	1.12E+06	
	Union County	5780	Medium	1,234	1,642	0.5	0.7	1.09E+03	9.88E+05	
Warren County	5780	Medium	1,181	1,571	0.5	0.7	1.04E+03	9.45E+05		
<b>Total New Jersey</b>				<b>34,445</b>	<b>45,811</b>			<b>3.07E+04</b>	<b>2.79E+07</b>	<b>1.3</b>
New York	Albany County	6700	High	3,504	4,660	1.68	2.4	1.11E+04	1.01E+07	
	Allegany County	7520	High	960	1,277	1.68	2.4	3.04E+03	2.76E+06	
	Bronx County	5220	Low	208	277	0.51	0.7	2.00E+02	1.81E+05	
	Broome County	7450	High	3,524	4,687	1.68	2.4	1.12E+04	1.01E+07	
	Cattaraugus County	7520	High	1,568	2,086	1.68	2.4	4.96E+03	4.50E+06	
	Cayuga County	7150	High	2,035	2,706	1.68	2.4	6.44E+03	5.84E+06	

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	Chautauqua County	7020	High	3,605	4,795	1.68	2.4	1.14E+04	1.04E+07	
	Chemung County	7520	High	1,957	2,603	1.68	2.4	6.19E+03	5.62E+06	
	Chenango County	7450	High	1,258	1,673	1.68	2.4	3.98E+03	3.61E+06	
	Clinton County	7870	High	1,141	1,517	1.68	2.4	3.61E+03	3.28E+06	
	Columbia County	6700	High	755	1,004	1.68	2.4	2.39E+03	2.17E+06	
	Cortland County	7150	High	737	980	1.68	2.4	2.33E+03	2.12E+06	
	Delaware County	7450	High	1,432	1,904	1.68	2.4	4.53E+03	4.11E+06	
	Dutchess County	6700	High	3,704	4,926	1.68	2.4	1.17E+04	1.06E+07	
	Erie County	7020	High	4,287	5,702	1.68	2.4	1.36E+04	1.23E+07	
	Essex County	7870	High	818	1,088	1.68	2.4	2.59E+03	2.35E+06	
	Franklin County	8200	High	1,299	1,728	1.68	2.4	4.11E+03	3.73E+06	
	Fulton County	8960	High	809	1,076	1.68	2.4	2.56E+03	2.32E+06	
	Genesee County	7020	High	536	712	1.68	2.4	1.70E+03	1.54E+06	
	Greene County	6700	High	748	995	1.68	2.4	2.37E+03	2.15E+06	
	Hamilton County	8960	High	210	279	1.68	2.4	6.65E+02	6.03E+05	
	Herkimer County	7560	High	2,191	2,914	1.68	2.4	6.94E+03	6.29E+06	
	Jefferson County	7020	High	1,533	2,039	1.68	2.4	4.85E+03	4.40E+06	
	Kings County	5220	Low	393	523	0.51	0.7	3.78E+02	3.43E+05	
	Lewis County	8960	High	1,583	2,105	1.68	2.4	5.01E+03	4.55E+06	
	Livingston County	7150	High	969	1,289	1.68	2.4	3.07E+03	2.78E+06	
	Madison County	7450	High	1,959	2,605	1.68	2.4	6.20E+03	5.63E+06	
	Monroe County	7020	High	3,135	4,169	1.68	2.4	9.92E+03	9.00E+06	
	Montgomery County	7560	High	1,324	1,762	1.68	2.4	4.19E+03	3.80E+06	
	Nassau County	5220	Low	6,176	8,214	0.51	0.7	5.93E+03	5.38E+06	
	New York County	5220	Low	341	454	0.51	0.7	3.28E+02	2.97E+05	
	Niagara County	7020	High	1,334	1,774	1.68	2.4	4.22E+03	3.83E+06	
	Oneida County	7560	High	4,761	6,332	1.68	2.4	1.51E+04	1.37E+07	
	Onondaga County	7150	High	5,159	6,862	1.68	2.4	1.63E+04	1.48E+07	

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	Ontario County	7150	High	283	376	1.68	2.4	8.96E+02	8.13E+05	
	Orange County	6700	High	1,656	2,203	1.68	2.4	5.24E+03	4.76E+06	
	Orleans County	7020	High	576	766	1.68	2.4	1.82E+03	1.65E+06	
	Oswego County	7020	High	3,188	4,240	1.68	2.4	1.01E+04	9.15E+06	
	Otsego County	7450	High	1,400	1,862	1.68	2.4	4.43E+03	4.02E+06	
	Putnam County	6700	High	996	1,325	1.68	2.4	3.15E+03	2.86E+06	
	Queens County	5220	Low	345	459	0.51	0.7	3.32E+02	3.01E+05	
	Rensselaer County	6700	High	4,580	6,091	1.68	2.4	1.45E+04	1.32E+07	
	Richmond County	5220	Low	72	96	0.51	0.7	6.92E+01	6.28E+04	
	Rockland County	6700	High	595	791	1.68	2.4	1.88E+03	1.71E+06	
	St. Lawrence County	8200	High	2,354	3,130	1.68	2.4	7.45E+03	6.76E+06	
	Saratoga County	6700	High	5,513	7,333	1.68	2.4	1.75E+04	1.58E+07	
	Schenectady County	6700	High	1,703	2,265	1.68	2.4	5.39E+03	4.89E+06	
	Schoharie County	7450	High	1,762	2,344	1.68	2.4	5.58E+03	5.06E+06	
	Schuyler County	7150	High	403	536	1.68	2.4	1.28E+03	1.16E+06	
	Seneca County	7150	High	218	290	1.68	2.4	6.89E+02	6.25E+05	
	Steuben County	7520	High	1,548	2,059	1.68	2.4	4.90E+03	4.45E+06	
	Suffolk County	5220	Low	9,465	12,588	0.51	0.7	9.10E+03	8.25E+06	
	Sullivan County	7450	High	971	1,292	1.68	2.4	3.07E+03	2.79E+06	
	Tioga County	7520	High	2,063	2,743	1.68	2.4	6.53E+03	5.92E+06	
	Tompkins County	7150	High	1,195	1,589	1.68	2.4	3.78E+03	3.43E+06	
	Ulster County	6700	High	1,998	2,657	1.68	2.4	6.32E+03	5.74E+06	
	Warren County	7870	High	2,702	3,593	1.68	2.4	8.55E+03	7.76E+06	
	Washington County	6700	High	3,184	4,235	1.68	2.4	1.01E+04	9.14E+06	
	Wayne County	7020	High	1,322	1,758	1.68	2.4	4.18E+03	3.80E+06	
	Westchester County	6700	High	2,225	2,959	1.68	2.4	7.04E+03	6.39E+06	
	Wyoming County	7020	High	660	878	1.68	2.4	2.09E+03	1.90E+06	
	Yates County	7150	High	426	567	1.68	2.4	1.35E+03	1.22E+06	

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Total New York				119,356	158,743			3.40E+05	3.09E+08	1.4
Pennsylvania	Adams County	5550	Medium	1,244	1,654	0.5	0.7	1.19E+03	1.08E+06	
	Allegheny County	6160	Medium	9,544	12,693	0.5	0.7	9.12E+03	8.27E+06	
	Armstrong County	6160	Medium	209	278	0.5	0.7	2.00E+02	1.81E+05	
	Beaver County	6160	Medium	1,307	1,739	0.5	0.7	1.25E+03	1.13E+06	
	Bedford County	6260	Medium	1,496	1,990	0.5	0.7	1.43E+03	1.30E+06	
	Berks County	5360	Low	5,316	7,070	0.51	0.7	5.18E+03	4.70E+06	
	Blair County	6260	Medium	2,069	2,752	0.5	0.7	1.98E+03	1.79E+06	
	Bradford County	7260	High	1,363	1,813	1.68	2.4	4.38E+03	3.97E+06	
	Bucks County	5360	Low	4,668	6,208	0.51	0.7	4.55E+03	4.13E+06	
	Butler County	6160	Medium	1,423	1,892	0.5	0.7	1.36E+03	1.23E+06	
	Cambria County	6260	Medium	1,236	1,644	0.5	0.7	1.18E+03	1.07E+06	
	Cameron County	6720	High	97	129	1.68	2.4	3.12E+02	2.83E+05	
	Carbon County	5990	Medium	541	720	0.5	0.7	5.17E+02	4.69E+05	
	Centre County	6720	High	4,200	5,586	1.68	2.4	1.35E+04	1.22E+07	
	Chester County	5360	Low	3,586	4,770	0.51	0.7	3.50E+03	3.17E+06	
	Clarion County	7020	High	228	303	1.68	2.4	7.33E+02	6.65E+05	
	Clearfield County	6720	High	389	517	1.68	2.4	1.25E+03	1.13E+06	
	Clinton County	6720	High	584	777	1.68	2.4	1.88E+03	1.70E+06	
	Columbia County	6090	Medium	1,392	1,851	0.5	0.7	1.33E+03	1.21E+06	
	Crawford County	7020	High	1,532	2,038	1.68	2.4	4.92E+03	4.46E+06	
	Cumberland County	5550	Medium	4,936	6,564	0.5	0.7	4.72E+03	4.28E+06	
	Dauphin County	5360	Low	3,334	4,434	0.51	0.7	3.25E+03	2.95E+06	
	Delaware County	5360	Low	3,480	4,629	0.51	0.7	3.39E+03	3.08E+06	
	Elk County	6720	High	247	329	1.68	2.4	7.94E+02	7.21E+05	
	Erie County	7020	High	3,944	5,246	1.68	2.4	1.27E+04	1.15E+07	
	Fayette County	6160	Medium	1,374	1,828	0.5	0.7	1.31E+03	1.19E+06	
	Forest County	7020	High	113	150	1.68	2.4	3.63E+02	3.29E+05	



State	County	HDD	Heating category	Total households using fireplaces w/o inserts for heating	Number of fireplaces w/o inserts used for heating	Number of cords burned per fireplace w/o insert used for heating	Dry weight of cords burned per fireplaces w/o inserts used for heating (tons)	Total dry weight of cordwood burned by fireplaces w/o inserts used for heating (tons)	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Average dry weight of cordwood by state (tons)
	Franklin County	5550	Medium	2,430	3,232	0.5	0.7	2.32E+03	2.11E+06	
	Fulton County	6260	Medium	720	958	0.5	0.7	6.88E+02	6.24E+05	
	Greene County	6160	Medium	261	347	0.5	0.7	2.50E+02	2.26E+05	
	Huntingdon County	6090	Medium	1,300	1,730	0.5	0.7	1.24E+03	1.13E+06	
	Indiana County	6260	Medium	519	690	0.5	0.7	4.96E+02	4.50E+05	
	Jefferson County	6160	Medium	264	351	0.5	0.7	2.52E+02	2.29E+05	
	Juniata County	6090	Medium	855	1,137	0.5	0.7	8.17E+02	7.41E+05	
	Lackawanna County	6950	High	1,369	1,821	1.68	2.4	4.40E+03	3.99E+06	
	Lancaster County	5360	Low	10,792	14,353	0.51	0.7	1.05E+04	9.54E+06	
	Lawrence County	6160	Medium	358	477	0.5	0.7	3.43E+02	3.11E+05	
	Lebanon County	5360	Low	1,994	2,652	0.51	0.7	1.94E+03	1.76E+06	
	Lehigh County	5990	Medium	5,356	7,123	0.5	0.7	5.12E+03	4.64E+06	
	Luzerne County	6950	High	2,597	3,454	1.68	2.4	8.34E+03	7.57E+06	
	Lycoming County	6090	Medium	4,749	6,316	0.5	0.7	4.54E+03	4.12E+06	
	McKean County	7020	High	348	463	1.68	2.4	1.12E+03	1.01E+06	
	Mercer County	7020	High	1,841	2,449	1.68	2.4	5.91E+03	5.36E+06	
	Mifflin County	6090	Medium	1,385	1,842	0.5	0.7	1.32E+03	1.20E+06	
	Monroe County	6950	High	1,676	2,229	1.68	2.4	5.38E+03	4.88E+06	
	Montgomery County	5360	Low	2,777	3,694	0.51	0.7	2.71E+03	2.46E+06	
	Montour County	6090	Medium	172	229	0.5	0.7	1.65E+02	1.49E+05	
	Northampton County	5990	Medium	3,690	4,908	0.5	0.7	3.53E+03	3.20E+06	
	Northumberland County	6090	Medium	491	653	0.5	0.7	4.69E+02	4.25E+05	
	Perry County	6090	Medium	2,220	2,952	0.5	0.7	2.12E+03	1.92E+06	
	Philadelphia County	5360	Low	2,057	2,736	0.51	0.7	2.01E+03	1.82E+06	
	Pike County	6950	High	1,587	2,110	1.68	2.4	5.10E+03	4.62E+06	
	Potter County	7020	High	341	454	1.68	2.4	1.10E+03	9.94E+05	
	Schuylkill County	5990	Medium	438	583	0.5	0.7	4.19E+02	3.80E+05	
	Snyder County	6090	Medium	718	955	0.5	0.7	6.86E+02	6.23E+05	

State	County	HDD	Heating category	Total households using fireplaces w/o inserts for heating	Number of fireplaces w/o inserts used for heating	Number of cords burned per fireplace w/o insert used for heating	Dry weight of cords burned per fireplaces w/o inserts used for heating (tons)	Total dry weight of cordwood burned by fireplaces w/o inserts used for heating (tons)	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Average dry weight of cordwood by state (tons)
	Somerset County	6260	Medium	1,491	1,982	0.5	0.7	1.42E+03	1.29E+06	
	Sullivan County	7260	High	226	301	1.68	2.4	7.27E+02	6.60E+05	
	Susquehanna County	7260	High	1,233	1,640	1.68	2.4	3.96E+03	3.59E+06	
	Tioga County	7260	High	747	993	1.68	2.4	2.40E+03	2.18E+06	
	Union County	6090	Medium	594	790	0.5	0.7	5.68E+02	5.15E+05	
	Venango County	7020	High	638	848	1.68	2.4	2.05E+03	1.86E+06	
	Warren County	7020	High	705	938	1.68	2.4	2.26E+03	2.05E+06	
	Washington County	6160	Medium	1,742	2,316	0.5	0.7	1.66E+03	1.51E+06	
	Wayne County	6950	High	941	1,251	1.68	2.4	3.02E+03	2.74E+06	
	Westmoreland County	6160	Medium	2,666	3,545	0.5	0.7	2.55E+03	2.31E+06	
	Wyoming County	7260	High	1,058	1,407	1.68	2.4	3.40E+03	3.08E+06	
	York County	5550	Medium	7,885	10,487	0.5	0.7	7.54E+03	6.84E+06	
	<b>Total Pennsylvania</b>			<b>133,086</b>	<b>177,004</b>			<b>1.91E+05</b>	<b>1.73E+08</b>	<b>1.4</b>
Rhode Island	Bristol County	5890	Medium	560	745	0.5	0.7	5.49E+02	4.98E+05	
	Kent County	5890	Medium	1,985	2,640	0.5	0.7	1.94E+03	1.76E+06	
	Newport County	5890	Medium	519	691	0.5	0.7	5.09E+02	4.62E+05	
	Providence County	5890	Medium	4,469	5,944	0.5	0.7	4.38E+03	3.97E+06	
	Washington County	5890	Medium	2,228	2,963	0.5	0.7	2.18E+03	1.98E+06	
	<b>Total Rhode Island</b>			<b>9,761</b>	<b>12,982</b>			<b>9.56E+03</b>	<b>8.68E+06</b>	<b>1.5</b>
District of Columbia	District of Columbia	4250	Low	3,824	5,085	0.51	0.7	3.47E+03	3.15E+06	
	<b>Total D.C.</b>			<b>3,824</b>	<b>5,085</b>			<b>3.47E+03</b>	<b>3.15E+06</b>	<b>1.3</b>
Vermont	Addison County	7840	High	1,114	1,482	1.68	2.3	3.43E+03	3.11E+06	
	Bennington County	7840	High	831	1,105	1.68	2.3	2.56E+03	2.32E+06	
	Caledonia County	8720	High	1,094	1,456	1.68	2.3	3.37E+03	3.06E+06	
	Chittenden County	7840	High	3,269	4,348	1.68	2.3	1.01E+04	9.13E+06	
	Essex County	8720	High	243	323	1.68	2.3	7.48E+02	6.79E+05	
	Franklin County	8720	High	957	1,272	1.68	2.3	2.94E+03	2.67E+06	
	Grand Isle County	7840	High	317	421	1.68	2.3	9.75E+02	8.85E+05	

State	County	HDD	Heating category	Total households using fireplaces w/o inserts for heating	Number of fireplaces w/o inserts used for heating	Number of cords burned per fireplace w/o insert used for heating	Dry weight of cords burned per fireplaces w/o inserts used for heating (tons)	Total dry weight of cordwood burned by fireplaces w/o inserts used for heating (tons)	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Average dry weight of cordwood by state (tons)
	Lamoille County	8720	High	747	994	1.68	2.3	2.30E+03	2.09E+06	
	Orange County	8720	High	1,133	1,507	1.68	2.3	3.49E+03	3.16E+06	
	Orleans County	8720	High	1,250	1,662	1.68	2.3	3.85E+03	3.49E+06	
	Rutland County	7840	High	1,596	2,122	1.68	2.3	4.91E+03	4.46E+06	
	Washington County	8720	High	1,766	2,349	1.68	2.3	5.44E+03	4.93E+06	
	Windham County	7780	High	1,801	2,395	1.68	2.3	5.54E+03	5.03E+06	
	Windsor County	7780	High	1,774	2,359	1.68	2.3	5.46E+03	4.95E+06	
Total Vermont				17,891	23,795			5.51E+04	5.00E+07	1.4

Total MANE-VU				565,509	752,127			1,093,934	9.92E+08	
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Def.	Cat.	Ton Sum	Kg Sum
> 6500	High	8.08E+05	7.33E+08
5500-6499	Med.	1.48E+05	1.34E+08
< 5499	Low	1.38E+05	1.25E+08

### **3. Pellet Heaters, Centralized Heating Systems, Outdoor Boilers, and Manufactured Firelogs**

The method, data and sources of data for the calculation of the number of pellet heaters and the dry mass of pellets used by county, by state, and by the three heating categories are provided in Section 3.1. The method, data and sources of data for the calculation of the number of centralized heating systems and the dry mass of cordwood used by county, by state, and by the three heating categories are provided in Section 3.2. The number of outdoor wood boilers, which are a subset of the centralized heating system category, are also provided by county, by state and by the three heating categories in Section 3.1 due to the current interest in outdoor wood boilers. The amount of cordwood burned in outdoor wood boilers could not be calculated because there was no data to estimate the typical amount of wood they burn. The method, data and sources of data for the calculation of the dry mass of manufactured wax/fiber firelogs burned in fireplaces without inserts by county, by state, and by the three heating categories are provided in Section 3.3.

### 3.1. Pellet Heating Systems

Pellet heater activity was calculated by using the Hearth, Patio, and Barbecue (HPBA) and Pellet Fuel Institute (PFI) manufacturer shipment records to determine the total number of pellet heaters (pellet stoves and pellet inserts) in the U.S. as of 2002. Pellet-fueled centralized heating systems were not included in the calculation since their number is small as compared to pellet stoves and pellet inserts and there are no records available for their shipment or sales. Multiple appliance ownership is uncommon and was not taken into consideration in the calculations. Once the total number of pellet heaters in the U.S. as of 2002 was calculated (518,884 units), the fraction of those units present in the MANE-VU region was estimated from PFI pellet shipment records. The PFI northeast region is composed of 10 of the MANE-VU states, therefore a small adjustment was made using the number of households using wood as their main heating fuel from the U.S. Census Bureau records (as an index) to include Maryland and Washington D.C. in the estimate. Once the total number of pellet heaters in the MANE-VU region was estimated, they were proportioned to each county by the number of households using wood as their main heating fuel as reported by the U.S. Census Bureau. Interestingly, the overall fraction of households calculated as owning pellet heaters (0.008) compared favorably with the number determined from the 2002 MARAMA survey (0.01). Because, the number of households reporting using pellet stoves in the 2002 MARMA survey was small (19), with one household reporting an unreasonable number of pellet stoves (4) and another reporting using 3 tons of pellets without a pellet heater, the average mass of pellets used per unit did not show any trends with heating categories nor was it reasonable when compared to estimates obtained from the HPBA and FPI data. Therefore, the latter data was used in calculating pellet heater activity. The typical moisture content of pellets is 3% and the tons of pellets used were corrected accordingly to obtain activity in dry kilograms pellets.

The number of pellet heaters used for each county was found by multiplying (1) the total number of pellet heaters reported to be in use in the MANE-VU region by (2) the fraction of MANE-VU households with wood as heating fuel by each individual county. The number of pellet heaters ( $PH_c$ ) by county was found by:

#### Equation 3.1.1

$$PH_c = PH_t \times FH_{wmf}$$

$PH_t$  = Total pellet heaters in 11 states + DC as given by:

#### Equation 3.1.2

$$\frac{(241,344 \times CF)}{667,780} \times 518,884$$

$$241,344 = \text{Tons of Pellets shipped in 10 NE States}^{36}$$

$$667,780 = \text{Tons of pellets shipped in the U.S.}^{37}$$

<sup>36</sup> Pellet Fuels Institute: Pellet Fuel Shipment Data Archive, 2004 – 2005.  
<http://www.pelletheat.org/3/industry/survey.html>

518,884 = Total Pellet Heaters Sold from 1989 – 2002 <sup>37</sup> (See Table 15)

CF = Correction Factor to include Washington DC and Maryland as given by:

Equation 3.1.3

$$\frac{298,811}{278,401} = \frac{11 \text{ States} + \text{DC households with wood as main fuel}^{38}}{10 \text{ States in NE region households with wood as main fuel}} = 1.0733$$

FH<sub>wmf</sub> = The Fraction of households using wood as main fuel by county was calculated by:

Equation 3.1.4

$$FH_{wmf} = \frac{\text{Number of Households with Wood as Main Fuel by County}^{39}}{\text{Number of Households with Wood as Main Fuel in 11 States +DC}}$$

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<sup>37</sup> HPBA Shipment Records, except for 1998 which is from PFI, and insignificant fraction of pellet heaters were sold before 1989 and are still in use.

