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| Reporting Agency: Department of Environmental Protection |
| Recipient Agency: Governor and Florida Legislature |
| Subject: Hazardous Waste Management Needs Assessment Report |
| Report Due Date: Annual - (no statutory date specified) |
| Statutory Requirement: Section 403.7226(2), F.S. |
| <p>Abstract:</p> <p>Section 403.7226(2), Florida Statutes, requires the Department to identify the short and long-term needs for proper management of hazardous waste generated in Florida. It also requires that an annual report be submitted to the Governor and Legislature giving an assessment of the State's hazardous waste management needs. This assessment is an ongoing process and is updated whenever new information on hazardous waste generation and management becomes available.</p> <p>The federal Environmental Protection Agency has made a determination, based on each state's Capacity Assurance Plan, that there is enough commercial hazardous waste treatment and disposal capacity at the national level to properly manage all of the hazardous waste requiring off-site management across the country. The EPA made its initial determination in 1995 and has not altered this determination based on any subsequent review since then. Florida conducted an in-depth "Hazardous Waste Incinerator Needs and Capacity Study" in 1993 and 1994 as directed by Section 403.7895, Florida Statutes, and concluded there was no justification for any new commercial hazardous waste incineration capacity in the state. This finding is still relevant.</p> <p>Using this information, the Department finds that the need in Florida for hazardous waste management is being met, at a reasonable cost, by currently available state and national commercial hazardous waste treatment, storage, recycling and disposal capacity now and into the foreseeable future.</p> <p>In addition to the finding above, this Hazardous Waste Management Needs Assessment Report reviews the activities of the State Hazardous Waste Management Programs, including:</p> <ul style="list-style-type: none">The State Hazardous Waste Management Program's statutory framework;An overview on hazardous waste generation and management by Large Quantity Generators of hazardous waste;Progress in the Local Assessment, Notification and Verification Program for Small Quantity Generators of hazardous waste implemented by counties, Regional Planning Councils and the Department;The Enhanced Local Assessment, Notification and Verification Program Pilot Project; |

The "Universal Waste" programs for Mercury, Cadmium and Lead Reduction and Management;

Operation Cleansweep for proper waste pesticide management and disposal;

Florida's Used Oil Management and Recycling Program;

The status of the Local Household Hazardous Waste Collection Center Program; and

Florida's Pollution Prevention Program.

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REPORT TO THE GOVERNOR AND LEGISLATURE

HAZARDOUS WASTE MANAGEMENT
NEEDS ASSESSMENT REPORT



January 2004

Florida Department of Environmental Protection
Division of Waste Management
Hazardous Waste Management Section

Table of Contents

| | |
|--|----|
| Executive Summary | 1 |
| Purpose | 1 |
| Background on Hazardous Waste Generation and Regulatory Requirements..... | 1 |
| Short-term and Long-term Needs for Hazardous Waste Management..... | 3 |
| Additional Hazardous Waste Management Requirements and Programs..... | 4 |
| Hazardous Waste Management Program Websites | 7 |
| Overview of Large Quantity Generators of Hazardous Waste | 8 |
| Important Changes in the Federal 2001 Hazardous Waste Biennial Reporting System | 8 |
| Notable Facts about the 2001 Report | 8 |
| Trend Summary and Observations 1991-2001 | 13 |
| Local Assessment, Notification and Verification Program for Small Quantity Generators..... | 15 |
| Background | 15 |
| Summary of SQG Data Reported for 2002-2003 | 15 |
| Types of Funding | 17 |
| Training and Education..... | 17 |
| Enhanced SQG Program (ESQG) Pilot Study with Collier County..... | 18 |
| The Collection and Management of Batteries, Mercury-Containing Lamps and Devices, Other Waste Streams Containing Heavy Metals, and Pesticides | 21 |
| Diversion of Mercury, Lead and Cadmium from Florida's Waste Stream..... | 21 |
| Mercury: Fluorescent Lamps and Mercury-Containing Devices | 21 |
| Lead and Cadmium: Electronics and Rechargeable Batteries | 23 |
| Lead in Cathode Ray Tubes and Other Electronic Products..... | 23 |
| Rechargeable Nickel-Cadmium and Small Sealed Lead-Acid Batteries | 24 |
| Lead in Vehicular Lead-Acid Batteries..... | 25 |
| Operation Cleansweep..... | 25 |
| Used Oil Recycling Program | 27 |
| Introduction | 27 |
| Program Overview | 27 |
| Public Used Oil Collection Centers (PUOCCs)..... | 28 |
| Annual Reports for Calendar Year 2002 | 28 |
| Types and Quantities of Used Oil Generated by Source | 28 |
| Disposition of Used Oil | 28 |
| Used Oil Filters..... | 29 |
| Trends | 30 |
| Local Hazardous Waste Collection Center Grant Program | 32 |
| Background | 32 |
| Types of Funding..... | 33 |
| Requirements for the Hazardous Waste Collection Center Grant..... | 33 |
| Florida's Pollution Prevention Program | 34 |
| Definition of Pollution Prevention..... | 34 |
| Legislative Background..... | 34 |
| The Pollution Prevention Program | 34 |
| P2 Program Staffing..... | 35 |
| District P2 Coordinators..... | 35 |
| Partnerships and Projects..... | 35 |
| National Pollution Prevention Week 2003..... | 36 |

Table of Contents

| | |
|--|----|
| APPENDIX..... | 37 |
| Appendix 1: Summary of Regulations for Generators of Hazardous Waste..... | 38 |
| Appendix 2: Overview of Legislative History and Activities | 39 |
| Appendix 3: Large Quantity Generator Hazardous Waste Management in Florida..... | 42 |
| Appendix 4: Estimate of SQGs and CESQGs in Florida..... | 45 |
| Appendix 5: Summary of SQG Program Verifications (FY02/03)..... | 48 |
| Appendix 6: Summary of Hazardous Waste Generation in Florida..... | 51 |
| Appendix 7: SQG Program Grant Funding Summary..... | 54 |
| Appendix 8: Estimated Discards of Mercury, Cadmium and Lead Products in the Florida Municipal Solid Waste Stream, 1995-2002 | 55 |
| Appendix 9: Used Oil Summary | 58 |
| Appendix 10: Hazardous Waste Collection Center Grant Program History and Awards..... | 59 |
| Appendix 11: Hazardous Waste Collection Center Grant Program Funding Summary | 61 |
| Appendix 12: County Household Hazardous Waste Programs in Florida | 63 |

List of Figures

| | |
|--|----|
| Figure 1 Estimated Universe of Hazardous Waste Generators in Florida..... | 2 |
| Figure 2 Estimated Hazardous Waste Generation in Florida (In Tons)..... | 2 |
| Figure 3 Total Number of LQGs and TSDRs Submitting Biennial Reports | 9 |
| Figure 4 Waste Generated by Origin (In Tons)..... | 11 |
| Figure 5 Hazardous Waste Generation by Physical Type (In Tons) | 11 |
| Figure 6 On-Site Management of Hazardous Waste (In Tons) | 12 |
| Figure 7 All Hazardous Waste Shipped Off-Site by Management Type (In Tons) | 13 |
| Figure 8 Yearly Hazardous Waste Generation by Origin (In Tons)..... | 13 |
| Figure 9 Total Waste Shipped Off-Site by Year (In Tons) | 14 |
| Figure 10 Hazardous, Exempt and Universal Waste Reported in 2002-03 (In Tons)..... | 16 |
| Figure 11 Types of Generators Identified by County Verifications in 2002-2003..... | 17 |
| Figure 12 Collier ESQG Project Breakout of Business Generator Status | 19 |
| Figure 13 Collier ESQG Project Compliance Summary | 20 |
| Figure 14 Used Oil Management in Florida, 1984-2002 | 31 |

Hazardous Waste Management Needs Assessment Report

EXECUTIVE SUMMARY

Purpose

Section 403.7226(2), Florida Statutes, directs the Department to:

“Identify short-term needs and long-term needs for hazardous waste management for the state on the basis of the information gathered through the local hazardous waste management assessments and other information from state and federal regulatory agencies and sources. The state needs assessment must be ongoing and must be updated when new data concerning waste generation and waste management technologies become available. The Department shall annually send a copy of this assessment to the Governor and to the Legislature.”

The following sections specifically address this requirement.

Background on Hazardous Waste Generation and Regulatory Requirements

The Federal Government enacted the Resource Conservation and Recovery Act (RCRA), which establishes a national comprehensive hazardous waste management system. RCRA regulates hazardous waste from its point of generation through its final disposal. Hazardous waste generators are the first link in this “cradle-to-grave” hazardous waste management system. Pursuant to the authority granted by RCRA, the U.S. Environmental Protection Agency (EPA) has developed generator standards that address on-site accumulation of hazardous waste, cradle-to-grave tracking via a manifest system, labeling, and recordkeeping and reporting requirements. These standards are found in Title 40, Code of Federal Regulation (CFR), Part 262 and Chapter 62-730, Florida Administrative Code (FAC). Recognizing that generators produce waste in different quantities, EPA established three categories of generators. The extent of regulation to which hazardous waste generators are subject depends on the volume of hazardous waste each generator produces:

1. Large Quantity Generators (LQGs) generate 2,200 pounds or more of hazardous waste per month or 2.2 pounds or more of acute hazardous waste per month (such as some pesticides, toxins or arsenic and cyanide compounds).
2. Small Quantity Generators (SQGs) generate 220-2,200 pounds of hazardous waste per month.
3. Conditionally Exempt Small Quantity Generators (CESQGs) generate less than 220 pounds of hazardous waste per month or less than 2.2 pounds of acute hazardous waste per month.

Certain widely generated hazardous wastes including lead-acid and nickel-cadmium rechargeable batteries, certain pesticides, and mercury lamps and devices are called “universal wastes” and are managed under streamlined regulations that encourage the collection and proper management of these wastes while reducing the regulatory burdens and barriers under RCRA. These standards are found in Title 40, CFR, Part 273 and Chapter 62-737, F.A.C.

Florida has adopted by reference portions of Title 40, CFR, Parts 260-271 and 273 into Chapter 62-730, F.A.C. In some instances, Chapter 62-730, F.A.C. is more stringent than the federal regulations. A summary of the regulations that apply to generators of hazardous waste can be found in Appendix 1.

Based on Department estimates Florida has approximately 361¹ large quantity generators, between 2,600 and 5,000 small quantity generators and between 17,700 and 21,000 conditionally exempt small quantity generators of hazardous waste² (Figure 1). Based on Department estimates LQGs generate an estimated 400,112 tons of fully regulated hazardous waste, SQGs generate an estimated 12,426 tons and CESQGs generate an estimated 5,005 tons, of fully regulated hazardous waste annually in Florida.³ This does not include generation estimates of exempt and universal hazardous waste (Figure 2).

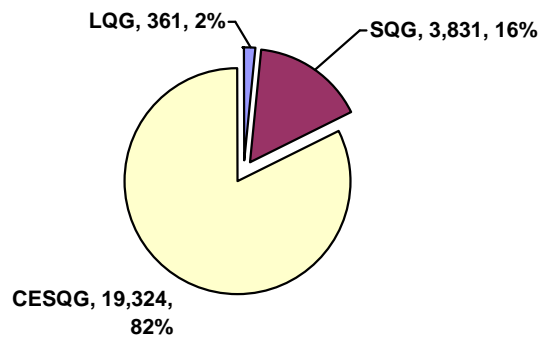


Figure 1 Estimated Universe of Hazardous Waste Generators in Florida

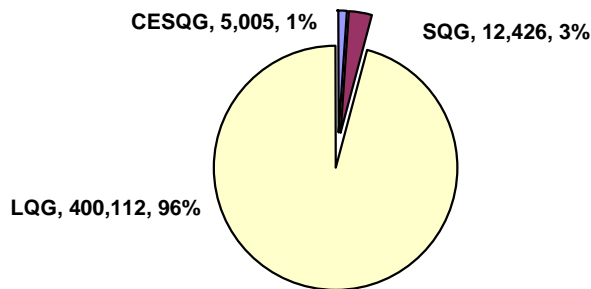


Figure 2 Estimated Hazardous Waste Generation in Florida (In Tons)

¹ Source: 2001 Biennial Reporting System Report

² The method used to estimate the universe of SQGs and CESQGs can be found in Appendix 4

³ Hazardous waste generation amounts were derived from multiplying the average amount of hazardous waste generated per SQG and CESQG verified in 2002-2003 (Figure 11) by the average number of SQGs and CESQGs calculated in appendix 4.

A complete summary of Florida's Hazardous Waste requirements can be found at the DEP Hazardous Waste Program website at www.dep.state.fl.us/waste/categories/hazardous/

Short-term and Long-term Needs for Hazardous Waste Management

Florida does not need additional short term or long term hazardous waste treatment or disposal facilities because there is sufficient state and national hazardous waste treatment and disposal capacity available to Florida's hazardous waste generators at a reasonable cost. This assessment is supported by a national and state specific "capacity" study, statewide assessment data and other information.

- Florida submitted its final Capacity Assurance Plan (CAP) report on May 19, 1994 as required by the federal Superfund Amendments and Reauthorization Act of 1986 (SARA). On the basis of Florida and other states' CAPs, the EPA determined there was enough commercial hazardous waste treatment and disposal capacity at the national level to properly manage all the hazardous waste requiring off-site management across the country.
- Florida conducted a "Hazardous Waste Incinerator Needs and Capacity Study" in 1993 and 1994 as directed by 403.7895, F.S., and concluded there was no justification in the state of Florida for any new commercial hazardous waste incineration capacity ("Hazardous Waste Incineration Needs and Capacity Study, Interim Status Report," November 1, 1994).
- Although hazardous waste generation from Florida's LQG facilities has more than doubled since 1993, the quantity shipped from these facilities has declined by more than 40% since 1993. This means that Florida facilities are treating more of their hazardous waste on-site and, consequently, shipping less to out-of-state commercial facilities, thereby requiring even less capacity than was required at the time of the 1994 CAP study. Since hazardous waste from SQG facilities comprises only about 4% of all the hazardous waste generated in Florida, there is also adequate capacity for this waste.
- No problems with state and national capacity for treating or disposing of hazardous waste have been brought to the Department's attention by either generators or commercial hazardous waste handling facilities located in Florida.
- Florida has a very extensive statewide infrastructure of "household hazardous waste collection centers" operated by local government. These centers offer proper hazardous waste management to private citizens. Many centers also accept waste from CESQGs at a reduced price, lessening the need for more commercial treatment facilities.
- The departments' Pollution Prevention and Local Assessment, Notification and Verification programs work with businesses to reduce "the volume and toxicity of hazardous waste" (per 403.7223(1), F.S.), and facilitate "the introduction of waste reduction opportunities to small quantity generators" (per 403.7225(1), F.S.).

Additional Hazardous Waste Management Requirements and Programs

The following summary highlights various Department programs and key points described in this report and are the means by which Florida's short-term and long-term needs for hazardous waste management are reported on and met.

- **Biennial Hazardous Waste Reporting System for Large Quantity Generators of Hazardous Waste**

While the number of facilities generating large quantities of hazardous waste has been declining over the last 10 years, the total amount of hazardous waste generated by these facilities has increased (with a sizable, episodic increase at two facilities in 1997). Since most of this hazardous waste is neutralized on-site, the amount of waste shipped off-site has declined, lessening the potential for spills during shipment and confirming there is no need for expanding the state's hazardous waste management capacity. Almost all of the hazardous waste that is shipped off-site is eventually treated or disposed at out-of-state facilities rather than at Florida facilities. In 2001, only 84 tons of hazardous waste was treated by Florida facilities – and all of that was recycled.

- **Local Assessment, Notification and Verification Program for Small Quantity Generators of Hazardous Waste**

Businesses that generate less than 2,200 pounds of hazardous waste in any calendar month are called small quantity generators of hazardous waste (SQGs). Under Florida law, county governments are required to identify all known and potential SQGs within the county (403.7225, F.S.) and annually verify, through on-site inspections, the waste management practices of at least 20% of those potential generators (403.7234, F.S.). In fiscal year 2002-03, 62 counties in Florida submitted data to the Department on the waste management practices of 24,550 small businesses with the potential to generate hazardous waste. Of these, 9,852 businesses generated 83,255 tons of hazardous, exempt or universal wastes that were subject to some type of regulation (used oil and vehicular lead-acid batteries were the predominate waste generated). The remaining 14,698 businesses did not generate any of these regulated wastes.

- **Enhanced Local Assessment, Notification and Verification Pilot Program (ESQG Program)**

“More Protection, Less Process”. The Enhanced SQG Program is a smart way to leverage the Department's limited resources to better protect human health and the environment. The Collier County ESQG Pilot Program demonstrates that through collaborative partnerships with local SQG Programs, the State can more efficiently and effectively provide environmental protection without additional resources. Collier County's ESQG program provides education and assistance in correcting minor environmental violations found at facilities without taking enforcement action against the business. The Department has for years been involved with the development and initiation of various compliance assistance programs. The Collier County ESQG program is a continuation of this concept at a local level and has proven that partnerships with local government achieve more environmental protection with less process.

- **Mercury-Containing Lamps and Devices Management Program**

A combination of manufacturers reducing the mercury content in products, the increasing use of alternative products without mercury, and government and private sector recycling programs has reduced the amount of mercury in Florida's solid waste stream to half of what it was in 1995. Regulatory streamlining has been critical to this effort. Florida continues to lead the nation in mercury thermostat recycling, since the manufacturer-sponsored reverse distribution (take back) system started in 1998, by recycling more than 30% of the total number of used thermostats collected in the United States.

- **Battery Management Programs**

Vehicular lead-acid batteries were banned from solid waste disposal in 1989. Due to the disposal ban and the fact that these batteries have some value in their lead content, they enjoy a national recycling rate of 97%. Florida was instrumental in the initiation of a successful nonprofit corporation, the Rechargeable Battery Recycling Corporation, which collects and recycles all rechargeable batteries throughout Florida and the nation (nickel-cadmium, nickel metal hydride, lithium and small sealed lead acid). Increased recycling rates for these rechargeable batteries have contributed greatly to a decrease in the amount of cadmium being discarded into Florida's municipal solid waste for the first time since 1998.

- **Operation Cleansweep**

This service was set up to collect stored stocks of canceled, suspended and unused pesticides from agricultural and other commercial users for proper disposal. More than 40 private and public partners have worked together since 1995, leveraging more than \$733,000 to rid the state of 695,000 pounds of pesticides from almost 1,150 participants in 62 counties. A \$100,000 appropriation by the 2003 Legislature will be used to sustain this successful service into 2004 by providing collections to pre-registered participants.

- **Electronics and Cathode Ray Tubes**

Since cathode ray tubes (an integral part of computer monitors and televisions) are estimated to be the largest source of lead in municipal solid waste, the Department is actively fostering the recycling of these and other electronic products. Since 1998, the Department has awarded grants in excess of \$2 million to 23 counties and one private Florida-based recycling business to accelerate the development of a collection and recycling infrastructure for used electronics. As a result of a 10-fold increase in electronics recycling in 2002, the amount of lead being discarded into Florida's municipal solid waste decreased, in 2003, for the first time since 1996. The Department used a \$37,500 grant from the Electronic Industries Alliance to conduct electronic recycling events at a major electronic product retailer's stores in 5 Florida counties. Florida continues to be an active Stakeholder in the National Electronics Product Stewardship Initiative, which is working to develop a national financing system to fund the collection and recycling of end-of-life electronic products.

- **Used Oil Recycling Program**

Florida's comprehensive, statewide used oil recycling program continues to be recognized as one of the most successful in the U.S. and to serve as a national and international model. As of December 2002, 125 individual private and public businesses were included in the registration database of used oil handlers, 10 of which are based outside of Florida. The amount of used oil recycled per capita continues to increase. In the 2002 calendar year, 150,484,128 gallons of used oil and oily waste were reported collected. This total includes 3,045,199 gallons of used oil recycled by private individuals who change their own oil. This homeowner oil was collected from 1,055 Public Used Oil Collection Centers (which can be accessed by the State's toll-free telephone number at 1-800-741-4DEP).

