REPORT TO THE TWENTY-EIGHTH LEGISLATURE
STATE OF HAWAII
2015

PURSUANT TO SECTION 342G-15, HAWAII REVISED STATUTES, REQUIRING THE OFFICE OF SOLID WASTE MANAGEMENT TO GIVE AN ANNUAL REPORT ON SOLID WASTE MANAGEMENT

PREPARED BY:

STATE OF HAWAII
DEPARTMENT OF HEALTH
OFFICE OF SOLID WASTE MANAGEMENT
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I. INTRODUCTION

The Office of Solid Waste Management (OSWM) is required to provide an annual report to the legislature to describe the State's progress toward achieving the waste reduction goal. This report also contains general information about OSWM programs, Solid Waste Section (SWS) activities, and county solid waste and recycling efforts.

This report covers activities of the OSWM and the Solid Waste Section (SWS) for Fiscal Year (FY) 2013 and FY 2014. No report was submitted to the 2014 Legislature due to incomplete data.

The OSWM and SWS are contained within the Department of Health's Solid and Hazardous Waste Branch (SHWB). The SWS is responsible for permitting and monitoring solid waste facilities within the state, while planning functions are contained within the OSWM. The OSWM also administers the state Deposit Beverage Container (DBC) and Glass Advance Disposal Fee (ADF) Programs. The OSWM also provides technical and programmatic assistance to the counties in their development of solid waste management and recycling programs.

In 1991, the legislature established a waste stream reduction goal of 50% by the year 2000. The OSWM works to enhance the development of county and private recycling programs through a combination of statewide funding mechanisms and statewide guidance and mandates.

II. SOLID WASTE MANAGEMENT

Solid Waste Priorities and Practices

Section 342G-2, Hawaii Revised Statutes, requires the department and the counties to consider solid waste management practices and methods in the following order of priority:

1) Source Reduction
2) Recycling (to include composting)
3) Landfilling and incineration

The first two practices reduce the amount of waste to be either landfilled or incinerated.

Source reduction is also called "waste prevention" or "waste reduction" and means creating less waste. Although not included in the list of priorities, "Reuse", means using a product over without first having to reprocess it. The product may be used for its original or intended use, or may be used in a different capacity. "Recycling" is the process by which materials are collected and used as "raw" materials to create new products. All of these methods are sometimes referred to collectively as "waste diversion."

Because waste reduction avoids creation of waste it is inherently difficult to quantify. In some cases, comparisons can be made to waste levels before a waste reduction practice was employed to waste levels afterward. In most cases, an estimate of the amount of waste reduced is all that is possible.

Reuse of products or materials is marginally easier to measure than waste reduction because it involves actual material. It can be measured counting the units of a particular product being reused or measuring its tonnage. However, effectively measuring reuse is difficult because it takes place at so many levels and on a unregulated and widespread scale. Take for example the reuse of plastic and glass containers for food storage at home or in the workplace. While this particular activity contributes

to overall waste reduction it is impossible to accurately measure. Some reuse activity is accounted for in the diversion statistics presented in this report; as at least two counties gather data on the amounts of material that is donated to non-profit organizations such as the Salvation Army or Goodwill Industries.

Recycling is the most easily quantified activity of the waste diversion trio for at least two reasons. First, like reuse, it involves actual material that can be measured. Second, data from many recycling facilities are regularly collected by the state and counties.

Diversion refers to the combination of reuse and recycling activities. It does not include landfilling, incineration, or waste to energy processes. The diversion rates presented below are based on data collected by the counties. The current diversion rate is composed primarily of recycling activity and a small amount of reuse activity.

The United States Environmental Protection Agency's (EPA) most recent data indicate a national recycling rate of 34.5% for 2012. The State's goal of 50% waste diversion was set in 1991 and mirrored EPA's national recycling goal at the time of 50% by 2000. Since that time the EPA revised the goal down to 35% recycling by 2005; and, currently, discontinued the use of a stated national recycling goal. EPA now touts Sustainable Materials Management (SMM) which it describes as "…a systematic approach that seeks to reduce materials use and associated environmental impacts over their entire life cycle…" It further describes the goal of SMM as seeking "…to use materials in the most productive way with an emphasis on using less; reducing toxic chemicals and environmental impacts throughout the material's life cycle; and assuring we have sufficient resources to meet today's needs and those of the future."

Hawaii's commercial recyclers contend with long standing challenges which include high land values (which translate to high land lease or rental costs) and high shipping costs. Recycling markets for nearly all of the state's recyclable material are out of state. Most recyclables are shipped to either the mainland U.S. or Asia. Recyclers will ship their material to the market paying the best prices at the time. Volatility in recycled materials markets is an issue that all recyclers deal with regardless of location. Hawaii's recyclers are, however, especially affected by market fluctuations because of thinner profit margins resulting from high shipping costs.

Solid Waste Disposal and Diversion Rates (Difficulties with Data Collection)

The OSWM calculates solid waste disposal and diversion rates by aggregating data collected by each county with data collected under authority of the SWS's permitting system.

Recently, the OSWM and counties have experienced difficulties in gathering data. Submittal of the report to the 2014 Legislature was initially delayed in the hope of completing data gathering, and was omitted entirely when data collection could not be completed.

While we anticipate some difficulty with data gathering the OSWM is evaluating data collection and reporting practices and will work towards increased consistency. Reports will no longer be delayed because of data gaps, but will be submitted with any gaps clearly noted while efforts to fill the gaps continue.