<sup>38</sup>US Census Bureau, 2000

**Table 15  
Pellet Heater and Fuel Shipment Data**

HPBA Pellet Heater Shipment Records				
Year	Number of Freestanding	Number of Inserts	Sum of Units	Total Units Shipped
1989	5952	2739	8691	
1990	22895	12736	35631	
1991	31288	15061	46349	
1992	31294	16867	48161	
1993	44090	19078	63168	
1994	41810	18631	60441	
1995	25830	9247	35077	
1996	18147	6400	24547	
1997	19599	6439	26038	
1998	-	-	34000	
1999	14412	3948	18360	
2000	27182	3788	30970	
2001	43500	9973	53473	
2002	26990	6988	33978	
				518884

PFI Fuel Shipment Data	
Tons of Pellets Shipped in U.S.	667780
Tons of Pellets Shipped in 10 NE States	241344
Correction Factor to Include DC and MD	1.073312
Total Number of Pellet Heaters in 11 States+DC	201279.3
Tons of Pellets Sold In 11 States + DC	259037.3
Tons of Pellets Corrected to 3% Moisture	251266.2
Dry Tons of Pellets per Pellet Heater	1.248346
Dry Kg of Pellets per Pellet Heater	1134.86
Number of Households that Use Pellet Heaters	216035.4

**Table 16  
Pellet Heater Activity**

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
Connecticut	Fairfield County	5750	Medium	825	0.0028	556	1.248	694	1134.86	6.31E+05
	Hartford County	6250	Medium	1,415	0.0047	953	1.248	1,190	1134.86	1.08E+06
	Litchfield County	6750	High	2,083	0.0070	1403	1.248	1,751	1134.86	1.59E+06
	Middlesex County	5750	Medium	1,105	0.0037	744	1.248	929	1134.86	8.45E+05
	New Haven County	5750	Medium	1,524	0.0051	1027	1.248	1,281	1134.86	1.17E+06
	New London County	5750	Medium	1,763	0.0059	1188	1.248	1,482	1134.86	1.35E+06
	Tolland County	6750	High	1,368	0.0046	921	1.248	1,150	1134.86	1.05E+06
	Windham County	6750	High	1,800	0.0060	1212	1.248	1,513	1134.86	1.38E+06
	<b>Total Connecticut</b>				<b>11,883</b>	<b>0.0398</b>	<b>8004</b>		<b>9,989</b>	
Delaware	Kent County	4490	Low	779	0.0026	525	1.248	655	1134.86	5.96E+05
	New Castle County	4900	Low	329	0.0011	222	1.248	277	1134.86	2.52E+05
	Sussex County	4490	Low	995	0.0033	670	1.248	836	1134.86	7.61E+05
<b>Total Delaware</b>				<b>2,103</b>	<b>0.0070</b>	<b>1417</b>		<b>1,768</b>		<b>1.61E+06</b>
Maine	Androscoggin County	8200	High	1,660	0.0056	1118	1.248	1,395	1134.86	1.27E+06
	Aroostook County	9670	High	2,788	0.0093	1878	1.248	2,344	1134.86	2.13E+06
	Cumberland County	8200	High	2,524	0.0084	1700	1.248	2,122	1134.86	1.93E+06
	Franklin County	9670	High	1,793	0.0060	1208	1.248	1,507	1134.86	1.37E+06
	Hancock County	7800	High	2,057	0.0069	1386	1.248	1,729	1134.86	1.57E+06
	Kennebec County	8200	High	3,043	0.0102	2050	1.248	2,558	1134.86	2.33E+06
	Knox County	7600	High	1,191	0.0040	802	1.248	1,001	1134.86	9.10E+05
	Lincoln County	7600	High	1,211	0.0041	816	1.248	1,018	1134.86	9.26E+05
	Oxford County	8200	High	2,745	0.0092	1849	1.248	2,308	1134.86	2.10E+06
	Penobscot County	8900	High	3,411	0.0114	2298	1.248	2,867	1134.86	2.61E+06
	Piscataquis County	9670	High	1,144	0.0038	771	1.248	962	1134.86	8.75E+05
Sagadahoc County	7600	High	926	0.0031	624	1.248	778	1134.86	7.08E+05	



State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MAINE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Somerset County	9670	High	2,542	0.0085	1712	1.248	2,137	1134.86	1.94E+06
	Waldo County	8200	High	2,137	0.0072	1439	1.248	1,796	1134.86	1.63E+06
	Washington County	7800	High	1,333	0.0045	898	1.248	1,121	1134.86	1.02E+06
	York County	7600	High	2,884	0.0097	1943	1.248	2,424	1134.86	2.20E+06
	Total Maine			33,389	0.1117	22491		28,069		2.55E+07
Maryland	Allegany County	5600	Medium	1,219	0.0041	821	1.248	1,025	1134.86	9.32E+05
	Anne Arundel County	4603	Low	1,062	0.0036	715	1.248	893	1134.86	8.12E+05
	Baltimore County	5031	Low	1,075	0.0036	724	1.248	904	1134.86	8.22E+05
	Calvert County	4500	Low	677	0.0023	456	1.248	569	1134.86	5.18E+05
	Caroline County	4300	Low	550	0.0018	370	1.248	462	1134.86	4.20E+05
	Carroll County	5031	Low	1,960	0.0066	1320	1.248	1,648	1134.86	1.50E+06
	Cecil County	5031	Low	717	0.0024	483	1.248	603	1134.86	5.48E+05
	Charles County	4470	Low	862	0.0029	581	1.248	725	1134.86	6.59E+05
	Dorchester County	4300	Low	168	0.0006	113	1.248	141	1134.86	1.28E+05
	Frederick County	5031	Low	1,998	0.0067	1346	1.248	1,680	1134.86	1.53E+06
	Garrett County	6570	High	1,558	0.0052	1049	1.248	1,310	1134.86	1.19E+06
	Harford County	5031	Low	1,143	0.0038	770	1.248	961	1134.86	8.74E+05
	Howard County	5031	Low	376	0.0013	253	1.248	316	1134.86	2.87E+05
	Kent County	4712	Low	242	0.0008	163	1.248	203	1134.86	1.85E+05
	Montgomery County	5031	Low	378	0.0013	255	1.248	318	1134.86	2.89E+05
	Prince George's County	4603	Low	515	0.0017	347	1.248	433	1134.86	3.94E+05
	Queen Anne's County	4712	Low	534	0.0018	360	1.248	449	1134.86	4.08E+05
	St. Mary's County	4473	Low	1,117	0.0037	752	1.248	939	1134.86	8.54E+05
	Somerset County	4239	Low	276	0.0009	186	1.248	232	1134.86	2.11E+05
	Talbot County	4325	Low	349	0.0012	235	1.248	293	1134.86	2.67E+05
	Washington County	5588	Medium	1,772	0.0059	1194	1.248	1,490	1134.86	1.35E+06
	Wicomico County	4239	Low	637	0.0021	429	1.248	535	1134.86	4.87E+05
	Worcester County	4239	Low	411	0.0014	277	1.248	346	1134.86	3.14E+05
	Baltimore city	5031	Low	125	0.0004	84	1.248	105	1134.86	9.56E+04

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MAINE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
Total Maryland				19,721	0.0660	13284		16,579		1.51E+07
Massachusetts	Barnstable County	5980	Medium	904	0.0030	609	1.248	760	1134.86	6.91E+05
	Berkshire County	7500	High	1,852	0.0062	1248	1.248	1,557	1134.86	1.42E+06
	Bristol County	5980	Medium	1,151	0.0039	775	1.248	968	1134.86	8.80E+05
	Dukes County	5980	Medium	337	0.0011	227	1.248	283	1134.86	2.58E+05
	Essex County	5980	Medium	1,294	0.0043	872	1.248	1,088	1134.86	9.89E+05
	Franklin County	6690	High	2,411	0.0081	1624	1.248	2,027	1134.86	1.84E+06
	Hampden County	6690	High	1,827	0.0061	1231	1.248	1,536	1134.86	1.40E+06
	Hampshire County	6690	High	2,182	0.0073	1470	1.248	1,834	1134.86	1.67E+06
	Middlesex County	6690	High	1,276	0.0043	860	1.248	1,073	1134.86	9.75E+05
	Nantucket County	5980	Medium	113	0.0004	76	1.248	95	1134.86	8.64E+04
	Norfolk County	5980	Medium	468	0.0016	315	1.248	393	1134.86	3.58E+05
	Plymouth County	5980	Medium	1,179	0.0039	794	1.248	991	1134.86	9.01E+05
	Suffolk County	5980	Medium	17	0.0001	11	1.248	14	1134.86	1.30E+04
	Worcester County	6690	High	4,502	0.0151	3033	1.248	3,785	1134.86	3.44E+06
Total Massachusetts				19,513	0.0653	13144		16,404		1.49E+07
New Hampshire	Belknap County	7520	High	1,076	0.0036	725	1.248	905	1134.86	8.23E+05
	Carroll County	7520	High	1,761	0.0059	1186	1.248	1,480	1134.86	1.35E+06
	Cheshire County	7520	High	2,568	0.0086	1730	1.248	2,159	1134.86	1.96E+06
	Coos County	8930	High	911	0.0030	614	1.248	766	1134.86	6.96E+05
	Grafton County	8930	High	2,950	0.0099	1987	1.248	2,480	1134.86	2.26E+06
	Hillsborough County	7520	High	3,167	0.0106	2133	1.248	2,662	1134.86	2.42E+06
	Merrimack County	7520	High	2,525	0.0085	1701	1.248	2,123	1134.86	1.93E+06
	Rockingham County	7520	High	2,629	0.0088	1771	1.248	2,210	1134.86	2.01E+06
	Strafford County	7520	High	1,166	0.0039	785	1.248	980	1134.86	8.91E+05
	Sullivan County	7520	High	1,473	0.0049	992	1.248	1,238	1134.86	1.13E+06
Total New Hampshire				20,226	0.0677	13624		17,003		1.55E+07
New Jersey	Atlantic County	5020	Low	619	0.0021	417	1.248	520	1134.86	4.73E+05
	Bergen County	5780	Medium	99	0.0003	67	1.248	83	1134.86	7.57E+04

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Burlington County	5020	Low	567	0.0019	382	1.248	477	1134.86	4.33E+05
	Camden County	5020	Low	178	0.0006	120	1.248	150	1134.86	1.36E+05
	Cape May County	5020	Low	453	0.0015	305	1.248	381	1134.86	3.46E+05
	Cumberland County	5020	Low	334	0.0011	225	1.248	281	1134.86	2.55E+05
	Essex County	5780	Medium	62	0.0002	42	1.248	52	1134.86	4.74E+04
	Gloucester County	5020	Low	346	0.0012	233	1.248	291	1134.86	2.64E+05
	Hudson County	5780	Medium	9	0.0000	6	1.248	8	1134.86	6.88E+03
	Hunterdon County	5780	Medium	413	0.0014	278	1.248	347	1134.86	3.16E+05
	Mercer County	5020	Low	131	0.0004	88	1.248	110	1134.86	1.00E+05
	Middlesex County	5020	Low	193	0.0006	130	1.248	162	1134.86	1.48E+05
	Monmouth County	5020	Low	290	0.0010	195	1.248	244	1134.86	2.22E+05
	Morris County	5780	Medium	448	0.0015	302	1.248	377	1134.86	3.42E+05
	Ocean County	5020	Low	595	0.0020	401	1.248	500	1134.86	4.55E+05
	Passaic County	5780	Medium	168	0.0006	113	1.248	141	1134.86	1.28E+05
	Salem County	5020	Low	259	0.0009	174	1.248	218	1134.86	1.98E+05
	Somerset County	5780	Medium	167	0.0006	112	1.248	140	1134.86	1.28E+05
	Sussex County	5780	Medium	1,006	0.0034	678	1.248	846	1134.86	7.69E+05
	Union County	5780	Medium	79	0.0003	53	1.248	66	1134.86	6.04E+04
	Warren County	5780	Medium	573	0.0019	386	1.248	482	1134.86	4.38E+05
	<b>Total New Jersey</b>			<b>6,989</b>	<b>0.0234</b>	<b>4708</b>		<b>5,875</b>		<b>5.34E+06</b>
New York	Albany County	6700	High	879	0.0029	592	1.248	739	1134.86	6.72E+05
	Allegany County	7520	High	1,977	0.0066	1332	1.248	1,662	1134.86	1.51E+06
	Bronx County	5220	Low	78	0.0003	53	1.248	66	1134.86	5.96E+04
	Broome County	7450	High	1,625	0.0054	1095	1.248	1,366	1134.86	1.24E+06
	Cattaraugus County	7520	High	2,842	0.0095	1914	1.248	2,389	1134.86	2.17E+06
	Cayuga County	7150	High	1,401	0.0047	944	1.248	1,178	1134.86	1.07E+06
	Chautauqua County	7020	High	2,452	0.0082	1652	1.248	2,061	1134.86	1.87E+06
	Chemung County	7520	High	960	0.0032	647	1.248	807	1134.86	7.34E+05
	Chenango County	7450	High	2,012	0.0067	1355	1.248	1,691	1134.86	1.54E+06

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Clinton County	7870	High	1,392	0.0047	938	1.248	1,170	1134.86	1.06E+06
	Columbia County	6700	High	1,060	0.0035	714	1.248	891	1134.86	8.10E+05
	Cortland County	7150	High	1,090	0.0036	734	1.248	916	1134.86	8.33E+05
	Delaware County	7450	High	2,287	0.0077	1541	1.248	1,923	1134.86	1.75E+06
	Dutchess County	6700	High	1,283	0.0043	864	1.248	1,079	1134.86	9.81E+05
	Erie County	7020	High	2,237	0.0075	1507	1.248	1,881	1134.86	1.71E+06
	Essex County	7870	High	1,123	0.0038	756	1.248	944	1134.86	8.58E+05
	Franklin County	8200	High	1,608	0.0054	1083	1.248	1,352	1134.86	1.23E+06
	Fulton County	8960	High	1,161	0.0039	782	1.248	976	1134.86	8.88E+05
	Genesee County	7020	High	653	0.0022	440	1.248	549	1134.86	4.99E+05
	Greene County	6700	High	1,016	0.0034	684	1.248	854	1134.86	7.77E+05
	Hamilton County	8960	High	359	0.0012	242	1.248	302	1134.86	2.74E+05
	Herkimer County	7560	High	1,364	0.0046	919	1.248	1,147	1134.86	1.04E+06
	Jefferson County	7020	High	2,243	0.0075	1511	1.248	1,886	1134.86	1.71E+06
	Kings County	5220	Low	175	0.0006	118	1.248	147	1134.86	1.34E+05
	Lewis County	8960	High	2,415	0.0081	1627	1.248	2,030	1134.86	1.85E+06
	Livingston County	7150	High	1,176	0.0039	792	1.248	989	1134.86	8.99E+05
	Madison County	7450	High	1,299	0.0043	875	1.248	1,092	1134.86	9.93E+05
	Monroe County	7020	High	1,475	0.0049	994	1.248	1,240	1134.86	1.13E+06
	Montgomery County	7560	High	713	0.0024	480	1.248	599	1134.86	5.45E+05
	Nassau County	5220	Low	157	0.0005	106	1.248	132	1134.86	1.20E+05
	New York County	5220	Low	128	0.0004	86	1.248	108	1134.86	9.78E+04
	Niagara County	7020	High	793	0.0027	534	1.248	667	1134.86	6.06E+05
	Oneida County	7560	High	2,501	0.0084	1685	1.248	2,102	1134.86	1.91E+06
	Onondaga County	7150	High	1,655	0.0055	1115	1.248	1,391	1134.86	1.27E+06
	Ontario County	7150	High	1,412	0.0047	951	1.248	1,187	1134.86	1.08E+06
	Orange County	6700	High	930	0.0031	626	1.248	782	1134.86	7.11E+05
	Orleans County	7020	High	689	0.0023	464	1.248	579	1134.86	5.27E+05
	Oswego County	7020	High	2,502	0.0084	1685	1.248	2,103	1134.86	1.91E+06

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Otsego County	7450	High	2,119	0.0071	1427	1.248	1,781	1134.86	1.62E+06
	Putnam County	6700	High	503	0.0017	339	1.248	423	1134.86	3.85E+05
	Queens County	5220	Low	63	0.0002	42	1.248	53	1134.86	4.82E+04
	Rensselaer County	6700	High	2,009	0.0067	1353	1.248	1,689	1134.86	1.54E+06
	Richmond County	5220	Low	21	0.0001	14	1.248	18	1134.86	1.61E+04
	Rockland County	6700	High	109	0.0004	73	1.248	92	1134.86	8.33E+04
	St. Lawrence County	8200	High	3,532	0.0118	2379	1.248	2,969	1134.86	2.70E+06
	Saratoga County	6700	High	2,482	0.0083	1672	1.248	2,087	1134.86	1.90E+06
	Schenectady County	6700	High	429	0.0014	289	1.248	361	1134.86	3.28E+05
	Schoharie County	7450	High	1,205	0.0040	812	1.248	1,013	1134.86	9.21E+05
	Schuyler County	7150	High	695	0.0023	468	1.248	584	1134.86	5.31E+05
	Seneca County	7150	High	350	0.0012	236	1.248	294	1134.86	2.68E+05
	Steuben County	7520	High	2,869	0.0096	1933	1.248	2,412	1134.86	2.19E+06
	Suffolk County	5220	Low	826	0.0028	556	1.248	694	1134.86	6.31E+05
	Sullivan County	7450	High	1,349	0.0045	909	1.248	1,134	1134.86	1.03E+06
	Tioga County	7520	High	1,397	0.0047	941	1.248	1,174	1134.86	1.07E+06
	Tompkins County	7150	High	1,696	0.0057	1142	1.248	1,426	1134.86	1.30E+06
	Ulster County	6700	High	2,406	0.0081	1621	1.248	2,023	1134.86	1.84E+06
	Warren County	7870	High	1,343	0.0045	905	1.248	1,129	1134.86	1.03E+06
	Washington County	6700	High	2,099	0.0070	1414	1.248	1,765	1134.86	1.60E+06
	Wayne County	7020	High	1,783	0.0060	1201	1.248	1,499	1134.86	1.36E+06
	Westchester County	6700	High	263	0.0009	177	1.248	221	1134.86	2.01E+05
	Wyoming County	7020	High	1,194	0.0040	804	1.248	1,004	1134.86	9.13E+05
	Yates County	7150	High	749	0.0025	505	1.248	630	1134.86	5.73E+05
	<b>Total New York</b>			<b>82,613</b>	<b>0.2765</b>	<b>55648</b>		<b>69,449</b>		<b>6.32E+07</b>
Pennsylvania	Adams County	5550	Medium	1,829	0.0061	1232	1.248	1,538	1134.86	1.40E+06
	Allegheny County	6160	Medium	745	0.0025	502	1.248	626	1134.86	5.70E+05
	Armstrong County	6160	Medium	439	0.0015	296	1.248	369	1134.86	3.36E+05
	Beaver County	6160	Medium	625	0.0021	421	1.248	525	1134.86	4.78E+05

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Bedford County	6260	Medium	2,162	0.0072	1456	1.248	1,817	1134.86	1.65E+06
	Berks County	5360	Low	1,886	0.0063	1270	1.248	1,585	1134.86	1.44E+06
	Blair County	6260	Medium	891	0.0030	600	1.248	749	1134.86	6.81E+05
	Bradford County	7260	High	2,194	0.0073	1478	1.248	1,844	1134.86	1.68E+06
	Bucks County	5360	Low	1,319	0.0044	888	1.248	1,109	1134.86	1.01E+06
	Butler County	6160	Medium	1,041	0.0035	701	1.248	875	1134.86	7.96E+05
	Cambria County	6260	Medium	565	0.0019	381	1.248	475	1134.86	4.32E+05
	Cameron County	6720	High	152	0.0005	102	1.248	128	1134.86	1.16E+05
	Carbon County	5990	Medium	259	0.0009	174	1.248	218	1134.86	1.98E+05
	Centre County	6720	High	1,641	0.0055	1105	1.248	1,380	1134.86	1.25E+06
	Chester County	5360	Low	1,444	0.0048	973	1.248	1,214	1134.86	1.10E+06
	Clarion County	7020	High	541	0.0018	364	1.248	455	1134.86	4.14E+05
	Clearfield County	6720	High	520	0.0017	350	1.248	437	1134.86	3.98E+05
	Clinton County	6720	High	690	0.0023	465	1.248	580	1134.86	5.27E+05
	Columbia County	6090	Medium	666	0.0022	449	1.248	560	1134.86	5.09E+05
	Crawford County	7020	High	2,843	0.0095	1915	1.248	2,390	1134.86	2.17E+06
	Cumberland County	5550	Medium	1,599	0.0054	1077	1.248	1,344	1134.86	1.22E+06
	Dauphin County	5360	Low	809	0.0027	545	1.248	680	1134.86	6.18E+05
	Delaware County	5360	Low	126	0.0004	85	1.248	106	1134.86	9.63E+04
	Elk County	6720	High	453	0.0015	305	1.248	381	1134.86	3.46E+05
	Erie County	7020	High	1,712	0.0057	1153	1.248	1,439	1134.86	1.31E+06
	Fayette County	6160	Medium	965	0.0032	650	1.248	811	1134.86	7.38E+05
	Forest County	7020	High	259	0.0009	174	1.248	218	1134.86	1.98E+05
	Franklin County	5550	Medium	2,824	0.0095	1902	1.248	2,374	1134.86	2.16E+06
	Fulton County	6260	Medium	1,102	0.0037	742	1.248	926	1134.86	8.42E+05
	Greene County	6160	Medium	496	0.0017	334	1.248	417	1134.86	3.79E+05
	Huntingdon County	6090	Medium	1,747	0.0058	1177	1.248	1,469	1134.86	1.34E+06
	Indiana County	6260	Medium	896	0.0030	604	1.248	753	1134.86	6.85E+05
	Jefferson County	6160	Medium	552	0.0018	372	1.248	464	1134.86	4.22E+05

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	Juniata County	6090	Medium	1,233	0.0041	831	1.248	1,037	1134.86	9.43E+05
	Lackawanna County	6950	High	469	0.0016	316	1.248	394	1134.86	3.59E+05
	Lancaster County	5360	Low	3,446	0.0115	2321	1.248	2,897	1134.86	2.63E+06
	Lawrence County	6160	Medium	538	0.0018	362	1.248	452	1134.86	4.11E+05
	Lebanon County	5360	Low	731	0.0024	492	1.248	615	1134.86	5.59E+05
	Lehigh County	5990	Medium	987	0.0033	665	1.248	830	1134.86	7.55E+05
	Luzerne County	6950	High	874	0.0029	589	1.248	735	1134.86	6.68E+05
	Lycoming County	6090	Medium	2,039	0.0068	1373	1.248	1,714	1134.86	1.56E+06
	McKean County	7020	High	799	0.0027	538	1.248	672	1134.86	6.11E+05
	Mercer County	7020	High	1,287	0.0043	867	1.248	1,082	1134.86	9.84E+05
	Mifflin County	6090	Medium	1,725	0.0058	1162	1.248	1,450	1134.86	1.32E+06
	Monroe County	6950	High	1,826	0.0061	1230	1.248	1,535	1134.86	1.40E+06
	Montgomery County	5360	Low	998	0.0033	672	1.248	839	1134.86	7.63E+05
	Montour County	6090	Medium	229	0.0008	154	1.248	193	1134.86	1.75E+05
	Northampton County	5990	Medium	886	0.0030	597	1.248	745	1134.86	6.77E+05
	Northumberland County	6090	Medium	539	0.0018	363	1.248	453	1134.86	4.12E+05
	Perry County	6090	Medium	1,510	0.0051	1017	1.248	1,269	1134.86	1.15E+06
	Philadelphia County	5360	Low	170	0.0006	115	1.248	143	1134.86	1.30E+05
	Pike County	6950	High	1,131	0.0038	762	1.248	951	1134.86	8.65E+05
	Potter County	7020	High	846	0.0028	570	1.248	711	1134.86	6.47E+05
	Schuylkill County	5990	Medium	424	0.0014	286	1.248	356	1134.86	3.24E+05
	Snyder County	6090	Medium	999	0.0033	673	1.248	840	1134.86	7.64E+05
	Somerset County	6260	Medium	1,004	0.0034	676	1.248	844	1134.86	7.68E+05
	Sullivan County	7260	High	353	0.0012	238	1.248	297	1134.86	2.70E+05
	Susquehanna County	7260	High	1,869	0.0063	1259	1.248	1,571	1134.86	1.43E+06
	Tioga County	7260	High	1,687	0.0056	1136	1.248	1,418	1134.86	1.29E+06
	Union County	6090	Medium	634	0.0021	427	1.248	533	1134.86	4.85E+05
	Venango County	7020	High	1,254	0.0042	845	1.248	1,054	1134.86	9.59E+05
	Warren County	7020	High	1,420	0.0048	957	1.248	1,194	1134.86	1.09E+06

