

TOWN OF FAIRFAX STAFF REPORT March 2, 2016

TO:

Mayor and Town Council

FROM:

Michele Gardner, Town Clerk

SUBJECT: Acceptance of Marin Sanitary Service Fourth Quarterly Report (October-December

2015) and Annual Report 2015

RECOMMENDATION

Accept the reports.

DISCUSSION

Attached are the Fourth Quarter and Annual Reports from Marin Sanitary Service for the Council's review and acceptance. The quarterly report covers the fourth quarter period from October through December 2015. The Annual report covers all of 2015.

ATTACHMENTS

- 1. Marin Sanitary Service Fourth Quarterly Report
- 2. Marin Sanitary Service Annual Report 2015

Town of Fairfax

Quarterly Report October-December 2015



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2015

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Town of Fairfax

Quarterly Report October-December 2015

Curbside Collection Tonnage: Residential & Commercial

The overall curbside recycling rate for the fourth quarter of 2015 increased 2% from Q3 (72% to 74%). Table 1 shows the tonnage details for Residential and Commercial waste streams. Apartment data is included in the commercial tonnage.

TABLE 1 CURBSIDE RECYCLING, ORGANICS & GARBAGE FOR RESIDENTIAL AND COMMERCIAL MSS CUSTOMERS

	Residential	Residential	Commercial	Commercial	Total	Total
	Q3,2015	Q4,2015	Q3,2015	Q4,2015	Q3,2015	Q4,2015
Tons Collected:	***	_	-	_	_	
Curbside Yard Waste	342	404	*NA	*NA	342	404
Curbside Recycle	218	236	87	96	306	332
Transfer Station	288	284	262	261	549	545
Commercial Food waste (F2E)	NA	NA	17	18	17	18
Commercial processed at Marin Resource Recovery Center (MRRC)	NA	NA	33	75	33	75
Total Tons Collected	848	923	399	450	1247	1374

^{*}Commercial yard waste is co-collected with residential yard waste. Tonnage is included with Residential.

Tons Diverted:

				-	- .	
Curbside Yard Waste	342	404	*NA	*NA	342	404
Curbside Recycle	218	236	87	96	306	332
Commercial Food waste (F2E)	NA	NA	17	18	17	18
Commercial recovered through	NA	NA	234	266	234	266
MRRC						
Total Tons Diverted	560	640	339	380	899	1020

74%

*Commercial yard waste is co-collected with residential yard waste. Tonnage is included with Residential.

Diversion 66% 69% 85% 84% 72%

Market Values of Materials Diverted

Overall, salvage prices per ton for primary curbside commodities have been decreasing. This trend is expected to continue. Table 2 shows the per ton price for glass and aluminum Q3 compared to Q4 2015. Figures 1 and 2 show the average scrap values per ton of plastics and papers respectively Q3 compared to Q4.

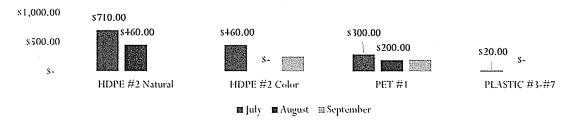
TABLE 2 AVERAGE MARKET VALUE PER TON OF CURBSIDE ALUMINUM AND GLASS (\$- DENOTES NO SALE THAT MONTH)

	Q 3 2015			Q4 2015			
Month	Aluminum	Glass	Month	Aluminum	Glass		
July	\$-	\$18.00	July	\$ 1.080.00	\$18.00		
August	\$1,100.00	\$18.00	August	\$1,050.00	\$18.00		
September	\$1,100.00	\$18.00	September	\$-	\$18.00		

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FIGURE 1 AVERAGE MARKET VALUE PER TON OF CURBSIDE PLASTICS Q3 AND Q4 2015 (\$- DENOTES NO SALE THAT MONTH)

Q3 2015 AVERAGE MONTHLY PLASTIC PRICES PER TON



Q4 2015 AVERAGE MONTHLY PLASTICS PRICES PER TON

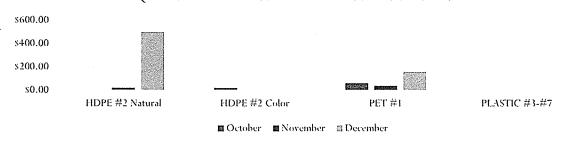
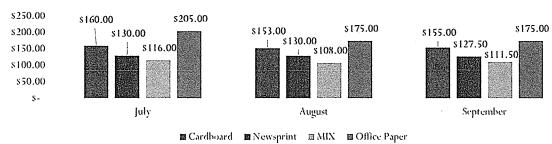
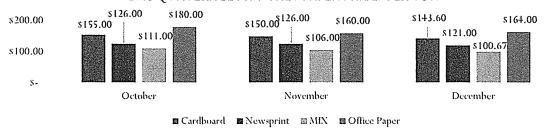


FIGURE 2 AVERAGE MARKET VALUE PER TON OF CURBSIDE PAPER FIBER Q3 AND Q4 2015

2015 Q3 AVERAGE MONTHLY PAPER PRICES PER TON



2015 Q4 AVERAGE MONTHLY PAPER PRICES PER TON



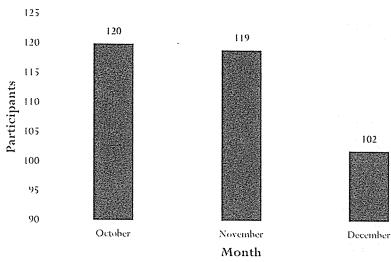
Household Hazardous Waste

For the fourth quarter of 2015, there have been a total of 339 drop-off customers at the HHW facility and 1 Residential Curbside Collection. Table 3 shows the participants by customer type and Figure 3 shows the total participation by month.

TABLE 3 HHW PARTICIPANTS BY CUSTOMER MONTH

CUSTOMER TYPE	PARTICIPANTS
RESIDENTIAL	335
CESQG	4
RESIDENTIAL CURBSIDE COLLECTION (RCC)	1

FIGURE 3 HHW PARTICIPANTS BY MONTH Q4 2015 (ALL CUSTOMER TYPES COMBINED)



New Itemized Billing System Update

The Franchisors Group (FG) has engaged HF&H to begin reviewing and revising our current disposal based rate structure in order to convert to one in which charges for all services (a materials management structure) will be outlined. Focus groups were held for residential, commercial, and multifamily tenants and property managers/owners at the end of 2013 and beginning of 2014. After analysis of the data, the group decided to go forward with a pilot for the commercial and residential customers only. Based on findings from the focus group and the rate pilot, the following was presented to the Franchisors' Group and was implemented in 2015.

RESIDENTIAL CUSTOMERS

This sector received a reformatted bill that showed all service with a bundled rate. In addition, they received a flyer twice with the bill that showed how to save money by reducing, reusing, recycling and composting. Customers are now offered extra dual sort recycling carts for a nominal monthly fee. Additional yard waste carts are already offered. Data showed an overall 20% increase in subscription to the 20 gallon service in all MSS jurisdictions (793 carts) in 2015 up from 379 carts in 2014.

