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DRAFT



Marin Sanitary Service

CONSERVATION — OUR EARTH, OUR MISSION, OUR JOB

FAIRFAX ANNUAL REPORT

FOR CALENDAR YEAR 2018

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FINAL DRAFT

Operational Improvement

OPERATIONAL EFFICIENCY

MSS continuously strives for operational improvements. Our goal as we learn, implement, and refine new technologies and make fleet enhancements, is to keep costs as low as possible while maintaining quality service. Route Smart, our route optimization soft-ware, combined with the use of Mobile-pak software and tablets, allow drivers and managers to continue to improve routing and customer service delivery. Seven (7) of the twelve (12) routes that service the Town have tablets in use.

ROUTING UPDATES

Route Productivity

In 2018, five (5) residential curbside recycle routes were resequenced and optimized using RouteSmart. Drivers also provided insight regarding any special collection parameters such as access times or loading factors to maximize the optimization process.

Route Audits

All garbage routes in the Town were audited to verify services and billing. The following was found:

- 35 (35) customers were identified who had larger landfill carts than what they were being billed for. They were contacted and given the option to pay for the larger cart or drop down to the 20-gallon landfill cart.
- Twelve (12) accounts were found that had service but were not being billed for the service. Five (5) opted to keep the service and begin paying. The other seven did not respond to the audit letters or calls and service was therefore terminated.

Scheduled Curbside Clean-up Program

This program offers all residential customers the opportunity to set out additional recycling, yard waste and garbage twice per year for the removal of extra curbside materials. Each customer is mailed a flyer in their bill alerting them to their specific scheduled clean-up dates for spring and fall. The program runs eleven (11) consecutive weeks Monday-Friday in the spring and fall each year. In 2018, MSS audited the Scheduled Cleanup routes with the goal of optimizing the routes to increase the efficiency of collection. Using RouteSmart, MSS is looking to create ten (10) clean-up collection zones. Cleanup zone information will be stored in every residential account in Soft-pak enabling a Customer Service Agent to relay accurate collection day information to a customer based on their zone, and day on the schedule. Once the program is finalized, the new program will be messaged to all customers. The project is slated for completion in late spring 2019.

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Organics Route Audits

In response to driver reports of an increase in the number of set-outs for yard waste in customer owned cans, an annual audit was conducted in June 2018 for all curbside organics (yard waste/food waste) routes service-wide. The results were tallied, and compared.

- June 2016 -- 2,209 extra customer owned cans set out
- June 2017 -- 3,632 extra customer owned cans set out
- June 2018 -- 4,050 extra customer owned cans set out

The majority of these extra setouts were observed in Fairfax, San Anselmo, and County of Marin Unincorporated areas where the contracts allow an additional five (5), 32-gallon customer owned cans of yard waste to be set out each week. From June 2017 to June 2018, the number of customer owned cans set out increased ~12%. Last year, a helper was used to manage the extra cans for seven weeks during the heavy leaf season. This year, a helper was used for 10 weeks adding to collection costs.

Despite the additional curbside clean-up services and outreach to customers encouraging them to rent additional MSS tipper carts, MSS drivers continue to be injured due to collection of customer owned yard waste cans. Since 2013, MSS has paid \$122,177.66 (Table 1) in workers compensation claims for 21 injuries due to manual lifting of customer owned cans for yard waste. The majority of these injuries are on rear loader routes which are in areas where extra yard waste in own cans is allowable under contract.

Table 1: Impact of Customer Owned Cans on Driver Health

| Vehicle Type | Injury Claims | Injury Costs |
|--------------------------------|---------------|--------------|
| Injuries in Automated Routes | 3 | \$4,537.47 |
| Injuries in Rear Loader Routes | 18 | \$116,634.19 |
| Total | 21 | \$121,171.66 |

In 2019, MSS will begin to work with customers to eliminate customer owned cans and encourage their replacement with MSS tipper carts. This will allow conversion from semi-automated rear loader trucks to fully automated trucks resulting in cost benefits for rate payers and eliminate the costly replacement of damaged customer owned cans.

Public Outreach & Education

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 will employ four full-time Recycling Programs Coordinators and a full-time Household Hazardous Waste Coordinator. Currently, there are two coordinator positions vacant. Below (Table 2) is the contact information and program specialty of the existing staff.

Table 2: Outreach Contacts by Specialty

| OUTREACH DEPARTMENT STAFF | | | |
|---|--------------------------------|--|--|
| Name | Title | Email | Primary Focus |
| Jennifer Grenier Selvig | Recycling Programs Coordinator | Jennifer.Grenier@marinsanitary.com | Large Commercial Businesses and C&D Programs |
| Ruben Hernandez | Recycling Programs Coordinator | Ruben.Hernandez@marinsanitary.com | Food to Energy and Commercial Organics |
| Kathy Wall* | HHW Program Manager | Kathy.Wall@marinsanitary.com | HHW Programs |
| <i>*Position funded through the JPA</i> | | | |

4R PLANET SCHOOL PROGRAM AND TOURS

To date, White Hill Middle School and Manor Elementary School have completed the Zero Waste Schools Program (<https://zerowastemarin.org/schools>), which is run by both Zero Waste Marin (ZWM) and Marin Sanitary Service (MSS). Schools enrolled in this program receive onsite outreach and education visits comprised of: meetings with the Green Team students, monitoring the new sorting stations at lunch, student, staff and custodial trainings. Only one (1) Fairfax school, a preschool, came on a tour of MSS in 2018.

OUTREACH MATERIALS AND COMMUNITY EVENTS

Public information and education are the cornerstone of the MSS Outreach Program (Table 3). All Fairfax residential and commercial customers have received multiple direct mail pieces informing them of our

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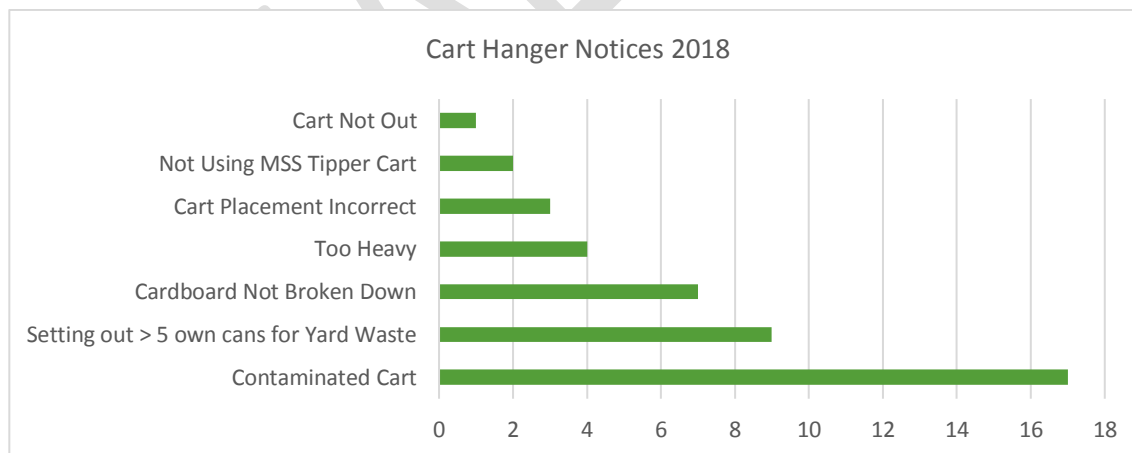
programs and services. These mailings continue to educate the public on Zero Waste programs; proper recycling and composting practices; the hours of operation at all facilities; proper disposal of household hazardous waste; and the Town’s Mandatory Commercial Recycling and Organics Ordinance. Materials 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.