State	County	HDD	Heating category	Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	Fraction of MANE-VU households with wood as main heat by county	Number of pellet heaters used	Dry tons of pellets used per appliance	Total dry weight of pellets used (tons)	Mass of pellets used per appliance (dry Kg)	Total mass of pellets used (dry Kg)
	Washington County	6160	Medium	1,111	0.0037	748	1.248	934	1134.86	8.49E+05
	Wayne County	6950	High	1,468	0.0049	989	1.248	1,234	1134.86	1.12E+06
	Westmoreland County	6160	Medium	1,522	0.0051	1025	1.248	1,279	1134.86	1.16E+06
	Wyoming County	7260	High	755	0.0025	509	1.248	635	1134.86	5.77E+05
	York County	5550	Medium	3,305	0.0111	2226	1.248	2,778	1134.86	2.53E+06
	<b>Total Pennsylvania</b>			<b>76,060</b>	<b>0.2545</b>	<b>51234</b>		<b>63,940</b>		<b>5.81E+07</b>
Rhode Island	Bristol County	5890	Medium	95	0.0003	64	1.248	80	1134.86	7.26E+04
	Kent County	5890	Medium	584	0.0020	393	1.248	491	1134.86	4.46E+05
	Newport County	5890	Medium	315	0.0011	212	1.248	265	1134.86	2.41E+05
	Providence County	5890	Medium	1,142	0.0038	769	1.248	960	1134.86	8.73E+05
	Washington County	5890	Medium	1,473	0.0049	992	1.248	1,238	1134.86	1.13E+06
	<b>Total Rhode Island</b>			<b>3,609</b>	<b>0.0121</b>	<b>2431</b>		<b>3,034</b>		<b>2.76E+06</b>
District of Columbia	District of Columbia	4250	Low	89	0.0003	60	1.248	75	1134.86	6.80E+04
	<b>Total D.C.</b>			<b>89</b>	<b>0.0003</b>	<b>60</b>		<b>75</b>		<b>6.80E+04</b>
Vermont	Addison County	7840	High	1,600	0.0054	1078	1.248	1,345	1134.86	1.22E+06
	Bennington County	7840	High	960	0.0032	647	1.248	807	1134.86	7.34E+05
	Caledonia County	8720	High	1,671	0.0056	1126	1.248	1,405	1134.86	1.28E+06
	Chittenden County	7840	High	1,834	0.0061	1235	1.248	1,542	1134.86	1.40E+06
	Essex County	8720	High	388	0.0013	261	1.248	326	1134.86	2.97E+05
	Franklin County	8720	High	1,546	0.0052	1041	1.248	1,300	1134.86	1.18E+06
	Grand Isle County	7840	High	195	0.0007	131	1.248	164	1134.86	1.49E+05
	Lamoille County	8720	High	1,166	0.0039	785	1.248	980	1134.86	8.91E+05
	Orange County	8720	High	2,084	0.0070	1404	1.248	1,752	1134.86	1.59E+06
	Orleans County	8720	High	1,905	0.0064	1283	1.248	1,601	1134.86	1.46E+06
	Rutland County	7840	High	1,846	0.0062	1243	1.248	1,552	1134.86	1.41E+06
	Washington County	8720	High	2,275	0.0076	1532	1.248	1,912	1134.86	1.74E+06
	Windham County	7780	High	2,676	0.0090	1803	1.248	2,250	1134.86	2.05E+06
	Windsor County	7780	High	2,470	0.0083	1664	1.248	2,076	1134.86	1.89E+06
	<b>Total Vermont</b>			<b>22,616</b>	<b>0.0757</b>	<b>15234</b>		<b>19,012</b>		<b>1.73E+07</b>



Total mass of pellets used (dry Kg)	2.28E+08
Mass of pellets used per appliance (dry Kg)	
Total dry weight of pellets used (tons)	251,197
Dry tons of pellets used per appliance	
Number of pellet heaters used	2.01E+05
Fraction of MANE-VU households with wood as main heat by county	1
Number of households with wood as main heating fuel, 2000, U.S. Census Bureau	298,811
Heating category	
HDD	
County	
State	Total MANE-VU

Definition	Category	Total Tons	Category	Total Kg
> 6500	High	172,585	High	1.57E+08
5500-6499	Medium	50,277	Medium	4.57E+07
< 5499	Low	28,335	Low	2.58E+07

### 3.2. Centralized Heating Systems and Outdoor Wood Boilers

The activity of centralized wood heating systems (the sum of wood-fired furnaces and wood-fired boilers) was estimated using: (1) The fraction of households that reported using wood as their main heating fuel that used centralized heating systems (0.30) as estimated from a Department of Energy, Energy Information Administration 2001 national survey.<sup>39</sup> (2) The number of households by county that used wood as their main heating fuel as determined from the U.S. Census Bureau. (3) The average mass of fuel used per appliance in each of the three heating categories<sup>40</sup> reported in the 2002 MARAMA survey.<sup>41</sup> (4) Multiplication of the amount of wood used per appliance in a county (both in cords and by mass) based on the heating category in which the county is located. The conversion factor of cords to dry mass (Kg) of wood for each state is discussed in Section 2.13. Multiple appliance ownership is uncommon for centralized wood heating systems and was not taken into consideration in the calculations.

Because there is particular interest in outdoor wood boilers (OWB), an estimate of number of OWB as of 2002 in the MANE-VU states was made from (1) EPA 114 data<sup>42</sup>, (2) a report entitled, "Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State, October 2005, prepared by the New York Office of the Attorney General,<sup>43</sup> and (3) communication with the vice president of Central Boiler.<sup>44</sup> The 2002 estimate for the MANE-VU states was 8,329 units. The 8,329 number was derived from (1) an estimate of 32,729 units sold nationally from 1995 to 2002, and still in service as of 2002, (2) an estimate of 5,132 units sold nationally before 1995 and still in use as of 2002, and (3) an estimate of 22% of the units that were sold nationally were sold in the MANE-VU states (Most units have been sold outside the MANE-VU states, mainly in the Midwest.).  $(32,729 + 5,132) \times 0.22 = 8,329$ . As with the centralized heater category (of which OWB is a subset), the number of households reporting wood as their main heating fuel to the U.S. Census Bureau was used to index centralized wood heating system use by county. Because there are no estimates of the amount of wood burned in OWB separate from the centralized heating unit category in total, only the number of units, not the activities, are included in Table 18 and their activity is included as part of the centralized heater data.

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<sup>39</sup> DOE, EIA 2001

<sup>40</sup> See section 2.9

<sup>41</sup> MARAMA Survey results, 2002

<sup>42</sup> EPA 114

<sup>43</sup> "Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State, October 2005, prepared by the New York Office of the Attorney General

<sup>44</sup> Personal Communication, March 28, 2006, with Rodney Tollefson, Vice President of Central Boiler.

**Table 17  
Centralized Heating System Activity**

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
Connecticut	Fairfield County	328,733	5750	Medium	836	251	1.83	2.69	676	6.13E+05	
	Hartford County	338,964	6250	Medium	1431	429	1.83	2.69	1,157	1.05E+06	
	Litchfield County	73,209	6750	High	2131	639	5.38	7.92	5,063	4.59E+06	
	Middlesex County	63,127	5750	Medium	1137	341	1.83	2.69	919	8.34E+05	
	New Haven County	323,240	5750	Medium	1544	463	1.83	2.69	1,248	1.13E+06	
	New London County	101,234	5750	Medium	1788	536	1.83	2.69	1,445	1.31E+06	
	Tolland County	51,615	6750	High	1428	429	5.38	7.92	3,393	3.08E+06	
	Windham County	41,919	6750	High	1834	550	5.38	7.92	4,357	3.95E+06	
<b>Total Connecticut</b>		<b>1,322,041</b>			<b>12130</b>	<b>3639</b>			<b>18,257</b>	<b>1.66E+07</b>	<b>1.5</b>
Delaware	Kent County	49,063	4490	Low	809	243	0.75	1.00	242	2.20E+05	
	New Castle County	192,702	4900	Low	336	101	0.75	1.00	100	9.12E+04	
	Sussex County	65,612	4490	Low	1043	313	0.75	1.00	312	2.83E+05	
<b>Total Delaware</b>		<b>307,377</b>			<b>2188</b>	<b>656</b>			<b>655</b>	<b>5.95E+05</b>	<b>1.3</b>
Maine	Androscoggin County	42,609	8200	High	1683	505	5.38	6.60	3,332	3.02E+06	
	Aroostook County	30,033	9670	High	2758	827	5.38	6.60	5,461	4.95E+06	
	Cumberland County	109,722	8200	High	2565	769	5.38	6.60	5,078	4.61E+06	
	Franklin County	11,911	9670	High	1809	543	5.38	6.60	3,582	3.25E+06	
	Hancock County	22,054	7800	High	2075	622	5.38	6.60	4,108	3.73E+06	
	Kennebec County	48,309	8200	High	3083	925	5.38	6.60	6,104	5.54E+06	
	Knox County	16,986	7600	High	1218	365	5.38	6.60	2,412	2.19E+06	
	Lincoln County	14,521	7600	High	1242	373	5.38	6.60	2,459	2.23E+06	
	Oxford County	22,757	8200	High	2800	840	5.38	6.60	5,543	5.03E+06	
	Penobscot County	58,890	8900	High	3458	1037	5.38	6.60	6,846	6.21E+06	
	Piscataquis County	7,289	9670	High	1146	344	5.38	6.60	2,268	2.06E+06	
	Sagadahoc County	14,429	7600	High	946	284	5.38	6.60	1,874	1.70E+06	
Somerset County	20,558	9670	High	2550	765	5.38	6.60	5,048	4.58E+06		
Waldo County	15,312	8200	High	2222	667	5.38	6.60	4,400	3.99E+06		

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Washington County	13,898	7800	High	1312	394	5.38	6.60	2,598	2.36E+06	
	York County	78,141	7600	High	3022	907	5.38	6.60	5,984	5.43E+06	
	<b>Total Maine</b>	<b>527,420</b>			<b>33888</b>	<b>10167</b>			<b>67,099</b>	<b>6.09E+07</b>	<b>1.2</b>
Maryland	Allegany County	28,958	5600	Medium	1204	361	1.83	2.45	884	8.02E+05	
	Anne Arundel County	183,204	4603	Low	1089	327	0.75	1.00	328	2.97E+05	
	Baltimore County	305,574	5031	Low	1095	329	0.75	1.00	330	2.99E+05	
	Calvert County	27,611	4500	Low	735	220	0.75	1.00	221	2.01E+05	
	Caroline County	11,311	4300	Low	561	168	0.75	1.00	169	1.53E+05	
	Carroll County	55,435	5031	Low	2069	621	0.75	1.00	623	5.65E+05	
	Cecil County	32,827	5031	Low	754	226	0.75	1.00	227	2.06E+05	
	Charles County	44,319	4470	Low	917	275	0.75	1.00	276	2.50E+05	
	Dorchester County	12,631	4300	Low	167	50	0.75	1.00	50	4.56E+04	
	Frederick County	75,020	5031	Low	2139	642	0.75	1.00	644	5.84E+05	
	Garrett County	11,503	6570	High	1562	468	5.38	7.20	3,372	3.06E+06	
	Harford County	82,864	5031	Low	1189	357	0.75	1.00	358	3.25E+05	
	Howard County	94,424	5031	Low	394	118	0.75	1.00	119	1.08E+05	
	Kent County	7,757	4712	Low	245	73	0.75	1.00	74	6.69E+04	
	Montgomery County	336,700	5031	Low	392	118	0.75	1.00	118	1.07E+05	
	Prince George's County	295,975	4603	Low	532	160	0.75	1.00	160	1.45E+05	
	Queen Anne's County	16,188	4712	Low	564	169	0.75	1.00	170	1.54E+05	
	St. Mary's County	31,971	4473	Low	1165	350	0.75	1.00	351	3.18E+05	
	Somerset County	8,604	4239	Low	284	85	0.75	1.00	85	7.76E+04	
	Talbot County	14,542	4325	Low	355	106	0.75	1.00	107	9.69E+04	
	Washington County	50,806	5588	Medium	1810	543	1.83	2.45	1,330	1.21E+06	
	Wicomico County	32,796	4239	Low	648	195	0.75	1.00	195	1.77E+05	
	Worcester County	20,321	4239	Low	424	127	0.75	1.00	128	1.16E+05	
	Baltimore city	252,048	5031	Low	122	37	0.75	1.00	37	3.33E+04	
	<b>Total Maryland</b>	<b>2,033,388</b>			<b>20417</b>	<b>6125</b>			<b>10,355</b>	<b>9.39E+06</b>	<b>1.3</b>
Massachusetts	Barnstable County	97,119	5980	Medium	926	278	1.83	2.57	715	6.48E+05	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Berkshire County	55,326	7500	High	1830	549	5.38	7.56	4,151	3.77E+06	
	Bristol County	208,940	5980	Medium	1171	351	1.83	2.57	904	8.20E+05	
	Dukes County	6,605	5980	Medium	347	104	1.83	2.57	268	2.43E+05	
	Essex County	280,413	5980	Medium	1317	395	1.83	2.57	1,017	9.22E+05	
	Franklin County	29,636	6690	High	2425	727	5.38	7.56	5,502	4.99E+06	
	Hampden County	176,594	6690	High	1841	552	5.38	7.56	4,176	3.79E+06	
	Hampshire County	56,126	6690	High	2187	656	5.38	7.56	4,963	4.50E+06	
	Middlesex County	562,478	6690	High	1279	384	5.38	7.56	2,902	2.63E+06	
	Nantucket County	3,838	5980	Medium	117	35	1.83	2.57	90	8.21E+04	
	Norfolk County	250,129	5980	Medium	470	141	1.83	2.57	363	3.29E+05	
	Plymouth County	172,560	5980	Medium	1208	363	1.83	2.57	933	8.46E+05	
	Suffolk County	276,854	5980	Medium	17	5	1.83	2.57	13	1.18E+04	
	Worcester County	290,955	6690	High	4613	1384	5.38	7.56	10,468	9.50E+06	
	<b>Total Massachusetts</b>	<b>2,467,572</b>			<b>19748</b>	<b>5925</b>			<b>36,463</b>	<b>3.31E+07</b>	<b>1.4</b>
New Hampshire	Belknap County	23,598	7520	High	1131	339	5.38	7.19	2,440	2.21E+06	
	Carroll County	19,044	7520	High	1827	548	5.38	7.19	3,944	3.58E+06	
	Cheshire County	28,835	7520	High	2617	785	5.38	7.19	5,647	5.12E+06	
	Coos County	14,085	8930	High	919	276	5.38	7.19	1,983	1.80E+06	
	Grafton County	32,058	8930	High	2993	898	5.38	7.19	6,459	5.86E+06	
	Hillsborough County	148,800	7520	High	3262	979	5.38	7.19	7,040	6.39E+06	
	Merrimack County	53,970	7520	High	2629	789	5.38	7.19	5,673	5.15E+06	
	Rockingham County	108,504	7520	High	2729	819	5.38	7.19	5,889	5.34E+06	
	Strafford County	44,036	7520	High	1206	362	5.38	7.19	2,602	2.36E+06	
	Sullivan County	16,942	7520	High	1510	453	5.38	7.19	3,258	2.96E+06	
	<b>Total New Hampshire</b>	<b>489,871</b>			<b>20822</b>	<b>6247</b>			<b>44,935</b>	<b>4.08E+07</b>	<b>1.3</b>
New Jersey	Atlantic County	97,561	5020	Low	636	191	0.75	1.00	190	1.72E+05	
	Bergen County	334,832	5780	Medium	100	30	1.83	2.43	73	6.62E+04	
	Burlington County	159,618	5020	Low	586	176	0.75	1.00	175	1.59E+05	
	Camden County	186,884	5020	Low	179	54	0.75	1.00	53	4.85E+04	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Cape May County	41,928	5020	Low	451	135	0.75	1.00	135	1.22E+05	
	Cumberland County	49,681	5020	Low	338	101	0.75	1.00	101	9.14E+04	
	Essex County	284,738	5780	Medium	62	19	1.83	2.43	45	4.11E+04	
	Gloucester County	93,535	5020	Low	357	107	0.75	1.00	106	9.66E+04	
	Hudson County	230,792	5780	Medium	9	3	1.83	2.43	7	5.95E+03	
	Hunterdon County	45,390	5780	Medium	429	129	1.83	2.43	313	2.84E+05	
	Mercer County	128,268	5020	Low	134	40	0.75	1.00	40	3.62E+04	
	Middlesex County	272,869	5020	Low	198	59	0.75	1.00	59	5.37E+04	
	Monmouth County	229,023	5020	Low	296	89	0.75	1.00	88	8.02E+04	
	Morris County	172,811	5780	Medium	456	137	1.83	2.43	332	3.01E+05	
	Ocean County	210,803	5020	Low	626	188	0.75	1.00	187	1.69E+05	
	Passaic County	166,543	5780	Medium	171	51	1.83	2.43	124	1.13E+05	
	Salem County	24,475	5020	Low	261	78	0.75	1.00	78	7.07E+04	
	Somerset County	112,804	5780	Medium	173	52	1.83	2.43	126	1.14E+05	
	Sussex County	52,491	5780	Medium	1039	312	1.83	2.43	757	6.86E+05	
	Union County	188,616	5780	Medium	80	24	1.83	2.43	58	5.29E+04	
	Warren County	40,572	5780	Medium	601	180	1.83	2.43	438	3.97E+05	
	<b>Total New Jersey</b>	<b>3,124,232</b>			<b>7181</b>	<b>2154</b>			<b>3,485</b>	<b>3.16E+06</b>	<b>1.3</b>
New York	Albany County	121,100	6700	High	883	265	5.38	7.62	2,020	1.83E+06	
	Allegany County	18,178	7520	High	1996	599	5.38	7.62	4,563	4.14E+06	
	Bronx County	472,329	5220	Low	80	24	0.75	1.06	25	2.30E+04	
	Broome County	80,470	7450	High	1619	486	5.38	7.62	3,703	3.36E+06	
	Cattaraugus County	31,807	7520	High	2823	847	5.38	7.62	6,455	5.86E+06	
	Cayuga County	30,538	7150	High	1400	420	5.38	7.62	3,201	2.90E+06	
	Chautauqua County	53,995	7020	High	2429	729	5.38	7.62	5,553	5.04E+06	
	Chemung County	34,954	7520	High	957	287	5.38	7.62	2,189	1.99E+06	
	Chenango County	19,934	7450	High	2013	604	5.38	7.62	4,602	4.18E+06	
	Clinton County	29,761	7870	High	1408	422	5.38	7.62	3,220	2.92E+06	
	Columbia County	24,839	6700	High	1062	319	5.38	7.62	2,428	2.20E+06	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Cortland County	18,170	7150	High	1088	326	5.38	7.62	2,487	2.26E+06	
	Delaware County	18,987	7450	High	2253	676	5.38	7.62	5,153	4.67E+06	
	Dutchess County	102,297	6700	High	1319	396	5.38	7.62	3,015	2.74E+06	
	Erie County	377,401	7020	High	2217	665	5.38	7.62	5,068	4.60E+06	
	Essex County	15,122	7870	High	1130	339	5.38	7.62	2,584	2.34E+06	
	Franklin County	17,832	8200	High	1599	480	5.38	7.62	3,656	3.32E+06	
	Fulton County	21,911	8960	High	1162	349	5.38	7.62	2,658	2.41E+06	
	Genesee County	22,604	7020	High	648	194	5.38	7.62	1,482	1.34E+06	
	Greene County	18,383	6700	High	1023	307	5.38	7.62	2,339	2.12E+06	
	Hamilton County	2,317	8960	High	352	106	5.38	7.62	805	7.31E+05	
	Herkimer County	25,452	7560	High	1349	405	5.38	7.62	3,085	2.80E+06	
	Jefferson County	40,856	7020	High	2287	686	5.38	7.62	5,230	4.74E+06	
	Kings County	887,700	5220	Low	176	53	0.75	1.06	56	5.10E+04	
	Lewis County	9,926	8960	High	2388	716	5.38	7.62	5,459	4.95E+06	
	Livingston County	22,281	7150	High	1183	355	5.38	7.62	2,705	2.45E+06	
	Madison County	25,503	7450	High	1306	392	5.38	7.62	2,986	2.71E+06	
	Monroe County	286,428	7020	High	1475	442	5.38	7.62	3,372	3.06E+06	
	Montgomery County	19,857	7560	High	707	212	5.38	7.62	1,616	1.47E+06	
	Nassau County	449,050	5220	Low	158	47	0.75	1.06	50	4.56E+04	
	New York County	744,562	5220	Low	129	39	0.75	1.06	41	3.73E+04	
	Niagara County	87,244	7020	High	788	236	5.38	7.62	1,801	1.63E+06	
	Oneida County	89,980	7560	High	2487	746	5.38	7.62	5,686	5.16E+06	
	Onondaga County	181,296	7150	High	1656	497	5.38	7.62	3,787	3.44E+06	
	Ontario County	39,013	7150	High	1436	431	5.38	7.62	3,283	2.98E+06	
	Orange County	119,844	6700	High	971	291	5.38	7.62	2,220	2.01E+06	
	Orleans County	15,264	7020	High	685	205	5.38	7.62	1,565	1.42E+06	
	Oswego County	45,674	7020	High	2510	753	5.38	7.62	5,740	5.21E+06	
	Otsego County	23,409	7450	High	2130	639	5.38	7.62	4,870	4.42E+06	
	Putnam County	33,711	6700	High	519	156	5.38	7.62	1,186	1.08E+06	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Queens County	787,089	5220	Low	63	19	0.75	1.06	20	1.83E+04	
	Rensselaer County	59,891	6700	High	2009	603	5.38	7.62	4,594	4.17E+06	
	Richmond County	160,618	5220	Low	22	6	0.75	1.06	7	6.24E+03	
	Rockland County	94,168	6700	High	111	33	5.38	7.62	253	2.30E+05	
	St. Lawrence County	40,230	8200	High	3508	1052	5.38	7.62	8,021	7.28E+06	
	Saratoga County	80,670	6700	High	2562	768	5.38	7.62	5,857	5.31E+06	
	Schenectady County	59,814	6700	High	430	129	5.38	7.62	983	8.92E+05	
	Schoharie County	12,021	7450	High	1208	362	5.38	7.62	2,762	2.51E+06	
	Schuyler County	7,451	7150	High	702	211	5.38	7.62	1,606	1.46E+06	
	Seneca County	13,262	7150	High	368	110	5.38	7.62	840	7.62E+05	
	Steuben County	39,384	7520	High	2892	868	5.38	7.62	6,613	6.00E+06	
	Suffolk County	481,249	5220	Low	847	254	0.75	1.06	270	2.45E+05	
	Sullivan County	27,786	7450	High	1355	407	5.38	7.62	3,099	2.81E+06	
	Tioga County	19,736	7520	High	1398	419	5.38	7.62	3,196	2.90E+06	
	Tompkins County	37,108	7150	High	1728	518	5.38	7.62	3,951	3.58E+06	
	Ulster County	68,511	6700	High	2442	733	5.38	7.62	5,584	5.07E+06	
	Warren County	26,057	7870	High	1360	408	5.38	7.62	3,110	2.82E+06	
	Washington County	22,635	6700	High	2116	635	5.38	7.62	4,837	4.39E+06	
	Wayne County	34,921	7020	High	1784	535	5.38	7.62	4,078	3.70E+06	
	Westchester County	342,411	6700	High	267	80	5.38	7.62	611	5.54E+05	
	Wyoming County	14,828	7020	High	1188	356	5.38	7.62	2,716	2.46E+06	
	Yates County	8,996	7150	High	746	224	5.38	7.62	1,706	1.55E+06	
	<b>Total New York</b>	<b>7,118,815</b>			<b>82902</b>	<b>24871</b>			<b>186,662</b>	<b>1.69E+08</b>	<b>1.4</b>
Pennsylvania	Adams County	34,848	5550	Medium	1894	568	1.83	2.63	1,494	1.36E+06	
	Allegheny County	530,666	6160	Medium	736	221	1.83	2.63	581	5.27E+05	
	Armstrong County	28,780	6160	Medium	436	131	1.83	2.63	344	3.12E+05	
	Beaver County	71,697	6160	Medium	617	185	1.83	2.63	487	4.42E+05	
	Bedford County	19,733	6260	Medium	2158	647	1.83	2.63	1,703	1.54E+06	
	Berks County	144,685	5360	Low	1927	578	0.75	1.08	623	5.65E+05	