- **Local Hazardous Waste Collection Center Grant Program for Household Hazardous Waste**

The 1983 Legislature passed the Water Quality Assurance Act which established the Local Household Hazardous Waste (HHW) Collection Center Program. This program has remained very active over the years and has positioned Florida to have the best statewide HHW collection infrastructure in the nation. With 50 counties having permanent collection centers and 14 additional counties holding regularly scheduled collection events, over 99% of Florida's households have access to household hazardous waste collection services. Most of these services include centers that are open six days a week to the public. Florida's small businesses in 53 counties also have the opportunity to use these collection programs to manage the small amounts of hazardous waste they may generate.

- **Pollution Prevention Program**

The implementation of pollution prevention (P2) programs eliminates or reduces the need for hazardous waste management. This non-regulatory approach provides Florida industries with the technical assistance they need to reduce potential liabilities, spills and storage costs while remaining competitive and protecting worker health and the environment. A group of P2 coordinators and retired engineers assists in these efforts. Projects currently underway have resulted in partnerships with the Florida Hospital Association, the Florida Green Building Coalition, the State University System, the Department of Defense, and local governments. Additionally, projects are slated to establish an Environmental Management System for a state agency, to draft best management practices for the recycling of gasoline at automobile auction sites, and to train and certify Green Lodging assessors around the state.

An overview of the legislative history and activities of these programs can be found in Appendix 2.

Hazardous Waste Management Program Websites

Additional information on the hazardous waste management programs can be found at the following web sites:

1. DEP Home Page www.dep.state.fl.us
2. Batteries www.dep.state.fl.us/waste/categories/batteries
3. Electronics www.dep.state.fl.us/waste/categories/electronics
4. Hazardous Waste www.dep.state.fl.us/waste/categories/hazardous
5. Household Hazardous Waste www.dep.state.fl.us/waste/categories/hazardous/pages/household.htm
6. Mercury www.dep.state.fl.us/waste/categories/mercury
7. Operation Cleansweep www.dep.state.fl.us/waste/categories/cleansweep-pesticides
8. P2 Program www.dep.state.fl.us/waste/categories/p2
9. Used Oil www.dep.state.fl.us/waste/categories/used_oil

OVERVIEW OF LARGE QUANTITY GENERATORS OF HAZARDOUS WASTE

Important Changes in the Federal 2001 Hazardous Waste Biennial Reporting System

The United States Environmental Protection Agency (EPA) started its Waste Information Needs (WIN) Initiative in 1997. Representatives from the EPA and a team of participating states, including Florida, met to design the EPA's future hazardous waste information systems to meet its responsibilities under the Resource Conservation and Recovery Act (RCRA) over the long-term. In 2000, one of the first outcomes of this project was the redesigned Biennial Hazardous Waste Report or BR (Biennial Report).

As part of the redesign process, some wastewater information collected in the 1999, and previous biennial reports, was deemed to be of marginal value, and quite confusing and expensive for the regulated facilities to gather and therefore would no longer be collected. Over 95% of the waste generated in Florida (and the US in general) is a wastewater of some type (generally waste process waters from electroplating, rinsing, or a chemical manufacturing process.) Due to the changes in the 2001 report, information was not collected on these now exempt wastewaters that are either treated in industrial wastewater management systems before release to National Pollutant Discharge Elimination Systems (NPDES) or neutralized immediately upon generation (and not even used to determine the hazardous waste generator status of a site or facility).

The coding structure for describing the sources of the waste and the waste types generated was streamlined and simplified, but the new codes were designed to make comparisons with the previous codes possible. The historical information presented in this report will be based on these translations and may not strictly correlate with the information published in the previous reports.

Notable Facts about the 2001 Report

Much has been learned about hazardous waste management and generation in Florida based on the implementation of the Hazardous Waste Biennial Reporting System as required under federal and state laws for large quantity hazardous waste generators (LQGs) and for permitted hazardous waste treatment, storage, disposal and recycling facilities (TSDRs). However, due to the unforeseen complexities that first appeared with the initial implementation of the 1991 report, and the gradual evolution of better data quality control measures and electronic reporting, for which Florida has been a national leader, it has taken some time to get a firmer grasp on these complex data sets and to make clearer comparisons over the reporting years.

Even though a better understanding of the data now exists, the reader is cautioned against too narrowly interpreting the numbers presented here. Since the data sets are very complex and there is much variability over time in components such as "one-time" and "exempt" hazardous waste generation, one should be cautious in order to avoid making erroneous or definitive interpretations. In addition, the data's one-time hazardous waste generation component does

not include all the hazardous waste that was generated, treated and disposed of on-site (i.e., in place) as a result of the federal Superfund or state cleanup programs.

In order to improve the quality of data collected, the Department has provided four to eight hours of user training workshops for reporting facilities. Over 200 participants took advantage of these workshops at one of four locations throughout the state.

Other quality control measures include:

- Waste shipped off-site is compared to waste received by commercial facilities by site (usually out of state) after the data have been finalized at the national level, giving more quality control to the accuracy of waste shipping data.
- Waste generation amounts are compared to previous years' amounts to look for possible anomalies.
- Waste received by Florida facilities is compared to the amounts shipped off-site and treated on-site to ensure correct tracking.
- Follow-up with individual reporting facilities as necessary for explanation of data anomalies, clarification and verification.

Finally, even though extensive quality control efforts were made, the data in this report are only as good as the data provided to the Department by the LQGs and TSDRs. Although great efforts were made to provide training to these regulated entities on properly completing the BR and using electronic reporting, there is always the possibility of incorrect reporting.

Three hundred sixty-one out of 390 reporters in 2001 indicated that they were LQGs at the time of reporting. Other reporters were required to file a BR due to episodic or one-time large quantity hazardous waste generation at some point during the year.

Reporting Sites and Site Activities

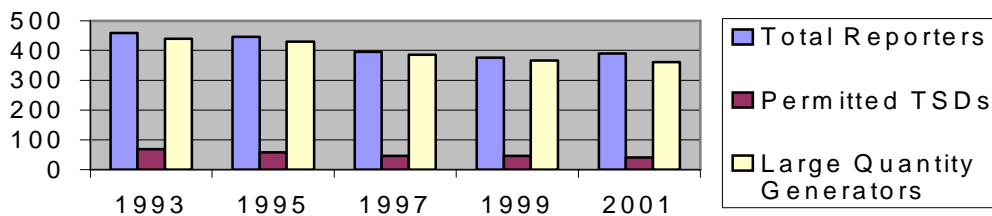


Figure 3 Total Number of LQGs and TSDRs Submitting Biennial Reports

The total number of reporters in 2001 has increased slightly to 390 (376 in 1999). Some reporting facilities were both TSDRs and LQGs, so the total will not be the sum of the categories. See Figure 3.

Due to the limited number of permitted commercial treatment facilities in Florida, most of the hazardous waste shipped off-site by Florida generators is shipped to intermediate storage or transfer facilities operated by hazardous waste transporters before final management/disposal.

Ultimately, most of the hazardous waste shipped off-site is exported to out-of-state, permitted treatment, disposal and recycling facilities. Florida is a net exporter of hazardous waste. Florida imported only 4,039 tons of hazardous waste and exported 35,760 tons to other states in 2001. Of the 4,039 tons imported into Florida, 3,365 tons were bulk packaged (i.e., into tank trucks or rail cars) and shipped out of Florida for final treatment, disposal or recycling; 590 tons were blended for use as a hazardous waste fuel and shipped out of Florida for use in cement kilns. The remaining 84 tons were recycled at Florida facilities. See Appendix 3 for specific details.

Initial hazardous waste generation (the point where hazardous waste is generated for the first time) is generally divided into 4 origin types:

1. Production or service process wastes (manufacturing process residuals or discarded chemicals from service activities)
2. Remediation cleanup wastes (soils and abandoned chemicals)
3. Waste generated from pollution control processes (air and water pollution control residuals, etc.)
4. Residuals generated from the treatment of existing hazardous wastes (sludge, etc. from treating wastewaters or other waste chemicals).

For 2001 the 390 reporting facilities in Florida initially generated regulated hazardous waste by origin and physical type as shown in Figures 4 and 5 (refer to Appendix 3 for specific details). The majority of these initially generated hazardous wastes are wastewaters (designated as inorganic liquid) and over 75% of that total is production or service process waste. The hazardous waste report also includes "generation" information from sites that merely bulk and re-ship wastes initially generated by other facilities.

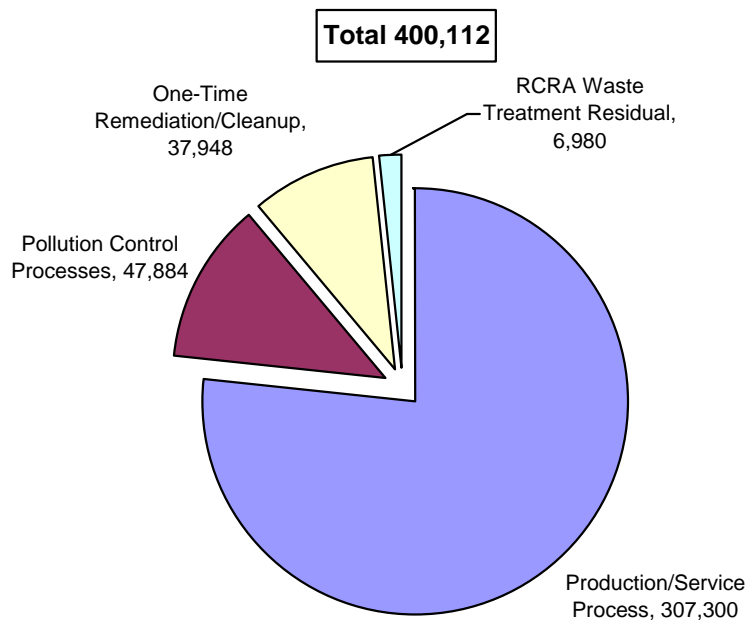


Figure 4 Waste Generated by Origin (In Tons)

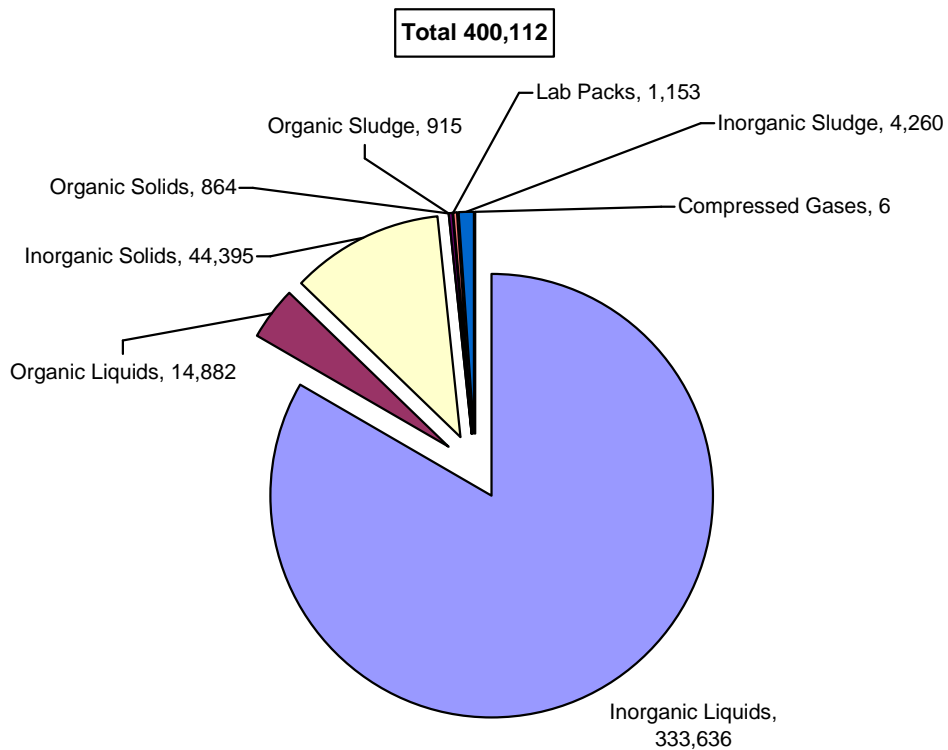


Figure 5 Hazardous Waste Generation by Physical Type (In Tons)

Of the 400,112 tons of hazardous waste generated in 2001, 89% (354,266 tons) was managed on-site by the facility that initially generated the waste. Discharge of acidic aqueous wastes to an Underground Injection Control (UIC) well by only one facility accounted for 81% of all the hazardous waste managed on-site in Florida. (UIC wells, generally in excess of 1,000 feet, are permitted by DEP to conform with the Safe Drinking Water Act and the Clean Water Act). Refer to Appendix 3 for more specific details.

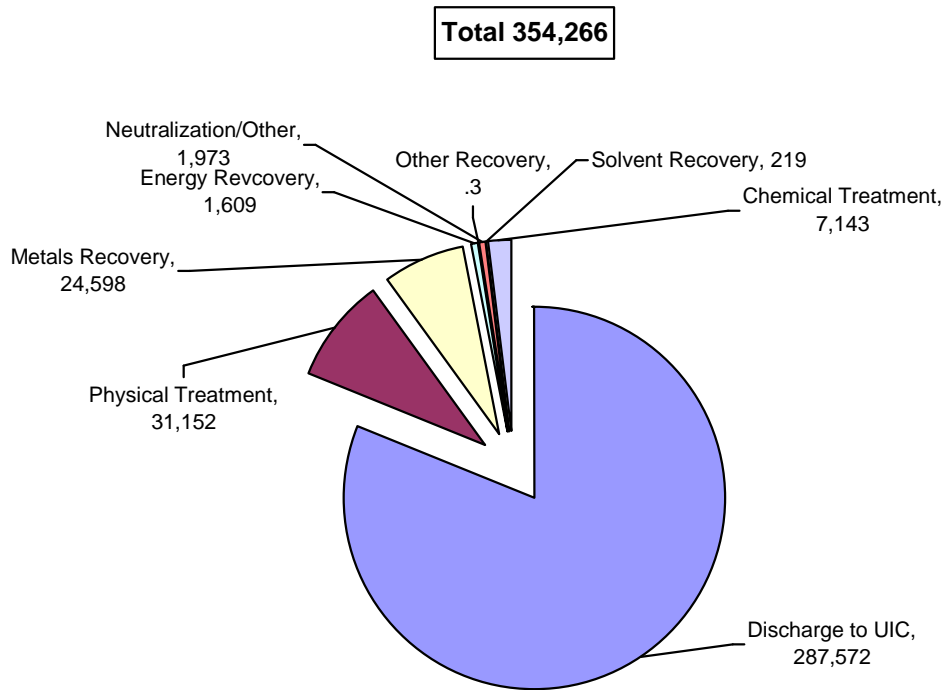


Figure 6 On-Site Management of Hazardous Waste (In Tons)

Hazardous waste that is generated and not managed on-site must be shipped off-site for proper and legal management or disposal. Figure 7 shows that 58,279 tons of hazardous waste was shipped off-site to receiving facilities that had specialized management processes. This total amount includes 7,888 tons of hazardous waste that may be double-counted as a result of the initial generator (who reported the waste as generated) sending this waste "off-site" to a facility that bulked, blended, or re-packaged the waste and then "re-shipped" the waste off-site and reported it, again, as "generated" because the waste was actually "generated" in a different form by this intermediate facility. Therefore, the result of adding the 354,266 tons of hazardous waste managed on-site to the 58,279 tons managed off-site is more than the 400,112 tons of initially generated hazardous waste. Almost all of the 58,279 tons of waste shipped off-site (including the 7,888 tons of re-shipped storage/bulking/transfer waste) was eventually managed in another state, i.e. most of the waste shipped to Florida storage and treatment facilities was bulked or blended and shipped to other states for final use or management. Refer to Appendix 3 for more specific details.

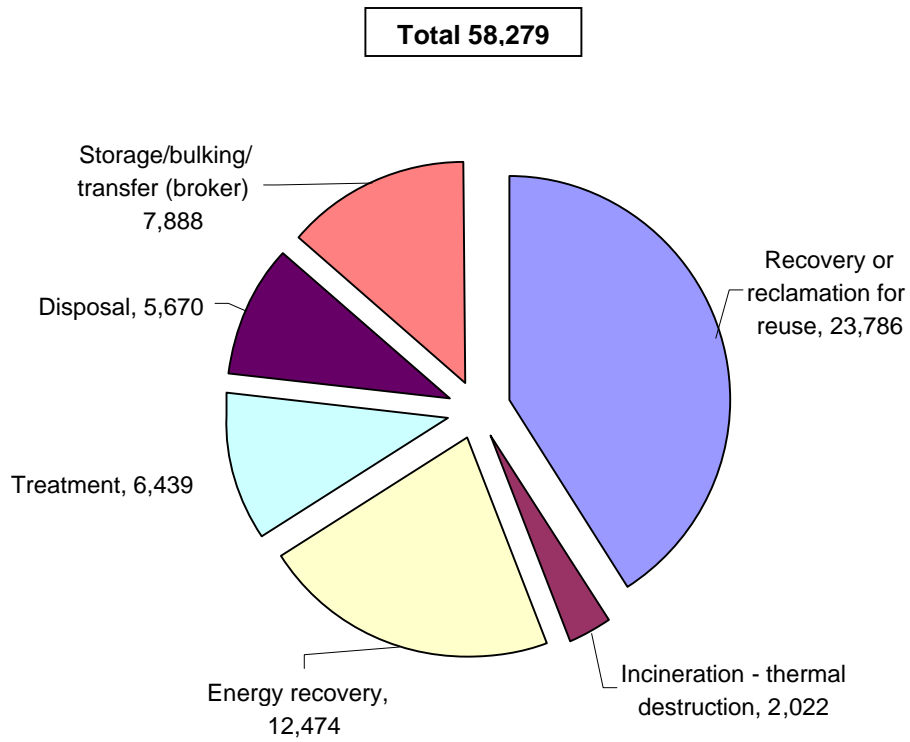


Figure 7 All Hazardous Waste Shipped Off-Site by Management Type (In Tons)

Trend Summary and Observations 1991-2001

For the years 1991-2001, hazardous waste generators (LQGs and TSDRs), produced RCRA regulated waste as shown in Figure 8.

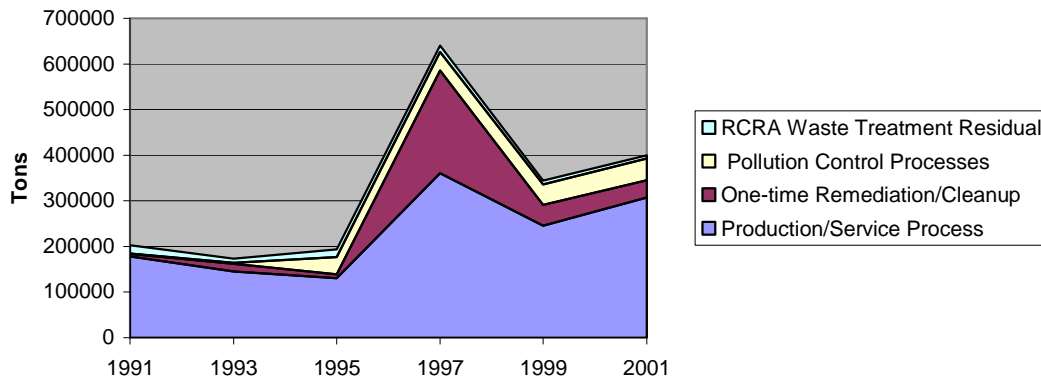


Figure 8 Yearly Hazardous Waste Generation by Origin (In Tons)

Hazardous waste generation has increased since 1991, with a sizable episodic increase in 1997 due to a rise in production waste at one facility and a large cleanup at a second facility.

Possible evidence of positive results from pollution prevention programs in this trend data over time may be seen in the reduction of the quantities of hazardous waste shipped off-site for management (Figure 9). A major focus of the Pollution Prevention activities for the Department has been an emphasis on managing the waste at the point of creation, lessening the potential for highway or rail spills.