Table 3: Public Outreach in the Town by Type (not including Schools or Mandatory Commercial Recycling)

| Outreach Type | Total |
|-------------------|-------|
| Advertisement | 39 |
| Billing Insert | 30 |
| Cart Hangerr | 44 |
| Community Event | 5 |
| Community Meeting | 8 |
| Newsletter | 2 |

Another important customer communication piece is the cart hanger notice. Drivers leave cart hangers on containers to notify customers of any issues they noticed. This data is analyzed and used for future newsletter articles and bill insert messages to customers (Figure 1). A total of 43 cart hangers were left in the Town. 40% were due to contamination. All customers received a phone call from customer service to educate them on proper sorting practices.

Figure 1: Reasons for Leaving Cart Hanger Notices



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Online Education

Nowadays, more people turn to the internet for information. The MSS website is filled with information on all services and programs. In early 2019, we will launch a new and improved website that will allow customers to more easily locate information and stay up to date with news updates. In an effort to better educate residents on best practices and reduce recycling contamination, we will also launch an online and mobile app tool called “Where’s It Go, Joe?” which allows customers to easily find out if a material can be reused, recycled, composted or disposed of in garbage.

The “Where’s it Go, Joe” tool is a searchable database of more than 300 common household materials. When a customer enters the material into the search, the tool provides instructions on how to properly prepare or clean the item as well as what “stream” the material should go into: recycling, compostables or garbage.



The “Where’s it Go, Joe?” online tool will be available on the website and as a mobile download for free for Apple or Android devices and boasts all the features of the online version but with the convenience of a downloadable app. Stay tuned!



Improved Website Launching Spring 2019

Website

- www.marinsanitaryservice.com

Social Media Presence

- Facebook (<https://www.facebook.com/marinsanitary>)
- Twitter ([mssrecycles](https://twitter.com/mssrecycles))
- Instagram ([mssrecycles](https://www.instagram.com/mssrecycles))
- You Tube Channel (<https://www.youtube.com/user/MSSoutreach>)

Residential Programs

RESIDENTIAL SERVICE LEVELS

There are 2,492 Residential customers signed up for service with MSS. Residential customers include single, duplex and triplex units; for this reason, cart subscription numbers do not match customer counts. 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 bundled rate is based on the size of the landfill cart. Below (Tables 4-5) are the residential cart subscription levels for year end 2018 compared to year end 2017. Overall, there has been a 1% decrease in subscriptions to landfill service and a 3% increase in subscription to organics services.

Table 4: Residential Landfill Cart Subscriptions

| Residential Weekly Garbage Service | | | |
|------------------------------------|---------------------|------|----------|
| CART size | Number of customers | | |
| | 2018 | 2017 | % Change |
| 20 gallon | 642 | 631 | 2% |
| 32 gallon | 1719 | 1761 | -2% |
| 64 gallon | 172 | 160 | 8% |
| 96 gallon | 11 | 13 | -15% |
| Total | 2544 | 2565 | -1% |

Table 5: Residential Recycling & Organics Cast Subscriptions

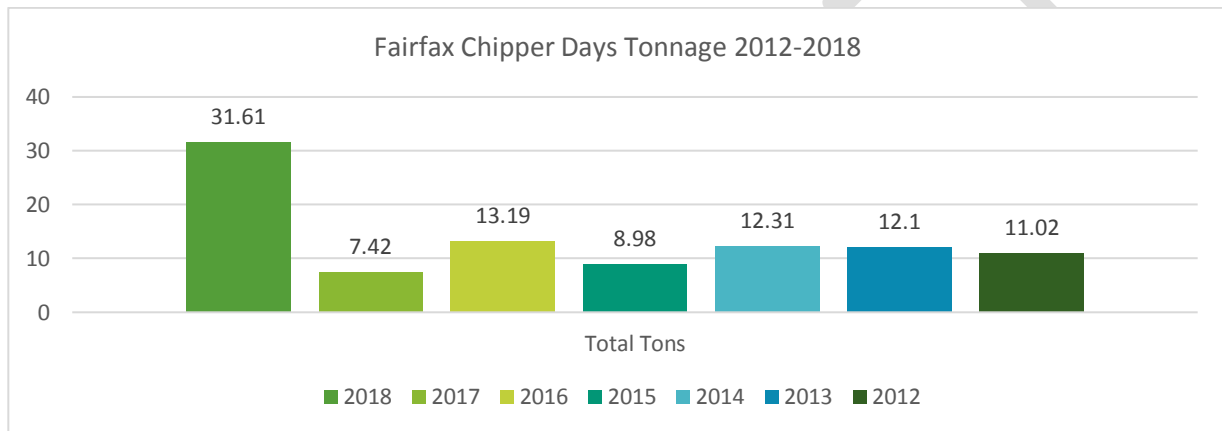
| Residential Weekly Dual Sort Recycling Service | | | |
|--|---------------------|------|----------|
| CART size | Number of customers | | |
| | 2018 | 2017 | % Change |
| 5 gallon | 48 | 48 | 0% |
| 64 gallon | 2373 | 2374 | 0% |
| 96 gallon | 110 | 110 | 0% |
| Total | 2531 | 2532 | 0% |
| Residential Weekly Green Waste Service | | | |
| CART size | Number of customers | | |
| | 2018 | 2017 | % Change |
| 32 gallon | 136 | 113 | 20% |
| 64 gallon | 2446 | 2395 | 2% |
| 96 gallon | 34 | 36 | -6% |
| Total | 2616 | 2544 | 3% |

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CHIPPER DAYS

Marin Sanitary Service partnered with the Town of Fairfax and the Ross Valley Fire Department on the 5th Annual Chipper Days events. Town residents were allowed to drop off brush at several locations around the Town in the months of July and August. The intent of these chipper days is to remove vegetation "fuel" to reduce wildfire hazards near homes in Fairfax. Two additional collection events were added this year which resulted in a significant increase in tonnage. Since 2012, the Town has diverted 96.63 tons of yard debris from the landfill (Figure 2).

Figure 2: Fairfax Chipper Days Tonnage



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. ~ 30 tons of compost was requested and delivered for 2018. 2019 dates will be advertised by the Town.

SAVE THE DATE for the MSS 4th Annual Customer Appreciation Day, April 28, 2019. Customers can receive up to one 64-gallon cart of compost to use in their garden, take a tour of the recycling facility, participate in a composting workshop, and have questions answered by local Zero Waste experts.