Table 1A: Waste Diversion Statistics for FY 2013 (tons)

	Disposal	Diversion	Generation	Diversion Rate
Hawaii	153,581	79,586	233,167	34.1%
Maui	206,075	100,895	306,970	32.9%
Oahu*	1,132,693	667,065	1,799,758	37.1%
Kauai	74,293	57,132	131,425	43.5%
State	1,566,642	904,678	2,471,320	36.6%

Notes: *2012 calendar year data

Table 1B: Waste Diversion Statistics for FY 2014 (tons)

	Disposal	Diversion	Generation	Diversion Rate
Hawaii*	166,889	54,886	221,775	24.7%
Maui	125,740#	#	125,740	#
Oahu**	1,086,451	734,836	1,821,287	40.3%
Kauai	75,997	55,896	131,893	42.4%
State	1,455,078	845,618	2,300,696	36.8%

Notes: *preliminary data; **2013 calendar year data, # incomplete data

Table 2: Diversion Rates for FY 2010 through FY 2014

FY	10	11	12	13	14
Hawaii	35.9%	28.9%	38.1%	34.1%	24.7%
Maui*	35.3%	36.6%	#	32.9%	#
Oahu**	39.2%*	36.9%	38.6%	37.1%	40.3%
Kauai	25.0%	23.8%	32.5%	43.5%	42.4%
State	39.6%	35.1%	34.7%	38.1%	36.8%

Notes: **calendar year data, # incomplete data

III. OFFICE OF SOLID WASTE MANAGEMENT ACTIVITIES

Deposit Beverage Container Program

The State of Hawaii Deposit Beverage Container Program (Program) achieved an annual redemption rate of 75% for FY 2013 and 73% for FY 2014. Public participation has remained strong with over 683 million deposit beverage containers (DBC) recycled in FY 2013, and over 677 million containers recycled in FY 2014.

Program Redemption Rate

The DBC Program's redemption rate is a measure of program's effectiveness to: (1) collect and redeem eligible deposit beverage containers; and (2) recycle deposit beverage container materials.

The FY 2013 redemption rate was 75% and 73% in FY 2014. The redemption rate is calculated by dividing the number of DBC redeemed by the number of DBC sold.

$$\text{FY 2013 Redemption Rate} = \frac{683{,}629{,}206 \text{ (redeemed)}}{911{,}769{,}037 \text{ (sold)}} = 75.0\%$$

$$\text{FY 2014 Redemption Rate} = \frac{677{,}539{,}343 \text{ (redeemed)}}{933{,}728{,}372 \text{ (sold)}} = 72.6\%$$