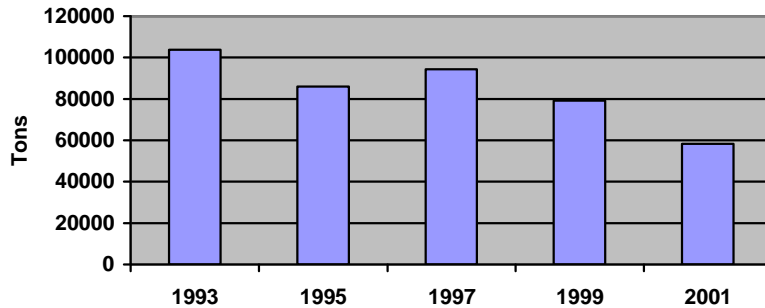


Figure 9 Total Waste Shipped Off-Site by Year (In Tons)

LOCAL ASSESSMENT, NOTIFICATION AND VERIFICATION PROGRAM FOR SMALL QUANTITY GENERATORS

Background

Sections 403.7225 and 403.7234, F.S., established the Local Hazardous Waste Management Assessments and the Small Quantity Generator Notification and Verification Program (SQG Program). A small quantity generator (SQG) is defined in the federal (and state) regulations (40 CFR Part 260.10) as a generator that produces less than 1,000 kilograms (or approximately 2,200 pounds or about 275 gallons) of hazardous waste in any calendar month. SQGs are further divided into conditionally exempt small quantity generators (CESQGs) which are defined as businesses (generators) that produce less than 100 kilograms (or approximately 220 pounds or about 25 gallons) of hazardous waste in any calendar month.

Under Florida law, county governments are required to identify all known and potential small quantity generators of hazardous waste within the county (403.7225, F.S.) and annually verify the waste management practices of at least 20% of these known and potential generators (403.7234, F.S.). The Department has established a standard format for data collection and data submittal. The SQG Program shall include, in accordance with Florida Statutes, but not be limited to, the identification of the following:

1. All small quantity generators of hazardous waste within a county defined pursuant to federal regulations under 40 CFR, Part 260.10.
2. The types and quantities of hazardous waste generated by small quantity generators within a county.
3. Effective waste management practices for small quantity generators of hazardous waste.

The goals of the SQG Program are for local governments to inform SQGs of their legal responsibilities in properly managing their hazardous wastes, to protect public health and the environment (e.g., drinking water resources), to update any information submitted to the Department in prior reports, and to provide educational and pollution prevention assistance in the form of fact sheets and consultation. These goals are carried out by on-site visits, mailouts, or during renewal of occupational or business licenses. A county may have additional uses for the information collected under this program. Knowledge of hazardous materials and wastes stored at a business location can be useful for county Departments with responsibility for comprehensive planning, emergency management, fire and police protection, health care, and water quality management.

Summary of SQG Data Reported for 2002-2003

It is impossible to precisely identify the number of SQGs in Florida out of the approximate universe of 424,089 businesses in the state (1999 County Business Patterns for Florida, U.S. Census Bureau). Many hundreds of SQGs go into or out of business each year. Some businesses may not generate any hazardous waste, even though they are listed in a business category that has the potential to generate this type of waste. Appendix 4 describes the data sets, assumptions and methods the department used to estimate the universe of SQGs and CESQGs in Florida. Over the last five years, local governments

have identified in their SQG Program assessment rolls (per 403.7225, F.S.), between 85,000 and 105,000 businesses that have the potential to produce hazardous waste.

Because it is impossible to inspect this number of businesses each year the SQG Program was structured, by statute, to verify 20% of the businesses on the “master” assessment roll each year. Verifications are conducted by county personnel or by county-contracted Regional Planning Council SQG Program coordinators.

In fiscal year 2002-03, 62 counties in Florida submitted data to the Department on approximately 24,550 known and potential small quantity generators verified between July 1, 2002 and June 30, 2003, through mostly on-site inspections (see Appendix 5). Businesses verified reported generating 83,255 tons of fully regulated hazardous waste, exempt hazardous waste and universal hazardous waste. Approximately 96% of all waste generated is either exempt (i.e. used oil, lead-acid batteries, antifreeze) or universal hazardous waste (i.e. rechargeable batteries, mercury lamps). While these wastes are exempt from full regulation (if managed properly, usually through recycling) or subject to streamlined regulation, they all contain constituents like oil, mercury and lead that are harmful to public health and the environment if not properly managed. The remaining 4% of the waste reported is considered fully regulated hazardous waste (see Figure 10). It should be noted that 93% of all the hazardous waste generated by all SQGs and CESQGs is used oil, lead-acid (vehicular-type) batteries or antifreeze. This also points out that a majority of Florida’s small businesses are in auto service and auto repair related work.

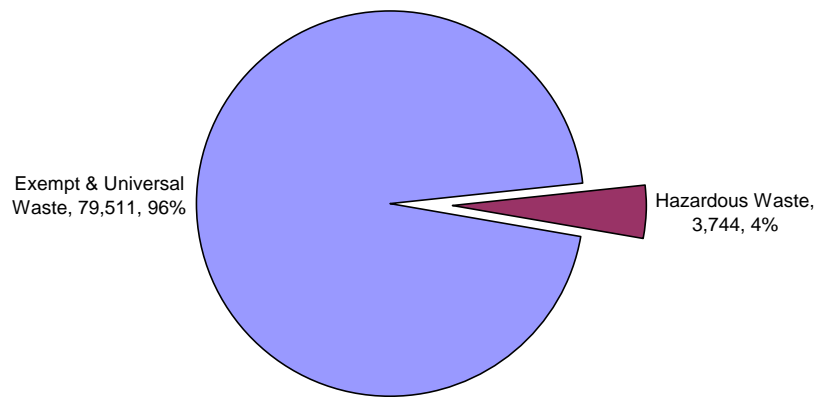


Figure 10 Hazardous, Exempt and Universal Waste Reported in 2002-03 (In Tons)

Regulated SQGs account for 3% of the businesses verified by the counties over the past year. These SQGs generate on average 84,858 pounds of fully regulated hazardous waste, exempt and universal hazardous waste per year. Twenty four percent of the businesses verified are classified as conditionally exempt small quantity generators (CESQGs). These CESQGs generate on average 8,401 pounds of hazardous waste (fully regulated, exempt and universal) per year. Businesses verified that generate no regulated hazardous waste, but only exempt and universal hazardous waste (i.e. used oil, car batteries, mercury lamps and antifreeze) account for 13% of the potential generators verified. Businesses verified that generate no waste at all account for 60% of the potential generators verified (Figure 11).

| Site RCRA Status | Number of Sites | Total Pounds Waste/Year | Average Pounds Waste/Site/Year | % Sites w/Regulated Hazardous Waste | Total Hazardous Waste/Year | Average Pounds Hazardous Waste/Site/Year |
|---|-----------------|-------------------------|--------------------------------|-------------------------------------|----------------------------|--|
| SQG | 686 | 58,212,372 | 84,858 | 100% | 4,450,092 | 6,487 |
| CESQG | 5,867 | 49,290,087 | 8,401 | 100% | 3,037,895 | 518 |
| Verified: Not a Hazardous Waste Generator | 3,299 | 59,008,290 | 17,892 | 0% | 0 | 0 |
| Verified: No Waste Generated | 14,698 | 0 | 0 | 0% | 0 | 0 |
| Totals | 24,550 | 166,510,749 | 111,151 | 26.69% | 7,487,987 | 7,005 |

Figure 11 Types of Generators Identified by County Verifications in 2002-2003

The vast majority of the hazardous waste generated by SQGs and CESQGs was recycled. Since many small businesses in Florida are in the auto service and repair industry, as noted above, the waste they generate, predominately used oil, vehicular batteries, antifreeze and various solvents, is amenable to recycling. Also, most auto repair and service businesses now use cloth shops rags which are sent to commercial launderers for washing and re-use. Approximately 2% of the regulated hazardous waste and less than 1% of the exempt and universal hazardous waste reported may have been improperly stored or disposed and was “flagged” by the system automatically for further review by the county (mistakes in filling out the reporting forms may account for some of this potential mismanagement). A summary of waste generated and management practices by small quantity generators for 2002-2003 reporting year can be found in Appendix 6.

Types of Funding

After the initial State funding for conducting assessments under the Water Quality Assurance Act of 1983 had run out, local SQG programs had to develop their own funding sources to continue this legislatively required program. In 1991, the Legislature amended 403.7225, F.S., allowing counties to impose up to a \$50 surcharge on the occupational license fee of a business classified as a SQG.

Recognizing the need for increased participation by local governments, the Legislature in 1993 amended Section 403.7265, F.S., giving the Department authority to use grant funds to assist local governments in carrying out the responsibilities of this program. Available money is used for grants to assist counties temporarily in developing their local SQG Programs while they establish permanent funding sources at the local level. The grant amount is \$30,000.

The Legislature also authorized grants to local governments for establishing “Expanded Local Hazardous Waste Management Programs” (403.7238, F.S.). The objective of this grant is to assist local governments in developing enhanced SQG Programs that better coordinate local government and Department compliance and enforcement efforts and to help establish local government pollution prevention plans. The grant amount is \$50,000.

A summary of various SQG Program grant projects is listed in Appendix 7.

Training and Education

The SQG Program Inspector Orientation Course Guide is used to train new county inspectors at the Annual SQG Program Workshop. The focus of the training program is to provide an updated

introductory training course for field staff conducting the SQG Program. The guide integrates pollution prevention elements and strategies into the SQG Program. The goal is to establish a structured training guide for new county staff on how to conduct the SQG Program and integrate pollution prevention principles into the site visits.

On September 16, 2003, the migration of the Small Quantity Generator Database Management System to the Department's Compliance and Enforcement Tracking System for the Hazardous Waste Program (HAZ) was completed. The system is called HAZ-SQG. A SQG Program Database Advisory Committee was established in 2002 to help guide the initial and continued development of HAZ-SQG system and design the reports that could be generated by the new system. Local government SQG Program coordinators have been entering facility hazardous waste management data to the Department's database over the web since then. The counties have found the system generally easy to use and friendly. Previously, this information was entered at the county level into a custom-designed database management system and then all county data was mailed to the Department on June 30 of each year to be "re-entered" into the state database. With HAZ-SQG, county and Department inspection data can be viewed and shared by both Department and county inspectors in real time since county data are updated continuously rather than once a year. The database migration project is part of an overall strategy to leverage existing state and county hazardous waste management resources to better protect human health and the environment. In 2003, six training sessions were conducted around the state to properly train local coordinators in the use of the new HAZ-SQG database program.

The SQG Program list server was developed in 2002. The SQG Program list server is an e-mail tool used for discussion and information sharing among county inspectors and Department inspectors. The goal of the list server is to foster information exchange by making it easy for SQG Program coordinators to communicate with each other in the search for solutions to problems encountered while conducting the SQG Program.

County SQG program coordinators meet on a quarterly basis. There are currently five regional SQG program coordinator groups. The main purpose of these groups is to foster better communication and cooperation between state, regional and local hazardous waste management programs, exchange ideas and share information relative to the SQG Program. A representative from the corresponding Department District office is usually present at each meeting.

Each year the Department's Hazardous Waste Management Section puts on a workshop for local government staff managing the SQG and Household Hazardous Waste Programs. Ideas and information are exchanged on new legislative mandates, efficient waste management procedures, strategies, personal and site safety issues and pollution prevention programs.

Enhanced SQG Program (ESQG) Pilot Study with Collier County

The purpose of the pilot study was to develop and demonstrate a standard method to coordinate Department compliance and enforcement activities with the existing county SQG programs by training local governments to identify potential hazardous waste compliance problems and have them corrected with minimal involvement by the Department. Specifically, local programs focus on minor compliance issues discovered, resolve them and direct major compliance issues or imminent threats to the Department for further action. It was believed that local governments, through the SQG program, could perform this task more efficiently than Department inspectors allowing the Department to focus efforts on major compliance issues.

On November 13, 2001, a contract was signed (under the authority in 403.7238 and 403.7265 (9), F.S.) with Collier County to conduct a pilot study that evaluated the coordination and mutual benefits gained from creating a collaborative partnership between the Department's hazardous

waste compliance and enforcement program and the Local Assessment, Notification and Verification Program. The pilot study was completed in June 2003. A summary of the results is presented below.

The Department's South Florida District staff provided both classroom and field training for Collier County inspectors as well as evaluation and feedback throughout the contract period by reviewing and critiquing all county inspection reports.

County inspectors, once adequately trained, have a better opportunity to respond to businesses within their boundaries than does the Department. Businesses found to be significantly out of environmental compliance are referred directly to the District office. Also, businesses that do not comply after given an opportunity to correct environmental problems are referred to the District. This results in better utilization of state resources to address significant non-compliers and those potentially degrading the environment.

Using a compliance assistance inspection checklist developed jointly by the Department and Collier County, 532 facilities received ESQG inspections between November 2001 and May 2003 (300 in fiscal year 2002 and 232 in fiscal year 2003). Just over 73% of the businesses inspected were classified as conditionally exempt small quantity generators of hazardous waste. These businesses generate less than 220 pounds of hazardous waste per month. Three percent were identified as regulated small quantity generators. These businesses generate greater than 220 pounds of hazardous waste but less than 2,200 pounds per month. Twenty four percent were identified as non generators of fully regulated hazardous waste but may generate exempt or universal waste such as used oil, car batteries, mercury lamps and antifreeze. LQGs (businesses that generate greater than 2,200 pounds of hazardous waste per month) were not part of this pilot study (Figure 12).

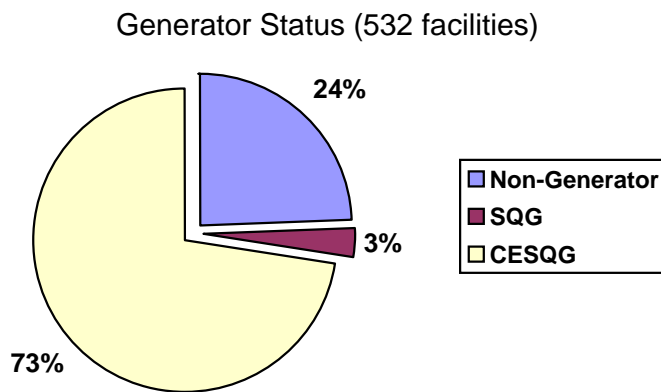


Figure 12 Collier ESQG Project Breakout of Business Generator Status

Of the 532 inspections conducted by Collier County, 323 (61%) of the businesses were in compliance with the hazardous waste regulations while 208 (39%) were out of compliance. Fifty-five percent of all businesses identified as out of compliance were brought back into compliance by the end of the pilot study. Six businesses were referred to the District office for follow-up (Figure 13). The top three non-compliance items found were 1) missing or incomplete shipping receipts, 2) improper hazardous waste determinations, and 3) lack of container labeling. Other non-compliance items found include missing material safety data sheets, improper mercury lamp/device management, lack of a EPA ID number and potential discharge to the environment.

Eighty two businesses were brought back into compliance by November of 2002. Fifty businesses were selected, at random, from these businesses for reinspection in the second year to see if they were still in compliance. Eighty-two percent of the businesses reinspected were in compliance while only 18% were out of compliance when reinspected.

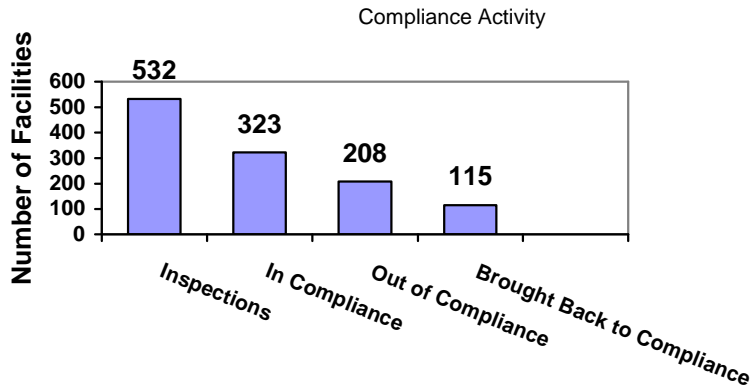


Figure 13 Collier ESQG Project Compliance Summary

County inspection time increased from approximately 28 minutes per inspection, before the pilot project under the original SQG program, to approximately 65 minutes per inspection at the end of the pilot study. This was expected because county inspectors under the original SQG program were only required to survey and verify the waste management practices of businesses that were identified by the county. Under the Enhanced SQG program inspectors would not only collect information on each business’s waste management practices but also ensure the business was complying with the hazardous waste regulations, which included some follow-up inspections and Department referrals.

The Department’s staff support time devoted to the pilot dropped from 275 hours in year one to 152 hours in year two of the pilot study because initial program planning and development was not needed once the ESQG program was up and running efficiently. Most of the department staff time reported was devoted to inspection audits and training to ensure the county was doing an adequate job conducting inspections. Time invested by the Department (approximately 40 minutes per county inspection in year two) has a significant payoff because Collier county inspectors are able to conduct many more compliance inspections and follow-up than Department inspectors alone⁴ and also allowing inspectors to focus more time on major compliance issues. Department inspectors will normally devote approximately 40 hours for travel, inspection and follow-up for each facility inspected⁵.

⁴ South District conducted 76 SQG and CESQG inspections in Collier County in federal fiscal years 2000 and 2001. Source: COMHAZ data query.

⁵ Internal DEP estimate

THE COLLECTION AND MANAGEMENT OF BATTERIES, MERCURY-CONTAINING LAMPS AND DEVICES, OTHER WASTE STREAMS CONTAINING HEAVY METALS, AND PESTICIDES

Diversion of Mercury, Lead and Cadmium from Florida's Waste Stream

Since 1995 the Department has been tracking the amount of mercury, lead and cadmium entering Florida's municipal solid waste (MSW) stream from discarded products including batteries, mercury-containing devices and lamps, and cathode ray tubes (CRTs) in televisions and computer monitors. The Department has estimated the amounts of these heavy metals potentially entering Florida's MSW in the baseline year of 1995 and then estimated disposal amounts annually from 1996 through 2002. These disposal amounts take documented recycling into account and therefore represent disposal of heavy metals in products that were not recycled. Reducing the amount of mercury, lead, and cadmium entering Florida's MSW continues to be a key goal of the Department.

The reduction or diversion of mercury from Florida's MSW is primarily the result of source reduction activities during the 1990's on the part of the manufacturers who decreased the use of mercury in certain widely-used products like batteries and fluorescent lamps. The growing use of alternative products without mercury, cadmium and lead will also contribute to the reduction of heavy metals in Florida's MSW. Some examples include digital thermometers instead of mercury thermometers; lithium batteries instead of nickel-cadmium batteries; and no-lead flat panel displays instead of lead-containing CRT displays in televisions and computer monitors. However, municipal and private collection and recycling programs will continue to be a key part in the ongoing effort to reduce heavy metals entering MSW.

Mercury: Fluorescent Lamps and Mercury-Containing Devices

The amount of mercury discarded into MSW has been dropping rapidly due to the reduction or replacement of mercury in the manufacturing stage of various widely-used products and the increased use of alternate products as well as recycling programs for mercury-containing lamps and devices. Although the volume of such products discarded in MSW can be high (e.g., household batteries) the amount of mercury reaching Florida MSW via these products is estimated to be about 6 tons in 2002, down from an estimated 12 tons in 1995. The estimated contributions of selected product categories to mercury in Florida MSW in 1995-2002 are shown in Appendix 8. State legislation, industry source reduction efforts and product stewardship programs, and local recycling programs should continue to further reduce mercury in MSW. Due to the declining mercury content of alkaline and carbon-zinc batteries, an increasing number of counties have refocused their battery collection and recycling programs on rechargeable batteries which contain significant amounts of cadmium and lead.

With the ongoing decline of mercury content in batteries and other products, mercury-containing lamps and devices were estimated by the Department to be the largest combined product category source (more than 60%) of mercury being discarded into Florida's municipal solid waste in 2002 as they have been since 1997. Additional information may be found at the Department's Mercury Waste Management web site at www.dep.state.fl.us/waste/categories/mercury.

Fluorescent lamps are the most common type of mercury-containing lamps. Mercury-containing lamps are prohibited from disposal in a municipal waste-to-energy facility or other solid waste incinerator (403.7186, F.S.). Since most mercury-containing lamps are hazardous wastes, they cannot be disposed of at Florida MSW landfills and would have to be shipped to out-of-state hazardous waste facilities. As an alternative under Florida law, commercial, governmental, or institutional facilities may recycle them under streamlined universal waste regulations at permitted mercury recovery facilities. Mercury-containing lamps from households may be recycled through all county household hazardous waste collection programs. Mercury-containing devices, including those from households, such as thermostats, thermometers, and pleasure boat bilge pump float switches, are prohibited from disposal both in a municipal waste-to-energy facility or other solid waste incinerator and in a landfill (403.7186, F.S.). One boat bilge pump float switch can contain as much mercury as 50 fluorescent lamps. The Department strongly recommends recycling of all mercury-containing lamps and devices. County household hazardous waste collection programs also accept mercury-containing devices.