PROMOTION OF COMPOSTING USING GREEN CARTS

On December 6, 2017, the Town Council passed an ordinance prohibiting residential customers from disposing of organic materials and recyclables in their landfill containers ([Title 8: Health & Safety, Chapter 8.08 Garbage & Rubbish Disposal](#)). In November 2017, all residential customers received a special compost brochure, a flyer introducing the new pail, and a pail with a specially designed label (Figure 3). Six (6) customers refused the pails. These 2-gallon pails are made of 100% post-consumer

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recycled polypropylene #5 plastic and have a clear graphic label (to be designed by the Town) on the front.

Customers continue to get bill insert reminders at least twice per year describing the program. The program is promoted at Town events and on the MSS website. Customers have reported participating more in the weekly food scraps collection program since receiving the pails and the tonnage (pg. 23) has increased. MSS will work with Sustainable Fairfax to complete a program satisfaction survey in 2019.

Figure 3: Residential Organics Outreach

COMPOST

INCLUDE ALL FOOD SCRAPS

INCLUDE ALL PLANT DEBRIS AND FOOD SOILED PAPER

EVERY MEAL, EVERY DAY, EVERY WEEK

WHY COMPOST?

COMPOSTING FIGHTS CLIMATE CHANGE

When landfilled, organic materials like food, yard waste, and paper release methane, a powerful greenhouse gas. Composting prevents those methane emissions, making it one of the easiest actions our community can take to reduce overall greenhouse gas emissions.

THE COMPOST CYCLE

COMPOSTING CREATES HEALTHY SOIL

Using your green cart helps create a locally sourced soil amendment. The compost made from your scraps reduces the need for chemical fertilizers, suppresses plant diseases and promotes higher crop yields. Compost also improves the soil's ability to hold water.

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NEW CURBSIDE CLEAN-UP PROGRAMS



In 2016, the Town added two new curbside clean-up programs for residents (Table 6). Participation in the clean-up programs increased; however, the actual tonnage collected and diverted was less in 2018. (Table 7).

Table 6: Clean-Up Programs

| Program Name | Details | Dates |
|-------------------------------|---|---|
| Scheduled Curbside Clean-up | Curbside collection of up to fourteen (14) 32-gallon bags or cans of additional garbage, recyclables, or yard waste at the curb in the fall and the spring. | SAVE THE DATES: Spring Clean-up: April 29-May 3, 2019 Fall Clean-up: October 21-25, 2019 |
| On-Call Bulky Item Collection | Curbside collection of up to two (2) bulky items twice per year | At customer request |

Table 7: Clean-Up Data 2016 -2018

| Participation | | | Tons Collected | | | Tons Diverted | | |
|---------------|------|------|----------------|--------|-------|---------------|-------|------|
| 2018 | 2017 | 2016 | 2018 | 2017 | 2016 | 2018 | 2017 | 2016 |
| 25% | 21% | 7% | 25.16 | 27.63* | 11.22 | 14.77 | 18.51 | 8.96 |

*Error discovered in 2017 tonnage. Actual tonnage is listed in this report and not 86.4 tons as reported last year.

Commercial and Multifamily Programs

Since there are a wide variety of container types, sizes and collection frequency, overall weekly yardage of service is shown on page 22 (Multifamily and Commercial business are combined.)

COMMERCIAL SERVICE OFFERINGS

Commercial businesses are offered recycling services as part of a “bundled rate”. MSS also offers two organics programs to all commercial customers for a fee that is ~30% less than landfill service for comparable service levels. Commercial business customers are offered the following containers types and service for landfill (garbage) materials.

- 32, 64, and 96-gallon MSS tipper carts. 20-gallon carts are offered on a case by case basis only after a successful recycling and composting program has been established.
- 1, 2, 3, 4, 5, and 6 cubic yard bins.
- 10, 18, 20, 25 cubic yard roll-off boxes. Larger sizes are available upon request.
- Compactors: sizes range from 3 cubic yards to 40 cubic yards.

Recycling and Organics Services are primarily offered for collection in carts. Cardboard and Organic materials may be collected in bins. The following container types and sizes are available for commercial customers.

- 32, 64, and 96 gallon blue carts for paper recycling.
- 32, 64, and 96 gallon brown carts for containers recycling (plastic, glass, metal bottles & cans).
- 32 and 64 gallon organics green carts for composting.
- 32 and 64 gallon food waste dark green carts for food to energy.
- 1, 2, and 3 cubic yard bins for cardboard recycling.
- 1 and 2 cubic yard bins for food waste for food to energy.

MULTIFAMILY SERVICE OFFERINGS

Multifamily Dwellings (MFDs) are offered recycling services as part of a “bundled rate”. Organics service is offered to tenants at apartment buildings and up to 256 gallons (four 64-gallon carts) of organic service is included as part of the bundled rate. Additional carts beyond the four in the bundled rate can be rented for a nominal monthly fee. MFD tenants may also receive kitchen pails after attending a workshop for the collection of compostable materials. Multifamily Dwelling customers are offered the following containers types and service for landfill (garbage) materials.

- 32, 64, and 96 gallon MSS tipper carts. 20 gallon carts are offered only after a successful recycling and composting program has been established.

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- 1, 2, 3, 4, 5, and 6 cubic yard bins.
- 10, 18, 20, 25 cubic yard roll-off boxes. Larger sizes are available upon request.
- Compactors: sizes range from 3 cubic yards to 40 cubic yards.

Recycling and Organics Services are primarily offered for collection in carts. Cardboard and Organic materials may be collected in bins. The following container types and sizes are available for MFD customers

- 32, 64, and 96 gallon blue carts for paper recycling.
- 32, 64, and 96 gallon brown carts for containers recycling (plastic, glass, metal bottles & cans).
- 32 and 64 gallon organics green carts for composting.
- 1, 2, and 3 cubic yard bins for cardboard recycling.
- 2 and 3 cubic yard bins organics bins for composting.

MANDATORY COMMERCIAL RECYCLING ORDINANCE

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 dwellings are compliant with the Town's recycling ordinance as well as State Law AB 341. A recent monitoring audit revealed two businesses do not have recycling services that had been listed in their MSS account, as outlined in Table 8. MSS is working with these businesses to get recycling services started. Thirty-eight (38) commercial businesses are enrolled in an organics recycling program: 24 (4 schools, 3 churches, 16 businesses, and the Town Corp yard) are enrolled in the commercial compost program and 14 restaurants are enrolled in the commercial food to energy program. All Multifamily Dwellings (residences with 4 or more units) have recycling and 19 have organics composting service (Table 9). Letters were mailed in October to Property Managers at the apartment complexes and commercial businesses without organics service notifying them of the Town ordinance. One multifamily dwelling and two businesses have responded and have established service. Table 10 lists the businesses enrolled in the F2E program. Outreach activities are detailed in Table 11.

