

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Solid Waste Managed in Virginia



1998

Solid Waste Managed in Virginia

I. INTRODUCTION

This report is prepared in accordance with § 10.1-1413.1 which requires the Department of Environmental Quality to prepare a report by June 30 of each year describing the amount of solid waste disposed of in the Commonwealth during the preceding calendar year.¹ The report includes information on each of the following methods of waste management:

- C recycling;
- C composting;
- C landfilling;
- C incineration;
- C storing on site; and
- C sending off-site for further management.

The latter two methods were added to those required under the statute to account for all possible management methods. The facilities were also asked to furnish information on the amounts of solid waste managed from each of the following categories:

- C municipal solid waste (MSW);
- C construction and demolition debris (CDD);
- C incinerator ash;
- C sludge other than sludge that is land applied in accordance with § 32.1-164.5;
- C tires;
- C regulated medical waste (RMW);
- C vegetative and yard waste (VW/YW);

¹ *Acts of Assembly*, Chapter 512, 1997

- C white goods (e.g. refrigerators, washing machines);
- C friable asbestos;
- C petroleum-contaminated soil (PCS); and
- C other categories not covered above.

Again, for the sake of completeness, the latter six categories were added to the first five required by the statute.

For each such category the facilities were asked to estimate the amount that was generated outside of the Commonwealth and the jurisdictions where such waste originated, if known.

A copy of the form distributed with the request for the information is shown in Attachment 1.

II. DISCUSSION OF THE REPORTING PROCEDURES AND RESULTS

This report is not wholly representative of Virginia's waste management activities. The statute exempts all captive waste management facilities from the reporting requirements so, the reported amounts of the industrial wastes and sludge represent only that fraction that is managed in off-site facilities. Similarly, a great deal of recycling takes place on-site or at facilities that do not require a permit at all, and therefore are not included in this report.

III. REPORTED RESULTS

Attachment 2 lists the facilities that reported their activities by April 30, 1999. Data received from facilities after that date were not included in this document. Some of the reports combined the data from several permitted sites and were counted separately. Separate forms were required for each out-of-state source. The data compiled from 312 individual reports are summarized in Table 1.

The column entitled "Sent off-site" reflects the amount of wastes that is managed more than once and should be subtracted from the total amount received to arrive at an estimate of the quantity of wastes that is treated or disposed of in the state. The quantities, so managed, are shown in Figure 1.

Table 1
Solid Waste Managed in Virginia
1998
Tons

Waste type	Received	Recycled ²	Composted	Landfilled	Incinerated	Stored on site	Sent off-site
Municipal solid waste	12,057,497.52	105,079.07		8,530,307.35	1,805,399.47	6,259.60	1,891,033.81
CDD waste	2,791,215.23	90,791.12	63,229.00	2,588,900.31	72,284.48	2,567.46	87,827.77
Industrial waste	548,265.17	19,052.53		487,850.45	31,038.81	16.33	12,320.71
Regulated medical waste	14,344.97			63.00	11,789.97		2,492.00
Vegetative/yard waste	438,143.99	111,036.81	89,442.81	86,731.05	40,487.45	4,670.01	95,121.46
Incinerator ash	810,928.64	1,927.69		467,389.20			336,333.55
Sludge	473,297.00	16,110.25		390,031.79	51,473.39		176.57
Tires	139,091.78	58,932.25		19,173.25	27,031.63	7,915.33	51,748.52
White goods	36,944.68	25,325.43		1,417.76		90.27	17,791.15
Asbestos	32,741.50			32,741.50			
Petroleum-contaminated soil	113,995.80	63,831.97		47,134.83			
Other Wastes	353,665.27	93,305.84	800.04	156,190.79	2,421.43	882.05	62,221.88
Total	17,810,131.55	585,419.96	153,471.85	12,807,931.28	2,041,926.63	22,401.05	2,557,067.42

² The bulk of recycling takes place at facilities that do not require a permit from the Department and were not required to submit data for this report. Therefore, the amounts shown in this column represent a considerable underestimate of the true recycling rate in the Commonwealth. According to the most recent data submitted by the localities (calendar year 1995), the average state-wide recycling rate was approximately 35%.

As expected, the quantities of solid wastes that are landfilled or incinerated in energy recovery facilities form the majority of the wastes managed in the state. While the amounts managed by these two methods are probably close to the actual annual quantities, the amounts and, therefore, percentages for the other methods are less representative for the reasons stated above. In future years, the inherent bias associated with statutory and regulatory exemptions for reporting of recycling will continue to produce poor estimates of the recycling rates. The proportion of the industrial wastes and sludge will not be representative of the real amounts because of the statutory reporting exemption.