Chapter 62-737, F.A.C., contains standards for mercury recovery and reclamation facilities that process mercury-containing lamps and devices. Four facilities have permits under this Chapter. The average annual lamp recycling rate for the period 1995-2002 is estimated to be nearly 25% for mercury-containing lamps in Florida. The recycling rate has fluctuated from a low of 16% in 1998 to a high of 31% in 1996 and 2000 with the 2002 recycling rate at about 21%. These estimates are based upon reports from Florida and out-of-state mercury recovery and reclamation facilities and transporters. The increased use of reduced mercury content fluorescent and other mercury-containing lamps in Florida is expected to further reduce the amount of mercury in Florida MSW from discards of this product category.

The streamlined regulatory structure of the EPA's Universal Waste Rule (adopted by Florida as Rule 62-730.185, F.A.C.) and Florida's universal waste rule for mercury-containing lamps and devices (Chapter 62-737, F.A.C.) has also spawned a product stewardship program funded by mercury thermostat manufacturers. Managed by the Thermostat Recycling Corporation (TRC), the program uses the existing new mercury thermostat distribution network of wholesalers and heating, ventilation, and air conditioning contractors to collect all brands of mercury thermostats taken out of service. Begun in November 1997, this TRC reverse distribution ("take back") program currently reports at least 55 participating wholesale companies with as many as 112 collection containers in Florida. In 2002, more than 120 pounds of mercury (more than 13,000 thermostats) were collected and recycled by the TRC program in Florida, more than in any other state. Since 1998, more than 430 pounds of mercury from Florida thermostats have been recycled through the TRC program, representing almost 30% of the total mercury collected by TRC nationally. The cost of this program is built into the cost of the product. The mercury reclaimed from old thermostats is used in the production of new mercury thermostats and other products. Without the streamlined regulatory structure provided by the Universal Waste Rule and Chapter 62-737, F.A.C., the manufacturers would not have been able to set up and fund such a program.

Lead and Cadmium: Electronics and Rechargeable Batteries

Lead in Cathode Ray Tubes and Other Electronic Products

In 1998, the Department began to focus on the proper management of discarded cathode ray tubes (CRTs) from televisions and computer monitors as well as other electronic equipment normally discarded along with CRTs, e.g., computers and computer peripheral equipment like printers and keyboards. CRTs, the combined category of computer monitors and TV picture tubes, are estimated by the Department to be the largest source of lead (60%) in Florida's MSW (see Appendix 8). Some studies suggest and surveys confirm that much of this obsolete equipment is being stored pending the clarification of its regulatory status and the development of recycling or other cost effective waste management options.

The Department's objective is to encourage cost effective reuse and recycling of electronics. To accomplish this goal a number of actions have been taken. First, in October 1999, the Department issued its strategy paper giving regulatory clarification for end-of-life management of CRTs and other electronic equipment. Second, in June 2000, a statewide contract for recycling end-of-life electronics was developed and made accessible to all state and other governmental entities. Third, time-limited funding, in the form of grants, was awarded to counties and one private business in order to develop a sustainable collection system and recycling infrastructure. The funding was specifically appropriated between 1999 and 2002 by the Legislature as part of sections 403.71851 and 403.71852, F.S. Also, additional monies from the Household Hazardous Waste Unique and Innovative Project Grants and the Innovative Recycling and Waste Reduction Grants have been used. In May 2002, a \$200,000 contract (effective through December 2004) was signed with a Florida-based electronics recycling firm to perform a demonstration project for countywide comprehensive electronics recycling. As of December 2003 more than \$2,100,000 have been distributed to 23 counties for electronics collection and recycling programs.

There is evidence that this combined approach has accelerated the development of the reuse and recycling infrastructure in Florida and phased in development and funding of sustainable management programs for these products. For example, in 2002 the amount of lead being discarded into Florida's MSW declined for the first time since the Department began to focus on electronics in 1998 (see Appendix 8). This decline is the result of a 10-fold increase in recycling, since 2001, of television picture tubes and computer monitors. Second, almost every county that has received state grant funding for an electronics recycling program plans to continue the service with its own funds after grant funding is exhausted.

In 2002, the Department was awarded a \$37,500 grant from the Electronics Industries Alliance, a national trade association of electronic product manufacturers, to test and evaluate electronics collections held at a retail store. In partnership with Best Buy, a major national electronic products retailer, and 5 Florida counties, the Department used these grant funds to conduct 5 one or two day electronics collection and recycling events. The results of these Florida events will be compared with other Best Buy collection events that have been held around the country.

The Department continues to be a leading participant in the National Electronics Product Stewardship Initiative (NEPSI) that has worked since 2001 with manufacturers, governments, environmental organizations and recyclers to develop a sustainable financing mechanism to

support a national system for recycling end-of-life electronics products. See www.dep.state.fl.us/waste/categories/electronics for more information.

Rechargeable Nickel-Cadmium and Small Sealed Lead-Acid Batteries

Nickel-cadmium (Ni-Cd) batteries are the largest source of cadmium in Florida's MSW (see Appendix 8). Small sealed lead-acid (SSLA) batteries are a source of lead when disposed of in MSW. By law, products sold in Florida which contain Ni-Cd and SSLA rechargeable batteries must have a removable battery or battery pack and labeling information with identification and disposal/recycling information. The disposal of Ni-Cd and SSLA rechargeable batteries or products that contain them, from any source, including households, into MSW is prohibited (403.7192, F.S.).

Florida became the first state to adopt the EPA's Universal Waste Rule (40 CFR Part 273) on September 7, 1995, thus activating other battery management requirements in Florida's 1993 Solid Waste Management Act, Section 403.7192, F.S. The Universal Waste Rule streamlines regulations governing the collection and management of certain widely generated hazardous wastes (now defined as "universal wastes"), including Ni-Cd and SSLA batteries, in order to facilitate their proper collection and recycling. Manufacturers and marketers that sell rechargeable batteries or products containing those batteries in Florida are required to have permanent programs for the collection and recycling of their batteries. Annual reporting of the results of these permanent programs was required through October of 2000 and continues on a voluntary basis. See www.dep.state.fl.us/waste/categories/batteries for more information.

The Rechargeable Battery Recycling Corporation (RBRC) manages a rechargeable battery recycling program in Florida and throughout the U.S. and Canada. This recycling program is funded by a license fee paid by all battery manufacturers. The program includes free rechargeable battery recycling for county/municipal and retail participants and a partially funded recycling program for commercial/institutional generators. As of November 2003, there were 1,993 collection sites (including many county household hazardous waste and solid waste facilities) in nearly every Florida county. Many of these sites are battery and electronics wholesale and retail outlets. Florida's Ni-Cd battery recycling rate is estimated to be about 18% for 2002, with the annual average rate for the period 1995-2002 at about 15%. In 2002, the amount of cadmium being discarded into Florida's MSW declined for the first time since 1998, largely due to increased Ni-Cd battery recycling.

The Department has successfully worked in cooperation with the Portable Rechargeable Battery Association (PRBA) and RBRC to expand their Ni-Cd battery recycling program to include SSLAs and other battery chemistries. On January 1, 2001 the RBRC program began accepting SSLAs, nickel-metal hydride (NiMH) and lithium ion (Li-ion) rechargeable batteries. Now a battery purchaser can receive information on various recycling programs for all their rechargeable battery discards from one phone call (1-800-8BATTERY) or website (www.rbrc.org). The Department encourages an industry-wide approach to battery management since it appears to improve cost effectiveness, especially for smaller battery manufacturers and marketers. Florida's estimated SSLA battery recycling rate increased to its highest level on record at about 20% for 2002, with the annual average rate for the period 1995-2002 at about 10%.

Lead in Vehicular Lead-Acid Batteries

Vehicular lead acid (VLA) batteries are typically larger than SSLAs and contain a liquid acid electrolyte. They are prohibited from disposal in landfills or municipal waste combustors (403.708, F.S.). Retailers who sell these batteries are required under 403.7185, F.S., to collect a fee of \$1.50 for each battery sold which contributes to the state's Water Quality Assurance Trust Fund. Battery retailers are also required to take back spent batteries as trade-ins. In addition, some scrap dealers buy back spent lead-acid batteries. Also, county programs accept these batteries at many solid waste facilities or household hazardous waste collections centers.

A mature, close-looped recycling infrastructure that is driven by economic incentives within the lead-acid battery industry and convenient collection locations ensures that nearly all lead and plastic casings that are reclaimed from recycled batteries are used to make new batteries. According to the Battery Council International, the lead acid battery manufacturers trade association, "the typical new lead-acid battery contains 60 to 80 percent recycled lead and plastic" (www.batterycouncil.org/recycling.html).

The recycling rate for VLA batteries has been estimated by the Battery Council International to exceed 97% nationally since 1997. No estimates of the recycling rate in Florida are known for VLA batteries, but the rates are believed to be consistent with the national average. A single VLA battery may contain more than 20 pounds of lead. VLA and SSLA batteries are estimated to be the second largest (behind TV and computer monitor cathode ray tubes) source of lead in Florida's MSW stream even with this very high estimated recycling rate (see Appendix 8).

Operation Cleansweep

Operation Cleansweep, run jointly by the Department of Agriculture and Consumer Services and the Department of Environmental Protection, provides farmers, nurseries, golf course operators, and pest control services a safe and economical way to dispose of their cancelled, suspended, and unusable pesticides. Proper disposal can be costly and a regulatory burden for small farmers and other pesticide users. Operation Cleansweep offers an opportunity to avoid these formidable barriers and to promote safe and environmentally sound pesticide use, handling, and disposal. The main goal of Operation Cleansweep is to protect agricultural workers, emergency responders, the public, and the environment from potential health and environmental threats from these stored pesticides. Some of these materials are very old and may be in deteriorating containers. Some, such as chlordane and DDT, are no longer allowed to be used. Others are no longer usable due to changes in the product during long term storage or changes in farming practices. Another goal is to reduce the need for future Operation Cleansweep collections by preventing the creation of unusable pesticides in the first place. Participants receive printed educational materials that include tips on purchasing only as much pesticide product as is needed; proper labeling, storage, and handling techniques; and information for responding to leaks, spills, and exposure incidents.

More than 40 private and public partners have worked together through Operation Cleansweep since 1995 to rid the state of 695,000 pounds (nearly 350 tons) of stored cancelled, suspended, and unusable pesticides from almost 1,150 participants in 62 counties. More than \$733,000 (\$658,000 in state funds; \$75,000 in private funds) has been spent for collection and disposal with public and private partners donating their time for planning, event support and staffing. With an average load of about 500 pounds, each participant saved at least \$2,000 since otherwise they would have had to pay 4 or 5 times more than the state contracted disposal price. Prior to 2003, pesticides were collected at specific locations, selected by the public and private partners

serving on a Steering Committee, on the basis of need, availability of a site and other logistical constraints. Beginning in 2003, pesticides were collected at the participant's facility and transported and disposed properly by a state-selected contractor. This service change improved both the safety and convenience of Operation Cleansweep. Operation Cleansweep was funded by the 2003 Legislature for \$100,000. In 2004, Operation Cleansweep program will continue to provide pickup service to participants statewide on an as-need basis (participants sign up in advance) rather than holding collections on particular days in particular locations. See www.dep.state.fl.us/waste/categories/cleansweep-pesticides for details on Operation Cleansweep participants, quantities and costs of the 1995 statewide lead arsenate collection program, the 1996-1998 pilot collections, the 2000-2001 and 2001-2002 strategic campaigns, and the 2003 collection services.

USED OIL RECYCLING PROGRAM

Introduction

Florida's comprehensive, statewide Used Oil Recycling Program is recognized as one of the most successful in the United States and serves as a national and international model. The Florida Department of Environmental Protection (DEP) has implemented a used oil management program under Sections 403.75 through 403.769, Florida Statutes (F.S.), since 1984.

Section 403.756, F.S., requires the Department to "submit an annual report to the Legislature which summarizes information on used oil collection and recycling, analyzes the effectiveness of this act, and makes recommendations for any necessary changes." A complete detailed "stand-alone" report on the Department's Used Oil Recycling Program has been submitted, under separate cover, to the Governor and Legislature. The full report, as well as past annual reports and all fact sheets and forms used in this program, are available via the department's web site at:

http://www.dep.state.fl.us/waste/categories/used_oil/default.htm. Below is a summary of the important data and major activities taken from the full report.

Program Overview

The 1988 Solid Waste Management Act substantially changed public policy toward solid waste management and used oil collection, management, transportation and recycling. New initiatives included a 5% price preference for the purchase of recycled and re-refined used oil by state and local governments, as well as some limited liability exemptions for businesses which accept used oil from the public. Retailers who sell over 500 gallons of oil annually are required to post signs which display the State's toll free number 1-800-741-4DEP (4337). This number uses a voice mail system to provide the locations of all public used oil collection centers in Florida, indexed by post office zip code.

Florida law contains several bans on the disposal of used oil. Since October 1, 1988, it has been unlawful for used oil to be discarded into sewers, drainage systems, septic tanks, surface or ground waters, watercourses, or marine waters. It cannot be mixed or commingled with solid waste to be disposed of in landfills, except for those instances wherein the disposal occurs unknowingly, or is approved by the Department (such as in the case of emergency clean-up of accidental oil spills). Used oil cannot be mixed with hazardous substances or hazardous wastes that make it unsuitable for recycling or beneficial use. It cannot be used for road oiling, dust control, weed abatement, or other similar uses that may release used oil into the environment.

Chapter 62-710 of the Florida Administrative Code (F.A.C.), addresses used oil management and implements the provisions of state law. It establishes a program for registration, record keeping and reporting by handlers of used oil; certification of used oil transporters; and permitting of used oil processing facilities. The federal used oil management standards which are found in Chapter 40, Part 279 of the Code of Federal Regulations (CFR) are adopted by reference in Rule 62-710.210, F.A.C., effective June 8, 1995.

Looking at the Department's used oil recycling program over time indicated that although the number of regulated parties remains relatively stable, the amount of used oil recycled per capita continues to grow.

Public Used Oil Collection Centers (PUOCCs)

As of December 2002, Florida had a statewide network of 1,055 PUOCCs. The Department has worked closely with all county Used Oil Coordinators, the Florida Petroleum Council, the Florida Petroleum Marketers Association, and others in the quick-lube oil-change business in establishing this network. As a result of this effort, all but four (rural) counties have more than one location where used oil can be taken for recycling. Major oil companies and hundreds of independent service stations, auto repair shops, quick-lube shops and auto parts retailers have volunteered to become public used oil collection centers. Despite slight fluctuations in the number of active PUOCCs over the years, the quantity of used oil collected from household Do-It-Yourselfers (DIYers) continues to increase annually.

PUOCCs accepted 3,045,199 gallons of used oil in calendar year 2002. This is an increase of slightly more than 8% for the year, one of the largest increases in the PUOCC Program's history. It is difficult to estimate the number of DIYers in Florida. The Department applies a stringent estimate of 4 oil changes per year per DIYer. The Department feels that in Florida, because of the size of its retirement age population, the booming quick lube service business, and large lease fleets, the number of DIYers is probably close to 15%. The Department estimates that Florida DIYers generate approximately 8 million gallons of used oil. This means that Florida is now collecting about 38% of the used oil generated by DIYers

Annual Reports for Calendar Year 2002

As of December 2002, 125 individual private and public businesses were included in the registration database, 10 of which are based outside of Florida. This is not significantly changed from 2001. A continuing trend is that larger companies with greater financial resources are diversifying their handling operations and maintaining branch facilities throughout the state while small operations with limited resources are quitting this industry and turning over their customer base to the larger companies.

Types and Quantities of Used Oil Generated by Source

In calendar year 2002, 150,484,128 gallons of used oil and oily wastes were reported to have been collected. Automotive used oil and oily waste made up 32.8% of the total amount collected, including 3,045,199 gallons collected from over 1,000 Public Used Oil Collection Centers. Approximately 27.8% of the total was industrial oil collected from bulk petroleum and various industrial facilities, and other sources. The remaining 39.4% of the total was of the mixed type generated by commercial sources (i.e., a combination of automotive and industrial oils).

Disposition of Used Oil

Of the 150,484,128 gallons of used oil reported to have been collected in Florida during 2002, about 38,132,969 gallons represent a duplication of data which occurs when used oil transporters report their collections to the Department and the oil is not end-used but rather is transferred to a another facility. The receiving facility then also reports this same quantity as having been collected at that site. When the on-hand inventory is included and the transferred quantity is removed from the data, a total of 118,068,655 gallons of used oil and oily wastes were reported as collected for management. On the other end, 123,224,138 gallons of used oil are reported as being managed (recycled or disposed). This

leaves a difference of 5,155,483 gallons. According to information provided by industry, there is always a degree of error in tracking used oil because of differences in measuring loads of used oil which are intrinsic to the used oil industry. Most transporters use dip sticks to estimate volume during pick-up and transit. Processors use a more sophisticated measure, using actual weight from certified scales in determining a price per load. It is not uncommon for transporter estimates to differ by 6-12% from the final measured volume, with the mean falling around 7%. The error in this year's annual report calculates to approximately 4.2% of the total quantity reported as collected. This error is well within the expected industry margin and reflects the Department's efforts to increase the accuracy of its data collection and management.

Of the 123,224,138 gallons of used oil and oily waste reported as being managed, 60,484,659 gallons (49.1%) were recycled as follows:

- 44,420,155 gallons (73.5%) were marketed as an on-specification used oil fuel
- 4,066,695 gallons (6.7%) were recycled as an off-specification used oil fuel
- 11,997,809 gallons (19.8%) were marketed for other industrial uses (e.g. phosphate beneficiation)

The remaining 59,152,542 (48.0% of the total amount of used oil reported managed) ended up as oily wastes. Oily wastes make up 48% of the volume in Florida because industry aggressively seeks to recover used oil from many watery waste streams which are abundant in the state but are not typically used oil (e.g. oil/water separator liquids and large amounts of condensation water from petroleum storage tanks). Oily wastes were managed as follows:

- 283,550 gallons (0.5%) were landfilled (non-liquid sediment)
- 5,704,889 gallons (9.6%) incinerated
- 53,164,103 gallons (89.9%) were treated as industrial wastewaters

The trends of oily waste disposal options (landfill, incineration and wastewater treatment) still reflect a stable management scheme in Florida. The Department is comfortable with what this data indicates. The management of oily waste through wastewater treatment facilities (nearly 90% of all oily waste disposal) seems to offer a more refined, controllable, and environmentally benign method of oily waste management when compared to landfilling and incineration. A slight increase in oily waste disposal through incineration is most likely due to an increase in tank sludges.

The 3,589,937 gallons missing from the management scheme when one adds the oil reported as recycled with that reported disposed of is accounted for in the end of year inventory.

Used Oil Filters

Businesses that collect and recycle used oil filters (UOFs) are encouraged to submit their data to the Department. There are a number of difficulties in deriving conclusions with a high degree of confidence from that data. First, as the Department's authority to regulate UOFs extends only to the oil trapped within the filter, the reporting of such data is voluntary. Second, UOFs are collected in a

number of different ways (e.g. barrels, drums, roll-off or bins of crushed, uncrushed or shredded filters) and the data are reported using barrel equivalents (1 barrel equals a certain number of filters) and tonnage conversions (converting weight to numbers of filters). Hence, the numbers generated can only be approximations. Furthermore, staff has been unable to obtain sales figures of new oil filters in Florida as the companies consider this proprietary information involved in this business. As a result, staff can only estimate the number of filters generated in the state. Finally, data on filters generated in areas of the state serviced by waste-to-energy facilities are not reported at all (used oil filters are banned from landfill disposal, but may be placed in the trash if that trash goes to a municipal combustor, or waste-to-energy facility). This is assumed to be a significant number of filters as approximately 16% of all solid waste generated in Florida is burned for energy recovery (DEP Solid Waste Management in Florida, 2000).