Table 8: Compliance: Mandatory Commercial Recycling

| Customer Type | NOT compliant | Compliant | Grand Total |
|----------------------|---------------|-----------|-------------|
| Multifamily Dwelling | 0 | 26 | 26 |
| Commercial Business | 2 | 100 | 102 |
| Total | 2 | 126 | 128 |

Table 9: Compliance: Mandatory Organics Recycling

| Customer Type | NOT compliant | Compliant | Grand Total |
|----------------------|---------------|-----------|-------------|
| Multifamily Dwelling | 7 | 19 | 26 |
| Commercial Business | 21 | 35 | 56 |
| Total | 28 | 54 | 82 |

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Table 10: F2E Participants 2018

| | | | | | |
|---|---------------------|----|-------------------------|----|-------------------|
| 1 | Mana Bowls | 7 | Red Boy Pizza | 13 | Tamal |
| 2 | Perry's Deli | 8 | The Coffee Roastery | 14 | 123 Bolinas |
| 3 | Café Lotus | 9 | Taste Kitchen and Table | 15 | Fradelizio's |
| 4 | Miyoko's Kitchen | 10 | The Hummingbird | 16 | Care Meridian LLC |
| 5 | Sorella Café | 11 | Barefoot Café | | |
| 6 | Grilly's Restaurant | 12 | Fairfax Market | | |

Table 11: Outreach for all Commercial Businesses and Apartments 2018

| OUTREACH ACTIVITIES FOR MANDATORY COMMERCIAL RECYCLING ORDINANCE | | | | | |
|--|------------------------|-----------------------------------|----------------------------------|-----------------|----------------|
| Compliance Packets Mailed | Phone Call or Email | Onsite Education & Training | Recycling Needs Assessment | Waste Audits | Grand Total |
| 29 | 95 | 26 | 15 | 3 | 168 |

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Zero Waste Events

ANNUAL “TAKE BACK DAY”: PAPER SHREDDING, E-WASTE, AND UNUSED MEDICATION COLLECTION DAY APRIL 28, 2018

Another successful Zero Waste Event Partnership! Sustainable Fairfax, Conservation Corp North Bay, Marin Sanitary Service and the Fairfax Police department hosted the annual Take Back Day on April 28, 2018. Despite having fewer participants this year, a lot of resources were collected and kept out of the landfill! *100% of all material collected was diverted (Table 12). Save the Date for the 2019 Event: April 27, Saturday!*

Table 12: Take Back Day Diversion

| Material | 2018 | 2017 | 2016 | 2015 |
|-----------------------|-------------|-------------|-------------|------------|
| E-waste | 4,223 | 4,921 | 4,450 | 4,245 |
| Document Shredding | 3,560 | 4,180 | 2,440 | 2,860 |
| Pharmaceutical Waste | 180 | 116 | 148 | 0 |
| Landfill | 0 | 0 | 0 | 225 |
| Diversion Rate | 100% | 100% | 100% | 97% |
| Participants | 166 | 192 | 186 | 191 |



FAIRFAX FESTIVAL

In collaboration with Sustainable Fairfax, MSS was able to provide services and event waste management guidance to the town for the Fairfax Festival June 9-10, 2018. The Fairfax Festival was a huge success both in providing entertainment and activities to patrons and in diverting wasted material from the landfill (Table 13). 109 residents of the Town visited the MSS educational booth and learned more about the value of keeping food scraps and other resources out of the landfill. Overall, there was less landfilled material and more diversion!

Table 13: Fairfax Festival Recycling Rates

| Material | 2018 | 2017 | 2016 | 2015 |
|-----------------------|------------|------------|------------|------------|
| Cardboard | 806 | 700 | 900 | 160 |
| Compost | 1880 | 1520 | 559 | 750 |
| MSS Recycling | 0* | 991 | 0* | 90 |
| CCNB Recycling | 786 | 1341 | 667 | 1582 |
| Landfill | 254 | 409 | 449 | 750 |
| Recycling Rate | 93% | 92% | 83% | 77% |



*Recycling was managed by Conservation Corp North Bay in 2016 except for cardboard.

Diversion, Recycling, and Global Impacts of State Mandates

DIVERSION RATES

Jurisdictional ***diversion rates*** 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. Table 14 details the State diversion goals and activities that contribute to it.

Table 14: State Diversion Goal: AB 939 (1989)

| AB 939 State Goal: 50 Percent Diversion from the Landfill (Jurisdictional Mandate) | |
|---|--|
| Activities that Count Toward Goal | <i>Diversion:</i> Source Reduction Composting Recycling ADC AIC Other Beneficial Reuse Transformation Credit |
| Activities that Do Not Count Toward Goal | <i>Disposal:</i> Landfill (Including Exports) Some Transformation Engineered Municipal Solid Waste (EMSW) Green Waste ADC (Beginning in 2020) |
| Baseline Waste Generation and Base Years in pounds per person per day (ppd) | 12.6 ppd (2003-2006) |
| Statewide Disposal Target in pounds per person per day (ppd) | 6.3 ppd |

Tonnage reported from residential and commercial self-hauling, construction & demolition debris box rentals, and a host of other non-franchised programs within the County and Town 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.

EVALUATION OF CURRENT TRENDS

Table 15 shows the historical trends in the County Diversion Rates reported to CalRecycle. The Marin JPA AB 939 landfill diversion rate dropped to 68% in 2017 from 69% in 2016.

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Diversion rates have been in the mid-70's for the past several years despite state and local recycling mandates and efforts. This is due in part to the increase in pounds per person per day landfill disposal (Table 16).

Table 15: Marin County Historical Diversion Rates

| Year | Diversion Rate |
|-------------|----------------|
| 2012 | 75% |
| 2013 | 74% |
| 2014 | 75% |
| 2015 | 74% |
| 2016 | 69% |
| 2017 | 68% |

**2018 Rates will be available August 2019*

Table 16: State, County and MSS Disposal Comparisons (PPD)

| Year | County of Marin | State of California | MSS Rate Regulated PPD |
|------|-----------------|---------------------|------------------------|
| 2012 | 3.8 | 4.3 | 2.32 |
| 2013 | 4 | 4.4 | 2.19 |
| 2014 | 3.8 | 4.5 | 2.44 |
| 2015 | 4 | 4.7 | 2.37 |
| 2016 | 4.6 | 4.9 | 2.39 |
| 2017 | 4.6 | 6.0 | 2.36 |

**2018 data will be available in August 2019*

RECYCLING RATES

The State set a goal to recycle 75% of all materials collected from the landfill by 2020. This goal also includes AB 341 (Mandatory Commercial Recycling-2012) and AB1826 (Mandatory Commercial Organics Recycling-2016). Activities that count as recycling are defined in Table 17. For the purpose of this report, only tonnages for materials collected and processed under the Franchise Agreement with the Town are presented going forward as "Recycling Rates".