COMMERCIAL CUSTOMERS

This sector received a reformatted bill and more information on cost savings through recycling and composting. Two organics programs are offered for the same charge to all commercial customers. There will be no charge for organic

Town of Fairfax | 2/1/2015

service at apartments for the time being. MSS will track service changes for 6 months and assess the impact of changes on service levels. A decision was made to stay with the current rate model and to reinvestigate as new recycling laws go into effect.

Customer Service

In the fourth quarter of 2015, there were a total of 3087 calls from the Town. Of these, 211 were for complaint related issues (145 misses and 66 broken cart/bin repairs).

Residential Garbage Service Levels

Table 4 below details the Residential service levels and the percentage change from Q3 to Q4 2015.

TABLE 4 SUBSCRIPTION LEVELS FOR RESIDENTIAL GARBAGE CARTS

Residential Weekly Garbage Service						
CART size	Q3 2015	Q4 2015	% change			
w20 gallon	539	568	5%			
32 gallon	1,858	1,824	-2%			
64 gallon	147	146	-1%			
96 gallon	9	9	0%			
Residential	Residential Weekly Dual Sort Recycling Service					
CART size	Q3 2015	Q4 2015	% change			
64 gallon	2,490	2,483	0%			
95 gallon	54	59	9%			
Resider	tial Weekly	Green Waste	Service			
CART size	Q3 2015	Q4 2015	% change			
35 gallon	37	43	16%			
64 gallon	2,531	2,523	0%			

Mandatory Commercial Recycling Compliance

MSS is working with the Town and Sustainable Fairfax to implement recycling and/or organic services at all Commercial and Multifamily Dwellings per the Town's Mandatory Commercial Recycling Ordinance, 8.08.130. Currently, all multifamily and commercial businesses are compliant with the Town's recycling ordinance. Thirty commercial business are enrolled in an organics recycling program: 20 (3 schools, 3 churches, and 14 businesses) are enrolled in the commercial compost program and 10 restaurants are enrolled in the commercial food to energy program. All Multifamily Dwellings (Apartments with 4 or more units) have recycling and 19 have organics composting service.

TABLE 5 COMPLIANCE: COMMERCIAL BUSINESSES AND APARTMENTS

Customer Type	Required and NOT compliant	Required and is compliant	Grand Total
Multifamily Dwelling	0	26	26
Commercial Business	0	93	93
Total	0	119	119

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Marin Sanitary Service

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FAIRFAX ANNUAL REPORT

2015

TABLE OF CONTENTS

Contents

Executive Summary	1
Operational Efficiencies	2
Waste Characterization Study 2014 and Diversion Working Group	5
Mandatory Commercial Recycling	20
Zero Waste Events	21
Residential Programs	24
Background on Diversion Calculations	26
Household Hazardous Waste (HHW) Programs: Curbside and Drop-off	29
Customer Service Call Logs	30
Contact Information	32
Company Information	32

Executive Summary

CONTINUED COMMITTMENT

Marin Sanitary Service (MSS) continuously puts forth its best effort to help the Town of Fairfax in meeting its Zero Waste and greenhouse gas reduction goals. On December 1, 2011, MSS signed a Contract with the Town that added several new Zero Waste programs to the existing list of services provided to the Town. As part of this Contract, MSS is providing the Town with a comprehensive annual report for calendar year 2015.

OPERATIONAL EFFICIENCY

The Operational Improvement Plan and Zero Waste Programs detailed in this report illustrate MSS's commitment to diverting resources from the landfill. Progress is being made to streamline collection services and to make technology and fleet enhancements that will make routes more efficient, improve data collection for monitoring and reporting purposes, and ultimately keep rates as low as possible. The Town and County of Marin have a Zero Waste goal to divert 94% of all materials from the landfill by 2025. MSS adds new programs and/or reviews and enhances ongoing programs on an annual basis. Community Outreach and Education is essential to meeting diversion goals.

2015 IN REVIEW

In 2015, another organics program was implemented in the commercial sector. Commercial customers now have the option of participating in two organics recycling programs: Commercial Food to Energy (F2E) and/or Commercial Composting. A pilot study was conducted in MFDs to study outreach methods that would result in high participation and low contamination. Another pilot looked at the logistics of implementing a scheduled curbside bulky item collection program. The 4R Planet School Programs has expanded and continues to bring in people not only from local jurisdictions but from all over the globe to learn about our facility and diversion programs.

LOOKING AHEAD

The focus for 2016 will be on removing organics from the landfill containers in all sectors (commercial, multifamily and residential). AB 1826 (Mandatory Commercial Organics Recycling) will go into effect on April 1, 2016. MSS will propose to add two new clean-up programs with the 2016 rate application in all service areas to help residential customers divert even more materials.

Sincerely,

Patty Garbarino President, Marin Sanitary Service February 1, 2015

Operational Efficiencies

In 2012, MSS underwent an extensive audit of its collection operations. From the results of the audit, a five year Operational Improvement Implementation Plan was developed and implementation began in 2013. This ongoing plan will lead to the following:

- Increased staffing and operational improvements.
- Technology changes and upgrades to the existing sorting infrastructure.
- Enhanced outreach and education programs.

The overarching goal is to efficiently increase diversion rates by introducing new programs and technology in a cost effective manner to keep rates affordable to the MSS rate base. MSS is now two years into the implementation of this efficiency based plan. Accomplishments to date include:

- Implementation of routing efficiencies including new routing software, continued replacement of rear loading trucks with more efficient fully automated side loaders, and route consolidations.
- Reduction of routes while sustaining high service levels. A semi-automated garbage route was
 replaced with a fully automated garbage route in the Town which allows for more efficient
 collection and the elimination of one full time driver position.
- Route supervision and auditing which have resulted in the retrieval of lost revenues.
- New Diversion Working Group established in 2015 to look specifically at all emerging diversion opportunities.

The following route audits were performed in 2015 in the Town. The primary purpose of these audits was to verify service at all accounts to ensure proper billing and to determine the feasibility of implementing fully automated routes.

<u>Service Not Billed</u>: One (1) account was not being billed for the services being provided. A letter was sent to the residence to inform them to call and set up an account to continue receiving service. The customer resumed service.

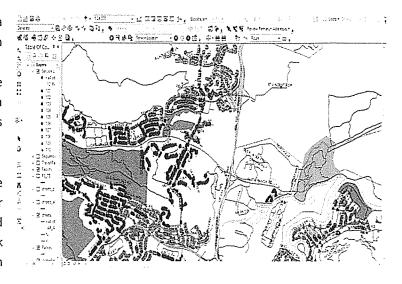
<u>No Service</u>: Seven (7) accounts did not have any service. Letters were mailed to these residences to inform them of the services offered by MSS. Two (2) customers have called and started service.