Even though the actual reporting mechanisms are weak, the Department continues to use a very liberal estimate of UOF generation in Florida (assuming four filter changes per year for the 15 million vehicle registrations estimated for 2001 by the Florida Department of Highway Safety and Motor Vehicles). Based on this assumption, the Department now estimates that approximately 60 million UOFs are generated in Florida per year.

From the data reported, approximately 22,973,211 UOFs were collected (diverted from landfill disposal). This accounts for approximately 38% of the UOFs generated in Florida. Most of the filters reported to have been collected were sent to U.S. Foundry in Miami-Dade County, where they are recycled into gray steel to produce “man-hole” covers and similar products. The prohibition against the landfill disposal of used oil filters has resulted in the recycling, rather than disposal, of approximately 16,818 tons of steel in 2002. About 124,198 gallons of used oil, trapped within the filter, were collected during the management of these filters and handled under the used oil management standards.

Trends

Figure 14 shows the trends of used oil management in Florida from 1984 to present. Overall, the trends (collection, recycling and disposal) show a steady increase in volume over time. This is to be expected, given Florida’s steady population growth.

It is difficult to correlate increased rates of used oil recycling to population growth due to many variables. Variables resulting in reduced oil changes include extended vehicle service schedules for newer cars (significant in Florida’s large rental fleets) and for those consumers using the new, synthetic oils which have a longer life, the use of on-board, in-line oil filtration systems by truck fleets, and the growth of on-site used oil reconditioning and recycling technologies increasingly employed by industry. Nonetheless, the rate of growth in the volume of used oil collected seems to at least keep pace with the population growth rate.

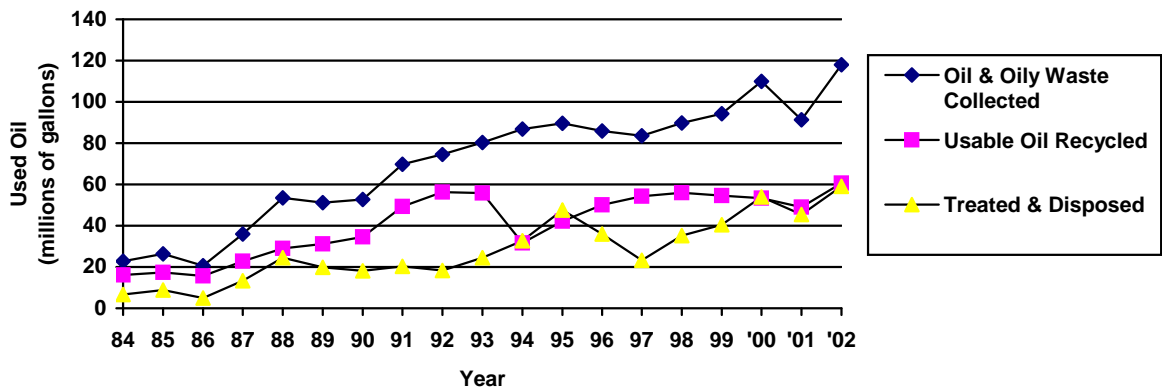


Figure 14 Used Oil Management in Florida, 1984-2002

A significant adjustment is evident between 1993 and 1995. It was during this time that the Department promulgated amendments to the Used Oil Management Standards (Chapter 62-710, F.A.C.) and, at the same, adopted standards for the management of Petroleum Contact Water (PCW) in Chapter 62-740, F.A.C. The changes in definitions of used oil, oily wastes, and PCW, along with the fine tuning of the data collected by the Department regarding these activities, resulted in a major data shift. The trend since the shifts during rulemakings is interpreted by the Department to be very positive in that the amount of oil actually recycled remains relatively stable. The apparent spike in 2000 and subsequent dip in 2001 are not clearly understood but are thought to be insignificant in that the overall positive trend continues. Some glitches in data collection occur as new and different oil handlers are forced to categorize their handling operations within the strict confines of the reporting fields established by the Department, but it is reassuring to note that the volumes reported collected, recycled and disposed of reconcile to within a 4.2% margin of error. Refer to Appendix 9 for a summary of the used oil data reported to the Department.

LOCAL HAZARDOUS WASTE COLLECTION CENTER GRANT PROGRAM

Background

The Local Hazardous Waste Collection Center Grant Program (403.7265, F.S.) started in 1985 with a \$500,000 appropriation to establish a statewide network of local and regional hazardous waste collection centers. These facilities collect and manage non-regulated hazardous waste from households and minimally regulated hazardous waste from small businesses. The waste is called Household Hazardous Waste (HHW) and Conditionally Exempt Small Quantity Generator (CESQG) waste. Also, the centers educate citizens about the proper use, storage, and management of their household hazardous products and encourage good purchasing practices to reduce waste volume and toxicity.

The level of service and technical expertise at permanent collection centers, operated by local (county) governments, increases each year the facility is in operation. Centers are being enlarged to handle new waste streams such as marine and highway emergency flares and used and unwanted electronics. New equipment is being installed such as paint can crushers, aerosol can puncturing/draining devices, and antifreeze recycling machines. More counties are hiring chemists to staff the permanent facilities which are open 5-6 days per week and are establishing transfer facilities, open 3-5 days per week, for collections. Cost of operations has decreased, as on-site chemists are qualified to sort, bulk, or pack the wastes into drums and sub-contract out various waste streams such as used motor oil or lead-acid batteries.

Recycling is an important component of the collection center operations. Several programs have "swap shops" where reusable products such as aerosols, polishes, waxes, paints, lawn care and pool products are given away (only if in their original containers with all the labels in tact). Antifreeze is recycled and reused in county vehicles. Vehicle and rechargeable batteries, used oil, and fluorescent lamps are sent to licensed recyclers. County Departments also use automotive, lawn care and paint products internally when possible.

Paint, the most prolific waste stream collected, is being recycled and reused in a variety of ways. Most of the oil-based products are bulked and shipped off-site for fuel blending. Several counties reprocess the latex paint for distribution to the community. Eight counties send their paint to several different Florida paint manufacturers where the paint is mixed, re-manufactured and packaged as a post-consumer product containing as much as 95% recycled paint. One of these counties partners with their local code enforcement office, so that residents receiving code violation notices about peeling or chipping paint also receive free recycled paint for repainting their homes. Lastly, a county is reusing latex paint as alternative daily landfill cover. According to the county, it works better at controlling flying debris and odor than the specialized formulated product they were purchasing.

Nine Florida counties (Martin, Lake, Monroe, Marion, Leon, Volusia, Polk, Okaloosa and Broward) are complimenting their permanent collection center operation and periodic one-to-two day collection events with mobile unit collections. The county vehicles, trucks, large vans, trailers and ambulances have been customized for the safe collection and transportation of HHW. In addition to providing HHW collections at convenient locations, the vehicles' eye-catching side murals and lettering provide advertising for county HHW management programs.

The Unique Activities and Innovative Projects Grant Program has funded mobile collection units, pilot collections for end-of-life electronic equipment and pesticides, collection and management of boater safety flares and ammunition, and collection and recycling programs for fluorescent lamps, freon, used motor oil and filters. This grant program not only funds local efforts but also state and national projects like the Florida HHW database and the non-refillable propane cylinder product stewardship initiative. Several public awareness and educational programs promoting both the proper management of HHW and the reduction of hazardous waste generation have also been funded through this program.

Types of Funding

- **Hazardous Waste Collection Center Grant**
Up to \$100,000 per county for constructing one or more safe, secure operational hazardous waste collection centers.
- **Cooperative Collection Center Arrangement Grant**
Up to \$35,000 per grant to reimburse 75% (with a \$25,000 limit) of a smaller county's collection event. The host County, experienced in hazardous waste collections, is reimbursed up to \$10,000 for assisting the neighboring county in holding its collection.
- **Unique Activities and Innovative Project Grant**
Up to \$50,000 per grant with the county providing a 100% match. Funding is only available to counties that are operating permanent hazardous waste collection centers and is in addition to Hazardous Waste Collection Center Grants and Cooperative Collection Center Arrangement Grants.
- **Grants to reimburse expenses associated with local hazardous waste management**
Available to counties with established operational permanent facilities under the Hazardous Waste Collection Center Grant but have received funding less than their \$100,000 limit.

Requirements for the Hazardous Waste Collection Center Grant

- Contracting with a licensed, insured private hazardous waste management company that will be responsible for collecting hazardous waste and assuring the delivery of that waste to permitted recycling, storage, treatment or disposal facilities.
- Guaranteeing operation of the collection center for two years after the facility is constructed, including at least two days per year when HHW will be accepted from private citizens (non-business) at no charge. These "free collection days" will be well advertised to encourage private citizen participation.
- Offering at least two advertised collections per year when CESQGs can bring their hazardous waste to the collection center in order to obtain a reduced fee for proper management of the waste at permitted facilities.
- Working with a hazardous waste management company to establish expanded collection route services such as a "milk run" pickup service for small quantity generators of hazardous waste.

The hazardous waste collection center grant program history, funding summary and map can be found in Appendix 10, 11, and 12.

FLORIDA'S POLLUTION PREVENTION PROGRAM

Definition of Pollution Prevention

Pollution Prevention (P2) is a management tool that eliminates, conserves or reuses materials. This is accomplished by replacing toxic ingredients in a manufacturing process with less, or non-toxic materials, and conserving, reusing or reducing the use of materials that are the source of pollution. Ideally, businesses using the P2 approach generate products or services without generating toxic emissions or hazardous waste.

This process should be viewed as an essential part of daily operations as well as a long-term strategy. When implemented, a P2 facility plan should increase efficiency of business operations and consequently provide a competitive edge in the marketplace. Long-term cradle-to-grave liabilities, hazardous waste management fees, and clean-up costs resulting from improper disposal of hazardous substances are reduced or eliminated. Worker exposure to toxins may be reduced. Lower raw material and labor costs may also result.

Facilities employ a progressive strategy of source reduction, waste minimization and on-site recycling to achieve P2 goals. Source reduction occurs when chemicals and processes that produce waste are not used or are replaced with ones that produce less waste. Waste minimization simply involves changing products or processes to decrease waste generation. On-site recycling is the reuse of materials or other resources to reduce waste. Water and energy conservation are considered P2 as well.

Legislative Background

In 1992, the Florida Pollution Prevention Act (403.072, F.S.) was passed to encourage source reduction (preventing and reducing pollution at its source), waste reduction, resource conservation, and energy efficiency. It also expanded the Department's technical assistance activities, directed all state and local agencies to pursue prevention strategies, and allowed financial and proprietary data collected during on-site technical assistance visits to be confidential. The 1998 Legislature expanded these directives by establishing an assistance program designed to aid in reducing the amount and toxicity of hazardous waste generated in the State.

The Pollution Prevention Program

The Pollution Prevention Program offers non-regulatory technical guidance and education to Florida industries, governments, and citizens.

The P2 Program's many technical services include:

- on-site pollution prevention assessments that identify P2 opportunities, analyze economic and environmental benefits, and assist in developing a facility P2 plan or an Environmental Management System (EMS);
- training for private organizations and local governments interested in starting a P2 program;
- independent research tailored to a specific P2 inquiry; and

- technical data such as tip sheets, industry articles, case studies and Best Management Practices.

Outreach activities include:

- an annual *Statewide Pollution Prevention Conference* featuring prominent speakers from P2 and related fields;
- *Leaders in Pollution Prevention*, a recognition and awards program for Florida facilities;
- the electronic newsletter, *P2 Links*, and
- co sponsorship of statewide activities during National Pollution Prevention Week.

Staff members are also available as speakers for industry workshops and government seminars, or to write articles for trade journals.

For additional information, contact the P2 Program directly at 850-245-8719, by message at 800-741-4337, or through the P2 Program's web site at www.dep.state.fl.us/waste/categories/p2.

P2 Program Staffing

Four full-time engineers with backgrounds in chemical, environmental, and industrial engineering and three part-time retired engineers with extensive industrial experience provide technical assistance to Florida businesses. An environmental specialist conducts outreach activities. The program manager oversees administrative functions.

District P2 Coordinators

In addition to the P2 Program staff located in Tallahassee, each of the six Department districts has a P2 Coordinator. These coordinators work extensively with local governments and industries and participate in statewide projects with the P2 Program.

Partnerships and Projects

In Fiscal Year 2002-2003, a total of 102 facility sites were assessed by the P2 Program and district P2 coordinators. Most efforts focused on small businesses because they have fewer resources to research and implement pollution prevention options. The P2 Program also represents EPA Region 4 on the National Pollution Prevention Roundtable's Board of Directors and participates in compliance assistance and EMS workshops held by the Department of Defense.

With funding from state and federal sources, the P2 Program has embarked on numerous research, development and outreach projects designed to bring the latest P2 advancements to facilities throughout Florida. The resulting partnerships with industries, trade associations, non-profit organizations, and government agencies at all levels have been a critical factor in the P2 Program's continued success. Current projects and related partners include the following:

- As a *champion* in the Hospitals for a Healthy Environment (H2E) program, the P2 Program is recruiting Florida participants and conducting on-site hospital assessments. Partners include Florida hospitals listed at the P2 Program web site, the U. S. EPA, and the Florida Hospital Association.
- A guide to educate personnel in commercial buildings about environmentally responsible operations and maintenance practices is now available. Partners include the Florida Green Building Coalition and Florida Solar Energy Center.

- The Green Lodging project, an environmental certification and awards program. Partners include the Department's Recycling Program, the Florida Hotel and Motel Association, the Florida Water Management Districts, the Solid Waste Management Association of North America (SWANA), utility companies, and other organizations.
- Best Management Practices are being developed for vehicle wash facilities in conjunction with the Department's Division of Water Resources.
- A report on the magnitude of flame retardant chemicals used in Florida will be available soon.
- Green Engineering workshops to integrate pollution prevention into Florida's university level courses are underway. Partners include the EPA Green Engineering Program and Florida universities.

Upcoming projects and partnerships include the following:

- An EMS will be developed for a state agency and progress will be documented throughout the project by the University of Florida's TREEO Center.
- Compliance Assistance and EMS workshops will be held in DEP's Northwest District as part of a pilot project to reduce hazardous air pollutants.
- BMPs will be drafted for the recycling of gasoline at automobile auction sites, prior to it becoming a waste. Partners include automobile salvage facility trade associations, automobile insurance companies, and auction facilities.
- A *P2 Self Assessment Guide*, sponsored by the Florida Pollution Prevention Roundtable (FLPPR).

National Pollution Prevention Week 2003

P2 Week 2003 with its statewide theme of *Conserving Energy Prevents Pollution* was sponsored by the P2 Program, in partnership with FLPPR and participating local governments. EPA grant funds received by the P2 Program were used to purchase enviro-wheels that provided energy saving tips and promoted the Roundtable web site (www.flppr.org).

APPENDIX

Appendix 1: Summary of Regulations for Generators of Hazardous Waste

| | CESQG | SQG | LQG |
|--|---|---|--|
| Quantity Limits | <100 kg/month <1 kg acute <100 kg acute residue or contaminated soil §§261.5(a) and (e) | between 100-1,000 kg/month | §262.34(d) \$ 1000 kg/month >1 kg/month of acute hazardous waste >100 kg/month of acute spill residue or soil Part 262 and §261.5(e) |
| EPA ID Number | Not required §261.5 | Required §262.12 | Required §262.12 |
| On-Site Accumulation Quantity | <1,000 kg <1 kg acute | <100 kg acute spill residue §§261.5(f)(2) and (g)(2) < 6000 kg | §262.34(d)(1) No Limit |
| Accumulation Time Limits | None | §261.5 <180 days | §§262.34(d) and (e) <90 days §262.34(a) |
| Storage Requirements | None | §261.5 Basic requirements with technical standards for tanks or containers §§262.34(d)(2) and (3) | Full compliance for management of tanks, containers, drip pads, or containment buildings §262.34(a) |
| Off-site Management of Waste | State approved or RCRA permitted/interim status facility | §§261.5(f)(3) and (g)(3) RCRA permitted/interim status facility §262.20(b) | RCRA permitted/interim status facility §262.20(b) |
| Manifest | Not required §261.5 | Required §262.20 | Required §262.20 |
| Biennial Report | Not required §261.5 | Not required §262.44 | Required §262.41 |
| Personnel Training | Not required §261.5 | Basic training required §262.34(d)(5)(iii) | Required §262.34(a)(4) |
| Contingency Plan | Not required §261.5 | Basic plan §262.34(d)(5)(i) | Full plan required §262.34(a)(4) |
| Emergency Procedures | Not required §261.5 | Required §262.34(d)(5)(iv) | Required §262.34(a)(4) |
| DOT Transport Requirements | Yes (if required by DOT) | Yes §§262.30-262.33 | Yes §§262.30-262.33 |

Appendix 2: Overview of Legislative History and Activities

The Water Quality Assurance Act of 1983 required the Department of Environmental Protection to coordinate with the Regional Planning Councils (RPCs) and county governments in conducting county and regional hazardous waste management assessments (403.7225, F.S.). The Legislature appropriated 2.16 million dollars for this program. The assessments were phased in over a three-year period. Work was completed on all the counties' initial assessments on July 31, 1987.

This program, known as the Local Assessment, Notification and Verification Program for Small Quantity Generators, continues today and is discussed in more detail on page 5.

The 1985 Legislature, recognizing the need for the local collection and temporary storage of small quantities of hazardous waste, established the Local Hazardous Waste Collection Center Grant Program (403.7265, F.S.), as a strategy for setting up a local hazardous waste collection center network statewide.

The 1986 Legislature amended Section 403.7234, F.S., and authorized the Department to regulate small quantity generators (SQGs) to ensure proper hazardous waste management in a manner consistent with federal requirements. The counties were given authority to collect fines from any small quantity generator that did not disclose information to the counties as to the types of, quantities of, and management practices of hazardous waste generated. Fines collected are to be used for the annual verification process and for local hazardous and solid waste management programs.

The 1987 Legislature amended Section 403.7265, F.S., to direct the Department to recommend a site for a state multipurpose hazardous waste treatment facility by May 1, 1988. An assessment of the suitability of the storage facility sites selected by the Regional Planning Councils was also required.

The 1988 Legislature initiated new programs for waste elimination and reduction of hazardous waste (403.7223, F.S.); the establishment of used oil recycling centers (403.763, F.S.); and reauthorized the local hazardous waste collection center grant program by providing up to \$100,000 to each grant recipient (403.7265, F.S.).

The 1989 Legislature expanded the use of the 3% tax on the gross receipts on each privately owned permitted, commercial hazardous waste transfer, storage, treatment, or disposal facility by the host local government (403.7215, F.S.). It also recognized the designation of the Union County site for constructing and operating a multipurpose hazardous waste facility. In order to establish a centralized and coordinated permitting process for the siting, construction, and operation of a multipurpose hazardous waste facility, the Legislature passed the "Statewide Multipurpose Hazardous Waste Facility Siting Act" (Chapter 89-285, Laws of Florida, codified as Sections 403.78-403.7893, F.S.). In addition, during the 1989 Legislative Session, Senate Concurrent Resolution No. 1146 was passed. The Resolution, in summary, states there is a need for a comprehensive waste management system including a multipurpose hazardous waste treatment facility; that the Legislature has not and does not intend to enact barriers to the movement of hazardous waste or the siting of hazardous waste facilities for the proper storage, treatment and disposal of hazardous waste; and that the State will work diligently and expeditiously with the private sector toward the siting, construction and operation of such a facility. The 1989 Legislature also amended the strict prohibition on hazardous waste landfills. Untreated hazardous waste is still prohibited from being landfilled in Florida, but if the hazardous waste has undergone treatment, it may be disposed of in a permitted hazardous waste landfill.

The 1990 and 1991 Legislatures again appropriated 1 million dollars to continue the household hazardous waste collection center grant program. The 1991 Legislature also provided for additional uses of the 3% tax levied on the gross receipts of certain hazardous waste facilities (403.7215, F.S.) to strengthen local environmental programs. An amendment was also made to 403.7225, F.S., which authorized counties to impose a small quantity generator notification and verification surcharge (up to \$50) on the business or occupational license or license renewal of any firm that is classified as a small quantity generator of hazardous waste.

The 1992 Legislature again appropriated 1 million dollars to continue the Local Hazardous Waste Collection Center Grant Program.