CHART 1: Container Redemption by Material Type for FY 2010-2014

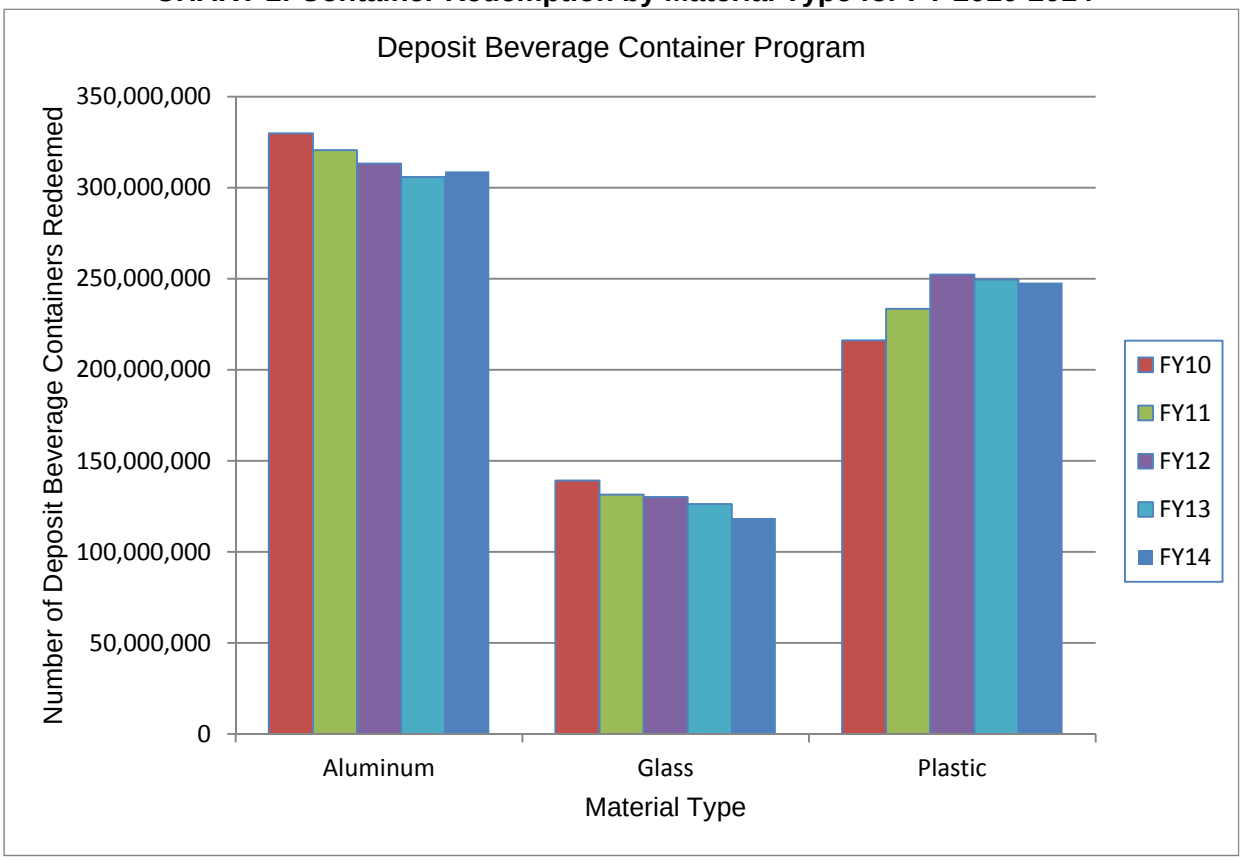


CHART 2: Comparison of Redeemed & Unredeemed for FY 2010-2014

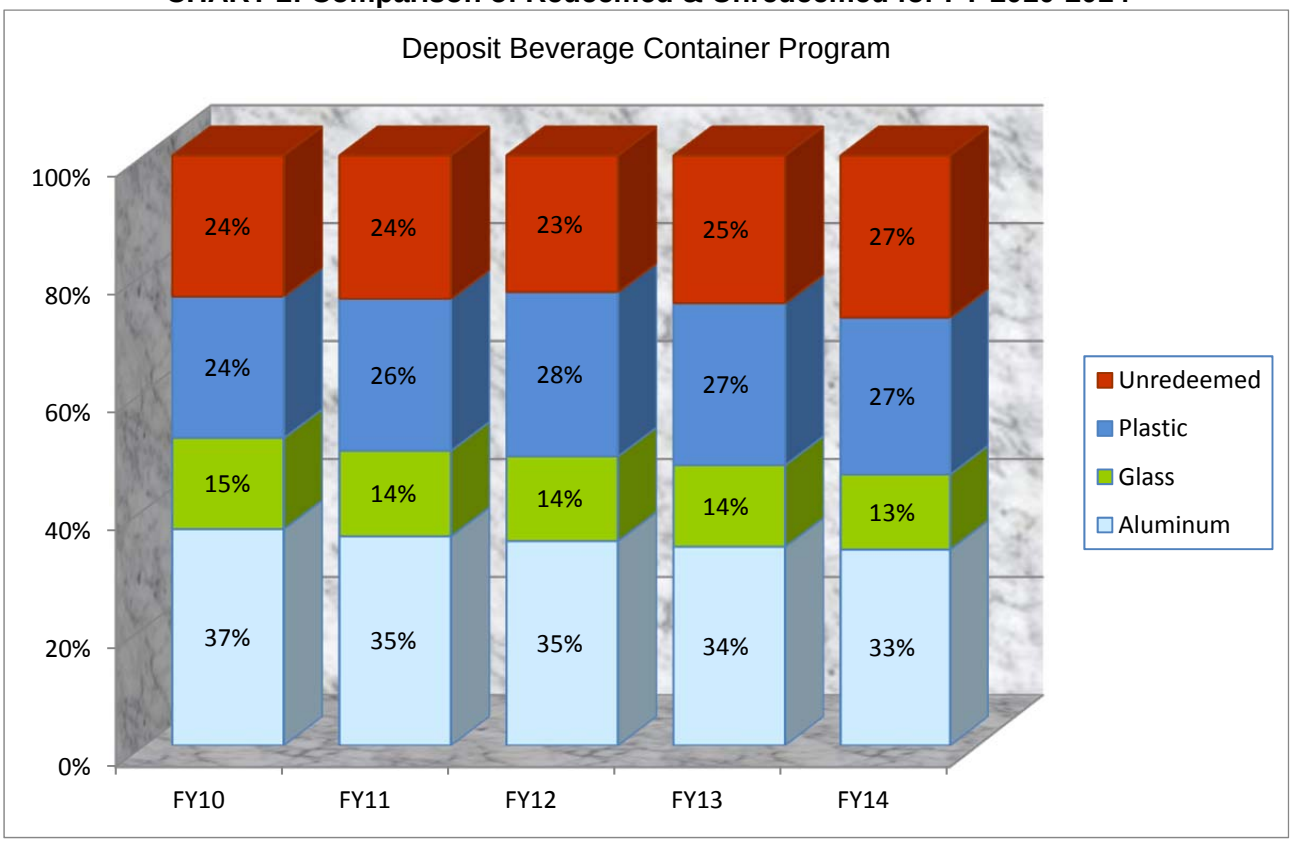


CHART 3A: DBC Redeemed by Material Type for FY 2013

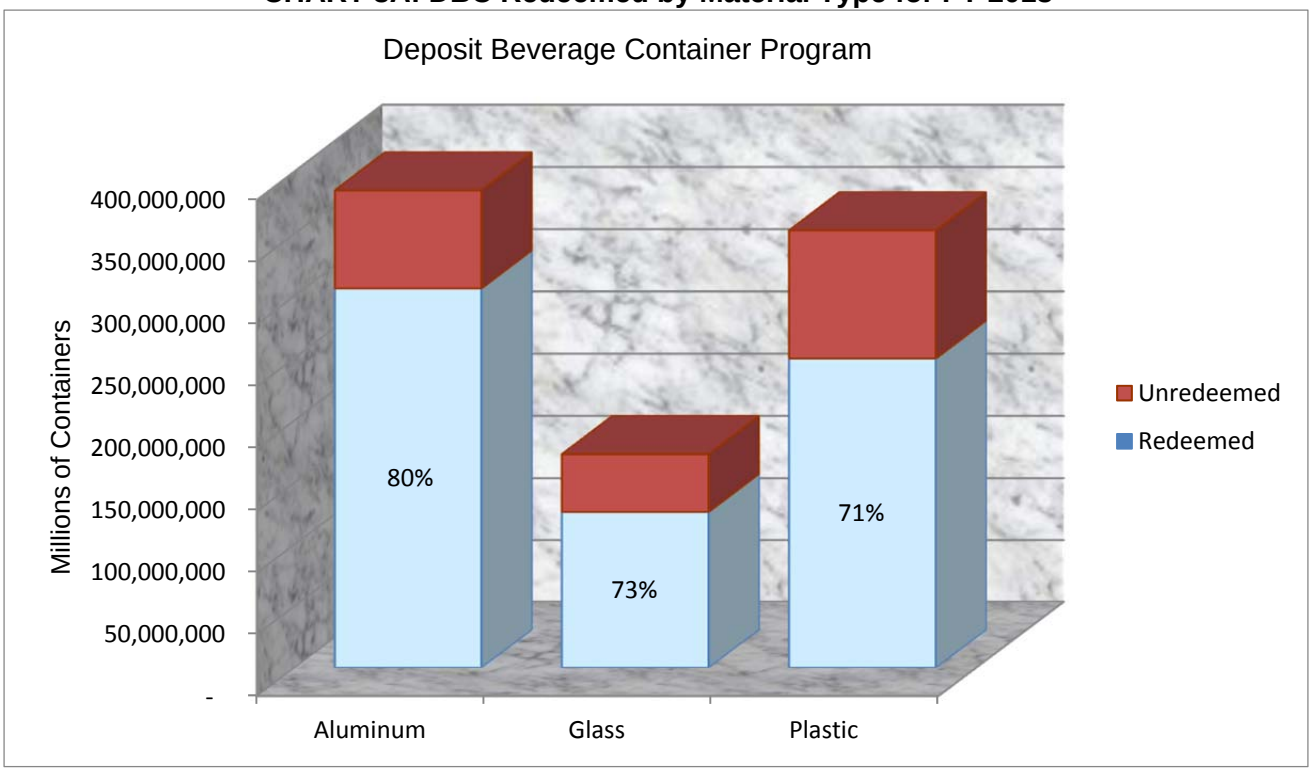
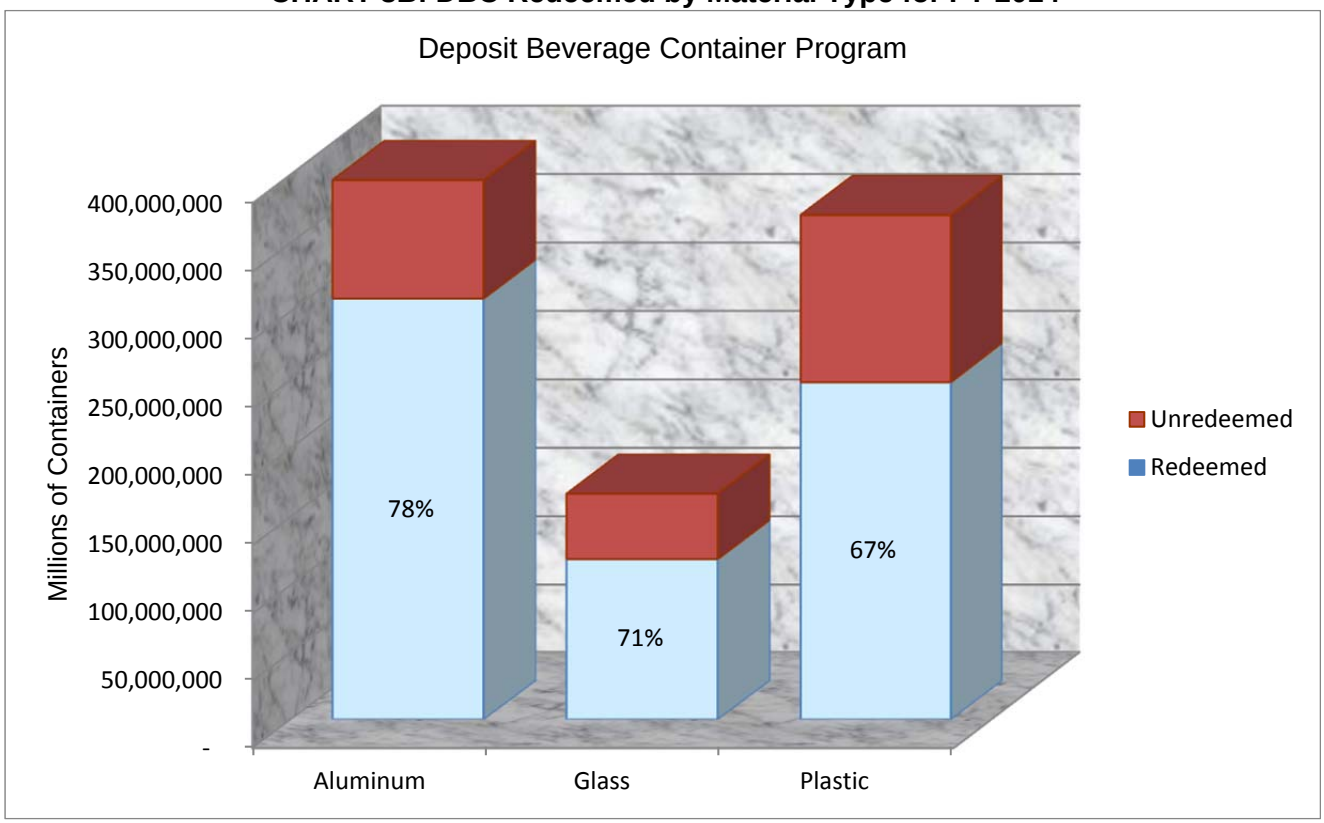


CHART 3B: DBC Redeemed by Material Type for FY 2014



Deposit Beverage Container Program Special Fund

During FY 2013 the department collected approximately $58.2 million in container fees and deposits from distributors and paid out nearly $57.3 million to redemption center operators for redeemed deposits and eligible handling fees. The department paid approximately $4.5 million for program administration and contracted activities. In FY 2014 the department collected approximately $59 million in container fees and deposits and paid out $55.4 million for redeemed deposits and eligible handling fees. The department paid $4.5 million for program administration and contracted activities.

As of June 30, 2013, the DBC special fund contained approximately (-$445,724) after encumbrances.

As of June 30, 2014, the DBC special fund contained approximately $4.6 million after encumbrances.

Based on monthly transactions of between $3 million and $4 million the program prefers to maintain a minimum fund balance of $4 million to ensure sufficient funds are available for continuous operations. The fund balance fell below $4 million in the past few years because of high redemption rates, fund transfers, the loss of interest income, and the loss of the program's exemption from the Department of Accounting and General Service's Central Services Fee.