ROUTE OPTIMIZATION AND WORKFLOW IMPROVEMENT SOFT-WARE

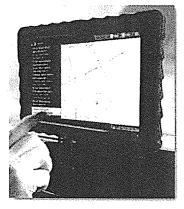
At the end of April 2015 MSS purchased RouteSmart, a route optimization and balancing software program, and began to aid the Operations Department in furthering our efficiency goals and maintenance of collection routes. In May a designated server was set up and a training and

implementation plan was established. This will take place over a five month period and is expected to be completed in November 2015. Phase 1 began in June 2015 and included:

- Purchase of the program and a dedicated RouteSmart program server.
- Data validation and cleanup in the main Customer Service Program concentrating on street/address details.
- Geo-coding of all street data.
- Review of collection route attributes including stop time per collection type, posted speed limits, route start/stop times, truck & cart capacity, and collection location.



<u>Tablet Implementation:</u>



In May 2015, MSS rolled out a new program utilizing Samsung Tablets to run routing software inside the route trucks. A total of 30 tablets are currently in use. Tablets were initially trialed on roll-off routes then expanded to cart delivery and commercial recycling routes. There are many benefits of using the tablets; however the two most important are: 1) the automated recording of collection data and 2) the ability to properly record and measure route productivity. The tablets track all work orders and route stops and automatically time stamp all pick-ups ensuring timely and efficient service to our customers. The tablets eliminate the need to manually enter this information into our

computer system and also enabled the Company to go paperless for these routes. Prior to this, each driver received a route list that could be one hundred or more pages in length. Not only do the tablets contain all the information contained in the printed route list, they also enable the driver to enter route notes directly into each customer's account, take pictures to document blocked or overloaded containers, and sequence new stops they may have on their route. These notes contain useful information that help customer service representatives to give real time information to our customers. Next steps will be to add the tablets to the Residential Automated Routes. The use of these tablets will

continue to help streamline MSS operations and simplify the record keeping needed to ensure routes are run efficiently.

Waste Characterization Study 2014 and Diversion Working Group

In 2014, Marin Sanitary Service commissioned CalRecovery, Inc. to perform a quantitative characterization of disposed waste delivered to the transfer station at Marin Sanitary Service. Loads delivered to the Transfer Station by MSS rear loaders, roll-offs, and front loaders collection vehicles were sampled and sorted. Results were presented to MSS in December 2014.

Summary of Results

The two largest material types still disposed of by the residential and commercial sectors are organics and paper (Table 1). Substantial percentages of food waste were identified in disposed residential waste (29%), roll-off accounts of large commercial customers (39%), and commercial front loader accounts (36%). Substantial concentrations of recyclable paper fiber (corrugated/paper bags, newspaper, and mixed paper subcategories) were identified in disposed residential waste (13%), roll-off accounts of large commercial customers (17%), and commercial front loader accounts (20%). Contaminated paper, in many cases coated with wet food waste, comprised between 4% and 8% of the residential, commercial roll-off, and commercial front loader disposed waste.

Table 1: Materials in Disposed Waste stream

CUSTOMER TYPE	COLLECTION VEHCILE TYPE	MATERIAL DISPOSED	PERCENTAGE OF DISPOSAL
Residential	Rear Loader	Food waste	29%
Commercial	Roll-off	Food waste	39%
Commercial/Multifamily	Front Loader	Food waste	36%
Residential	Rear Loader	Paper Products	13%
Commercial	Roll-off	Paper Products	17%
Commercial/Multifamily	Front Loader	Paper Products	20%

The residential focus group, in the rate structure analysis, revealed that the majority of customers value MSS recycling and composting services and say they "recycle all they can". However, many still report the "ick" factor (smells, mess, and pests) often prevents them from always placing food scraps in the organics (green) cart. MSS will focus efforts on hands-on workshops that show customers how to avoid issues like smells, dirty carts and fruit flies. Despite high customer awareness around curbside recycling and organics services, a disconnect exists between what customers say they do and what they actually do. This is evidenced in Figure 1 (materials in disposed waste stream that go to the landfill) which shows that many easily recyclable and compostable items are still ending up in the landfill. Table 2 compares the 2008 study to the 2014 study. Another focus group finding from the residential sector is that people are confused about paper/fiber recycling. Though the amount of paper being thrown away has actually decreased from 28% to 17%, confusion remains around paper board items like cereal boxes and glossy paper items like ads and junk mail. MSS will have more single material type education and messaging in print, on the web and in social media campaigns and will be working with an Outreach firm that specializes in behavior change campaigns using Community Based Social Marketing.

Figure 1: 2014 Composition of Disposed (Landfilled) Waste Stream from Residential (95%)/Light Commercial (5%)

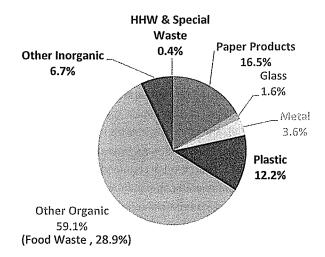


Table 2: 2014 Waste Characterization Comparison of Disposed (Landfilled) Materials in Residential Sector

MATERIAL	PERCENTAGE OF DISPOSAL 2008	PERCENTAGE OF DISPOSAL 2014
Other Organic (Yard waste and soiled paper)	21%	30%
Food waste	27%	29%
Paper products	28%	17%
Glass	2%	2%
Metals	5%	4%
Plastics	12%	12%

The commercial focus group revealed that the majority of customers value MSS recycling and composting services but only 16% said they actually recycle all they can. The 2014 Waste Characterization study broke out commercial accounts by container type (Figures 2 and 3). This was not broken out in the 2008 study, however. Percentages of disposed materials were averaged for these two streams in the 2014 study for comparison with the 2008 study in Table 3. Organics and paper continue to comprise the majority of recoverable items still being disposed in landfill containers (75% in 2008 and 74% in 2014). The addition of the commercial composting program in 2015, increased participation in commercial food waste to energy, and a full scale multifamily organics program in 2016 will help to move these materials out of the landfill.

Table 3: Comparison of Disposed (Landfilled) Waste Stream for Commercial Customers

MATERIAL	PERCENTAGE OF DISPOSAL 2008	PERCENTAGE OF DISPOSAL 2014
Other Organic (Yard waste and soiled paper)	15%	13%
Food waste	30%	37%
Paper products	30%	24%
Glass	2%	3%
Metals	1%	2%
Plastics	15%	16%

Figure 2: 2014 Composition of Disposed (Landfilled) Waste Stream from Commercial Roll-off

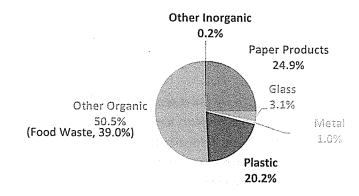
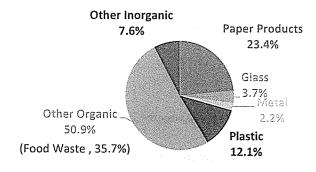


Figure 3: 2014 Composition of Disposed Waste from Commercial Front Loader Accounts



DIVERSION WORKING GROUP

The MSS Diversion Working Group (DWG) was created to use the results of the Waste Characterization Study performed by CalRecovery at the end of 2014, and to identify and develop projects that will ultimately increase the recycling rates for the rate regulated services and programs at Marin Sanitary Service and the non-rate regulated services at the Marin Resource Recovery Center. This will also aid in helping our jurisdictions meet their Climate Action Plan goals and help the County of Marin reach its diversion goal of 94%.

