

# **SOLID AND HAZARDOUS WASTE COLLECTION, DISPOSAL, AND RECYCLING IN FLORIDA**

**Report and Directory  
of County and Municipal  
Solid Waste Management Activities  
For the Period July 1, 1992 - June 30, 1993**

**Prepared by**

**THE FLORIDA CENTER FOR SOLID  
AND HAZARDOUS WASTE MANAGEMENT  
2207-D N.W. 13th Street  
Gainesville, Florida 32609**

**In conjunction with**

**SOLID WASTE ASSOCIATION OF NORTH AMERICA  
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## 1. GENERAL REPORT

### 1.1 INTRODUCTION

In 1993 the Solid Waste Association of North America - Florida Sunshine Chapter, (SWANA), supported a project of the Florida Center for Solid and Hazardous Waste Management that involved doing a survey of Florida's counties and municipalities to collect information about solid waste collection, disposal, and recycling practices. This represented the third time that SWANA and the Florida Center for Solid and Hazardous Waste Management combined resources to produce this biennial survey,

The survey was divided into five sections. These sections include: General Information, Collection, Disposal, Recycling, and Costs and Charges. The information gathered from the responding cities and counties are presented in this report. The goal of this report and directory is to provide information about the solid and hazardous waste collection, disposal, and recycling practices used by Florida's cities and counties. Since response to the survey is voluntary not all cities and counties responded. This report and directory provide information for the period July 1, 1992, through June 30, 1993. The time required to collect the information and prepare the report unfortunately means the information presented is two years old. However, the information should allow interested parties to contact cities **and** counties who have experience using particular systems or practices.

More recent information about the amounts of materials landfilled, recycled, and combusted in each county is available from the Florida Department of Environmental Protection (DEP) publication Solid Waste Management in Florida. The January 1995, report is now available and contains a great deal of useful information about the quantity and composition of Florida's solid waste. That report covers the period from July 1, 1993 to June 30, 1994 and has information from all 67 Florida counties.

This report is divided into two parts: a short **General Report** and the **Directory**. The **first** section, **General Report**, is a general summary of each of the **five** sections of the survey. The data for the counties and the municipalities is presented **in** a form similar to the survey completed by the participants. It is intended to give the user an idea of the type of information obtained under each category. The second section of this document presents the survey data in a directory-style format. The directory provides for quick and easy reference to the information collected. The **Directory** provides a quick reference guide to many of the most important solid waste management options used by Florida's counties and municipalities. The **Directory** is divided into two parts. Part I contains county data and Part II contains city data. Each part is divided into four subparts. Subpart 1, **Summary**, summarizes the responses on the survey document. Subpart 2, **Profiles**, contains a profile for each responding county or city. Subpart **3, Index**, assists the user in identifying counties or cities that are using specific practices. Subpart **4, Contacts**, lists the addresses of the counties and cities that participated in the survey.

## **1.2 METHODOLOGY**

### **1.2.1 Survey Design**

The 1993 SWANA survey was conducted to describe the solid and hazardous waste management programs of the counties and municipalities in Florida for the period July 1, 1992 through June 30, 1993.

The 1993 written survey included as Appendix A contained questions on refuse collection, refuse disposal, recycling, hazardous and special waste, and various costs and charges. Particular emphasis was placed on recycling policies and the waste reduction.

Representatives from municipalities were asked to provide information for their municipality. County contacts were asked to supply information for their entire county and for certain questions they were asked to provide information for the unincorporated areas of their county. The goal of the latter series of questions was to develop information about practices used in unincorporated areas.

### **1.2.2 Survey Mailing**

A letter requesting cities participate in the survey was mailed to 394 Florida cities on September 3, 1993. All cities that returned letters stating a willingness to participate plus all 67 counties were mailed a survey on October 25, 1993. The Florida League of Cities' list of city officials and the Florida Department of Environmental Regulation's list of county solid waste professionals were used as sources of addresses. Participants were initially given 2 weeks to respond. Second requests for returns were sent out November 10, 1993. The final deadline for returns was January 31, 1994. A total of 39 counties and 94 cities returned valid survey reports to the 1992-93 survey.

### **1.2.3 Methodology for Compiling Data**

All surveys returned by January 31, 1994, were entered into database files using d-Base III. The data was later transferred to Microsoft Excel for easier computation of averages, and minimum and maximum values. A disk with the data in Excel is available from the Florida Center for Solid and Hazardous Waste Management for anyone who wishes to use the data that was collected.