Table 2 shows the amounts of solid wastes imported from 28 non-Virginia jurisdictions. The overwhelming majority of these wastes come from New York and the two neighboring jurisdictions: Maryland and DC. The following bar charts (Figures 3 and 4) illustrate the reported results. In future years, it is expected that these jurisdictions will continue to export some of their wastes to Virginia. Because the Department regulates only solid waste storage, treatment, and disposal facilities and does not regulate its generation, no data can be gathered on the amounts of nonhazardous wastes exported from the Commonwealth and managed in other states. But anecdotal information indicates that some localities, particularly those along the southern and western state borders, are transporting their waste to North Carolina, Tennessee and West Virginia for disposal.

The statute provided that at the option of the facility owner, the data collected may include an accounting of the facility's economic benefits to the locality where the facility is located including the value of disposal and recycling facilities provided to the locality at no cost or reduced cost, direct employment associated with the facility, and other economic benefits resulting from the facility during the preceding calendar year. Waste Management provided comments about the economic benefits that they provide. This information is found in Attachment 3.

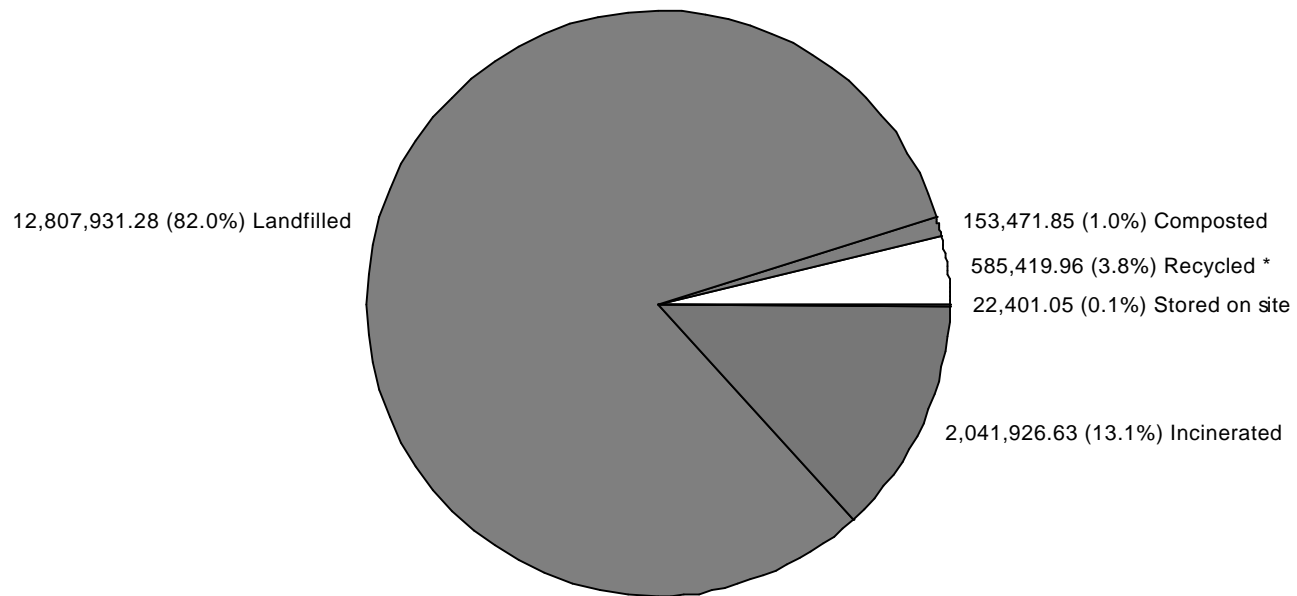
Table 2. Wastes Received from Other States - 1998 (tons)