Statute allows the department to increase the container fee when the redemption rate exceeds 70%. While the redemption rate surpassed that threshold in 2008, the department deferred on increasing the container fee until September 2012 due to a low fund balance. The legislature's restoration of the Central Services Fee exemption during the 2013 session, along with the 2015 restoration of interest income, are critical in helping the DBC program maintain adequate fund levels in the future.

TABLE 3: DBC Revenues & Expenditures

Revenue		
	FY 2013	FY 2014
Distributor Payments		
Deposits (5¢/container)	$ 45,748,309	$ 45,890,849
Container Fees (1¢/container)	$ 12,451,159	$ 13,767,243
Interest (from bank)	$ 0	$ 0
Others – Dividend	$ 18	$ 0
Others – Refunds & Reimbursements	$ 211	$ 270
Total Revenue	$58,199,697	$59,658,362
Expenditures		
Payments to Redemption Centers		
Deposits (5¢ per container)	$ 38,280,075	$ 36,930,958
Handling Fees (2¢ to 4¢ per container)*	$ 19,031,086	$ 18,518,616
Subtotal	$ 57,311,161	$ 55,449,574
County Support		
County of Hawaii	$ 309,303	$ 1,460,249
County of Maui	$ 0	$ 0
County of Kauai	$ 241,240	$ 172,556
Subtotal	$ 550,543	$ 1,632,805
Reimbursement for Lanai, Maui to operate a Certified Redemption Center	$ 60,175	$ 86,016
Administrative Expenses		
DOH Payroll	$ 502,818	$ 618,637
DOH supplies, phone, misc.	$ 87,809	$ 87,617
Advertising/Outreach	$ 0	$ 0
Internship	$ 0	$ 0
Payment to General Fund for Administrative & Central Services Fees FY12 FY13	 $ 1,066,429 $ 2,150,940	 $ 1,459,572 $ 621,610
Audit Fee (Legislative and/or Departmental audit) FY08 & FY10 FY12	 $ 95,972 $ 29,500	 $0
Others - Travel	$ 20,414	$ 9,139
Subtotal	$ 4,014,057	$ 2,882,591
Total Expenditures	$ 61,875,761	$ 59,964,970

** Handling fees for aluminum, bi-metal, and plastic are 2¢ for Oahu and 3¢ for neighbor islands. Fees for glass are 2¢ for agriculture/construction and 4¢ for remanufacturing uses for all islands.*

Certified Redemption Centers
One hundred sixteen (116) certified redemption centers (CRCs) were open to the public as of June 30, 2013. The island breakdown is as follows: Hawaii – 20, Maui – 17, Molokai – 2, Lanai – 1, Oahu – 66, and Kauai – 10. Ninety nine (99) CRCs were available to the public as of June 30, 2014. The island breakdown is as follows: Hawaii – 21, Maui – 14, Molokai – 2, Lanai – 1, Oahu – 53, and Kauai – 8.

DBC Inspections & Enforcement
Inspections
Program inspectors conducted 245 compliance evaluation inspections (CEIs) in FY 2013 and 302 inspections in FY 2014. Inspections are of regulated entities which include certified redemption centers, recycling facilities, and retailers and are either program initiated or in response to complaints.

Enforcement
During FY 2013 the program issued 28 warning letters, 14 informal notices of violation, and nine administrative penalties, which are a more formal and involved enforcement tool used for serious violations. For FY 2014 the program issued 24 warning letters, seven informal notices of violation, 19 requests for records to distributors, CRCs and retailers, and five administrative penalties.

Segregated Rates
Segregated rates are offered by CRCs to give consumers the quicker option of redeeming their containers by weighing instead of hand counting. The rates are set by the department and indicate the average number of deposit containers per pound when the containers are segregated by material type. Consumers have a choice to redeem their containers by either weight or hand count. CRCs must provide a hand count of loads of 200 or less containers if requested by the customer.

The department periodically evaluates deposit beverage container weights and updates the rates accordingly to reflect trends in container packaging. The segregated rates were last updated in December 2010. The current rates are shown in Table 4.

TABLE 4: Segregated Rates

Material Type	# Containers per lb.	Refund Amount per lb.
Aluminum	32	$1.60
Bi-metal	5.9	$0.295
Glass	2.4	$0.12
Plastic (17 fl. oz. or less)	26.3	$1.315
Plastic (mixed sizes)	18.8	$0.94

Electronic Waste and Television Recycling and Recovery Program

Program Background

The Electronic Waste Recycling Act was adopted in 2008 and created a recycling program for waste computers, portable computers, computer monitors and computer printers. Products covered by this portion of statute are considered "Covered Electronic Devices" (CEDs). The Electronic Waste and Television Recycling and Recovery Act was adopted in 2009 and expanded the program to cover televisions. Products covered under the expanded portion of the law are termed "Covered Televisions" (CTVs). The dual program is administered by the Office of Solid Waste Management (OSWM).

The law requires manufacturers to register with the DOH and submit recycling plans to the department. The plans describe how each manufacturer intends to collect and recycle used CED and CTV products. Table 5 indicates the number of manufacturers registered with the department by year.

Table 5: Number of Registered Manufacturers

Calendar Year	10	11	12	13	14
CED	34	44	50	53	56
CTV	28	29	28	28	26

Manufacturer Ranking by Pounds Recycled for 2012 and 2013

By January 1, 2010, CED manufacturers were required to have their recycling programs established for Hawaii and by January 1, 2011, CTV manufacturers were required to have their recycling programs established.

By law, the department is required to rank CED manufacturers by the number of pounds they recycled. Tables 6A and 6B display the rankings for the manufacturers who reported recycling CEDs in Hawaii. There were 30 CED manufacturers who reported recycling zero (0) pounds of CEDs in Hawaii in 2012 and 32 CED manufacturers who reported recycling zero (0) pounds of CEDs in 2013, these manufacturers are listed alphabetically in Table 7.