Identified Strategies:

- The primary company strategy is to continue advocating source separation of materials in the
 existing waste streams with a focus on organics and paper.
- 2. Collect additional materials (bulky items) that cannot be collected in curbside carts through scheduled clean-up programs and have them processed through MRRC.
- 3. Completely separate wet organics from the commercial waste stream, allowing for the processing of commercial "dry recyclable sort loads" inside MRRC.
- 4. Utilize new technologies to process the organics stream and/or recover the remaining difficult to process recyclable materials.

The Diversion Working Group (DWG) is comprised of Managers and key staff from Operations, Outreach, and Contract Compliance. Six (6) projects have been identified based on findings from the 2014 CalRecovery Waste Characterization Study that will focus on specific material streams for increased recovery efforts. Meetings occur bi-monthly. Organics comprise the majority of the materials still being disposed of by customers. Therefore, we believe that focused efforts on this stream will achieve two goals: a reduction in GHG emissions (since organics are the largest contributor to greenhouse gas emissions in a landfill), and increased diversion of these materials from the landfill into compost and energy. Source separation will remain our primary strategy to collect recyclable materials to retain high value and volume. Once maximum source separation is attained and organics are removed from the waste stream, the resulting waste stream can be better analyzed to determine which technology would be most appropriate for processing and recovering the remaining resources to increase recycling rates and diversion.

Projects Identified:

- 1. Multifamily Organics (Food scraps/Yard waste) Pilot Study
 - a. Primary goals:
 - i. To increase participation in compost programs among Multifamily Dwelling tenants.
 - ii. To determine cost effective methods of outreach.
 - iii. To collect contaminant-free organic material.

iv. To study the cost impact of implementing a full scale organics program at MFDs.

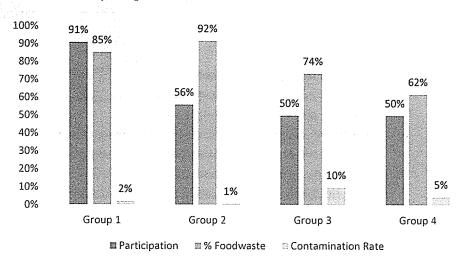
b. Results:

 Four outreach strategies (Table 4) were tested on 20 apartment buildings containing 185 units total. Overall study results are shown in the Table 5.

Table 4: Outreach Method by Group

Outreach Tools	Group 1	Group 2	Group 3	Group 4
Kitchen pail	Yes	No -	No	No
Training/Presentation	Yes	Yes	No	No
Door-to-door outreach	Yes	Yes	No	No
Brochures/Internal Stickers	Yes	Yes	Yes	No
Posters/Signage/Cart Stickers	Yes	Yes	Yes	Yes

Table 5: MFD Composting Pilot Results



ii. Participation was audited to show the use of the green carts for collection of food waste, food soiled paper and yard waste. Group 1 had a significantly higher level of participation (91%) compared to the other three outreach Groups. The green carts in this study were primarily used for the collection of food waste and food soiled papers. A small percentage of the overall compostable material was yard waste. Though not

studied, this is most likely due to separate collection of landscaping materials by maintenance or a professional landscaping company. While percentage of food waste in with the yard waste was not significantly different between Group 1 and 2, there was a significant difference between the first 3 Groups and Group 4. Contamination also increased significantly in the groups that received the least outreach (Group 3 and 4). Contaminants included plastic bags, plastic cups, plastic bottles, plastic to-go containers, Styrofoam cups and egg cartons, milk cartons, and coffee cups.

c. MSS Recommendations:

- i. Utilize the outreach methods and tools provided to Group 1. These included kitchen compost pails, door to door outreach with tenant, stickers, signs, brochures, flyers, and training programs for Property Managers and Tenants
- 2. Rate implications and options will also be provided to MSS Service areas with the 2016 rate application. Commercial Food Waste to Energy (F2E)
 - a. Primary goals:
 - To increase tonnage collected by increasing participation in the program.
 - To increase community outreach and messaging about the importance of the program.

b. Results:

i. Targeted messaging was sent to all potential customers beginning March 2015. A press release in mid spring resulted in coverage of the success of the program in two local newspapers, four on-

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- line news sources, and one State Renewable Energy magazine. ii. According to focus groups conducted in 2014, face to face conversations is what guides the behavior of this sector. The primary focus of Outreach is to increase participation.
- iii. At the end of 2014, there were 70 customers enrolled in the F2E program. With increased outreach efforts, advertising, and referrals from garbage route drivers, this number increased to 119 by June 30, 2015. Average tonnage per month has increased from 3.5 tons per day in 2014 (six day per week collection) to 5.2 tons per day by June of 2015.

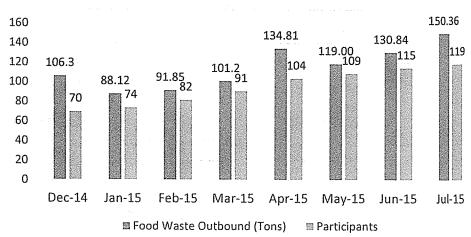


Figure 4: F2E Progress December 2014 to July 2015 (tons)

iv. Central Marin Sanitation Agency by the end of June 2015 was generating 16-18 hours per day of their energy needs from food waste, biosolids and fats, oil and grease collection (FOG).

3. Residential Organics (Food scraps/Yard waste) recycling

- a. Primary goals:
 - i. To increase tonnage collected by increasing participation in the program.
 - ii. To increase community outreach and messaging about the importance of the program.
- b. Plan:
 - i. Two new ad campaigns ("Make Every Crumb Count" and "Every Meal, Every Day, Every Week: Compost") had targeted messaging to get customers to place food waste in with the yard waste into the MSS green organics carts. Ads were also placed in the Marin IJ, the Pacific Sun and the Marin Scope newspapers. Posters with messaging were also distributed around the community and in schools.

MAKE EVERY CRUMB COUNT. YOU CAN MAKE A DIFFERENCE. Composting food scraps and food soiled paper keeps valuable resources out of the landfill and reduces greenhouse gas emissions.