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Table 17: AB 939 Definition of Recycling

| State Goal: 75 Percent Recycling Rate | |
|---|--|
| Activities that Count Toward Goal | Recycling: Source Reduction Composting Recycling |
| Activities that Do Not Count Toward Goal | Disposal: Landfill (Including Exports) Engineered Municipal Solid Waste (EMSW) <i>Disposal-Related:</i> ADC AIC Other Beneficial Reuse All Transformation Waste Tire-Derived Fuel |
| Baseline Waste Generation and Base Years in pounds per person per day (ppd) | 10.7 ppd (1990-2010) |
| Statewide Disposal Target (ppd) | 2.7 ppd |

Summary of MSS Recycling efforts over the years

China's policies have affected recycling and diversion rates for the County of Marin and the State of California: however, the MSS Rate regulated recycling rate has been gradually improving despite rising regional disposal increases due in large part to its pursuit of other recycling goals and ongoing attention to outreach & education. Fairfax is the only jurisdiction serviced by MSS that has implemented mandatory recycling and organics service that are more comprehensive than the State Mandates. This has contributed to higher recycling rates than the other MSS service areas as shown in Table 18.

Table 18: Historical Recycling Rates: County vs. MSS

| Year | State of California | MSS Rate Regulated | Fairfax Rate Regulated |
|------|---------------------|--------------------|------------------------|
| 2012 | 50% | 45% | 57% |
| 2013 | 50% | 53% | 59% |
| 2014 | 50% | 50% | 57% |
| 2015 | 47% | 50% | 58% |
| 2016 | 44% | 52% | 59% |
| 2017 | 42% | 53% | 58% |

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GLOBAL AND LOCAL IMPACTS OF AB 341: CONTAMINATION AND COMMODITY VOLATILITY

In July, 2012, California established and passed a Statewide goal to reach a 75% recycling rate and passed Mandatory Commercial Recycling legislation (AB 341). At the same time California was setting higher recycling goals to move more materials from landfills to recycling markets, China, a major market for recyclables in the United States, was passing stricter laws on imports of recycling materials. ‘Operation Green Fence’ was formally implemented in February 2013, enforcing a 2011 law, and was billed as an aggressive inspection effort aimed at curtailing the amount of contaminated recyclable bales and waste that was being sent to China. China has since implemented an even stricter law known as the National Sword (2017), that will further decrease the contamination rate for mixed paper and other plastics and metals to just 0.05%. Their decisions to significantly reduce the amount of contaminated materials they have been receiving has major implications for recycling operations. To keep up with the strict export policies, recycling processors, like the Marin Recycling Center, is having to add costly measures such as increased staffing, slowing of conveyor belts, and the addition of specialized equipment, to guarantee cleaner bales.

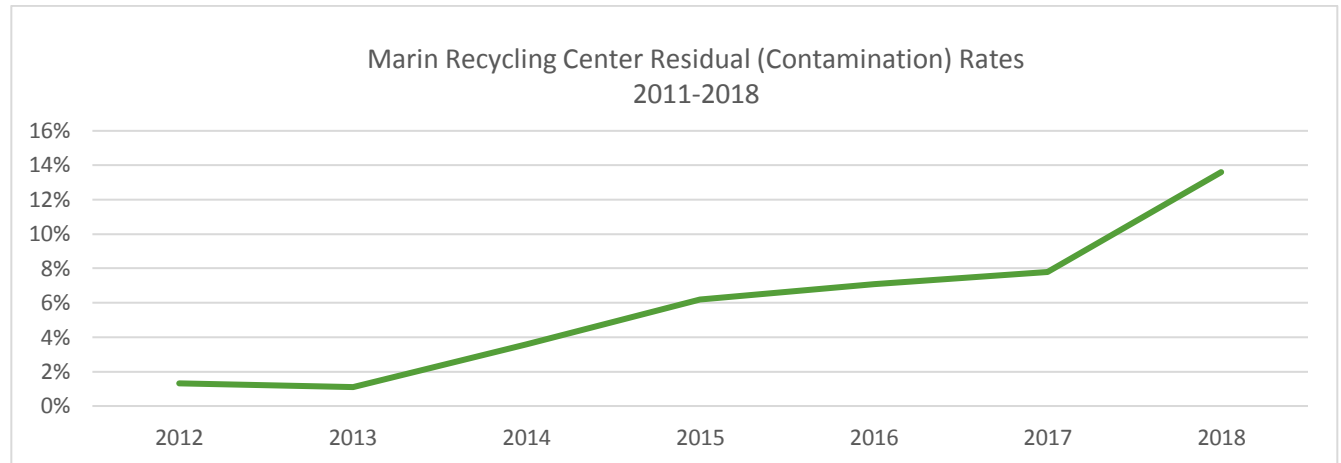
In 2018, several other countries followed China’s lead and stopped importing mixed plastics including Malaysia, Indonesia, Thailand and India. Mixed paper loads continue to go unsold and with the rainy season, are being rejected to do high moisture content.

The mandates to remove more materials from the landfill and “wishful” recycling on the part of consumers are leading to more and more contaminants in the recycling stream and a decline in salvage values as more materials are moved to market (Table 19). Figure 4 shows the trends in contamination at the Marin Recycling Center (MRC) from 2012 through 2018. Prior to 2012, the Marin Recycling Center had average residual (contamination) rates of 1%.

Table 19: Commodity Price Changes 2017-2018 Average Price Per Ton

| Commodity | 2017 | 2018 | % Change |
|-----------------------------|---------|---------|----------|
| Cardboard | \$204 | \$168 | -18% |
| Newsprint | \$162 | \$117 | -28% |
| Office paper | \$215 | \$251 | 17% |
| Mixed paper | \$125 | \$28 | -78% |
| Aluminum cans | \$1,317 | \$1,375 | 4% |
| Glass | \$27 | \$27 | 0% |
| HDPE #2 natural (jugs) | \$524 | \$672 | 28% |
| HDPE #2 color (jugs) | \$278 | \$310 | 8% |
| PET #1 (bottles) | \$194 | \$262 | 6% |
| Mixed Rigid Plastics (#3-7) | \$1 | \$0 | -100% |

Figure 4: Historical Contamination Rates



MSS CONTAMINATION MITIGATION EFFORTS

In April of 2017, when China announced plans to lower the threshold for contamination in bales of recyclables, MSS put several strategies in place.

Operational Improvements

1. City recycling cans have a high percentage of contamination in them. These have now been re-routed to single stream loads that are now processed at Marin Resource Recovery.
2. MSS identified and exchanged hundreds of broken split carts.
3. The dividers in the split trucks were reinforced to prevent commingling of material.
4. Drivers were instructed that commingling of containers and fiber was not acceptable and that all necessary steps were to be taken to minimize co-mingling. A new policy was created and drivers were instructed to:
 - a. Take pictures
 - b. Leave flyers
 - c. Leave carts
 - d. Return when carts are contaminant free.
5. Improvements to the Marin Recycling Center equipment was completed in January of 2018.
6. Customer Service Representatives and Outreach staff follow-up with all customers identified by drivers as having issues with contamination. Repeat customers or those with extreme contamination are charged for contaminated carts and bins. The importance of contaminant free recycling carts and bins will require stricter enforcement by MSS in light of what is happening in the Asian commodity markets.