State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Blair County	50,930	6260	Medium	881	264	1.83	2.63	695	6.30E+05	
	Bradford County	24,446	7260	High	2193	658	5.38	7.73	5,088	4.62E+06	
	Bucks County	222,989	5360	Low	1345	403	0.75	1.08	435	3.94E+05	
	Butler County	67,421	6160	Medium	1066	320	1.83	2.63	841	7.63E+05	
	Cambria County	59,661	6260	Medium	557	167	1.83	2.63	439	3.99E+05	
	Cameron County	2,413	6720	High	149	45	5.38	7.73	345	3.13E+05	
	Carbon County	24,085	5990	Medium	263	79	1.83	2.63	208	1.88E+05	
	Centre County	50,355	6720	High	1675	503	5.38	7.73	3,886	3.53E+06	
	Chester County	163,929	5360	Low	1499	450	0.75	1.08	485	4.40E+05	
	Clarion County	15,847	7020	High	534	160	5.38	7.73	1,239	1.12E+06	
	Clearfield County	32,781	6720	High	520	156	5.38	7.73	1,206	1.09E+06	
	Clinton County	14,633	6720	High	683	205	5.38	7.73	1,585	1.44E+06	
	Columbia County	25,058	6090	Medium	670	201	1.83	2.63	528	4.79E+05	
	Crawford County	34,587	7020	High	2836	851	5.38	7.73	6,577	5.97E+06	
	Cumberland County	84,523	5550	Medium	1628	488	1.83	2.63	1,285	1.17E+06	
	Dauphin County	103,039	5360	Low	812	244	0.75	1.08	263	2.38E+05	
	Delaware County	207,325	5360	Low	127	38	0.75	1.08	41	3.71E+04	
	Elk County	13,892	6720	High	446	134	5.38	7.73	1,034	9.38E+05	
	Erie County	107,090	7020	High	1721	516	5.38	7.73	3,993	3.62E+06	
	Fayette County	59,213	6160	Medium	953	286	1.83	2.63	752	6.82E+05	
	Forest County	2,015	7020	High	261	78	5.38	7.73	605	5.49E+05	
	Franklin County	51,483	5550	Medium	2871	861	1.83	2.63	2,266	2.06E+06	
	Fulton County	5,692	6260	Medium	1108	332	1.83	2.63	874	7.93E+05	
	Greene County	14,991	6160	Medium	494	148	1.83	2.63	390	3.53E+05	
	Huntingdon County	16,849	6090	Medium	1756	527	1.83	2.63	1,386	1.26E+06	
	Indiana County	33,925	6260	Medium	891	267	1.83	2.63	703	6.38E+05	
	Jefferson County	18,327	6160	Medium	551	165	1.83	2.63	434	3.94E+05	
	Juniata County	8,616	6090	Medium	1238	371	1.83	2.63	977	8.86E+05	
	Lackawanna County	85,318	6950	High	464	139	5.38	7.73	1,077	9.77E+05	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Lancaster County	175,464	5360	Low	3504	1051	0.75	1.08	1,133	1.03E+06	
	Lawrence County	36,772	6160	Medium	533	160	1.83	2.63	421	3.82E+05	
	Lebanon County	47,056	5360	Low	739	222	0.75	1.08	239	2.17E+05	
	Lehigh County	123,943	5990	Medium	1003	301	1.83	2.63	792	7.18E+05	
	Luzerne County	128,846	6950	High	862	259	5.38	7.73	1,999	1.81E+06	
	Lycoming County	46,524	6090	Medium	2018	605	1.83	2.63	1,592	1.44E+06	
	McKean County	17,847	7020	High	791	237	5.38	7.73	1,835	1.66E+06	
	Mercer County	46,531	7020	High	1282	385	5.38	7.73	2,974	2.70E+06	
	Mifflin County	18,424	6090	Medium	1726	518	1.83	2.63	1,362	1.24E+06	
	Monroe County	53,205	6950	High	1964	589	5.38	7.73	4,557	4.13E+06	
	Montgomery County	291,575	5360	Low	1017	305	0.75	1.08	329	2.98E+05	
	Montour County	7,066	6090	Medium	228	69	1.83	2.63	180	1.63E+05	
	Northampton County	104,056	5990	Medium	908	272	1.83	2.63	716	6.50E+05	
	Northumberland County	38,396	6090	Medium	533	160	1.83	2.63	420	3.81E+05	
	Perry County	16,824	6090	Medium	1522	456	1.83	2.63	1,201	1.09E+06	
	Philadelphia County	578,080	5360	Low	167	50	0.75	1.08	54	4.89E+04	
	Pike County	18,858	6950	High	1223	367	5.38	7.73	2,838	2.57E+06	
	Potter County	7,039	7020	High	850	255	5.38	7.73	1,972	1.79E+06	
	Schuylkill County	59,923	5990	Medium	420	126	1.83	2.63	331	3.00E+05	
	Snyder County	13,794	6090	Medium	1009	303	1.83	2.63	796	7.22E+05	
	Somerset County	31,073	6260	Medium	999	300	1.83	2.63	788	7.15E+05	
	Sullivan County	2,649	7260	High	352	105	5.38	7.73	816	7.40E+05	
	Susquehanna County	16,426	7260	High	1857	557	5.38	7.73	4,308	3.91E+06	
	Tioga County	16,019	7260	High	1697	509	5.38	7.73	3,936	3.57E+06	
	Union County	13,362	6090	Medium	643	193	1.83	2.63	507	4.60E+05	
	Venango County	22,485	7020	High	1240	372	5.38	7.73	2,875	2.61E+06	
	Warren County	17,428	7020	High	1398	420	5.38	7.73	3,244	2.94E+06	
	Washington County	81,507	6160	Medium	1116	335	1.83	2.63	881	7.99E+05	
	Wayne County	18,640	6950	High	1491	447	5.38	7.73	3,459	3.14E+06	

State	County	Estimated number of households 2002	HDD	Heating category	Estimated number of households with wood as main fuel, 2002	Number of centralized wood heating systems	Number of cords burned per centralized wood heating system	Dry weight of cords burned per centralized wood heating system (tons)	Dry weight of cords burned by centralized wood heating systems (tons)	Dry mass of cords burned by centralized wood heating systems (Kg)	Average dry weight of Cordwood by state (tons)
	Westmoreland County	149,199	6160	Medium	1516	455	1.83	2.63	1,196	1.08E+06	
	Wyoming County	10,732	7260	High	753	226	5.38	7.73	1,747	1.58E+06	
	York County	151,346	5550	Medium	3375	1012	1.83	2.63	2,663	2.42E+06	
	<b>Total Pennsylvania</b>	<b>4,792,928</b>			<b>76697</b>	<b>23009</b>			<b>97,028</b>	<b>8.80E+07</b>	<b>1.4</b>
Rhode Island	Bristol County	19,596	5890	Medium	98	29	1.83	2.70	79	7.18E+04	
	Kent County	68,517	5890	Medium	594	178	1.83	2.70	481	4.36E+05	
	Newport County	35,331	5890	Medium	316	95	1.83	2.70	256	2.32E+05	
	Providence County	244,799	5890	Medium	1165	350	1.83	2.70	942	8.55E+05	
	Washington County	48,145	5890	Medium	1512	454	1.83	2.70	1,223	1.11E+06	
	<b>Total Rhode Island</b>	<b>416,388</b>			<b>3685</b>	<b>1106</b>			<b>2,981</b>	<b>2.70E+06</b>	<b>1.5</b>
District of Columbia	District of Columbia	245,119	4250	Low	88	26	0.75	1.00	26	2.40E+04	
	<b>Total D.C.</b>	<b>245,119</b>			<b>88</b>	<b>26</b>			<b>26</b>	<b>2.40E+04</b>	<b>1.3</b>
Vermont	Addison County	13,252	7840	High	1623	487	5.38	7.41	3,608	3.27E+06	
	Bennington County	14,897	7840	High	963	289	5.38	7.41	2,142	1.94E+06	
	Caledonia County	11,771	8720	High	1686	506	5.38	7.41	3,750	3.40E+06	
	Chittenden County	57,196	7840	High	1858	557	5.38	7.41	4,132	3.75E+06	
	Essex County	2,640	8720	High	394	118	5.38	7.41	875	7.94E+05	
	Franklin County	17,218	8720	High	1588	476	5.38	7.41	3,530	3.20E+06	
	Grand Isle County	2,927	7840	High	207	62	5.38	7.41	460	4.17E+05	
	Lamoille County	9,526	8720	High	1205	361	5.38	7.41	2,678	2.43E+06	
	Orange County	11,179	8720	High	2130	639	5.38	7.41	4,737	4.30E+06	
	Orleans County	10,611	8720	High	1935	581	5.38	7.41	4,303	3.90E+06	
	Rutland County	25,649	7840	High	1844	553	5.38	7.41	4,100	3.72E+06	
	Washington County	24,025	8720	High	2310	693	5.38	7.41	5,137	4.66E+06	
	Windham County	18,366	7780	High	2675	802	5.38	7.41	5,948	5.40E+06	
	Windsor County	24,366	7780	High	2491	747	5.38	7.41	5,539	5.02E+06	
	<b>Total Vermont</b>	<b>219,256</b>			<b>22908</b>	<b>6872</b>			<b>50,938</b>	<b>4.62E+07</b>	<b>1.4</b>
<b>MANE-VU Total</b>		<b>23,064,407</b>			<b>302656</b>	<b>90797</b>			<b>518,883</b>	<b>4.71E+08</b>	

Average dry weight of Cordwood by state (tons)
Dry mass of cords burned by centralized wood heating systems (Kg)
Dry weight of cords burned by centralized wood heating systems (tons)
Dry weight of cords burned per centralized wood heating system (tons)
Number of cords burned per centralized wood heating system
Number of centralized wood heating systems
Estimated number of households with wood as main fuel, 2002
Heating category
HDD
Estimated number of households 2002
County
State

Def.	Cat.	Ton Sum	Kg Sum
> 6500	High	460,704	4.18E+08
5500-6499	Med.	47,446	4.30E+07
< 5499	Low	10,734	9.74E+06

**Table 18  
Number of Outdoor Wood Boilers**

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
Connecticut	Fairfield County	328,733	0.0028	23
	Hartford County	338,964	0.0047	39
	Litchfield County	73,209	0.0070	59
	Middlesex County	63,127	0.0038	31
	New Haven County	323,240	0.0051	42
	New London County	101,234	0.0059	49
	Tolland County	51,615	0.0047	39
	Windham County	41,919	0.0061	50
	<b>Total Connecticut</b>		<b>1,322,041</b>	<b>0.0401</b>
Delaware	Kent County	49,063	0.0027	22
	New Castle County	192,702	0.0011	9
	Sussex County	65,612	0.0034	29
<b>Total Delaware</b>		<b>307,377</b>	<b>0.0072</b>	<b>60</b>
Maine	Androscoggin County	42,609	0.0056	46
	Aroostook County	30,033	0.0091	76
	Cumberland County	109,722	0.0085	71
	Franklin County	11,911	0.0060	50
	Hancock County	22,054	0.0069	57
	Kennebec County	48,309	0.0102	85
	Knox County	16,986	0.0040	34
	Lincoln County	14,521	0.0041	34
	Oxford County	22,757	0.0092	77
	Penobscot County	58,890	0.0114	95
	Piscataquis County	7,289	0.0038	32
	Sagadahoc County	14,429	0.0031	26
	Somerset County	20,558	0.0084	70
Waldo County	15,312	0.0073	61	

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Washington County	13,898	0.0043	36
	York County	78,141	0.0100	83
	<b>Total Maine</b>	<b>527,420</b>	<b>0.1120</b>	<b>933</b>
Maryland	Allegany County	28,958	0.0040	33
	Anne Arundel County	183,204	0.0036	30
	Baltimore County	305,574	0.0036	30
	Calvert County	27,611	0.0024	20
	Caroline County	11,311	0.0019	15
	Carroll County	55,435	0.0068	57
	Cecil County	32,827	0.0025	21
	Charles County	44,319	0.0030	25
	Dorchester County	12,631	0.0006	5
	Frederick County	75,020	0.0071	59
	Garrett County	11,503	0.0052	43
	Harford County	82,864	0.0039	33
	Howard County	94,424	0.0013	11
	Kent County	7,757	0.0008	7
	Montgomery County	336,700	0.0013	11
	Prince George's County	295,975	0.0018	15
	Queen Anne's County	16,188	0.0019	16
	St. Mary's County	31,971	0.0039	32
	Somerset County	8,604	0.0009	8
	Talbot County	14,542	0.0012	10
	Washington County	50,806	0.0060	50
	Wicomico County	32,796	0.0021	18
	Worcester County	20,321	0.0014	12
	Baltimore city	252,048	0.0004	3
	<b>Total Maryland</b>	<b>2,033,388</b>	<b>0.0675</b>	<b>562</b>
Massachusetts	Barnstable County	97,119	0.0031	25

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Berkshire County	55,326	0.0060	50
	Bristol County	208,940	0.0039	32
	Dukes County	6,605	0.0011	10
	Essex County	280,413	0.0044	36
	Franklin County	29,636	0.0080	67
	Hampden County	176,594	0.0061	51
	Hampshire County	56,126	0.0072	60
	Middlesex County	562,478	0.0042	35
	Nantucket County	3,838	0.0004	3
	Norfolk County	250,129	0.0016	13
	Plymouth County	172,560	0.0040	33
	Suffolk County	276,854	0.0001	0
	Worcester County	290,955	0.0152	127
	<b>Total Massachusetts</b>	<b>2,467,572</b>	<b>0.0653</b>	<b>543</b>
New Hampshire	Belknap County	23,598	0.0037	31
	Carroll County	19,044	0.0060	50
	Cheshire County	28,835	0.0086	72
	Coos County	14,085	0.0030	25
	Grafton County	32,058	0.0099	82
	Hillsborough County	148,800	0.0108	90
	Merrimack County	53,970	0.0087	72
	Rockingham County	108,504	0.0090	75
	Strafford County	44,036	0.0040	33
	Sullivan County	16,942	0.0050	42
	<b>Total New Hampshire</b>	<b>489,871</b>	<b>0.0688</b>	<b>573</b>
New Jersey	Atlantic County	97,561	0.0021	17
	Bergen County	334,832	0.0003	3
	Burlington County	159,618	0.0019	16
	Camden County	186,884	0.0006	5

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Cape May County	41,928	0.0015	12
	Cumberland County	49,681	0.0011	9
	Essex County	284,738	0.0002	2
	Gloucester County	93,535	0.0012	10
	Hudson County	230,792	0.0000	0
	Hunterdon County	45,390	0.0014	12
	Mercer County	128,268	0.0004	4
	Middlesex County	272,869	0.0007	5
	Monmouth County	229,023	0.0010	8
	Morris County	172,811	0.0015	13
	Ocean County	210,803	0.0021	17
	Passaic County	166,543	0.0006	5
	Salem County	24,475	0.0009	7
	Somerset County	112,804	0.0006	5
	Sussex County	52,491	0.0034	29
	Union County	188,616	0.0003	2
	Warren County	40,572	0.0020	17
	<b>Total New Jersey</b>	<b>3,124,232</b>	<b>0.0237</b>	<b>198</b>
New York	Albany County	121,100	0.0029	24
	Allegany County	18,178	0.0066	55
	Bronx County	472,329	0.0003	2
	Broome County	80,470	0.0054	45
	Cattaraugus County	31,807	0.0093	78
	Cayuga County	30,538	0.0046	39
	Chautauqua County	53,995	0.0080	67
	Chemung County	34,954	0.0032	26
	Chenango County	19,934	0.0067	55
	Clinton County	29,761	0.0047	39
	Columbia County	24,839	0.0035	29



State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Cortland County	18,170	0.0036	30
	Delaware County	18,987	0.0074	62
	Dutchess County	102,297	0.0044	36
	Erie County	377,401	0.0073	61
	Essex County	15,122	0.0037	31
	Franklin County	17,832	0.0053	44
	Fulton County	21,911	0.0038	32
	Genesee County	22,604	0.0021	18
	Greene County	18,383	0.0034	28
	Hamilton County	2,317	0.0012	10
	Herkimer County	25,452	0.0045	37
	Jefferson County	40,856	0.0076	63
	Kings County	887,700	0.0006	5
	Lewis County	9,926	0.0079	66
	Livingston County	22,281	0.0039	33
	Madison County	25,503	0.0043	36
	Monroe County	286,428	0.0049	41
	Montgomery County	19,857	0.0023	19
	Nassau County	449,050	0.0005	4
	New York County	744,562	0.0004	4
	Niagara County	87,244	0.0026	22
	Oneida County	89,980	0.0082	68
	Onondaga County	181,296	0.0055	46
	Ontario County	39,013	0.0047	40
	Orange County	119,844	0.0032	27
	Orleans County	15,264	0.0023	19
	Oswego County	45,674	0.0083	69
	Otsego County	23,409	0.0070	59
	Putnam County	33,711	0.0017	14

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Queens County	787,089	0.0002	2
	Rensselaer County	59,891	0.0066	55
	Richmond County	160,618	0.0001	1
	Rockland County	94,168	0.0004	3
	St. Lawrence County	40,230	0.0116	97
	Saratoga County	80,670	0.0085	70
	Schenectady County	59,814	0.0014	12
	Schoharie County	12,021	0.0040	33
	Schuyler County	7,451	0.0023	19
	Seneca County	13,262	0.0012	10
	Steuben County	39,384	0.0096	80
	Suffolk County	481,249	0.0028	23
	Sullivan County	27,786	0.0045	37
	Tioga County	19,736	0.0046	38
	Tompkins County	37,108	0.0057	48
	Ulster County	68,511	0.0081	67
	Warren County	26,057	0.0045	37
	Washington County	22,635	0.0070	58
	Wayne County	34,921	0.0059	49
	Westchester County	342,411	0.0009	7
	Wyoming County	14,828	0.0039	33
	Yates County	8,996	0.0025	21
	<b>Total New York</b>	<b>7,118,815</b>	<b>0.2739</b>	<b>2,281</b>
Pennsylvania	Adams County	34,848	0.0063	52
	Allegheny County	530,666	0.0024	20
	Armstrong County	28,780	0.0014	12
	Beaver County	71,697	0.0020	17
	Bedford County	19,733	0.0071	59
	Berks County	144,685	0.0064	53

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Blair County	50,930	0.0029	24
	Bradford County	24,446	0.0072	60
	Bucks County	222,989	0.0044	37
	Butler County	67,421	0.0035	29
	Cambria County	59,661	0.0018	15
	Cameron County	2,413	0.0005	4
	Carbon County	24,085	0.0009	7
	Centre County	50,355	0.0055	46
	Chester County	163,929	0.0050	41
	Clarion County	15,847	0.0018	15
	Clearfield County	32,781	0.0017	14
	Clinton County	14,633	0.0023	19
	Columbia County	25,058	0.0022	18
	Crawford County	34,587	0.0094	78
	Cumberland County	84,523	0.0054	45
	Dauphin County	103,039	0.0027	22
	Delaware County	207,325	0.0004	3
	Elk County	13,892	0.0015	12
	Erie County	107,090	0.0057	47
	Fayette County	59,213	0.0031	26
	Forest County	2,015	0.0009	7
	Franklin County	51,483	0.0095	79
	Fulton County	5,692	0.0037	30
	Greene County	14,991	0.0016	14
	Huntingdon County	16,849	0.0058	48
	Indiana County	33,925	0.0029	25
	Jefferson County	18,327	0.0018	15
	Juniata County	8,616	0.0041	34
	Lackawanna County	85,318	0.0015	13

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Lancaster County	175,464	0.0116	96
	Lawrence County	36,772	0.0018	15
	Lebanon County	47,056	0.0024	20
	Lehigh County	123,943	0.0033	28
	Luzerne County	128,846	0.0028	24
	Lycoming County	46,524	0.0067	56
	McKean County	17,847	0.0026	22
	Mercer County	46,531	0.0042	35
	Mifflin County	18,424	0.0057	48
	Monroe County	53,205	0.0065	54
	Montgomery County	291,575	0.0034	28
	Montour County	7,066	0.0008	6
	Northampton County	104,056	0.0030	25
	Northumberland County	38,396	0.0018	15
	Perry County	16,824	0.0050	42
	Philadelphia County	578,080	0.0006	5
	Pike County	18,858	0.0040	34
	Potter County	7,039	0.0028	23
	Schuylkill County	59,923	0.0014	12
	Snyder County	13,794	0.0033	28
	Somerset County	31,073	0.0033	27
	Sullivan County	2,649	0.0012	10
	Susquehanna County	16,426	0.0061	51
	Tioga County	16,019	0.0056	47
	Union County	13,362	0.0021	18
	Venango County	22,485	0.0041	34
	Warren County	17,428	0.0046	38
	Washington County	81,507	0.0037	31
	Wayne County	18,640	0.0049	41

State	County	Estimated number of households 2002	Fraction of MANE-VU households with wood as main heating fuel by county	Number of outdoor wood boilers
	Westmoreland County	149,199	0.0050	42
	Wyoming County	10,732	0.0025	21
	York County	151,346	0.0112	93
	<b>Total Pennsylvania</b>	<b>4,792,928</b>	<b>0.2534</b>	<b>2,111</b>
Rhode Island	Bristol County	19,596	0.0003	3
	Kent County	68,517	0.0020	16
	Newport County	35,331	0.0010	9
	Providence County	244,799	0.0038	32
	Washington County	48,145	0.0050	42
	<b>Total Rhode Island</b>	<b>416,388</b>	<b>0.0122</b>	<b>101</b>
District of Columbia	District of Columbia	245,119	0.0003	2
	<b>Total D.C.</b>	<b>245,119</b>	<b>0.0003</b>	<b>2</b>
Vermont	Addison County	13,252	0.0054	45
	Bennington County	14,897	0.0032	27
	Caledonia County	11,771	0.0056	46
	Chittenden County	57,196	0.0061	51
	Essex County	2,640	0.0013	11
	Franklin County	17,218	0.0052	44
	Grand Isle County	2,927	0.0007	6
	Lamoille County	9,526	0.0040	33
	Orange County	11,179	0.0070	59
	Orleans County	10,611	0.0064	53
	Rutland County	25,649	0.0061	51
	Washington County	24,025	0.0076	64
	Windham County	18,366	0.0088	74
	Windsor County	24,366	0.0082	69
	<b>Total Vermont</b>	<b>219,256</b>	<b>0.0757</b>	<b>630</b>
<b>MANE-VU Total</b>		<b>23,064,407</b>	<b>1.0000</b>	<b>8,329</b>

Number of outdoor wood boilers	Fraction of MANE-VU households with wood as main heating fuel by county	Estimated number of households 2002	County	State
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OWB	Cat.	Def.
5,708	High	> 6500
1,663	Med.	5500-6499
957	Low	< 5499

### 3.3. Manufactured Firelogs

There are two types of manufactured firelogs used in residential fireplaces without inserts – wax/fiber firelogs and densified firelogs. The use of densified firelogs in fireplaces in the MANE-VU states as compared to wax/fiber firelogs is insignificant. An industry survey revealed that 11,411,192 wax/fiber firelogs were used in the Northeast between September 1998 and September 1999<sup>45</sup>. The average weight of a wax/fiber firelog is 4.95 lbs (40% 6 lb logs, 35% 5 lb logs, 25% 3.2 lb logs and an insignificant number of 3 lb and 2.5 lb logs). The log weight distribution estimate was based on an interview with a major manufacturer of firelogs<sup>46</sup>. The typical moisture content of wax/fiber firelogs is 2% and the mass of firelogs was corrected to the mass on a dry basis. Adjusting the 11,411,192 number of firelogs used in the Northeast to the 2002 base year by using the number of usable fireplaces in the Northeast census region<sup>47</sup> and adding the estimated contribution of Maryland, Delaware and Washington, D.C. to the northeast number by apportioning the number of fireplaces used for heating in all the MANE-VU region to the number without Maryland, Delaware and Washington D.C. included, produces 13,887,242 firelogs, or 33,684 dry tons of firelogs used in the MANE-VU states in 2002. The total amount of firelogs in the MANE-VU states was apportioned among the counties based on the number of fireplaces without inserts used for heating in each county to the total number of fireplaces without inserts in use for heating in the MANE-VU states (Table 10). It needs to be noted that wax/fiber firelogs are used both in fireplaces without inserts that are reported as used for aesthetics and for heating purposes but that the number of fireplaces used for heating was only used for apportioning the firelog use between counties. The use of fireplaces for aesthetics was not included in the tabulation of cordwood burned in fireplaces as it represents less than 10% of the total cordwood burned in fireplaces. Wax/fiber firelogs are important to include in the activity level determination as according to the survey conducted by the HPBA<sup>48</sup>, 23% of fireplace users normally burn artificial firelogs in New England (defined by the HPBA surveyor as Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont) and 19% in the South (includes the MANE-VU areas of Delaware, District of Columbia and Maryland).