- ii. All residential customers received information on what to place in the green cart through a special compost newsletter with their bill.
- iii. The website has been redesigned and contains more information on the importance of this program, kitchen pail purchasing, tips for collecting food scraps in the home, and a list of acceptable and non-acceptable items.
- iv. Curbside composting workshops were implemented in 2015. The plan is to have one per quarter. Customers are notified of the events through social media, the web, and the distribution of flyers at public agencies and buildings.
- v. In addition, the program is promoted at local events and on the MSS website.
- vi. MSS will continue to partner with WMEarthcare (the compost facility at Redwood Landfill), Zero Waste Marin, local non-profits and community groups on the promotion of these organics programs.
- vii. It was decided to forego food waste in green waste participation audits for 2015. 49% of all organics routes are fully automated. Fully automated collection is much more efficient and cost effective. The 2014 Waste Characterization showed an increase of FW in the landfill despite high participation rates in 2013 (47%). Tonnage is not correlating with participation though and the amount of food waste in the yard waste is less than 3% on visual inspection. Outreach and effective messaging are the strategies that the group feels will ultimately decrease the FW that is ending up in the landfill.

4. Commercial "Dry loads" through MRRC

a. Primary goals:

- i. To identify large commercial customers that have large volumes of "dry" materials that cannot be collected in curbside carts and route them to MRRC for processing. For large commercial customers, dry loads may consist of items such as pallets, cardboard, large plastic items, or other bulky items.
- ii. To increase recovery of recyclable materials using current technology from this customer base.

b. Plan:

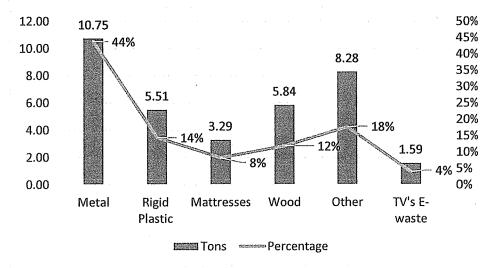
- i. MSS will begin coding customers by business type in Soft-Pak.
- ii. Material mix will be audited through visual waste audits of the garbage stream.
- iii. It is anticipated that approximately one third of all commercial bin customers would qualify for inclusion in a dry load diversion program and that this could result in the recovery of 25 30% more materials through manual sorting of dry loads.
- iv. Work began early 2015 to identify this customer based on material mix from visual waste audits. These customers will be "routed for diversion" through MRRC.
- v. The rate implications for processing additional loads at Marin Resource Recovery will be analyzed and presented to the MSS service area in spring 2016.
- 5. Processing at MRRC of bulky item loads from MSS curbside collection programs: Las Gallinas Valley Sanitary District Pilot Program
 - a. Primary goals:
 - i. To determine the feasibility of implementing a curbside bulky item collection program for residential customers in order to decrease illegal dumping of materials. The chosen area for the pilot was Santa Venetia (LGVSD) with Monday-Thursday collection days.
 - ii. Results from the pilot have allowed MSS to determine the following (Figure 5)
 - 1. Cost of implementation: truck, driver time, outreach time and materials.
 - 2. Cost of disposal and processing.
 - 3. Types of materials collected.
 - 4. Types of materials diverted.

407 357 350 245 228 29% 214 20% 120 119 116 108 103 50 Tuesday Wednesday Thursday Monday □ Customer Participation □ Daily Customer Count □ Tonnage □ Pounds per Person

Figure 5: Santa Venetia Bulky Item Pilot Results

iii. Overall, participation was 29% with 35.25 tons of materials collected. 82% of these materials were diverted from the landfill. Materials included scrap metals, rigid plastics, mattresses, wood, TVs and e-waste.





- b. MSS Recommendations:
 - To add scheduled curbside bulky item collection programs in every service area.
 Programs currently offered in some jurisdictions include scheduled curbside clean-

- ups of extra yard waste, recycling, and garbage; on-call bulky item collection; and a hybrid of these two programs.
- ii. Collecting bulky items on a scheduled basis in all jurisdictions may help alleviate illegal dumping and will lead to higher participation in these programs.
- iii. Table 6 below compares the current curbside collection programs in our contracts for unincorporated areas of Marin County (Ross Valley North, Ross Valley South, and unincorporated central Marin) to the LGVSD pilot. Distributing flyers to individual customers the week before collection lead to a significant increase in participation; however, this method of outreach is also time consuming and costly.

Table 6: Comparison of Curbside Collection Programs

Jurisdiction	Participants	Customer Base	Participation Rate	Tons Collected	Outreach Method
Ross Valley-South County of Marin	150	2882	5%	10.4	Direct Mailer
Ross Valley-North	233	1231	19%	9.62	Billing Insert
Las Gallinas Valley Sanitary District (Santa Venetia) Pilot	405	1359	29%	35.25	Door to Door Flyer

- iv. Rate implications will be provided to MSS service areas with the 2016 rate application
- 6. Infrastructure: Developing and utilizing new technologies and equipment to process the organics stream and/or to recover the remaining difficult to process recyclable materials.
 - a. Two new technologies look very promising and have been approved to fit within the land use footprint of MSS.
 - Dry Anaerobic Digestion could be used to process the more contaminated organic fraction primarily from multifamily dwellings serviced by MSS. The biogas derived from this process could be used as an energy source or a fuel source.
 - ii. Biomass Conversion technology could use the non-compostable wood waste as feedstock for energy generation that could take MRRC off the grid.
 - b. The Transfer Station will need to be rebuilt in the near future and we believe it could be better utilized by incorporating new technologies in the existing footprint. MSS will continue to explore these and other technologies in the coming years and will work to find

a cost effective strategy that will result in more diversion of resources from the landfill. Public Information Programs

OUTREACH AND EDUCATION SERVICES

At Marin Sanitary Service, community involvement through education, outreach and alliance building is our greatest passion and supports our ultimate goal of zero waste. Our duty is to engage and educate our community in how *they too* can be part of the solution. Outreach is the most important aspect in reaching our goal of zero waste. In order to provide more hands-on training to customers, MSS now employs five full-time Recycling Programs Coordinators each dedicated to a customer type in addition to a full time Household Hazardous Waste Coordinator. Their contact and program specialty is listed below.

Table 7 Outreach Contacts and Specialties

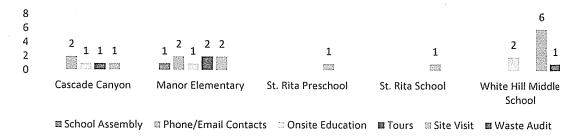
OUTREACH DEPARTMENT STAFF					
Name	Title	Contact	Primary Focus		
Jennifer Grenier Selvig	Recycling Programs Coordinator	(415) 458-5542 Jennifer.grenier@marinsanitary.com	Large Commercial Businesses and C&D Programs		
Jessica Connolly	Recycling Programs Coordinator	(415) 456-2665 Jessica.Connolly@marinsanitary.com	Multifamily Dwellings (Apartments)		
Ruben Hernandez	Recycling Programs Coordinator	(415) 526-6622 Ruben.Hernandez@marinsanitary.com	Food to Energy and Commercial Organics		
Zoe Pearl	Education and School Recycling Programs Coordinator	(415) 458-5539 Zoe.Pearl@marinsanitary.com	Tours, Recycling Education and Outreach in Schools.		
Kathy Wall	HHW Coordinator	(415) 485-6806 kathy.wall@marinsanitary.com	Curbside and Drop-off HHW Programs		
Chance Shelley	Recycling Programs Coordinator	(415) 458-5530 Chance.Shelley@marinsanitary.com	Community Outreach and Residential Programs		