Table 6A: Manufacturer Ranking by CED Pounds Recycled for 2012

Rank	Manufacturer Name	CED Pounds Recycled
1	Apple Inc	679,528
2	Dell Products L.P.	532,890
3	Hewlett-Packard (HP)	500,183
4	LG Electronics USA, Inc.	218,346
5	Samsung Electronics	144,693
6	Best Buy	127,610
7	Ricoh Americas Corporation	64,646
8	Panasonic Corporation of North America	56,594
9	Acer America Corporation	31,441
10	Sharp Electronics Corp	28,297
11	Toshiba America Information Systems, Inc.	28,297
12	Sony Electronics, Inc.	25,736
13	Brother International	3,068
14	NEC Display Solutions of America, Inc.	3,000
15	Lexmark	2,651
16	Microsoft Corporation	1,056
17	Oki Data Americas, Inc.	1,000
18	Oracle	778
19	Epson American, Inc.	100
20	Lenovo (United States) Inc.	6
	Total Pounds Recycled in 2012:	2,449,920

Table 6B: Manufacturer Ranking by CED Pounds Recycled for 2013

Rank	Manufacturer Name	CED Pounds Recycled
1	Apple Inc	842,821
2	Hewlett-Packard (HP)	563,476
3	Samsung Electronics	378,735
4	Dell Products L.P.	353,210
5	Ricoh Americas Corporation	114,642
6	Best Buy	49,527
7	LG Electronics USA, Inc.	23,995
8	Acer America Corporation	10,442
9	Microsoft Corporation	10,432
10	Brother International	5,292
11	Sony Electronics, Inc.	3,114
12	Lexmark	2,780
13	Panasonic Corporation of North America	2,511
14	Oki Data Americas, Inc.	1,000
15	ViewSonic Corporation	600
16	NEC Display Solutions of America, Inc.	549
17	Cellco Partnership dba Verizon	287
18	Amazon Fulfillment Services	102
19	Canon USA, Inc.	12
20	Lenovo (United States) Inc.	8
21	International Business Machines Corporation	7
	Total Pounds Recycled in 2013:	2,363,542

Table 7: CED Manufacturers Reporting Zero Pounds Recycled for 2012 & 2013

2012	2013
ASUS Computer International	ARCHOS
Barnes & Noble	ASUS Computer International
BenQ America Corp.	Barnes & Noble
Canon USA, Inc.	BenQ America Corp.
Cisco	BlackBerry Limited (formerly Research In Motion Limited)
Coby Electronics Corp.	Coby Electronics Corp.
Creative Labs, Inc.	Cyberpower Inc.
Cyberpower Inc.	Eastman Kodak Company
Eastman Kodak Company	Elo Touch Solutions, Inc.
Elo Touch Solutions, Inc.	Envision Peripherals, Inc.
Envision Peripherals, Inc.	Epson
Fujitsu America Inc	Fuhu, Inc.
Hannspree North America, Inc.	Fujitsu America Inc
International Business Machines Corporation (IBM)	Google
Kobo Inc	Hannspree North America, Inc.
Konica Minolta Business Solutions U.S.A., Inc.	HTC America
Kyocera Mita America, Inc.	Konica Minolta Business Solutions U.S.A., Inc.
Motorola Mobility, Inc	Kyocera Mita America, Inc.
Motorola Solutions	Motorola Mobility, Inc
NCR Corporation	Motorola Solutions
Pantech Co., Ltd.	NCR Corporation
Planar Systems, Inc.	Oracle
PLR IP Holdings, LLC (Polaroid)	Pantech Co., Ltd.
Research In Motion Limited	Planar Systems, Inc.
Toshiba Global Commerce Solutions	PLR IP Holdings, LLC (Polaroid)
ViewSonic Corporation	Sharp Electronics Corp
VIZIO Inc.	Toshiba America Information Systems, Inc.
Wacom Technology Corp	Toshiba Global Commerce Solutions
Wyse Technology	VIZIO Inc.
Xerox Corporation	Wacom Technology Corp
	Wyse Technology
	Xerox Corporation

For 2013, manufactures reported recycling 2,363,542 pounds of CEDs and 1,775,816 pounds of CTVs. For 2012, CED and CTV manufacturers reported recycling 2,449,920 pounds of CEDs and 1,429,984 pounds of CTVs. For 2011, CED and CTV manufacturers reported recycling 2,494,484 pounds of CEDs and 1,011,631 pounds of CTVs. For 2010, only CED manufacturers were required to have recycling programs and it was reported that 3,235,432 pounds of e-waste was recycled. The 3,235,432 pounds of e-waste recycled in 2010 also included other types of e-waste (TVs, keyboards, mice, etc.) in addition to CEDs. Overall, there was an increase of 259,454 pounds (6.7%) of e-waste recycled from 2012 to 2013 (Table 8).

Table 8: E-waste Recycled for 2010-2013 (pounds)

Calendar Year	2010	2011	2012	2013
CED Manufacturers	3,235,432	2,494,484	2,449,920	2,363,542
CTV Manufacturers	N/A	1,011,631	1,429,984	1,775,816
Totals:	3,235,432	3,508,126	3,881,916	4,141,371

Registered CED manufacturers are required to pay an annual registration fee of $5,000 while registered CTV manufacturers are required to pay an annual registration fee of $2,500. Any manufacturer that sells both CEDs and CTVs are required to pay a combined $7,500 in annual registration fees. Table 9 indicates program revenue from manufacturer registration fees.