The correction factor used to correct from 1999 to 2002 was calculated by:

#### Equation 3.3.1

$$\frac{\text{AHS 2002}}{\text{AHS 1999}} = 1.042$$

AHS 2002 = Number of northeastern households with a useable fireplace in 2002 as estimated by:

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<sup>45</sup> Information Resource, 1998, Infoscan Standard Region Profile, Report to Duraflame Inc., Stockton, CA.

<sup>46</sup> Solari, S., 2000, Duraflame Estimated-Total Single Firelog Volume and Firelog Weight Distribution Estimates, Duraflame Inc., Stockton CA.

<sup>47</sup> AHS for the United States: 1999, 2001, and 2003

<sup>48</sup> HPBA Fireplace and Stove Attitude and Usage Study-Follow Up Phase, October 11, 2004

Equation 3.3.1a

$$\frac{\text{AHS 2001} + \text{AHS 2003}}{2}$$

2

AHS 2001 = Number of northeastern households with a useable fireplace in 2001  
= 5,349,000

AHS 2003 = Number of northeastern households with a useable fireplace in 2003  
= 5,147,000

AHS 1999 = Number of northeastern households with a useable fireplace in 1999  
= 5,036,000

The correction factor to include Washington DC, Delaware, and Maryland was calculated by:

Equation 3.3.2

$$\frac{\text{FPNI MANE-VU}}{\text{FPNI MANE-VU} - (\text{DC, MD, DE})} = 1.168$$

FPNI MANE-VU is the number of fireplaces without inserts used for heating in the  
MANE-VU Area

FPNI MANE-VU – (DC, MD, DE) is the number of fireplaces without inserts used for  
heating in the MANE-VU Area less the number of fireplaces without inserts used  
for heating in Washington DC, Maryland, and Delaware.



**Table 19  
Wax/Fiber Firelog Activity**

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
Connecticut	Fairfield County	5750	Medium	5,972	0.010635	147,696	358.24	324,987
	Hartford County	6250	Medium	8,160	0.014532	201,805	489.48	444,046
	Litchfield County	6750	High	1,930	0.003436	47,722	115.75	105,007
	Middlesex County	5750	Medium	2,247	0.004002	55,570	134.79	122,275
	New Haven County	5750	Medium	10,945	0.01949	270,669	656.51	595,574
	New London County	5750	Medium	5,537	0.00986	136,935	332.14	301,308
	Tolland County	6750	High	2,466	0.004392	60,988	147.93	134,197
	Windham County	6750	High	3,825	0.006811	94,588	229.42	208,130
	<b>Total Connecticut</b>				<b>41,082</b>	<b>0.073159</b>	<b>1,015,974</b>	<b>2,464</b>
Delaware	Kent County	4490	Low	3,561	0.006341	88,055	213.58	193,755
	New Castle County	4900	Low	14,704	0.026184	363,623	881.97	800,108
	Sussex County	4490	Low	994	0.00177	24,581	59.62	54,088
<b>Total Delaware</b>				<b>19,258</b>	<b>0.034295</b>	<b>476,260</b>	<b>1,155</b>	<b>1,047,951</b>
Maine	Androscoggin County	8200	High	3,910	0.006963	96,701	234.55	212,779
	Aroostook County	9670	High	2,036	0.003625	50,339	122.10	110,766
	Cumberland County	8200	High	6,687	0.011908	165,363	401.09	363,860
	Franklin County	9670	High	1,267	0.002256	31,331	75.99	68,940
	Hancock County	7800	High	1,347	0.002399	33,319	80.82	73,315
	Kennebec County	8200	High	2,505	0.004462	61,961	150.29	136,338
	Knox County	7600	High	965	0.001719	23,870	57.90	52,524
	Lincoln County	7600	High	797	0.00142	19,720	47.83	43,391
	Oxford County	8200	High	1,949	0.003471	48,197	116.90	106,052
	Penobscot County	8900	High	2,947	0.005247	72,873	176.75	160,348
	Piscataquis County	9670	High	746	0.001329	18,461	44.78	40,620
	Sagadahoc County	7600	High	761	0.001356	18,827	45.66	41,426
	Somerset County	9670	High	1,884	0.003355	46,596	113.02	102,529
	Waldo County	8200	High	1,498	0.002668	37,053	89.87	81,530

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Washington County	7800	High	884	0.001573	21,851	53.00	48,081
	York County	7600	High	2,575	0.004585	63,669	154.43	140,096
	<b>Total Maine</b>			<b>32,759</b>	<b>0.058336</b>	<b>810,132</b>	<b>1,965</b>	<b>1,782,595</b>
Maryland	Allegany County	5600	Medium	2,932	0.005221	72,500	175.85	159,528
	Anne Arundel County	4603	Low	7,261	0.01293	179,555	435.51	395,089
	Baltimore County	5031	Low	4,262	0.007589	105,394	255.63	231,907
	Calvert County	4500	Low	1,548	0.002757	38,294	92.88	84,261
	Caroline County	4300	Low	372	0.000663	9,211	22.34	20,267
	Carroll County	5031	Low	2,839	0.005056	70,214	170.30	154,497
	Cecil County	5031	Low	1,388	0.002472	34,326	83.26	75,530
	Charles County	4470	Low	1,815	0.003232	44,877	108.85	98,747
	Dorchester County	4300	Low	124	0.00022	3,059	7.42	6,731
	Frederick County	5031	Low	4,127	0.00735	102,069	247.57	224,590
	Garrett County	6570	High	1,008	0.001795	24,923	60.45	54,840
	Harford County	5031	Low	2,674	0.004762	66,127	160.39	145,505
	Howard County	5031	Low	1,766	0.003145	43,669	105.92	96,088
	Kent County	4712	Low	164	0.000292	4,053	9.83	8,918
	Montgomery County	5031	Low	5,980	0.010649	147,879	358.68	325,389
	Prince George's County	4603	Low	8,874	0.015803	219,462	532.31	482,899
	Queen Anne's County	4712	Low	662	0.001179	16,369	39.70	36,019
	St. Mary's County	4473	Low	2,786	0.004961	68,898	167.11	151,602
	Somerset County	4239	Low	219	0.000389	5,407	13.11	11,897
	Talbot County	4325	Low	256	0.000456	6,328	15.35	13,924
	Washington County	5588	Medium	4,755	0.008467	117,584	285.20	258,729
	Wicomico County	4239	Low	630	0.001122	15,582	37.79	34,286
	Worcester County	4239	Low	385	0.000685	9,511	23.07	20,928
	Baltimore city	5031	Low	791	0.001409	19,563	47.45	43,047
	<b>Total Maryland</b>			<b>57,616</b>	<b>0.102602</b>	<b>1,424,856</b>	<b>3,456</b>	<b>3,135,219</b>
Massachusetts	Barnstable County	5980	Medium	4,454	0.007932	110,157	267.19	242,386

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Berkshire County	7500	High	4,579	0.008155	113,252	274.69	249,198
	Bristol County	5980	Medium	5,056	0.009003	125,027	303.25	275,106
	Dukes County	5980	Medium	241	0.000429	5,963	14.46	13,121
	Essex County	5980	Medium	5,714	0.010175	141,309	342.75	310,933
	Franklin County	6690	High	1,918	0.003416	47,437	115.06	104,379
	Hampden County	6690	High	8,641	0.015388	213,699	518.33	470,217
	Hampshire County	6690	High	6,132	0.01092	151,649	367.82	333,685
	Middlesex County	6690	High	6,930	0.012341	171,387	415.70	377,117
	Nantucket County	5980	Medium	147	0.000261	3,631	8.81	7,989
	Norfolk County	5980	Medium	3,119	0.005554	77,124	187.06	169,701
	Plymouth County	5980	Medium	3,624	0.006454	89,627	217.39	197,213
	Suffolk County	5980	Medium	818	0.001458	20,241	49.09	44,537
	Worcester County	6690	High	16,195	0.028841	400,520	971.46	881,294
	<b>Total Massachusetts</b>			<b>67,570</b>	<b>0.120328</b>	<b>1,671,021</b>	<b>4,053</b>	<b>3,676,876</b>
New Hampshire	Belknap County	7520	High	859	0.00153	21,242	51.52	46,739
	Carroll County	7520	High	1,094	0.001949	27,062	65.64	59,547
	Cheshire County	7520	High	1,973	0.003513	48,785	118.33	107,346
	Coos County	8930	High	723	0.001287	17,870	43.34	39,321
	Grafton County	8930	High	2,216	0.003946	54,803	132.92	120,588
	Hillsborough County	7520	High	9,761	0.017382	241,390	585.49	531,149
	Merrimack County	7520	High	1,941	0.003457	48,010	116.45	105,641
	Rockingham County	7520	High	4,107	0.007314	101,575	246.37	223,503
	Strafford County	7520	High	2,993	0.005329	74,007	179.50	162,844
	Sullivan County	7520	High	1,129	0.00201	27,917	67.71	61,427
	<b>Total New Hampshire</b>			<b>26,796</b>	<b>0.047717</b>	<b>662,662</b>	<b>1,607</b>	<b>1,458,106</b>
New Jersey	Atlantic County	5020	Low	2,169	0.003862	53,630	130.08	118,007
	Bergen County	5780	Medium	4,640	0.008264	114,757	278.34	252,509
	Burlington County	5020	Low	2,259	0.004022	55,854	135.47	122,901
	Camden County	5020	Low	1,712	0.003048	42,334	102.68	93,151

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Cape May County	5020	Low	1,415	0.00252	34,991	84.87	76,992
	Cumberland County	5020	Low	1,048	0.001867	25,925	62.88	57,045
	Essex County	5780	Medium	1,266	0.002254	31,306	75.93	68,886
	Gloucester County	5020	Low	1,221	0.002174	30,186	73.22	66,421
	Hudson County	5780	Medium	858	0.001527	21,207	51.44	46,664
	Hunterdon County	5780	Medium	520	0.000925	12,852	31.17	28,280
	Mercer County	5020	Low	826	0.00147	20,419	49.53	44,930
	Middlesex County	5020	Low	2,988	0.005321	73,894	179.23	162,595
	Monmouth County	5020	Low	1,570	0.002796	38,832	94.19	85,445
	Morris County	5780	Medium	1,676	0.002985	41,455	100.55	91,216
	Ocean County	5020	Low	2,730	0.004861	67,502	163.73	148,531
	Passaic County	5780	Medium	1,114	0.001984	27,553	66.83	60,627
	Salem County	5020	Low	546	0.000973	13,511	32.77	29,729
	Somerset County	5780	Medium	783	0.001394	19,363	46.96	42,605
	Sussex County	5780	Medium	1,400	0.002492	34,613	83.95	76,162
	Union County	5780	Medium	985	0.001754	24,359	59.08	53,600
	Warren County	5780	Medium	1,181	0.002103	29,205	70.84	64,262
	<b>Total New Jersey</b>			<b>32,905</b>	<b>0.058597</b>	<b>813,752</b>	<b>1,974</b>	<b>1,790,560</b>
New York	Albany County	6700	High	3,504	0.00624	86,652	210.17	190,667
	Allegany County	7520	High	960	0.00171	23,751	57.61	52,260
	Bronx County	5220	Low	208	0.00037	5,144	12.48	11,319
	Broome County	7450	High	3,524	0.006275	87,142	211.36	191,745
	Cattaraugus County	7520	High	1,568	0.002793	38,783	94.07	85,337
	Cayuga County	7150	High	2,035	0.003624	50,322	122.06	110,727
	Chautauqua County	7020	High	3,605	0.00642	89,155	216.25	196,174
	Chemung County	7520	High	1,957	0.003485	48,394	117.38	106,486
	Chenango County	7450	High	1,258	0.002241	31,116	75.47	68,466
	Clinton County	7870	High	1,141	0.002032	28,213	68.43	62,079
	Columbia County	6700	High	755	0.001344	18,666	45.27	41,071

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Cortland County	7150	High	737	0.001312	18,226	44.21	40,104
	Delaware County	7450	High	1,432	0.002549	35,403	85.87	77,900
	Dutchess County	6700	High	3,704	0.006596	91,599	222.17	201,553
	Erie County	7020	High	4,287	0.007635	106,024	257.16	233,292
	Essex County	7870	High	818	0.001457	20,229	49.06	44,511
	Franklin County	8200	High	1,299	0.002314	32,136	77.95	70,711
	Fulton County	8960	High	809	0.00144	19,999	48.51	44,005
	Genesee County	7020	High	536	0.000954	13,244	32.12	29,141
	Greene County	6700	High	748	0.001332	18,496	44.86	40,698
	Hamilton County	8960	High	210	0.000374	5,196	12.60	11,433
	Herkimer County	7560	High	2,191	0.003902	54,185	131.42	119,227
	Jefferson County	7020	High	1,533	0.00273	37,910	91.95	83,416
	Kings County	5220	Low	393	0.0007	9,719	23.57	21,385
	Lewis County	8960	High	1,583	0.002819	39,150	94.96	86,144
	Livingston County	7150	High	969	0.001726	23,964	58.13	52,731
	Madison County	7450	High	1,959	0.003488	48,445	117.50	106,598
	Monroe County	7020	High	3,135	0.005583	77,526	188.04	170,587
	Montgomery County	7560	High	1,324	0.002359	32,754	79.45	72,072
	Nassau County	5220	Low	6,176	0.010998	152,728	370.44	336,059
	New York County	5220	Low	341	0.000607	8,433	20.45	18,556
	Niagara County	7020	High	1,334	0.002375	32,980	79.99	72,568
	Oneida County	7560	High	4,761	0.008479	117,747	285.60	259,088
	Onondaga County	7150	High	5,159	0.009188	127,595	309.48	280,756
	Ontario County	7150	High	283	0.000504	6,999	16.98	15,401
	Orange County	6700	High	1,656	0.00295	40,963	99.36	90,134
	Orleans County	7020	High	576	0.001026	14,247	34.56	31,349
	Oswego County	7020	High	3,188	0.005677	78,839	191.22	173,474
	Otsego County	7450	High	1,400	0.002493	34,620	83.97	76,177
	Putnam County	6700	High	996	0.001774	24,632	59.75	54,201

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Queens County	5220	Low	345	0.000614	8,532	20.69	18,774
	Rensselaer County	6700	High	4,580	0.008156	113,265	274.72	249,226
	Richmond County	5220	Low	72	0.000128	1,781	4.32	3,918
	Rockland County	6700	High	595	0.001059	14,703	35.66	32,351
	St. Lawrence County	8200	High	2,354	0.004191	58,205	141.18	128,073
	Saratoga County	6700	High	5,513	0.009818	136,350	330.72	300,020
	Schenectady County	6700	High	1,703	0.003033	42,123	102.17	92,685
	Schoharie County	7450	High	1,762	0.003138	43,584	105.71	95,902
	Schuyler County	7150	High	403	0.000718	9,974	24.19	21,946
	Seneca County	7150	High	218	0.000388	5,383	13.06	11,845
	Steuben County	7520	High	1,548	0.002757	38,281	92.85	84,234
	Suffolk County	5220	Low	9,465	0.016855	234,073	567.74	515,049
	Sullivan County	7450	High	971	0.00173	24,021	58.26	52,855
	Tioga County	7520	High	2,063	0.003673	51,013	123.73	112,248
	Tompkins County	7150	High	1,195	0.002128	29,545	71.66	65,011
	Ulster County	6700	High	1,998	0.003558	49,410	119.84	108,720
	Warren County	7870	High	2,702	0.004811	66,813	162.05	147,013
	Washington County	6700	High	3,184	0.00567	78,738	190.98	173,252
	Wayne County	7020	High	1,322	0.002354	32,693	79.30	71,936
	Westchester County	6700	High	1,870	0.00333	46,245	112.17	101,757
	Wyoming County	7020	High	660	0.001176	16,332	39.61	35,937
	Yates County	7150	High	426	0.000759	10,543	25.57	23,199
	<b>Total New York</b>			<b>119,001</b>	<b>0.211916</b>	<b>2,942,929</b>	<b>7,138</b>	<b>6,475,552</b>
Pennsylvania	Adams County	5550	Medium	1,244	0.002215	30,759	74.61	67,681
	Allegheny County	6160	Medium	9,544	0.016996	236,025	572.48	519,344
	Armstrong County	6160	Medium	209	0.000372	5,169	12.54	11,374
	Beaver County	6160	Medium	1,307	0.002328	32,328	78.41	71,135
	Bedford County	6260	Medium	1,496	0.002664	37,002	89.75	81,419
	Berks County	5360	Low	5,316	0.009467	131,464	318.87	289,270

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Blair County	6260	Medium	2,069	0.003684	51,163	124.10	112,578
	Bradford County	7260	High	1,363	0.002427	33,709	81.76	74,173
	Bucks County	5360	Low	4,668	0.008313	115,439	280.00	254,010
	Butler County	6160	Medium	1,423	0.002533	35,183	85.34	77,416
	Cambria County	6260	Medium	1,236	0.002201	30,564	74.13	67,251
	Cameron County	6720	High	97	0.000173	2,405	5.83	5,292
	Carbon County	5990	Medium	541	0.000964	13,387	32.47	29,456
	Centre County	6720	High	4,200	0.00748	103,876	251.95	228,566
	Chester County	5360	Low	3,586	0.006386	88,690	215.12	195,152
	Clarion County	7020	High	228	0.000406	5,642	13.69	12,415
	Clearfield County	6720	High	389	0.000692	9,608	23.30	21,141
	Clinton County	6720	High	584	0.00104	14,442	35.03	31,779
	Columbia County	6090	Medium	1,392	0.002478	34,413	83.47	75,722
	Crawford County	7020	High	1,532	0.002729	37,898	91.92	83,390
	Cumberland County	5550	Medium	4,936	0.008789	122,059	296.06	268,577
	Dauphin County	5360	Low	3,334	0.005937	82,453	199.99	181,429
	Delaware County	5360	Low	3,480	0.006198	86,072	208.77	189,390
	Elk County	6720	High	247	0.00044	6,117	14.84	13,460
	Erie County	7020	High	3,944	0.007024	97,540	236.58	214,625
	Fayette County	6160	Medium	1,374	0.002448	33,991	82.45	74,794
	Forest County	7020	High	113	0.000201	2,795	6.78	6,149
	Franklin County	5550	Medium	2,430	0.004327	60,094	145.76	132,230
	Fulton County	6260	Medium	720	0.001282	17,807	43.19	39,182
	Greene County	6160	Medium	261	0.000465	6,456	15.66	14,206
	Huntingdon County	6090	Medium	1,300	0.002316	32,159	78.00	70,763
	Indiana County	6260	Medium	519	0.000924	12,838	31.14	28,249
	Jefferson County	6160	Medium	264	0.00047	6,530	15.84	14,369
	Juniata County	6090	Medium	855	0.001523	21,145	51.29	46,528
	Lackawanna County	6950	High	1,369	0.002438	33,859	82.13	74,504

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Lancaster County	5360	Low	10,792	0.019218	266,879	647.32	587,235
	Lawrence County	6160	Medium	358	0.000638	8,864	21.50	19,504
	Lebanon County	5360	Low	1,994	0.003551	49,318	119.62	108,518
	Lehigh County	5990	Medium	5,356	0.009538	132,453	321.26	291,446
	Luzerne County	6950	High	2,597	0.004625	64,233	155.80	141,337
	Lycoming County	6090	Medium	4,749	0.008457	117,446	284.87	258,426
	McKean County	7020	High	348	0.00062	8,610	20.88	18,946
	Mercer County	7020	High	1,841	0.003279	45,539	110.45	100,202
	Mifflin County	6090	Medium	1,385	0.002466	34,246	83.06	75,354
	Monroe County	6950	High	1,676	0.002985	41,450	100.54	91,205
	Montgomery County	5360	Low	2,777	0.004946	68,681	166.59	151,124
	Montour County	6090	Medium	172	0.000307	4,264	10.34	9,383
	Northampton County	5990	Medium	3,690	0.006572	91,265	221.36	200,817
	Northumberland County	6090	Medium	491	0.000874	12,134	29.43	26,700
	Perry County	6090	Medium	2,220	0.003953	54,889	133.13	120,777
	Philadelphia County	5360	Low	2,057	0.003663	50,874	123.39	111,941
	Pike County	6950	High	1,587	0.002826	39,239	95.17	86,340
	Potter County	7020	High	341	0.000608	8,439	20.47	18,569
	Schuylkill County	5990	Medium	438	0.000781	10,840	26.29	23,851
	Snyder County	6090	Medium	718	0.001279	17,762	43.08	39,082
	Somerset County	6260	Medium	1,491	0.002654	36,861	89.41	81,108
	Sullivan County	7260	High	226	0.000403	5,601	13.59	12,325
	Susquehanna County	7260	High	1,233	0.002196	30,490	73.95	67,090
	Tioga County	7260	High	747	0.00133	18,469	44.80	40,639
	Union County	6090	Medium	594	0.001058	14,690	35.63	32,323
	Venango County	7020	High	638	0.001136	15,774	38.26	34,709
	Warren County	7020	High	705	0.001256	17,438	42.30	38,371
	Washington County	6160	Medium	1,742	0.003101	43,071	104.47	94,771
	Wayne County	6950	High	941	0.001675	23,267	56.43	51,196