	MSW	RMW	CDD	Incinerator Ash	Sludge	Tires	Petroleum Contaminated Soil	Industrial	Asbestos	Vegetative Waste	White Goods	Other	TOTAL
Alabama								53.74					53.74
Arkansas								269.07					269.07
Connecticut	471.00			42,022.55				150.91					42,644.46
Delaware	29,288.57				414.85	100.31	526.16	165.12				25.89	30,520.90
DC	970,952.45		103,042.50		53,656.40	353.02	7,368.85	2,373.72		133.02	45.15	2,576.87	1,140,501.98
Florida	9.00												9.00
Georgia								1,058.33					1,058.33
Illinois								1,376.90					1,376.90
Indiana								619.27					619.27
Iowa								188.98					188.98
Kentucky								1,932.19					1,932.19
Maine	366.00							302.64					668.64
Maryland	910,526.87	2,709.32	67,582.50	8,071.63	170,375.81	9,143.49	4,341.49	13,776.12	225.00	33.50	15.00	20,639.36	1,207,440.09
Massachusetts	114,449.81			988.70							3.50		115,442.01
Missouri								80.01					80.01
Nevada								102.93					102.93
New Hampshire	388.00							4.86					392.86
New Jersey	61,392.26	206.52			56,025.97		7,737.18	2,793.33				2,007.91	130,163.17
New York	1,340,866.84	8.91			90,377.37	1.04		82.88				33,976.92	1,465,313.96
North Carolina	386,832.77	136.98	883.00			932.00	4.25	15,344.34	1,929.00			293.25	406,355.59
Ohio	16.00							2,951.10					2,967.10
Oklahoma		130.05											130.05
Pennsylvania	105,654.40	5,903.25			878.02	161.93		1,331.99					113,929.59
Puerto Rico								84.27					84.27
South Carolina		151.63						204.58	2.00			25.12	535.56
Tennessee								556.58	77.50				634.08
Texas	13.00							78.96					91.96
West Virginia						152.03		10.24				35.93	189.20
Wisconsin								91.63					91.63
Total Other States	3,921,226.97	9,246.66	171,508.00	51,082.88	371,728.42	10,843.82	20,130.16	45,984.69	2,233.50	166.52	63.65	59,581.25	4,663,796.52
Virginia	8,136,270.55	5,098.31	2,619,707.23	759,845.76	101,568.58	128,247.96	93,865.64	502,280.48	30,508.00	437,977.47	36,881.03	294,084.02	13,146,355.03
Total Received	12,057,497.52	14,344.97	2,791,215.2	810,928.64	473,297.00	139,091.78	113,995.80	548,265.17 ³	32,741.50	438,143.99	36,944.68	353,665.27	17,810,131.55

³ This figure does not include wastes that are managed in captive facilities which form the majority of the facilities that dispose of such wastes. None of the captive facilities receive wastes from other states.

Fig.1. Solid Waste Management in Virginia's Permitted Facilities

1998



* Most recycling facilities are exempt from reporting. More accurate recycling information is reported by localities. According to the most recent data submitted by localities (1995), the average state-wide recycling rate was approximately 35%