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Outreach Campaigns

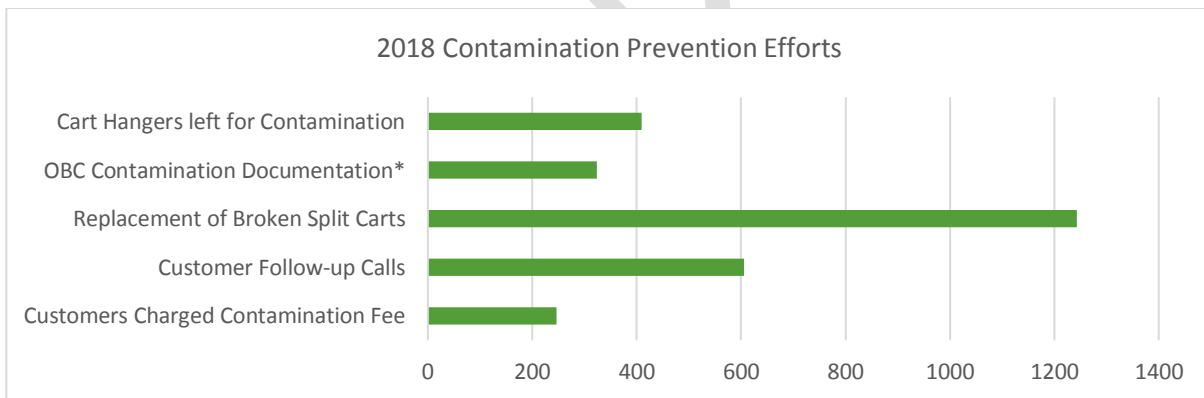
1. Bill inserts were mailed to all customers (single family, multifamily and commercial business).
2. New flyers for commercial recycling and cardboard were created and distributed to drivers to leave with customers.
3. Flyers on the rules of recycling were created and distributed to residential drivers to leave with customers.
4. A webpage was created with information <https://marinsanitaryservice.com/reducing-contamination/>.
5. A social media campaign was launched to educate people on the effects of contamination on processing, costs, and ability to market materials.

Data Collection and Analysis

1. Daily reports are run to analyze driver reported customer issues from tablets and cart hangers.
2. Monthly reports on broken recycling carts are tracked, analyzed and distribute to Operations staff.

In 2018 there were 2,829 separate actions taken to try and minimize contamination (Figure 5). This is down from last year; however, due to the lack of markets for mixed plastics and on occasion mixed paper, the residual rate actually increased in 2018 (14%) compared to 2017 (7.8%)

Figure 5: Contamination Mitigation Measures



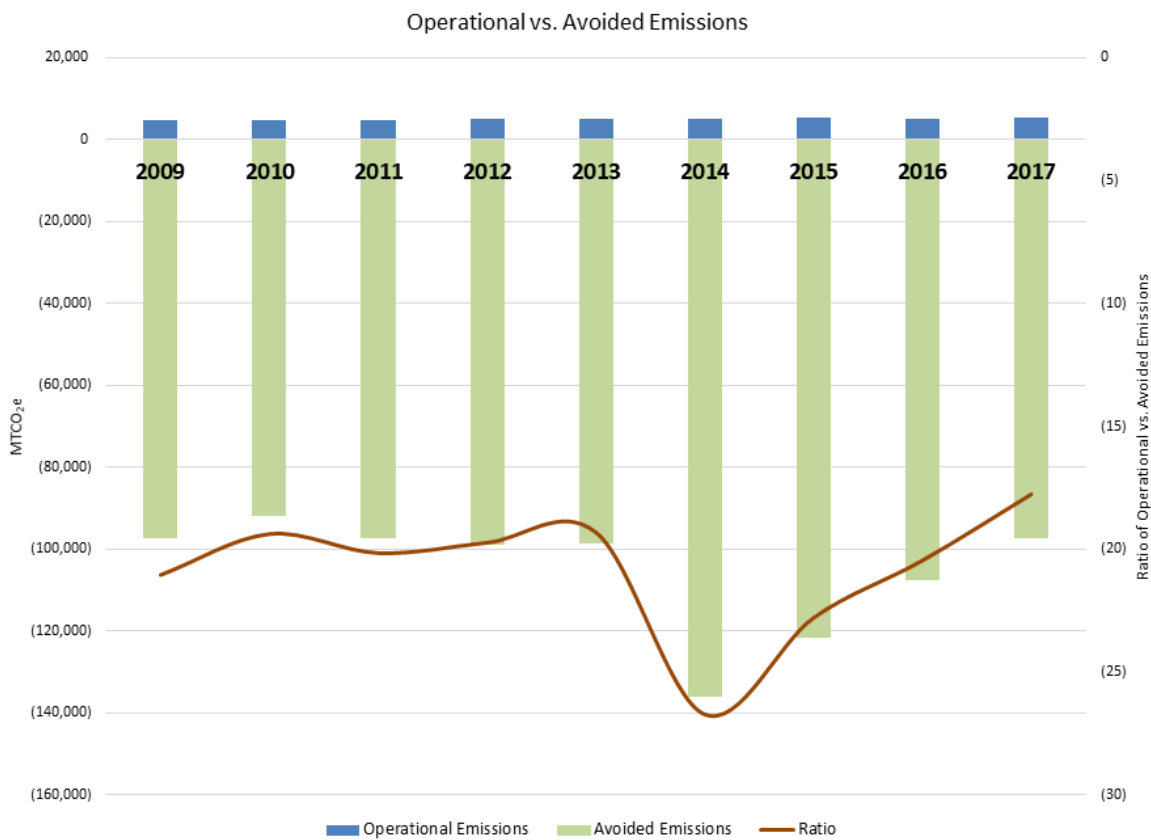
*OBC=On-board Computer documentation using tablets.

Green House Gas Mitigation

GREEN HOUSE GAS MITIGATION

MSS has been annually tracking its operational emissions since 2006 and its avoided emissions since 2009, and has fully offset its direct emissions, on average 18 times - well beyond Net-Zero! The majority of our emissions are from direct mobile combustion, which includes the on and off-road vehicles. Figure 6 below depicts the history of MSS' avoided emissions and demonstrates how MSS' Net-Zero offsets have been steadily improving.

Figure 6: Emissions Reporting



Removing food waste from landfill containers continues to be a priority as it is not only a heavy material, it is the number one cause of GHG emission. By offering two comprehensive organics programs for customers, the municipalities served by MSS are in compliance with AB 1826 (Mandatory Organics Recycling-2016) and are ahead of the curve for compliance with SB 1383 (Short Lived Climate Pollutants-2017).

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MSS’s partnership with the Central Marin Sanitation Agency allows commercial food waste to be transformed into renewable electricity rather than producing methane at a landfill. At the end of 2018, 208 participants were enrolled and diverted ~**2,400 tons** of food. This is comparable to removing 5,625 cars from the road annually and has led to 2,130 metric tons of carbon dioxide from being released into the atmosphere (Figure 7). Data specific to the Town is shown in Figure 8.