4R PLANET SCHOOL PROGRAM AND TOURS

The 4R Planet School program is twofold. One aspect is our onsite program which includes tours of the MSS recycling facilities and lessons on the Four R's in the MSS Environmental Classroom. The second aspect is our in school program which include hands-on training, waste diversion program assistance, and custom educational lessons. All of these activities are led by our Education & School Recycling

Programs Coordinator. Twenty four (24) outreach activities were provided to the schools listed in Figure 1. Manor Elementary School sent 83 students for educational tours of the recycling facility. These same students received two (2) educational lessons in the classroom. White Hill Middle School really ramped up their recycling efforts this school year. They are enrolled in a school recycling pilot study conducted by Zero Waste Marin and MSS. As part of the pilot, they received a baseline waste assessment to determine the materials the school is throwing in the garbage that should be diverted. Many more activities are planned for 2016. Cascade Canyon continues to recycle well; however, the school did not come for a tour in 2015. St. Rita's Preschool and K-8 both received site visits to assess their recycling needs; unfortunately, the schools are now closed.

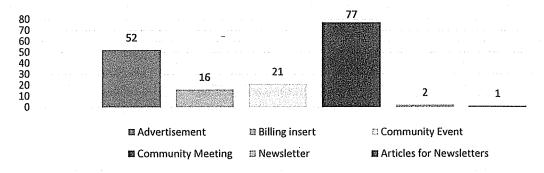
Figure 7 School Outreach Activities by Type



Outreach Materials and Community Events

All Fairfax residential and commercial customers have received multiple direct mail pieces informing them of our programs and services. These mailings have educated the public on zero waste programs; proper recycling and composting practices; the hours and times of operation at all facilities; proper disposal of household hazardous waste; and the towns Mandatory Commercial Recycling Ordinance. Materials were also distributed to public libraries, town halls, Police and Fire Departments, Chambers of Commerce and Community Bulletin Boards to reach more of the community. MSS increased the distirbution of program ads for 2015 to inlcude print and online newspapers, print and online magazines magazines, event publications and community bulletins.

Figure 8 Public Outreach by Type (not including Schools or Mandatory Commercial Recycling)



A 2015 Outreach/Communications goal for MSS was to increase our social media presence. MSS now has a Facebook page https://www.facebook.com/marinsanitary and a Twitter feed https://twitter.com/mssrecycles. Please like and follow us! Below are some statistics we gathered for the Facebook page.

Figure 9 Lifetime "Likes" on Facebook (unique users)

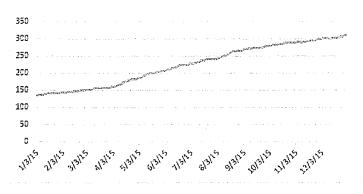
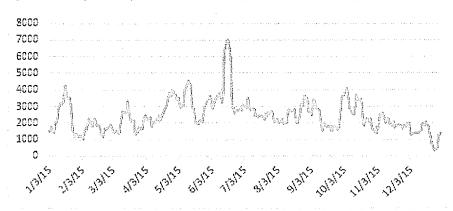
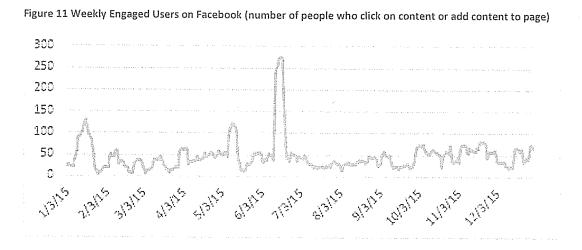


Figure 10 Weekly Total Impressions on Facebook (content viewed on the page)





Mandatory Commercial Recycling

MSS is working with the Town and Sustainable Fairfax to implement recycling and/or organic services at all Commercial and Multifamily Dwellings per the Town's Mandatory Commercial Recycling Ordinance, 8.08.130. Currently, all multifamily and commercial businesses are compliant with the Town's recycling ordinance. Thirty commercial business are enrolled in an organics recycling program: 20 (3 schools, 3 churches, and 14 businesses) are enrolled in the commercial compost program and 10 restaurants are enrolled in the commercial food to energy program. All Multifamily Dwellings (Apartments with 4 or more units) have recycling and 19 have organics composting service.

Table 8 Compliance: Commercial Businesses and Apartments

Customer Type	Required and NOT compliant	Required and is compliant	Grand Total
Multifamily Dwelling	0	26	26
Commercial Business	0	93	93
Total	0	119	119

Table 9 Outreach for all Commercial Businesses and Apartments

OUTREACH ACTIVITIES FOR MANDATORY COMMERCIAL RECYCLING ORDINANCE

Compliance Packets Mailed	Phone Call or Email	Onsite Education & Training	General Recycling Info Mailed	Recycling Needs Assessment	Waste Audits	Grand Total
1	105	13	0	67	6	249

MSS is partnering with Sustainable Fairfax to do door-to-door outreach to the business and apartment buildings and will focus on diverting organics from the landfill for 2016.

The Fairfax Commercial/Multifamily Customer base represents 4% of the total MSS Commercial/Multifamily base. Six percent of all outreach activities were performed in the Town in 2015.

Zero Waste Events

ANNUAL PAPER SHREDDING, E-WASTE, AND UNUSED MEDICATION COLLECTION DAY



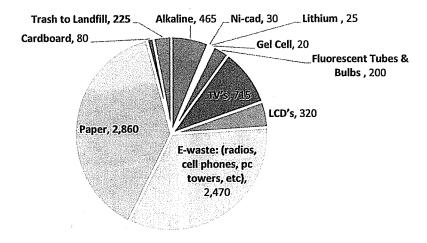


MSS collaborated with Sustainable Fairfax to plan an annual Take Back collection event on May 2nd, 2015. This event was provided at no cost to the participating residents. Approximately 191 residents attended. This event diverted 7185 pounds of materials from the landfill and achieved a **97%** diversion rate. In addition to the Take Back Stations, MSS and Sustainable Fairfax had information tables highlighting the residential recycling and compost programs, residential mobile universal household hazardous waste program, and the commercial recycling programs.

Table 10 Take Back May 2, 2015

DIVERSION FROM TAKE BACK DAY	
Total materials collected (lbs.)	7410
Total materials diverted (lbs.)	7185
Total to landfill (lbs.)	225
Diversion Rate	97%
PARTICIPANTS	
Cars	154
Bikes & Pedestrians	37
Total Participants	191
Average Participant Per Hour	32

Figure 12 Materials Collected by Percentage

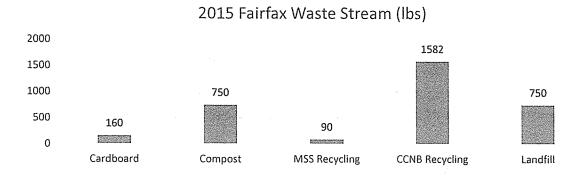


FAIRFAX FESTIVAL

In collaboration with The Town of Fairfax and Conservation Corps North Bay, MSS was able to provide services, signage and event waste management guidance to the town for the Fairfax Festival on June 13th-14th, 2015. The Fairfax Festival was a huge success both in providing entertainment and activities to patrons and in diverting wasted material from the landfill. The festival also disposed of less total material than in previous years, indicating that source reduction strategies were successful.