Fig. 2. Composition of the Solid Waste Stream

1998

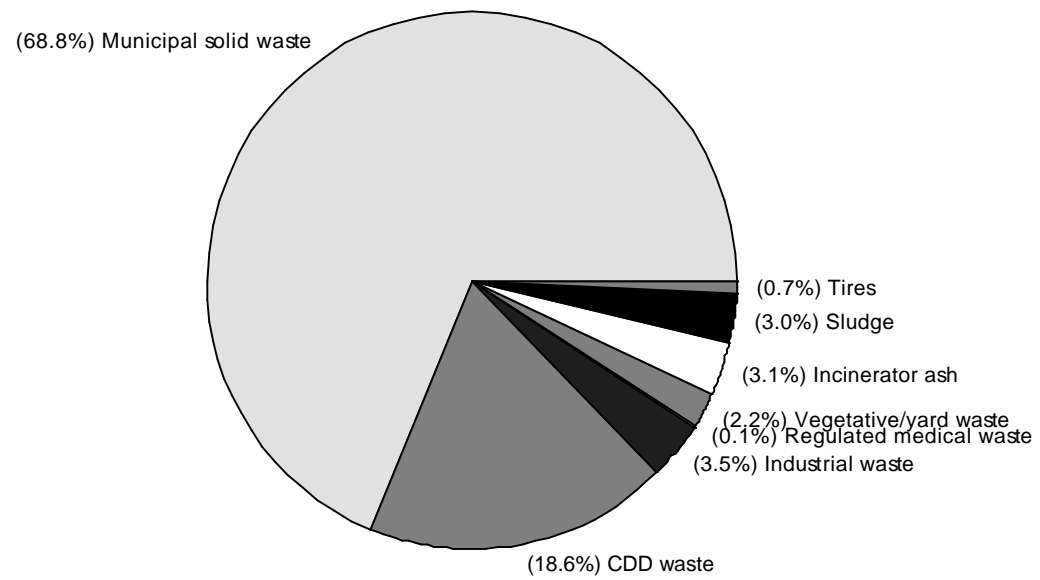


Fig. 3 Origin of Solid Wastes Managed in Virginia