Figure 7: F2E Historical Program Data MSS Service Area

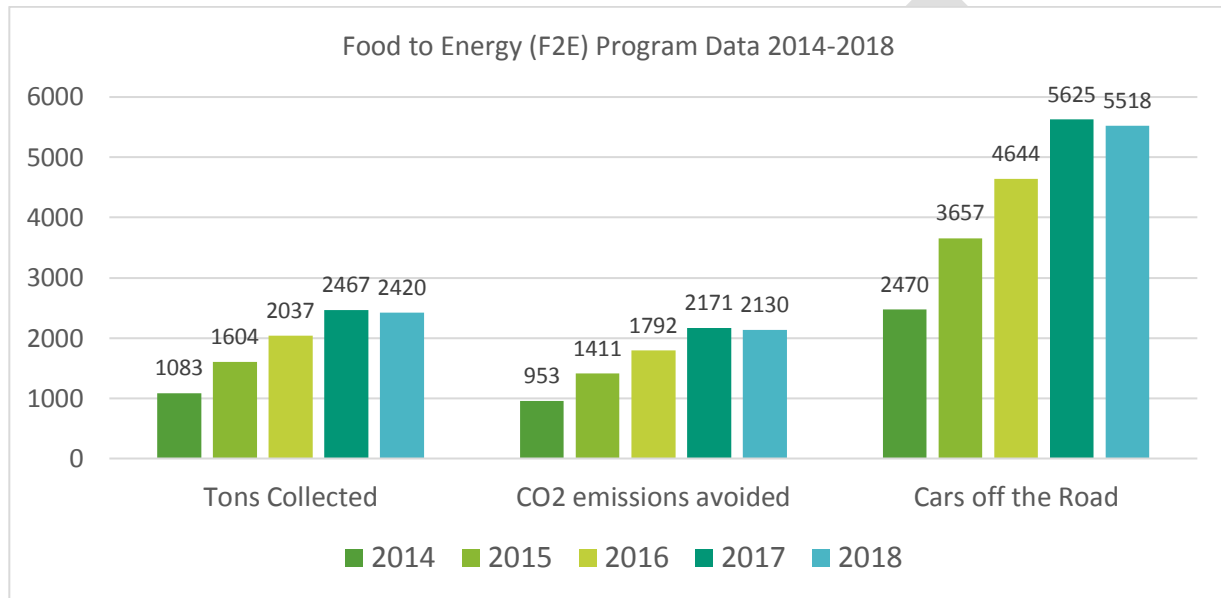
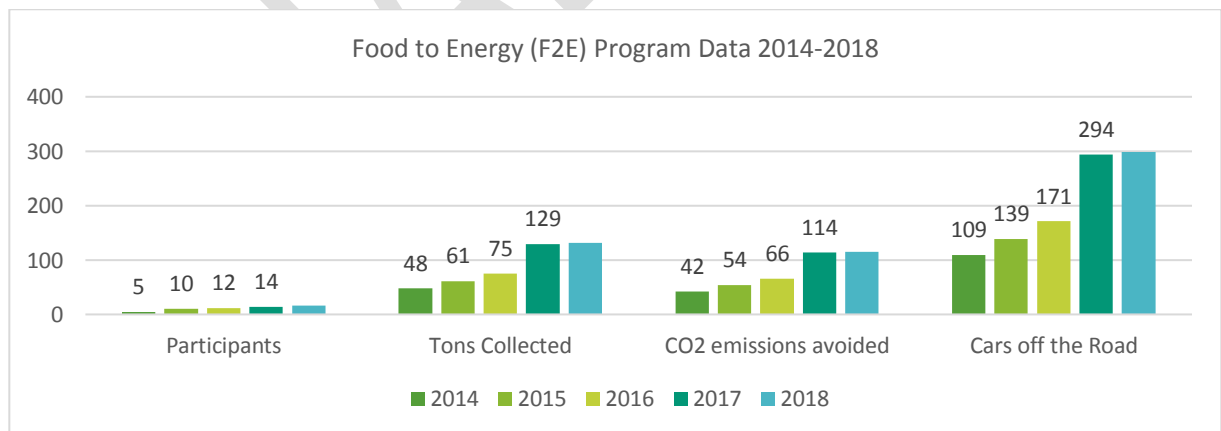


Figure 8: Fairfax F2E Historical Program Data



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Fairfax Recycling Rates (Weight and Volume Based)

RECYCLING RATES BY WEIGHT AND BY VOLUME

Under the Director of Financial Reporting, we continue to update and fine tune the tonnage reporting system in order to accumulate the most accurate data available. For this reason, 2017 numbers may be slightly different than what was reported in March 2018. The recycling rates by sector are highlighted in yellow. Table 20 shows the tonnage-based recycling rate and Table 21 shows the volumetric recycling rate by sector and is based on overall volume of service subscriptions. Overall, the tonnage-based recycling rate increased by 2% due to a decrease in landfill tons and an increase in organics diversion.

Table 20: Weight Based Recycling Rates by Sector (tons)

| | Residential | | Commercial/MF | | Total | |
|---|--------------|--------------|---------------|--------------|--------------|--------------|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Tons Collected: | | | | | | |
| Curbside Organics (Food waste/Yard waste) | 1,566 | 1,527 | 82 | 80 | 1,648 | 1,607 |
| Curbside Containers Recycling | 463 | 479 | 171 | 177 | 635 | 656 |
| Curbside Fiber Recycling | 445 | 460 | 165 | 170 | 610 | 631 |
| Curbside Cardboard Recycle | * N/A | * N/A | 362 | 362 | 362 | 362 |
| Transfer Station (Landfill) | 1,475 | 1,535 | 838 | 919 | 2,313 | 2,454 |
| Commercial Food Waste (F2E) | * N/A | * N/A | 131 | 129 | 131 | 129 |
| Commercial processed at MRRC | * N/A | * N/A | 174 | 243 | 174 | 243 |
| Total Tons Collected | 3,949 | 4,001 | 1,922 | 2,081 | 5,872 | 6,081 |
| | | | | | | |
| | Residential | | Commercial/MF | | Total | |
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Tons Diverted: | | | | | | |
| Curbside Organics (Food waste/Yard waste) | 1,566 | 1,527 | 82 | 80 | 1,648 | 1,607 |
| Curbside Recycling | 909 | 939 | 698 | 709 | 1,607 | 1,649 |
| Commercial Food Waste (F2E) | * N/A | * N/A | 131 | 129 | 131 | 129 |
| Commercial recovered through MRRC | * N/A | * N/A | 113 | 158 | 113 | 158 |
| Total Tons Diverted | 2,474 | 2,466 | 1,024 | 1,076 | 3,498 | 3,542 |
| Recycling Rate | 63% | 62% | 53% | 52% | 60% | 58% |
| Landfilled | 1,475 | 1,535 | 898 | 1,004 | 2,374 | 2,539 |
| Tons disposed per Capita | | | | | 0.32 | 0.34 |
| Pounds per person per day disposal (PPD) | | | | | 1.75 | 1.87 |

*These are commercial programs not available to residential customers.