State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
	Westmoreland County	6160	Medium	2,666	0.004747	65,923	159.90	145,055
	Wyoming County	7260	High	1,058	0.001884	26,159	63.45	57,561
	York County	5550	Medium	7,885	0.014042	195,000	472.97	429,073
	<b>Total Pennsylvania</b>			<b>133,086</b>	<b>0.236998</b>	<b>3,291,251</b>	<b>7,983</b>	<b>7,241,992</b>
Rhode Island	Bristol County	5890	Medium	560	0.000997	13,850	33.59	30,475
	Kent County	5890	Medium	1,985	0.003534	49,084	119.05	108,004
	Newport County	5890	Medium	519	0.000925	12,846	31.16	28,267
	Providence County	5890	Medium	4,469	0.007958	110,521	268.07	243,189
	Washington County	5890	Medium	2,228	0.003967	55,092	133.63	121,224
	<b>Total Rhode Island</b>			<b>9,761</b>	<b>0.017382</b>	<b>241,394</b>	<b>586</b>	<b>531,158</b>
District of Columbia	District of Columbia	4250	Low	3,824	0.006809	94,559	229.35	208,065
	<b>Total D.C.</b>			<b>3,824</b>	<b>0.006809</b>	<b>94,559</b>	<b>229</b>	<b>208,065</b>
Vermont	Addison County	7840	High	1,114	0.001984	27,551	66.82	60,622
	Bennington County	7840	High	831	0.001479	20,542	49.82	45,200
	Caledonia County	8720	High	1,094	0.001949	27,067	65.65	59,558
	Chittenden County	7840	High	3,269	0.005822	80,845	196.09	177,890
	Essex County	8720	High	243	0.000433	6,011	14.58	13,226
	Franklin County	8720	High	957	0.001703	23,655	57.38	52,050
	Grand Isle County	7840	High	317	0.000564	7,834	19.00	17,237
	Lamoille County	8720	High	747	0.001331	18,483	44.83	40,669
	Orange County	8720	High	1,133	0.002018	28,019	67.96	61,653
	Orleans County	8720	High	1,250	0.002225	30,902	74.95	67,996
	Rutland County	7840	High	1,596	0.002842	39,463	95.72	86,834
	Washington County	8720	High	1,766	0.003145	43,682	105.95	96,117
	Windham County	7780	High	1,801	0.003207	44,536	108.02	97,997
	Windsor County	7780	High	1,774	0.003159	43,863	106.39	96,515
	<b>Total Vermont</b>			<b>17,891</b>	<b>0.03186</b>	<b>442,453</b>	<b>1,073</b>	<b>973,563</b>
<b>MANE-VU Total</b>				<b>561,547</b>	<b>1.00</b>	<b>1.39E+07</b>	<b>33,684</b>	<b>3.06E+07</b>

State	County	HDD	Heating category	Total fireplace w/o inserts used for heating	Fraction of total MANE-VU households using fireplaces w/o inserts for heating	Number of firelogs used	Dry tons of firelogs used	Dry Kg of firelogs used
MANE-VU less DC, MD, DE				480,850				

Def.	Cat.	Total	Tons	Kg
> 6500	High	6.46E+06	15,660	1.42E+07
5500-6499	Med.	3.83E+06	9,296	8.43E+06
< 5499	Low	3.60E+06	8,727	7.92E+06

	Total firelogs used	Dry tons firelogs used	Correction factor (1999-2002)	Correction to include DC, MD, and DE
1999 New England	11,411,192	27,678	1.042	1.168
2002 New England	11,891,568	28,843		
2002 MANE-VU	13,887,242	33,684		

#### 4. Summary

The number of wood heaters and mass of dry cordwood burned in them by county, by state, and by heating category are provided in Table 20. The total number of wood heaters and the total mass of dry cordwood burned in all wood heaters, as well as, the number and mass for: (1) conventional pre-EPA certification wood heaters, (2) EPA-certified non-catalytic wood heaters, and (3) EPA-certified catalytic wood heaters are tabulated in Table 20. The number of fireplaces without inserts used for heating and the dry mass of cordwood burned in them, the number of centralized wood heating systems and the dry mass of cordwood burned in them, and the number of pellet heaters and the dry mass of pellet burned in them are provide in Table 21 by county, by state, and by heating category. The number of outdoor wood boilers and the dry mass of firelogs burned in fireplaces without insert are also provide by county, by state, and by heating category in Table 21.

**Table 20**  
**Summary – Number and Activity of Wood Heaters**

State	County	Total number of wood heaters	Total number of conventional wood heaters	Total number of EPA certified catalytic wood heaters	Total number of EPA certified non-catalytic wood heaters	Total dry mass of cordwood burned by wood heaters (Kg)	Total dry mass of cordwood burned by conventional wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified catalytic wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified non-catalytic wood heaters (Kg)
Connecticut	Fairfield County	14,900	11,042	1,135	2,721	3.78E+07	2.99E+07	2.44E+06	5.85E+06
	Hartford County	25,838	19,148	1,969	4,718	6.56E+07	5.18E+07	4.23E+06	1.01E+07
	Litchfield County	7,858	5,824	599	1,435	2.52E+07	1.99E+07	1.63E+06	3.90E+06
	Middlesex County	5,918	4,386	451	1,081	1.50E+07	1.19E+07	9.69E+05	2.32E+06
	New Haven County	18,003	13,342	1,372	3,287	4.57E+07	3.61E+07	2.95E+06	7.07E+06
	New London County	8,430	6,247	642	1,539	2.14E+07	1.69E+07	1.38E+06	3.31E+06
	Tolland County	6,515	4,829	496	1,190	2.09E+07	1.65E+07	1.35E+06	3.23E+06
	Windham County	6,649	4,927	507	1,214	2.13E+07	1.68E+07	1.38E+06	3.30E+06
	<b>Total Connecticut</b>		<b>94,111</b>	<b>69,746</b>	<b>7,171</b>	<b>17,185</b>	<b>2.53E+08</b>	<b>2.00E+08</b>	<b>1.63E+07</b>
Delaware	Kent County	5,066	3,754	386	925	5.44E+06	4.31E+06	3.52E+05	8.42E+05
	New Castle County	10,152	7,524	774	1,854	1.09E+07	8.63E+06	7.04E+05	1.69E+06
	Sussex County	6,580	4,877	501	1,202	7.07E+06	5.59E+06	4.57E+05	1.09E+06
<b>Total Delaware</b>		<b>21,798</b>	<b>16,155</b>	<b>1,661</b>	<b>3,980</b>	<b>2.34E+07</b>	<b>1.85E+07</b>	<b>1.51E+06</b>	<b>3.62E+06</b>
Maine	Androscoggin County	8,107	6,008	618	1,480	2.17E+07	1.71E+07	1.40E+06	3.35E+06
	Aroostook County	6,871	5,092	524	1,255	1.84E+07	1.45E+07	1.19E+06	2.84E+06
	Cumberland County	12,988	9,625	990	2,372	3.47E+07	2.74E+07	2.24E+06	5.37E+06
	Franklin County	3,626	2,687	276	662	9.68E+06	7.66E+06	6.25E+05	1.50E+06
	Hancock County	6,047	4,481	461	1,104	1.62E+07	1.28E+07	1.04E+06	2.50E+06
	Kennebec County	9,691	7,182	738	1,770	2.59E+07	2.05E+07	1.67E+06	4.01E+06
	Knox County	4,390	3,253	335	802	1.17E+07	9.27E+06	7.57E+05	1.81E+06
	Lincoln County	3,826	2,836	292	699	1.02E+07	8.08E+06	6.60E+05	1.58E+06
	Oxford County	6,181	4,580	471	1,129	1.65E+07	1.31E+07	1.07E+06	2.55E+06
	Penobscot County	11,065	8,200	843	2,021	2.96E+07	2.34E+07	1.91E+06	4.57E+06
	Piscataquis County	2,144	1,589	163	392	5.73E+06	4.53E+06	3.70E+05	8.86E+05
Sagadahoc County	3,636	2,695	277	664	9.71E+06	7.68E+06	6.27E+05	1.50E+06	
Somerset County	5,505	4,080	420	1,005	1.47E+07	1.16E+07	9.50E+05	2.28E+06	

State	County	Total number of wood heaters	Total number of conventional wood heaters	Total number of EPA certified catalytic wood heaters	Total number of EPA certified non-catalytic wood heaters	Total dry mass of cordwood burned by wood heaters (Kg)	Total dry mass of cordwood burned by conventional wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified catalytic wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified non-catalytic wood heaters (Kg)
	Waldo County	5,078	3,763	387	927	1.36E+07	1.07E+07	8.76E+05	2.10E+06
	Washington County	3,165	2,346	241	578	8.45E+06	6.69E+06	5.46E+05	1.31E+06
	York County	10,514	7,792	801	1,920	2.81E+07	2.22E+07	1.81E+06	4.35E+06
	<b>Total Maine</b>	<b>102,834</b>	<b>76,210</b>	<b>7,836</b>	<b>18,777</b>	<b>2.75E+08</b>	<b>2.17E+08</b>	<b>1.77E+07</b>	<b>4.25E+07</b>
Maryland	Allegany County	5,724	4,242	436	1,045	1.32E+07	1.04E+07	8.52E+05	2.04E+06
	Anne Arundel County	26,446	19,599	2,015	4,829	2.86E+07	2.26E+07	1.84E+06	4.42E+06
	Baltimore County	27,101	20,085	2,065	4,949	2.93E+07	2.31E+07	1.89E+06	4.53E+06
	Calvert County	4,032	2,988	307	736	4.36E+06	3.44E+06	2.81E+05	6.74E+05
	Caroline County	1,659	1,230	126	303	1.79E+06	1.42E+06	1.16E+05	2.77E+05
	Carroll County	7,150	5,299	545	1,306	7.72E+06	6.11E+06	4.99E+05	1.20E+06
	Cecil County	3,916	2,902	298	715	4.23E+06	3.34E+06	2.73E+05	6.54E+05
	Charles County	4,503	3,337	343	822	4.86E+06	3.85E+06	3.14E+05	7.53E+05
	Dorchester County	1,068	791	81	195	1.15E+06	9.12E+05	7.45E+04	1.79E+05
	Frederick County	8,906	6,600	679	1,626	9.62E+06	7.61E+06	6.21E+05	1.49E+06
	Garrett County	3,398	2,518	259	620	9.90E+06	7.83E+06	6.39E+05	1.53E+06
	Harford County	7,794	5,776	594	1,423	8.42E+06	6.66E+06	5.44E+05	1.30E+06
	Howard County	6,134	4,546	467	1,120	6.63E+06	5.24E+06	4.28E+05	1.03E+06
	Kent County	901	668	69	165	9.73E+05	7.70E+05	6.28E+04	1.51E+05
	Montgomery County	19,846	14,708	1,512	3,624	2.14E+07	1.70E+07	1.38E+06	3.32E+06
	Prince George's County	32,510	24,093	2,477	5,936	3.51E+07	2.78E+07	2.27E+06	5.43E+06
	Queen Anne's County	2,098	1,555	160	383	2.27E+06	1.79E+06	1.46E+05	3.51E+05
	St. Mary's County	10,950	8,115	834	1,999	1.18E+07	9.35E+06	7.64E+05	1.83E+06
	Somerset County	1,079	799	82	197	1.17E+06	9.21E+05	7.52E+04	1.80E+05
	Talbot County	1,527	1,132	116	279	1.65E+06	1.30E+06	1.07E+05	2.55E+05
	Washington County	7,475	5,540	570	1,365	1.72E+07	1.36E+07	1.11E+06	2.67E+06
	Wicomico County	3,469	2,571	264	633	3.75E+06	2.96E+06	2.42E+05	5.80E+05
	Worcester County	2,156	1,598	164	394	2.33E+06	1.84E+06	1.50E+05	3.60E+05
	Baltimore city	1,320	978	101	241	1.43E+06	1.13E+06	9.20E+04	2.21E+05

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Total Maryland		191,162	141,670	14,567	34,906	2.29E+08	1.81E+08	1.48E+07	3.54E+07
Massachusetts	Barnstable County	8,582	6,360	654	1,567	2.08E+07	1.64E+07	1.34E+06	3.22E+06
	Berkshire County	8,119	6,017	619	1,483	2.49E+07	1.97E+07	1.60E+06	3.85E+06
	Bristol County	11,969	8,871	912	2,186	2.90E+07	2.29E+07	1.87E+06	4.49E+06
	Dukes County	1,058	784	81	193	2.56E+06	2.03E+06	1.66E+05	3.97E+05
	Essex County	17,008	12,605	1,296	3,106	4.12E+07	3.26E+07	2.66E+06	6.38E+06
	Franklin County	6,513	4,827	496	1,189	1.99E+07	1.58E+07	1.29E+06	3.08E+06
	Hampden County	13,505	10,009	1,029	2,466	4.13E+07	3.27E+07	2.67E+06	6.40E+06
	Hampshire County	9,205	6,822	701	1,681	2.82E+07	2.23E+07	1.82E+06	4.36E+06
	Middlesex County	23,850	17,675	1,817	4,355	7.30E+07	5.77E+07	4.71E+06	1.13E+07
	Nantucket County	550	407	42	100	1.33E+06	1.05E+06	8.60E+04	2.06E+05
	Norfolk County	12,842	9,517	979	2,345	3.11E+07	2.46E+07	2.01E+06	4.82E+06
	Plymouth County	10,079	7,470	768	1,840	2.44E+07	1.93E+07	1.58E+06	3.78E+06
	Suffolk County	757	561	58	138	1.83E+06	1.45E+06	1.18E+05	2.84E+05
	Worcester County	24,840	18,409	1,893	4,536	7.60E+07	6.01E+07	4.91E+06	1.18E+07
Total Massachusetts		148,880	110,335	11,345	27,185	4.16E+08	3.29E+08	2.68E+07	6.43E+07
New Hampshire	Belknap County	3,569	2,645	272	652	1.04E+07	8.22E+06	6.71E+05	1.61E+06
	Carroll County	4,200	3,113	320	767	1.22E+07	9.67E+06	7.90E+05	1.89E+06
	Cheshire County	6,521	4,833	497	1,191	1.90E+07	1.50E+07	1.23E+06	2.94E+06
	Coos County	2,520	1,867	192	460	7.33E+06	5.80E+06	4.74E+05	1.13E+06
	Grafton County	7,470	5,536	569	1,364	2.17E+07	1.72E+07	1.40E+06	3.36E+06
	Hillsborough County	15,740	11,665	1,199	2,874	4.58E+07	3.62E+07	2.96E+06	7.09E+06
	Merrimack County	7,769	5,758	592	1,419	2.26E+07	1.79E+07	1.46E+06	3.50E+06
	Rockingham County	11,490	8,515	876	2,098	3.34E+07	2.64E+07	2.16E+06	5.18E+06
	Strafford County	5,452	4,040	415	996	1.59E+07	1.26E+07	1.02E+06	2.46E+06
	Sullivan County	3,838	2,845	292	701	1.12E+07	8.84E+06	7.21E+05	1.73E+06
Total New Hampshire		68,569	50,817	5,225	12,521	2.00E+08	1.58E+08	1.29E+07	3.09E+07
New Jersey	Atlantic County	5,784	4,286	441	1,056	6.20E+06	4.90E+06	4.00E+05	9.59E+05

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	Bergen County	17,130	12,695	1,305	3,128	3.92E+07	3.10E+07	2.53E+06	6.06E+06
	Burlington County	8,262	6,123	630	1,509	8.85E+06	7.00E+06	5.72E+05	1.37E+06
	Camden County	13,973	10,355	1,065	2,551	1.50E+07	1.18E+07	9.67E+05	2.32E+06
	Cape May County	3,678	2,726	280	672	3.94E+06	3.12E+06	2.54E+05	6.10E+05
	Cumberland County	3,508	2,600	267	641	3.76E+06	2.97E+06	2.43E+05	5.81E+05
	Essex County	6,130	4,543	467	1,119	1.40E+07	1.11E+07	9.05E+05	2.17E+06
	Gloucester County	4,764	3,531	363	870	5.10E+06	4.04E+06	3.30E+05	7.90E+05
	Hudson County	747	554	57	136	1.71E+06	1.35E+06	1.10E+05	2.64E+05
	Hunterdon County	3,106	2,302	237	567	7.10E+06	5.62E+06	4.59E+05	1.10E+06
	Mercer County	5,919	4,386	451	1,081	6.34E+06	5.01E+06	4.09E+05	9.81E+05
	Middlesex County	11,719	8,685	893	2,140	1.26E+07	9.93E+06	8.11E+05	1.94E+06
	Monmouth County	10,790	7,996	822	1,970	1.16E+07	9.14E+06	7.46E+05	1.79E+06
	Morris County	6,545	4,851	499	1,195	1.50E+07	1.18E+07	9.67E+05	2.32E+06
	Ocean County	11,341	8,405	864	2,071	1.21E+07	9.61E+06	7.84E+05	1.88E+06
	Passaic County	6,562	4,863	500	1,198	1.50E+07	1.19E+07	9.69E+05	2.32E+06
	Salem County	2,210	1,638	168	403	2.37E+06	1.87E+06	1.53E+05	3.66E+05
	Somerset County	3,941	2,921	300	720	9.01E+06	7.13E+06	5.82E+05	1.39E+06
	Sussex County	4,553	3,375	347	831	1.04E+07	8.23E+06	6.72E+05	1.61E+06
	Union County	6,702	4,967	511	1,224	1.53E+07	1.21E+07	9.90E+05	2.37E+06
	Warren County	3,594	2,663	274	656	8.22E+06	6.50E+06	5.31E+05	1.27E+06
	<b>Total New Jersey</b>	<b>140,959</b>	<b>104,464</b>	<b>10,741</b>	<b>25,739</b>	<b>2.23E+08</b>	<b>1.76E+08</b>	<b>1.44E+07</b>	<b>3.45E+07</b>
New York	Albany County	8,055	5,969	614	1,471	2.48E+07	1.96E+07	1.60E+06	3.84E+06
	Allegany County	4,819	3,571	367	880	1.49E+07	1.18E+07	9.60E+05	2.30E+06
	Bronx County	1,516	1,124	116	277	1.73E+06	1.37E+06	1.12E+05	2.68E+05
	Broome County	9,373	6,946	714	1,712	2.89E+07	2.29E+07	1.87E+06	4.47E+06
	Cattaraugus County	7,652	5,671	583	1,397	2.36E+07	1.87E+07	1.52E+06	3.65E+06
	Cayuga County	5,806	4,303	442	1,060	1.79E+07	1.42E+07	1.16E+06	2.77E+06
	Chautauqua County	10,123	7,502	771	1,848	3.12E+07	2.47E+07	2.02E+06	4.83E+06

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	Chemung County	5,491	4,069	418	1,003	1.69E+07	1.34E+07	1.09E+06	2.62E+06
	Chenango County	4,738	3,511	361	865	1.46E+07	1.16E+07	9.44E+05	2.26E+06
	Clinton County	4,409	3,267	336	805	1.36E+07	1.08E+07	8.78E+05	2.10E+06
	Columbia County	3,424	2,538	261	625	1.06E+07	8.35E+06	6.82E+05	1.63E+06
	Cortland County	3,463	2,567	264	632	1.07E+07	8.45E+06	6.90E+05	1.65E+06
	Delaware County	5,054	3,746	385	923	1.56E+07	1.23E+07	1.01E+06	2.41E+06
	Dutchess County	7,227	5,356	551	1,320	2.23E+07	1.76E+07	1.44E+06	3.45E+06
	Erie County	35,053	25,978	2,671	6,401	1.08E+08	8.55E+07	6.98E+06	1.67E+07
	Essex County	2,907	2,154	221	531	8.97E+06	7.09E+06	5.79E+05	1.39E+06
	Franklin County	4,041	2,995	308	738	1.25E+07	9.86E+06	8.05E+05	1.93E+06
	Fulton County	3,737	2,769	285	682	1.15E+07	9.11E+06	7.44E+05	1.78E+06
	Genesee County	2,965	2,197	226	541	9.15E+06	7.23E+06	5.91E+05	1.42E+06
	Greene County	2,957	2,191	225	540	9.12E+06	7.21E+06	5.89E+05	1.41E+06
	Hamilton County	728	539	55	133	2.24E+06	1.78E+06	1.45E+05	3.47E+05
	Herkimer County	5,253	3,893	400	959	1.62E+07	1.28E+07	1.05E+06	2.51E+06
	Jefferson County	6,597	4,889	503	1,205	2.03E+07	1.61E+07	1.31E+06	3.15E+06
	Kings County	2,870	2,127	219	524	3.28E+06	2.60E+06	2.12E+05	5.08E+05
	Lewis County	4,663	3,456	355	852	1.44E+07	1.14E+07	9.29E+05	2.23E+06
	Livingston County	3,933	2,915	300	718	1.21E+07	9.59E+06	7.83E+05	1.88E+06
	Madison County	5,050	3,742	385	922	1.56E+07	1.23E+07	1.01E+06	2.41E+06
	Monroe County	20,821	15,431	1,587	3,802	6.42E+07	5.08E+07	4.15E+06	9.94E+06
	Montgomery County	3,256	2,413	248	595	1.00E+07	7.94E+06	6.49E+05	1.55E+06
	Nassau County	2,765	2,049	211	505	3.16E+06	2.50E+06	2.04E+05	4.89E+05
	New York County	2,487	1,843	190	454	2.84E+06	2.25E+06	1.84E+05	4.40E+05
	Niagara County	7,565	5,606	576	1,381	2.33E+07	1.85E+07	1.51E+06	3.61E+06
	Oneida County	11,940	8,849	910	2,180	3.68E+07	2.91E+07	2.38E+06	5.70E+06
	Onondaga County	13,162	9,754	1,003	2,403	4.06E+07	3.21E+07	2.62E+06	6.28E+06
	Ontario County	8,640	6,403	658	1,578	2.66E+07	2.11E+07	1.72E+06	4.12E+06