1998

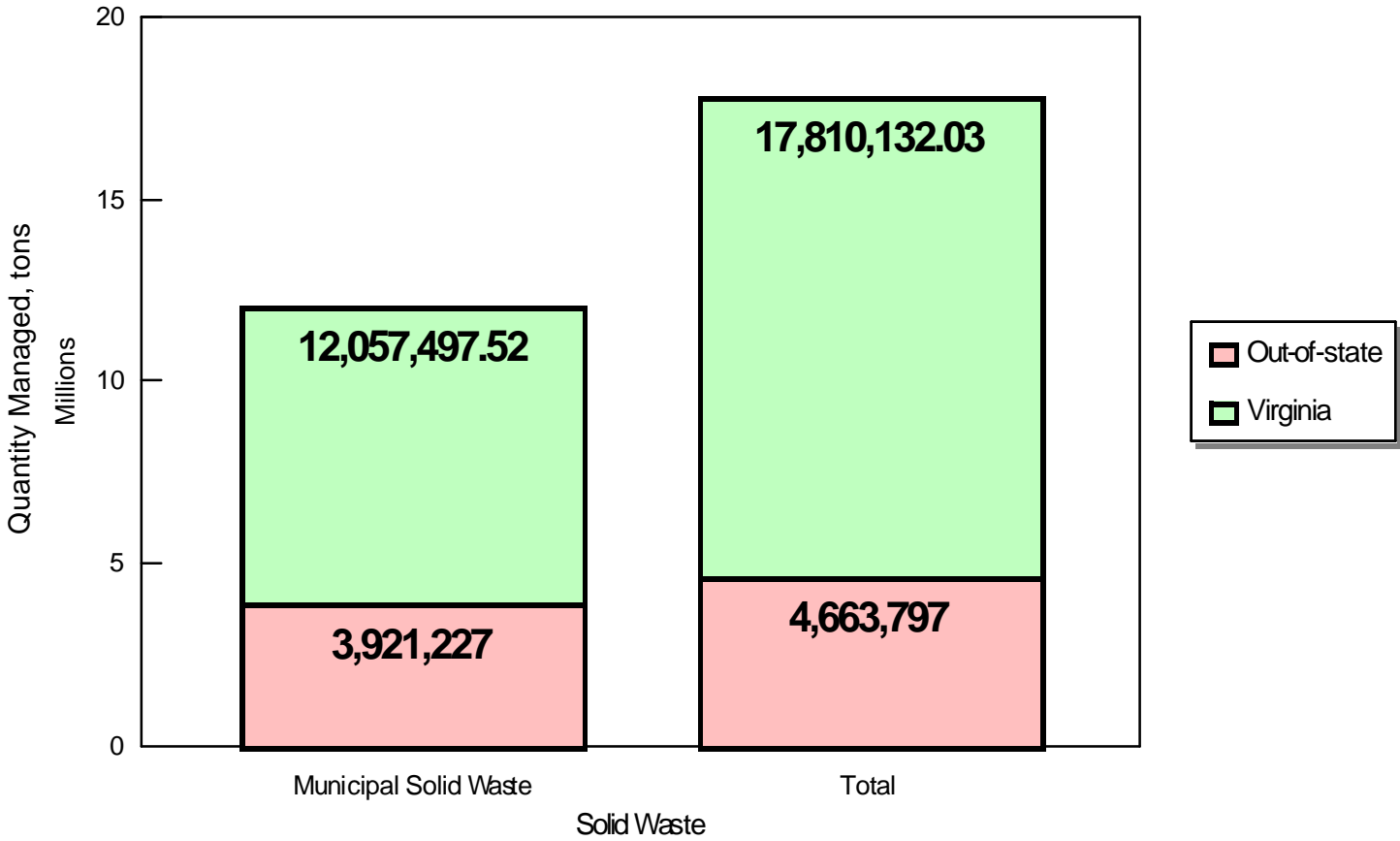
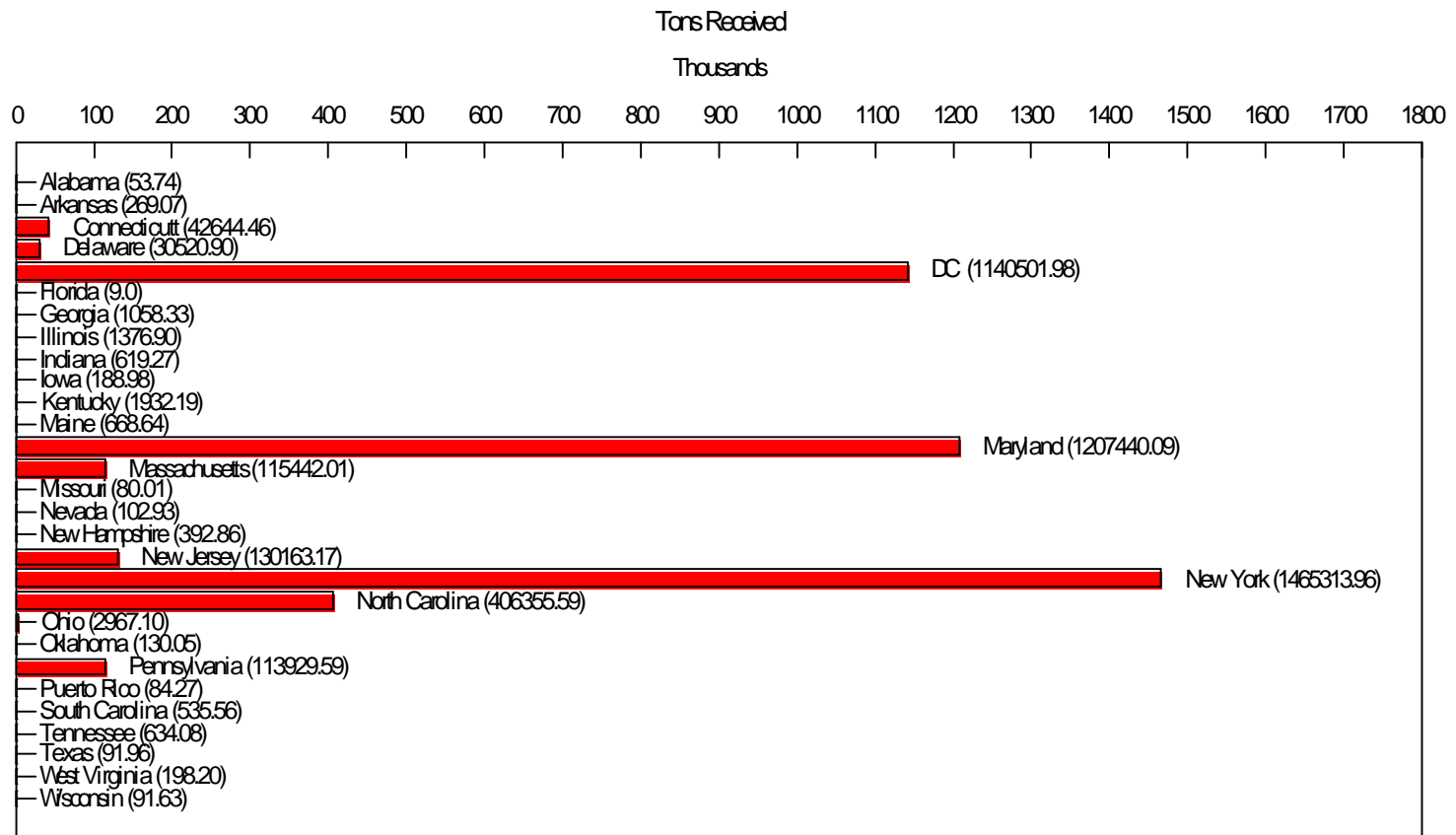
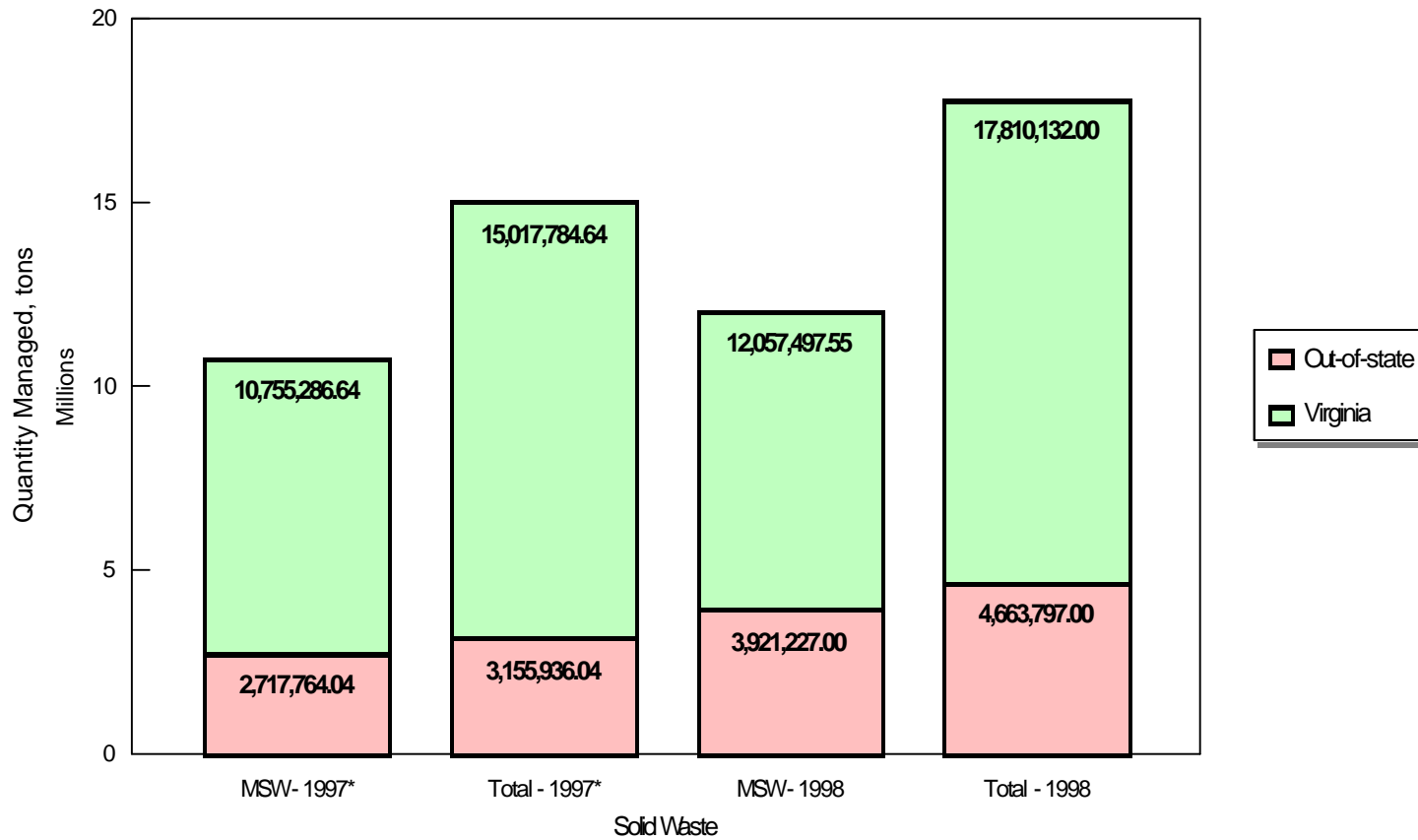