Table 9: Electronic Device Recycling Fund Revenue

Calendar Year	10	11	12	13	14
	$240,000	$292,500	$320,000	$335,000	$345,000

Electronics Recycling Program Concerns and Challenges

Convenience and Effectiveness of Manufacturer Recycling Programs

In an attempt to strike a balance between rigid mandates and unlimited flexibility, the law gives manufacturers considerable leeway in the types of recycling programs they offer consumers. The law requires each manufacturer to submit a recycling plan that describes collection and recycling procedures to the department annually. While the law requires the department to review each plan it does not provide any criteria or performance standards by which to evaluate the plans. This allows some manufacturers to implement inconvenient programs that require consumers to do much of the work to recycle their used CEDs or CTVs. The department is concerned that inconvenient programs discourage consumers and limit recycling. Some examples of inconvenient programs include:

- Mail-back programs that require customers to package CEDs and CTVs for mailing. This is impractical for large items such as computer monitors and TVs, especially if consumers are required to supply their own boxes/packaging.
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Evidence from other states' electronic recycling programs suggests that mail-back programs result in minimal amounts of material being recycled, while programs with generous take-back requirements and convenient hours are the most successful.

Lessons Learned / Moving Forward

Counties have made diversion of electronic waste from landfilling (or incineration) a high priority and had developed programs prior to adoption of the state law. However, most of the collection programs have been drastically scaled back, or completely eliminated, because of budget constraints.

New electronics recycling services for the general public have become available in response to the law. The most comprehensive programs have been centered on Oahu with recyclers accepting all brands of electronics free of charge and even accepting items not covered by the law. Comprehensive services are centered on Oahu because of its population concentration. Various manufacturers also pay the shipping costs for electronics collected through neighbor island county collections that are maintained with the assistance of state funding. The department is in its second year of providing funding to Hawaii, Maui and Kauai counties to maintain these programs. All neighbor island programs provide periodic collections of electronic waste.

While it is clear that the collection and recycling of electronic waste is the responsibility of CED and CTV manufacturers under the intent of the law, the department has determined that the short term need to divert these materials from disposal is of primary importance.

Since passage of the law it has become clear that statutory mandates for both minimum recycling goals and customer convenience are necessary to foster a more effective and convenient statewide electronics recycling system. Some manufacturers put no effort into establishing useful recycling programs, as evidenced by the reporting of zero pounds of recycled material. While other manufacturers, who choose to implement Oahu centric programs have demonstrated that they will not extend comprehensive services to the neighbor islands.

The department will continue to work with the Legislature to strengthen the program with respect to consistency of service provided across the state, convenience of the recycling programs, long term stability of the programs, and to setting recycling goals.

Glass Advance Disposal Fee (ADF) Program

The OSWM continues to administer a statewide glass recovery program that is funded by an advance disposal fee (ADF). The department collects the fee from importers of products contained in glass containers (that are not deposit beverage containers). The department then contracts with each county to operate local glass recovery programs to divert glass from the waste stream for recycling. As directed by statute (HRS §342G-84) the funds are distributed to the counties based on de facto population. Each county is allowed enough flexibility to structure its glass-recycling program to maximize recycling of the glass. Program revenue and expenditures are indicated in Tables 10 and 11 respectively.

The Glass ADF Program was significantly affected by implementation of the DBC Program. Beginning October 1, 2004, glass deposit beverage containers were transferred from the ADF Program to the DBC Program. This reduced the number of containers covered by the ADF Program by approximately 80%, and resulted in a corresponding decrease in revenue. For most of its existence, the ADF Program has focused on commercial glass recycling. A more recent development has seen some DBC redemption centers starting to collect, and pay for, ADF glass containers with ADF funds. This has increased the amount of glass being recycled and significantly increased the drawdown of ADF funds. Recycled glass tonnages are shown in Table 12.

The decrease of containers covered by the ADF Program is also reflected in the decreased amount of glass collected through each county operated buy-back program. The department has adjusted the amounts of each of the county contracts in accordance with the decrease in Program revenue.

Table 10: Glass ADF Revenue*

FY	10	11	12	13	14
	$750,492	$774,252	$782,220	$813,985	$834,562

*Revenue amounts have been revised since the previous report

Table 11: Expenditures for County Collection Programs*

FY	10	11	12	13	14
Hawaii	$0**	$150,000	$132,700	$129,200	$46,589
Maui		$145,000	$141,600	$122,800	$67,700
Oahu		$745,000	$0**	$620,400	$340,400
Kauai		$40,176	$43,796	$68,404	$48,824
Total		$1,080,176	$318,096	$940,804	$503,513

**Data has been revised since the previous report*

*** Funding was not provided to the counties in FY 2010 and to the City & County of Honolulu in FY 2012 because the Advance Disposal Fee special fund was identified as a potential source to cover general fund shortfalls.*

Table 12: County Recycled Glass (Tons)*

FY	10	11	12	13	14
Hawaii	0**	1,145	829	785	548
Maui		2,115	1,809	1,843	971
Oahu		5,994	0**	3,100	1,649
Kauai		246	373	335	408
Total		9,500	3,011	6,063	3,576

**Data in this table has been revised since the previous report*

***The Glass Advance Disposal Fee special fund was identified as a potential source to cover general fund shortfalls, so funding was not provided to the counties in FY 2010 and to the City & County of Honolulu for FY 2012. Therefore, tonnage reports were not required of the counties during FY 2010 or the City & County of Honolulu for FY 2012.*

IV. SOLID WASTE MANAGEMENT PROGRAM FUNDING SHORTAGE

Solid Waste Management Disposal Surcharge

In FY 2014 the Solid Waste Management Disposal Surcharge (Surcharge) was the primary funding source for the Solid Waste Section (SWS) and a partial funding source for two planners in the OSWM.

The department collects the Surcharge from the owners/operators of disposal facilities within the state. This includes all municipal solid waste and construction and demolition landfills, as well as the H-POWER waste-to-energy incinerator on Oahu. Surcharge payments are deposited in the Environmental Management Special Fund. Originally proposed at 75¢ per ton in early discussions, the Surcharge was initially set, in statute (HRS §342G-62), at 25¢ per ton in 1993 and raised to 35¢ per ton in 1997. Unlike other regulatory programs within the department, the SWS receive no federal funding, which leaves it nearly entirely dependent on Surcharge collections.