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Table 21: Volumetric Recycling Rates by Sector (Cubic Yards of Service) need

| | Volumetric Service Recycling Rates (Cubic Yards of service) | | | | | |
|--|---|--------------|---------------|--------------|--------------|--------------|
| | Residential | | Commercial/MF | | Total | |
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Service Volume Collected (Cubic Yards): | | | | | | |
| Curbside Organics (Food waste/Yard waste) | 814 | 796 | 46 | 40 | 860 | 836 |
| Curbside Recycle (Fibers & Containers) | 807 | 801 | 306 | 292 | 1,113 | 1093 |
| Landfill | 396 | 394 | 353 | 307 | 749 | 701 |
| Recycling Rate | 80.4% | 80.2% | 49.9% | 52.0% | 72.5% | 73.4% |

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Household Hazardous Waste (HHW) Facility Drop-off 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, and more. MSS continues to partner with Sustainable Fairfax to get the message out at community events about the use of the HHW drop-off facility. Participation for the drop off program at the Marin Household Hazardous Waste Facility averaged 119 Fairfax participants per month in 2018 (Figure 9).

In 2018, there were 1,430 combined Residential and Commercial Conditionally Exempt Small Quantity Generators (CESQG) participants (Table 22). In 2017, there were 1,428 participants. The main products being collected are latex paint, batteries, and fluorescent tubes and bulbs.

Figure 9: HHW Participation 2018

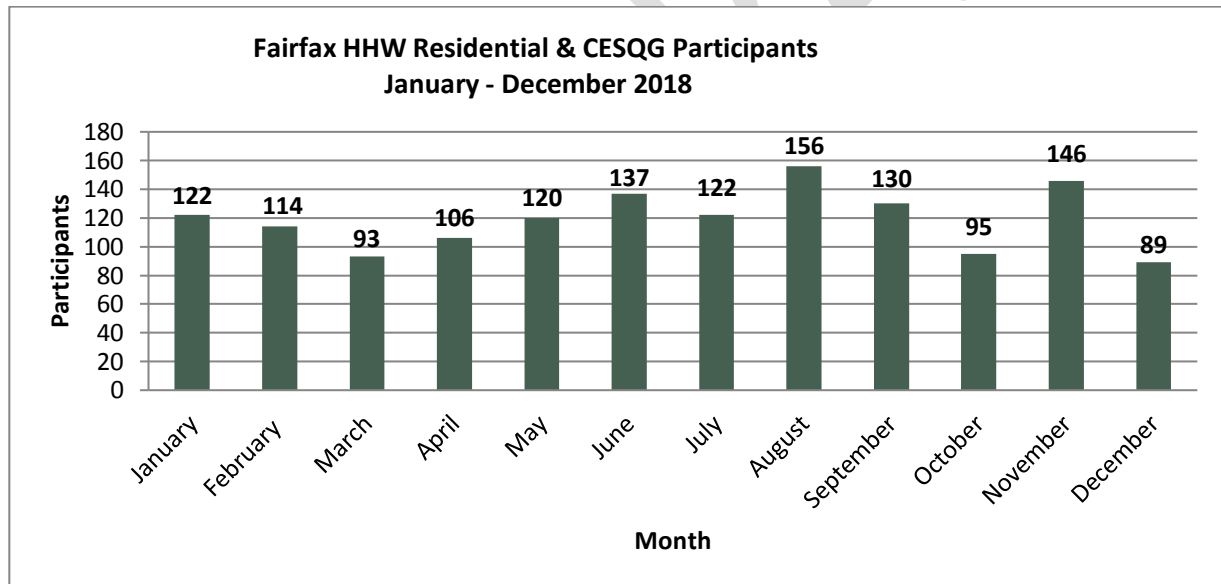


Table 22: HHW Customers by Type

| Customer Type | Participants |
|---------------|--------------|
| Residential | 1,421 |
| CESQG | 9 |

Customer Service Logs

RESIDENTIAL, MULTIFAMILY AND COMMERCIAL NEW STARTS FOR 2018

Table 23 details the number of new accounts and closed accounts by customer type. All new Residential 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. Commercial and Multifamily new customers received information on MSS Curbside collection services and programs, debris box rental and document shredding; Mandatory Recycling & Organics laws and ordinances; and Marin Household Hazardous Waste drop-off information. In an effort to increase productivity and reduce hold times, MSS implemented an online customer service feature that enables customers to ask questions, make service changes and pay their bills.

Table 23: New Starts and Account Closures by Type

| New Starts | | Closed Accounts | |
|-----------------------|-----|-----------------------|-----|
| Residential | 195 | Residential | 169 |
| Multifamily Dwellings | 1 | Multifamily Dwellings | 0 |
| Commercial Business | 7 | Commercial Business | 10 |

AUTOMATIC PAYMENT SERVICES

In an effort to conserve resources, MSS encourages customers to receive their bills electronically and to pay their bills online. This program is gaining in popularity. At the end of 2018 we reached 10,000 participants in our online bill pay programs. MSS also offers automatic payments by credit card or electronic check that is managed by the customer service department for those customers who prefer not to use a web-based service (Table 24). In 2018, 743 customers from the Town participated in this program compared to 688 in 2017.

Table 24: Automatic Payment Data

| Online Bill Pay 2018 | | Automatic Payments not web-based 2018 | |
|-----------------------|-----|---------------------------------------|-----|
| Residential | 594 | Residential | 112 |
| Multifamily Dwellings | 5 | Multifamily Dwellings | 3 |
| Commercial Business | 22 | Commercial Business | 7 |

CUSTOMER COMPLAINTS

We are proud to report that there are minimal complaint calls from the customers we serve. While service complaints were down significantly, missed collections and broken container calls increased in 2018 (Table 25). In most cases, the drivers were able to empty the missed containers on the same service day or the next business day. All broken containers were either repaired or replaced. Service complaints include calls for carts not being left in the same location, noise, or driver behavior related

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issues. Each complaint is reviewed by a route supervisor and resolved. Drivers are counseled individually to correct service related issues. In addition, MSS had six (6) separate written (letter, email) compliments for MSS staff from Fairfax customers.

Table 25: Complaint Log by Type 2018 compared to 2017

| Missed Collections | | Broken Containers | | Service Issues | | Compliments | |
|--------------------|------|-------------------|------|----------------|------|-------------|------|
| 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| 185 | 159 | 356 | 297 | 8 | 17 | 6 | 7 |

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. Details are covered in Table 26. 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. Work comp claims increased due to repetitive lifting of customer owned yard waste cans.

Table 26: Injuries, Accidents and Workers Compensation Claims in Fairfax

| Reportable Event | Description | 2018 Totals | 2017 Totals |
|-------------------------------------|--|-------------|-------------|
| Preventable Damage Event | Property or vehicle damage determined the fault of MSS driver. | 5 | 3 |
| Non-preventable Damage Event | Not due to driver negligence and not fault of any other party. Trees/wires snagged that are lower than allowed or damage that driver could not have avoided, malfunctioning gates closing on trucks, gate blowing shut, etc. | 2 | 0 |
| Work comp injuries | Injuries on the job defined by OSHA as work related. | 4 | 0 |
| | GRAND TOTAL | 11 | 3 |

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