Fig. 4. Wastes Received from Out-of-state Sources

1998



Estimated 1997 tonnage vs. actual 1998 tonnage



1997 estimates were created by multiplying 4th quarter 1997 by 4

Attachment 1
Reporting Form

Solid Waste Information and Assessment Program - Reporting Table

Facility Name: _____

Permit No. : _____

Date Submitted to DEQ: _____

Annual Reporting Period: _____

Originating Jurisdiction (i.e., state) : _____

Is Jurisdiction Outside Virginia ? YES ____ NO ____

Waste Type	Units (check one)		Waste Management- Report Amount by Weight or Volume <small>(REPORTING UNITS MUST BE CONSISTENT FOR ALL FIELDS OF A PARTICULAR WASTE TYPE, USE TONS OR CUBIC YARDS. NOT BOTH)</small>							
	Tons	cu.yds	Received	Recycled	Composted	Landfilled	Incinerated	Sent off site	Stored on site	Other:
	Municipal Solid Waste									
Construction/ Demolition/Debris										
Industrial Waste										
Regulated Medical Waste										
Vegetative/Yard Waste										
Incineration Ash										
Sludge*										
Tires										
White Goods										
Friable Asbestos										
Petroleum Contaminated Soil										
Other Waste(specify):										

NOTE: Report each different jurisdiction on a separate page

*Sludge other than that applied to the land in accordance with § 32.1-164.5

Attachment 2

List of Facilities Reporting

List of Facilities Reporting

DEQ Region	Facility Name	Permit Number
PRO	623 LANDFILL	PBR009
PRO	623 C/D/D LANDFILL	506
TRO	ACCOMACK CO LF-BOBTOWN SOUTH	091
TRO	ACCOMACK CO LF NORTHERN SITE #2	461
SWRO	ADKINS SITE LF-BUCHANAN CO	052
NRO	ALEX/ARLINGTON RES REC FAC	435
WCRO	ALLEGHANY COUNTY TRANSFER STATION	PBR103
WCRO	AMHERST COUNTY SLF	563
WCRO	APPOMATTOX CO SLF	086
PRO	ASHCAKE C\D\D LF	574
PRO	ATLANTIC WASTE DISPOSAL SLF	562
VRO	AUGUSTA CO SVC AUTH	021
VRO	AUGUSTA COUNTY/STAUNTON LANDFILL NO. 2	585
WCRO	BEDFORD COUNTY SLF	560
NRO	BFI FREDERICKSBURG RECYCLERY	PBR107
VRO	BFI FLUVANNA COUNTY TRANSCYCLERY	PBR099
NRO	BFI- CULPEPER TRANSFER STATION	PBR140
VRO	BFI- ROANOKE VALLEY MATERIALS RECOVERY FACILITY	PBR105
TRO	BIG BETHEL LANDFILL	580

DEQ Region	Facility Name	Permit Number
PRO	BLACKSTONE LF	111
SWRO	BOISSEVAIN TRANSFER STATION	PBR004
WCRO	BOTETOURT COUNTY LANDFILL	582
SWRO	BRISTOL DEBRIS LF	500
SWRO	BRISTOL QUARRY BALEFILL	588
PRO	BRUNSWICK WASTE MGMT FACILITY	583
WCRO	CAMPBELL CO LF	285
NRO	CAROLINE CO SLF	182
SWRO	CEDAR BLUFF TRANSFER STATION	PBR002
PRO	CHARLES CITY TIRE RECYCLING FACILITY	557
PRO	CHESTERFIELD - N WASTE TIRE	PBR082
PRO	CHESTERFIELD - S WASTE TIRE	PBR083
WCRO	CITY OF BEDFORD (HYLTON SITE)	569
WCRO	CITY OF DANVILLE TS	PBR015
WCRO	CITY OF SALEM TS	PBR028
NRO	CON-SERV INDUSTRIES	PBR102
NRO	CORRAL FARM LF	575
WCRO	COUNTRY SOUTH	581
VRO	COUNTY OF FREDERICK CDD LANDFILL	591
WCRO	COVINGTON-PETERS MTN SLF	178
PRO	COX'S CHARLES CITY RD LF,INC.	235
PRO	COX'S DARBYTOWN RD LF, INC.	525
TRO	CRANEY ISLAND LF	041