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	Orange County	5,498	4,075	419	1,004	1.70E+07	1.34E+07	1.10E+06	2.62E+06
	Orleans County	2,439	1,808	186	445	7.52E+06	5.95E+06	4.86E+05	1.16E+06
	Oswego County	8,948	6,631	682	1,634	2.76E+07	2.18E+07	1.78E+06	4.27E+06
	Otsego County	5,264	3,901	401	961	1.62E+07	1.28E+07	1.05E+06	2.51E+06
	Putnam County	2,542	1,884	194	464	7.84E+06	6.20E+06	5.06E+05	1.21E+06
	Queens County	2,517	1,865	192	460	2.88E+06	2.28E+06	1.86E+05	4.45E+05
	Rensselaer County	8,932	6,620	681	1,631	2.76E+07	2.18E+07	1.78E+06	4.26E+06
	Richmond County	524	389	40	96	6.00E+05	4.74E+05	3.87E+04	9.28E+04
	Rockland County	2,025	1,501	154	370	6.25E+06	4.94E+06	4.03E+05	9.66E+05
	St. Lawrence County	8,676	6,430	661	1,584	2.68E+07	2.12E+07	1.73E+06	4.14E+06
	Saratoga County	11,846	8,779	903	2,163	3.65E+07	2.89E+07	2.36E+06	5.65E+06
	Schenectady County	4,865	3,605	371	888	1.50E+07	1.19E+07	9.69E+05	2.32E+06
	Schoharie County	3,585	2,657	273	655	1.11E+07	8.74E+06	7.14E+05	1.71E+06
	Schuyler County	1,721	1,275	131	314	5.31E+06	4.20E+06	3.43E+05	8.21E+05
	Seneca County	1,548	1,147	118	283	4.77E+06	3.78E+06	3.08E+05	7.39E+05
	Steuben County	8,148	6,038	621	1,488	2.51E+07	1.99E+07	1.62E+06	3.89E+06
	Suffolk County	25,076	18,584	1,911	4,579	2.87E+07	2.27E+07	1.85E+06	4.44E+06
	Sullivan County	4,114	3,049	313	751	1.27E+07	1.00E+07	8.19E+05	1.96E+06
	Tioga County	4,803	3,559	366	877	1.48E+07	1.17E+07	9.57E+05	2.29E+06
	Tompkins County	6,099	4,520	465	1,114	1.88E+07	1.49E+07	1.21E+06	2.91E+06
	Ulster County	8,166	6,052	622	1,491	2.52E+07	1.99E+07	1.63E+06	3.90E+06
	Warren County	5,513	4,085	420	1,007	1.70E+07	1.34E+07	1.10E+06	2.63E+06
	Washington County	6,630	4,913	505	1,211	2.05E+07	1.62E+07	1.32E+06	3.16E+06
	Wayne County	5,958	4,416	454	1,088	1.84E+07	1.45E+07	1.19E+06	2.84E+06
	Westchester County	15,813	11,719	1,205	2,887	4.88E+07	3.86E+07	3.15E+06	7.55E+06
	Wyoming County	3,225	2,390	246	589	9.95E+06	7.87E+06	6.42E+05	1.54E+06
	Yates County	1,934	1,434	147	353	5.97E+06	4.72E+06	3.85E+05	9.23E+05
Total New York		398,948	295,660	30,400	72,848	1.16E+09	9.15E+08	7.47E+07	1.79E+08

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Pennsylvania	Adams County	5,813	4,308	443	1,061	1.44E+07	1.14E+07	9.30E+05	2.23E+06
	Allegheny County	25,905	19,198	1,974	4,730	6.42E+07	5.07E+07	4.14E+06	9.93E+06
	Armstrong County	2,625	1,946	200	479	6.50E+06	5.14E+06	4.20E+05	1.01E+06
	Beaver County	5,822	4,315	444	1,063	1.44E+07	1.14E+07	9.31E+05	2.23E+06
	Bedford County	4,875	3,613	372	890	1.21E+07	9.55E+06	7.80E+05	1.87E+06
	Berks County	10,701	7,930	815	1,954	1.24E+07	9.82E+06	8.02E+05	1.92E+06
	Blair County	5,366	3,977	409	980	1.33E+07	1.05E+07	8.58E+05	2.06E+06
	Bradford County	5,522	4,092	421	1,008	1.73E+07	1.37E+07	1.12E+06	2.67E+06
	Bucks County	12,404	9,193	945	2,265	1.44E+07	1.14E+07	9.29E+05	2.23E+06
	Butler County	6,228	4,615	475	1,137	1.54E+07	1.22E+07	9.96E+05	2.39E+06
	Cambria County	4,521	3,350	344	826	1.12E+07	8.86E+06	7.23E+05	1.73E+06
	Cameron County	476	353	36	87	1.49E+06	1.18E+06	9.62E+04	2.31E+05
	Carbon County	2,128	1,577	162	388	5.27E+06	4.17E+06	3.40E+05	8.16E+05
	Centre County	6,965	5,162	531	1,272	2.18E+07	1.72E+07	1.41E+06	3.37E+06
	Chester County	9,835	7,289	749	1,796	1.14E+07	9.02E+06	7.37E+05	1.77E+06
	Clarion County	1,977	1,465	151	361	6.19E+06	4.89E+06	3.99E+05	9.57E+05
	Clearfield County	3,019	2,238	230	551	9.45E+06	7.47E+06	6.10E+05	1.46E+06
	Clinton County	2,233	1,655	170	408	6.99E+06	5.52E+06	4.51E+05	1.08E+06
	Columbia County	3,316	2,458	253	606	8.21E+06	6.50E+06	5.30E+05	1.27E+06
	Crawford County	7,640	5,662	582	1,395	2.39E+07	1.89E+07	1.54E+06	3.70E+06
	Cumberland County	8,921	6,611	680	1,629	2.21E+07	1.75E+07	1.43E+06	3.42E+06
	Dauphin County	6,289	4,661	479	1,148	7.30E+06	5.77E+06	4.71E+05	1.13E+06
	Delaware County	8,434	6,250	643	1,540	9.79E+06	7.74E+06	6.32E+05	1.51E+06
	Elk County	1,819	1,348	139	332	5.69E+06	4.50E+06	3.68E+05	8.81E+05
	Erie County	10,352	7,672	789	1,890	3.24E+07	2.56E+07	2.09E+06	5.01E+06
	Fayette County	5,415	4,013	413	989	1.34E+07	1.06E+07	8.66E+05	2.08E+06
	Forest County	582	431	44	106	1.82E+06	1.44E+06	1.18E+05	2.82E+05
	Franklin County	8,273	6,131	630	1,511	2.05E+07	1.62E+07	1.32E+06	3.17E+06

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	Fulton County	2,159	1,600	165	394	5.35E+06	4.23E+06	3.45E+05	8.28E+05
	Greene County	1,862	1,380	142	340	4.61E+06	3.65E+06	2.98E+05	7.14E+05
	Huntingdon County	4,184	3,101	319	764	1.04E+07	8.20E+06	6.69E+05	1.60E+06
	Indiana County	3,812	2,825	291	696	9.44E+06	7.47E+06	6.10E+05	1.46E+06
	Jefferson County	2,204	1,634	168	402	5.46E+06	4.32E+06	3.53E+05	8.45E+05
	Juniata County	2,625	1,945	200	479	6.50E+06	5.14E+06	4.20E+05	1.01E+06
	Lackawanna County	5,793	4,293	441	1,058	1.81E+07	1.43E+07	1.17E+06	2.80E+06
	Lancaster County	16,489	12,220	1,256	3,011	1.91E+07	1.51E+07	1.24E+06	2.96E+06
	Lawrence County	3,438	2,548	262	628	8.52E+06	6.73E+06	5.50E+05	1.32E+06
	Lebanon County	4,329	3,208	330	790	5.02E+06	3.97E+06	3.24E+05	7.77E+05
	Lehigh County	7,930	5,877	604	1,448	1.96E+07	1.55E+07	1.27E+06	3.04E+06
	Luzerne County	7,270	5,388	554	1,328	2.27E+07	1.80E+07	1.47E+06	3.52E+06
	Lycoming County	7,879	5,839	600	1,439	1.95E+07	1.54E+07	1.26E+06	3.02E+06
	McKean County	2,693	1,995	205	492	8.43E+06	6.66E+06	5.44E+05	1.30E+06
	Mercer County	5,968	4,423	455	1,090	1.87E+07	1.48E+07	1.21E+06	2.89E+06
	Mifflin County	4,434	3,286	338	810	1.10E+07	8.69E+06	7.09E+05	1.70E+06
	Monroe County	6,418	4,757	489	1,172	2.01E+07	1.59E+07	1.30E+06	3.11E+06
	Montgomery County	32,066	23,764	2,443	5,855	3.72E+07	2.94E+07	2.40E+06	5.76E+06
	Montour County	879	651	67	160	2.18E+06	1.72E+06	1.41E+05	3.37E+05
	Northampton County	6,600	4,891	503	1,205	1.63E+07	1.29E+07	1.06E+06	2.53E+06
	Northumberland County	3,514	2,604	268	642	8.70E+06	6.88E+06	5.62E+05	1.35E+06
	Perry County	4,572	3,388	348	835	1.13E+07	8.96E+06	7.31E+05	1.75E+06
	Philadelphia County	9,094	6,740	693	1,661	1.06E+07	8.34E+06	6.81E+05	1.63E+06
	Pike County	4,080	3,023	311	745	1.28E+07	1.01E+07	8.24E+05	1.98E+06
	Potter County	1,940	1,437	148	354	6.07E+06	4.80E+06	3.92E+05	9.39E+05
	Schuylkill County	3,739	2,771	285	683	9.26E+06	7.32E+06	5.98E+05	1.43E+06
	Snyder County	2,651	1,965	202	484	6.57E+06	5.19E+06	4.24E+05	1.02E+06
	Somerset County	4,326	3,206	330	790	1.07E+07	8.47E+06	6.92E+05	1.66E+06

State	County	Total number of wood heaters	Total number of conventional wood heaters	Total number of EPA certified catalytic wood heaters	Total number of EPA certified non-catalytic wood heaters	Total dry mass of cordwood burned by wood heaters (Kg)	Total dry mass of cordwood burned by conventional wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified catalytic wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified non-catalytic wood heaters (Kg)
	Sullivan County	737	546	56	135	2.31E+06	1.82E+06	1.49E+05	3.57E+05
	Susquehanna County	4,231	3,136	322	773	1.32E+07	1.05E+07	8.55E+05	2.05E+06
	Tioga County	4,111	3,047	313	751	1.29E+07	1.02E+07	8.31E+05	1.99E+06
	Union County	2,117	1,569	161	387	5.24E+06	4.15E+06	3.39E+05	8.11E+05
	Venango County	3,983	2,952	303	727	1.25E+07	9.85E+06	8.05E+05	1.93E+06
	Warren County	4,007	2,970	305	732	1.25E+07	9.91E+06	8.10E+05	1.94E+06
	Washington County	7,318	5,423	558	1,336	1.81E+07	1.43E+07	1.17E+06	2.80E+06
	Wayne County	3,731	2,765	284	681	1.17E+07	9.23E+06	7.54E+05	1.81E+06
	Westmoreland County	20,273	15,024	1,545	3,702	5.02E+07	3.97E+07	3.24E+06	7.77E+06
	Wyoming County	2,442	1,810	186	446	7.64E+06	6.04E+06	4.93E+05	1.18E+06
	York County	15,864	11,757	1,209	2,897	3.93E+07	3.11E+07	2.54E+06	6.08E+06
	<b>Total Pennsylvania</b>	<b>409,216</b>	<b>303,270</b>	<b>31,182</b>	<b>74,723</b>	<b>9.33E+08</b>	<b>7.38E+08</b>	<b>6.03E+07</b>	<b>1.44E+08</b>
Rhode Island	Bristol County	1,853	1,373	141	338	4.70E+06	3.72E+06	3.04E+05	7.28E+05
	Kent County	6,120	4,535	466	1,117	1.55E+07	1.23E+07	1.00E+06	2.40E+06
	Newport County	3,190	2,364	243	582	8.10E+06	6.41E+06	5.23E+05	1.25E+06
	Providence County	13,821	10,242	1,053	2,524	3.51E+07	2.78E+07	2.27E+06	5.43E+06
	Washington County	5,660	4,195	431	1,034	1.44E+07	1.14E+07	9.28E+05	2.22E+06
	<b>Total Rhode Island</b>	<b>30,643</b>	<b>22,710</b>	<b>2,335</b>	<b>5,595</b>	<b>7.78E+07</b>	<b>6.15E+07</b>	<b>5.02E+06</b>	<b>1.20E+07</b>
District of Columbia	District of Columbia	2,694	1,997	205	492	2.91E+06	2.30E+06	1.88E+05	4.50E+05
	<b>Total D.C.</b>	<b>2,694</b>	<b>1,997</b>	<b>205</b>	<b>492</b>	<b>2.91E+06</b>	<b>2.30E+06</b>	<b>1.88E+05</b>	<b>4.50E+05</b>
Vermont	Addison County	4,425	3,279	337	808	1.33E+07	1.05E+07	8.57E+05	2.05E+06
	Bennington County	3,381	2,506	258	617	1.01E+07	8.02E+06	6.55E+05	1.57E+06
	Caledonia County	4,235	3,138	323	773	1.27E+07	1.00E+07	8.20E+05	1.97E+06
	Chittenden County	9,444	6,999	720	1,724	2.83E+07	2.24E+07	1.83E+06	4.38E+06
	Essex County	952	706	73	174	2.86E+06	2.26E+06	1.84E+05	4.42E+05
	Franklin County	4,207	3,117	321	768	1.26E+07	9.98E+06	8.15E+05	1.95E+06
	Grand Isle County	1,102	817	84	201	3.31E+06	2.61E+06	2.14E+05	5.12E+05
	Lamoille County	3,100	2,298	236	566	9.30E+06	7.35E+06	6.00E+05	1.44E+06

State	County	Total number of wood heaters	Total number of conventional wood heaters	Total number of EPA certified catalytic wood heaters	Total number of EPA certified non-catalytic wood heaters	Total dry mass of cordwood burned by wood heaters (Kg)	Total dry mass of cordwood burned by conventional wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified catalytic wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified non-catalytic wood heaters (Kg)	
	Orange County	4,505	3,338	343	823	1.35E+07	1.07E+07	8.72E+05	2.09E+06	
	Orleans County	4,679	3,467	357	854	1.40E+07	1.11E+07	9.06E+05	2.17E+06	
	Rutland County	6,377	4,726	486	1,164	1.91E+07	1.51E+07	1.24E+06	2.96E+06	
	Washington County	6,878	5,098	524	1,256	2.06E+07	1.63E+07	1.33E+06	3.19E+06	
	Windham County	6,869	5,091	523	1,254	2.06E+07	1.63E+07	1.33E+06	3.19E+06	
	Windsor County	7,146	5,296	544	1,305	2.14E+07	1.69E+07	1.38E+06	3.32E+06	
Total Vermont		67,299	49,875	5,128	12,289	2.02E+08	1.60E+08	1.30E+07	3.12E+07	
			0	0	0					
<b>MANE-VU Total</b>		0	1,677,113	1,242,908	127,796	306,241	3.99E+09	3.16E+09	2.58E+08	6.18E+08

**Sum by Heating Category**

HDD	Heating Category	Number of wood heaters	Total conventional wood heaters	Total EPA certified catalytic wood heaters	Total EPA certified non-catalytic wood heaters	Total dry mass of cordwood burned by wood heaters (Kg)	Total dry mass of cordwood burned by conventional wood heaters (Kg)	Total dry weight of cordwood burned by EPA certified catalytic wood heaters (Kg)	Total dry mass of cordwood burned by EPA certified non-catalytic wood heaters (Kg)
> 6500	High	808,336	599,058	61,595	147,602	2.44E+09	1.93E+09	1.57E+08	3.77E+08
5500-6499	Med.	440,377	326,363	33,557	80,413	1.08E+09	8.54E+08	6.98E+07	1.67E+08
< 5499	Low	428,400	317,487	32,644	78,226	4.73E+08	3.74E+08	3.05E+07	7.32E+07

**Table 21**  
**Summary – Numbers and Activities of Fireplaces without Inserts, Centralized Heating Systems, and Pellet Heaters; Number of Outdoor Wood Boilers, and Wax/Fiber Firelog Activity**

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
Connecticut	Fairfield County	7,943	5.30E+06	251	6.13E+05	556	6.31E+05	3.25E+05	23
	Hartford County	10,853	7.25E+06	429	1.05E+06	953	1.08E+06	4.44E+05	39
	Litchfield County	2,567	5.76E+06	639	4.59E+06	1,403	1.59E+06	1.05E+05	59
	Middlesex County	2,989	2.00E+06	341	8.34E+05	744	8.45E+05	1.22E+05	31
	New Haven County	14,557	9.72E+06	463	1.13E+06	1,027	1.17E+06	5.96E+05	42
	New London County	7,364	4.92E+06	536	1.31E+06	1,188	1.35E+06	3.01E+05	49
	Tolland County	3,280	7.36E+06	429	3.08E+06	921	1.05E+06	1.34E+05	39
	Windham County	5,087	1.14E+07	550	3.95E+06	1,212	1.38E+06	2.08E+05	50
	<b>Total Connecticut</b>		<b>54,639</b>	<b>5.37E+07</b>	<b>3,639</b>	<b>1.66E+07</b>	<b>8,004</b>	<b>9.08E+06</b>	<b>2.24E+06</b>
Delaware	Kent County	4,736	2.92E+06	243	2.20E+05	525	5.96E+05	1.94E+05	22
	New Castle County	19,556	1.20E+07	101	9.12E+04	222	2.52E+05	8.00E+05	9
	Sussex County	4,071	2.51E+06	313	2.83E+05	670	7.61E+05	5.41E+04	29
<b>Total Delaware</b>		<b>28,362</b>	<b>1.75E+07</b>	<b>656</b>	<b>5.95E+05</b>	<b>1,417</b>	<b>1.61E+06</b>	<b>1.05E+06</b>	<b>60</b>
Maine	Androscoggin County	5,201	9.72E+06	505	3.02E+06	1,118	1.27E+06	2.13E+05	46
	Aroostook County	2,707	5.06E+06	827	4.95E+06	1,878	2.13E+06	1.11E+05	76
	Cumberland County	8,893	1.66E+07	769	4.61E+06	1,700	1.93E+06	3.64E+05	71
	Franklin County	1,685	3.15E+06	543	3.25E+06	1,208	1.37E+06	6.89E+04	50
	Hancock County	1,792	3.35E+06	622	3.73E+06	1,386	1.57E+06	7.33E+04	57
	Kennebec County	3,332	6.23E+06	925	5.54E+06	2,050	2.33E+06	1.36E+05	85
	Knox County	1,284	2.40E+06	365	2.19E+06	802	9.10E+05	5.25E+04	34
	Lincoln County	1,061	1.98E+06	373	2.23E+06	816	9.26E+05	4.34E+04	34
	Oxford County	2,592	4.85E+06	840	5.03E+06	1,849	2.10E+06	1.06E+05	77
Penobscot County	3,919	7.33E+06	1,037	6.21E+06	2,298	2.61E+06	1.60E+05	95	
Piscataquis County	993	1.86E+06	344	2.06E+06	771	8.75E+05	4.06E+04	32	

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Sagadahoc County	1,013	1.89E+06	284	1.70E+06	624	7.08E+05	4.14E+04	26
	Somerset County	2,506	4.69E+06	765	4.58E+06	1,712	1.94E+06	1.03E+05	70
	Waldo County	1,993	3.73E+06	667	3.99E+06	1,439	1.63E+06	8.15E+04	61
	Washington County	1,175	2.20E+06	394	2.36E+06	898	1.02E+06	4.81E+04	36
	York County	3,424	6.40E+06	907	5.43E+06	1,943	2.20E+06	1.40E+05	83
	<b>Total Maine</b>	<b>43,569</b>	<b>8.15E+07</b>	<b>10,167</b>	<b>6.09E+07</b>	<b>22,491</b>	<b>2.55E+07</b>	<b>1.78E+06</b>	<b>933</b>
Maryland	Allegany County	3,899	2.37E+06	361	8.02E+05	821	9.32E+05	1.60E+05	33
	Anne Arundel County	9,657	5.98E+06	327	2.97E+05	715	8.12E+05	3.95E+05	30
	Baltimore County	5,668	3.51E+06	329	2.99E+05	724	8.22E+05	2.32E+05	30
	Calvert County	2,059	1.27E+06	220	2.01E+05	456	5.18E+05	8.43E+04	20
	Caroline County	495	3.07E+05	168	1.53E+05	370	4.20E+05	2.03E+04	15
	Carroll County	3,776	2.34E+06	621	5.65E+05	1,320	1.50E+06	1.54E+05	57
	Cecil County	1,846	1.14E+06	226	2.06E+05	483	5.48E+05	7.55E+04	21
	Charles County	2,414	1.49E+06	275	2.50E+05	581	6.59E+05	9.87E+04	25
	Dorchester County	165	1.02E+05	50	4.56E+04	113	1.28E+05	6.73E+03	5
	Frederick County	5,489	3.40E+06	642	5.84E+05	1,346	1.53E+06	2.25E+05	59
	Garrett County	1,340	2.73E+06	468	3.06E+06	1,049	1.19E+06	5.48E+04	43
	Harford County	3,556	2.20E+06	357	3.25E+05	770	8.74E+05	1.46E+05	33
	Howard County	2,349	1.45E+06	118	1.08E+05	253	2.87E+05	9.61E+04	11
	Kent County	218	1.35E+05	73	6.69E+04	163	1.85E+05	8.92E+03	7
	Montgomery County	7,953	4.92E+06	118	1.07E+05	255	2.89E+05	3.25E+05	11
	Prince George's County	11,803	7.31E+06	160	1.45E+05	347	3.94E+05	4.83E+05	15
	Queen Anne's County	880	5.45E+05	169	1.54E+05	360	4.08E+05	3.60E+04	16
	St. Mary's County	3,705	2.29E+06	350	3.18E+05	752	8.54E+05	1.52E+05	32
	Somerset County	291	1.80E+05	85	7.76E+04	186	2.11E+05	1.19E+04	8
	Talbot County	340	2.11E+05	106	9.69E+04	235	2.67E+05	1.39E+04	10
	Washington County	6,324	3.84E+06	543	1.21E+06	1,194	1.35E+06	2.59E+05	50
	Wicomico County	838	5.19E+05	195	1.77E+05	429	4.87E+05	3.43E+04	18