The 1993 Legislature directed the Department to conduct a Hazardous Waste Needs and Capacity Study under 403.7895(5), F.S., to evaluate the current and future need for hazardous waste incineration capacity, including boilers and industrial furnaces burning hazardous waste fuel, in Florida. This study, submitted in November of 1994, demonstrated that the need for new commercial hazardous waste incineration facilities in Florida could not be justified.

In 1993, the Florida Legislature adopted provisions for the environmentally sound management of mercury-containing lamps, such as fluorescent lamps, and mercury-containing devices, such as mercury thermostats and thermometers (403.7186, F.S.). Incineration of such lamps from commercial and institutional sources was prohibited after July 1, 1994, and both incineration and landfill disposal of devices were prohibited after January 1, 1996. Additionally, the Department was directed to develop rules to provide criteria for the permitting of mercury reclamation facilities and to set standards for such facilities and associated collection centers. The Department was further directed to conduct demonstration projects to study the collection and recycling of these mercury-containing materials. The Department was also directed (403.7061, F.S.) to fund a pilot project, to be conducted in a local government jurisdiction served by a waste-to-energy facility, that would include the design, implementation and evaluation of programs for removing toxic materials from the waste stream prior to incineration and an evaluation of the effectiveness of the pilot program including analyses of air emissions from the waste-to-energy facility. A report on this pilot project was submitted to the Governor and the Legislature on December 1, 1995 and additional information was submitted on July 22, 1998.

In addition, the 1993 Legislature enacted new requirements for consumers, manufacturers, and sellers of batteries (403.7192, F.S.). The principal provisions were aimed at reducing mercury, cadmium and lead in municipal solid waste (MSW). They included mercury content limitations on household alkaline-manganese and zinc-carbon batteries sold in Florida as verified through annual mercury content certifications from manufacturers and importers of those types of batteries, a sales ban for mercuric-oxide button cell batteries, and mandatory unit management programs sponsored by marketers for the collection and proper disposal of larger mercuric-oxide batteries sold or distributed in Florida. Other provisions included design, labeling, and unit management (collection) program requirements for nickel-cadmium and non-vehicular sealed lead-acid rechargeable batteries and/or the products containing these batteries which are sold in Florida.

The 1993 Legislature amended 403.7265, F.S., giving the Department authority to use grant funds to assist local governments in carrying out the responsibilities of the Local Assessment, Notification and Verification Program and to promote the continued development of the local government hazardous waste management programs.

The 1994 and 1995 Legislature appropriated 2.8 million dollars to continue the Local Hazardous Waste Collection Center Grant Program and to initiate the use of grant funds to assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Programs Grant.

The 1996, 1997, 1998 and 1999 Legislatures appropriated \$600,000 for each of these state fiscal years to continue the Local Hazardous Waste Collection Center Grant Program and assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Grant.

The 1999 Legislature appropriated \$400,000 for research, innovative technologies and equipment and infrastructure development for the reuse, recycling and proper management of lead-containing materials, including cathode ray tubes in TVs and computer monitors (403.71851 and 403.71852, F.S.).

The 2000 Legislature appropriated \$600,000 to continue the Local Hazardous Waste Collection Center Grant Program and assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Grant. The Legislature also funded \$400,000 for lead-containing material recycling and innovative technology programs and \$300,000 for the Operation Cleansweep for Cancelled, Suspended and Unusable Pesticide collection program.

The 2001 Legislature appropriated \$600,000 to continue the Local Hazardous Waste Collection Center Grant Program and assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Grant. The Legislature also appropriated \$400,000 for continuing infrastructure development for the reuse, recycling and proper management of lead-containing materials, including cathode ray tubes in TVs and computer monitors and \$300,000 for the continuation of Operation Cleansweep for Cancelled, Suspended and Unusable Pesticide collection program.

The 2002 Legislature again appropriated \$600,000 to continue the Local Hazardous Waste Collection Center Grant Program and assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Grant. The Legislature also appropriated \$400,000 for continuing infrastructure development for the reuse, recycling and proper management of lead-containing materials, including cathode ray tubes in TVs and computer monitors and \$200,000 for the continuation of Operation Cleansweep for Cancelled, Suspended and Unusable Pesticide collection program.

The 2003 Legislature again appropriated \$600,000 to continue the Local Hazardous Waste Collection Center Grant Program and assist local governments through the Local Assessment, Notification and Verification Program Grant and the Expanded Local Hazardous Waste Management Grant. While legislative authority still existed, the 2003 Legislature did not provide any funding for continuing infrastructure development for the reuse, recycling and proper management of lead-containing materials, including cathode ray tubes in TVs and computer monitors. The Legislature did appropriate \$100,000 for the continuation of the Operation Cleansweep for Cancelled, Suspended and Unusable Pesticide collection program.

Appendix 3: Large Quantity Generator Hazardous Waste Management in Florida

Generation of HW by Physical Type by Year, In Tons

| Waste Type | 1991 | 1993 | 1995 | 1997 | 1999 | 2001 |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Lab packs | 293 | 456 | 316 | 1,965 | 175 | 1,153 |
| Inorganic liquid | 111,918 | 109,663 | 111,490 | 537,732 | 262,898 | 333,636 |
| Organic liquid | 62,022 | 40,024 | 25,709 | 28,852 | 16,819 | 14,882 |
| Inorganic solids | 22,125 | 16,638 | 46,581 | 65,792 | 58,735 | 44,395 |
| Organic solids | 1,078 | 1,423 | 2,240 | 1,721 | 1,876 | 864 |
| Inorganic sludges | 4,403 | 4,401 | 6,130 | 2,959 | 3,187 | 4,260 |
| Organic sludge | 665 | 668 | 800 | 1,064 | 520 | 915 |
| Compressed gases (any type) | 8 | 36 | 18 | 5 | 4 | 6 |
| Totals | 202,513 | 173,309 | 193,284 | 640,091 | 344,215 | 400,112 |

Management of HW “On-Site” by Year, In Tons

| Management Type | 1991 | 1993 | 1995 | 1997 | 1999 | 2001 |
|---|----------------|---------------|----------------|----------------|----------------|----------------|
| Metals recovery including retorting, smelting, etc. | 2,086 | 200 | 26,719 | 23,097 | 25,624 | 24,598 |
| Solvents recovery (distillation, extraction, etc) | 14,711 | 815 | 710 | 562 | 260 | 219 |
| Other recovery or reclamation for reuse | 149 | 184 | 812 | 0 | 0 | 0.3 |
| Incineration - thermal destruction not used as a fuel | 15 | 4 | 0 | 0 | 0 | 0 |
| Energy recovery on-site - used as a fuel | 7,628 | 2,947 | 0 | 7,512 | 1,585 | 1,609 |
| Fuel blending prior to energy recovery elsewhere | 591 | 24 | 0 | 0 | 124 | 0 |
| Chemical treatment | 14,466 | 3,298 | 250 | 3,223 | 5,756 | 7,143 |
| Physical treatment | 2,608 | 0 | 0 | 197,850 | 26,765 | 31,152 |
| Sludge treatment and/or dewatering | 8 | 0 | 591 | 0 | 0 | 0 |
| Stabilization or chemical fixation prior to disposal | 5 | 143 | 889 | 755 | 581 | 0 |
| Neutralization/other treatment | 1,998 | 18,334 | 983 | 34,343 | 31,426 | 1,973 |
| Discharge to UIC/Other | 68,264 | 71,342 | 96,494 | 295,087 | 191,966 | 287,572 |
| Totals | 112,529 | 97,291 | 127,449 | 562,429 | 284,087 | 354,266 |

Initially Generated HW Shipped “Off-Site” for Management, In Tons

| Year | Recurrent HW ⁶ | One-Time HW (e.g., Cleanup) ⁷ |
|------|---------------------------|--|
| 1991 | 72,912 | 5,289 |
| 1993 | 59,587 | 16,891 |
| 1995 | 57,659 | 8,031 |
| 1997 | 50,672 | 26,992 |
| 1999 | 47,694 | 12,064 |
| 2001 | 39,091 | 6,789 |

⁶ Reported by LQGs in operation throughout the entire reporting year, and is waste generated from on-going production or services processes.

⁷ Waste generated as a result of a “one-time” event, such as remediating a contaminated site or emergency clean-up of a spill.

Total HW Shipped “Off-Site” by Management Type by Year, In Tons

| Management Type | 1993 | 1995 | 1997 | 1999 | 2001 |
|------------------------------------|----------------|---------------|---------------|---------------|---------------|
| Recovery or Reclamation for reuse | 25,861 | 26,125 | 16,237 | 17,065 | 23,786 |
| Incineration - thermal destruction | 4,087 | 4,236 | 4,728 | 3,952 | 2,022 |
| Energy recovery | 25,539 | 24,791 | 22,255 | 22,772 | 12,474 |
| Treatment | 19,597 | 14,249 | 10,565 | 10,118 | 6,439 |
| Disposal | 11,338 | 5,697 | 30,656 | 14,757 | 5,670 |
| Storage/bulking/transfer (broker) | 17,363 | 10,916 | 9,924 | 6,447 | 7,888 |
| Totals | 103,784 | 86,014 | 94,365 | 75,112 | 58,279 |

In-State vs. Out-of-State (Exports) Shipments of Recurrent⁸ HW, In Tons

| Year | In-State Management | | Out-of-State Management |
|------|---------------------|-------------------------|-------------------------|
| | (Treatment) | (Transfer) ⁹ | (Exports) |
| 1991 | 29,654 | 1,990 | 41,268 |
| 1993 | 15,914 | 2,279 | 41,376 |
| 1995 | 11,435 | 4,484 | 41,740 |
| 1997 | 1,782 | 3,843 | 44,948 |
| 1999 | 2,005 | 2,771 | 42,917 |
| 2001 | 1,079 | 2,252 | 35,760 |

Total Number of Reporters (All Sites) by Report Year

| Year | Managing HW On-Site | Shipping HW Off-Site | Total # of Reporters By Year ¹⁰ |
|------|---------------------|----------------------|--|
| 1991 | 85 | 427 | 434 |
| 1993 | 102 | 453 | 455 |
| 1995 | 100 | 435 | 439 |
| 1997 | 93 | 390 | 392 |
| 1999 | 92 | 368 | 376 |
| 2001 | 59(POTW excluded) | 384 | 390 |

⁸ Only recurrent waste-does not include any clean up or “one-time” generated hazardous waste.

⁹ Based on past analyses, after this initial in-state transfer it is believed that most of this HW would have been delivered to out-of-state facilities for final management. In addition, any HW that was treated by an in-state fuel blender in 1995 and 1997 would have been shipped out of Florida for final energy recovery use. Therefore, these numbers only represent initial management of this HW and not final management.

¹⁰ Many generators manage HW on-site and also ship some HW off-site. In this case they will be counted under each of the on-site and off-site columns, but not in the total # of reporters. Therefore, the number in the total # of reporters column is not equal to the sum of the numbers in the on-site and off-site columns.

Imports of HW to Florida's Commercial HW Management Facilities by Year, In Tons

| Management Type | 1991 | 1993 | 1995 | 1997 | 1999 | 2001 |
|------------------------------|---------------|---------------|---------------|--------------|--------------|--------------|
| Metals Recovery | 0 | 0 | 130 | 330 | 466 | 51 |
| Solvents Recovery | 4,934 | 3,248 | 1,181 | 259 | 111 | 33 |
| Other (e.g., Fuels) Recovery | 12,876 | 8,601 | 6,616 | 0 | 0 | 0 |
| Energy Recovery | 10,276 | 0 | 0 | 0 | 0 | 0 |
| Fuel Blending | 5,425 | 4,776 | 4,521 | 3,288 | 1,262 | 590 |
| Transfer Facility Storage | 3,601 | 3,494 | 4,601 | 3,402 | 3,836 | 3,365 |
| Totals By Year | 37,110 | 20,120 | 17,045 | 7,280 | 5,675 | 4,039 |

Appendix 4: Estimate of SQGs and CESQGs in Florida

Figure 1 on page 2 is an estimate of the number of hazardous waste generators in Florida. This estimate was derived from two DEP data sets.

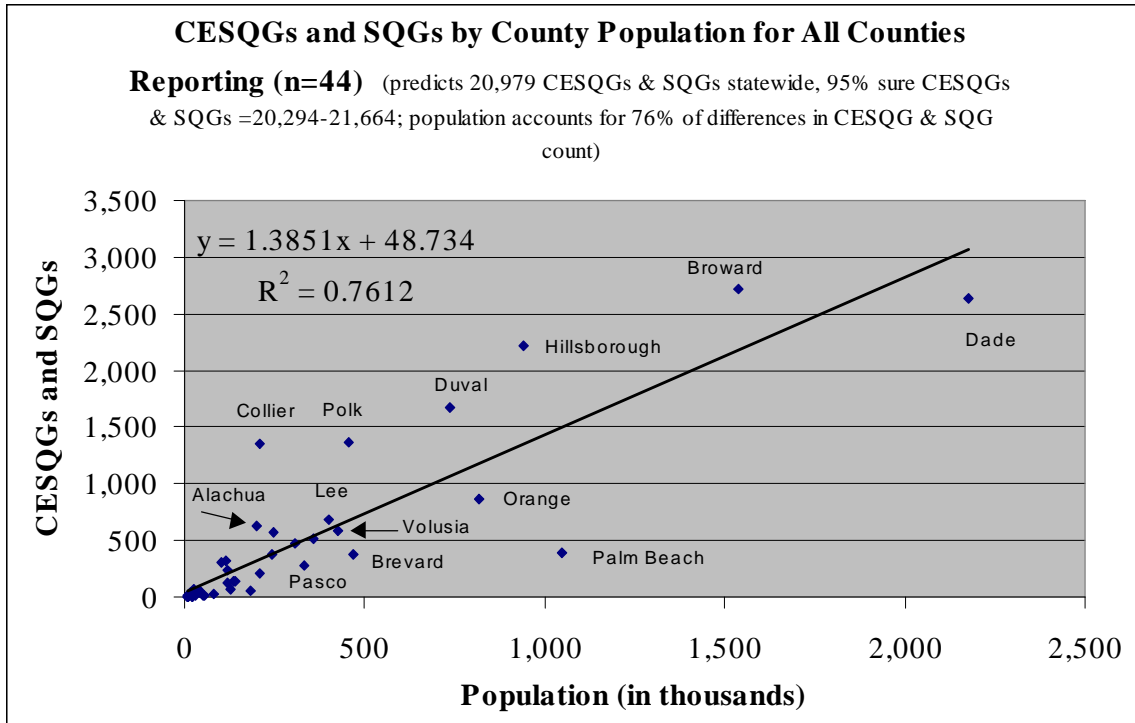
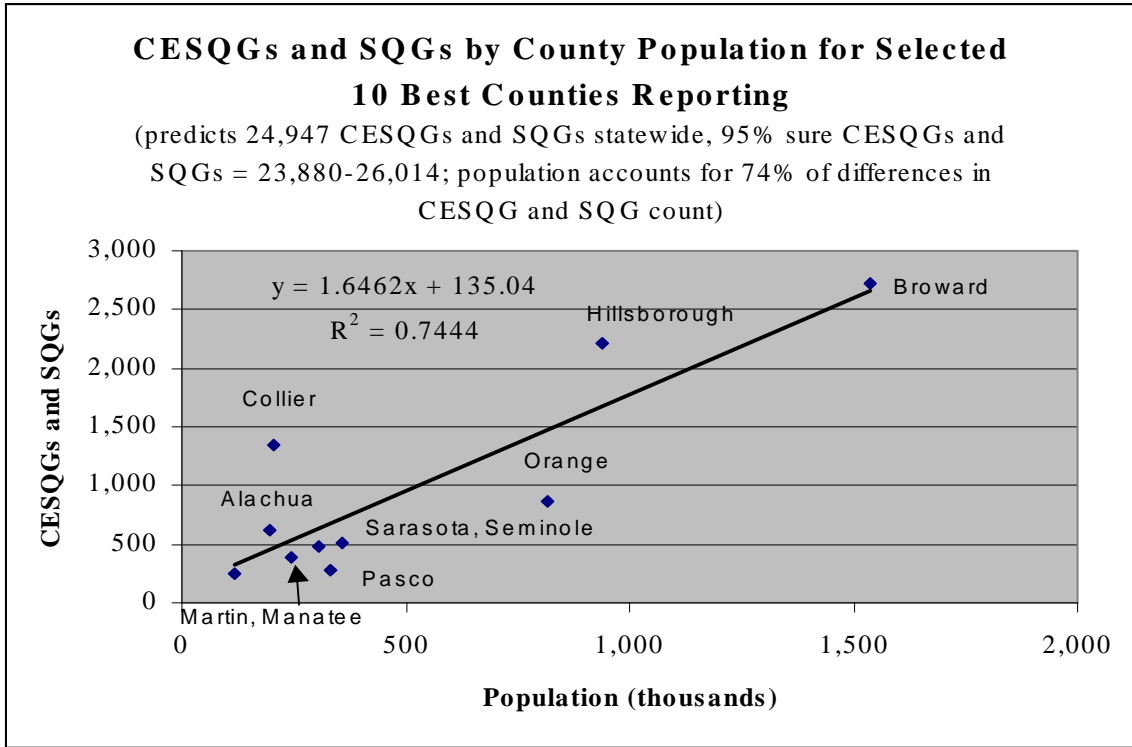
Data was reviewed from DEP's Notifier Database that contains a list of businesses that have notified DEP to request an EPA/DEP identification number. EPA ID numbers are required for all SQGs. CESQGs are not required to have EPA ID numbers. One problem with this database is that businesses are not required to re-notify DEP of their changed status. There are currently 16,475 SQGs, and 6,135 CESQGs in this database.

| DEP Notifier Database | |
|-----------------------|---------------|
| Generator Status | |
| SQG | 16,475 |
| CESQG | 6,135 |
| Total | 22,610 |

A review was also made from data submitted by county government SQG programs over a four-year period. A scale-up was made from actual on-site visits based on the approximate number of potential hazardous waste generators in Florida identified in each county's assessment roll. Based on this scale-up there are an estimated 6,400 SQGs and 27,000 CESQGs.

| County SQG Program Database | | |
|---|---|--|
| Generator Status | Actual Verified (on-site from 1995-99) | Scale Up (based on list of potential generators supplied by the counties) |
| SQG | 2,335 (6%) | 6,400 |
| CESQG | 9,895 (27%) | 27,200 |
| Non Generators | 24,146 (66%) | 66,400 |
| Total (including non- generators) | 36,376 (100%) | 100,000 |

Additionally, straight-line regressions were made using the 10 best reporting counties and for all counties reporting. The county data regression analysis predicts, when based on population, an estimated range of 20,294 to 26,014 SQGs and CESQGs in Florida.



Summary of Various Estimates of SQGs and CESQGs in Florida

| Generator Status | Notifier Data | Actual Verified (on-site from 1995-99) | Scale Up (based on list of potential generators supplied by the counties) | Regression on County Data |
|-------------------|---------------|---|--|-------------------------------|
| SQG | 16,475 | 2,335 | 6,400 | 2,635-5,026 (av. 3,831) |
| CESQG | 6,135 | 9,895 | 27,200 | 17,659-20,988 (av. 19,324) |
| Total CESQG & SQG | 22,610 | 12,230 | 33,600 | 20,294-26,014 (av. 23,154) |

Conclusion: How many SQG/CESQGs are there? Based on the analysis there are at least 12,000 generators verified by on-site visits by county governments. When correlated with population, there are about 23,000 generators (mid point of 20,294-26,014 county regression range). However, county data scale-up suggest there may be as many as 34,000 SQG/CESQGs in Florida.