DEQ Region	Facility Name	Permit Number
NRO	CULPEPER CO LF	251
PRO	DINWIDDIE CO. MRF	PBR026
NRO	FAUQUIER CO LF	149
NRO	FCR MRF	PBR088
WCRO	FIRST PIEDMONT	065
VRO	FLUVANNA CO SLF	429
WCRO	FRANKLIN CO LF	072
VRO	FREDERICK COUNTY SLF	529
PRO	GOOCHLAND CO. TS	PBR023
VRO	GREENE CO. MRF & CO-COMPOST	568
PRO	GREENSVILLE CO LF	405
PRO	HALIFAX CO SLF	092
PRO	HANOVER CO LF - 301	314
VRO	HARRISONBURG RES REC FAC	390
PRO	HENRICO CO SLF #3	246
NRO	HILLTOP DEBRIS LF	326
TRO	HOLLAND ENTERPRISES	280
NRO	I-66 TRANS STN	387
NRO	I-95 LF	103
NRO	I-95 ENERGY/RES REC FAC	510
TRO	INCINDIERE	871
NRO	INDEPENDENT HILL LF-PR WILLIAM	029
TRO	INDIAN TRAIL DISPOSAL FACILITY	451

DEQ Region	Facility Name	Permit Number
PRO	INDUSTRIAL RESOURCE TECHNOLOGIES	PBR115
VRO	IVY SANITARY LANDFILL	125
NRO	KING GEORGE COUNTY LANDFILL AND RECYCLING FACILITY	586
PRO	KING AND QUEEN SANITARY LANDFILL	554
NRO	LIVINGSTON LANDFILL NO. 2	547
NRO	LORTON CDD LF-FURNACE ROAD	331
NRO	LOUDOUN CO SLF	001
VRO	LOUISA CO SLF	194
WCRO	LYNCHBURG FOUNDRY LF-FALWELL	517
WCRO	LYNCHBURG FOUNDRY-LYNCHBURG	456
PRO	M&M WRECKING CO, INC SLF	188
NRO	MADISON CO SLF	442
PRO	MAPLEWOOD RECYLING & WASTE DISPOSAL FACILITY	540
WCRO	MARTINSVILLE LF	049
PRO	MECKLENBURG CO LF	014
PRO	MECKLENBURG COUNTY YWCF*	PBR011
WCRO	MID-COUNTY LF-MONTGOMERY CO	397
PRO	MIDDLE PENINSULA LANDFILL AND RECYCLING CENTER	572
PRO	MIDDLE PENINISULA YARD WASTE COMPOSTING	PBR125
VRO	NELSON CO. TRANSFER STATION	PBR051
TRO	NORTHAMPTON CO LF-OYSTER SITE	507

DEQ Region	Facility Name	Permit Number
PRO	NOTTOWAY CO SLF	304
WCRO	NRRA SOILD WASTE FACILITY	548
NRO	OLD DOMINION RECYCLING	PBR006
PRO	OLD DOMINION SLF & RESOURCE MANAGEMENT FACILITY	553
NRO	ORANGE CO SLF	090
VRO	PAGE CO SLF	089
WCRO	PATRICK CO. SOLID WASTE TS	PBR032
PRO	PETERSBURG CITY LF	228
WCRO	PITTSYLVANIA COUNTY SANITARY LANDFILL	571
NRO	POTOMAC LANDFILL	441
PRO	PRINCE EDWARD COUNTY SANITARY LANDFILL	584
NRO	PRINCE WILLIAM CO. YWCF LF SITE	PBR012
NRO	PRINCE WILLIAM CO. YWCF BALLS FORD RD	PBR030
PRO	PURGO INC (FORM. WEYERHAUSER)	PBR046
PRO	QUALLA ROAD DEMO LANDFILL	516
NRO	QUANTICO LF	411
NRO	RAINWATER CONCRETE DEBRIS LF	327
NRO	RAPPAHANNOCK CO LF	520
NRO	RAPPAHANNOCK REGIONAL SOLID WASTE MANAGEMENT BOARD SAN. LF	589
PRO	RECO INDUSTRIES	592
PRO	RICHMOND TRANS STN-HOPKINS RD	487
WCRO	ROANOKE TRANSFER STATION	546