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Worcester County	511	3.17E+05	127	1.16E+05	277	3.14E+05	2.09E+04	12
	Baltimore city	1,052	6.51E+05	37	3.33E+04	84	9.56E+04	4.30E+04	3
	<b>Total Maryland</b>	<b>76,629</b>	<b>4.92E+07</b>	<b>6,125</b>	<b>9.39E+06</b>	<b>13,284</b>	<b>1.51E+07</b>	<b>3.14E+06</b>	<b>562</b>
Massachusetts	Barnstable County	5,924	3.78E+06	278	6.48E+05	609	6.91E+05	2.42E+05	25
	Berkshire County	6,091	1.30E+07	549	3.77E+06	1,248	1.42E+06	2.49E+05	50
	Bristol County	6,724	4.29E+06	351	8.20E+05	775	8.80E+05	2.75E+05	32
	Dukes County	321	2.04E+05	104	2.43E+05	227	2.58E+05	1.31E+04	10
	Essex County	7,600	4.85E+06	395	9.22E+05	872	9.89E+05	3.11E+05	36
	Franklin County	2,551	5.47E+06	727	4.99E+06	1,624	1.84E+06	1.04E+05	67
	Hampden County	11,493	2.46E+07	552	3.79E+06	1,231	1.40E+06	4.70E+05	51
	Hampshire County	8,156	1.75E+07	656	4.50E+06	1,470	1.67E+06	3.34E+05	60
	Middlesex County	9,217	1.97E+07	384	2.63E+06	860	9.75E+05	3.77E+05	35
	Nantucket County	195	1.25E+05	35	8.21E+04	76	8.64E+04	7.99E+03	3
	Norfolk County	4,148	2.64E+06	141	3.29E+05	315	3.58E+05	1.70E+05	13
	Plymouth County	4,820	3.07E+06	363	8.46E+05	794	9.01E+05	1.97E+05	33
	Suffolk County	1,089	6.94E+05	5	1.18E+04	11	1.30E+04	4.45E+04	0
	Worcester County	21,540	4.61E+07	1,384	9.50E+06	3,033	3.44E+06	8.81E+05	127
	<b>Total Massachusetts</b>	<b>89,868</b>	<b>1.46E+08</b>	<b>5,925</b>	<b>3.31E+07</b>	<b>13,144</b>	<b>1.49E+07</b>	<b>3.68E+06</b>	<b>543</b>
New Hampshire	Belknap County	1,142	2.33E+06	339	2.21E+06	725	8.23E+05	4.67E+04	31
	Carroll County	1,455	2.97E+06	548	3.58E+06	1,186	1.35E+06	5.95E+04	50
	Cheshire County	2,624	5.35E+06	785	5.12E+06	1,730	1.96E+06	1.07E+05	72
	Coos County	961	1.96E+06	276	1.80E+06	614	6.96E+05	3.93E+04	25
	Grafton County	2,947	6.01E+06	898	5.86E+06	1,987	2.26E+06	1.21E+05	82
	Hillsborough County	12,982	2.65E+07	979	6.39E+06	2,133	2.42E+06	5.31E+05	90
	Merrimack County	2,582	5.26E+06	789	5.15E+06	1,701	1.93E+06	1.06E+05	72
	Rockingham County	5,463	1.11E+07	819	5.34E+06	1,771	2.01E+06	2.24E+05	75
	Strafford County	3,980	8.11E+06	362	2.36E+06	785	8.91E+05	1.63E+05	33
	Sullivan County	1,501	3.06E+06	453	2.96E+06	992	1.13E+06	6.14E+04	42



State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
Total New Hampshire		35,638	7.26E+07	6,247	4.08E+07	13,624	1.55E+07	1.46E+06	573
New Jersey	Atlantic County	2,884	1.77E+06	191	1.72E+05	417	4.73E+05	1.18E+05	17
	Bergen County	6,172	3.71E+06	30	6.62E+04	67	7.57E+04	2.53E+05	3
	Burlington County	3,004	1.84E+06	176	1.59E+05	382	4.33E+05	1.23E+05	16
	Camden County	2,823	1.73E+06	54	4.85E+04	120	1.36E+05	9.32E+04	5
	Cape May County	1,882	1.16E+06	135	1.22E+05	305	3.46E+05	7.70E+04	12
	Cumberland County	1,394	8.56E+05	101	9.14E+04	225	2.55E+05	5.70E+04	9
	Essex County	2,287	1.38E+06	19	4.11E+04	42	4.74E+04	6.89E+04	2
	Gloucester County	1,623	9.97E+05	107	9.66E+04	233	2.64E+05	6.64E+04	10
	Hudson County	1,651	9.94E+05	3	5.95E+03	6	6.88E+03	4.67E+04	0
	Hunterdon County	691	4.16E+05	129	2.84E+05	278	3.16E+05	2.83E+04	12
	Mercer County	1,098	6.74E+05	40	3.62E+04	88	1.00E+05	4.49E+04	4
	Middlesex County	3,974	2.44E+06	59	5.37E+04	130	1.48E+05	1.63E+05	5
	Monmouth County	2,088	1.28E+06	89	8.02E+04	195	2.22E+05	8.54E+04	8
	Morris County	2,229	1.34E+06	137	3.01E+05	302	3.42E+05	9.12E+04	13
	Ocean County	3,630	2.23E+06	188	1.69E+05	401	4.55E+05	1.49E+05	17
	Passaic County	1,538	9.26E+05	51	1.13E+05	113	1.28E+05	6.06E+04	5
	Salem County	727	4.46E+05	78	7.07E+04	174	1.98E+05	2.97E+04	7
	Somerset County	1,041	6.27E+05	52	1.14E+05	112	1.28E+05	4.26E+04	5
	Sussex County	1,862	1.12E+06	312	6.86E+05	678	7.69E+05	7.62E+04	29
	Union County	1,642	9.88E+05	24	5.29E+04	53	6.04E+04	5.36E+04	2
	Warren County	1,571	9.45E+05	180	3.97E+05	386	4.38E+05	6.43E+04	17
Total New Jersey		45,811	2.79E+07	2,154	3.16E+06	4,708	5.34E+06	1.79E+06	198
New York	Albany County	4,660	1.01E+07	265	1.83E+06	592	6.72E+05	1.91E+05	24
	Allegany County	1,277	2.76E+06	599	4.14E+06	1,332	1.51E+06	5.23E+04	55
	Bronx County	277	1.81E+05	24	2.30E+04	53	5.96E+04	1.13E+04	2
	Broome County	4,687	1.01E+07	486	3.36E+06	1,095	1.24E+06	1.92E+05	45
	Cattaraugus County	2,086	4.50E+06	847	5.86E+06	1,914	2.17E+06	8.53E+04	78

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Cayuga County	2,706	5.84E+06	420	2.90E+06	944	1.07E+06	1.11E+05	39
	Chautauqua County	4,795	1.04E+07	729	5.04E+06	1,652	1.87E+06	1.96E+05	67
	Chemung County	2,603	5.62E+06	287	1.99E+06	647	7.34E+05	1.06E+05	26
	Chenango County	1,673	3.61E+06	604	4.18E+06	1,355	1.54E+06	6.85E+04	55
	Clinton County	1,517	3.28E+06	422	2.92E+06	938	1.06E+06	6.21E+04	39
	Columbia County	1,004	2.17E+06	319	2.20E+06	714	8.10E+05	4.11E+04	29
	Cortland County	980	2.12E+06	326	2.26E+06	734	8.33E+05	4.01E+04	30
	Delaware County	1,904	4.11E+06	676	4.67E+06	1,541	1.75E+06	7.79E+04	62
	Dutchess County	4,926	1.06E+07	396	2.74E+06	864	9.81E+05	2.02E+05	36
	Erie County	5,702	1.23E+07	665	4.60E+06	1,507	1.71E+06	2.33E+05	61
	Essex County	1,088	2.35E+06	339	2.34E+06	756	8.58E+05	4.45E+04	31
	Franklin County	1,728	3.73E+06	480	3.32E+06	1,083	1.23E+06	7.07E+04	44
	Fulton County	1,076	2.32E+06	349	2.41E+06	782	8.88E+05	4.40E+04	32
	Genesee County	712	1.54E+06	194	1.34E+06	440	4.99E+05	2.91E+04	18
	Greene County	995	2.15E+06	307	2.12E+06	684	7.77E+05	4.07E+04	28
	Hamilton County	279	6.03E+05	106	7.31E+05	242	2.74E+05	1.14E+04	10
	Herkimer County	2,914	6.29E+06	405	2.80E+06	919	1.04E+06	1.19E+05	37
	Jefferson County	2,039	4.40E+06	686	4.74E+06	1,511	1.71E+06	8.34E+04	63
	Kings County	523	3.43E+05	53	5.10E+04	118	1.34E+05	2.14E+04	5
	Lewis County	2,105	4.55E+06	716	4.95E+06	1,627	1.85E+06	8.61E+04	66
	Livingston County	1,289	2.78E+06	355	2.45E+06	792	8.99E+05	5.27E+04	33
	Madison County	2,605	5.63E+06	392	2.71E+06	875	9.93E+05	1.07E+05	36
	Monroe County	4,169	9.00E+06	442	3.06E+06	994	1.13E+06	1.71E+05	41
	Montgomery County	1,762	3.80E+06	212	1.47E+06	480	5.45E+05	7.21E+04	19
	Nassau County	8,214	5.38E+06	47	4.56E+04	106	1.20E+05	3.36E+05	4
	New York County	454	2.97E+05	39	3.73E+04	86	9.78E+04	1.86E+04	4
	Niagara County	1,774	3.83E+06	236	1.63E+06	534	6.06E+05	7.26E+04	22
	Oneida County	6,332	1.37E+07	746	5.16E+06	1,685	1.91E+06	2.59E+05	68

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Onondaga County	6,862	1.48E+07	497	3.44E+06	1,115	1.27E+06	2.81E+05	46
	Ontario County	376	8.13E+05	431	2.98E+06	951	1.08E+06	1.54E+04	40
	Orange County	2,203	4.76E+06	291	2.01E+06	626	7.11E+05	9.01E+04	27
	Orleans County	766	1.65E+06	205	1.42E+06	464	5.27E+05	3.13E+04	19
	Oswego County	4,240	9.15E+06	753	5.21E+06	1,685	1.91E+06	1.73E+05	69
	Otsego County	1,862	4.02E+06	639	4.42E+06	1,427	1.62E+06	7.62E+04	59
	Putnam County	1,325	2.86E+06	156	1.08E+06	339	3.85E+05	5.42E+04	14
	Queens County	459	3.01E+05	19	1.83E+04	42	4.82E+04	1.88E+04	2
	Rensselaer County	6,091	1.32E+07	603	4.17E+06	1,353	1.54E+06	2.49E+05	55
	Richmond County	96	6.28E+04	6	6.24E+03	14	1.61E+04	3.92E+03	1
	Rockland County	791	1.71E+06	33	2.30E+05	73	8.33E+04	3.24E+04	3
	St. Lawrence County	3,130	6.76E+06	1,052	7.28E+06	2,379	2.70E+06	1.28E+05	97
	Saratoga County	7,333	1.58E+07	768	5.31E+06	1,672	1.90E+06	3.00E+05	70
	Schenectady County	2,265	4.89E+06	129	8.92E+05	289	3.28E+05	9.27E+04	12
	Schoharie County	2,344	5.06E+06	362	2.51E+06	812	9.21E+05	9.59E+04	33
	Schuyler County	536	1.16E+06	211	1.46E+06	468	5.31E+05	2.19E+04	19
	Seneca County	290	6.25E+05	110	7.62E+05	236	2.68E+05	1.18E+04	10
	Steuben County	2,059	4.45E+06	868	6.00E+06	1,933	2.19E+06	8.42E+04	80
	Suffolk County	12,588	8.25E+06	254	2.45E+05	556	6.31E+05	5.15E+05	23
	Sullivan County	1,292	2.79E+06	407	2.81E+06	909	1.03E+06	5.29E+04	37
	Tioga County	2,743	5.92E+06	419	2.90E+06	941	1.07E+06	1.12E+05	38
	Tompkins County	1,589	3.43E+06	518	3.58E+06	1,142	1.30E+06	6.50E+04	48
	Ulster County	2,657	5.74E+06	733	5.07E+06	1,621	1.84E+06	1.09E+05	67
	Warren County	3,593	7.76E+06	408	2.82E+06	905	1.03E+06	1.47E+05	37
	Washington County	4,235	9.14E+06	635	4.39E+06	1,414	1.60E+06	1.73E+05	58
	Wayne County	1,758	3.80E+06	535	3.70E+06	1,201	1.36E+06	7.19E+04	49
	Westchester County	2,959	6.39E+06	80	5.54E+05	177	2.01E+05	1.02E+05	7
	Wyoming County	878	1.90E+06	356	2.46E+06	804	9.13E+05	3.59E+04	33

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Yates County	567	1.22E+06	224	1.55E+06	505	5.73E+05	2.32E+04	21
Total New York		158,743	3.09E+08	24,871	1.69E+08	55,648	6.32E+07	6.48E+06	2,281
Pennsylvania	Adams County	1,654	1.08E+06	568	1.36E+06	1,232	1.40E+06	6.77E+04	52
	Allegheny County	12,693	8.27E+06	221	5.27E+05	502	5.70E+05	5.19E+05	20
	Armstrong County	278	1.81E+05	131	3.12E+05	296	3.36E+05	1.14E+04	12
	Beaver County	1,739	1.13E+06	185	4.42E+05	421	4.78E+05	7.11E+04	17
	Bedford County	1,990	1.30E+06	647	1.54E+06	1,456	1.65E+06	8.14E+04	59
	Berks County	7,070	4.70E+06	578	5.65E+05	1,270	1.44E+06	2.89E+05	53
	Blair County	2,752	1.79E+06	264	6.30E+05	600	6.81E+05	1.13E+05	24
	Bradford County	1,813	3.97E+06	658	4.62E+06	1,478	1.68E+06	7.42E+04	60
	Bucks County	6,208	4.13E+06	403	3.94E+05	888	1.01E+06	2.54E+05	37
	Butler County	1,892	1.23E+06	320	7.63E+05	701	7.96E+05	7.74E+04	29
	Cambria County	1,644	1.07E+06	167	3.99E+05	381	4.32E+05	6.73E+04	15
	Cameron County	129	2.83E+05	45	3.13E+05	102	1.16E+05	5.29E+03	4
	Carbon County	720	4.69E+05	79	1.88E+05	174	1.98E+05	2.95E+04	7
	Centre County	5,586	1.22E+07	503	3.53E+06	1,105	1.25E+06	2.29E+05	46
	Chester County	4,770	3.17E+06	450	4.40E+05	973	1.10E+06	1.95E+05	41
	Clarion County	303	6.65E+05	160	1.12E+06	364	4.14E+05	1.24E+04	15
	Clearfield County	517	1.13E+06	156	1.09E+06	350	3.98E+05	2.11E+04	14
	Clinton County	777	1.70E+06	205	1.44E+06	465	5.27E+05	3.18E+04	19
	Columbia County	1,851	1.21E+06	201	4.79E+05	449	5.09E+05	7.57E+04	18
	Crawford County	2,038	4.46E+06	851	5.97E+06	1,915	2.17E+06	8.34E+04	78
	Cumberland County	6,564	4.28E+06	488	1.17E+06	1,077	1.22E+06	2.69E+05	45
	Dauphin County	4,434	2.95E+06	244	2.38E+05	545	6.18E+05	1.81E+05	22
	Delaware County	4,629	3.08E+06	38	3.71E+04	85	9.63E+04	1.89E+05	3
	Elk County	329	7.21E+05	134	9.38E+05	305	3.46E+05	1.35E+04	12
	Erie County	5,246	1.15E+07	516	3.62E+06	1,153	1.31E+06	2.15E+05	47
	Fayette County	1,828	1.19E+06	286	6.82E+05	650	7.38E+05	7.48E+04	26

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Forest County	150	3.29E+05	78	5.49E+05	174	1.98E+05	6.15E+03	7
	Franklin County	3,232	2.11E+06	861	2.06E+06	1,902	2.16E+06	1.32E+05	79
	Fulton County	958	6.24E+05	332	7.93E+05	742	8.42E+05	3.92E+04	30
	Greene County	347	2.26E+05	148	3.53E+05	334	3.79E+05	1.42E+04	14
	Huntingdon County	1,730	1.13E+06	527	1.26E+06	1,177	1.34E+06	7.08E+04	48
	Indiana County	690	4.50E+05	267	6.38E+05	604	6.85E+05	2.82E+04	25
	Jefferson County	351	2.29E+05	165	3.94E+05	372	4.22E+05	1.44E+04	15
	Juniata County	1,137	7.41E+05	371	8.86E+05	831	9.43E+05	4.65E+04	34
	Lackawanna County	1,821	3.99E+06	139	9.77E+05	316	3.59E+05	7.45E+04	13
	Lancaster County	14,353	9.54E+06	1,051	1.03E+06	2,321	2.63E+06	5.87E+05	96
	Lawrence County	477	3.11E+05	160	3.82E+05	362	4.11E+05	1.95E+04	15
	Lebanon County	2,652	1.76E+06	222	2.17E+05	492	5.59E+05	1.09E+05	20
	Lehigh County	7,123	4.64E+06	301	7.18E+05	665	7.55E+05	2.91E+05	28
	Luzerne County	3,454	7.57E+06	259	1.81E+06	589	6.68E+05	1.41E+05	24
	Lycoming County	6,316	4.12E+06	605	1.44E+06	1,373	1.56E+06	2.58E+05	56
	McKean County	463	1.01E+06	237	1.66E+06	538	6.11E+05	1.89E+04	22
	Mercer County	2,449	5.36E+06	385	2.70E+06	867	9.84E+05	1.00E+05	35
	Mifflin County	1,842	1.20E+06	518	1.24E+06	1,162	1.32E+06	7.54E+04	48
	Monroe County	2,229	4.88E+06	589	4.13E+06	1,230	1.40E+06	9.12E+04	54
	Montgomery County	3,694	2.46E+06	305	2.98E+05	672	7.63E+05	1.51E+05	28
	Montour County	229	1.49E+05	69	1.63E+05	154	1.75E+05	9.38E+03	6
	Northampton County	4,908	3.20E+06	272	6.50E+05	597	6.77E+05	2.01E+05	25
	Northumberland County	653	4.25E+05	160	3.81E+05	363	4.12E+05	2.67E+04	15
	Perry County	2,952	1.92E+06	456	1.09E+06	1,017	1.15E+06	1.21E+05	42
	Philadelphia County	2,736	1.82E+06	50	4.89E+04	115	1.30E+05	1.12E+05	5
	Pike County	2,110	4.62E+06	367	2.57E+06	762	8.65E+05	8.63E+04	34
	Potter County	454	9.94E+05	255	1.79E+06	570	6.47E+05	1.86E+04	23
	Schuylkill County	583	3.80E+05	126	3.00E+05	286	3.24E+05	2.39E+04	12

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Snyder County	955	6.23E+05	303	7.22E+05	673	7.64E+05	3.91E+04	28
	Somerset County	1,982	1.29E+06	300	7.15E+05	676	7.68E+05	8.11E+04	27
	Sullivan County	301	6.60E+05	105	7.40E+05	238	2.70E+05	1.23E+04	10
	Susquehanna County	1,640	3.59E+06	557	3.91E+06	1,259	1.43E+06	6.71E+04	51
	Tioga County	993	2.18E+06	509	3.57E+06	1,136	1.29E+06	4.06E+04	47
	Union County	790	5.15E+05	193	4.60E+05	427	4.85E+05	3.23E+04	18
	Venango County	848	1.86E+06	372	2.61E+06	845	9.59E+05	3.47E+04	34
	Warren County	938	2.05E+06	420	2.94E+06	957	1.09E+06	3.84E+04	38
	Washington County	2,316	1.51E+06	335	7.99E+05	748	8.49E+05	9.48E+04	31
	Wayne County	1,251	2.74E+06	447	3.14E+06	989	1.12E+06	5.12E+04	41
	Westmoreland County	3,545	2.31E+06	455	1.08E+06	1,025	1.16E+06	1.45E+05	42
	Wyoming County	1,407	3.08E+06	226	1.58E+06	509	5.77E+05	5.76E+04	21
	York County	10,487	6.84E+06	1,012	2.42E+06	2,226	2.53E+06	4.29E+05	93
	<b>Total Pennsylvania</b>	<b>177,004</b>	<b>1.73E+08</b>	<b>23,009</b>	<b>8.80E+07</b>	<b>51,234</b>	<b>5.81E+07</b>	<b>7.24E+06</b>	<b>2,111</b>
Rhode Island	Bristol County	745	4.98E+05	29	7.18E+04	64	7.26E+04	3.05E+04	3
	Kent County	2,640	1.76E+06	178	4.36E+05	393	4.46E+05	1.08E+05	16
	Newport County	691	4.62E+05	95	2.32E+05	212	2.41E+05	2.83E+04	9
	Providence County	5,944	3.97E+06	350	8.55E+05	769	8.73E+05	2.43E+05	32
	Washington County	2,963	1.98E+06	454	1.11E+06	992	1.13E+06	1.21E+05	42
	<b>Total Rhode Island</b>	<b>12,982</b>	<b>8.68E+06</b>	<b>1,106</b>	<b>2.70E+06</b>	<b>2,431</b>	<b>2.76E+06</b>	<b>5.31E+05</b>	<b>101</b>
District of Columbia	District of Columbia	5,085	3.15E+06	26	2.40E+04	60	6.80E+04	2.08E+05	2
	<b>Total D.C.</b>	<b>5,085</b>	<b>3.15E+06</b>	<b>26</b>	<b>2.40E+04</b>	<b>60</b>	<b>6.80E+04</b>	<b>2.08E+05</b>	<b>2</b>
Vermont	Addison County	1,482	3.11E+06	487	3.27E+06	1,078	1.22E+06	6.06E+04	45
	Bennington County	1,105	2.32E+06	289	1.94E+06	647	7.34E+05	4.52E+04	27
	Caledonia County	1,456	3.06E+06	506	3.40E+06	1,126	1.28E+06	5.96E+04	46
	Chittenden County	4,348	9.13E+06	557	3.75E+06	1,235	1.40E+06	1.78E+05	51
	Essex County	323	6.79E+05	118	7.94E+05	261	2.97E+05	1.32E+04	11
	Franklin County	1,272	2.67E+06	476	3.20E+06	1,041	1.18E+06	5.21E+04	44

State	County	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts used for heating	Total dry mass of cordwood burned by fireplaces w/o inserts used for heating (Kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (Kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (Kg)	Total dry mass of wax/fiber firelogs burned	Number of outdoor wood boilers
	Grand Isle County	421	8.85E+05	62	4.17E+05	131	1.49E+05	1.72E+04	6
	Lamoille County	994	2.09E+06	361	2.43E+06	785	8.91E+05	4.07E+04	33
	Orange County	1,507	3.16E+06	639	4.30E+06	1,404	1.59E+06	6.17E+04	59
	Orleans County	1,662	3.49E+06	581	3.90E+06	1,283	1.46E+06	6.80E+04	53
	Rutland County	2,122	4.46E+06	553	3.72E+06	1,243	1.41E+06	8.68E+04	51
	Washington County	2,349	4.93E+06	693	4.66E+06	1,532	1.74E+06	9.61E+04	64
	Windham County	2,395	5.03E+06	802	5.40E+06	1,803	2.05E+06	9.80E+04	74
	Windsor County	2,359	4.95E+06	747	5.02E+06	1,664	1.89E+06	9.65E+04	69
<b>Total Vermont</b>		<b>23,795</b>	<b>5.00E+07</b>	<b>6,872</b>	<b>4.62E+07</b>	<b>15,234</b>	<b>1.73E+07</b>	<b>9.74E+05</b>	<b>630</b>

0

<b>MANE-VU Total</b>	<b>0</b>	<b>752,127</b>	<b>9.92E+08</b>	<b>90,797</b>	<b>4.71E+08</b>	<b>201,279</b>	<b>2.28E+08</b>	<b>3.06E+07</b>	<b>8,329</b>
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### Sum by Heating Category

HDD	Heating Category	Fireplaces without inserts		Centralized wood heating systems		Pellet heaters		Firelogs	Outdoor wood boilers
		Number of fireplaces without inserts	Total dry mass of cordwood burned by fireplaces w/o inserts (kg)	Number of centralized wood heating systems	Total dry mass of cordwood burned by centralized wood heating systems (kg)	Number of pellet heaters	Total dry mass of pellets burned by heaters (kg)	Total dry mass of firelogs burned (kg)	Number of outdoor wood boilers
> 6500	High	347,705	7.33E+08	62,226	4.18E+08	138,289	1.57E+08	1.42E+07	5,708
5500-6499	Med.	207,623	1.34E+08	18,134	4.30E+07	40,286	4.57E+07	8.43E+06	1,663
< 5499	Low	196,798	1.25E+08	10,437	9.74E+06	22,704	2.58E+07	7.92E+06	957