The disposal surcharge is a common funding mechanism for solid waste management programs across the country. Past research has indicated that 17 states utilize disposal surcharges to fund solid waste management functions; with an average of $1.43 per ton, and a high of $3.00 per ton and a low of 35¢ per ton. Hawaii's Surcharge is small when landfill tipping fees are taken into account. For example, Hawaii's 35¢ per ton represents less than one percent of the approximately $90 per ton tipping fee charged at the City and County of Honolulu's Waimanalo Gulch Landfill. The following is a summary of each county's landfill tipping fees and associated charges.

Hawaii County	$85.00 per ton
Maui County	$61.00 per ton + $10.00 recycling surcharge = $71.00 per ton total cost
C&C of Honolulu	$81.00 per ton + 12% recycling surcharge = $90.72 per ton total cost
Kauai County	$56.00 per ton

Table 13: Solid Waste Disposal Surcharge Collections

FY	10	11	12	13	14
	$476,990	$305,759	$448,482	$425,950	$323,894

Table 14: Solid Waste Disposal Surcharge Expenditures

FY	10	11	12	13	14
	$632,185	$622,897	$568,467	$593,3934	$663,348

Table 15: Solid Waste Disposal (Tons)

FY	08	09	10	11	12	13	14
	1,709,000	1,521,000	1,376,000	1,367,000	1,359,000	1,236,000	1,119,000[#]

[#]incomplete data

Declining Collections and Unchanging Workload

As indicated in Table 15, disposal tonnage has decreased by nearly 30% between FY 2008 and FY 2013. While the economic slowdown is believed to have contributed to the decrease in waste generation, the reduction can also be partially attributed to increased waste diversion. A related downward trend is not discernible in Surcharge collections because of lags in Surcharge payments.

The decline in collections is expected to continue as the counties continue to improve diversion activities.

Although the Surcharge revenue has declined and the amount of waste disposed in Hawaii has decreased; the workload carried by the SWS, to regulate solid waste facilities (including recycling and composting facilities) has remained relatively unchanged. The SWS staff of three FTE engineers and three environmental health specialists annually manage approximately 390 permitted facilities, an average of over 100 permit applications, an average of over 175 solid waste complaints, illegal dumping sites, and numerous miscellaneous inquiries annually. Regulating landfills is intensive work, and while it is common for regulatory programs in other states to assign one engineer to each permitted landfill, the three engineers of the SWS must oversee 11 active permitted landfills in addition to the nearly 300 other permitted facilities.

The understaffing has had real impacts on the regulated community and county governments as permit application review times have steadily increased. These delays directly increase costs for facility owners/operators. Additionally, numerous activities have been drastically scaled back or discontinued. These include state solid waste management planning activity, tracking of county solid waste management planning activity, construction and demolition waste minimization/diversion outreach, lead-acid battery and tire recycling outreach/compliance and enforcement, environmentally preferable purchasing tracking, and leaf blower noise enforcement. Further reductions in service will likely take place if no new revenues are realized while costs continue to rise and revenue continues to decrease.

Increasing Costs

Program expenses currently exceed $600,000 annually and costs will continue to rise due mostly to rising salary and benefit costs. The most recent contract approved for HGEA Units 3 and 13 members increased last year's personnel costs by 4%; along with increases through FY 2017. These costs will be paid by the decreasing Surcharge revenue stream, creating annual deficits of approximately $200,000.

The program has been able to maintain positions and partial operations through cost savings incurred through position vacancies and reassigning personnel to other programs. Expenses, which are primarily salaries, are already unsustainable, and we expect to be insolvent within the next two years.

Legislative Activity

The department has requested an increase of the disposal surcharge through bills included in the Governor's administrative package for the past four legislative sessions. During the 2011 legislative session the department participated in a series of meetings, organized by the Senate's Committee on Energy and Environment that included representatives of the state, City & County of Honolulu, PVT Landfill, and Honua Energy. The meetings resulted in a compromise proposal of a tiered surcharge that ultimately did not pass the Legislature.

Because of the critical funding situation, the department will continue to work with the legislature to find workable solutions. If funding is not increased; additional mandated services will be eliminated. It should be noted that the legislative bill to increase the Surcharge as presented to the 2014 Legislature

requested additional funding to continue existing funded activities. A separate budget request was made to update State Integrated Solid Waste Management (ISWM) Plan. Both requests were not granted. If all activities as mandated in HRS 342G are to be performed, additional funding is required.

V. Clean Energy and Solid Waste Management

Increasing energy costs and Hawaii's dependence on fossil fuels has increased the focus on developing local renewable energy sources. The Hawaii Clean Energy Initiative seeks to have 70% of Hawaii's energy come from renewable sources by 2030, and landfill methane is a potential energy source to replace some fossil fuel use.

These efforts will likely affect the way we consider future waste management technologies. As an example, the City and County of Honolulu classifies the H-POWER waste to energy facility as a recycling activity. The City claims 74% of Oahu's waste is diverted from landfilling when including waste to energy use with traditional recycling and composting. The City's claimed diversion numbers may increase further with the completion of H-POWER's third boiler. Although we support the development of alternative energy sources, state solid waste laws (Chapter 342G, HRS) define incineration as waste disposal, not recycling, and therefore department cannot concur with the City's position that incineration is a form of recycling.

Additionally, in considering the hierarchy of solid waste management practices and the definition of recycling, there is an opposing view in that if incineration (or waste to energy) is considered recycling there will be less of an incentive to retrieve recyclable materials for the creation of new products and instead they will be utilized solely for their energy value. Because of our distance to markets and fuel sources, typical discussions heard on the national level may not be appropriate locally. Therefore, such evaluations should be conducted in the next state ISWM Plan, pending available funding.

These emerging issues are of serious importance to both the SWS and OSWM, as they may lead to a redefinition of traditional solid waste management approaches. The collective staff of both programs actively monitors these issues, tracking national and international discussions, and studying how new concepts may be incorporated into both planning and permitting processes.