Coordination between the Town of Fairfax, CCNB, and MSS was key to achieving such a high diversion rate. Signage and CCNB staff assisted patrons in quickly and correctly sorting material. Every sorting station was manned by a CCNB representative who kindly helped people think about where items go, and questionable items were brought to the attention of festival staff.

Figure 13 Materials Collected by Type and Weight (lbs.)



Recommendations for 2016 event:

- 1. Elimination of all compostable plastics would be key in decreasing the confusion of festival patrons.
- 2. CCNB signage created for the festival which depicts material that is sold from vendors.
- 3. Having booth and vendors sign contracts to not give out "swag" that may end up in the garbage.
- 4. Ensure all vendors only serve food in beverages in truly compostable and recyclable materials.

Residential Programs

RESIDENTIAL SERVICE LEVELS

All residential customers are offered three services as part of the bundled "resource hauling" rate. This includes a gray "landfill" (garbage) cart, a dual sort split body recycling cart and a green organics cart. The charge is based on the size of the landfill cart. There are 2,495 Residential customers signed up for service with MSS. Below are the residential cart subscription levels for 2015.

Table 5 Residential Cart Service Subscriptions

Residential Weekly Garbage Service					
Number of customers					
CART size	2013	2014	2015	% Change	
20 gallon	411	472	568	38%	
32 gallon	1972	1934	1824	-8%	
64 gallon	143	148	146	2%	
96 gallon	6	8	9	50%	

Table 6 Residential Cart Service Subscription for Recycling and Organics

Residential Weekly Dual Sort Recycling Service						
CART	Number of customers					
CART size	2013	2014	2015	% Change		
64 gallon	2488 2512 2483 -0.20%					
95 gallon	NA 29 59 103%					
Residential	Residential Weekly Green Waste Service					
CART size	Numbe	r of cust	tomers			
CART SIZE	2013	2014	2015	% Change		
32 gallon	NA 24 43 79%					
64 gallon	2519 2540 2,523 0.16%					

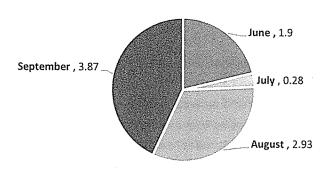
CHIPPER DAYS

Marin Sanitary Service recognizes the importance of providing safe, efficient and reliable curbside yard waste removal on residential properties for the prevention of fires. MSS helped the town promote four "Chipper Days" throughout the summer in collaboration with the Fairfax Volunteer Office and the Fire Department to further reduce disposal of heavy brush that may pose a fire threat to the Town.

Residential customers received a flyer with their Resource Hauling bill informing them of the event as well as information on the MSS curbside residential organics (food scraps/yard waste) program. A total of 8.98 tons of heavy brush was removed from the town, chipped and composted. The "Chipper Days" program, now in its fourth year, continues to provide a valuable safety service to the residents of Fairfax.

Figure 14 Brush Collected by Year (tons)





COMMUNITY COMPOST AVAILABILITY

Per our agreement with the Town, MSS will deliver up to a total of 45 tons of compost material to a designated bunker for distribution to the citizens of the town. 45 tons of compost was requested and delivered for 2015.

PROMOTION COMPOSTING USING GREEN CARTS

All residential customers received a special compost newsletter with their bill that contained information on the importance of this program, kitchen pail purchasing, tips for collecting food scraps in the home, and a list of acceptable and non-acceptable items. In addition, the program is promoted at Town events and on the MSS website. Outreach will continue in 2016 in partnership with Zero Waste Marin, the Town, and Sustainable Fairfax. Curbside composting workshops are planned for 2016.

Background on Diversion Calculations

DIVERSION VERSUS RECYCLING RATES

There is confusion about diversion rates which are used by the County of Marin to gauge compliance with State mandates such as AB 939 and recycling rates, which are used by haulers to determine what amounts of materials are recycled or composted curbside for residential and commercial customers. Both methods help measure success/compliance, however, they use different calculation methods. Overall, the goal is to reduce waste and send less waste to the landfills by recycling and composting more materials.

Jurisdictional <u>diversion rates</u> are calculated based on a disposal-based indicator which is a per capita disposal rate expressed as pounds per person per day (PPD). This disposal rate uses two factors: a jurisdiction's population and its disposal tonnage, as reported by disposal facilities. The jurisdictional diversion rate focuses on a list of programs that includes but is not limited to recycling, composting, household hazardous waste, and other source reduction programs such as purchasing policies, xeriscaping, and material exchange programs (thrift shops, yard sales, reuse stores). The disposal target for each jurisdiction or regional agency was calculated by averaging the waste generation over a period of four years (2003, 2004, 2005, and 2006), which was determined by CalRecycle to be the equivalency of the 50% AB 939 landfill diversion rate. The disposal target for the Marin County was calculated to be 7.6 PPD. For 2014, the Marin County Jurisdictional Diversion rate was 74% (down from 75% in 2013) with a population disposal of 4.0 PPD (up from 3.8 PPD in 2012). Information on the source reduction reporting element can be found at the link below. For 2015, the disposal for the Town was 1.24 PPD. This is an increase from 1.20 PPD in 2014.

(http://www.calrecycle.ca.gov/lgcentral/PARIS/Codes/default.htm#Reduction)

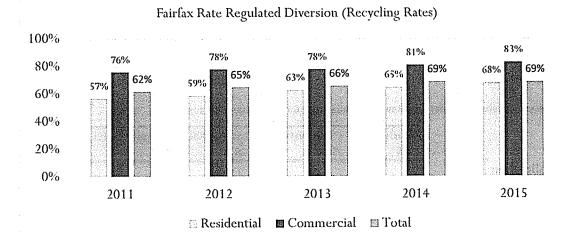
The ton-per-ton disposal and <u>recycling rates</u> of the various haulers in Marin, including Marin Sanitary Service, all contribute to the 74% diversion rate. For the purpose of this report, only tonnages for materials collected and processed under the Franchise Agreements are used and are presented going forward as "Recycling Rates". The Franchised Programs are discussed under Zero Waste Programs. Other tonnages from residential and commercial self-hauling, construction & demolition debris box rentals, and a host of other non-franchised programs within the County are not accounted for in this annual report but *are* reflected in the Jurisdictional diversion rate that is reported by MSS to the Marin Hazardous and Solid Waste Joint Powers Authority (JPA), who in turn reports this tonnage information to the State of California. Table 12 shows the tonnage collected for the entire MSS Service Area. The overall recycling rate has increased slightly from Q2, 2014 to Q2, 2015. Jurisdictions all over

the Nation are seeing similar trends in Recycling Rates partially due to the "evolving ton". There are fewer newspapers in print, less glass, lighter weight metals and plastics, more film pouch packaging compared to 10 years ago. On average, it takes 25% more plastic by volume to make the same ton today. Though more volumes of materials are being recycled and processed, this shift combined with less overall disposal makes the recycling rates appear to be unchanged or even decreasing according to an EPA Webinar Series on "The Changing Waste Stream", November 13, 2014.