DEQ Region	Facility Name	Permit Number
VRO	ROCKBRIDGE CO SLF-BUENA VISTA	075
VRO	ROCKINGHAM CO SLF	062
PRO	SAFETY-KLEEN SYSTEMS, INC. - CHESTER	PBR079
NRO	SAFETY-KLEEN SYSTEMS, INC. - MANASSAS	PBR086
WCRO	SAFETY-KLEEN SYSTEMS, INC. - VINTON	PBR080
TRO	SAFETY-KLEEN SYSTEMS, INC. - CHESAPEAKE	PBR078
SWRO	SCOTT CO LF	023
PRO	SHOOSMITH DEBRIS LF	377
PRO	SHOOSMITH SANITARY LANDFILL	587
WCRO	SHREDDED PRODUCTS CORP. ILF	552
PRO	SIMONS HAULING CO.-DARBYTOWN*	PBR027
PRO	SIMONS HAULING DEBRIS LF	524
WCRO	SMITH GAP REGIONAL LF	555
PRO	SOUTH BOSTON SLF	031
PRO	SPRINGFIELD ROAD LANDFILL	545
TRO	SPSA REGIONAL LF	417
TRO	SPSA REFUSE DERIVED FUEL PLANT	455
SWRO	SPSA- BOYKINS TRANS STN	484
TRO	SPSA-BALLENTINE TRANSFER STN	421
TRO	SPSA-CHESAPEAKE TRANS STN	425
TRO	SPSA-FRANKLIN TRANS STN	438
TRO	SPSA-ISLE OF WIGHT TRNS STN	494
TRO	SPSA-LANDSTOWN TRANS STATION	537

DEQ Region	Facility Name	Permit Number
TRO	SPSA-VA BEACH TRANS STN #1	396
NRO	STAFFORD CO SLF	074
PRO	TAYLOR ROAD LANDFILL	270
SWRO	TAZEWELL COUNTY SLF	564
WCRO	THOMAS BROS DEBRIS LF	445
TRO	UNITED CHEMICAL CORP	422
PRO	USA WASTE CHARLES CITY	531
NRO	USA WASTE OF VIRGINIA- STERLING MRF	PBR093
PRO	VA RECYCLING CORP	PBR039
WCRO	VA HEALTH CARE WASTE MGMT COOP	PBR087
TRO	VA BEACH LF #2-MT TRSHMR II	398
WCRO	VIRGINIA FIBRE	536
PRO	VPPSA-ESSEX CO. TS	PBR016
TRO	VPPSA-JAMES CITY CO. TS	PBR021
PRO	VPPSA-KING WILLIAM CO. TS	PBR017
PRO	VPPSA-MATHEWS CO. TS	PBR018
PRO	VPPSA-MIDDLESEX CO. TS	PBR019
TRO	VPPSA-YORK CO. YWCF	PBR013
TRO	WALTRIP LF	322
VRO	WARREN CO. TRANSFER STATION	PBR033
NRO	WASTE MANAGEMENT OF NORTHERN VA	PBR091
NRO	WASTE MANAGEMENT CDD MRF	PBR101
VRO	WAYNESBORO CITY LF MSW BALEFILL	204

DEQ Region	Facility Name	Permit Number
PRO	WEAVER IND WASTE LF	471

* Facility reported that they received no waste during 1998

Attachment 3

Data Provided by Facilities Regarding Economic Benefit

ATTACHMENT 3

Data Provided by Facilities Regarding Economic Benefit

Section 10.1-1413.1.B. provides that facility owners may provide “an accounting of the facility’s economic benefits to the locality where the facility is located, including the value of disposal and recycling facilities provided to the locality at no cost or reduced cost, direct employment associated with the facility, and other economic benefits resulting from the facility during the preceding calendar year.” One company, Waste Management, submitted this information for 1998.

Economic Benefit Data - 1998

Waste Management

(Middle Peninsula Landfill, Gloucester; Atlantic Waste Disposal, Sussex; King George Landfill, King George; Amelia Landfill, Amelia; Charles City Landfill, Charles City; Qualla Road Landfill, Chesterfield; Bethel Landfill, Hampton; Indian Trails Landfill, Suffolk)

The following data was submitted by Waste Management Holdings for eight landfills located in the Commonwealth:

Direct Economic Impact	1997	1998	Total
Host Fee Payments	\$11,468,974.16	\$12,268,351.94	\$23,737,326.10
Property Taxes	256,699.66	251,963.04	508,662.70
Business License Fees	42,187.30	49,451.98	91,639.28
Donations - Cash	66,144.61	86,575.07	152,719.68
Donations - Goods & Services	4,033,223.66	5,403,347.89	9,436,571.55
Total	\$15,867,229.39	\$18,059,689.92	\$33,926,919.31

Other Economic Impacts			
Payroll (1,000+ employees statewide)		\$37,000,000.00	
Below Market Waste Disposal & Recycling Services		No Value Provided	