Appendix 5: Summary of SQG Program Verifications (FY02/03)

| County | RCRA Generation Status | Number of Facilities |
|------------|------------------------|----------------------|
| ALACHUA | CESQG | 118 |
| | LOG | 2 |
| | SQG | 20 |
| | Non Generator | 244 |
| BAKER | NO SQG PROGRAM | 0 |
| BAY | CESQG | 53 |
| | SQG | 6 |
| | Non Generator | 202 |
| BRADFORD | CESQG | 5 |
| | SQG | 1 |
| | Non Generator | 8 |
| BREVARD | CESQG | 168 |
| | LOG | 2 |
| | SQG | 15 |
| | Non Generator | 169 |
| BROWARD | CESQG | 870 |
| | LOG | 6 |
| | SQG | 86 |
| | Non Generator | 1,151 |
| CALHOUN | CESQG | 1 |
| | Non Generator | 16 |
| CHARLOTTE | CESQG | 92 |
| | LOG | 1 |
| | SQG | 1 |
| | Non Generator | 216 |
| CITRUS | CESQG | 64 |
| | SQG | 1 |
| | Non Generator | 262 |
| CLAY | CESQG | 47 |
| | SQG | 1 |
| | Non Generator | 14 |
| COLLIER | CESQG | 248 |
| | LOG | 1 |
| | SQG | 20 |
| | Non Generator | 224 |
| COLUMBIA | NO DATA SUBMITTED | 0 |
| MIAMI-DADE | CESQG | 508 |
| | LOG | 17 |
| | SQG | 135 |
| | Non Generator | 2,192 |
| DESOTO | NO SQG PROGRAM | 0 |
| DIXIE | CESQG | 6 |

| County | RCRA Generation Status | Number of Facilities |
|--------------|------------------------|----------------------|
| | Non Generator | 15 |
| DUVAL | CESQG | 86 |
| | LOG | 8 |
| | SQG | 37 |
| | Non Generator | 723 |
| ESCAMBIA | CESQG | 22 |
| | Non Generator | 12 |
| FLAGLER | CESQG | 8 |
| | Non Generator | 13 |
| FRANKLIN | CESQG | 3 |
| | Non Generator | 9 |
| GADSDEN | CESQG | 4 |
| | SQG | 1 |
| | Non Generator | 21 |
| GILCHRIST | CESQG | 4 |
| | Non Generator | 6 |
| GLADES | CESQG | 2 |
| | Non Generator | 17 |
| GULF | SQG | 1 |
| | Non Generator | 1 |
| HAMILTON | CESQG | 4 |
| | SQG | 1 |
| | Non Generator | 7 |
| HARDEE | CESQG | 43 |
| | SQG | 1 |
| | Non Generator | 52 |
| HENDRY | CESQG | 8 |
| | Non Generator | 36 |
| HERNANDO | CESQG | 16 |
| | SQG | 1 |
| | Non Generator | 104 |
| HIGHLANDS | CESQG | 111 |
| | SQG | 3 |
| | Non Generator | 162 |
| HILLSBOROUGH | CESQG | 245 |
| | LOG | 7 |
| | SQG | 31 |
| | Non Generator | 525 |
| HOLMES | CESQG | 7 |
| | Non Generator | 24 |
| INDIAN RIVER | CESQG | 57 |
| | LOG | 1 |

| County | RCRA Generation Status | Number of Facilities |
|------------|------------------------|----------------------|
| | SQG | 1 |
| | Non Generator | 81 |
| JACKSON | CESQG | 9 |
| | SQG | 1 |
| | Non Generator | 18 |
| JEFFERSON | CESQG | 3 |
| | SQG | 1 |
| | Non Generator | 13 |
| LAFAYETTE | CESQG | 1 |
| | Non Generator | 9 |
| LAKE | CESQG | 11 |
| | SQG | 6 |
| | Non Generator | 86 |
| LEE | CESQG | 235 |
| | LOG | 1 |
| | SQG | 100 |
| | Non Generator | 7,231 |
| LEON | CESQG | 109 |
| | LOG | 2 |
| | SQG | 6 |
| | Non Generator | 124 |
| LEVY | CESQG | 7 |
| | SQG | 1 |
| | Non Generator | 20 |
| LIBERTY | Non Generator | 5 |
| MADISON | CESQG | 6 |
| | Non Generator | 18 |
| MANATEE | CESQG | 38 |
| | LOG | 1 |
| | SQG | 4 |
| | Non Generator | 225 |
| MARION | CESQG | 112 |
| | SQG | 9 |
| | Non Generator | 164 |
| MARTIN | CESQG | 58 |
| | SQG | 12 |
| | Non Generator | 100 |
| MONROE | CESQG | 8 |
| | Non Generator | 66 |
| NASSAU | CESQG | 1 |
| | Non Generator | 1 |
| OKALOOSA | CESQG | 71 |
| | LOG | 1 |
| | SQG | 10 |
| | Non Generator | 109 |
| OKEECHOBEE | CESQG | 53 |

| County | RCRA Generation Status | Number of Facilities |
|------------|------------------------|----------------------|
| | LOG | 1 |
| | SQG | 2 |
| | Non Generator | 67 |
| ORANGE | CESQG | 261 |
| | LOG | 4 |
| | SQG | 25 |
| | Non Generator | 555 |
| OSCEOLA | CESQG | 49 |
| | SQG | 1 |
| | Non Generator | 301 |
| PALM BEACH | CESQG | 1,133 |
| | LOG | 4 |
| | SQG | 83 |
| | Non Generator | 123 |
| PASCO | CESQG | 197 |
| | LOG | 2 |
| | SQG | 8 |
| | Non Generator | 377 |
| PINELLAS | NO SQG PROGRAM | 0 |
| POLK | CESQG | 163 |
| | LOG | 1 |
| | SQG | 9 |
| | Non Generator | 527 |
| PUTNAM | CESQG | 10 |
| | SQG | 2 |
| | Non Generator | 38 |
| ST. JOHNS | CESQG | 52 |
| | SQG | 14 |
| | Non Generator | 214 |
| ST. LUCIE | CESQG | 6 |
| | Non Generator | 4 |
| SANTA ROSA | CESQG | 7 |
| | SQG | 1 |
| | Non Generator | 6 |
| SARASOTA | CESQG | 282 |
| | SQG | 13 |
| | Non Generator | 297 |
| SEMINOLE | CESQG | 82 |
| | SQG | 3 |
| | Non Generator | 621 |
| SUMTER | CESQG | 30 |
| | LOG | 2 |
| | SQG | 5 |
| | Non Generator | 43 |
| SUWANNEE | CESQG | 30 |
| | SQG | 3 |

| County | RCRA Generation Status | Number of Facilities |
|------------|------------------------|----------------------|
| | Non Generator | 50 |
| TAYLOR | NO CURRENT PROGRAM | 0 |
| UNION | CESQG | 3 |
| | Non Generator | 8 |
| VOLUSIA | CESQG | 41 |
| | SQG | 4 |
| | Non Generator | 9 |
| WAKULLA | CESQG | 2 |
| | Non Generator | 8 |
| WALTON | CESQG | 13 |
| | Non Generator | 58 |
| WASHINGTON | CESQG | 4 |
| | Non Generator | 20 |

Appendix 6: Summary of Hazardous Waste Generation in Florida

Facilities Verified¹¹ 07/01/2002-06/30/2003 and Generating Exempt & Universal Hazardous Waste

| New Waste Code and Description | Pounds | Percent | Facilities |
|--------------------------------|-------------|---------|------------|
| U USED OIL (AND FILTERS) | 102,422,718 | 64.39 | 10,016 |
| B BATTERIES (LEAD-ACID) | 47,582,739 | 29.93 | 3,396 |
| A ANTIFREEZE | 4,974,605 | 3 | 2,042 |
| G GASOLINE AND FUELS | 2,025,786 | 1.27 | 267 |
| M METALS/METAL CONTAMINATED | 629,785 | 0 | 109 |
| F FIXER/FILM/DEVELOPER | 478,126 | .29 | 331 |
| N NONHALOGENATED SOLVENTS | 336,640 | 0 | 382 |
| S SOLVENTS (MIXED/OTHER) | 324,364 | 0 | 151 |
| L LAMPS (FLUORESCENT - HID) | 96,295 | 0 | 1,122 |
| H HALOGENATED SOLVENTS | 57,647 | 0 | 27 |
| E PESTICIDES | 21,022 | .02 | 80 |
| I INKS/DYES/TONER | 9,760 | 0 | 8 |
| P PAINTS/COATINGS | 8,424 | 0 | 10 |
| R RECHARGEABLE BATTERIES | 5,533 | 0 | 35 |
| O OTHER TOXIC CHEMICALS | 4,202 | 0 | 5 |
| C CORROSIVE (ACID/BASE) | 2,581 | 0 | 4 |
| T THERMOSTAT/MERCURY DEVICE | 2,529 | 0 | 24 |
| X EXPLOSIVES AND REACTIVES | 0 | 0 | 0 |
| Total for all Wastes: | 158,982,756 | | |

Facilities Verified 07/01/2002-06/30/2003 generating SQG and CESQG Fully Regulated Hazardous Waste

| New Waste Code and Description | Pounds | Percent | Facilities |
|--------------------------------|-----------|---------|------------|
| N NONHALOGENATED SOLVENTS | 2,426,885 | 32.47 | 3,595 |
| H HALOGENATED SOLVENTS | 954,547 | 12.76 | 874 |
| P PAINTS/COATINGS | 896,818 | 12 | 782 |
| O OTHER TOXIC CHEMICALS | 668,282 | 8.95 | 352 |
| F FIXER/FILM/DEVELOPER | 615,229 | 8 | 1,100 |
| M METALS/METAL CONTAMINATED | 582,003 | 7.78 | 344 |
| S SOLVENTS (MIXED/OTHER) | 547,274 | 7 | 475 |
| U USED OIL (AND FILTERS) | 199,269 | 3 | 213 |
| C CORROSIVE (ACID/BASE) | 196,433 | 2.62 | 99 |
| G GASOLINE AND FUELS | 134,734 | 1.77 | 85 |
| B BATTERIES (LEAD-ACID) | 97,591 | 1.3 | 62 |
| I INKS/DYES/TONER | 77,902 | 1 | 97 |
| A ANTIFREEZE | 33,180 | .45 | 22 |
| L LAMPS (FLUORESCENT - HID) | 16,826 | 0 | 633 |
| E PESTICIDES | 11,362 | .15 | 29 |
| W WOOD PRESERVING WASTES | 4,849 | .06 | 2 |
| X EXPLOSIVES AND REACTIVES | 2,741 | .04 | 13 |
| R RECHARGEABLE BATTERIES | 363 | 0 | 9 |
| T THERMOSTAT/MERCURY DEVICE | 303 | 0 | 13 |
| Total for all Wastes: | 7,466,591 | | |

¹¹ Verified means businesses that received an on-site visit by the county to verify their waste management practices.

Exempt and Universal Hazardous Waste Reported That May Have Been Mismanaged (In Pounds)

| Generator Status | Total Pounds Waste/Year |
|-------------------------|--------------------------------|
| SQG | 482,299 |
| CESQG | 18,043 |
| Non Generator | 29,789 |
| Totals | 530,131 |

Fully Regulated Hazardous Waste Reported That May Have Been Mismanaged (In Pounds)

| Generator Status | Total Pounds Hazardous Waste /Year |
|-------------------------|---|
| SQG | 114,419 |
| CESQG | 57,686 |
| Non Generator | 0 |
| Totals | 172,105 |

Hazardous Waste Disposal Summary for Verified Facilities¹² between 07/01/2002-6/30/2003

| Disposal Description | Count of Facilities | Pounds |
|---------------------------------------|---------------------|-------------|
| SHIPPED FOR USED OIL RECYCLING | 8,360 | 66,270,235 |
| EXEMPT RECYCLE (BATTERY, ETC) | 5,125 | 49,446,008 |
| COMMERCIAL LAUNDRY (RAGS) | 2,260 | 35,356,694 |
| SHIPPED FOR HW RCRA TREATMENT | 5,447 | 5,690,811 |
| SHIPPED FOR RCRA REUSE/RECYCLE | 1,571 | 3,779,831 |
| ONSITE RCRA PERMITTED TREATMENT | 13 | 1,137,490 |
| ONSITE RECYCLE/REUSE | 331 | 599,228 |
| WW TREATED OTHER DISPOSAL | 22 | 579,430 |
| SOLID WASTE LINED LANDFILL (DUMP) | 651 | 574,294 |
| WW TREATED TO POTW | 79 | 350,777 |
| SOLID WASTE INCINERATOR (WTE) | 640 | 281,577 |
| SENT TO C&D/UNLINED LANDFILL | 13 | 242,701 |
| ACCUMULATION - NO MANAGEMENT PLAN | 552 | 187,801 |
| UNIVERSAL WASTE (LAMP, ETC) | 471 | 176,097 |
| TAKEN TO CESQG HW COLLECTION | 372 | 150,504 |
| DISPOSAL TO SEWER | 133 | 133,916 |
| SHIPPED FOR QUESTIONABLE HW MGMT | 411 | 120,155 |
| EVAPORATION ONLY AT THIS FACILITY | 114 | 35,471 |
| ONSITE EXEMPT TREATMENT | 29 | 28,047 |
| HW FUEL BURN/BLEND AT THIS FACILITY | 14 | 13,894 |
| AWAITING DISPOSAL - PLANNED | 56 | 13,336 |
| OTHER ONSITE TDR (COMMENTS) | 26 | 12,445 |
| ONSITE LAND DISPOSAL AT THIS FACILITY | 11 | 9,623 |
| DISPOSAL TO SEPTIC TANK | 19 | 6,281 |
| MIXED WITH USED OIL (CESQG) | 38 | 5,470 |
| OPEN BURN AT THIS FACILITY | 6 | 3,969 |
| USED OIL BURNER AT THIS FACILITY | 3 | 3,239 |
| WW TREATMENT TO EVAPORATION | 12 | 2,684 |
| OTHER BAD - (HHW COLLECTION) | 11 | 2,193 |
| DISPOSAL TO SURFACE WATER | 5 | 1,898 |
| WW TREATED TO SEPTIC TANK | 1 | 1,001 |
| DISPOSAL TO GROUNDWATER | 1 | 100 |
| | | 165,217,200 |

¹² Verified means businesses that received an on-site visit by the county to verify their waste management practices.

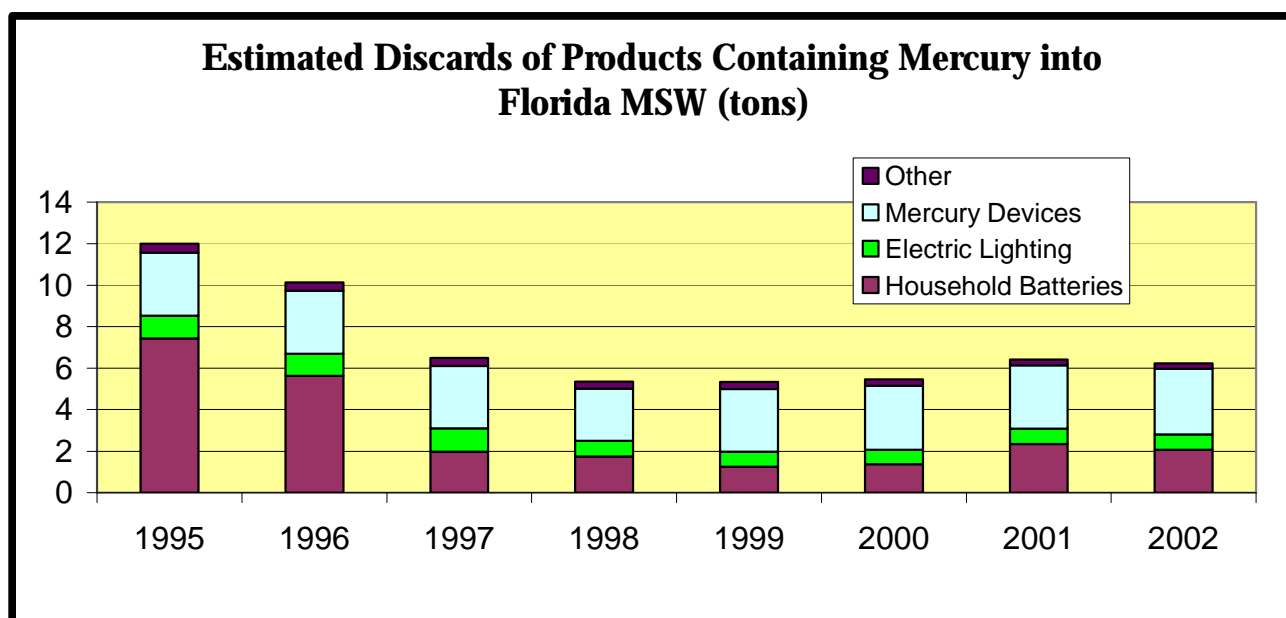
Appendix 7: SQG Program Grant Funding Summary

| County/RPC | FY95/96 | FY96/97 | FY97/98 | FY98/99 | FY99/00 | FY00/01 | FY01/02 | FY02/03 | FY03/04 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|--------------------|
| Bay | 0 | 0 | 0 | 0 | \$6,000 | 0 | \$6,000 | \$6,000 | \$6,000 |
| Broward | 0 | 0 | 0 | 0 | \$25,000 | 0 | \$25,000 | \$15,000 | 0 |
| Charlotte | 0 | 0 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$5,990 | 0 | 0 |
| Citrus | \$30,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Collier | 0 | 0 | 0 | 0 | 0 | 0 | \$50,000 | \$20,000 | 0 |
| Dade | 0 | \$18,000 | \$8,600 | \$23,400 | 0 | 0 | 0 | 0 | 0 |
| Desoto | 0 | 0 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | 0 | 0 |
| Escambia | 0 | 0 | \$25,000 | \$25,000 | 0 | 0 | 0 | 0 | 0 |
| Flagler | 0 | 0 | 0 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | 0 |
| Gadsden | \$30,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gulf | \$30,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hernando | 0 | 0 | 0 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | 0 |
| Hillsborough | \$50,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Leon | 0 | \$30,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nassau | 0 | 0 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | 0 | 0 |
| North Central Florida RPC (for Bradford, Columbia, Dixie, Gilchrist, Hamilton, Lafayette, Madison, Suwannee, Taylor and Union Counties) | 0 | \$54,000 | \$54,000 | \$49,700 | \$54,000 | 0 | 33,459 | \$16,140.60 | 27,500 |
| Orange | | | | | | | | | 0 |
| Pasco | 0 | 0 | 0 | \$50,000 | 0 | 0 | 0 | 0 | 0 |
| Putnam | 0 | 0 | 0 | 0 | \$12,000 | \$6,000 | \$6,000 | \$6,000 | 0 |
| Southwest Florida RPC(for Hendry and Glades Counties) | 0 | 0 | 0 | 0 | \$12,000 | \$12,000 | \$12,000 | \$12,000 | \$6,000 |
| St. Johns | 0 | 0 | 0 | 0 | 0 | 0 | \$6,000 | \$6,000 | \$6,000 |
| Washington | 0 | 0 | \$6,000 | \$6,000 | 0 | 0 | 0 | 0 | 0 |
| West Florida RPC(for Santa Rosa, Okaloosa, Holmes and Washington Counties) | 0 | \$18,000 | \$18,000 | \$18,000 | \$24,000 | 0 | \$12,753 | \$12,328 | 12,746 |
| Total | \$140,000.00 | \$120,000.00 | \$129,600.00 | \$202,100.00 | \$163,000.00 | \$48,000.00 | \$181,202.00 | \$105,468.60 | \$58,246.00 |

Appendix 8: Estimated Discards of Mercury, Cadmium and Lead Products in the Florida Municipal Solid Waste Stream, 1995-2002