Data were extracted from the database files in ASCII format and entered into WordPerfect 6.0 for presentation. The files were combined in a summary sheet for each of the responding entities and these summary sheets were mailed to the respondents for corrections in July 1994. Final corrections were completed by September 1994.

Data supplied to the DEP as part of each county's recycling grant application was also used for a number of entries found in the County Profiles.

### 1.3 RESULTS

This section of the **General Report** highlights some information for counties and cities.

The results are presented for each survey question as averages, minimum, maximum, and standard deviation values in the Summary subparts of the Directory sections for the counties and municipalities. A total of 39 counties and 94 municipalities returned valid survey reports to the 1993 SWANA survey.

#### 1.3.1 Collection

Twenty-five of the 39 responding counties used franchised waste service companies to provide waste services for their unincorporated areas. For the cities 56 provided their own collection services.

While 21 counties reported mandatory collection for residents only 13 counties had mandatory collection in the entire unincorporated area. Ninety of the cities had mandatory residential collection with 88 having mandatory residential collection within the entire city.

For the unincorporated parts of counties with collection service 23 counties reported 2 collections per week and 9 counties reported one collection per week. Eighty of the cities reported twice a week collection and 10 reported once a week collection.

#### 1.3.2 Disposal

Thirty-seven counties had landfills and seven counties had combustion facilities. Only two cities had active landfills. Two cities had combustion facilities. One used refuse derived fuel as part of the fuel for a power plant.

##### a. Landfills

Only three of the responding counties did not have a Class I landfill. The three counties were part of regional solid waste associations. Four counties had more than one Class I landfill and 11 counties had additional class III or Construction and Demolition Debris landfills. Information was received from counties on a total of 55 landfills. Two cities reported they had a landfill. Private C&D landfills were not included in the data base. A list of Florida Landfill Facilities Class I, II & III and a list of Florida Construction and Demolition Debris Facilities can be found in Appendix C of the DEP report "Solid Waste Management in Florida January 1995." Those lists are also included as Appendix B of this report.

The ownership of the Class I and Class I and other class(es) landfills was divided as follows: county ownership 34 landfills, city ownership 2 landfills, authority/association ownership 2 landfills, and private ownership 3 landfills. The ownership of the Class III was divided as follows: county ownership 7 landfills, city ownership 2 landfills, authority/association ownership 1 landfill, and private ownership 3 landfills. The three C&D landfills were county owned. Private C&D landfills were not included in the database. In 3 counties and 1 city owned landfills, the landfill was operated by a private contractor.

The design capacity of the landfills varied from 8,113 to 185,000,000 cubic yards with an average of 11,932,515 cubic yards. The years of capacity remaining varied from 1 to 100 years with the average being 16 years. Forty two of the landfills were lined and 44 had leachate collection systems. Nineteen landfills had landfill gas collection systems with 1 landfill using the gas for power generation.

b. Solid Waste Combustion Facilities

Five counties reported on six combustion facilities. Three were county **owned**, two were under private ownership and one was owned by a solid waste authority. All six facilities were operated by a private company. The capacity of the combustion facilities ranged from 1,050 to 3,000 tons per day with an average capacity of 1,900 tons per day. Four of the facilities were mass burn and 1 used refuse derived fuel. One city reported owning a mass burn incinerator with 1,000 tons per day capacity operated by a private company. One city reported that 200 tons per day of refuse derived fuel was used in the city power plant cofired with other fuels.

c. Solid Waste Composting (not including yard waste)

Two counties reported they had county owned and operated composting facilities. One county was using composting for volume reduction before landfilling. The other county facility had a capacity of 15,350 tons per year. Both used windrows.

**1.3.3 Yard Waste**

Yard waste was used for compost or mulch in 32 counties and 55 cities. Twenty cities burned yard waste.

Twenty nine counties provided information on 38 yard waste processing facilities. Thirty of the facilities were county owned, 4 were privately owned and cities and authorities/association each owned 2 facilities. Fifteen of the facilities were privately operated. The capacity of the facilities ranged from 325 to 250,000 tons per year. Seventeen of the facilities mulch only and 10 used windrows. Nineteen facilities used the product for landfill cover. The other category was used to describe the use of the compost for 28 of the facilities. The amount of compost produced ranged from 312 to 236,136 tons with an average of 32,902 tons. Seven facilities sold compost with a price range from \$3.50 to \$6.00 per ton and an average of \$4.92. Twenty-six facilities gave their compost or mulch away. Seventeen facilities indicated they had an identified user for all their materials. Three facilities had surplus materials. The surplus ranged from 100 to 26,000 cubic yards, with an average of 9,367 cubic yards.