Table 11 Recycling Rates: Calendar Year Review for All Refuse Collected (based on tons)

	Residential 2015	Residential 2014	Commercial 2015	Commercial 2014	Total 2015	Total 2014
Tons Collected:	_	_	_	_		
Curbside Yard Waste	1521	1453	*NA	*NA	1521	1453
Curbside Recycle	1170	1280	124	123	1294	1403
Transfer Station	1426	1448	813	857	2239	2305
Commercial Food waste (F2E)	NA	NA	61	44	61	44
Commercial processed at Marin Resource Recovery Center (MRRC)	NA	NA	195	196	195	196
Total Tons Collected	4117	4181	1193	1220	5310	5401
*Commercial yard waste is co-collected with residential yard waste. Tonnage is included with Residential. Tons Diverted:						•
Curbside Yard Waste	1521	1453	*NA	*NA	1521	1453
Curbside Recycle	1170	1280	124	123	1294	1403
Commercial Food waste (F2E)	NA	NA	61	44	61	44
Commercial recovered through MRRC	NA	NA	803	824	803	824
Total Tons Recycled	2691	2733	988	991	3679	3724
*Commercial yard waste is co-collected with residential yard waste. Tonnage is included with Residential.						
Recycling Rates	65.4%	65.4%	82.8%	81.2%	69.3%	69.0%

Figure 15: Fairfax Rate Regulated Historical Recycling Rates



Household Hazardous Waste (HHW) Programs: Curbside and Dropoff

New residential customers receive a brochure explaining the Curbside Collection program. All new customers also receive a Residential Services Guide that explains the drop-off facility program. A new HHW website (www.marinhhw.com) has detailed information on the materials accepted, how to transport materials to the facility, how to schedule curbside collections, and more. Despite the advertisement of this program, participation continues to be very low. The Curbside program had only five (5) participants this year, down from 6 in 2014. MSS continues to partner with Sustainable Fairfax to get the message out at more community events. Brochures were distributed to the Library and the Police Department. While anticipated participation is lower than expected, the participation for the drop off program at the Marin Household Hazardous Waste Facility has remained steady and averages 119 Fairfax participants per month.

In 2015, there were 1429 combined Residential and Commercial Conditionally Exempt Small Quantity Generators (CESQG) participants. This is up from 1,337 participants in 2013. The main products being collected are latex paint, batteries, and fluorescent tubes and bulbs.

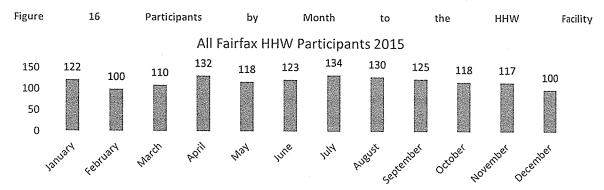


Table 8 HHW Customers by Type

Customer Type	Participants
Residential	1415
CESQG	98
Residential Curbside Collection (RCC)	5

Customer Service Call Logs

RESIDENTIAL AND COMMERCIAL NEW STARTS FOR 2015

This year, there were 185 calls to start new Residential service. All new customers received the Residential Service Guide that explains MSS Curbside collection services and programs, debris box rental and document shredding; Marin Resource Recovery Center drop-off information; Marin Recycling drop-off and buy-back information; and Marin Household Hazardous Waste drop-off information as well as the HHW Curbside Collection Brochure. This year, there were 26 calls to start new Commercial service. All new customers received information on MSS Curbside collection services and programs, debris box rental and document shredding; Mandatory Recycling Laws and ordinances; and Marin Household Hazardous Waste drop-off information.

CUSTOMER COMPLAINTS

We are proud to report that there are minimal complaint calls from the Town. From January 1, 2015 — December 31, 2015, there were 634 customer complaint related calls (591 residential and 43 commercial). There were 450 missed pick-up calls, accounting for less than 0.18% of the total customer annual collection count. In most cases, the drivers were able to pick-up the missed carts on the same service day or the next business day. From 2014 to 2015 there was a slight increase in complaint calls. This could be attributed to two routing changes that occurred in the Town. A long time Fairfax driver retired and a new driver took over the route. On average, it takes a driver a few months to fully learn the route. To make routes more efficient, a semi-automated rear loader route was changed to a fully automated route. Fully automated routes require carts to be spaced two feet apart for efficiency. There were 151 residential carts reported not out for service, along with 26 commercial carts. O carts were reported as contaminated! There were 187 calls reporting broken carts and 12 for broken bins. All carts and bins were either repaired or replaced.

Table 9 Complaint Log by Type

Misses by Route Type	
Commercial Garbage	24
Commercial Recycling	7
Commercial Yard Waste	3
Commercial Total	34
Residential Garbage	227
Residential Recycling	101
Residential Yard Waste	88
Residential Total	416

Total	22
Broken Residential Yard Waste Cart	39
Broken Residential Recycling Cart	83
Broken Residential Garbage Cart	90
Broken Commercial Bin	12
Broken Container by Type	

REPORTS OF INJURIES AND DAMAGE TO PROPERTY

Marin Sanitary Service has an active safety committee that includes owners, supervisors, loss control and insurance personnel that meets monthly to review accidents and injuries. Each department has a tailored safety plan that includes ongoing training and review for new equipment, procedures and all OSHA required safety subjects. Documented employee safety meetings are held daily, weekly, monthly and throughout the year with written agendas and handout materials in all departments.

All accidents and injuries are investigated in an interactive process with the employee to determine what factors caused the event. If it is discovered that changes to equipment, procedures, or collection location could prevent a recurrence, corrective action is taken whenever possible. If refresher training is needed, it is addressed with the entire department. Any claim of damage is investigated immediately by supervisors and the safety administrator. If the Company is liable, restitution is made to the owner/customer by either repair at the Company's expense or payment to the owner/customer. Liable automobile damage is repaired by a reputable, local business and a rental is provided if needed, or payment is made if the owner/customer prefers.

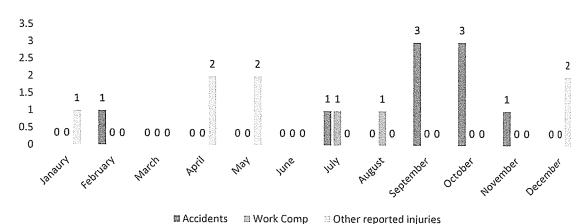


Figure 17 Injuries, Accidents and Workers Compensation Claims in Fairfax 2015

Contact Information

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