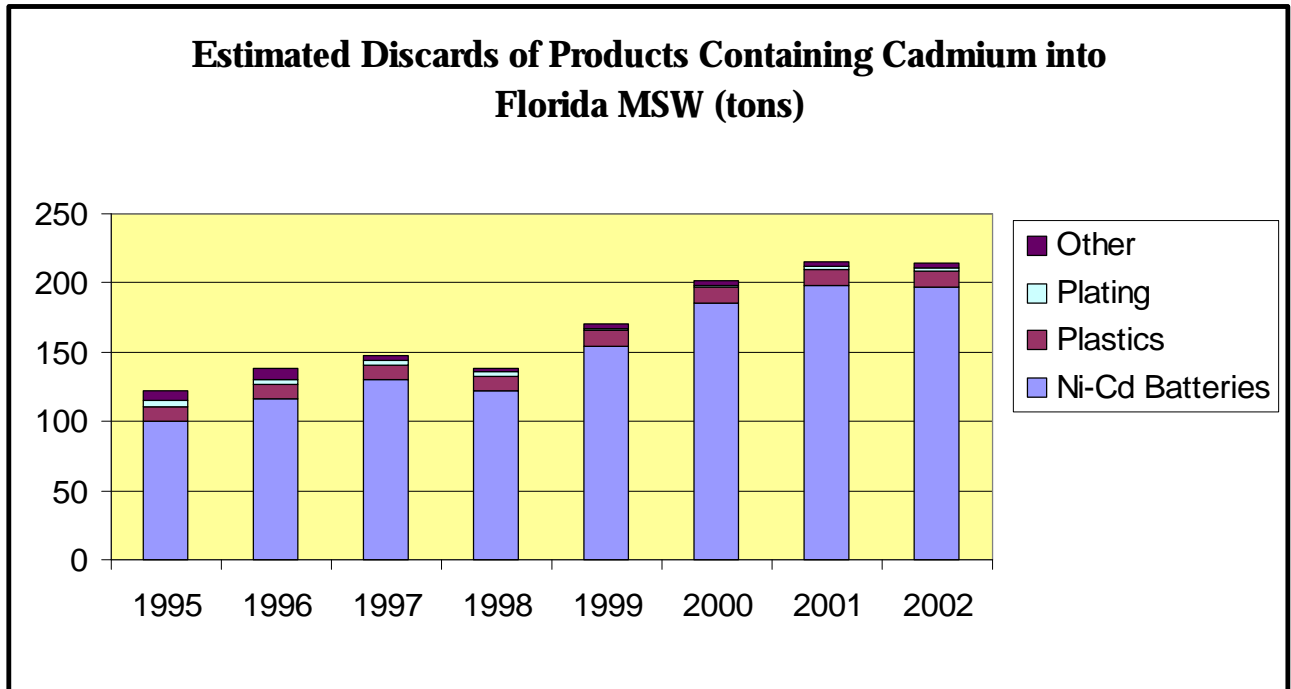
Estimated Mercury in Florida Municipal Solid Waste, 1995-2002 Estimate, In Tons

| Product Category | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---------------------|-------------|-------------|------------|------------|------------|------------|------------|------------|
| Household Batteries | 7.4 | 5.6 | 2.0 | 1.7 | 1.3 | 1.4 | 2.3 | 2.1 |
| Electric Lighting | 1.1 | 1.1 | 1.1 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Mercury Devices | 3.0 | 3.0 | 3.0 | 2.5 | 3.0 | 3.1 | 3.0 | 3.2 |
| Other | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 |
| Total | 12.0 | 10.1 | 6.5 | 5.4 | 5.3 | 5.5 | 6.4 | 6.2 |



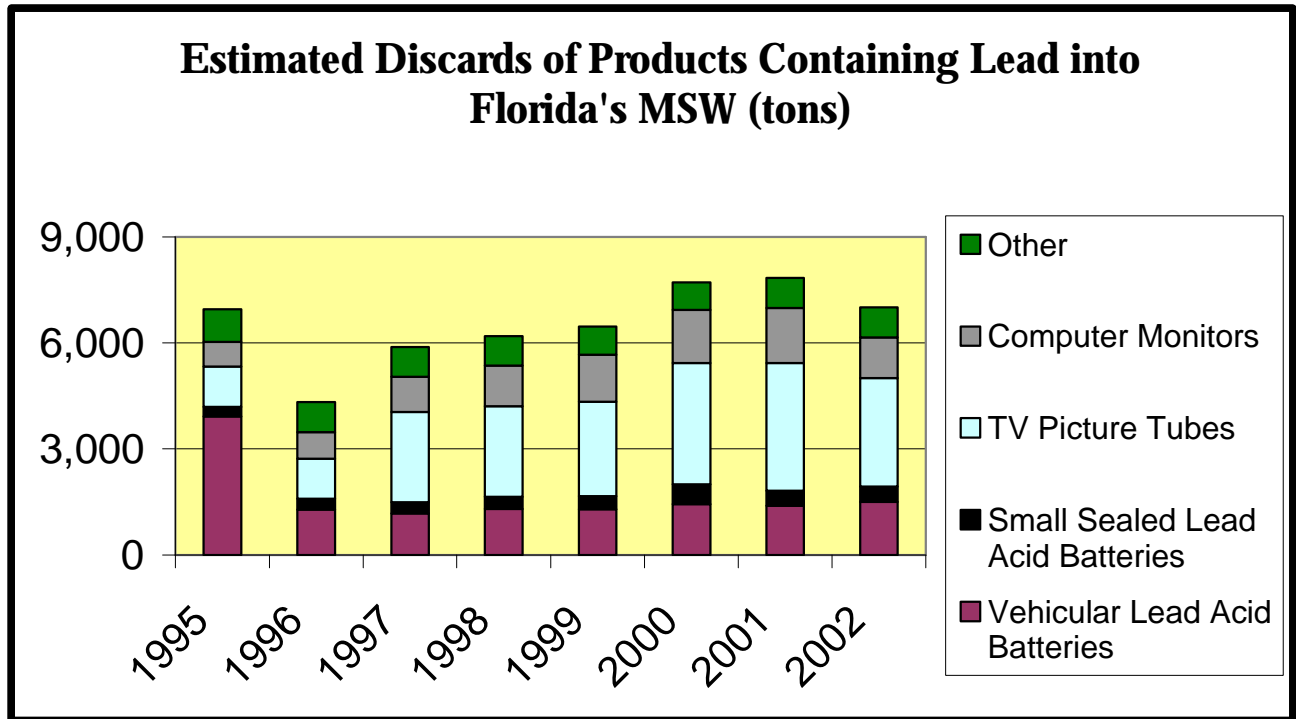
Estimated Cadmium in Florida Municipal Solid Waste, 1995-2002, In Tons

| Product Category | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Ni-Cd Batteries | 100.2 | 116.6 | 130.3 | 122.4 | 154.9 | 185.4 | 198.1 | 196.8 |
| Plastics | 10.5 | 10.5 | 10.5 | 10.5 | 10.6 | 11.6 | 11.8 | 11.8 |
| Plating | 4.1 | 3.0 | 3.1 | 2.5 | 2.0 | 1.7 | 1.7 | 1.7 |
| Other | 7.4 | 8.1 | 3.1 | 3.1 | 3.1 | 3.5 | 3.5 | 3.5 |
| Total | 122.3 | 138.2 | 147.0 | 138.5 | 170.5 | 202.2 | 215.1 | 213.8 |



Estimated Lead in Florida Municipal Solid Waste, 1995-2002, In Tons

| Product Category | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Vehicular Lead Acid Batteries | 3,915 | 1,279 | 1,169 | 1,295 | 1,290 | 1,434 | 1,387 | 1,499 |
| Small Sealed Lead Acid Batteries | 275 | 304 | 318 | 346 | 368 | 572 | 427 | 437 |
| TV Picture Tubes | 1,144 | 1,144 | 2,557 | 2,567 | 2,681 | 3,426 | 3,617 | 3,066 |
| Computer Monitors | 691 | 742 | 999 | 1,153 | 1,322 | 1,504 | 1,557 | 1,145 |
| Other | 926 | 860 | 835 | 822 | 810 | 779 | 851 | 857 |
| Total | 6,951 | 4,329 | 5,878 | 6,182 | 6,470 | 7,714 | 7,839 | 7,003 |



Appendix 9: Used Oil Summary

| | | | |
|---|--|---|------------------------------|
| I. Used Oil Handlers | | II. Used Oil Filter (UOF) Handlers | |
| 125 Companies registered | | 125 UOF Transporters | |
| 190 Site registered | | 108 UOF Transfer Facilities | |
| 135 Used Oil Transporters | | 23 UOF Processors | |
| 37 Used Oil Marketers | | 2 UOF End Users | |
| 2 Used Oil Burners (off-spec) | | | |
| 18 Used Oil Processors | | | |
| III. Used Oil/Oily Waste Collected | | | |
| Automotive | FL: 46,527,327 [†] | Out of State: 2,894,295 | Total: 149,421,622 |
| Industrial | FL: 40,597,642 | Out of State: 1,185,336 | Total: 41,782,978 |
| Mixed | FL: 58,784,770 | Out of State: 495,568 | Total: 59,280,338 |
| Totals | FL: 145,909,739 | Out of State: 4,575,199 | Total Collected: 150,484,128 |
| [†] NOTE: This includes 3,045,199 gallons collected by Public Used Oil Collection Centers | | | |
| IV. Used Oil/Oily Waste Transferred FL: 23,636,389 Out of State: 14,496,580 Total: 38,132,969 | | | |
| V. Used Oil Recycled | | | |
| Marketed as On-Spec | FL: 36,611,858 | Out of State: 7,808,297 | Total: 44,420,155 |
| Off-Spec Burner | FL: 4,407,120 | Out of State: 19,575 | Total: 4,066,695 |
| Marketed for Industry | FL: 11,997,809 | Out of State: 0 | Total: 11,997,809 |
| Total | FL: 52,653,532 | Out of State: 7,827,872 | Total: 60,484,659 |
| VI. Disposal of Oily Wastes | | | |
| Landfilled | FL: 34,725 | Out of State: 248,825 | Total: 283,550 |
| Treated Wastewater | FL: 52,914,028 | Out of State: 250,075 | Total: 53,164,103 |
| Incinerated | FL: 5,704,779 | Out of State: 110 | Total: 5,704,889 |
| Total | FL: 58,653,532 | Out of State: 499,010 | Total: 59,152,542 |
| VII. Gross Summary of Used Oil Management in Florida | | | |
| A. Collection | | B. Management | |
| Total Collected | 150,484,938 | Total Recycled | 60,484,659 |
| + Beginning Inventory | 5,716,686 | +Total Disposed | 59,152,542 |
| = Total on Hand | 152,201,624 | +End of Year Inventory | 3,586,937 |
| - Amount transferred | -38,132,969 | = Grand Total Managed | 123,224,138 |
| = Net Total Collected | 118,068,655 | | |
| Difference between A & B = 5,155,483 gallons (4.2% of the total gallons reported as collected) | | | |
| VIII. Used Oil Filter Management* | | | |
| Collected | 22,973,211 | UOFs Recycled | 33,636,579 |
| + Starting Inventory | 694,170 | Tons of Steel | 16,818 |
| = Total On Hand | 23,667,381 | Recycled Oil Managed (gals. Calculated) | 1,051,143 |
| - End Users & Year End Inventory | 35,772,548 | Waste Managed (gals. Reported) | 10,897 |
| Difference | 12,105,167 filters reported collected vs. filters reported managed** | | |
| *From data submitted to DEP under the <i>optional</i> filter reporting category on the Used Oil Annual Report. | | | |
| ** This discrepancy is due to the fact that UOFs are calculated by different handlers who use different formulas to convert barrels or tons of filters to individual numbers. End users then convert back to raw tonnage calculations. Also, U.S. Foundry, which processes over 90% of the UOFs, changed its operating plan (refusing crushed filters and accepting only whole and densified or cubed filters) which upset and affected upstream management calculations. | | | |

Appendix 10: Hazardous Waste Collection Center Grant Program History and Awards

- 1986 The Legislature appropriated \$500,000 to establish local or regional hazardous waste collection centers in Florida. The grant limit per county for capital outlay expenses was \$50,000. In 1987, the following 7 counties took advantage of this opportunity to establish one facility in each county: Brevard, Citrus, Escambia, Indian River, Lake, Marion, and Volusia.
- 1988 The Legislature reauthorized the Hazardous Waste Collection Center Grant Program and appropriated \$1,000,000 funding. The grant limit per county, again primarily for capital outlay for collection center construction, was raised to \$100,000. Requests for funding exceeded the appropriation and awards were made to the following 11 counties: Alachua, Broward, Charlotte, Collier, Highlands, Hillsborough, Monroe, Orange, Palm Beach, Sarasota, and Seminole. Several of these counties have established multiple collection centers.
- 1989 The Legislature again appropriated \$1,000,000 for the Grant Program with the limit remaining at \$100,000 per county. Awards for funding were made to the following 9 counties: Clay, Dade, DeSoto, Duval, Lee, Leon, Martin, Pasco, and St. Lucie.
- 1990 The \$1,000,000 appropriation was used to award grants of \$100,000 each to Hamilton, Manatee, Osceola, Pinellas, Putnam, St. Johns, and Suwannee Counties.
- 1991 The Legislature again appropriated funding for the Grant Program. Awards of \$100,000 each were made to the following 6 counties: Hardee, Hendry, Hernando, Madison, Okaloosa, and Polk. The Grant Program was amended to include the Cooperative Collection Center Arrangement Grant to provide some financial incentive for a county with a permanent collection center to assist a smaller county in holding a State-subsidized collection event. Eleven counties were awarded these cooperative grants.
- 1992 Funding from this appropriation was used to establish a local hazardous waste collection center in Jefferson County and upgrade permanent facilities in several other counties.
- 1993 Three counties: Bradford, Okeechobee, and Taylor received grants for permanent collection center construction. The legislature also provided an additional funding opportunity from the appropriation for the Unique or Innovative Project Grant. This grant is intended for programs or activities that are designed to decrease the generation of household and conditionally exempt small quantity generator hazardous waste and increase the proper management of such wastes.
- 1994 The appropriation was used to fund grants for permanent collection center construction in Flagler, Levy, and Liberty counties. Ten counties were awarded funding for Unique or Innovative Projects and funding was provided for collections in 14 counties under the Cooperative Collection Center Arrangement Grant.
- 1995 Franklin and Gadsden Counties received grants for permanent collection center construction. Eight grants provided funding for Unique or Innovative Projects and 13 counties held collection events under the Cooperative Collection Center Arrangement Grants. Four counties received grants to reimburse expenses associated with local hazardous waste management.
- 1996-97 The appropriation was used for 14 grants each year to fund both Cooperative Collection Center Arrangements and Unique or Innovative Projects.
- 1998 Fourteen smaller counties received collections funded in part from Cooperative Collection Center Arrangement Grants and three counties were recipients of grants for Unique or Innovative Projects.

- 1999 Cooperative Collection Center Arrangement Grants funded collection events in 15 smaller counties. Unique or Innovative Projects were funded in 4 counties.
- 2000 Cooperative Collection Center Arrangement Grants funded collection events in 11 smaller counties. A Unique or Innovative Project was funded in Monroe County. Most of the appropriation was used to reimburse expenditures incurred completing last year's projects, as the 1999-2000 appropriation was not certified forward as expected.
- 2001 Cooperative Collection Center Arrangement Grants funded collection events in 15 smaller counties.
- 2002 Cooperative Collection Center Arrangement Grants funded collection events in 15 smaller counties and construction of a permanent collection center in Bay County. Through the Unique or Innovative Project grants the Solid Waste Authority of Palm Beach developed an HHW database and Sarasota County initiated a small, non-refillable gas cylinder product stewardship project.
- 2003 It is anticipated that Cooperative Collection Center Arrangement Grants will fund collection events in 14 smaller counties. Putnam County submitted a proposal for funding permanent collection center construction. Funding is also anticipated for three Unique or Innovative Projects. The Solid Waste Authority of Palm Beach plans to maintain an HHW database, Alachua County plans to initiate a pharmaceutical collection and management program, and Bay County plans to develop best management practices for municipal HHW programs.

Appendix 11: Hazardous Waste Collection Center Grant Program Funding Summary

FY2000/2001

Funding for Cooperative Collection Center Arrangements

| | |
|-----------------------------|---------------------|
| Alachua/Dixie (HW458) | \$20,000 |
| Alachua/Gilchrist (HW460) | \$15,000 |
| Alachua/Columbia (HW459) | \$23,000 |
| Alachua/Lafayette (HW461) | \$10,000 |
| Okaloosa/Bay (HW456) | \$30,000 |
| Okaloosa/Calhoun (HW451) | \$ 7,000 |
| Okaloosa/Gulf (HW450) | \$18,000 |
| Okaloosa/Holmes (HW454) | \$10,000 |
| Okaloosa/Santa Rosa (HW457) | \$25,000 |
| Okaloosa/Walton (HW452) | \$18,000 |
| Okaloosa/Washington (HW453) | \$15,000 |
| Total | \$191,000.00 |

Funding for Unique or Innovative Projects

| | |
|---|--------------------|
| Monroe (HW448) <i>flare/ammunition management</i> | \$15,000 |
| Total | \$15,000.00 |

FY2001/2002

Funding for Cooperative Collection Center Arrangements

| | |
|-----------------------------|---------------------|
| Alachua/Dixie (S006) | \$20,000 |
| Alachua/Gilchrist (S008) | \$20,000 |
| Alachua/Columbia (S007) | \$25,000 |
| Alachua/Lafayette (S009) | \$15,000 |
| Okaloosa/Bay (HW472) | \$32,000 |
| Okaloosa/Calhoun (HW478) | \$15,000 |
| Okaloosa/Gulf (HW477) | \$18,000 |
| Okaloosa/Holmes (HW479) | \$15,000 |
| Okaloosa/Jackson (HW474) | \$20,000 |
| Okaloosa/Santa Rosa (HW475) | \$25,000 |
| Okaloosa/Walton (HW473) | \$20,000 |
| Okaloosa/Washington (HW476) | \$20,000 |
| Highlands/Glades (HW480) | \$15,000 |
| Marion/Sumter (HW481) | \$20,000 |
| Jefferson/Wakulla (S010) | \$15,000 |
| Total | \$295,000.00 |

FY2002/2003

Funding for Cooperative Collection Center Arrangements

| | |
|---------------------------|----------|
| Alachua/Dixie (S0052) | \$20,000 |
| Alachua/Gilchrist (S0053) | \$20,000 |
| Alachua/Columbia (S0054) | \$28,000 |
| Alachua/Lafayette (S0038) | \$15,000 |
| Okaloosa/Bay (S0051) | \$32,000 |

| | |
|-----------------------------|--------------|
| Okaloosa/Calhoun (S0037) | \$15,000 |
| Okaloosa/Gulf (S0046) | \$18,000 |
| Okaloosa/Holmes (S0045) | \$15,000 |
| Okaloosa/Jackson (S0047) | \$20,000 |
| Okaloosa/Santa Rosa (S0050) | \$25,000 |
| Okaloosa/Walton (S0048) | \$20,000 |
| Okaloosa/Washington (S0049) | \$20,000 |
| Highlands/Glades (S0039) | \$15,000 |
| Marion/Sumter (S0041) | \$20,000 |
| Jefferson/Wakulla (S0040) | \$15,000 |
| Total | \$298,000.00 |

| | |
|---|--------------|
| Funding for Hazardous Waste Center Construction | |
| Bay (S0042) | \$100,000 |
| Total | \$100,000.00 |

| | |
|--|-------------|
| Funding for Unique or Innovative Projects | |
| Palm Beach (S0043) <i>database development</i> | \$12,500 |
| Sarasota (S0???) <i>gas cylinder stewardship</i> | \$10,000 |
| Total | \$22,500.00 |

FY2003/2004 (Anticipated Funding)

| | |
|--|--------------|
| Funding for Cooperative Collection Center Arrangements | |
| Alachua/Dixie (S0138) | \$20,000 |
| Alachua/Gilchrist (S0139) | \$22,000 |
| Alachua/Columbia (S0140) | \$30,000 |
| Alachua/Lafayette (S0137) | \$15,000 |
| Okaloosa/Calhoun (S0129) | \$19,000 |
| Okaloosa/Gulf (S0128) | \$20,000 |
| Okaloosa/Holmes (S0127) | \$19,000 |
| Okaloosa/Jackson (S0126) | \$22,000 |
| Okaloosa/Santa Rosa (S0125) | \$27,000 |
| Okaloosa/Walton (S0124) | \$27,000 |
| Okaloosa/Washington (S0123) | \$22,000 |
| Highlands/Glades (S0121) | \$20,000 |
| Marion/Sumter (S0122) | \$23,000 |
| Jefferson/Wakulla (S0136) | \$20,000 |
| Total | \$306,000.00 |

| | |
|---|-------------|
| Funding for Hazardous Waste Center Construction | |
| Putnam (S0120) | \$20,425 |
| Total | \$20,425.00 |

| | |
|--|-------------|
| Funding for Unique or Innovative Projects | |
| Palm Beach (S0117) <i>database maintenance</i> | \$2,500 |
| Alachua (S0118) <i>pharmaceuticals</i> | \$10,029 |
| Bay (xxx) <i>BMPs</i> | \$10,000 |
| Total | \$22,529.00 |

Appendix 12: County Household Hazardous Waste Programs in Florida