Twenty-four cities provided information on 27 yard waste processing facilities. Seventeen facilities were city owned and 10 were privately owned. Fourteen of the facilities were city operated. The capacity of the facilities ranged from 390 to 300,000 tons per year with the average being 41,452 tons. Sixteen of the facilities were mulch only. Seven facilities used windrows. The amount of compost or mulch produced ranged from 23 to 26,400 tons with the average being 4,973 tons. Three facilities were selling compost with prices ranging from \$5.00 to \$6.83 with an average price of \$5.61. Seventeen facilities were giving away compost or mulch. Thirteen facilities had users for all their material. Two facilities had surplus material of 113 and 150 tons.

**1.3.4 Hazardous and Special Waste**

Twenty-eight counties provided a formal household hazardous waste program and 27 had a program for small quantity generators.

Only 18 of the cities had a formal household hazardous waste program and 12 had a formal hazardous waste program for small quantity generators.

### **1.3.5 Recycling**

All 39 responding counties had a formal recycling program. Twenty-three counties had both curbside collection and drop off location for recycling. Only curbside was reported by 5 counties. Nine counties had drop off centers but no curbside collection. Fifteen counties utilized clean MRFs and 4 counties had dirty MRFs. Eighty-six of the 94 responding cities had a formal recycling program. Thirty-seven cities had both curbside collection and drop off location for recycling. Only curbside was reported by 41 cities. Eight cities had drop off centers but no curbside collection. Five counties and 31 cities indicated that recycling was mandatory. Information was received from counties about 33 residential, 17 multi-family, and 12 commercial recycling programs. Cities supplied information about 83 residential, 51 multi-family and 27 commercial recycling programs. Thirty-three of the counties responding collected aluminum, glass, and newspaper. Eighty to 83 of the cities collected these same three items. Thirty-two counties collected plastic and 24 collected steel cans. Seventy-five cities collected plastic and 61 collected steel cans. These same items were most common for multifamily program in both counties and cities. Corrugated paper and office paper were the most frequently listed items for commercial programs.

### **1.3.6 Costs and Charges**

Costs and charges are of a great deal of interest to many people in the recycling and solid waste disposal area. However, data about costs and charges is very difficult to develop. Information from private companies is not often available. There are also other variables particularly in the commercial area such as size of container and frequency of collection that produce a very complicated rate structure that is not easily compared from one system to another. Some local government fees for solid waste also cover other items such as hazardous waste management or mosquito control. Given all the above the information presented below and in Cost and Charges section of the directory should be compared with caution.

#### **a. Collection Charges Including Disposal**

Solid waste collection was paid in 13 cases by direct billing and in 11 cases as a special assessment on the property tax bill for the counties unincorporated areas. Eleven respondents selected the other category to describe their method of payment. The same pattern carried over to payment for disposal. For the cities direct billing for collection and disposal was the most common and was used by 67 cities.

In the following data county data refers to the unincorporated areas of the county. The average charge for residential unit was \$136.27 for 25 counties and \$152.36 for 29 cities using a franchisee system. The average for four county in-house systems was higher. For 50 cities, the average for in-house systems was \$172.74. The number of free enterprise systems in counties and cities was too low to give a meaningful average. The average charge for multi-family units was \$116.75 for 15 responding county systems, \$156.45 for 9 city systems that were franchised. The number of reports on other systems and the commercial sector in the counties was too few for meaningful averages. The average for the 34 in-house city systems for multifamily service was \$194.35 per unit. For the cities the average charge per cubic yard of dumpster was \$8.44 for the 15 franchisee systems and \$7.02 for the 20 in-house system.

b. Recycling Cost and Charges

The average total cost of the recycling program of the 19 counties that responded to this question was \$1,820,745 for the period of July 1, 1992 through June 30, 1993. The average income generated from the sale of recyclables for 16 responding counties was \$171,656. For 15 responding counties the average charge per year for residential customer was \$22.69. For 60 responding cities the average cost for recycling programs was \$315,127. For the 43 responding cities the income from the sale of recyclables averaged \$27,543. For 44 responding counties the fee for residential recycling was \$22.95.